

Sampling Boreholes	Sampling Depth (mbgl)	Arsenic Concentration (mg/kg dry soil)	Report No.
KTN-ASBH01a	0.5	148	HK1200563
	1.0	51	HK1200563
	1.5	75	HK1200563
	3.0 - 3.45	97	HK1200756
	5.5 - 5.95	414	HK1200756
	8.0 - 8.45	805	HK1200756
	10.5 - 10.95	224	HK1200756
	13.0 - 13.45	792	HK1200781
	15.5 - 15.95	21	HK1200781
	18.0 - 18.45	64	HK1200781
	20.5 - 20.95	66	HK1200781
	23.0 - 23.45	530	HK1201002
	25.5 - 25.95	132	HK1201002
	28.0 - 28.45	50	HK1201002
	30.5 - 30.95	142	HK1201002
	35.5	155	HK1201333
	38.0	475	HK1201333
KTN-ASBH04	0.5	7	HK1200303
	1.0	46	HK1200303
	1.5	53	HK1200303
	3.0 - 3.45	133	HK1200303
	5.5 - 5.95	190	HK1200303
	8.0 - 8.45	118	HK1200369
	10.5 - 10.95	74	HK1200369
	13.0 - 13.45	239	HK1200369
	15.5 - 15.95	79	HK1200369
	18.0 - 18.45	38	HK1200476
	20.5	31	HK1200476
KTN-ASBH06	0.5	21	HK1202764
	1.0	44	HK1202764
	1.5	77	HK1202764
	3.0 - 3.45	13	HK1203347
	5.5 - 5.95	16	HK1203347
	8.0 - 8.45	14	HK1203404
	10.5 - 10.95	115	HK1203404
	13.0 - 13.45	77	HK1203404
	15.5 - 15.95	9	HK1203496
	18.0 - 18.45	13	HK1203496
	20.5 - 20.95	3	HK1203496
	23.0 - 23.45	16	HK1203682
	25.5 - 25.95	3	HK1203682

Sampling Boreholes	Sampling Depth (mbgl)	Arsenic Concentration (mg/kg dry soil)	Report No.
	28.0 - 28.45	2	HK1203682
	30.5 - 30.95	103	HK1203682
	33.0 - 33.45	5	HK1203926
	35.5 - 35.95	24	HK1203926
	38.0 - 38.45	71	HK1203926
	40.5 - 40.95	12	HK1203926
	43.0 - 43.45	18	HK1203926
	45.5 - 45.95	128	HK1204088
KTN-ASBH07	0.5	49	HK1203246
	1.0	71	HK1203246
	1.5	168	HK1203246
	3.0 - 3.45	63	HK1203346
	5.5 - 5.95	84	HK1203346
	8.0 - 8.45	11	HK1203405
	10.5 - 10.95	356	HK1203405
	13.0 - 13.45	15	HK1203405
	15.5 - 15.95	650	HK1203497
	18.0 - 18.45	633	HK1203497
	20.5 - 20.95	160	HK1203497
	23.0 - 23.45	19	HK1203497
	25.5 - 25.95	176	HK1203497
	28.0 - 28.45	188	HK1203685
	30.5 - 30.95	8	HK1203685
	33.0 - 33.45	12	HK1203685
	35.5 - 35.95	10	HK1203685
	38.0 - 38.45	13	HK1203927
40.5 - 40.95	1	HK1203927	
KTN-ASBH08	0.5	25	HK1200124
	1.0	62	HK1200124
	1.5	61	HK1200124
	3.0	8	HK1200304
	5.5	666	HK1200304
	8.0 - 8.45	358	HK1200370
	10.5 - 10.95	1,020	HK1200370
	13.0 - 13.45	218	HK1200370
	15.5 - 15.95	252	HK1200370
	18.0 - 18.45	377	HK1200370
	20.5 - 20.95	103	HK1200478
	23.0 - 23.45	112	HK1200478

Sampling Boreholes	Sampling Depth (mbgl)	Arsenic Concentration (mg/kg dry soil)	Report No.
	25.5 - 25.95	147	HK1200478
	28.0 - 28.45	73	HK1200478
	30.5 - 30.95	149	HK1200478
	33.0 - 33.45	234	HK1200562
	35.5 - 35.95	127	HK1200562
	38.0 - 38.45	39	HK1200562
	40.5 - 40.95	68	HK1200758
KTN-ASBH09	0.5	442	HK1128847
	1.0	338	HK1128847
	1.5	186	HK1128847
	3.0 - 3.45	258	HK1129217
	5.5 - 5.95	412	HK1129218
	8.0 - 8.45	134	HK1129218
	10.5 - 10.95	60	HK1129342
	13.0 - 13.45	67	HK1129342
	15.5 - 15.95	16	HK1129484
	18.0 - 18.45	25	HK1129694
	20.5 - 20.95	59	HK1129694
	23.0 - 23.45	129	HK1129694
	25.5 - 25.95	95	HK1129934
	28.0	19	HK1129934
KTN-ASBH12	0.5	41	HK1130363
	1.0	274	HK1130363
	1.5	257	HK1130363
	3.0 - 3.45	432	HK1130706
	5.5 - 5.95	52	HK1130706
	8.0 - 8.45	21	HK1130772
	10.5 - 10.95	9	HK1130772
	13.0 - 13.45	130	HK1130772
	15.5 - 15.95	214	HK1130772
	18.0 - 18.45	13	HK1130882
	20.5 - 20.95	33	HK1130882
	23.0 - 23.45	76	HK1130882
	25.5	100	HK1130882
	28.0 - 28.45	61	HK1130882
	30.5 - 30.95	108	HK1200028
	33.0 - 33.45	255	HK1200028
	35.5	401	HK1200125
KTN-ASBH13	0.5	65	HK1201440

Sampling Boreholes	Sampling Depth (mbgl)	Arsenic Concentration (mg/kg dry soil)	Report No.
	1.0	101	HK1201440
	1.5	96	HK1201440
	3.0 - 3.45	177	HK1201440
	5.5 - 5.95	162	HK1201516
	8.0 - 8.45	58	HK1201516
	10.5 - 10.95	52	HK1201516
	13.0 - 13.45	811	HK1201606
	15.5 - 15.95	1,220	HK1201606
	18.0	137	HK1201606
	20.5	179	HK1201760
	23.0	119	HK1201760
	25.5 - 25.95	324	HK1201760
	28.0 - 28.45	16	HK1201760
	30.5 - 30.95	592	HK1201760
	33.0 - 33.45	80	HK1202009
	35.5 - 35.95	7	HK1202009
	38.0 - 38.45	13	HK1202009
	40.5 - 40.95	4	HK1202009
	43.0 - 43.45	18	HK1202009
	45.5 - 45.95	6	HK1202198
	48.0 - 48.45	17	HK1202198
	50.5 - 50.95	8	HK1202198
	53.5	16	HK1202335
KTN-ASBH14a	0.5	52	HK1129696
	1.0	101	HK1129696
	1.5	191	HK1129696
	3.0 - 3.45	5	HK1129855
	5.5 - 5.95	52	HK1129855
	10.5 - 10.95	15	HK1129894
	13.0 - 13.45	10	HK1129894
	15.5 - 15.95	7	HK1129894
	18.0	11	HK1130176
KTN-ASBH14b	0.5	417	HK1129485
	1.0	400	HK1129485
	1.5	55	HK1129485
	3.0 - 3.45	93	HK1129895
	5.5 - 5.95	56	HK1129895
	8.0 - 8.45	28	HK1129895
	10.5 - 10.95	79	HK1129895
	13.0 - 13.45	322	HK1129933

Sampling Boreholes	Sampling Depth (mbgl)	Arsenic Concentration (mg/kg dry soil)	Report No.
	15.5 - 15.95	174	HK1130074
	18.0 - 18.45	97	HK1130074
	20.5 - 20.95	102	HK1130179
	23.0 - 23.45	79	HK1130179
	25.5 - 25.95	68	HK1130179
	28.0 - 28.45	82	HK1130179
	30.5 - 30.95	158	HK1130179
	33.0	315	HK1130364
	35.50	240	HK1130364
	38.0 - 38.45	78	HK1130364
	40.5 - 40.95	127	HK1130364
	43.0 - 43.45	114	HK1130381
	45.5 - 45.95	58	HK1130576
	KTN-ASBH15	0.5	31
1.0		68	HK1130776
1.5		51	HK1130776
3.0 - 3.45		7	HK1130776
5.5		71	HK1130878
8.0		73	HK1130878
10.5 - 10.81		28	HK1130878
13.0		46	HK1200029
18.0 - 18.45		227	HK1200127
20.5 - 20.95		25	HK1200127
23.0		945	HK1200127
25.5		78	HK1200302
KTN-ASBH20	0.5	219	HK1200761
	1.0	40	HK1200761
	1.5	43	HK1200761
	3.0 - 3.45	27	HK1200761
	6.0	12	HK1200785
	8.0 - 8.45	86	HK1200785
	10.5 - 10.95	263	HK1200785
	13.0 - 13.45	74	HK1201003
	15.5 - 15.95	100	HK1201003
	18.0 - 18.45	98	HK1201003
	20.5 - 20.95	194	HK1201003
	23.0 - 23.45	6	HK1201003
	25.5 - 25.95	161	HK1201332
	28.0 - 28.45	134	HK1201332
	30.5 - 30.95	710	HK1201332

Sampling Boreholes	Sampling Depth (mbgl)	Arsenic Concentration (mg/kg dry soil)	Report No.
	35.0 - 35.95	21	HK1201427
KTN-ASBH21	0.5	73	HK1200783
	1.0	56	HK1200783
	1.5	62	HK1200783
	5.5	2	HK1201000
	8.0 - 8.45	131	HK1201000
	10.5 - 10.95	25	HK1201000
	13.0 - 13.45	90	HK1201334
	15.5 - 15.95	75	HK1201334
	18.0 - 18.45	198	HK1201334
	20.5 - 20.95	98	HK1201432
	23.0 - 23.45	71	HK1201432
	25.5 - 25.95	94	HK1201432
	28.0 - 28.45	38	HK1201432
	30.5	134	HK1201513
	33.0 - 33.45	86	HK1201513
KTN-ASBH29	0.5	72	HK1202896
	1.0	124	HK1202896
	1.5	155	HK1202896
	3.0 - 3.45	124	HK1203247
	5.5 - 5.95	214	HK1203247
	8.0 - 8.45	95	HK1203345
KTN-ASBH32	0.5	21	HK1201331
	1.0	30	HK1201331
	1.5	65	HK1201331
	3.0 - 3.45	36	HK1201436
	5.5 - 5.95	16	HK1201436
	8.0 - 8.45	45	HK1201436
	10.5 - 10.95	30	HK1201436
	13.0 - 13.45	2	HK1201512
	15.5 - 15.95	8	HK1201512
	18.0 - 18.45	85	HK1201512
	23.0	10	HK1201761
KTN-ASBH38	0.5	12	HK1202016
	1.0	22	HK1202016
	1.5	5	HK1202016
	3.0 - 3.45	2	HK1202016
	5.5	1	HK1202016
	8.0 - 8.45	13	HK1202204
	10.5 - 10.95	20	HK1202204

Sampling Boreholes	Sampling Depth (mbgl)	Arsenic Concentration (mg/kg dry soil)	Report No.
	13.0 - 13.45	39	HK1202204
	15.5	20	HK1202204
KTN-ASBH Offsite	0.5	88	HK1130365
	1.0	122	HK1130380
	1.5	214	HK1130380
	3.0 - 3.45	105	HK1130699
	5.5 - 5.95	122	HK1130704
	8.0 - 8.45	45	HK1130704
	10.5 - 10.95	167	HK1130704
	13.0 - 13.45	147	HK1130704
	15.5 - 15.95	343	HK1130777
	18.0 - 18.45	542	HK1130777
	20.5 - 20.95	23,400	HK1130777
	23.0 - 23.45	708	HK1130777
	25.5 - 25.95	494	HK1130777
	28.0 - 28.45	82	HK1130880
30.5 - 30.85	234	HK1130880	
KTN-ASBH Offsite (a) *	0.5	195	HK1204093
	1.0	128	HK1204139
	1.5	262	HK1204139
	3.6	128	HK1204304
	5.9	163	HK1204434
	8.2	80	HK1204434
	10.0	151	HK1204434
	12.8	176	HK1204633
	15.0	504	HK1204633
	17.2	105	HK1204633
	18.4	74	HK1204633
	19.5	64	HK1204638
	20.6	86	HK1204638
	21.8	70	HK1204638
	23.0	73	HK1204638
	24.1	111	HK1204638
	25.2	457	HK1204827
	26.3	203	HK1204827
	27.5	806	HK1204827
29.5	238	HK1204827	
30.5	320	HK1204827	



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH
DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013781
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 4
Work Order : HK1128847

Date Samples Received : 07-DEC-2011
Issue Date : 16-DEC-2011
No. of samples received : 4
No. of samples analysed : 4

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1128847

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:

09-DEC-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: **HK1128847**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1128847

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		Unit
			Client sampling date / time	Client sample ID	
EA/ED: Physical and Aggregate Properties	----	0.1	KTN-ASBH09 (0.5M)	KTN-ASBH09 (1.0M)	KTN-ASBH09 (1.5M)
			[07-DEC-2011]	[07-DEC-2011]	[07-DEC-2011]
			HK1128847-001	HK1128847-002	HK1128847-003
EA055: Moisture Content (dried @ 103°C)			15.7	16.8	16.7
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	442	338	186
					162



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1128847

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: 2080774)								
HK1128815-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	12.5	12.0	3.8
HK1128829-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	20.6	20.3	1.3
EG: Metals and Major Cations (QC Lot: 2082078)								
HK1128829-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	7	8	19.4

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

Matrix: SOIL		Method Blank (MB) Report		Laboratory Control Spike Duplicate (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)	Control Limit
EG: Metals and Major Cations (QC Lot: 2082078)	7440-38-2	1	mg/kg	<1	5 mg/kg	92.2	---	77	109	---	---	---	---
EG020: Arsenic													

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 (%)	MSD	Recovery Limits (%)	Low	High	Value	RPD (%)	Control Limit
EG: Metals and Major Cations (QC Lot: 2082078)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	78.4	---	75	125	---	---	---	---
HK1128829-002	Anonymous											



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013782
Site : NDA KTN

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Quote number : ----

Page : 1 of 5
Work Order : HK1129217

Date Samples Received : 09-DEC-2011
Issue Date : 20-DEC-2011
No. of samples received : 2
No. of samples analysed : 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129217

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: 19-DEC-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: **HK1129217**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129217

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EATED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	11.5
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	258



Page Number : 5 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129217

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: 2087058)								
HK1129217-001	KTN-ASBH09 (3.0-3.45M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	11.5	12.5	8.5
HK1129229-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	31.4	31.4	0.0
EG: Metals and Major Cations (QC Lot: 2087070)								
HK1128958-005	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	<1	<1	0.0
HK1129218-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	412	427	3.5
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2091538)								
HK1129082-002	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
HK1129137-002	Anonymous	EG020: Arsenic	7440-38-2	100	µg/L	<100	<100	0.0

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	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2087070)														
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	85.6	----	----	77	109	----	----	----	----
Matrix: WATER														
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2091538)														
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	89.6	----	----	78	114	----	----	----	----

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	MS	MSD	Spike Recovery (%)	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2087070)													
HK1128958-002	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	95.5	----	75	125	75	125	----	----	----
Matrix: WATER													
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Spike Recovery (%)	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2091538)													
HK1129082-001	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	85.1	----	75	125	75	125	----	----	----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
: IR POPHIL LAM
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Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013783
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1129218

Date Samples Received : 10-DEC-2011
Issue Date : 20-DEC-2011
No. of samples received : 2
No. of samples analysed : 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129218

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:

16-DEC-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: **HK1129218**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129218

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH09 (5.5-5.95M) [10-DEC-2011]	KTN-ASBH09 (8.0-8.45M) [10-DEC-2011]
EA055: Moisture Content (dried @ 103° C)	----	0.1	HK1129218-001	HK1129218-002
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	412	134



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		
EA/ED: Physical and Aggregate Properties (QC Lot: 2087058)								
HK1129217-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	11.5	12.5	8.5
HK1129229-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	31.4	31.4	0.0
EG: Metals and Major Cations (QC Lot: 2087070)								
HK1128958-005	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	<1	<1	0.0
HK1129218-001	KTN-ASBH09 (5.5-5.95M)	EG020: Arsenic	7440-38-2	1	mg/kg	412	427	3.5

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2087070)	7440-38-2	1	mg/kg	<1	5 mg/kg	85.6	---	---	77	109	---	---	---
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	85.6	---	---	77	109	---	---	---

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)	
					MS	MSD	Recovery Limits (%)		
EG: Metals and Major Cations (QC Lot: 2087070)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	95.5	---	75	125	---
HK1128958-002	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	95.5	---	75	125	---



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013784
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 4
Work Order : HK1129342

Date Samples Received : 12-DEC-2011
Issue Date : 28-DEC-2011
No. of samples received : 2
No. of samples analysed : 2

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Signatories



Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129342

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:

16-DEC-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: **HK1129342**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129342

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH09 (10.50-10.95M) [12-DEC-2011]	KTN-ASBH09 (13.00-13.45M) [12-DEC-2011]
EA055: Moisture Content (dried @ 103°C)	----	0.1 %	33.0	27.7
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	60 mg/kg	67



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129342

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2091627)								
HK1129341-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	23.2	22.5	3.0
HK1129372-004	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	10.0	11.1	10.8
EG: Metals and Major Cations (QC Lot: 2090363)								
HK1129233-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	18	16	12.2
HK1129082-005	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	<1	<1	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
					Spike Concentration	Recovery (%)	DCS	Recovery Limits (%)
Method Blank (MB) Report								
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	89.2	77	109
Laboratory Control Spike Duplicate (DCS) Report								
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	77	109	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					MS	MSD	Recovery Limits (%)	Control Limit
EG: Metals and Major Cations (QC Lot: 2090363)								
HK1129232-004	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	80.0	75	125	-----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Telephone : +852 2716 8609
Facsimile : +852 2715 7572
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013785
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 5

Work Order : HK1129484

Date Samples Received : 13-DEC-2011

Issue Date : 22-DEC-2011

No. of samples received : 4

No. of samples analysed : 4

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Signatories

Position

Authorised results for


P Fung Lim Chee, Richard

General Manager

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

Trading Name: ALS Technichem (HK) Pty Ltd
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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129484

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:

19-DEC-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: **HK1129484**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129484

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID	
				Client sampling date / time	
EA/ED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	29.0	
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg	16	



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129484

Sub-Matrix: WATER

Compound	CAS Number	LOR	Unit	Client sample ID	KTN-ASBH09 (FIELD BLANK)	KTN-ASBH09 (EQUIPMENT BLANK)	KTN-ASBH09 (FW-DURING DRILLING 15.0M)
				Client sampling date / time			
EG: Metals and Major Cations - Filtered					[13-DEC-2011]	[13-DEC-2011]	[13-DEC-2011]
EG020: Arsenic	7440-38-2	10	µg/L		HK1129484-002	HK1129484-003	HK1129484-004
					<10	<10	<10



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: 2091628)									
HK1129376-003	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.7	14.8	7.8
HK1129479-001	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	14.6	15.3	4.1
EG: Metals and Major Cations (QC Lot: 2091567)									
HK1129350-002	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	37	42	12.0
HK1129378-003	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	5	5	0.0

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2091538)									
HK1129082-002	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
HK1129137-002	Anonymous		EG020: Arsenic	7440-38-2	100	µg/L	<100	<100	0.0

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

Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	85.6	----	----	77 109	----

Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2091567)	7440-38-2	10	µg/L	<10	100 µg/L	89.6	----	----	78 114	----

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

Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2091538)	7440-38-2	10	µg/L	<10	100 µg/L	89.6	----	----	78 114	----

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2091567)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	81.2	----	75	125	----	----

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2091538)	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	85.1	----	75	125	----	----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1129485
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 13-DEC-2011
Order number	: GE/2009/16.38			Issue Date	: 22-DEC-2011
C-O-C number	: H013881			No. of samples received	: 4
Site	: NDA KTN			No. of samples analysed	: 4

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group
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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129485

General Comments

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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: **HK1129485**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129485

Analytical Results

Compound	CAS Number	LOR	Client sampling date / time	Client sample ID			
				KTN-ASBH14B (0.5M)	KTN-ASBH14B (1.0M)	KTN-ASBH14B (1.5M)	KTN-ASBH14B (1.5M DUPLICATE)
EA/ED: Physical and Aggregate Properties				[13-DEC-2011]	[13-DEC-2011]	[13-DEC-2011]	[13-DEC-2011]
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	HK1129485-001	HK1129485-002	HK1129485-003	HK1129485-004
EG: Metals and Major Cations							
EG020: Arsenic	7440-38-2	1	mg/kg	17.2	17.6	21.4	21.2
					400	55	54



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129485

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		
EA/ED: Physical and Aggregate Properties (QC Lot: 2091628)								
HK1129376-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.7	14.8	7.8
HK1129479-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	14.6	15.3	4.1
EG: Metals and Major Cations (QC Lot: 2091567)								
HK1129350-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	37	42	12.0
HK1129378-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	5	5	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike Duplicate (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2091567)	7440-38-2	1	mg/kg	<1	5 mg/kg	85.6	----	77	109	----	----	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	85.6	----	77	109	----	----	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					MS	MSD	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2091567)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	81.2	75	125	----
HK1129350-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	81.2	75	125	----



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013786
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1129694

Date Samples Received : 14-DEC-2011
Issue Date : 23-DEC-2011
No. of samples received : 3
No. of samples analysed : 3

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Signatories


F Fung Lim Chee, Richard

Position
General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129694

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: 20-DEC-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: **HK1129694**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129694

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		
			Client sampling date / time	Unit	Client sample ID
EA/ED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	30.9	25.0
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg	25	129



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EAIED: Physical and Aggregate Properties (QC Lot: 2096734)								
HK1128755-009	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	64.0	63.6	0.6
HK1129547-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	10.5	10.5	0.0
EG: Metals and Major Cations (QC Lot: 2097071)								
HK1129694-002	KTN-ASBH09 (20.5-20.95M)	EG020: Arsenic	7440-38-2	1	mg/kg	59	59	0.0
HK1129855-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	5	4	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High
Method Blank (MB) Report										
EG: Metals and Major Cations (QC Lot: 2097071)	7440-38-2	1	mg/kg	<1	5 mg/kg	93.9	77	109	---	---
EG020: Arsenic										

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
					Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)	
HK1129694-001	KTN-ASBH09 (18.0-18.45M)	EG020: Arsenic	7440-38-2	5 mg/kg	85.7	---	75	125	---



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Contact : IR POPHIL LAM
Address : GEOTECHNICAL PROJECTS DIVISION,
GEOTECHNICAL ENGINEERING OFFICE,
23/F., KWUN TONG VIEW,
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E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : +852 2715 7572
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH
EAST NEW TERRITORIES NEW
DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013841
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 1/F., Chung Shun Knitting Centre, 1 - 3
Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 5
Work Order : HK1129696

Date Samples Received : 14-DEC-2011
Issue Date : 23-DEC-2011
No. of samples received : 5
No. of samples analysed : 5

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Signatories

FP

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129696

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:

