

Table 1.2 Sample Identifications

Lab ID	Client ID	Lab ID (Ecotox. Section)	Date Sampled	Date Received	^b Category
^a HK0925903001	REFERENCE SEDIMENT	HK0926031001	05-Dec-09	05-Dec-09	L
HK0924243002	S8 (0.9-1.9M)	HK0926031004	12-Nov-09	12-Nov-09	M
HK0924253002	S12 (0.9-1.9M)	HK0926031006	13-Nov-09	13-Nov-09	M
HK0924255001	S15 (0-0.9M)	HK0926031008	13-Nov-09	13-Nov-09	M
HK0924256002	S21 (0.9-1.9M)	HK0926031009	13-Nov-09	13-Nov-09	M
HK0924257001	S6 (0-0.9M)	HK0926031010	14-Nov-09	14-Nov-09	M
HK0924257002	S6 (0.9-1.9M)	HK0926031011	14-Nov-09	14-Nov-09	M
HK0924257003	S6 (1.9-2.9M)	HK0926031012	14-Nov-09	14-Nov-09	M
HK0924377001	S11 (0-0.9M)	HK0926031015	16-Nov-09	16-Nov-09	M
HK0924377002	S11 (0.9-1.9M)	HK0926031016	16-Nov-09	16-Nov-09	M
HK0924384002	D221 (0.9-1.9M)	HK0926031017	16-Nov-09	16-Nov-09	M
HK0924388003	D174 (1.9-2.9M)	HK0926031018	16-Nov-09	16-Nov-09	M
HK0924392001	D196 (0-0.9M)	HK0926031019	16-Nov-09	16-Nov-09	M
HK0924392002	D196 (0.9-1.9M)	HK0926031020	16-Nov-09	16-Nov-09	M
HK0924392003	D196 (1.9-2.9M)	HK0926031021	16-Nov-09	16-Nov-09	M
HK0924422002	S30 (0.9-1.9M)	HK0926031022	17-Nov-09	17-Nov-09	M
HK0924422003	S30 (1.9-2.9M)	HK0926031023	17-Nov-09	17-Nov-09	M
HK0924423001	S34 (0-0.9M)	HK0926031024	17-Nov-09	17-Nov-09	M
HK0924425002	D238 (0.9-1.9M)	HK0926031025	17-Nov-09	17-Nov-09	M
HK0924518003	D202 (1.9-2.9M)	HK0926031026	18-Nov-09	18-Nov-09	M
HK0924520003	D214 (1.9-2.9M)	HK0926031027	18-Nov-09	18-Nov-09	M
HK0924521002	D234 (0.9-1.9M)	HK0926031028	18-Nov-09	18-Nov-09	M
HK0924521003	D234 (1.9-2.9M)	HK0926031029	18-Nov-09	18-Nov-09	M
HK0924522003	D298 (1.9-2.9M)	HK0926031030	18-Nov-09	18-Nov-09	M
HK0924523003	S35 (1.9-2.9M)	HK0926031031	18-Nov-09	18-Nov-09	M
HK0924581001	S5-2 (0-0.9M)	HK0926031032	20-Nov-09	20-Nov-09	M
HK0924581002	S5-2 (0.9-1.9M)	HK0926031033	20-Nov-09	20-Nov-09	M
HK0924582001	S9 (0-0.9M)	HK0926031034	20-Nov-09	20-Nov-09	M
HK0924582002	S9 (0.9-1.9M)	HK0926031035	20-Nov-09	20-Nov-09	M

^a Reference Sediment HK0925903001 was collected by client

^b Sediments were categorized according to ETWB TCW No. 34/2002

Table 1.3 Total Organic Carbon (TOC), Moisture and Porewater Characteristics (pH, Salinity and Ammonia) of Testing Sediment