20-DEC-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: **HK1129696**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time	Client sample ID			
				Unit			
EA/ED: Physical and Aggregate Properties EA055: Moisture Content (dried @ 103° C)	----	0.1	%	KTN-ASBH14A (0.5M)	KTN-ASBH14A (1.0M)	KTN-ASBH14A (1.5M)	KTN-ASBH14A (1.0M DUPLICATE)
				[14-DEC-2011]	[14-DEC-2011]	[14-DEC-2011]	[14-DEC-2011]
				HK1129696-001	HK1129696-002	HK1129696-003	HK1129696-004
				12.3	15.2	23.9	16.1
EG: Metals and Major Cations							
EG020: Arsenic	7440-38-2	1	mg/kg	52	101	191	119



Page Number : 4 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129696

Sub-Matrix: WATER		Client sample ID				
Compound	CAS Number	LOR	Client sampling date / time	Unit		
EG: Metals and Major Cations - Filtered						
EG020: Arsenic	7440-38-2	10	KTN-ASBH14A (FW-BEFORE DRILLING) [14-DEC-2011]	HK1129696-005	<10	



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: 2096734)									
HK1128755-009	Anonymous		EA055: Moisture Content (dried @ 103°C)	---	0.1	%	64.0	63.6	0.6
HK1129547-003	Anonymous		EA055: Moisture Content (dried @ 103°C)	---	0.1	%	10.5	10.5	0.0
EG: Metals and Major Cations (QC Lot: 2097071)									
HK1129694-002	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	59	59	0.0
HK1129855-001	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	5	4	0.0
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 2099586)									
HK1129652-002	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Method Blank (MB) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2097071)									
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.9	---	77 109	---
Matrix: WATER									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2099586)									
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	88.6	---	78 114	---

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	High	Control Limit
EG: Metals and Major Cations (QC Lot: 2097071)									
HK1129694-001	Anonymous		EG020: Arsenic	7440-38-2	5 mg/kg	85.7	---	75 125	---
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	High	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2099586)									
HK1129652-001	Anonymous		EG020: Arsenic	7440-38-2	100 µg/L	85.0	---	75 125	---

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1129855
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 15-DEC-2011
Order number	: GE/2009/16.38			Issue Date	: 23-DEC-2011
C-O-C number	: H013842			No. of samples received	: 2
Site	: NDA KTN			No. of samples analysed	: 2

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Signatories

Position

Authorised results for


Richard Fung Lim Chee, Richard

General Manager

Inorganics

ALS Laboratory Group
Trading Name: ALS Technichem (HK) Pty Ltd

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129855

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: 20-DEC-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: **HK1129855**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129855

Analytical Results

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties EG: Metals and Major Cations	---	0.1	KTN-ASBH14A (3.0-3.45M) [15-DEC-2011]	KTN-ASBH14A (5.5-5.95M) [15-DEC-2011]
			HK1129855-001	HK1129855-002
EA055: Moisture Content (dried @ 103° C)			10.2	16.9
EG020: Arsenic	7440-38-2	1	5	52



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2096735)								
HK1129714-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.6	17.1	8.0
HK1129854-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	17.7	15.9	11.1
EG: Metals and Major Cations (QC Lot: 2097071)								
HK1129694-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	59	59	0.0
HK1129855-001	KTN-ASBH14A (3.0-3.45M)	EG020: Arsenic	7440-38-2	1	mg/kg	5	4	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Matrix: SOIL	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2097071)	7440-38-2	1	mg/kg	<1	5 mg/kg	93.9	77	77	109	77	109	-----	-----
EG020: Arsenic													

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			Value	Control Limit
					MS	MSD	Recovery Limits (%)		
EG: Metals and Major Cations (QC Lot: 2097071)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	85.7	75	125	-----	-----
HK1129694-001	Anonymous								



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1129894
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: +852 2715 7572	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 16-DEC-2011
Order number	: GE/2009/16.38			Issue Date	: 29-DEC-2011
C-O-C number	: H013843			No. of samples received	: 4
Site	: NDA KTN			No. of samples analysed	: 4

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Signatories: **Fung Lim Chee, Richard**  Position: **General Manager** Authorised results for: **Inorganics**



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129894

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:

23-DEC-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: **HK1129894**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH14A (10.5-10.95M) [16-DEC-2011]	KTN-ASBH14A (15.5-15.75M) [16-DEC-2011]
EA055: Moisture Content (dried @ 103° C)	----	0.1	18.2	11.8
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	15	10
				7



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129894

Sub-Matrix: WATER		Client sample ID	KTN-ASBH14A (FW-DURING DRILLING 15.0M) [16-DEC-2011]	
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	HK1129894-004
EG020: Arsenic				<10



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: 2098727)								
HK1129867-009	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	13.9	13.9	0.0
HK1129934-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	13.0	14.7	12.4
EG: Metals and Major Cations (QC Lot: 2097071)								
HK1129694-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	59	59	0.0
HK1129855-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	5	4	0.0
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2099590)								
HK1129862-002	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Matrix: SOIL		Method Blank (MB) Report		Laboratory Control Spike Duplicate (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	LCS	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2097071)														
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.9	93.9	-----	77	109	-----	-----	-----	-----
Matrix: WATER														
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	LCS	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2099590)														
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	93.5	93.5	-----	78	114	-----	-----	-----	-----

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 (%)	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2097071)													
HK1129694-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	85.7	85.7	-----	75	125	-----	-----	-----	-----
Matrix: WATER													
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2099590)													
HK1129862-001	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	88.9	88.9	-----	75	125	-----	-----	-----	-----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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410 KWUN TONG ROAD, KOWLOON, HONG KONG
E-mail : Pophilkiam@cedd.gov.hk
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Project : AGREEMENT NO CE 61 2007 (CE) - NORTH
EAST NEW TERRITORIES NEW
DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013883
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1129895

Date Samples Received : 16-DEC-2011
Issue Date : 28-DEC-2011
No. of samples received : 4
No. of samples analysed : 4

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Signatories

PP Fung Lim Chee, Richard

General Manager

Authorised results for

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

Trading Name: ALS Technichem (HK) Pty Ltd
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129895

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: 20-DEC-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: **HK1129895**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID			
			Client sampling date / time	Unit		
EA/ED: Physical and Aggregate Properties EA055: Moisture Content (dried @ 103°C) EG: Metals and Major Cations EG020: Arsenic	----	0.1	KTN-ASBH14B (3.0-3.45M) [16-DEC-2011] HK1129895-001	KTN-ASBH14B (5.5-5.95M) [16-DEC-2011] HK1129895-002	KTN-ASBH14B (8.0-8.45M) [16-DEC-2011] HK1129895-003	KTN-ASBH14B (10.5-10.95M) [16-DEC-2011] HK1129895-004
			18.7	22.5	7.5	16.1
			93	56	28	79
			mg/kg	mg/kg	mg/kg	mg/kg



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Original Result		Duplicate Result
EA/ED: Physical and Aggregate Properties (QC Lot: 2098727)								
HK1129867-009	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	13.9	13.9	0.0
HK1129934-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	13.0	14.7	12.4
EG: Metals and Major Cations (QC Lot: 2097071)								
HK1129694-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	59	59	0.0
HK1129855-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	5	4	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value
Method Blank (MB) Report												
EG: Metals and Major Cations (QC Lot: 2097071)	7440-38-2	1	mg/kg	<1	5 mg/kg	93.9	---	---	77	109	---	---

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
					MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value
HK1129694-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	85.7	---	---	75	125	---	---



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1129933
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 17-DEC-2011
Order number	: GE/2009/16.38			Issue Date	: 29-DEC-2011
C-O-C number	: H013884			No. of samples received	: 1
Site	: NDA KTN			No. of samples analysed	: 1

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Signatories

Authorised results for


Fung Lim Chee, Richard

General Manager

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

Trading Name: ALS Technichem (HK) Pty Ltd
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129933

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:

21-DEC-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: **HK1129933**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
E/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	11.9
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	322



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				RPD (%)
				LOR	Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2098727)								
HK1129867-009	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.9	13.9	0.0
HK1129934-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.0	14.7	12.4
EG: Metals and Major Cations (QC Lot: 2098789)								
HK1129704-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	1	<1	0.0
HK1129934-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	95	98	3.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)
7440-38-2	1	mg/kg	<1	94.1	77	109	-----
EG: Metals and Major Cations (QC Lot: 2098789)							
EG020: Arsenic							

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)
HK1129866-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	82.6	75	125
EG: Metals and Major Cations (QC Lot: 2098789)							
EG020: Arsenic							

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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GEOTECHNICAL ENGINEERING OFFICE,
23/F., KWUN TONG VIEW,
410 KWUN TONG ROAD, KOWLOON, HONG KONG
E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C.O.-C number : H013787
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1129934

Date Samples Received : 17-DEC-2011
Issue Date : 29-DEC-2011
No. of samples received : 2
No. of samples analysed : 2

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Signatories

Position

Authorised results for

F Fung Lim Chee, Richard

General Manager

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1129934

General Comments

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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: **HK1129934**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing
Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1129934

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA055: Moisture Content (dried @ 103° C)	----	0.1	KTN-ASBH09 (25.5-25.95M) [17-DEC-2011]	HK1129934-001
EG: Metals and Major Cations			KTN-ASBH09 (28.0M) [17-DEC-2011]	HK1129934-002
EG020: Arsenic	7440-38-2	1	20.4	13.0
			95	19



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		
EA/ED: Physical and Aggregate Properties (QC Lot: 2098727)								
HK1129867-009	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.9	13.9	0.0
HK1129934-002	KTN-ASBH09 (28.0M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.0	14.7	12.4
EG: Metals and Major Cations (QC Lot: 2098789)								
HK1129704-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	1	<1	0.0
HK1129934-001	KTN-ASBH09 (25.5-25.95M)	EG020: Arsenic	7440-38-2	1	mg/kg	95	98	3.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	High	Value	Control Limit	RPD (%)	
EG: Metals and Major Cations (QC Lot: 2098789)	7440-38-2	1	mg/kg	<1	5 mg/kg	94.1	77	109	----	----	----	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
						MS	MSD	Recovery Limits (%)	
EG: Metals and Major Cations (QC Lot: 2098789)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	82.6	75	125	----	----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013885
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1130074

Date Samples Received : 19-DEC-2011
Issue Date : 30-DEC-2011
No. of samples received : 2
No. of samples analysed : 2

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Signatories

Position

Authorised results for

PP Fung Lim Chee, Richard

General Manager

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order HK1130074

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: 24-DEC-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: **HK1130074**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH14B (15.50-15.95M)	KTN-ASBH14B (18.00-18.45M)
EA055: Moisture Content (dried @ 103° C)	----	0.1	[19-DEC-2011]	[19-DEC-2011]
EG: Metals and Major Cations			HK1130074-001	HK1130074-002
EG020: Arsenic	7440-38-2	1	27.1	28.0
			174	97



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: 2101381)									
HK1129290-041	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	55.4	54.4	1.9
HK1130074-001	KTN-ASBH14B (15.50-15.95M)		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	27.1	27.1	0.0
EG: Metals and Major Cations (QC Lot: 2101370)									
HK1129290-042	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	20	21	5.2
HK1130020-002	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	14	15	11.3

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2101370)	7440-38-2	1	mg/kg	<1	5 mg/kg	99.6		----		77	109	----	----
EG020: Arsenic													

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

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2101370)													
HK1130020-001	Anonymous		EG020: Arsenic	7440-38-2	5 mg/kg	78.1		----		75	125	----	----



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1130176
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 20-DEC-2011
Order number	: GE/2009/16.38			Issue Date	: 03-JAN-2012
C.O.-C number	: H013844			No. of samples received	: 1
Site	: NDA KTN			No. of samples analysed	: 1

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Signatories

Position

Authorised results for

RF Fung Lim Chee, Richard

General Manager

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130176

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: 29-DEC-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: **HK1130176**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130176

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EATED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	14.6
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	11



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)
				LOR	Unit	Duplicate Result	
EAIED: Physical and Aggregate Properties (QC Lot: 2103635)							
HK1129966-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	24.8	24.6
HK1130206-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.2	18.6
EG: Metals and Major Cations (QC Lot: 2105726)							
HK1130043-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	1	<1
HK1130053-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	4	3

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

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)
EG: Metals and Major Cations (QC Lot: 2105726)	7440-38-2	1	mg/kg	<1	5 mg/kg	92.7	----	77	109	----	----	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					MS	MSD	Recovery Limits (%)	Value
EG: Metals and Major Cations (QC Lot: 2105726)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	81.3	75	125	----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013886
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd

Contact : Chan Kwok Fai, Godfrey

Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

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Quote number : ----

Page : 1 of 5

Work Order : HK1130179

Date Samples Received : 20-DEC-2011

Issue Date : 03-JAN-2012

No. of samples received : 8

No. of samples analysed : 8

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Signatories

P Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

Trading Name: ALS Technichem (HK) Pty Ltd
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order HK1130179

General Comments

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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: **HK1130179**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID								
				Client sampling date / time	Client sample ID	Client sample ID	Client sample ID	Client sample ID				
EA/ED: Physical and Aggregate Properties												
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	21.2	22.7	21.7	18.4	21.0				
EG: Metals and Major Cations												
EG020: Arsenic	7440-38-2	1	mg/kg	102	79	68	82	158				



Sub-Matrix: WATER

Compound	CAS Number	LOR	Client sampling date / time		Unit	KTN-ASBH14B (EQUIPMENT BLANK 20.50-20.95M)	KTN-ASBH14B (FIELD BLANK 20.50-20.95M)	KTN-ASBH14B (FW-DURING DRILLING 20.50-20.95M)
			Client sample ID	Client sampling date / time				
EG: Metals and Major Cations - Filtered EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	[20-DEC-2011] HK1130179-006	[20-DEC-2011] HK1130179-007	[20-DEC-2011] HK1130179-008



Page Number : 5 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130179

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: 2103635)								
HK1129966-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	24.8	24.6	0.6
HK1130206-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.2	18.6	2.1
EG: Metals and Major Cations (QC Lot: 2105726)								
HK1130043-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	1	<1	0.0
HK1130053-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	4	3	0.0

Matrix: WATER

Matrix: WATER		Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2108410)								
HK1130179-006	KTN-ASBH14B (EQUIPMENT BLANK 20.50-20.95M)	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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	LCS	Spike Recovery (%)	Recovery Limits (%)	DCS	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2105726)													
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	92.7	77	109	----	77	109	----	----

Matrix: WATER

Matrix: WATER		Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	Recovery Limits (%)	DCS	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2108410)													
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	90.8	78	114	----	78	114	----	----

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	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2105726)											
HK1130051-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	81.3	----	75	125	----	75	125

Matrix: WATER

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2108410)											
HK1130076-001	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	96.5	----	75	125	----	75	125

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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410 KWUN TONG ROAD, KOWLOON, HONG KONG
E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013821
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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E-mail : Godfrey.Chan@alsglobal.com
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1130363

Date Samples Received : 21-DEC-2011
Issue Date : 04-JAN-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories

Position

Authorised results for

PR Fung Lim Chee, Richard

General Manager

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order HK1130363

General Comments

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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: **HK1130363**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time	Client sample ID			
				KTN-ASBH12 (0.5M)	KTN-ASBH12 (1.0M)	KTN-ASBH12 (1.5M)	KTN-ASBH12 (1.5M DUPLICATE)
EA/ED: Physical and Aggregate Properties							
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	36.0	16.3	19.7	19.5
EG: Metals and Major Cations							
EG020: Arsenic	7440-38-2	1	mg/kg	41	274	257	249



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report		RPD (%)		
				LOR	Unit		Original Result	Duplicate Result
EA/ED: Physical and Aggregate Properties (QC Lot: 2108966)								
HK1130363-001	KTN-ASBH12 (0.5M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	36.0	35.8	0.7
HK1130380-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	7.7	7.7	0.0
EG: Metals and Major Cations (QC Lot: 2108421)								
HK1130264-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	11	11	0.0
HK1130264-015	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	12	10	14.5

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

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
		LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value
EG: Metals and Major Cations (QC Lot: 2108421)	7440-38-2	1	mg/kg	<1	5 mg/kg	87.9	-----	-----	77	109	-----	-----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	87.9	-----	-----	77	109	-----	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)			
					MS	Spike Recovery (%)	MSD		Recovery Limits (%)	Low	High
EG: Metals and Major Cations (QC Lot: 2108421)	7440-38-2	EG020: Arsenic	7440-38-2	5 mg/kg	80.4	-----	-----	75	125	-----	-----
HK1130264-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	80.4	-----	-----	75	125	-----	-----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1130364
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 21-DEC-2011
Order number	: GE/2009/16.38			Issue Date	: 04-JAN-2012
C-O-C number	: H013887			No. of samples received	: 4
Site	: NDA KTN			No. of samples analysed	: 4

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130364



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: 28-DEC-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: **HK1130364**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130364

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID				
			Client sampling date / time	Unit	Value	Reference	
EA/ED: Physical and Aggregate Properties	---	0.1	%	KTN-ASBH14B (33.00M)	9.9	21.2	
				[21-DEC-2011]	HK1130364-001		
				HK1130364-002			
EG: Metals and Major Cations	7440-38-2	1	mg/kg	KTN-ASBH14B (35.50M)	14.9	78	
				[21-DEC-2011]	HK1130364-002		
				HK1130364-003			
				KTN-ASBH14B (40.50-40.95M)	22.6	127	
				[21-DEC-2011]	HK1130364-004		



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		
EAVED: Physical and Aggregate Properties (QC Lot: 2108966)								
HK1130363-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	36.0	35.8	0.7
HK1130380-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	7.7	7.7	0.0
EG: Metals and Major Cations (QC Lot: 2108421)								
HK1130264-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	11	11	0.0
HK1130264-015	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	12	10	14.5

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	87.9	---	---	77	77	109	---	---

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)			
EG020: Arsenic	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	80.4	---	75	125	---	---



CERTIFICATE OF ANALYSIS

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Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H016800
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1130365

Date Samples Received : 21-DEC-2011
Issue Date : 04-JAN-2012
No. of samples received : 1
No. of samples analysed : 1

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Signatories

Position

Authorised results for

FP Fung Lim Chee, Richard 

General Manager

Inorganics

Page Number : 2 of 4

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Work Order : HK1130365



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: 28-DEC-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: **HK1130365**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL	Client sample ID	
	KTN-ASBH OFFSITE (0.5M)	[21-DEC-2011]
Compound	CAS Number	Client sampling date / time
	LOR	Unit
EAI/ED: Physical and Aggregate Properties		
EAO55: Moisture Content (dried @ 103°C)	0.1	%
		9.8
EG: Metals and Major Cations		
EG020: Arsenic	7440-38-2	1 mg/kg
		88



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EAVED: Physical and Aggregate Properties (QC Lot: 2108966)								
HK1130363-001	Anonymous	EAO55: Moisture Content (dried @ 103°C)	----	0.1	%	36.0	35.8	0.7
HK1130380-002	Anonymous	EAO55: Moisture Content (dried @ 103°C)	----	0.1	%	7.7	7.7	0.0
EG: Metals and Major Cations (QC Lot: 2108421)								
HK1130264-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	11	11	0.0
HK1130264-015	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	12	10	14.5

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High
Method Blank (MB) Report											
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	87.9	----	77	109	----	----
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report											
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report											

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)				MSD	MS	Value	Control Limit
					MS	MSD	Low	High				
HK1130264-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	80.4	----	75	125	----	----	----	



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013981
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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E-mail : Godfrey.Chan@alsglobal.com
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1130380

Date Samples Received : 22-DEC-2011
Issue Date : 05-JAN-2012
No. of samples received : 2
No. of samples analysed : 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130380

General Comments

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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: **HK1130380**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130380

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Original Result	Duplicate Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2108966)								
HK1130363-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	36.0	35.8	0.7	
HK1130380-002	KTN-ASBH OFFSITE (1.5M)	EA055: Moisture Content (dried @ 103°C)	---	0.1	7.7	7.7	0.0	
EG: Metals and Major Cations (QC Lot: 2109810)								
HK1130237-002	Anonymous	EG020: Arsenic	7440-38-2	1	3	3	0.0	
HK1130464-002	Anonymous	EG020: Arsenic	7440-38-2	1	9	8	0.0	

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value
EG: Metals and Major Cations (QC Lot: 2109810)	7440-38-2	1	mg/kg	<1	5 mg/kg	86.7	77	109	---	---	---
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	86.7	77	109	---	---	---

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				Control Limit
					Spike Recovery (%)	MSD	Recovery Limits (%)	Value	
EG: Metals and Major Cations (QC Lot: 2109810)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	82.1	75	125	---	
HK1130237-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	82.1	75	125	---	



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013888
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1130381

Date Samples Received : 22-DEC-2011
Issue Date : 05-JAN-2012
No. of samples received : 1
No. of samples analysed : 1

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Signatories

AP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130381

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:

28-DEC-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: **HK1130381**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130381

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	18.0
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	114



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130381

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		
EA/ED: Physical and Aggregate Properties (QC Lot: 2108966)								
HK1130363-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	36.0	35.8	0.7
HK1130380-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	7.7	7.7	0.0
EG: Metals and Major Cations (QC Lot: 2109810)								
HK1130237-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	3	3	0.0
HK1130464-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	9	8	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Value
EG: Metals and Major Cations (QC Lot: 2109810)	7440-38-2	1	mg/kg	<1	5 mg/kg	86.7	77	109	----	----
EG020: Arsenic										

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
					MS	MSD	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2109810)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	82.1	75	125	----	----
HK1130237-001	Anonymous								



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH
EAST NEW TERRITORIES NEW
DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013889
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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Wing Yip Street, Kwai Chung, N.T., Hong Kong
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Quote number : ----

Page : 1 of 5
Work Order : HK1130576

Date Samples Received : 23-DEC-2011
Issue Date : 06-JAN-2012
No. of samples received : 2
No. of samples analysed : 2

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Signatories

FP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group

Trading Name: ALS Technichem (HK) Pty Ltd
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A Campbell Brothers Limited Company



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130576

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:

28-DEC-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: **HK1130576**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EAVED: Physical and Aggregate Properties			KTN-ASBH14B	
EA055: Moisture Content (dried @ 103° C)	----	0.1	(45.50-45.95M)	
EG: Metals and Major Cations			[23-DEC-2011]	
EG020: Arsenic	7440-38-2	1	HK1130576-002	
				21.4
				58



Sub-Matrix: WATER		Client sample ID	KTN-ASBH14B (FW-AFTER DRILLING) [23-DEC-2011]	
Compound	CAS Number	LOR	Unit	HK1130576-001
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	
EG020: Arsenic				<10



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: 2108968)									
HK1130558-016	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	12.2	12.2	0.0
EG: Metals and Major Cations (QC Lot: 2109810)									
HK1130237-002	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	3	3	0.0
HK1130464-002	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	9	8	0.0
Matrix: WATER									
Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2112982)									
HK1130635-002	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
HK1130745-009	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
Matrix: SOIL													
EG: Metals and Major Cations (QC Lot: 2109810)													
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	86.7	77	109	77	109	-----	-----	-----
Matrix: WATER													
EG: Metals and Major Cations (QC Lot: 2112982)													
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	90.0	78	114	78	114	-----	-----	-----

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report											
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
Matrix: SOIL											
EG: Metals and Major Cations (QC Lot: 2109810)											
HK1130237-001	Anonymous		EG020: Arsenic	5 mg/kg	82.1	-----	75	125	75	125	-----
Matrix: WATER											
EG: Metals and Major Cations - Filtered (QC Lot: 2112982)											
HK1130635-001	Anonymous		EG020: Arsenic	100 µg/L	87.8	-----	75	125	75	125	-----



CERTIFICATE OF ANALYSIS

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Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013982
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 5
Work Order : HK1130699

Date Samples Received : 24-DEC-2011
Issue Date : 09-JAN-2012
No. of samples received : 2
No. of samples analysed : 2

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Signatories


F Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130699

General Comments

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30-DEC-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: **HK1130699**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time		Client sample ID
			Unit	Unit	
EATED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.8	
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg	105	



Sub-Matrix: WATER

Compound	CAS Number	LOR	Client sampling date / time		Client sample ID
			Unit	Unit	
EG: Metals and Major Cations - Filtered					KTN-ASBH OFFSITE (FW-BEFORE DRILLING)
EG020: Arsenic	7440-38-2	10	µg/L	[24-DEC-2011]	HK1130699-001
					<10



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Original Result	Duplicate Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2111574)								
HK1130699-002	KTN-ASBH OFFSITE (3.00-3.45M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	18.8	19.4	3.4	
HK1130772-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	28.6	29.1	1.9	
EG: Metals and Major Cations (QC Lot: 2112844)								
HK1130368-002	Anonymous	EG020: Arsenic	7440-38-2	1	<1	<1	0.0	
HK1130703-001	Anonymous	EG020: Arsenic	7440-38-2	1	31	34	9.7	

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Original Result	Duplicate Result	Duplicate Result	
EG: Metals and Major Cations - Filtered (QC Lot: 2112982)								
HK1130635-002	Anonymous	EG020: Arsenic	7440-38-2	10	<10	<10	0.0	
HK1130745-009	Anonymous	EG020: Arsenic	7440-38-2	10	<10	<10	0.0	

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

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report				RPD (%)
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	
EG: Metals and Major Cations (QC Lot: 2112844)									
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	92.1	77	109	----

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				RPD (%)
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 2112982)									
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	90.0	78	114	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				RPD (%)
					MS	MSD	Recovery Limits (%)	Value	
EG: Metals and Major Cations (QC Lot: 2112844)									
HK1130368-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	81.1	75	125	----	

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				RPD (%)
					MS	MSD	Recovery Limits (%)	Value	
EG: Metals and Major Cations - Filtered (QC Lot: 2112982)									
HK1130635-001	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	87.8	75	125	----	



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013790
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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E-mail : Godfrey.Chan@alsglobal.com
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1130703

Date Samples Received : 28-DEC-2011
Issue Date : 09-JAN-2012
No. of samples received : 1
No. of samples analysed : 1

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Signatories

PR Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130703

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:

30-DEC-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: **HK1130703**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130703

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.7
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	31



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report		RPD (%)		
				LOR	Unit		Original Result	Duplicate Result
EA/ED: Physical and Aggregate Properties (QC Lot: 2111574)								
HK1130699-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.8	19.4	3.4
HK1130772-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	28.6	29.1	1.9
EG: Metals and Major Cations (QC Lot: 2112844)								
HK1130368-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	<1	<1	0.0
HK1130703-001	KTN-ASBH15 (0.50M)	EG020: Arsenic	7440-38-2	1	mg/kg	31	34	9.7

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Value
Method Blank (MB) Report									
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	92.1	77	109	-----
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	92.1	77	109	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					Spike Recovery (%)	MSD	Recovery Limits (%)	Value
Matrix Spike (MS) Report								
EG020: Arsenic	7440-38-2	EG020: Arsenic	7440-38-2	5 mg/kg	81.1	75	125	-----
Matrix Spike Duplicate (MSD) Report								
EG020: Arsenic	7440-38-2	EG020: Arsenic	7440-38-2	5 mg/kg	81.1	75	125	-----



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013983
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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Quote number : ----

Page : 1 of 4
Work Order : HK1130704
Date Samples Received : 28-DEC-2011
Issue Date : 09-JAN-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories

RF Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130704

General Comments

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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: **HK1130704**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID			
				Client sampling date / time	KTN-ASBH OFFSITE (5.50-5.95M) [28-DEC-2011] HK1130704-001	KTN-ASBH OFFSITE (8.00-8.45M) [28-DEC-2011] HK1130704-002	KTN-ASBH OFFSITE (10.50-10.835M) [28-DEC-2011] HK1130704-003
EA/ED: Physical and Aggregate Properties							
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	20.7	20.6	7.5	17.8
EG: Metals and Major Cations							
EG020: Arsenic	7440-38-2	1	mg/kg	122	45	167	147



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report		RPD (%)
					Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2111574)							
HK1130699-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	18.8	19.4	3.4
HK1130772-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	28.6	29.1	1.9
EG: Metals and Major Cations (QC Lot: 2112844)							
HK1130368-002	Anonymous	EG020: Arsenic	7440-38-2	1	<1	<1	0.0
HK1130703-001	Anonymous	EG020: Arsenic	7440-38-2	1	31	34	9.7

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	High	Value	Control Limit
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	92.1	77	109	----	----	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
					MS	MSD	Recovery Limits (%)	RPD (%)	
HK1130368-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	81.1	75	125	----	----



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1130706
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E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 28-DEC-2011
Order number	: GE/2009/16.38			Issue Date	: 09-JAN-2012
C-O-C number	: H013822			No. of samples received	: 3
Site	: NDA KTN			No. of samples analysed	: 3

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130706



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: 30-DEC-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: **HK1130706**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	-----	0.1	12.7	24.0
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	432	52



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130706

Sub-Matrix: WATER		Client sample ID		
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	KTN-ASBH12 (FW BEFORE DRILLING) [28-DEC-2011]
EG020: Arsenic				HK1130706-001
				<10



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2111574)								
HK1130699-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.8	19.4	3.4
HK1130772-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	28.6	29.1	1.9
EG: Metals and Major Cations (QC Lot: 2112844)								
HK1130368-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	<1	<1	0.0
HK1130703-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	31	34	9.7

Matrix: WATER

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Unit	Original Result	Duplicate Result	
EG: Metals and Major Cations - Filtered (QC Lot: 2112982)								
HK1130635-002	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
HK1130745-009	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Recovery (%)	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 2112844)									
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	92.1	77	109	-----

Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Recovery (%)	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 2112982)									
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	90.0	78	114	-----

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

Matrix: SOIL

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2112844)								
HK1130368-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	81.1	75	125	-----

Matrix: WATER

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2112982)								
HK1130635-001	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	87.8	75	125	-----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013823
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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E-mail : Godfrey.Chan@alsglobal.com
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1130772
Date Samples Received : 29-DEC-2011
Issue Date : 09-JAN-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130772

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:

30-DEC-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: **HK1130772**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID			
			Client sampling date / time	Unit	Value	Reference
EA/ED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	28.6	HK1130772-001	HK1130772-004
EG: Metals and Major Cations						
EG020: Arsenic	7440-38-2	1	mg/kg	21	HK1130772-002	HK1130772-003
				25.5	HK1130772-002	HK1130772-004
				12.3	HK1130772-003	HK1130772-004
				23.9	HK1130772-003	HK1130772-004
				130	HK1130772-003	HK1130772-004
				214	HK1130772-003	HK1130772-004



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				RPD (%)
				LOR	Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2111574)								
HK1130699-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.8	19.4	3.4
HK1130772-001	KTN-ASBH12 (8.00-8.45M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	28.6	29.1	1.9
EG: Metals and Major Cations (QC Lot: 2114904)								
HK1130772-002	KTN-ASBH12 (10.50-10.95M)	EG020: Arsenic	7440-38-2	1	mg/kg	9	8	0.0
HK1130777-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	23400	25800	9.8

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

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value
EG: Metals and Major Cations (QC Lot: 2114904)	7440-38-2	1	mg/kg	<1	5 mg/kg	86.8	----	77	109	----	----
EG020: Arsenic											

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)	
					Spike Recovery (%)	MSD	Recovery Limits (%)		
HK1130772-001	KTN-ASBH12 (8.00-8.45M)	EG020: Arsenic	7440-38-2	5 mg/kg	82.0	----	75	125	----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1130776
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 29-DEC-2011
Order number	: GE/2009/16.38			Issue Date	: 10-JAN-2012
C-O-C number	: H013791			No. of samples received	: 5
Site	: NDA KTN			No. of samples analysed	: 5

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group

Trading Name: ALS Technichem (HK) Pty Ltd

1/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130776

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:

30-DEC-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: **HK1130776**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130776

Analytical Results

Compound	CAS Number	LOR	Client sample ID		KTN-ASBH15 (1.0M) [29-DEC-2011] HK1130776-001	KTN-ASBH15 (1.5M) [29-DEC-2011] HK1130776-002	KTN-ASBH15 (1.5M DUPLICATE) [29-DEC-2011] HK1130776-003	KTN-ASBH15 (3.00-3.45M) [29-DEC-2011] HK1130776-004
			Client sampling date / time	Unit				
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%		34.4	17.4	18.3	21.7
EG: Metals and Major Cations								
EG020: Arsenic	7440-38-2	1	mg/kg		68	51	48	7



Sub-Matrix: WATER

Compound	CAS Number	LOR	Client sampling date / time		Unit	Client sample ID
			Client sampling date / time	Unit		
EG: Metals and Major Cations - Filtered	7440-38-2	10			µg/L	KTN-ASBH15 (FW-BEFORE DRILLING) [29-DEC-2011] HK1130776-005
EG020: Arsenic						<10



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report			RPD (%)
						Original Result	Duplicate Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2111574)									
HK1130699-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	18.8	19.4	19.4	3.4
HK1130772-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	28.6	29.1	29.1	1.9
EG: Metals and Major Cations (QC Lot: 2114904)									
HK1130772-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	9	8	8	0.0
HK1130777-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	23400	25800	25800	9.8

Laboratory Duplicate (DUP) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2112986)									
HK1130745-015	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	<10	0.0
HK1130745-024	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	<10	0.0

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

Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	86.8	77	109	77	109

Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
EG: Metals and Major Cations - Filtered (QC Lot: 2112986)	7440-38-2	10	µg/L	<10	100 µg/L	94.4	78	114	78	114

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
EG: Metals and Major Cations (QC Lot: 2114904)	7440-38-2	EG020: Arsenic	7440-38-2	5 mg/kg	82.0	75	125	75	125

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
EG: Metals and Major Cations - Filtered (QC Lot: 2112986)	7440-38-2	EG020: Arsenic	7440-38-2	100 µg/L	99.3	75	125	75	125



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013984
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 6
Work Order : HK1130777

Date Samples Received : 29-DEC-2011
Issue Date : 09-JAN-2012
No. of samples received : 8
No. of samples analysed : 8

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group

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Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130777

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: 07-JAN-2012

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: **HK1130777**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130777

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID				
				KTN-ASBH OFFSITE (15.50-15.95M) [29-DEC-2011] HK1130777-001	KTN-ASBH OFFSITE (18.00-18.45M) [29-DEC-2011] HK1130777-002	KTN-ASBH OFFSITE (20.50-20.95M) [29-DEC-2011] HK1130777-003	KTN-ASBH OFFSITE (23.00-23.45M) [29-DEC-2011] HK1130777-004	KTN-ASBH OFFSITE (25.50-25.95M) [29-DEC-2011] HK1130777-005
EAVED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	12.1	16.8	12.9	17.7	11.8
EG: Metals and Major Cations								
EG020: Arsenic	7440-38-2	1	mg/kg	343	542	23400	708	494



Sub-Matrix: WATER		Client sample ID		KTN-ASBH OFFSITE (15.50-15.95M EQUIPMENT BLANK)		KTN-ASBH OFFSITE (15.50-15.95M FIELD BLANK)		KTN-ASBH OFFSITE (15.50-15.95M FW-DURING DRILLING)	
Compound	CAS Number	LOR	Unit	Client sampling date / time	Unit	Client sampling date / time	Unit	Client sampling date / time	Unit
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L						
EG020: Arsenic				[29-DEC-2011]	HK1130777-006	[29-DEC-2011]	HK1130777-007	[29-DEC-2011]	HK1130777-008
					<10		<10		<10



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: 2114394)									
HK1130777-001	KTN-ASBH OFFSITE (15.50-15.95M)	EA055: Moisture Content (dried @ 103°C)	-----	-----	0.1	%	12.1	12.8	6.2
HK1130880-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	-----	0.1	%	14.9	15.0	0.0
EG: Metals and Major Cations (QC Lot: 2114904)									
HK1130772-002	Anonymous	EG020: Arsenic	7440-38-2	7440-38-2	1	mg/kg	9	8	0.0
HK1130777-003	KTN-ASBH OFFSITE (20.50-20.95M)	EG020: Arsenic	7440-38-2	7440-38-2	1	mg/kg	23400	25800	9.8
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 2114547)									
HK1130777-007	KTN-ASBH OFFSITE (15.50-15.95M FIELD BLANK)	EG020: Arsenic	7440-38-2	7440-38-2	10	µg/L	<10	<10	0.0

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

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 (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
Matrix: SOIL													
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	86.8	-----	77	109	-----	-----	-----	-----
Matrix: WATER													
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
Matrix: WATER													
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	93.3	-----	78	114	-----	-----	-----	-----



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

Matrix: SOIL

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
				Spike Concentration	Recovery Limits (%)	RPD (%)			
				MS	MSD	Value	High	Low	Control Limit
EG: Metals and Major Cations (QC Lot: 2114904)									
HK1130772-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	82.0	75	125		

Matrix: WATER

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
				Spike Concentration	Recovery Limits (%)	RPD (%)			
				MS	MSD	Value	High	Low	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2114547)									
HK1130777-006	KTN-ASBH OFFSITE (15.50-15.95M EQUIPMENT BLANK)	EG020: Arsenic	7440-38-2	100 µg/L	91.8	75	125		



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013792
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1130878

Date Samples Received : 30-DEC-2011
Issue Date : 10-JAN-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130878

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: 07-JAN-2012

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: **HK1130878**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130878

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA055: Moisture Content (dried @ 103°C)	-----	0.1	KTN-ASBH15 (10.50-10.8MM)	KTN-ASBH15 (8.00MM)
			[30-DEC-2011]	[30-DEC-2011]
			HK1130878-001	HK1130878-002
EG: Metals and Major Cations	7440-38-2	1	7.2	10.7
			mg/kg	71
			28	73
EG020: Arsenic				



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2114394)								
HK1130777-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	12.1	12.8	6.2
HK1130880-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	14.9	15.0	0.0
EG: Metals and Major Cations (QC Lot: 2114904)								
HK1130772-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	9	8	0.0
HK1130777-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	23400	25800	9.8

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2114904)	7440-38-2	1	mg/kg	<1	5 mg/kg	86.8	77	109	-----	77	109	-----	-----
EG020: Arsenic													

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					MS	MSD	Recovery Limits (%)	
				Low	High	Value	Control Limit	
EG: Metals and Major Cations (QC Lot: 2114904)	7440-38-2	5 mg/kg	82.0	75	125	-----	-----	
HK1130772-001	Anonymous	EG020: Arsenic						



CERTIFICATE OF ANALYSIS

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410 KWUN TONG ROAD, KOWLOON, HONG KONG
E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013986
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Page : 1 of 5
Contact : Chan Kwok Fai, Godfrey
Work Order : HK1130880
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E-mail : Godfrey.Chan@alsglobal.com
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Facsimile : +852 2610 2021
Quote number : ----

Date Samples Received : 30-DEC-2011
Issue Date : 10-JAN-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130880

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: 07-JAN-2012

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: **HK1130880**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) were filtered prior to dissolved metal analysis.

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.



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: 2114394)									
HK1130777-001	Anonymous		EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	12.1	12.8	6.2
HK1130880-002	KTN-ASBH OFFSITE (30.50-30.95M)		EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	14.9	15.0	0.0
EG: Metals and Major Cations (QC Lot: 2114904)									
HK1130772-002	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	9	8	0.0
HK1130777-003	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	23400	25800	9.8
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 2114547)									
HK1130777-007	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0	

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

Method Blank (MB) Report									
CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2114904)									
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	86.8	-----	77	109
Matrix: WATER									
Method Blank (MB) Report									
CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2114547)									
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	93.3	-----	78	114

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2114904)									
HK1130772-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	82.0	-----	75	125	-----
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2114547)									
HK1130777-006	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	91.8	-----	75	125	-----



CERTIFICATE OF ANALYSIS

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E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013824
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 6
Work Order : HK1130882

Date Samples Received : 30-DEC-2011
Issue Date : 11-JAN-2012
No. of samples received : 8
No. of samples analysed : 8

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Signatories

Position

Authorised results for

PP Fung Lim Chee, Richard

General Manager

Inorganics

Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1130882



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: 07-JAN-2012

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: **HK1130882**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130882

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		KTN-ASBH12 (18.00-18.45M) [30-DEC-2011] HK1130882-001	KTN-ASBH12 (20.50-20.95M) [30-DEC-2011] HK1130882-002	KTN-ASBH12 (23.00-23.45M) [30-DEC-2011] HK1130882-003	KTN-ASBH12 (25.50M) [30-DEC-2011] HK1130882-004	KTN-ASBH12 (28.00-28.45M) [30-DEC-2011] HK1130882-005
			Client sampling date / time	Unit					
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	----	0.1	%		20.9	21.2	22.6	17.9	16.2
EG: Metals and Major Cations									
EG020: Arsenic	7440-38-2	1	mg/kg		13	33	76	100	61



Page Number : 4 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1130882

Sub-Matrix: WATER		Client sample ID	Client sample ID	Client sample ID	Client sample ID
Compound	CAS Number	LOR	Unit	Client sampling date / time	Client sampling date / time
EG: Metals and Major Cations - Filtered EG020: Arsenic	7440-38-2	10	µg/L	KTN-ASBH12 (FW 28.00-28.45M DURING DRILLING) [30-DEC-2011]	KTN-ASBH12 (28.00-28.45M FIELD BLANK) [30-DEC-2011]
				HK1130882-006	HK1130882-007
				<10	<10
				KTN-ASBH12 (28.00-28.45M EQUIPMENT BLANK) [30-DEC-2011]	HK1130882-008
				<10	<10



Laboratory Duplicate (DUP) Report

Matrix: SOIL		Method: Compound		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2114394)							
HK1130777-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	12.1	12.8	6.2
HK1130880-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	14.9	15.0	0.0
EG: Metals and Major Cations (QC Lot: 2114904)							
HK1130772-002	Anonymous	EG020: Arsenic	1	mg/kg	9	8	0.0
HK1130777-003	Anonymous	EG020: Arsenic	1	mg/kg	23400	25800	9.8
EG: Metals and Major Cations (QC Lot: 2114905)							
HK1130882-004	KTN-ASBH12 (25.50M)	EG020: Arsenic	1	mg/kg	100	107	5.9
HK1200125-001	Anonymous	EG020: Arsenic	1	mg/kg	401	353	12.9
Matrix: WATER							
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2114547)							
HK1130777-007	Anonymous	EG020: Arsenic	10	µg/L	<10	<10	0.0

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 (%)	DCS	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2114904)										
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	86.8	77	77	109	<10
EG: Metals and Major Cations (QC Lot: 2114905)										
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	91.2	77	77	109	<10
Matrix: WATER										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2114547)										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	93.3	78	78	114	<10



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

Matrix: SOIL

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
				Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 2114904)									
HK1130772-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	82.0	----	75	125	----
EG: Metals and Major Cations (QC Lot: 2114905)									
HK1130882-003	KTN-ASBH12 (23.00-23.45M)	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----
Matrix: WATER									
EG: Metals and Major Cations - Filtered (QC Lot: 2114547)									
HK1130777-006	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	91.8	----	75	125	----



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013825
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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Page : 1 of 4
Work Order : HK1200028
Date Samples Received : 31-DEC-2011
Issue Date : 11-JAN-2012
No. of samples received : 2
No. of samples analysed : 2

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Signatories

Position

Authorised results for

PP Fung Lim Chee, Richard

General Manager

Inorganics

Page Number : 2 of 4

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Work Order : HK1200028



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: 07-JAN-2012

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: **HK1200028**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	----	0.1	14.7	18.8
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	108	255



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method : Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report		RPD (%)
					Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2114394)							
HK1130777-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	12.1	12.8	6.2
HK1130880-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	14.9	15.0	0.0
EG: Metals and Major Cations (QC Lot: 2114905)							
HK1130882-004	Anonymous	EG020: Arsenic	7440-38-2	1	100	107	5.9
HK1200125-001	Anonymous	EG020: Arsenic	7440-38-2	1	401	353	12.9

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

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 (%)	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2114905)	7440-38-2	1	mg/kg	<1	5 mg/kg	91.2	77	109	-----
EG020: Arsenic									-----

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 (%)
HK1130882-003	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125



CERTIFICATE OF ANALYSIS

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E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013793
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1200029

Date Samples Received : 31-DEC-2011
Issue Date : 11-JAN-2012
No. of samples received : 1
No. of samples analysed : 1

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Signatories


P Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200029

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: 07-JAN-2012

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: **HK1200029**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200029

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EATED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	12.8
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	46



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		Duplicate Result
EA/ED: Physical and Aggregate Properties (QC Lot: 2114395)								
HK1200028-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.8	18.9	0.9
EG: Metals and Major Cations (QC Lot: 2114905)								
HK1130882-004	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	100	107	5.9
HK1200125-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	401	353	12.9

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2114905)	7440-38-2	1	mg/kg	<1	5 mg/kg	91.2	77	109	----	77	109	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	91.2	77	109	----	77	109	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
				Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit		
EG: Metals and Major Cations (QC Lot: 2114905)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125	----	----	----	----
HK1130882-003	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125	----	----	----	----



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013890
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 4
Work Order : HK1200124
Date Samples Received : 03-JAN-2012
Issue Date : 12-JAN-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories

Authorised results for


Fung Lim Chee, Richard

General Manager

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200124

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:

07-JAN-2012

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: **HK1200124**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID			
			Client sampling date / time	Unit	Value	Sample ID
EA/ED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	10.0	31.3	23.4
EG: Metals and Major Cations						
EG020: Arsenic	7440-38-2	1	mg/kg	25	62	61
						24.6
						63



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		Original Result
EA/ED: Physical and Aggregate Properties (QC Lot: 2115969)								
HK1200124-001	KTN-ASBH08 (0.50M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	10.0	10.6	6.0
HK1200216-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	5.4	5.4	0.0
EG: Metals and Major Cations (QC Lot: 2114905)								
HK1130882-004	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	100	107	5.9
HK1200125-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	401	353	12.9

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

Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			RPD (%)	
						LCS	DCS	Recovery Limits (%)		Low
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	91.2	77	109	-----	-----

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Matrix Spike Recovery (%)			Value	Control Limit
						MSD	Recovery Limits (%)	Low		
HK1130882-003	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	-----	75	125	-----	-----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C.-O.-C. number : H013826
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 5
Work Order : HK1200125

Date Samples Received : 03-JAN-2012
Issue Date : 12-JAN-2012
No. of samples received : 2
No. of samples analysed : 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager
Inorganics

Authorised results for



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200125

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: 09-JAN-2012

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: **HK1200125**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200125

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EAVED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	16.6
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	401



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200125

Sub-Matrix: WATER		Client sample ID	KTN-ASBH12 (FW-AFTER DRILLING) [03-JAN-2012]	
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	HK1200125-002
EG020: Arsenic				<10



Laboratory Duplicate (DUP) Report

Matrix: SOIL		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Compound
EA/ED: Physical and Aggregate Properties (QC Lot: 2115969)			
HK1200124-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	10.6
HK1200216-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	5.4
EG: Metals and Major Cations (QC Lot: 2114905)			
HK1130882-004	Anonymous	EG020: Arsenic	107
HK1200125-001	KTN-ASBH12 (35.50M)	EG020: Arsenic	353