Client ID	ALS ID (Ecotox. Section)	Total Organic Carbon (TOC) (%)	Moisture Content (%)	pH	Salinity (ppt)	Ammonia-N (Total, mg/L)
REFERENCE SEDIMENT	HK0926031001	0.81	42.80	8.1	31	4.37
S8 (0.9-1.9M)	HK0926031004	0.46	44.30	NA	NA	NA
S12 (0.9-1.9M)	HK0926031006	0.47	47.40	8.0	33	14.30
S15 (0-0.9M)	HK0926031008	0.68	47.20	7.9	33	26.60
S21 (0.9-1.9M)	HK0926031009	0.52	46.40	8.1	32	24.50
S6 (0-0.9M)	HK0926031010	0.76	49.30	7.8	34	25.50
S6 (0.9-1.9M)	HK0926031011	0.61	49.20	7.8	34	24.00
S6 (1.9-2.9M)	HK0926031012	0.10	19.80	7.8	33	23.60
S11 (0-0.9M)	HK0926031015	0.49	48.50	7.8	34	3.58
S11 (0.9-1.9M)	HK0926031016	0.52	40.90	NA	NA	NA
D221 (0.9-1.9M)	HK0926031017	0.62	46.00	7.9	34	5.68
D174 (1.9-2.9M)	HK0926031018	0.61	46.60	8.0	35	14.10
D196 (0-0.9M)	HK0926031019	0.60	45.80	8.0	33	3.48
D196 (0.9-1.9M)	HK0926031020	0.76	43.60	8.1	33	7.72
D196 (1.9-2.9M)	HK0926031021	0.67	40.00	NA	NA	NA
S30 (0.9-1.9M)	HK0926031022	0.70	45.40	8.2	28	48.10
S30 (1.9-2.9M)	HK0926031023	0.57	43.80	8.1	28	50.90
S34 (0-0.9M)	HK0926031024	0.94	49.30	7.7	33	10.20
D238 (0.9-1.9M)	HK0926031025	0.61	45.60	8.0	27	48.60
D202 (1.9-2.9M)	HK0926031026	0.58	45.30	8.1	29	31.80
D214 (1.9-2.9M)	HK0926031027	0.61	44.10	8.1	2.9	30.60
D234 (0.9-1.9M)	HK0926031028	0.62	45.00	8.0	30	27.30
D234 (1.9-2.9M)	HK0926031029	0.59	43.90	8.1	28	34.80
D298 (1.9-2.9M)	HK0926031030	0.65	41.10	NA	NA	NA
S35 (1.9-2.9M)	HK0926031031	0.50	44.50	8.0	31	55.00
S5-2 (0-0.9M)	HK0926031032	0.45	38.30	8.0	32	38.10
S5-2 (0.9-1.9M)	HK0926031033	0.58	43.00	8.1	34	4.36
S9 (0-0.9M)	HK0926031034	0.58	44.60	7.9	32	24.20
S9 (0.9-1.9M)	HK0926031035	0.47	35.40	NA	NA	NA

NA: Porewater was not available in the sediment sample for salinity and ammonia analysis

Table 1.4 Summary of Test Results

10-Day Amphipod Survival Test

ALS ID	Sample ID	Survival (%)	
		Mean	SD
Control	Control	90.0	3.5
HK0926031001	REFERENCE SEDIMENT	88.0	2.7
HK0926031004	S8 (0.9-1.9M)	*#73.0	5.7
HK0926031006	S12 (0.9-1.9M)	*82.0	5.7
HK0926031008	S15 (0-0.9M)	*#31.0	6.5
HK0926031009	S21 (0.9-1.9M)	81.0	10.2
HK0926031010	S6 (0-0.9M)	*74.0	6.5
HK0926031011	S6 (0.9-1.9M)	*74.0	10.8
HK0926031012	S6 (1.9-2.9M)	*#69.0	8.9
HK0926031015	S11 (0-0.9M)	86.0	6.5
HK0926031016	S11 (0.9-1.9M)	86.0	6.5
HK0926031017	D221 (0.9-1.9M)	*73.0	9.1
HK0926031018	D174 (1.9-2.9M)	88.0	9.1
HK0926031019	D196 (0-0.9M)	*81.0	5.5
HK0926031020	D196 (0.9-1.9M)	*#67.0	7.6
HK0926031021	D196 (1.9-2.9M)	*81.0	4.2
HK0926031022	S30 (0.9-1.9M)	84.0	4.2
HK0926031023	S30 (1.9-2.9M)	86.0	6.5
HK0926031024	S34 (0-0.9M)	82.0	6.7
HK0926031025	D238 (0.9-1.9M)	*74.0	8.9
HK0926031026	D202 (1.9-2.9M)	*80.0	7.9
HK0926031027	D214 (1.9-2.9M)	*73.0	7.6
HK0926031028	D234 (0.9-1.9M)	81.0	14.7
HK0926031029	D234 (1.9-2.9M)	80.0	14.6
HK0926031030	D298 (1.9-2.9M)	*72.0	10.4
HK0926031031	S35 (1.9-2.9M)	85.0	5.0
HK0926031032	S5-2 (0-0.9M)	*#65.0	14.6
HK0926031033	S5-2 (0.9-1.9M)	*#61.0	10.8
HK0926031034	S9 (0-0.9M)	*83.0	4.5
HK0926031035	S9 (0.9-1.9M)	*77.0	6.7