Matrix: WATER		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Compound
EG: Metals and Major Cations - Filtered (QC Lot: 2116831)			
HK1200058-013	Anonymous	EG020: Arsenic	<10
HK1200127-006	Anonymous	EG020: Arsenic	<10

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	Concentration
EG: Metals and Major Cations (QC Lot: 2114905)					
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg
Method Blank (MB) Report					
Method: Compound	CAS Number	LOR	Unit <td>Result</td> <td>Concentration</td>	Result	Concentration
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit <td>Result</td> <td>Concentration</td>	Result	Concentration
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg

Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration
EG: Metals and Major Cations - Filtered (QC Lot: 2116831)					
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit <td>Result</td> <th>Concentration</th>	Result	Concentration
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L

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	Compound		
EG: Metals and Major Cations (QC Lot: 2114905)					
HK1130882-003	Anonymous	EG020: Arsenic	5 mg/kg		
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Method: Compound	CAS Number	LOR	Unit <td>Result</td> <td>Concentration</td>	Result	Concentration
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit <td>Result</td> <td>Concentration</td>	Result	Concentration
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
Laboratory sample ID	Client sample ID	Method: Compound	Compound		
EG: Metals and Major Cations - Filtered (QC Lot: 2116831)					
HK1200058-012	Anonymous	EG020: Arsenic	102 µg/L		
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Method: Compound	CAS Number	LOR	Unit <td>Result</td> <td>Concentration</td>	Result	Concentration
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L



CERTIFICATE OF ANALYSIS

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Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013794
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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E-mail : Godfrey.Chan@alsglobal.com
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Quote number : ----

Page : 1 of 6
Work Order : HK1200127

Date Samples Received : 03-JAN-2012
Issue Date : 13-JAN-2012
No. of samples received : 6
No. of samples analysed : 6

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Signatories


Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200127

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:

09-JAN-2012

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: **HK1200127**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200127

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		
			Client sampling date / time	Unit	
EA/ED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	15.6	10.8
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg	227	945
				KTN-ASBH15 (18.00-18.45M) [03-JAN-2012] HK1200127-001	KTN-ASBH15 (20.50-20.95M) [03-JAN-2012] HK1200127-002
					KTN-ASBH15 (23.00M) [03-JAN-2012] HK1200127-003



Sub-Matrix: WATER		Client sample ID		Client sampling date / time		
Compound	CAS Number	LOR	Unit	KTN-ASBH15 (20.50M FW-DURING DRILLING)	KTN-ASBH15 (EQUIPMENT BLANK)	KTN-ASBH15 (FIELD BLANK)
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	[03-JAN-2012]	[03-JAN-2012]	[03-JAN-2012]
EG020: Arsenic				HK1200127-004	HK1200127-005	HK1200127-006
				<10	<10	<10



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: 2115969)								
HK1200124-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	10.0	10.6	6.0
HK1200216-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	5.4	5.4	0.0
EG: Metals and Major Cations (QC Lot: 2114905)								
HK1130882-004	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	100	107	5.9
HK1200125-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	401	353	12.9
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2116831)								
HK1200058-013	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
HK1200127-006	KTN-ASBH15 (FIELD BLANK)	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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 (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2114905)													
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	91.2	---	77	109	---	---	---	---
Matrix: WATER													
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2116831)													
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	87.6	---	78	114	---	---	---	---

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 (%)	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2114905)													
HK1130882-003	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	---	---	75	125	---	---	---	---
Matrix: WATER													
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2116831)													
HK1200058-012	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	102	---	---	75	125	---	---	---	---





CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013795
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 5
Work Order : HK1200302

Date Samples Received : 04-JAN-2012
Issue Date : 13-JAN-2012
No. of samples received : 2
No. of samples analysed : 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200302

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:

10-JAN-2012

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: **HK1200302**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200302

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH15 (25.50M)	
EA055: Moisture Content (dried @ 103° C)	----	0.1	[04-JAN-2012]	
EG: Metals and Major Cations			HK1200302-001	
EG020: Arsenic	7440-38-2	1		13.0
				78



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200302

Sub-Matrix: WATER		Client sample ID	KTN-ASBH15 (FW-AFTER DRILLING) [04-JAN-2012]	
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	HK1200302-002
EG020: Arsenic				<10



Page Number : 5 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200302

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2117554)								
HK1200302-001	KTN-ASBH15 (25.50M)	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	13.0	13.0	0.0
HK1200304-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	25.4	25.0	1.7
EG: Metals and Major Cations (QC Lot: 2118650)								
HK1200303-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	7	7	0.0
HK1200369-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	74	62	17.1
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

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 (%)
EG: Metals and Major Cations (QC Lot: 2118650)	7440-38-2	1	mg/kg	<1	5 mg/kg	97.8	77 109
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	102	78 114
Matrix: WATER							
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)	7440-38-2	10	µg/L	<10	100 µg/L	102	78 114
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	102	78 114

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					MS	MSD	Recovery Limits (%)	
EG: Metals and Major Cations (QC Lot: 2118650)	KTN-ASBH15 (25.50M)	EG020: Arsenic	7440-38-2	5 mg/kg	-----	# Not Determined	75 125	-----
HK1200302-001	KTN-ASBH15 (25.50M)	EG020: Arsenic	7440-38-2	5 mg/kg	-----	# Not Determined	75 125	-----
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)	KTN-ASBH15 (FW-AFTER DRILLING)	EG020: Arsenic	7440-38-2	100 µg/L	102	-----	75 125	-----
HK1200302-002	KTN-ASBH15 (FW-AFTER DRILLING)	EG020: Arsenic	7440-38-2	100 µg/L	102	-----	75 125	-----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 : IR POPHIL LAM
 Address : GEOTECHNICAL PROJECTS DIVISION,
 GEOTECHNICAL ENGINEERING OFFICE,
 23/F., KWUN TONG VIEW,
 410 KWUN TONG ROAD, KOWLOON, HONG KONG
 E-mail : Pophilkiam@cedd.gov.hk
 Telephone : +852 2716 8609
 Facsimile : ----
 Project : AGREEMENT NO CE 61_2007 (CE) - NORTH
 EAST NEW TERRITORIES NEW
 DEVELOPMENT AREAS
 Order number : GE/2009/16.38
 C-O-C number : H013846
 Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
 Contact : Chan Kwok Fai, Godfrey
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 Wing Yip Street, Kwai Chung, N.T., Hong Kong
 E-mail : Godfrey.Chan@alsglobal.com
 Telephone : +852 2610 1044
 Facsimile : +852 2610 2021
 Quote number : ----

Page : 1 of 6
 Work Order : HK1200303

Date Samples Received : 04-JAN-2012
 Issue Date : 13-JAN-2012
 No. of samples received : 7
 No. of samples analysed : 7

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200303

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: 10-JAN-2012

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: **HK1200303**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200303

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID																		
			Client sampling date / time	Unit																	
EA/ED: Physical and Aggregate Properties	-----	0.1	KTN-ASBH04 (0.50M)	HK1200303-001	5.3																
			KTN-ASBH04 (1.00M)	HK1200303-002	9.7																
			KTN-ASBH04 (1.50M)	HK1200303-003	11.7																
			KTN-ASBH04 (1.50M DUPLICATE)	HK1200303-004	11.6						24.0										
EG: Metals and Major Cations	7440-38-2	1																			
EG020: Arsenic																					133



Page Number : 4 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200303

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
Sub-Matrix: SOIL				
EAVED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	27.9
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	190



Page Number : 5 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200303

Sub-Matrix: WATER		Client sample ID		
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	KTN-ASBH04 (FW-BEFORE DRILLING) [04-JAN-2012]
EG020: Arsenic				HK1200303-007
				<10



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: 2117554)								
HK1200302-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	13.0	13.0	0.0
HK1200304-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	25.4	25.0	1.7
EG: Metals and Major Cations (QC Lot: 2118650)								
HK1200303-001	KTN-ASBH04 (0.50M)	EG020: Arsenic	7440-38-2	1	mg/kg	7	7	0.0
HK1200369-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	74	62	17.1

Matrix: WATER		Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)								
HK1200303-007	KTN-ASBH04 (FW-BEFORE DRILLING)	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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 (%)	LCS	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2118650)	7440-38-2	1	mg/kg	<1	5 mg/kg	97.8	97.8	---	77	109	---	---	---	---

Matrix: WATER		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 (%)	LCS	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)	7440-38-2	10	µg/L	<10	100 µg/L	102	102	---	78	114	---	---	---	---

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	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2118650)	7440-38-2	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	---	75	125	---	---	---	---
HK1200302-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	---	75	125	---	---	---	---

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)	7440-38-2	EG020: Arsenic	7440-38-2	100 µg/L	102	---	75	125	---	---	---	---
HK1200302-002	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	102	---	75	125	---	---	---	---



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1200304
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 04-JAN-2012
Order number	: GE/2009/16.38			Issue Date	: 13-JAN-2012
C-O-C number	: H013891			No. of samples received	: 3
Site	: NDA KTN			No. of samples analysed	: 3

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group

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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200304

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:

10-JAN-2012

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: **HK1200304**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200304

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA055: Moisture Content (dried @ 103°C)	----	0.1	9.7	25.4
EG: Metals and Major Cations	7440-38-2	1	8	666
EG020: Arsenic				



Sub-Matrix: WATER

Compound	CAS Number	LOR	Client sampling date / time		Unit	Client sample ID
			Client sampling date	time		
EG: Metals and Major Cations - Filtered	7440-38-2	10			µg/L	KTN-ASBH08 (FW-BEFORE DRILLING) [04-JAN-2012]
EG020: Arsenic						HK1200304-003
						<10



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: 2117554)									
HK1200302-001	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.0	13.0	0.0
HK1200304-002	KTN-ASBH08 (5.50M)		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	25.4	25.0	1.7
EG: Metals and Major Cations (QC Lot: 2118650)									
HK1200303-001	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	7	7	0.0
HK1200369-002	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	74	62	17.1
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)									
HK1200303-007	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

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 (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2118650)												
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	97.8	----	77	77	109	----	----
Matrix: WATER												
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)												
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	102	----	78	78	114	----	----

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2118650)											
HK1200302-001	Anonymous		EG020: Arsenic	5 mg/kg	# Not Determined	----	75	75	125	----	----
Matrix: WATER											
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)											
HK1200302-002	Anonymous		EG020: Arsenic	100 µg/L	102	----	75	75	125	----	----



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61 2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013847
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4

Work Order : HK1200369

Date Samples Received : 05-JAN-2012

Issue Date : 16-JAN-2012

No. of samples received : 4

No. of samples analysed : 4

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200369

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: 10-JAN-2012

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: **HK1200369**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		Unit
			Client sampling date / time	Client sample ID	
EA055: Moisture Content (dried @ 103°C)	----	0.1	KTN-ASBH04 (8.00-8.45M) [05-JAN-2012]	KTN-ASBH04 (13.00-13.45M) [05-JAN-2012]	KTN-ASBH04 (15.50-15.95M) [05-JAN-2012]
EG: Metals and Major Cations			HK1200369-001	HK1200369-002	HK1200369-003
EG020: Arsenic	7440-38-2	1	22.1	14.4	19.8
			118	74	239
					79



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)
				LOR	Unit	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2117554)							
HK1200302-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.0	13.0
HK1200304-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	25.4	25.0
EG: Metals and Major Cations (QC Lot: 2118650)							
HK1200303-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	7	7
HK1200369-002	KTN-ASBH04 (10.50-10.95M)	EG020: Arsenic	7440-38-2	1	mg/kg	74	62

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 2118650)	7440-38-2	1	mg/kg	<1	5 mg/kg	97.8	77	109	----
EG020: Arsenic									----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
HK1200302-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125	----



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1200370
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 05-JAN-2012
Order number	: GE/2009/16.38			Issue Date	: 16-JAN-2012
C-O-C number	: H013892			No. of samples received	: 5
Site	: NDA KTN			No. of samples analysed	: 5

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Signatories


Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200370

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: 10-JAN-2012

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: **HK1200370**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		KTN-ASBH08 (8.00-8.45M) [05-JAN-2012] HK1200370-001	KTN-ASBH08 (10.50-10.95M) [05-JAN-2012] HK1200370-002	KTN-ASBH08 (13.00-13.45M) [05-JAN-2012] HK1200370-003	KTN-ASBH08 (15.50-15.95M) [05-JAN-2012] HK1200370-004	KTN-ASBH08 (18.00-18.45M) [05-JAN-2012] HK1200370-005
			Client sampling date / time	Unit					
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103° C)	----	0.1	%		27.9	17.0	28.2	25.4	18.9
EG: Metals and Major Cations									
EG020: Arsenic	7440-38-2	1	mg/kg		358	1020	218	252	377



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2117554)								
HK1200302-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.0	13.0	0.0
HK1200304-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	25.4	25.0	1.7
EG: Metals and Major Cations (QC Lot: 2118650)								
HK1200303-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	7	7	0.0
HK1200369-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	74	62	17.1

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2118650)	7440-38-2	1	mg/kg	<1	5 mg/kg	97.8	----	----	77	109	----	----	----
EG020: Arsenic													

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
					MS	MSD	Recovery Limits (%)	RPD (%)	
HK1200302-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Contact : IR POPHIL LAM
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013848
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
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Quote number : ----

Page : 1 of 5
Work Order : HK1200476

Date Samples Received : 06-JAN-2012
Issue Date : 17-JAN-2012
No. of samples received : 5
No. of samples analysed : 5

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Signatories


Fung Lim Chee, Richard

Position
General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200476

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:

10-JAN-2012

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: **HK1200476**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA055: Moisture Content (dried @ 103°C)	----	0.1	KTN-ASBH04 (18.00-18.45M) [06-JAN-2012]	HK1200476-001
EG: Metals and Major Cations	7440-38-2	1	KTN-ASBH04 (20.50M) [06-JAN-2012]	HK1200476-002
EG020: Arsenic				
			23.0	10.9
			38	31



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200476

Sub-Matrix: WATER		Client sample ID				
Compound	CAS Number	LOR	Unit			
EG: Metals and Major Cations - Filtered EG020: Arsenic	7440-38-2	10	µg/L	KTN-ASBH04 (EQUIPMENT BLANK)	KTN-ASBH04 (FIELD BLANK)	KTN-ASBH04 (FW-DURING DRILLING 18.0M)
				[06-JAN-2012]	[06-JAN-2012]	[06-JAN-2012]
				HK1200476-003	HK1200476-004	HK1200476-005
				<10	<10	<10



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: 2119387)									
HK1200476-001	KTN-ASBH04 (18.00-18.45M)		EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	23.0	23.3	1.1
EG: Metals and Major Cations (QC Lot: 2118650)									
HK1200303-001	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	7	7	0.0
HK1200369-002	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	74	62	17.1
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0	

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

Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	DCS	Low	High	Value	Control Limit
7440-38-2	1	mg/kg	<1	5 mg/kg	97.8	77	109	77	109	-----	-----
Matrix: SOIL											
Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	DCS	Low	High	Value	Control Limit
7440-38-2	10	µg/L	<10	100 µg/L	102	78	114	78	114	-----	-----
Matrix: WATER											

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report											
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2118650)		EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	-----	75	75	125	-----	-----
HK1200302-001	Anonymous										
Matrix: WATER											
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)		EG020: Arsenic	7440-38-2	100 µg/L	102	-----	75	75	125	-----	-----
HK1200302-002	Anonymous										



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013893
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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E-mail : Godfrey.Chan@alsglobal.com
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Quote number : ----

Page : 1 of 5
Work Order : HK1200478

Date Samples Received : 06-JAN-2012
Issue Date : 17-JAN-2012
No. of samples received : 8
No. of samples analysed : 8

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Signatories


Fung Lim Chee, Richard

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200478

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: 12-JAN-2012

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: **HK1200478**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200478

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		Client sampling date / time	Unit
			KTN-ASBH08	KTN-ASBH08		
EA055: Moisture Content (dried @ 103°C)	----	0.1	(20.50-20.95M)	(23.00-23.45M)	(25.50-25.95M)	(30.50-30.95M)
			[06-JAN-2012]	[06-JAN-2012]	[06-JAN-2012]	[06-JAN-2012]
EG: Metals and Major Cations	7440-38-2	1	HK1200478-001	HK1200478-002	HK1200478-003	HK1200478-004
			19.9	17.8	25.4	17.0
EG020: Arsenic			103	112	147	73
						149



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200478

Sub-Matrix: WATER

Client sample ID		KTN-ASBH08 (EQUIPMENT BLANK)	KTN-ASBH08 (FIELD BLANK)	KTN-ASBH08 (FW-DURING DRILLING 20.50M)
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	[06-JAN-2012]
EG020: Arsenic				[06-JAN-2012]
				HK1200478-006
				HK1200478-007
				HK1200478-008
				<10
				<10
				<10



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: 2119387)									
HK1200476-001	Anonymous		EA055: Moisture Content (dried @ 103°C)	---	0.1	%	23.0	23.3	1.1
EG: Metals and Major Cations (QC Lot: 2121978)									
HK1200478-002	KTN-ASBH08 (23.00-23.45M)		EG020: Arsenic	7440-38-2	1	mg/kg	112	126	11.6
HK1200563-003	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	75	76	1.5
Matrix: WATER									
Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)									
HK1200303-007	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Method Blank (MB) Report				Laboratory Control Spike Duplicate (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)
Matrix: SOIL							
EG: Metals and Major Cations (QC Lot: 2121978)							
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	95.4	77 109
Matrix: WATER							
Method Blank (MB) Report				Laboratory Control Spike Duplicate (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)
Matrix: SOIL							
EG: Metals and Major Cations (QC Lot: 2118659)							
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	102	78 114

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

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit
Matrix: SOIL										
EG: Metals and Major Cations (QC Lot: 2121978)										
HK1200478-001	KTN-ASBH08 (20.50-20.95M)		EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	---	75 125	---	---
Matrix: WATER										
Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2118659)										
HK1200302-002	Anonymous		EG020: Arsenic	7440-38-2	100 µg/L	102	---	75 125	---	---



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013895
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 4
Work Order : HK1200562

Date Samples Received : 07-JAN-2012
Issue Date : 17-JAN-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200562

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:

12-JAN-2012

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: **HK1200562**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200562

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	Client sample ID		KTN-ASBH08 (33.00-33.45M) [07-JAN-2012] HK1200562-001	KTN-ASBH08 (35.50-35.95M) [07-JAN-2012] HK1200562-002	KTN-ASBH08 (38.00-38.45M) [07-JAN-2012] HK1200562-003
		LOR	Unit			
EA/ED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	16.5	17.0	17.7
EG: Metals and Major Cations						
EG020: Arsenic	7440-38-2	1	mg/kg	234	127	39



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200562

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		
EA/ED: Physical and Aggregate Properties (QC Lot: 2120805)								
HK1200112-018	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	15.4	16.8	8.6
HK1200507-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	25.4	26.0	2.6
EG: Metals and Major Cations (QC Lot: 2121978)								
HK1200478-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	112	126	11.6
HK1200563-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	75	76	1.5

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

Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			RPD (%)	
						LCS	Spike Recovery (%)	DCS		Recovery Limits (%)
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	95.4	---	77	109	---

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

Matrix: SOIL										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					RPD (%)
					MS	Spike Recovery (%)	MSD	Recovery Limits (%)	High	
EG020: Arsenic	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	---	75	125	---	---	---



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013987
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 4
Work Order : HK1200563

Date Samples Received : 07-JAN-2012
Issue Date : 17-JAN-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200563

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: 12-JAN-2012

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: **HK1200563**

Project Name: Agreement No. CE.61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200563

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time	Client sample ID			
				Unit	KTN-ASBH01A (0.50M) [07-JAN-2012] HK1200563-001	KTN-ASBH01A (1.00M) [07-JAN-2012] HK1200563-002	KTN-ASBH01A (1.50M) [07-JAN-2012] HK1200563-003
EA/ED: Physical and Aggregate Properties							
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	18.0	18.3	16.8	18.0
EG: Metals and Major Cations							
EG020: Arsenic	7440-38-2	1	mg/kg	148	51	75	76



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			
					Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2120805)								
HK1200112-018	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	15.4	16.8	8.6
HK1200507-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	25.4	26.0	2.6
EG: Metals and Major Cations (QC Lot: 2121978)								
HK1200478-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	112	126	11.6
HK1200563-003	KTN-ASBH01A (1.50M)	EG020: Arsenic	7440-38-2	1	mg/kg	75	76	1.5

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	95.4	77	109	----	77	109	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					MS	MSD	Recovery Limits (%)	RPD (%)
EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125	----	----	----



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1200756
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E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 09-JAN-2012
Order number	: GE/2009/16.38			Issue Date	: 18-JAN-2012
C-O-C number	: H013988			No. of samples received	: 5
Site	: NDA KTN			No. of samples analysed	: 5

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Signatories

PR Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200756

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:

12-JAN-2012

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: **HK1200756**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200756

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		KTN-ASBH01A (3.00-3.45M) [09-JAN-2012] HK1200756-001	KTN-ASBH01A (5.50-5.95M) [09-JAN-2012] HK1200756-002	KTN-ASBH01A (8.00-8.45M) [09-JAN-2012] HK1200756-003	KTN-ASBH01A (10.50-10.95M) [09-JAN-2012] HK1200756-004
			Client sampling date / time	Unit				
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	24.6	19.2	13.4	15.0	
EG: Metals and Major Cations								
EG020: Arsenic	7440-38-2	1	mg/kg	97	414	805	224	



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200756

Sub-Matrix: WATER

Compound	CAS Number	LOR	Unit	Client sample ID		Client sampling date / time
				Client sample ID	Client sample ID	
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	KTN-ASBH01A	(FW-BEFORE DRILLING)	[09-JAN-2012]
EG020: Arsenic				HK1200756-005		
						<10



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report			RPD (%)
						Original Result	Duplicate Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2121981)									
HK1200376-021	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	29.4	30.4	30.4	3.3
HK1200376-031	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	8.1	7.6	7.6	5.7
EG: Metals and Major Cations (QC Lot: 2121978)									
HK1200478-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	112	126	126	11.6
HK1200563-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	75	76	76	1.5
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)									
HK1200756-005	KTN-ASBH01A (FW-BEFORE DRILLING)	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	<10	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				RPD (%)
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	
Method Blank (MB) Report									
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	95.4	77	109	-----
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 (%)	DCS	Recovery Limits (%)	RPD (%)
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
EG: Metals and Major Cations (QC Lot: 2121978)	7440-38-2	10	µg/L	<10	100 µg/L	94.3	78	114	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				RPD (%)
					MS	MSD	Recovery Limits (%)	Value	
Matrix: SOIL									
EG: Metals and Major Cations (QC Lot: 2121978)									
HK1200478-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125	125	-----
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	105	-----	75	125	-----



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1200758
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 09-JAN-2012
Order number	: GE/2009/16.38			Issue Date	: 18-JAN-2012
C-O-C number	: H013896			No. of samples received	: 2
Site	: NDA KTN			No. of samples analysed	: 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200758

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: 12-JAN-2012

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: **HK1200758**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	Client sample ID	
		LOR	Unit
EA/ED: Physical and Aggregate Properties			
EA055: Moisture Content (dried @ 103°C)	----	0.1	%
EG: Metals and Major Cations			
EG020: Arsenic	7440-38-2	1	mg/kg
			68



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200758

Sub-Matrix: WATER

Compound	CAS Number	LOR	Unit	Client sample ID
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	KTN-ASBH08 (FW-AFTER DRILLING) [09-JAN-2012]
EG020: Arsenic				HK1200758-002
				<10



Laboratory Duplicate (DUP) Report

Matrix: SOIL		Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	Duplicate Result	Original Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2121981)							
HK1200376-021	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	30.4	29.4	3.3
HK1200376-031	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	7.6	8.1	5.7
EG: Metals and Major Cations (QC Lot: 2121978)							
HK1200478-002	Anonymous	EG020: Arsenic	1	mg/kg	126	112	11.6
HK1200563-003	Anonymous	EG020: Arsenic	1	mg/kg	76	75	1.5
Matrix: WATER							
Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	Duplicate Result	Original Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)		EG020: Arsenic	10	µg/L	<10	<10	0.0

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	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2121978)	7440-38-2	1	mg/kg	<1	5 mg/kg	95.4	77	109	77	109	-----	-----	-----
EG020: Arsenic													
Matrix: WATER				Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)	7440-38-2	10	µg/L	<10	100 µg/L	94.3	78	114	78	114	-----	-----	-----
EG020: Arsenic													

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	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2121978)		EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	-----	75	125	-----	-----	-----
HK1200478-001	Anonymous										
Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)		EG020: Arsenic	7440-38-2	100 µg/L	105	-----	75	125	-----	-----	-----
HK1200564-001	Anonymous										



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 6
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1200761
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: -----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: -----	Date Samples Received	: 09-JAN-2012
Order number	: GE/2009/16.38			Issue Date	: 18-JAN-2012
C-O-C number	: H013827			No. of samples received	: 6
Site	: NDA KTN			No. of samples analysed	: 6

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Signature
Fung Lim Chee, Richard

Position
General Manager

Authorised results for
Inorganics



Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200761

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: 12-JAN-2012

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: **HK1200761**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200761

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		Unit
			Client sampling date / time	Client sample ID	
EA055: Moisture Content (dried @ 103°C)	-----	0.1	KTN-ASBH20 (0.50M)	KTN-ASBH20 (1.00M)	%
			[09-JAN-2012]	[09-JAN-2012]	
			HK1200761-001	HK1200761-002	
EG: Metals and Major Cations	7440-38-2	1	KTN-ASBH20 (0.50M)	KTN-ASBH20 (1.50M)	mg/kg
			[09-JAN-2012]	[09-JAN-2012]	
			HK1200761-001	HK1200761-003	
EG020: Arsenic			KTN-ASBH20 (1.50M DUPLICATE)	KTN-ASBH20 (3.00-3.45M)	
			[09-JAN-2012]	[09-JAN-2012]	
			HK1200761-004	HK1200761-005	
			14.7	16.1	16.4
			16.5	16.5	42.2
			219	40	40
			43	40	27



Page Number : 4 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200761

Sub-Matrix: WATER		Client sample ID		
Compound	CAS Number	LOR	Client sampling date / time	Unit
EG: Metals and Major Cations - Filtered	7440-38-2	10	KTN-ASBH20 (FW-BEFORE DRILLING) [09-JAN-2012]	HK1200761-006
EG020: Arsenic				<10



Laboratory Duplicate (DUP) Report

Matrix: SOIL		Method: Compound		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2121981)							
HK1200376-021	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	29.4	30.4	3.3
HK1200376-031	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	8.1	7.6	5.7
EA/ED: Physical and Aggregate Properties (QC Lot: 2121982)							
HK1200761-002	KTN-ASBH20 (1.00M)	EA055: Moisture Content (dried @ 103°C)	0.1	%	16.1	15.9	1.3
HK1200783-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	18.8	18.9	0.8
EG: Metals and Major Cations (QC Lot: 2121978)							
HK1200478-002	Anonymous	EG020: Arsenic	1	mg/kg	112	126	11.6
HK1200563-003	Anonymous	EG020: Arsenic	1	mg/kg	75	76	1.5
EG: Metals and Major Cations (QC Lot: 2121979)							
HK1200761-005	KTN-ASBH20 (3.00-3.45M)	EG020: Arsenic	1	mg/kg	27	26	3.9
HK1200785-001	Anonymous	EG020: Arsenic	1	mg/kg	12	11	0.0
Matrix: WATER							
Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)							
HK1200756-005	Anonymous	EG020: Arsenic	10	µg/L	<10	<10	0.0

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 (%)	DCS	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2121978)												
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	95.4	77	109	77	109	-----	-----
EG: Metals and Major Cations (QC Lot: 2121979)												
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	90.4	77	109	77	109	-----	-----
Matrix: WATER												
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	DCS	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)												
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	94.3	78	114	78	114	-----	-----



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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)		
EG: Metals and Major Cations (QC Lot: 2121978)				MS	MSD	Low	High	Value	Control Limit	
HK1200478-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	-----	75	125	-----	-----
EG: Metals and Major Cations (QC Lot: 2121979)				MS	MSD	Low	High	Value	Control Limit	
HK1200761-004	KTN-ASBH20 (1.50M DUPLICATE)	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	-----	75	125	-----	-----

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)		
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)				MS	MSD	Low	High	Value	Control Limit	
HK1200564-001	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	105	-----	75	125	-----	-----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Contact : IR POPHIL LAM
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GEOTECHNICAL ENGINEERING OFFICE,
23/F., KWUN TONG VIEW,
410 KWUN TONG ROAD, KOWLOON, HONG KONG
E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013989
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd

Contact : Chan Kwok Fai, Godfrey

Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

E-mail : Godfrey.Chan@alsglobal.com

Telephone : +852 2610 1044

Facsimile : +852 2610 2021

Quote number : ----

Page : 1 of 5

Work Order : HK1200781

Date Samples Received : 10-JAN-2012

Issue Date : 19-JAN-2012

No. of samples received : 7

No. of samples analysed : 7

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Signatories


Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group
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Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200781

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: 12-JAN-2012

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: **HK1200781**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200781

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID			
				Client sampling date / time	Client sampling date / time	Client sampling date / time	Client sampling date / time
EA/ED: Physical and Aggregate Properties	-----	0.1	%	KTN-ASBH01A (13.00-13.45M) [10-JAN-2012] HK1200781-001	KTN-ASBH01A (15.50-15.95M) [10-JAN-2012] HK1200781-002	KTN-ASBH01A (18.00-18.45M) [10-JAN-2012] HK1200781-003	KTN-ASBH01A (20.50-20.95M) [10-JAN-2012] HK1200781-004
				16.4	21.9	12.9	17.4
				792	21	64	66
EG: Metals and Major Cations	7440-38-2	1	mg/kg				
EG020: Arsenic							



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200781

Sub-Matrix: WATER

Compound	CAS Number	LOR	Unit	Client sample ID	Client sampling date / time	
EG: Metals and Major Cations - Filtered EG020: Arsenic	7440-38-2	10	µg/L	KTN-ASBH01A (EQUIPMENT BLANK)	[10-JAN-2012]	
				KTN-ASBH01A (FIELD BLANK)	[10-JAN-2012]	
				KTN-ASBH01A (FW-DURING DRILLING 20.50M)	[10-JAN-2012]	
				HK1200781-005	HK1200781-006	HK1200781-007
				<10	<10	<10



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: 2121982)								
HK1200761-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	16.1	15.9	1.3
HK1200783-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	18.8	18.9	0.8
EG: Metals and Major Cations (QC Lot: 2121979)								
HK1200761-005	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	27	26	3.9
HK1200785-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	12	11	0.0
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)								
HK1200756-005	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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 (%)	LCS	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2121979)													
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	90.4	90.4	---	77	109	---	---	---
Matrix: WATER													
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	LCS	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)													
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	94.3	94.3	---	78	114	---	---	---

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 (%)	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2121979)												
HK1200761-004	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125	---	75	125	---	---
Matrix: WATER												
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)												
HK1200564-001	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	105	75	125	---	75	125	---	---

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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GEOTECHNICAL ENGINEERING OFFICE,
23/F., KWUN TONG VIEW,
410 KWUN TONG ROAD, KOWLOON, HONG KONG
E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61 2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013796
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 5
Work Order : HK1200783

Date Samples Received : 10-JAN-2012
Issue Date : 18-JAN-2012
No. of samples received : 5
No. of samples analysed : 5

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group

Trading Name: ALS Technichem (HK) Pty Ltd

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200783

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:

12-JAN-2012

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: **HK1200783**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time		Client sample ID		
			Unit	Value	Value	Value	Value
EA/ED: Physical and Aggregate Properties							
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	16.9	13.6	18.8	18.6
EG: Metals and Major Cations							
EG020: Arsenic	7440-38-2	1	mg/kg	73	56	62	59



Sub-Matrix: WATER

Compound	CAS Number	LOR	Client sampling date / time		Client sample ID
			Unit	Unit	
EG: Metals and Major Cations - Filtered	7440-38-2	10			KTN-ASBH21 (FW-BEFORE DRILLING)
EG020: Arsenic			µg/L	<10	[10-JAN-2012] HK1200783-005



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: 2121982)									
HK1200761-002	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	16.1	15.9	1.3
HK1200783-003	KTN-ASBH21 (1.5M)		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.8	18.9	0.8
EG: Metals and Major Cations (QC Lot: 2121979)									
HK1200761-005	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	27	26	3.9
HK1200785-001	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	12	11	0.0
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)									
HK1200756-005	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

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 (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2121979)												
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	90.4	----	77	109	----	----	----
Matrix: WATER												
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 (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)												
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	94.3	----	78	114	----	----	----

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

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report												
EG: Metals and Major Cations (QC Lot: 2121979)												
HK1200761-004	Anonymous		EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----	----	----
Matrix: WATER												
Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2123884)												
HK1200564-001	Anonymous		EG020: Arsenic	7440-38-2	100 µg/L	105	----	75	125	----	----	----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH
DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013828
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1200785

Date Samples Received : 10-JAN-2012
Issue Date : 19-JAN-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1200785

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: 12-JAN-2012

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: **HK1200785**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200785

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		
			Client sampling date / time	Unit	
EA/ED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	8.3	23.1
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg	12	86
				21.2	263



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1200785

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2121982)								
HK1200761-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	16.1	15.9	1.3
HK1200783-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.8	18.9	0.8
EG: Metals and Major Cations (QC Lot: 2121979)								
HK1200761-005	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	27	26	3.9
HK1200785-001	KTN-ASBH20 (6.0M)	EG020: Arsenic	7440-38-2	1	mg/kg	12	11	0.0

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

Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)			RPD (%)	
						LCS	DCS	Recovery Limits (%)		
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	90.4	----	77	109	-----

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

Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)			RPD (%)	
					MS	MSD	Recovery Limits (%)		
EG020: Arsenic	HK1200761-004/Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	-----	75	125	-----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013797
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd

Contact : Chan Kwok Fai, Godfrey

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E-mail : Godfrey.Chan@alsglobal.com

Telephone : +852 2610 1044

Facsimile : +852 2610 2021

Quote number : ----

Page : 1 of 4

Work Order : HK1201000

Date Samples Received : 11-JAN-2012

Issue Date : 19-JAN-2012

No. of samples received : 3

No. of samples analysed : 3

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Signatories


Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201000

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:

13-JAN-2012

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: **HK1201000**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201000

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		
			Client sampling date / time	Unit	Client sample ID
EA/ED: Physical and Aggregate Properties	----	0.1	14.0	25.3	18.4
			[11-JAN-2012]	[11-JAN-2012]	[11-JAN-2012]
			HK1201000-001	HK1201000-002	HK1201000-003
EA055: Moisture Content (dried @ 103° C)					
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	2	131	25



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)
				LOR	Unit	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2125267)							
HK1200988-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	15.9	16.0
HK1201002-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.3	13.6
EG: Metals and Major Cations (QC Lot: 2125454)							
HK1201000-002	KTN-ASBH21 (8.00-8.45M)	EG020: Arsenic	7440-38-2	1	mg/kg	131	154
HK1201003-004	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	194	233

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Recovery Limits (%)	RPD (%)
					LCS	Low	High
EG: Metals and Major Cations (QC Lot: 2125454)	7440-38-2	1	mg/kg	<1	92.2	77	109
EG020: Arsenic					-----	-----	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					MS	MSD	Recovery Limits (%)	
					Low	High	Value	
EG: Metals and Major Cations (QC Lot: 2125454)			7440-38-2	5 mg/kg	86.9	75	125	-----
HK1201000-001	KTN-ASBH21 (5.50M)	EG020: Arsenic			-----	-----	-----	-----



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013992
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1201002

Date Samples Received : 11-JAN-2012
Issue Date : 19-JAN-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories

Richard Fung Lim Chee

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201002

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:

13-JAN-2012

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: **HK1201002**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas, Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201002

Analytical Results

Compound	CAS Number	LOR	Client sample ID		Unit	
			Client sampling date / time	Client sample ID		
EA/ED: Physical and Aggregate Properties	-----	0.1	KTN-ASBH01A (23.00-23.45M)	KTN-ASBH01A (30.50-30.95M)	%	
			[11-JAN-2012]	[11-JAN-2012]		
EG: Metals and Major Cations	7440-38-2	1	KTN-ASBH01A (25.50-25.95M)	KTN-ASBH01A (28.00-28.45M)	mg/kg	
			[11-JAN-2012]	[11-JAN-2012]		
EG020: Arsenic			HK1201002-001	HK1201002-002	HK1201002-003	HK1201002-004
			18.0	13.3	17.3	14.7
			530	132	50	142



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				RPD (%)
				LOR	Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2125267)								
HK1200988-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	15.9	16.0	0.0
HK1201002-002	KTN-ASBH01A (25.50-25.95M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.3	13.6	2.1
EG: Metals and Major Cations (QC Lot: 2125454)								
HK1201000-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	131	154	15.9
HK1201003-004	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	194	233	18.6

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

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 (%)	DCS	Recovery Limits (%)	High	Low	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2125454)	7440-38-2	1	mg/kg	<1	5 mg/kg	92.2	----	77	109	----	----	----
EG020: Arsenic												

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report								
				Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)	High	Low	Value	Control Limit	
EG: Metals and Major Cations (QC Lot: 2125454)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	86.9	----	75	125	----	----	----	----
HK1201000-001	Anonymous											

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 6
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1201003
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044	Date Samples Received	: 11-JAN-2012
Facsimile	: ----	Facsimile	: +852 2610 2021	Issue Date	: 19-JAN-2012
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	No. of samples received	: 8
Order number	: GE/2009/16.38			No. of samples analysed	: 8
C-O-C number	: H013829				
Site	: NDA KTN				

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group

Trading Name: ALS Technichem (HK) Pty Ltd

11F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

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Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201003

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:

17-JAN-2012

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: **HK1201003**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201003

Analytical Results

Compound	CAS Number	LOR	Unit	Client sample ID						
				Client sampling date / time	KTN-ASBH20	KTN-ASBH20	KTN-ASBH20	KTN-ASBH20		
EA/ED: Physical and Aggregate Properties										
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	21.5	21.5	17.4	18.2	15.0		
EG: Metals and Major Cations										
EG020: Arsenic	7440-38-2	1	mg/kg	74	100	98	194	6		



Page Number : 4 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201003

Sub-Matrix: WATER		Client sample ID		
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered EG020: Arsenic	7440-38-2	10	µg/L	
			<10	KTN-ASBH20 (23.00-23.45M EQUIPMENT BLANK) [11-JAN-2012] HK1201003-006
			<10	KTN-ASBH20 (23.00-23.45M FIELD BLANK) [11-JAN-2012] HK1201003-007
			<10	KTN-ASBH20 (FW-DURING DRILLING 23.00-23.45M) [11-JAN-2012] HK1201003-008



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: 2125267)									
HK1200988-001	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	15.9	16.0	0.0
HK1201002-002	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.3	13.6	2.1
EG: Metals and Major Cations (QC Lot: 2125454)									
HK1201000-002	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	131	154	15.9
HK1201003-004	KTN-ASBH20 (20.50-20.95M)		EG020: Arsenic	7440-38-2	1	mg/kg	194	233	18.6

Matrix: WATER

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2127137)									
HK1201003-007	KTN-ASBH20 (23.00-23.45M FIELD BLANK)		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
HK1201440-006	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Matrix: SOIL

Method: Compound		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	92.2	77	109	----	----	----

Matrix: WATER

Method: Compound		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	106	78	114	----	----	----



Page Number : 6 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201003

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
				Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)					
EG: Metals and Major Cations (QC Lot: 2125454)													
HK1201000-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	86.9	-----	75	125	-----	-----			

Matrix: WATER

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
				Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)					
EG: Metals and Major Cations - Filtered (QC Lot: 2127137)													
HK1201003-006	KTN-ASBH20 (23.00-23.45M EQUIPMENT BLANK)	EG020: Arsenic	7440-38-2	100 µg/L	99.2	-----	75	125	-----	-----			



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Contact : IR POPHIL LAM
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E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013851
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1201331
Amendment : 1

Date Samples Received : 12-JAN-2012
Issue Date : 30-JAN-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories

Position

Authorised results for

PP Fung Lim Chee, Richard

General Manager

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201331, Amendment 1

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:

17-JAN-2012

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: **HK1201331**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201331, Amendment 1

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID			
				Client sampling date / time	KTN-ASBH32 (0.5M)	KTN-ASBH32 (1.0M)	KTN-ASBH32 (1.5M)
EA/ED: Physical and Aggregate Properties							
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	14.7	19.2	20.9	16.9
EG: Metals and Major Cations							
EG020: Arsenic	7440-38-2	1	mg/kg	21	30	65	53



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)
				LOR	Unit	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2127046)							
HK1201154-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	59.5	58.6
HK1201265-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	11.1	11.9
EG: Metals and Major Cations (QC Lot: 2127136)							
HK1201331-002	KTN-ASBH32 (1.0M)	EG020: Arsenic	7440-38-2	1	mg/kg	30	27
HK1201427-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	21	22

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 2127136)	7440-38-2	1	mg/kg	<1	5 mg/kg	98.8	77	109	-----
EG020: Arsenic									-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
HK1201331-001	KTN-ASBH32 (0.5M)	EG020: Arsenic	7440-38-2	50 mg/kg	87.8	75	125	-----



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1201332
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 12-JAN-2012
Order number	: GE/2009/16.38			Issue Date	: 26-JAN-2012
C-O-C number	: H013830			No. of samples received	: 3
Site	: NDA KTN			No. of samples analysed	: 3

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Signatories


Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201332

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:

17-JAN-2012

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: **HK1201332**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201332

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH20 (25.50-25.95M) [12-JAN-2012]	KTN-ASBH20 (30.50-30.95M) [12-JAN-2012]
EA055: Moisture Content (dried @ 103° C)	----	0.1	13.0	20.9
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	161	134
				710



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report		RPD (%)
					Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2127046)							
HK1201154-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	59.5	58.6	1.4
HK1201265-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	11.1	11.9	7.3
EA/ED: Physical and Aggregate Properties (QC Lot: 2127048)							
HK1201332-002	KTN-ASBH20 (28.00-28.45M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	20.9	20.3	2.8
HK1201410-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	13.3	13.2	0.9
EG: Metals and Major Cations (QC Lot: 2127136)							
HK1201331-002	Anonymous	EG020: Arsenic	7440-38-2	1	30	27	11.5
HK1201427-001	Anonymous	EG020: Arsenic	7440-38-2	1	21	22	5.6

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Value	Control Limit
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	98.8	----	77	109	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				RPD (%)	
					MS	MSD	Recovery Limits (%)	Value		Control Limit
EG: Metals and Major Cations (QC Lot: 2127136)	Anonymous	EG020: Arsenic	7440-38-2	50 mg/kg	87.8	----	75	125	----	----



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1201333
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 12-JAN-2012
Order number	: GE/2009/16.38			Issue Date	: 26-JAN-2012
C-O-C number	: H013994			No. of samples received	: 3
Site	: NDA KTN			No. of samples analysed	: 3

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201333

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: 20-JAN-2012

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: **HK1201333**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201333

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH01A (38.00M) [12-JAN-2012]	KTN-ASBH01A (35.50M) [12-JAN-2012]
EA055: Moisture Content (dried @ 103°C)	----	0.1	14.4	10.0
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	475	155



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201333

Sub-Matrix: WATER

Client sample ID		Client sampling date / time	
Compound	CAS Number	LOR	Unit
KTN-ASBH01A (FW-AFTER DRILLING) [12-JAN-2012]			
EG: Metals and Major Cations - Filtered	7440-38-2	10	<10
EG020: Arsenic			



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report			RPD (%)
						Original Result	Duplicate Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2127048)									
HK1201332-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	20.9	20.3	20.3	2.8
HK1201410-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	13.3	13.2	13.2	0.9
EG: Metals and Major Cations (QC Lot: 2129993)									
HK1201333-002	KTN-ASBH01A (35.50M)	EG020: Arsenic	7440-38-2	1	mg/kg	155	133	133	15.4
HK1201513-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	86	82	82	5.6

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report			RPD (%)
						Original Result	Duplicate Result	Duplicate Result	
EG: Metals and Major Cations - Filtered (QC Lot: 2127137)									
HK1201003-007	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	<10	0.0
HK1201440-006	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	<10	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Value	Control Limit
Matrix: SOIL										
Method Blank (MB) Report										
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.3	77	109	77	109
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
Method Blank (MB) Report										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	106	78	114	78	114

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
					Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit	
Matrix: SOIL										
Method: Compound										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	106	78	114	78	114
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Method: Compound										
EG020: Arsenic	7440-38-2	10	µg/L	<10	5 mg/kg	5 mg/kg	75	125	75	125
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Method: Compound										
EG020: Arsenic	7440-38-2	10	µg/L	<10	5 mg/kg	5 mg/kg	75	125	75	125

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
					Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit	
Matrix: WATER										
Method: Compound										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	106	78	114	78	114
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Method: Compound										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	106	78	114	78	114
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Method: Compound										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	106	78	114	78	114



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1201334
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 12-JAN-2012
Order number	: GE/2009/16.38			Issue Date	: 26-JAN-2012
C-O-C number	: H013798			No. of samples received	: 6
Site	: NDA KTN			No. of samples analysed	: 6

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201334

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: 17-JAN-2012

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: **HK1201334**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201334

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		
			Client sampling date / time	Unit	Unit
EA/ED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)	----	0.1	%		
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg		
				20.6	KTN-ASBH21 (13.00-13.45M) [12-JAN-2012] HK1201334-001
				18.6	KTN-ASBH21 (15.50-15.95M) [12-JAN-2012] HK1201334-002
				26.6	KTN-ASBH21 (18.00-18.34M) [12-JAN-2012] HK1201334-003
				90	
				75	
				198	



Sub-Matrix: WATER		Client sample ID			
Compound	CAS Number	LOR	Client sampling date / time	Unit	
EG: Metals and Major Cations - Filtered EG020: Arsenic	7440-38-2	10	KTN-ASBH21 (18.00-18.45M FW-DURING DRILLING)	[12-JAN-2012]	
			KTN-ASBH21 (18.00-18.45M FIELD BLANK)	[12-JAN-2012]	
			KTN-ASBH21 (18.00-18.45M EQUIPMENT BLANK)	[12-JAN-2012]	
			HK1201334-004	HK1201334-005	HK1201334-006
			<10	<10	<10
			µg/L		



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2127048)								
HK1201332-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	20.9	20.3	2.8
HK1201410-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.3	13.2	0.9
EG: Metals and Major Cations (QC Lot: 2127136)								
HK1201331-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	30	27	11.5
HK1201427-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	21	22	5.6