*Mean survival in test sediment is significantly different ($p < 0.05$) from that in reference sediment

Mean survival in test sediment is <80% of that in reference sediment

Table 1.4 Summary of Test Results

20-Day Polychaete Survival and Growth Test

ALS ID	Sample ID	Total Dry Weight (mg)	
		Mean	SD
Control	Control	73.4	17.7
HK0926031001	REFERENCE SEDIMENT	82.7	10.6
HK0926031004	S8 (0.9-1.9M)	#74.0	14.5
HK0926031006	S12 (0.9-1.9M)	#74.4	9.5
HK0926031008	S15 (0-0.9M)	*#62.6	8.5
HK0926031009	S21 (0.9-1.9M)	#72.0	7.9
HK0926031010	S6 (0-0.9M)	78.1	9.6
HK0926031011	S6 (0.9-1.9M)	*#69.6	9.3
HK0926031012	S6 (1.9-2.9M)	79.6	8.9
HK0926031015	S11 (0-0.9M)	78.5	5.9
HK0926031016	S11 (0.9-1.9M)	*#61.9	10.7
HK0926031017	D221 (0.9-1.9M)	*#67.6	12.2
HK0926031018	D174 (1.9-2.9M)	77.8	12.3
HK0926031019	D196 (0-0.9M)	78.3	8.8
HK0926031020	D196 (0.9-1.9M)	#71.7	18.9
HK0926031021	D196 (1.9-2.9M)	*#62.6	11.1
HK0926031022	S30 (0.9-1.9M)	76.3	14.0
HK0926031023	S30 (1.9-2.9M)	76.2	14.3
HK0926031024	S34 (0-0.9M)	76.2	21.3
HK0926031025	D238 (0.9-1.9M)	#71.4	9.6
HK0926031026	D202 (1.9-2.9M)	*#62.7	19.8
HK0926031027	D214 (1.9-2.9M)	#71.2	20.1
HK0926031028	D234 (0.9-1.9M)	79.8	5.2
HK0926031029	D234 (1.9-2.9M)	76.9	6.1
HK0926031030	D298 (1.9-2.9M)	*#69.4	10.6
HK0926031031	S35 (1.9-2.9M)	80.4	9.3
HK0926031032	S5-2 (0-0.9M)	#73.3	15.7
HK0926031033	S5-2 (0.9-1.9M)	*#67.3	14.7
HK0926031034	S9 (0-0.9M)	*#67.1	3.7
HK0926031035	S9 (0.9-1.9M)	*#68.4	8.0

*Mean dry weight in test sediment is significantly different ($p < 0.05$) from that in reference sediment

Mean dry weight in test sediment is <90% of that in reference sediment

Table 1.4 Summary of Test Results

48-Hour Bivalve Survival and Normality Test

ALS ID	Sample ID	Normal Survival (%)	
		Mean	SD
Control	Control	90.8	5.1
HK0926031001	REFERENCE SEDIMENT	98.2	1.9
HK0926031004	S8 (0.9-1.9M)	*79.2	3.2
HK0926031006	S12 (0.9-1.9M)	92.0	11.8
HK0926031008	S15 (0-0.9M)	*#62.7	14.2
HK0926031009	S21 (0.9-1.9M)	*#65.2	8.2
HK0926031010	S6 (0-0.9M)	*#69.7	7.6
HK0926031011	S6 (0.9-1.9M)	*83.4	5.4
HK0926031012	S6 (1.9-2.9M)	*91.1	6.3
HK0926031015	S11 (0-0.9M)	*#71.9	7.0
HK0926031016	S11 (0.9-1.9M)	*#68.7	3.5
HK0926031017	D221 (0.9-1.9M)	*#70.5	4.0
HK0926031018	D174 (1.9-2.9M)	*85.3	6.3
HK0926031019	D196 (0-0.9M)	*#71.4	7.4
HK0926031020	D196 (0.9-1.9M)	*78.6	5.7
HK0926031021	D196 (1.9-2.9M)	*86.0	6.6
HK0926031022	S30 (0.9-1.9M)	*87.4	11.8
HK0926031023	S30 (1.9-2.9M)	#76.9	3.6
HK0926031024	S34 (0-0.9M)	*81.5	5.3
HK0926031025	D238 (0.9-1.9M)	*#77.0	8.2
HK0926031026	D202 (1.9-2.9M)	94.8	5.1
HK0926031027	D214 (1.9-2.9M)	*81.6	8.2
HK0926031028	D234 (0.9-1.9M)	*80.9	3.7
HK0926031029	D234 (1.9-2.9M)	*80.1	4.6
HK0926031030	D298 (1.9-2.9M)	*#74.6	6.8
HK0926031031	S35 (1.9-2.9M)	*#63.9	4.0
HK0926031032	S5-2 (0-0.9M)	*91.1	2.3
HK0926031033	S5-2 (0.9-1.9M)	*#58.3	12.5
HK0926031034	S9 (0-0.9M)	100.0	0.0
HK0926031035	S9 (0.9-1.9M)	*82.6	5.1

* Mean normal survival in test sediment is significantly different (p<0.05) from that in reference sediment

Mean normal survival in test sediment is <80% of that in reference sediment

2 10-DAY AMPHIPOD SURVIVAL TEST - *Leptocheirus plumulosus*

Table 2.1 Test Methodology for the 10-day Amphipod Survival Test
– *Leptocheirus plumulosus*

	Parameter	Conditions
1	Reference protocols:	USEPA (1994) & ALS (2000) (Ref. 3 & 4)
2	Organism source:	Collected from Chesapeake Culture; body length 2-4 mm; no mature males or females
3	Testing periods:	11 December 2009 - 21 December 2009
4	Test type:	Sediment toxicity test, static, non-renewal
5	Test duration:	10 days
6	Temperature:	25 ± 1°C
7	Salinity:	20 ± 1 ppt
8	Light quality:	Wide-spectrum fluorescent lights
9	Illuminance:	500-1000 lux
10	Photoperiod:	24h : 0h (Light : Dark)
11	Test chamber:	1L glass jar with 10cm internal diameter; 175mL sediment; 800mL overlying seawater; position of test container randomized
12	Number of organisms per chamber:	20
13	Number of replicates:	6 (5 for testing, 1 for water quality measurement)
14	Feeding regime:	None
15	Aeration:	Overlying water aerated overnight before the start of test and throughout the test at approximately 100 bubbles/min; maintains ≥60% dissolved oxygen saturation
16	Overlying water:	Reconstituted seawater made up from artificial sea salt (Brand: Red Sea®); filtered through a 0.5µm filter; sterilized by ultraviolet light
17	Overlying water quality monitoring:	Temperature, pH, salinity and dissolved oxygen measured daily; total ammonia and sulfide content taken at 0 d and 10 d
18	Control sediment:	Collected from Port Shelter at PS6 (E850234 N820057) on 08 July 2009 by grab sampler; expires on 04 Jan 2010; stored at -20°C after collection; sieved with 0.5mm sieve before testing; ALS Ref ID: HK0914414
19	Endpoints:	Emergence ¹ (recorded daily); survival; reburial ²
20	Statistical analysis:	Data tested for normality and homogeneity of variance; Statistically significant differences between the mean survivals in testing sediments and reference sediment determined at a probability of p*0.05 using ToxCalc 5.0 (Ref 7)
21	Test acceptability criterion:	≥90% mean survival in control sediment

Reference Toxicant Test

22	Test type:	Water only test, static
23	Toxicant:	Cadmium
24	Test duration:	96 hours
25	Photoperiod:	0h : 24h (Light : Dark)
26	Test Chamber:	1L glass jar with 10cm internal diameter; 900 mL
27	Number of organisms per chamber:	10
28	Number of replicates:	2
29	Overlying seawater quality monitoring:	Temperature, pH, salinity and dissolved oxygen of the
30	Endpoints:	Survival
31	Statistical analysis:	96-h LC50 for Cadmium determined by ToxCalc 5.0
32	Test acceptability criterion:	≥90% mean survival in control seawater
33	Other testing conditions are the same as in the sediment test	

¹ Number of amphipods appearing on the sediment surface or water column² Number of surviving amphipods that reburied within 1 h in a separate container containing a 2-cm layer of control sediment and overlying clean seawater

Table 2.2 Results Summary of the 10-day Amphipod Survival Test –
Leptocheirus plumulosus