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Unit	Original Result	Duplicate Result	
EG: Metals and Major Cations - Filtered (QC Lot: 2127137)								
HK1201003-007	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
HK1201440-006	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)	
Matrix: SOIL									
Method Blank (MB) Report									
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	98.8	77	109	-----
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method Blank (MB) Report									
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	106	78	114	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
Matrix: SOIL								
EG020: Arsenic	7440-38-2	50 mg/kg	7440-38-2	87.8	-----	75	125	-----

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
Matrix: WATER								
EG020: Arsenic	7440-38-2	100 µg/L	7440-38-2	99.2	-----	75	125	-----



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1201427
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 13-JAN-2012
Order number	: GE/2009/16.38			Issue Date	: 27-JAN-2012
C-O-C number	: H013831			No. of samples received	: 1
Site	: NDA KTN			No. of samples analysed	: 1

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Signatories


Fung Lim Chee, Richard

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201427

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: 17-JAN-2012

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: **HK1201427**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time		Client sample ID
			Unit	Unit	
EA/ED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	17.7	KTN-ASBH20 (35.50-35.95M) [13-JAN-2012] HK1201427-001
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg	21	



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2127048)								
HK1201332-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	20.9	20.3	2.8
HK1201410-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.3	13.2	0.9
EG: Metals and Major Cations (QC Lot: 2127136)								
HK1201331-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	30	27	11.5
HK1201427-001	KTN-ASBH20 (35.50-35.95M)	EG020: Arsenic	7440-38-2	1	mg/kg	21	22	5.6

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

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Spike Recovery (%)	LCS	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	98.8	-----	77	109	-----	-----	-----	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
					Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)	
HK1201331-001	Anonymous	EG020: Arsenic	7440-38-2	50 mg/kg	87.8	-----	75	125	-----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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 E-mail : Pophilkiam@cedd.gov.hk
 Telephone : +852 2716 8609
 Facsimile : ----
 Project : AGREEMENT NO CE 61 2007 (CE) - NORTH
 EAST NEW TERRITORIES NEW
 DEVELOPMENT AREAS
 Order number : GE/2009/16.38
 C-O-C number : H013799
 Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
 Contact : Chan Kwok Fai, Godfrey
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 Wing Yip Street, Kwai Chung, N.T., Hong Kong
 E-mail : Godfrey.Chan@aisglobal.com
 Telephone : +852 2610 1044
 Facsimile : +852 2610 2021
 Quote number : ----

Page : 1 of 4
 Work Order : HK1201432

Date Samples Received : 13-JAN-2012
 Issue Date : 27-JAN-2012
 No. of samples received : 4
 No. of samples analysed : 4

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Signatories


 Fung Lim Chee, Richard

General Manager

Position

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201432

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:

17-JAN-2012

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: **HK1201432**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201432

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties	----	0.1	KTN-ASBH21 (20.50-20.95M) [13-JAN-2012]	KTN-ASBH21 (28.00-28.45M) [13-JAN-2012]
			HK1201432-001	HK1201432-004
			23.5	20.1
			19.4	17.7
EA055: Moisture Content (dried @ 103°C)				
EG: Metals and Major Cations	7440-38-2	1	23.5	20.1
			98	38
EG020: Arsenic			71	94



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2127048)								
HK1201332-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	20.9	20.3	2.8
HK1201410-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	13.3	13.2	0.9
EG: Metals and Major Cations (QC Lot: 2127136)								
HK1201331-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	30	27	11.5
HK1201427-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	21	22	5.6

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2127136)	7440-38-2	1	mg/kg	<1	5 mg/kg	98.8	-----	-----	77	109	-----	-----	-----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	98.8	-----	-----	77	109	-----	-----	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					MS	MSD	Recovery Limits (%)	
EG: Metals and Major Cations (QC Lot: 2127136)	Anonymous	EG020: Arsenic	7440-38-2	50 mg/kg	87.8	75	125	-----
HK1201331-001	Anonymous	EG020: Arsenic	7440-38-2	50 mg/kg	87.8	75	125	-----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

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410 KWUN TONG ROAD, KOWLOON, HONG KONG
E-mail : Pophilkiam@cedd.gov.hk
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Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013852
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 5
Work Order : HK1201436

Date Samples Received : 13-JAN-2012
Issue Date : 30-JAN-2012
No. of samples received : 5
No. of samples analysed : 5

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201436

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: 20-JAN-2012

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: **HK1201436**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201436

Analytical Results

Compound	CAS Number	LOR	Client sample ID		Unit
			Client sampling date / time	Client sample ID	
EA/ED: Physical and Aggregate Properties EA055: Moisture Content (dried @ 103° C)	----	0.1	KTN-ASBH32 (3.00-3.30M) [13-JAN-2012]	KTN-ASBH32 (8.00M) [13-JAN-2012]	%
			KTN-ASBH32 (5.50-5.95M) [13-JAN-2012]	KTN-ASBH32 (10.50-10.95M) [13-JAN-2012]	
			KTN-ASBH32 (17.9)	KTN-ASBH32 (25.2)	
			KTN-ASBH32 (19.1)	KTN-ASBH32 (9.8)	
EG: Metals and Major Cations EG020: Arsenic	7440-38-2	1	KTN-ASBH32 (36)	KTN-ASBH32 (16)	mg/kg
			KTN-ASBH32 (30)	KTN-ASBH32 (45)	



Sub-Matrix: WATER

Compound	CAS Number	LOR	Unit	Client sample ID	Client sampling date / time
EG: Metals and Major Cations - Filtered				KTN-ASBH32 (FW-BEFORE DRILLING)	[13-JAN-2012]
EG020: Arsenic	7440-38-2	10	µg/L	HK1201436-005	
					<10



Laboratory Duplicate (DUP) Report

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EAVED: Physical and Aggregate Properties (QC Lot: 2128740)									
HK1201436-001		KTN-ASBH32 (3.00-3.30M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	19.1	22.5	16.6
EG: Metals and Major Cations (QC Lot: 2129993)									
HK1201333-002		Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	155	133	15.4
HK1201513-002		Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	86	82	5.6
Matrix: WATER									
Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)									
HK1201512-004		Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Method Blank (MB) Report															
Method: Compound		CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2129993)															
EG020: Arsenic		7440-38-2	1	mg/kg	<1	5 mg/kg	93.3	----	----	77	109	----	----	----	----
Matrix: WATER															
Method Blank (MB) Report															
Method: Compound		CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)															
EG020: Arsenic		7440-38-2	10	µg/L	<10	100 µg/L	91.8	----	----	78	114	----	----	----	----

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report													
Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2129993)													
HK1201333-001		Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----	----	----	----
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report													
Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)													
HK1201436-005		KTN-ASBH32 (FW-BEFORE DRILLING)	EG020: Arsenic	7440-38-2	100 µg/L	99.3	----	75	125	----	----	----	----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013898
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 6
Work Order : HK1201440

Date Samples Received : 13-JAN-2012
Issue Date : 30-JAN-2012
No. of samples received : 6
No. of samples analysed : 6

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Signatories

RF Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

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Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order HK1201440

General Comments

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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: **HK1201440**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201440

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		Unit			
			Client sampling date / time	Client sample ID				
EA/ED: Physical and Aggregate Properties EA055: Moisture Content (dried @ 103° C) EG: Metals and Major Cations EG020: Arsenic			KTN-ASBH13 (0.5M) [13-JAN-2012]	KTN-ASBH13 (1.0M) [13-JAN-2012]	KTN-ASBH13 (1.5M) [13-JAN-2012]	KTN-ASBH13 (1.5M DUPLICATE) [13-JAN-2012]	KTN-ASBH13 (3.00-3.45M) [13-JAN-2012]	
		---	0.1	4.5	7.8	11.3	11.3	18.3
				%				
		7440-38-2	1	65	101	96	96	177
				mg/kg				



Page Number : 4 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201440

Sub-Matrix: WATER		Client sample ID		
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	KTN-ASBH13 (FW-BEFORE DRILLING) [13-JAN-2012]
EG020: Arsenic				HK1201440-006
				<10



Page Number : 5 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201440

Laboratory Duplicate (DUP) Report

Matrix: SOIL		Method: Compound		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2127048)							
HK1201332-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	20.9	20.3	2.8
HK1201410-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	13.3	13.2	0.9
EA/ED: Physical and Aggregate Properties (QC Lot: 2127050)							
HK1201440-004	KTN-ASBH13 (1.5M DUPLICATE)	EA055: Moisture Content (dried @ 103°C)	0.1	%	11.3	11.4	0.9
EG: Metals and Major Cations (QC Lot: 2127136)							
HK1201331-002	Anonymous	EG020: Arsenic	1	mg/kg	30	27	11.5
HK1201427-001	Anonymous	EG020: Arsenic	1	mg/kg	21	22	5.6
Matrix: WATER							
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2127137)							
HK1201003-007	Anonymous	EG020: Arsenic	10	µg/L	<10	<10	0.0
HK1201440-006	KTN-ASBH13 (FW-BEFORE DRILLING)	EG020: Arsenic	10	µg/L	<10	<10	0.0

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	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	High	Value	Control Limit
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	98.8	77	109	77	109	-----	-----
Matrix: WATER												
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Control Limit
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	106	78	114	78	114	-----	-----



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

Matrix: SOIL

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)		
EG: Metals and Major Cations (QC Lot: 2127136)				MS	MSD	Low	High	Value	Control Limit
HK1201331-001	Anonymous	EG020: Arsenic	7440-38-2	50 mg/kg	87.8	75	125	-----	-----

Matrix: WATER

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)		
EG: Metals and Major Cations - Filtered (QC Lot: 2127137)				MS	MSD	Low	High	Value	Control Limit
HK1201003-006	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	99.2	75	125	-----	-----



CERTIFICATE OF ANALYSIS

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Order number : GE/2009/16.38
C-O-C number : H013853
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 6
Work Order : HK1201512

Date Samples Received : 14-JAN-2012
Issue Date : 30-JAN-2012
No. of samples received : 6
No. of samples analysed : 6

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201512

General Comments

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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: **HK1201512**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Compound	CAS Number	LOR	Client sample ID		
			Client sampling date / time	Unit	Value
EA/ED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	24.0	16.8
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg	2	85



Sub-Matrix: WATER

Client sample ID		KTN-ASBH32 (FW-DURING DRILLING 18.00M)	KTN-ASBH32 (EQUIPMENT BLANK)	KTN-ASBH32 (FIELD BLANK)
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	[14-JAN-2012]
EG020: Arsenic				[14-JAN-2012]
				HK1201512-004
				HK1201512-005
				HK1201512-006
				<10
				<10
				<10



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 (%)
EAVED: Physical and Aggregate Properties (QC Lot: 2130755)								
HK1201189-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	52.9	53.5	1.1
HK1201516-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.6	18.2	2.1
EG: Metals and Major Cations (QC Lot: 2129993)								
HK1201333-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	155	133	15.4
HK1201513-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	86	82	5.6
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)								
HK1201512-004	KTN-ASB32 (FW-DURING DRILLING 18.00M)	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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 (%)	DCS	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 2129993)										
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.3	----	77	109	----
Matrix: WATER										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	91.8	----	78	114	----

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	MS	MSD	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2129993)									
HK1201333-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)									
HK1201436-005	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	99.3	----	75	125	----



ALS Technichem (HK) Pty Ltd

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Order number : GE/2009/16.38
C.O.-C number : H013800
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Page : 1 of 5
Work Order : HK1201513

Date Samples Received : 14-JAN-2012
Issue Date : 30-JAN-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories

FP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group

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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order HK1201513

General Comments

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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: **HK1201513**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201513

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		Client sampling date / time
			Unit	Unit	
EA/ED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.2	16.3
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg	134	86



Sub-Matrix: WATER

Compound	CAS Number	LOR	Unit	Client sample ID	Client sampling date / time
EG: Metals and Major Cations - Filtered				KTN-ASBH21 (FW-AFTER DRILLING)	[14-JAN-2012]
EG020: Arsenic	7440-38-2	10	µg/L	HK1201513-003	
					<10



Page Number : 5 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201513

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: 2130755)									
HK1201189-001	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	52.9	53.5	1.1
HK1201516-001	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.6	18.2	2.1
EG: Metals and Major Cations (QC Lot: 2129993)									
HK1201333-002	Anonymous	7440-38-2	EG020: Arsenic		1	mg/kg	155	133	15.4
HK1201513-002	KTN-ASBH21 (33.00-33.45M)	7440-38-2	EG020: Arsenic		1	mg/kg	86	82	5.6

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)									
HK1201512-004	Anonymous	7440-38-2	EG020: Arsenic		10	µg/L	<10	<10	0.0

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

Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2129993)										
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.3	----	----	77 109	----
Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	91.8	----	----	78 114	----

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 2129993)										
HK1201333-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	----	75 125	----	
Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	99.3	----	----	75 125	----



CERTIFICATE OF ANALYSIS

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Order number : GE/2009/16.38
C-O-C number : H013899
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 4
Work Order : HK1201516

Date Samples Received : 14-JAN-2012
Issue Date : 27-JAN-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories


Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201516

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:

20-JAN-2012

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: **HK1201516**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201516

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties	----	0.1	KTN-ASBH13 (5.50-5.95M) [14-JAN-2012]	KTN-ASBH13 (10.50-10.95M) [14-JAN-2012]
			HK1201516-001	HK1201516-003
			18.6	27.6
EA055: Moisture Content (dried @ 103° C)			25.9	
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	162	52



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Original Result	Duplicate Result	Unit	
EA/ED: Physical and Aggregate Properties (QC Lot: 2130755)								
HK1201189-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	52.9	53.5	%	1.1
HK1201516-001	KTN-ASBH13 (5.50-5.95M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	18.6	18.2	%	2.1
EG: Metals and Major Cations (QC Lot: 2129993)								
HK1201333-002	Anonymous	EG020: Arsenic	7440-38-2	1	155	133	mg/kg	15.4
HK1201513-002	Anonymous	EG020: Arsenic	7440-38-2	1	86	82	mg/kg	5.6

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

Method Blank (MB) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			RPD (%)
						Spike Recovery (%)	DCS	Recovery Limits (%)	
						Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2129993)	7440-38-2	1	mg/kg	<1	5 mg/kg	93.3	77	109	----
EG020: Arsenic									

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

Matrix: SOIL									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			Value	Control Limit
					Spike Recovery (%)	MSD	Recovery Limits (%)		
						Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2129993)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125	----	----
HK1201333-001	Anonymous								

ALS Technichem (HK) Pty Ltd

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ANALYTICAL CHEMISTRY & TESTING SERVICES



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Order number : GE/2009/16.38
C-O-C number : H013900
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Page : 1 of 4
Work Order : HK1201606

Date Samples Received : 16-JAN-2012
Issue Date : 30-JAN-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories

Position

Authorised results for

PP Fung Lim Chee, Richard

General Manager

Inorganics

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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201606

General Comments

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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: **HK1201606**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201606

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time		Unit	
			Client sample ID	Client sample ID		
EA/ED: Physical and Aggregate Properties	----	0.1	13.00-13.45M	KTN-ASBH13	%	
			[16-JAN-2012]	(15.50-15.95M)		(18.00M)
			HK1201606-001	[16-JAN-2012]		[16-JAN-2012]
EG: Metals and Major Cations	7440-38-2	1	13.5	25.0	mg/kg	
			811	1220		
			11.7	137		



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201606

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			
					Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2130756)								
HK1201600-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	65.1	64.8	0.5
HK1201607-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	20.2	20.6	2.3
EG: Metals and Major Cations (QC Lot: 2129993)								
HK1201333-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	155	133	15.4
HK1201513-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	86	82	5.6

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)
EG: Metals and Major Cations (QC Lot: 2129993)	7440-38-2	1	mg/kg	<1	5 mg/kg	93.3	77	109	-----	-----	-----	-----	-----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.3	77	109	-----	-----	-----	-----	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
					MS	MSD	Low	High	Value	Control Limit		
EG: Metals and Major Cations (QC Lot: 2129993)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125	-----	-----	-----	-----	-----
HK1201333-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125	-----	-----	-----	-----	-----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

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410 KWUN TONG ROAD, KOWLOON, HONG KONG
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Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013855
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 5
Work Order : HK1201760

Date Samples Received : 17-JAN-2012
Issue Date : 31-JAN-2012
No. of samples received : 8
No. of samples analysed : 8

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

Trading Name: ALS Technichem (HK) Pty Ltd
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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201760

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: 26-JAN-2012

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: **HK1201760**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time	Client sample ID				
				Unit	KTN-ASBH13 (20.50M) [17-JAN-2012] HK1201760-001	KTN-ASBH13 (23.00M) [17-JAN-2012] HK1201760-002	KTN-ASBH13 (25.50-25.95M) [17-JAN-2012] HK1201760-003	KTN-ASBH13 (28.00-28.45M) [17-JAN-2012] HK1201760-004
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	12.1	9.1	17.6	19.6	22.2
EG: Metals and Major Cations								
EG020: Arsenic	7440-38-2	1	mg/kg	179	119	324	16	592



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201760

Sub-Matrix: WATER

Compound	CAS Number	LOR	Client sample ID		
			Client sampling date / time	Unit	
EG: Metals and Major Cations - Filtered EG020: Arsenic	7440-38-2	10	KTN-ASBH13 (30.50M FW-DURING DRILLING)	KTN-ASBH13 (EQUIPMENT BLANK)	KTN-ASBH13 (FIELD BLANK)
			[17-JAN-2012]	[17-JAN-2012]	[17-JAN-2012]
			HK1201760-006	HK1201760-007	HK1201760-008
			<10	<10	<10
			µg/L		



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: 2132893)								
HK1201706-006	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	24.5	22.8	7.1
HK1201757-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	56.9	57.2	0.6
EG: Metals and Major Cations (QC Lot: 2132904)								
HK1201755-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	8	9	12.5
HK1201761-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	10	8	16.5
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)								
HK1201512-004	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2132904)										
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	86.2	-----	77	109	-----
Matrix: WATER										
Method Blank (MB) Report					Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	91.8	-----	78	114	-----

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

Matrix: SOIL										
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	MS	MSD	Recovery Limits (%)
EG: Metals and Major Cations (QC Lot: 2132904)										
HK1201754-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	86.3	-----	75	125	-----	-----
Matrix: WATER										
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	MS	MSD	Recovery Limits (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)										
HK1201436-005	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	99.3	-----	75	125	-----	-----

ALS Technichem (HK) Pty Ltd



ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1201761
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 17-JAN-2012
Order number	: GE/2009/16.38			Issue Date	: 31-JAN-2012
C-O-C number	: H013854			No. of samples received	: 2
Site	: NDA KTN			No. of samples analysed	: 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group
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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1201761

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: 26-JAN-2012

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: **HK1201761**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1201761

Analytical Results

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
Sub-Matrix: SOIL				
EAI/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	11.3
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	10



Sub-Matrix: WATER		Client sample ID	KTN-ASBH32 (FW-AFTER DRILLING) [17-JAN-2012]	
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L	HK1201761-002
EG020: Arsenic				<10



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: 2132893)									
HK1201706-006	Anonymous		EA055: Moisture Content (dried @ 103°C)		0.1	%	24.5	22.8	7.1
HK1201757-001	Anonymous		EA055: Moisture Content (dried @ 103°C)		0.1	%	56.9	57.2	0.6
EG: Metals and Major Cations (QC Lot: 2132904)									
HK1201755-001	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	8	9	12.5
HK1201761-001	KTN-ASBH32 (23.00M)		EG020: Arsenic	7440-38-2	1	mg/kg	10	8	16.5
Matrix: WATER									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)									
HK1201512-004	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Matrix: SOIL										
Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2132904)										
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	86.2	77	109	77	109
Matrix: WATER										
Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)										
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	91.8	78	114	78	114

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	MS	MSD	Recovery Limits (%)	MS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2132904)										
HK1201754-001	Anonymous		EG020: Arsenic	7440-38-2	5 mg/kg	86.3	75	125	75	125
Matrix: WATER										
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	MS	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)										
HK1201436-005	Anonymous		EG020: Arsenic	7440-38-2	100 µg/L	99.3	75	125	75	125

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH
EAST NEW TERRITORIES NEW
DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013856
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 4
Work Order : HK1202009

Date Samples Received : 18-JAN-2012
Issue Date : 01-FEB-2012
No. of samples received : 5
No. of samples analysed : 5

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1202009

General Comments

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27-JAN-2012

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: **HK1202009**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1202009

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time	Client sample ID				
				Unit	KTN-ASBH13 (33.00-33.45M) [18-JAN-2012] HK1202009-001	KTN-ASBH13 (35.50-35.95M) [18-JAN-2012] HK1202009-002	KTN-ASBH13 (38.00-38.45M) [18-JAN-2012] HK1202009-003	KTN-ASBH13 (40.50-40.95M) [18-JAN-2012] HK1202009-004
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	29.2	22.0	21.7	23.8	20.8
EG: Metals and Major Cations								
EG020: Arsenic	7440-38-2	1	mg/kg	80	7	13	4	18



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				RPD (%)
				LOR	Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2135028)								
HK1201847-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	46.7	51.4	9.6
HK1201860-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	53.8	54.8	1.7
EG: Metals and Major Cations (QC Lot: 2135887)								
HK1202009-002	KTN-ASBH13 (35.50-35.95M)	EG020: Arsenic	7440-38-2	1	mg/kg	7	8	0.0
HK1202016-007	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	<1	<1	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value
EG: Metals and Major Cations (QC Lot: 2135887)											
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.5	----	77	109	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				Control Limit
					Spike Recovery (%)	MSD	Recovery Limits (%)	Value	
EG: Metals and Major Cations (QC Lot: 2135887)									
HK1202009-001	KTN-ASBH13 (33.00-33.45M)	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013995
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 7
Work Order : HK1202016

Date Samples Received : 18-JAN-2012
Issue Date : 01-FEB-2012
No. of samples received : 7
No. of samples analysed : 7

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 7
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1202016

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: 27-JAN-2012

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: **HK1202016**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time		Client sample ID		
			Unit	Unit	Unit	Unit	
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	[18-JAN-2012]	KTN-ASBH38 (0.50M)	[18-JAN-2012]	KTN-ASBH38 (3.00-3.45M)
				HK1202016-001	(1.00M)	[18-JAN-2012]	(1.50M DUPLICATE)
EG: Metals and Major Cations	7440-38-2	1	mg/kg	5.4	(1.50M)	2.7	(1.50M DUPLICATE)
				11.7	(1.50M)	2.8	(1.50M DUPLICATE)
EG020: Arsenic				22	(1.50M)	5	(1.50M DUPLICATE)
					HK1202016-002	5	HK1202016-005



Page Number : 4 of 7
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1202016

Sub-Matrix: SOIL		Client sample ID		
Compound	CAS Number	LOR	Unit	Client sampling date / time
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	14.0
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	<1



Sub-Matrix: WATER

Compound	CAS Number	Client sample ID		Unit
		LOR	Client sampling date / time	
EG: Metals and Major Cations - Filtered	7440-38-2	10	KTN-ASBH38	µg/L
			(FW-BEFORE DRILLING)	
EG020: Arsenic			[18-JAN-2012]	
			HK1202016-006	<10



Laboratory Duplicate (DUP) Report

Matrix: SOIL		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Compound
EA/ED: Physical and Aggregate Properties (QC Lot: 2135028)			
HK1201847-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	46.7
HK1201860-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	54.8
EA/ED: Physical and Aggregate Properties (QC Lot: 2135029)			
HK1202016-005	KTN-ASBH38 (3.00-3.45M)	EA055: Moisture Content (dried @ 103°C)	8.6
EG: Metals and Major Cations (QC Lot: 2135887)			
HK1202009-002	Anonymous	EG020: Arsenic	7
HK1202016-007	KTN-ASBH38 (5.50M)	EG020: Arsenic	<1

Matrix: WATER		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Compound
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)			
HK1201512-004	Anonymous	EG020: Arsenic	<10

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
EG: Metals and Major Cations (QC Lot: 2135887)	7440-38-2	1	mg/kg	<1	5 mg/kg
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg
Method Blank (MB) Report					
EG: Metals and Major Cations (QC Lot: 2134967)	7440-38-2	10	µg/L	<10	100 µg/L
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L

Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report	
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration
EG: Metals and Major Cations (QC Lot: 2134967)	7440-38-2	10	µg/L	<10	100 µg/L
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L

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	Compound
EG: Metals and Major Cations (QC Lot: 2135887)			
HK1202009-001	Anonymous	EG020: Arsenic	5 mg/kg
# Not Determined			

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Compound
EG: Metals and Major Cations - Filtered (QC Lot: 2134967)			
HK1201436-005	Anonymous	EG020: Arsenic	100 µg/L

Page Number : 7 of 7
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1202016



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013857
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
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Quote number : ----

Page : 1 of 4
Work Order : HK1202198

Date Samples Received : 19-JAN-2012
Issue Date : 02-FEB-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories


F Fung Lim Chee, Richard

Position
General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1202198

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:

27-JAN-2012

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: **HK1202198**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1202198

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		
			Client sampling date / time	Unit	Client sample ID
EA/ED: Physical and Aggregate Properties	-----	0.1	KTN-ASBH13 (45.50-45.95M) [19-JAN-2012]	KTN-ASBH13 (48.00-48.45M) [19-JAN-2012]	KTN-ASBH13 (50.50-50.95M) [19-JAN-2012]
			HK1202198-001	HK1202198-002	HK1202198-003
EA055: Moisture Content (dried @ 103° C)			22.2	20.8	15.8
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	6	17	8



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				RPD (%)
				LOR	Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2142395)								
HK1202038-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	22.4	21.4	4.8
HK1202105-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	54.2	53.2	1.8
EG: Metals and Major Cations (QC Lot: 2135887)								
HK1202009-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	7	8	0.0
HK1202016-007	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	<1	<1	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2135887)	7440-38-2	1	mg/kg	<1	5 mg/kg	93.5	----	----	77	109	----	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.5	----	----	77	109	----	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)		
					MS	MSD	Recovery Limits (%)			
EG: Metals and Major Cations (QC Lot: 2135887)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----	----
HK1202009-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----	----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH
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DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013996
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 6
Work Order : HK1202204

Date Samples Received : 19-JAN-2012
Issue Date : 02-FEB-2012
No. of samples received : 7
No. of samples analysed : 7

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Signatories


Fung Lim Chee, Richard

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Authorised results for

Inorganics

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Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1202204

General Comments

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27-JAN-2012

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: **HK1202204**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1202204

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID				
			Client sampling date / time	Unit	Value	Reference	
EA/ED: Physical and Aggregate Properties	-----	0.1	%	KTN-ASBH38 (8.00-8.45M) [19-JAN-2012]	HK1202204-001	23.5	
				KTN-ASBH38 (10.50-10.95M) [19-JAN-2012]	HK1202204-002	11.2	11.2
				KTN-ASBH38 (13.00-13.45M) [19-JAN-2012]	HK1202204-003	12.2	11.2
EG: Metals and Major Cations	7440-38-2	1	mg/kg	KTN-ASBH38 (15.50M) [19-JAN-2012]	HK1202204-004	11.2	20
						39	20



Laboratory Duplicate (DUP) Report

Matrix: SOIL		Method: Compound		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2142395)							
HK1202038-001	Anonymous	----	0.1	%	22.4	21.4	4.8
HK1202105-001	Anonymous	----	0.1	%	54.2	53.2	1.8
EA/ED: Physical and Aggregate Properties (QC Lot: 2142396)							
HK1202204-004	KTN-ASBH38 (15.50M)	----	0.1	%	11.2	11.0	1.8
HK1202355-002	Anonymous	----	0.1	%	14.9	15.0	0.0
EG: Metals and Major Cations (QC Lot: 2135887)							
HK1202009-002	Anonymous	7440-38-2	1	mg/kg	7	8	0.0
HK1202016-007	Anonymous	7440-38-2	1	mg/kg	<1	<1	0.0
Matrix: WATER							
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2142281)							
HK1202106-002	Anonymous	7440-38-2	100	µg/L	<100	<100	0.0

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	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2135887)													
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.5	----	----	77	109	----	----	----
Matrix: WATER													
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2142281)													
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	96.2	----	----	78	114	----	----	----



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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
				Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)						
EG: Metals and Major Cations (QC Lot: 2135887)														
HK1202009-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----	----				
Matrix: SOIL														
EG: Metals and Major Cations - Filtered (QC Lot: 2142281)														
HK1202106-001	Anonymous	EG020: Arsenic	7440-38-2	500 µg/L	99.5	----	75	125	----	----				
Matrix: WATER														

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



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Project : AGREEMENT NO CE 61 2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013858
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 5

Work Order : HK1202335

Date Samples Received : 20-JAN-2012

Issue Date : 06-FEB-2012

No. of samples received : 2

No. of samples analysed : 2

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Signatories

PP Fung Lim Chee, Richard

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General Manager

Authorised results for

Inorganics

ALS Laboratory Group
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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1202335

General Comments

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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: **HK1202335**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1202335

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	KTN-ASBH13 (53.50M) [20-JAN-2012] HK1202335-002
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	16



Sub-Matrix: WATER		Client sample ID		
Compound	CAS Number	LOR	Client sampling date / time	Unit
EG: Metals and Major Cations - Filtered	7440-38-2	10	KTN-ASBH13 (FW-AFTER DRILLING) [20-JAN-2012]	HK1202335-001
EG020: Arsenic				<10



Page Number : 5 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1202335

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: 2142396)								
HK1202204-004	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	11.2	11.0	1.8
HK1202355-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	14.9	15.0	0.0
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
HK1202336-001	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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 (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	104	----	77	109	----	----	----	----
Matrix: WATER													
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	101	----	78	114	----	----	----	----

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 (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG1202335-002	KTN-ASBH13 (53.50M)	EG020: Arsenic	7440-38-2	5 mg/kg	97.9	----	75	125	----	----	----
Matrix: WATER											
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG1202335-001	KTN-ASBH13 (FW-AFTER DRILLING)	EG020: Arsenic	7440-38-2	100 µg/L	102	----	75	125	----	----	----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013833
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Page : 1 of 4
Work Order : HK1202764

Date Samples Received : 31-JAN-2012
Issue Date : 09-FEB-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories

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Authorised results for

FP Fung Lim Chee, Richard

General Manager

Inorganics

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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1202764

General Comments

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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: **HK1202764**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Compound	CAS Number	LOR	Client sampling date / time	Client sample ID			
				Unit	KTN-ASBH06 (0.50M)	KTN-ASBH06 (1.00M)	KTN-ASBH06 (1.50M)
EA/ED: Physical and Aggregate Properties							
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	5.7	5.7	11.2	11.5
EG: Metals and Major Cations							
EG020: Arsenic	7440-38-2	1	mg/kg	21	44	77	87



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		
EA/ED: Physical and Aggregate Properties (QC Lot: 2150157)								
HK1202764-001	KTN-ASBH06 (0.50M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	5.7	5.6	2.2
HK1202862-007	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	1.1	1.1	0.0
EG: Metals and Major Cations (QC Lot: 2151440)								
HK1202764-002	KTN-ASBH06 (1.00M)	EG020: Arsenic	7440-38-2	1	mg/kg	44	39	11.4

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)
7440-38-2	1	mg/kg	<1	5 mg/kg	89.2		----		77	109	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					MS	MSD	Recovery Limits (%)	
HK1202764-001	KTN-ASBH06 (0.50M)	EG020: Arsenic	7440-38-2	5 mg/kg	81.1	75	125	----



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H013834
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Quote number : ----

Page : 1 of 4
Work Order : HK1202896

Date Samples Received : 01-FEB-2012
Issue Date : 10-FEB-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories


Fung Lim Chee, Richard

Position
General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1202896

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: 03-FEB-2012

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: **HK1202896**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID			
			Client sampling date / time	Unit	Value	Reference
EA/ED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.4	15.9	18.1
				[01-FEB-2012] HK1202896-001	[01-FEB-2012] HK1202896-002	[01-FEB-2012] HK1202896-003
						(1.50M) [01-FEB-2012] HK1202896-004
						(1.50M DUPLICATE)
EG: Metals and Major Cations						
EG020: Arsenic	7440-38-2	1	mg/kg	72	124	155
						171



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report		
				LOR	Unit	RPD (%)
EAVED: Physical and Aggregate Properties (QC Lot: 2151975)						
HK1202896-001	KTN-ASBH29 (0.50M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	0.9
EG: Metals and Major Cations (QC Lot: 2151440)						
HK1202764-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	11.4

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

Method: Compound	CAS Number	LOR	Unit	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)			
EG: Metals and Major Cations (QC Lot: 2151440)										
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	89.2	77	109	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
					MS	MSD	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 2151440)									
HK1202764-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	81.1	75	125	----	----



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1203246
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 03-FEB-2012
Order number	: GE/2009/16.38			Issue Date	: 15-FEB-2012
C-O-C number	: H014741			No. of samples received	: 4
Site	: NDA KTN			No. of samples analysed	: 4

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Signatories

PP Fung Lim Chee, Richard

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203246

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: 09-FEB-2012

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: **HK1203246**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing
Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		Client sampling date / time	Unit
			KTN-ASBH07 (0.50M) [03-FEB-2012] HK1203246-001	KTN-ASBH07 (1.00M) [03-FEB-2012] HK1203246-002		
EA/ED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)	----	0.1	7.2	11.7	16.1	16.6
EG: Metals and Major Cations						
EG020: Arsenic	7440-38-2	1	49	71	168	187



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2157561)								
HK1203244-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.7	13.0	5.5
HK1203247-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	28.2	26.4	6.6
EG: Metals and Major Cations (QC Lot: 2159603)								
HK1203246-002	KTN-ASBH07 (1.00M)	EG020: Arsenic	7440-38-2	1	mg/kg	71	79	9.7
HK1203347-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	16	17	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Value
EG: Metals and Major Cations (QC Lot: 2159603)	7440-38-2	1	mg/kg	<1	5 mg/kg	90.0	77	109	-----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	90.0	77	109	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
					Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2159603)	KTN-ASBH07 (0.50M)	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	-----	75	125	-----
HK1203246-001	KTN-ASBH07 (0.50M)	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	-----	75	125	-----



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1203247
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 03-FEB-2012
Order number	: GE/2009/16.38			Issue Date	: 15-FEB-2012
C-O-C number	: H013836			No. of samples received	: 2
Site	: NDA KTN			No. of samples analysed	: 2

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Signatories


Fung Lim Chee, Richard

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203247

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: 09-FEB-2012

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: **HK1203247**

Project Name: Agreement No. CE.61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203247

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH29 (3.00-3.45M) [03-FEB-2012]	KTN-ASBH29 (5.50-5.95M) [03-FEB-2012]
EA055: Moisture Content (dried @ 103°C)	----	0.1	28.2	28.2
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	124	214



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		
EA/ED: Physical and Aggregate Properties (QC Lot: 2157561)								
HK1203244-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.7	13.0	5.5
HK1203247-001	KTN-ASBH29 (3.00-3.45M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	28.2	26.4	6.6
EG: Metals and Major Cations (QC Lot: 2159603)								
HK1203246-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	71	79	9.7
HK1203347-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	16	17	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)
Method Blank (MB) Report								
EG: Metals and Major Cations (QC Lot: 2159603)	7440-38-2	1	mg/kg	<1	5 mg/kg	90.0	77	109
EG020: Arsenic								

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike Recovery (%)			MSD	Recovery Limits (%)	Value	Control Limit
					MS	Low	High				
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report											
EG: Metals and Major Cations (QC Lot: 2159603)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125				
HK1203246-001	Anonymous										

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1203345
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 04-FEB-2012
Order number	: GE/2009/16.38			Issue Date	: 15-FEB-2012
C-O-C number	: H013837			No. of samples received	: 2
Site	: NDA KTN			No. of samples analysed	: 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

Trading Name: ALS Technichem (HK) Pty Ltd
1/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203345

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:

10-FEB-2012

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: **HK1203345**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203345

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH29 (8.00-8.45M)	
EA055: Moisture Content (dried @ 103° C)	----	0.1	[04-FEB-2012]	
EG: Metals and Major Cations			HK1203345-001	
EG020: Arsenic	7440-38-2	1		26.3
				95



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203345

Sub-Matrix: WATER		Client sample ID	KTN-ASBH29 (FW-AFTER DRILLING) [04-FEB-2012]	
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered EG020: Arsenic	7440-38-2	10	µg/L	HK1203345-002
				<10



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2157561)								
HK1203244-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.7	13.0	5.5
HK1203247-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	28.2	26.4	6.6
EG: Metals and Major Cations (QC Lot: 2159603)								
HK1203246-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	71	79	9.7
HK1203347-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	16	17	0.0

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2161415)								
HK1203228-003	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
HK1203346-003	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)	
Method Blank (MB) Report									
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	90.0	77	109	-----
Method Blank (MB) Report									
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	98.3	78	114	-----

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)	
Method Blank (MB) Report									
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	98.3	78	114	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
				Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2159603)									
HK1203246-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	-----	75	125	-----

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
				Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2161415)									
HK1203228-001	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	104	-----	75	125	-----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Contact : IR POPHIL LAM
Address : GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG
E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014745
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 6
Work Order : HK1203346

Date Samples Received : 04-FEB-2012
Issue Date : 15-FEB-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories

Position

Authorised results for

PP Fung Lim Chee, Richard

General Manager

Inorganics



Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203346

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:

10-FEB-2012

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: **HK1203346**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203346

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH07 (3.00-3.45M) [04-FEB-2012]	KTN-ASBH07 (5.50-5.95M) [04-FEB-2012]
EA055: Moisture Content (dried @ 103° C)	----	0.1	22.5	31.1
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	63	84



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2157561)								
HK1203244-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	13.7	13.0	5.5
HK1203247-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	28.2	26.4	6.6
EG: Metals and Major Cations (QC Lot: 2159603)								
HK1203246-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	71	79	9.7
HK1203347-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	16	17	0.0
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2161415)								
HK1203228-003	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
HK1203346-003	KTN-ASBH07 (FW-BEFORE DRILLING)	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
Matrix: SOIL												
Method Blank (MB) Report												
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	90.0	-----	77	109	-----	-----	
Method Blank (MB) Report												
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
Matrix: WATER												
Method Blank (MB) Report												
EG: Metals and Major Cations (QC Lot: 2159603)	7440-38-2	10	µg/L	<10	100 µg/L	98.3	-----	78	114	-----	-----	-----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
					MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	
Matrix: SOIL												
Method Blank (MB) Report												
EG: Metals and Major Cations (QC Lot: 2159603)	7440-38-2	5 mg/kg	# Not Determined	-----	-----	75	125	-----	-----	-----	-----	
Matrix: WATER												
Method Blank (MB) Report												
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	
Matrix: WATER												
Method Blank (MB) Report												
EG: Metals and Major Cations (QC Lot: 2161415)	7440-38-2	100 µg/L	104	-----	-----	75	125	-----	-----	-----	-----	





CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1203347
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 04-FEB-2012
Order number	: GE/2009/16.38			Issue Date	: 15-FEB-2012
C-O-C number	: H014764			No. of samples received	: 3
Site	: NDA KTN			No. of samples analysed	: 3

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203347

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:

10-FEB-2012

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: **HK1203347**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA055: Moisture Content (dried @ 103°C)	----	0.1	27.0	26.9
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	13	16



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Original Result	Duplicate Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2157562)								
HK1203347-001	KTN-ASBH06 (3.00-3.45M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	27.0	27.5	1.8	
EG: Metals and Major Cations (QC Lot: 2159603)								
HK1203246-002	Anonymous	EG020: Arsenic	7440-38-2	1	71	79	9.7	
HK1203347-002	KTN-ASBH06 (5.50-5.95M)	EG020: Arsenic	7440-38-2	1	16	17	0.0	
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2161415)								
HK1203228-003	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0
HK1203346-003	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

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 (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2159603)							
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	90.0	----
Matrix: WATER							
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2161415)							
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	98.3	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					MS	MSD	High	
EG: Metals and Major Cations (QC Lot: 2159603)								
HK1203246-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	-----	75	125	-----
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	High	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2161415)								
HK1203228-001	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	104	-----	125	-----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Contact : IR POPHIL LAM
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GEOTECHNICAL ENGINEERING OFFICE,
23/F., KWUN TONG VIEW,
410 KWUN TONG ROAD, KOWLOON, HONG KONG
E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH
EAST NEW TERRITORIES NEW
DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014765
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1203404

Date Samples Received : 06-FEB-2012
Issue Date : 15-FEB-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203404

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: 09-FEB-2012

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: **HK1203404**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		
			Client sampling date / time	Unit	Client sample ID
EA055: Moisture Content (dried @ 103°C)	----	0.1	24.8	15.9	14.8
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	14	115	77



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2160495)								
HK1203404-001	KTN-ASBH06 (8.00-8.45M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	24.8	24.8	0.0
HK1203496-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	21.0	20.6	1.9
EG: Metals and Major Cations (QC Lot: 2159603)								
HK1203246-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	71	79	9.7
HK1203347-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	16	17	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2159603)	7440-38-2	1	mg/kg	<1	5 mg/kg	90.0	----	----	77	109	----	----	----
EG020: Arsenic													

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report								
					MS	MSD	Recovery Limits (%)	Value					
EG: Metals and Major Cations (QC Lot: 2159603)	7440-38-2	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----	----			
HK1203246-001	Anonymous												



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1203405
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 06-FEB-2012
Order number	: GE/2009/16.38			Issue Date	: 15-FEB-2012
C-O-C number	: H014746			No. of samples received	: 3
Site	: NDA KTN			No. of samples analysed	: 3

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Signatories: **PP Fung Lim Chee, Richard** 

Position: **General Manager**

Authorised results for: **Inorganics**



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203405

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: 09-FEB-2012

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: **HK1203405**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203405

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		
			Client sampling date / time	Unit	Value
EA/ED: Physical and Aggregate Properties	----	0.1	KTN-ASBH07 (8.00-8.45M) [06-FEB-2012]	KTN-ASBH07 (10.50-10.95M) [06-FEB-2012]	KTN-ASBH07 (13.00-13.45M) [06-FEB-2012]
			HK1203405-001	HK1203405-002	HK1203405-003
			30.8	30.5	29.3
EA055: Moisture Content (dried @ 103°C)					
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg	11	356
					15



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2160495)								
HK1203404-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	24.8	24.8	0.0
HK1203496-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	21.0	20.6	1.9
EG: Metals and Major Cations (QC Lot: 2159603)								
HK1203246-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	71	79	9.7
HK1203347-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	16	17	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2159603)	7440-38-2	1	mg/kg	<1	5 mg/kg	90.0	----	----	77	109	----	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	90.0	----	----	77	109	----	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					Spike Recovery (%)	MSD	Recovery Limits (%)	
		MS	MSD	Low	High	Value	Control Limit	
EG: Metals and Major Cations (QC Lot: 2159603)	7440-38-2	5 mg/kg	5 mg/kg	75	125	----	----	
HK1203246-001 Anonymous	Anonymous	EG020: Arsenic	7440-38-2	# Not Determined	75	125	----	



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 : IR POPHIL LAM
 Address : GEOTECHNICAL PROJECTS DIVISION,
 GEOTECHNICAL ENGINEERING OFFICE,
 23/F., KWUN TONG VIEW,
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 E-mail : Pophilkiam@cedd.gov.hk
 Telephone : +852 2716 8609
 Facsimile : ----
 Project : AGREEMENT NO CE 61_2007 (CE) - NORTH
 EAST NEW TERRITORIES NEW
 DEVELOPMENT AREAS
 Order number : GE/2009/16.38
 C-O-C number : H014766
 Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
 Contact : Chan Kwok Fai, Godfrey
 Address : 11/F., Chung Shun Knitting Centre, 1 - 3
 Wing Yip Street, Kwai Chung, N.T., Hong Kong

E-mail : Godfrey.Chan@alsglobal.com
 Telephone : +852 2610 1044
 Facsimile : +852 2610 2021
 Quote number : ----

Page : 1 of 6
 Work Order : HK1203496

Date Samples Received : 07-FEB-2012
 Issue Date : 16-FEB-2012
 No. of samples received : 6
 No. of samples analysed : 6

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 6
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203496

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: 10-FEB-2012

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: **HK1203496**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203496

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA055: Moisture Content (dried @ 103°C)	----	0.1	21.0	%
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	21.0	mg/kg
			20.3	
			21.5	
			9	
			13	
			3	



Page Number : 4 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203496

Sub-Matrix: WATER		Client sample ID	KTN-ASBH06 (FW-DURING DRILLING 20.50M)	KTN-ASBH06 (EQUIPMENT BLANK)	KTN-ASBH06 (FIELD BLANK)
Compound	CAS Number	LOR	Client sampling date / time	Unit	
EG: Metals and Major Cations - Filtered	7440-38-2	10	[07-FEB-2012]	[07-FEB-2012]	[07-FEB-2012]
EG020: Arsenic			HK1203496-004	HK1203496-005	HK1203496-006
			<10	<10	<10
			µg/L		



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: 2160495)									
HK1203404-001	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	24.8	24.8	0.0
HK1203496-001	KTN-ASBH06 (15.50-15.95M)		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	21.0	20.6	1.9
EG: Metals and Major Cations (QC Lot: 2161661)									
HK1203496-002	KTN-ASBH06 (18.00-18.45M)		EG020: Arsenic	7440-38-2	1	mg/kg	13	12	10.4
HK1203681-003	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	<1	<1	0.0
Matrix: WATER									
Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2163311)									
HK1203496-005	KTN-ASBH06 (EQUIPMENT BLANK)		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

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 (%)	Value	Control Limit
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	95.4	77 - 109	77	109
Matrix: WATER									
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 (%)	Value	Control Limit
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	100	78 - 114	78	114



Page Number : 6 of 6
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203496

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

Matrix: SOIL

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
				Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)					
EG: Metals and Major Cations (QC Lot: 2161661)													
HK1203496-001	KTN-ASBH06 (15.50-15.95M)	EG020: Arsenic	7440-38-2	5 mg/kg	85.7	-----	75	125	-----	-----			

Matrix: WATER

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
				Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)					
EG: Metals and Major Cations - Filtered (QC Lot: 2163311)													
HK1203496-004	KTN-ASBH06 (FW-DURING DRILLING 20.50M)	EG020: Arsenic	7440-38-2	100 µg/L	96.7	-----	75	125	-----	-----			



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1203497
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 07-FEB-2012
Order number	: GE/2009/16.38			Issue Date	: 16-FEB-2012
C-O-C number	: H014747			No. of samples received	: 8
Site	: NDA KTN			No. of samples analysed	: 8

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Signatories

Position

Authorised results for


Richard Fung Lim Chee

General Manager

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203497

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:

10-FEB-2012

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: **HK1203497**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203497

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID						
				Client sampling date / time	KTN-ASBH07 (15.50-15.95M) [07-FEB-2012]	KTN-ASBH07 (18.00-18.45M) [07-FEB-2012]	KTN-ASBH07 (20.50-20.95M) [07-FEB-2012]	KTN-ASBH07 (23.00-23.45M) [07-FEB-2012]	KTN-ASBH07 (25.50-25.95M) [07-FEB-2012]	
EA/ED: Physical and Aggregate Properties										
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	7.7	24.8	25.7	20.2	20.9		
EG: Metals and Major Cations										
EG020: Arsenic	7440-38-2	1	mg/kg	650	633	160	19	176		



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203497

Sub-Matrix: WATER		Client sample ID	KTN-ASBH07 (FW-DURING DRILLING 20.50M) [07-FEB-2012]	KTN-ASBH07 (FIELD BLANK) [07-FEB-2012]	KTN-ASBH07 (EQUIPMENT BLANK) [07-FEB-2012]
Compound	CAS Number	LOR	Unit	Unit	Unit
EG: Metals and Major Cations - Filtered	7440-38-2	10	<10	<10	<10
EG020: Arsenic			µg/L	µg/L	µg/L
			HK1203497-006	HK1203497-007	HK1203497-008



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: 2160495)								
HK1203404-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	24.8	24.8	0.0
HK1203496-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	21.0	20.6	1.9
EG: Metals and Major Cations (QC Lot: 2161661)								
HK1203496-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	13	12	10.4
HK1203681-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	<1	<1	0.0
Matrix: WATER								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2163311)								
HK1203496-005	Anonymous	EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2161661)													
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	95.4	----	----	77	109	----	----	----
Matrix: WATER													
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2163311)													
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	100	----	----	78	114	----	----	----

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	MS	MSD	Spike Recovery (%)	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2161661)												
HK1203496-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	85.7	----	75	125	75	125	----	----
Matrix: WATER												
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Spike Recovery (%)	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2163311)												
HK1203496-004	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	96.7	----	75	125	75	125	----	----



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH
EAST NEW TERRITORIES NEW
DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014767
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1203682

Date Samples Received : 08-FEB-2012
Issue Date : 17-FEB-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203682

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:

15-FEB-2012

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: **HK1203682**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203682

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID			
			Client sampling date / time	Unit		
EA/ED: Physical and Aggregate Properties	-----	0.1	KTN-ASBH06 (23.00-23.45M) [08-FEB-2012]	HK1203682-001		
			KTN-ASBH06 (25.50-25.95M) [08-FEB-2012]	HK1203682-002		
			KTN-ASBH06 (28.00-28.45M) [08-FEB-2012]	HK1203682-003		
EA055: Moisture Content (dried @ 103°C)			18.0	17.2	17.6	14.1
EG: Metals and Major Cations	7440-38-2	1	mg/kg			
			16	3	2	103
EG020: Arsenic						



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203682

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				RPD (%)
				LOR	Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2163349)								
HK1203682-001	KTN-ASBH06 (23.00-23.45M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.0	18.0	0.0
EG: Metals and Major Cations (QC Lot: 2167426)								
HK1203682-002	KTN-ASBH06 (25.50-25.95M)	EG020: Arsenic	7440-38-2	1	mg/kg	3	4	0.0
HK1203926-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	71	81	13.3

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

Method: Compound	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 2167426)	7440-38-2	1	mg/kg	<1	5 mg/kg	89.9	----	77	109	----
EG020: Arsenic										

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)	
					Spike Recovery (%)	MSD	Recovery Limits (%)		
EG: Metals and Major Cations (QC Lot: 2167426)	KTN-ASBH06 (23.00-23.45M)	EG020: Arsenic	7440-38-2	5 mg/kg	88.7	----	75	125	----
HK1203682-001									

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

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E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014748
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1203685

Date Samples Received : 08-FEB-2012
Issue Date : 17-FEB-2012
No. of samples received : 4
No. of samples analysed : 4

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Signatories

PR Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group

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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203685

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: 15-FEB-2012

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: **HK1203685**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203685

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID			
				Client sampling date / time	Client sample ID	Client sample ID	Client sample ID
EA/ED: Physical and Aggregate Properties							
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	19.7	17.7	22.8	18.2
EG: Metals and Major Cations							
EG020: Arsenic	7440-38-2	1	mg/kg	188	8	12	10



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203685

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				RPD (%)
				LOR	Unit	Original Result	Duplicate Result	
EA/ED: Physical and Aggregate Properties (QC Lot: 2163349)								
HK1203682-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.0	18.0	0.0
EG: Metals and Major Cations (QC Lot: 2167426)								
HK1203682-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	3	4	0.0
HK1203926-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	71	81	13.3

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2167426)	7440-38-2	1	mg/kg	<1	5 mg/kg	89.9	----	----	77	109	----	----	----
EG020: Arsenic													

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					MS	MSD	Recovery Limits (%)	
				Low	High	Value	Control Limit	
HK1203682-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	88.7	75	125	----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014770
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1203926

Date Samples Received : 09-FEB-2012
Issue Date : 20-FEB-2012
No. of samples received : 5
No. of samples analysed : 5

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203926

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: 15-FEB-2012

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: **HK1203926**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		KTN-ASBH06 (33.00-33.45M) [09-FEB-2012] HK1203926-001	KTN-ASBH06 (35.50-35.95M) [09-FEB-2012] HK1203926-002	KTN-ASBH06 (38.00-38.45M) [09-FEB-2012] HK1203926-003	KTN-ASBH06 (40.50-40.95M) [09-FEB-2012] HK1203926-004	KTN-ASBH06 (43.00-43.45M) [09-FEB-2012] HK1203926-005
			Client sampling date / time	Unit					
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103° C)	----	0.1	%		18.9	23.2	19.1	19.0	18.7
EG: Metals and Major Cations									
EG020: Arsenic	7440-38-2	1	mg/kg		5	24	71	12	18



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203926

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: 2165558)								
HK1203771-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	46.9	51.2	8.7
HK1203926-002	KTN-ASBH06 (35.50-35.95M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	23.2	23.0	1.1
EG: Metals and Major Cations (QC Lot: 2167426)								
HK1203682-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	3	4	0.0
HK1203926-003	KTN-ASBH06 (38.00-38.45M)	EG020: Arsenic	7440-38-2	1	mg/kg	71	81	13.3

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	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	High	Low	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2167426)	7440-38-2	1	mg/kg	<1	5 mg/kg	89.9	----	----	77	109	----	----	----
EG020: Arsenic													

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	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2167426)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	88.7	----	----	75	125	----	----
HK1203682-001	Anonymous										



CERTIFICATE OF ANALYSIS

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Telephone : +852 2716 8609
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014749
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
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E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1203927

Date Samples Received : 09-FEB-2012
Issue Date : 20-FEB-2012
No. of samples received : 2
No. of samples analysed : 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1203927

General Comments

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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: **HK1203927**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing. Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203927

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			KTN-ASBH07 (38.00-38.45M) [09-FEB-2012]	KTN-ASBH07 (40.50-40.95M) [09-FEB-2012]
EA055: Moisture Content (dried @ 103° C)	----	0.1	19.3	12.2
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	13	<1



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1203927

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2165559)								
HK1203927-001	KTN-ASBH07 (38.00-38.45M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	19.3	19.6	1.4
HK1203932-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	4.6	4.8	5.4
EG: Metals and Major Cations (QC Lot: 2167426)								
HK1203682-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	3	4	0.0
HK1203926-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	71	81	13.3

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High
Method Blank (MB) Report										
EG: Metals and Major Cations (QC Lot: 2167426)	7440-38-2	1	mg/kg	<1	5 mg/kg	89.9	77	109	----	----
EG020: Arsenic										

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
					Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 2167426)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	88.7	75	125	----
HK1203682-001	Anonymous							



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1204088
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 10-FEB-2012
Order number	: GE/2009/16.38			Issue Date	: 21-FEB-2012
C-O-C number	: H014771			No. of samples received	: 2
Site	: NDA KTN			No. of samples analysed	: 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1204088

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: 18-FEB-2012

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: **HK1204088**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1204088

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time		Client sample ID
			Unit	Unit	
EA/ED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.3	KTN-ASBH06 (45.50-45.95M) [10-FEB-2012]
EG: Metals and Major Cations					
EG020: Arsenic	7440-38-2	1	mg/kg	128	HK1204088-001



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: 2165560)									
HK1203934-003	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	31.6	29.2	7.9
EG: Metals and Major Cations (QC Lot: 2167426)									
HK1203682-002	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	3	4	0.0
HK1203926-003	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	71	81	13.3
Matrix: WATER									
Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2173475)									
HK1204234-002	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2167426)												
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	89.9	----	77	109	----	----	----
Matrix: WATER												
Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2173475)												
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	96.0	----	78	114	----	----	----

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2167426)											
HK1203682-001	Anonymous		EG020: Arsenic	5 mg/kg	88.7	----	75	125	----	----	----
Matrix: WATER											
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2173475)											
HK1204580-014	Anonymous		EG020: Arsenic	100 µg/L	95.2	----	75	125	----	----	----

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1204093
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61 2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 10-FEB-2012
Order number	: GE/2009/16.38			Issue Date	: 21-FEB-2012
C-O-C number	: H014861			No. of samples received	: 1
Site	: NDA KTN			No. of samples analysed	: 1

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1204093

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: 15-FEB-2012

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: **HK1204093**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1204093

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EATED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	----	0.1	13.1	%
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	195	mg/kg



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2165560)								
HK1203934-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	31.6	29.2	7.9
EG: Metals and Major Cations (QC Lot: 2167426)								
HK1203682-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	3	4	0.0
HK1203926-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	71	81	13.3

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

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 (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	89.9	----	77	109	----	----	----

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
				Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit		
HK1203682-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	88.7	----	75	125	----	----	----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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GEOTECHNICAL ENGINEERING OFFICE,
23/F., KWUN TONG VIEW,
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E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014862
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1204139

Date Samples Received : 11-FEB-2012
Issue Date : 21-FEB-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories


Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1204139

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: 15-FEB-2012

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: **HK1204139**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1204139

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID		
				KTN-ASBH OFFSITE (A) (1.00M) [11-FEB-2012] HK1204139-001	KTN-ASBH OFFSITE (A) (1.50M) [11-FEB-2012] HK1204139-002	KTN-ASBH OFFSITE (A) (1.50M DUPLICATE) [11-FEB-2012] HK1204139-003
EAVED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)	-----	0.1	%	8.1	37.1	16.9
EG: Metals and Major Cations						
EG020: Arsenic	7440-38-2	1	mg/kg	128	262	225



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2167308)								
HK1204139-001	KTN-ASBH OFFSITE (A) (1.00M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	8.1	7.9	3.1
EG: Metals and Major Cations (QC Lot: 2167426)								
HK1203682-002	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	3	4	0.0
HK1203926-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	71	81	13.3

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

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 (%)	DCS	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2167426)	7440-38-2	1	mg/kg	<1	5 mg/kg	89.9	----	77	109	----
EG020: Arsenic										

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit	
EG: Metals and Major Cations (QC Lot: 2167426)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	88.7	----	75	125	----	----
HK1203682-001	Anonymous									

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client	: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: IR POPHIL LAM	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1204304
Address	: GEOTECHNICAL PROJECTS DIVISION, GEOTECHNICAL ENGINEERING OFFICE, 23/F., KWUN TONG VIEW, 410 KWUN TONG ROAD, KOWLOON, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Pophilkiam@cedd.gov.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2716 8609	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS	Quote number	: ----	Date Samples Received	: 13-FEB-2012
Order number	: GE/2009/16.38			Issue Date	: 23-FEB-2012
C-O-C number	: H014863			No. of samples received	: 2
Site	: NDA KTN			No. of samples analysed	: 2

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group

Trading Name: ALS Technichem (HK) Pty Ltd

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Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1204304

General Comments

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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: **HK1204304**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1204304

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID
EATED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	KTN-ASBH OFFSITE (A) (3.60M) [13-FEB-2012] HK1204304-001
EG: Metals and Major Cations				
EG020: Arsenic	7440-38-2	1	mg/kg	128



Laboratory Duplicate (DUP) Report

Matrix: SOIL		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Compound
EA/ED: Physical and Aggregate Properties (QC Lot: 2170328)			
HK1204306-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	
			23.0
			22.7
			1.4
EG: Metals and Major Cations (QC Lot: 2174174)			
HK1204434-001	Anonymous	EG020: Arsenic	
HK1204638-003	Anonymous	EG020: Arsenic	
			163
			67
			1.3
			3.2
Matrix: WATER			
Laboratory sample ID	Client sample ID	Method: Compound	Compound
EG: Metals and Major Cations - Filtered (QC Lot: 2173475)			
HK1204234-002	Anonymous	EG020: Arsenic	
			<10
			<10
			0.0

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
EG: Metals and Major Cations (QC Lot: 2174174)					
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg
					105
					77
					109

Matrix: WATER					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration
EG: Metals and Major Cations - Filtered (QC Lot: 2173475)					
EG020: Arsenic	7440-38-2	10	µg/L	<10	96.0
					78
					114

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	Compound
EG: Metals and Major Cations (QC Lot: 2174174)			
HK1204304-001	KTN-ASBH OFFSITE (A) (3.60M)	EG020: Arsenic	
			5 mg/kg
			# Not Determined
			75
			125

Matrix: WATER			
Laboratory sample ID	Client sample ID	Method: Compound	Compound
EG: Metals and Major Cations - Filtered (QC Lot: 2173475)			
HK1204580-014	Anonymous	EG020: Arsenic	
			100 µg/L
			95.2
			75
			125

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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E-mail : Pophilkiam@cedd.gov.hk
Telephone : +852 2716 8609
Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014864
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1204434

Date Samples Received : 14-FEB-2012
Issue Date : 23-FEB-2012
No. of samples received : 3
No. of samples analysed : 3

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group
ALS Technichem (HK) Pty Ltd

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Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1204434

General Comments

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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: **HK1204434**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing. Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1204434

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID		
				KTN-ASBH OFFSITE (A)	KTN-ASBH OFFSITE (A)	KTN-ASBH OFFSITE (A)
Client sampling date / time						
[14-FEB-2012]						
[14-FEB-2012]						
EA/ED: Physical and Aggregate Properties				(5.90M)	(8.20M)	(10.00M)
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	21.0	19.2	16.2
EG: Metals and Major Cations						
EG020: Arsenic	7440-38-2	1	mg/kg	163	80	151
				HK1204434-001	HK1204434-002	HK1204434-003



Page Number : 4 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1204434

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2173473)								
HK1204434-001	KTN-ASBH OFFSITE (A) (5.90M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	21.0	20.4	2.9
EG: Metals and Major Cations (QC Lot: 2174174)								
HK1204434-001	KTN-ASBH OFFSITE (A) (5.90M)	EG020: Arsenic	7440-38-2	1	mg/kg	163	161	1.3
HK1204638-003	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	70	67	3.2

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

Method: Compound	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 2174174)	7440-38-2	1	mg/kg	<1	5 mg/kg	105	----	77	109	----
EG020: Arsenic										

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					MS	MSD	Recovery Limits (%)	
EG: Metals and Major Cations (QC Lot: 2174174)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	75	125	----
HK1204304-001	Anonymous							



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Facsimile : ----
Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014865
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

E-mail : Godfrey.Chan@alsglobal.com
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Quote number : ----

Page : 1 of 5
Work Order : HK1204633
Date Samples Received : 15-FEB-2012
Issue Date : 27-FEB-2012
No. of samples received : 5
No. of samples analysed : 5

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Signatories

Position

Authorised results for

PP Fung Lim Chee, Richard

General Manager

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1204633

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:

23-FEB-2012

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: **HK1204633**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Page Number : 3 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1204633

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID			
				KTN-ASBH OFFSITE (A) (12.8M) [15-FEB-2012] HK1204633-001	KTN-ASBH OFFSITE (A) (15.0M) [15-FEB-2012] HK1204633-002	KTN-ASBH OFFSITE (A) (17.2M) [15-FEB-2012] HK1204633-003	KTN-ASBH OFFSITE (A) (18.4M) [15-FEB-2012] HK1204633-004
EA/ED: Physical and Aggregate Properties							
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	17.5	21.0	20.7	21.3
EG: Metals and Major Cations							
EG020: Arsenic	7440-38-2	1	mg/kg	176	504	105	74



Sub-Matrix: WATER

Client sample ID		KTN-ASBH OFFSITE (A)	
Client sampling date / time		(FW-DURING DRILLING 18.4M) [15-FEB-2012]	
Compound	CAS Number	LOR	Unit
EG: Metals and Major Cations - Filtered	7440-38-2	10	µg/L
EG020: Arsenic			<10



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: 2174710)									
HK1204581-003	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	73.5	75.8	3.1
HK1204638-004	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	20.5	20.8	1.2
EG: Metals and Major Cations (QC Lot: 2174174)									
HK1204434-001	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	163	161	1.3
HK1204638-003	Anonymous		EG020: Arsenic	7440-38-2	1	mg/kg	70	67	3.2
Matrix: WATER									
Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2180940)									
HK1204827-006	Anonymous		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Matrix: SOIL														
<i>Method Blank (MB) Report</i>														
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2174174)														
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	105	----	----	77	109	----	----	----	----
Matrix: WATER														
<i>Method Blank (MB) Report</i>														
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2180940)														
EG020: Arsenic	7440-38-2	10	µg/L	<10	100 µg/L	95.6	----	----	78	114	----	----	----	----

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

Matrix: SOIL												
<i>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</i>												
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations (QC Lot: 2174174)												
HK1204304-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----	----	----	----
Matrix: WATER												
<i>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</i>												
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2180940)												
HK1204633-005	KTN-ASBH OFFSITE (A) (FW-DURING DRILLING 18.4M)	EG020: Arsenic	7440-38-2	100 µg/L	95.7	----	75	125	----	----	----	----



CERTIFICATE OF ANALYSIS

Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014866
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
Contact : Chan Kwok Fai, Godfrey
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong
E-mail : Godfrey.Chan@alsglobal.com
Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 4
Work Order : HK1204638

Date Samples Received : 16-FEB-2012
Issue Date : 27-FEB-2012
No. of samples received : 5
No. of samples analysed : 5

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Signatories

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics



Page Number : 2 of 4
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1204638

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: 21-FEB-2012

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: **HK1204638**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.

Sample(s) were received in a chilled 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.



Page Number : 3 of 4
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1204638

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time	Unit	Client sample ID			
					KTN-ASBH OFFSITE (A) (19.5M) [16-FEB-2012] HK1204638-001	KTN-ASBH OFFSITE (A) (20.6M) [16-FEB-2012] HK1204638-002	KTN-ASBH OFFSITE (A) (21.8M) [16-FEB-2012] HK1204638-003	KTN-ASBH OFFSITE (A) (23.0M) [16-FEB-2012] HK1204638-004
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	21.1	22.8	23.6	20.5	20.1
EG: Metals and Major Cations								
EG020: Arsenic	7440-38-2	1	mg/kg	64	86	70	73	111



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: 2174710)								
HK1204581-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	73.5	75.8	3.1
HK1204638-004	KTN-ASBH OFFSITE (A) (23.0M)	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	20.5	20.8	1.2
EG: Metals and Major Cations (QC Lot: 2174174)								
HK1204434-001	Anonymous	EG020: Arsenic	7440-38-2	1	mg/kg	163	161	1.3
HK1204638-003	KTN-ASBH OFFSITE (A) (21.8M)	EG020: Arsenic	7440-38-2	1	mg/kg	70	67	3.2

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	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2174174)	7440-38-2	1	mg/kg	<1	5 mg/kg	105	----	----	77	109	----	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	105	----	----	77	109	----	----	----

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	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2174174)	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----	----	----
HK1204304-001	Anonymous	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75	125	----	----	----



CERTIFICATE OF ANALYSIS

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Project : AGREEMENT NO CE 61_2007 (CE) - NORTH EAST NEW TERRITORIES NEW DEVELOPMENT AREAS
Order number : GE/2009/16.38
C-O-C number : H014867
Site : NDA KTN

Laboratory : ALS Technichem HK Pty Ltd
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E-mail : Godfrey.Chan@alsglobal.com
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Facsimile : +852 2610 2021
Quote number : ----

Page : 1 of 5

Work Order : HK1204827

Date Samples Received : 17-FEB-2012

Issue Date : 28-FEB-2012

No. of samples received : 6

No. of samples analysed : 6

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Signatories

Position

Authorised results for

FP Fung Lim Chee, Richard

General Manager

Inorganics



Page Number : 2 of 5
Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Work Order : HK1204827

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: 23-FEB-2012

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: **HK1204827**

Project Name: Agreement No. CE 61/2007 (CE) - North East New Territories New Development Areas. Planning an Engineering Study - Investigation, Chemical Testing.
Sample(s) were received in a chilled condition.

Water sample(s) analysed and reported on an as received basis.

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

Water sample(s) were filtered prior to dissolved metal analysis.

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.



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID				
				KTN-ASBH OFFSITE (A) (25.2M) [17-FEB-2012] HK1204827-001	KTN-ASBH OFFSITE (A) (26.3M) [17-FEB-2012] HK1204827-002	KTN-ASBH OFFSITE (A) (27.5M) [17-FEB-2012] HK1204827-003	KTN-ASBH OFFSITE (A) (29.5M) [17-FEB-2012] HK1204827-004	KTN-ASBH OFFSITE (A) (30.5M) [17-FEB-2012] HK1204827-005
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103° C)	----	0.1	%	11.6	6.2	3.9	10.3	12.2
EG: Metals and Major Cations								
EG020: Arsenic	7440-38-2	1	mg/kg	457	203	806	238	320



Page Number : 4 of 5
 Client : CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 Work Order : HK1204827

Sub-Matrix: WATER		Client sample ID	KTN-ASBH OFFSITE (A) (FW-AFTER DRILLING) [17-FEB-2012]	
Compound	CAS Number	LOR	Unit	Client sampling date / time
EG: Metals and Major Cations - Filtered EG020: Arsenic	7440-38-2	10	µg/L	HK1204827-006 <10



Laboratory Duplicate (DUP) Report

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EAIED: Physical and Aggregate Properties (QC Lot: 217793)									
HK1204824-015	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	0.3	0.3	0.0
HK1204861-002	Anonymous		EA055: Moisture Content (dried @ 103°C)	----	0.1	%	16.9	18.2	7.7
EG: Metals and Major Cations (QC Lot: 2179924)									
HK1204827-002	KTN-ASBH OFFSITE (A) (26.3M)		EG020: Arsenic	7440-38-2	1	mg/kg	203	242	17.6

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2180940)									
HK1204827-006	KTN-ASBH OFFSITE (A) (FW-AFTER DRILLING)		EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	0.0

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

Method: Compound		CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
						Spike Concentration	Spike Recovery (%)	LCS	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2179924)		7440-38-2	1	mg/kg	<1	5 mg/kg	96.4	-----	-----	77	109	-----	-----	-----
EG020: Arsenic														

Method: Compound		CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
						Spike Concentration	Spike Recovery (%)	LCS	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2180940)		7440-38-2	10	µg/L	<10	100 µg/L	95.6	-----	-----	78	114	-----	-----	-----
EG020: Arsenic														

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report		Spike Recovery (%)		RPD (%)
					MS	MSD	Low	High	
EG: Metals and Major Cations (QC Lot: 2179924)									
HK1204827-001	KTN-ASBH OFFSITE (A) (25.2M)	EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	-----	75	125	-----

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report		Spike Recovery (%)		RPD (%)
					MS	MSD	Low	High	
EG: Metals and Major Cations - Filtered (QC Lot: 2180940)									
HK1204633-005	Anonymous	EG020: Arsenic	7440-38-2	100 µg/L	95.7	-----	75	125	-----