Lab ID	Sample ID	Survival (%)		Avoidance (amphipod/jar/day)		Reburial
		Mean	SD	Mean	SD	(%) Mean
Control	Control	90.0	3.5	0.00	0.00	98
HK0926031001	REFERENCE SEDIMENT	88.0	2.7	0.00	0.00	94
HK0926031004	S8 (0.9-1.9M)	*#73.0	5.7	0.00	0.00	96
HK0926031006	S12 (0.9-1.9M)	*#82.0	5.7	0.00	0.00	95
HK0926031008	S15 (0-0.9M)	*#31.0	6.5	0.00	0.00	80
HK0926031009	S21 (0.9-1.9M)	81.0	10.2	0.00	0.00	92
HK0926031010	S6 (0-0.9M)	*#74.0	6.5	0.00	0.00	96
HK0926031011	S6 (0.9-1.9M)	*#74.0	10.8	0.00	0.00	91
HK0926031012	S6 (1.9-2.9M)	*#69.0	8.9	0.00	0.00	93
HK0926031015	S11 (0-0.9M)	86.0	6.5	0.00	0.00	95
HK0926031016	S11 (0.9-1.9M)	86.0	6.5	0.00	0.00	97
HK0926031017	D221 (0.9-1.9M)	*#73.0	9.1	0.00	0.00	93
HK0926031018	D174 (1.9-2.9M)	88.0	9.1	0.00	0.00	94
HK0926031019	D196 (0-0.9M)	*#81.0	5.5	0.00	0.00	95
HK0926031020	D196 (0.9-1.9M)	*#67.0	7.6	0.00	0.00	93
HK0926031021	D196 (1.9-2.9M)	*#81.0	4.2	0.00	0.00	95
HK0926031022	S30 (0.9-1.9M)	84.0	4.2	0.00	0.00	94
HK0926031023	S30 (1.9-2.9M)	86.0	6.5	0.00	0.00	94
HK0926031024	S34 (0-0.9M)	82.0	6.7	0.00	0.00	98
HK0926031025	D238 (0.9-1.9M)	*#74.0	8.9	0.00	0.00	92
HK0926031026	D202 (1.9-2.9M)	*#80.0	7.9	0.00	0.00	95
HK0926031027	D214 (1.9-2.9M)	*#73.0	7.6	0.00	0.00	90
HK0926031028	D234 (0.9-1.9M)	81.0	14.7	0.00	0.00	94
HK0926031029	D234 (1.9-2.9M)	80.0	14.6	0.00	0.00	97
HK0926031030	D298 (1.9-2.9M)	*#72.0	10.4	0.00	0.00	94
HK0926031031	S35 (1.9-2.9M)	85.0	5.0	0.00	0.00	95
HK0926031032	S5-2 (0-0.9M)	*#65.0	14.6	0.00	0.00	94
HK0926031033	S5-2 (0.9-1.9M)	*#61.0	10.8	0.00	0.00	89
HK0926031034	S9 (0-0.9M)	*#83.0	4.5	0.00	0.00	98
HK0926031035	S9 (0.9-1.9M)	*#77.0	6.7	0.00	0.00	96

Mean survival in test sediment is <80% of that in reference sediment

Table 2.3 Average Ammonia-N and Sulfide of Overlying Water during the 10-day Amphipod Survival Test – *Leptocheirus plumulosus*

Lab ID	Sample ID	Ammonia-N (Total, mg/L)		Sulfide (mg/L)	
		Day 0	Day 10	Day 0	Day 10
Control	Control	0.28	0.22	<0.1	<0.1
HK0926031001	REFERENCE SEDIMENT	0.19	0.12	<0.1	<0.1
HK0926031004	S8 (0.9-1.9M)	0.83	2.03	<0.1	<0.1
HK0926031006	S12 (0.9-1.9M)	1.34	1.54	<0.1	<0.1
HK0926031008	S15 (0-0.9M)	2.17	0.25	<0.1	<0.1
HK0926031009	S21 (0.9-1.9M)	2.44	3.63	<0.1	<0.1
HK0926031010	S6 (0-0.9M)	2.02	0.21	<0.1	<0.1
HK0926031011	S6 (0.9-1.9M)	1.97	0.95	<0.1	<0.1
HK0926031012	S6 (1.9-2.9M)	2.42	0.62	<0.1	<0.1
HK0926031015	S11 (0-0.9M)	0.26	0.61	<0.1	<0.1
HK0926031016	S11 (0.9-1.9M)	0.28	0.41	<0.1	<0.1
HK0926031017	D221 (0.9-1.9M)	0.32	0.80	<0.1	<0.1
HK0926031018	D174 (1.9-2.9M)	1.53	1.58	<0.1	<0.1
HK0926031019	D196 (0-0.9M)	0.21	0.54	<0.1	<0.1
HK0926031020	D196 (0.9-1.9M)	0.52	1.31	<0.1	<0.1
HK0926031021	D196 (1.9-2.9M)	0.72	1.00	<0.1	<0.1
HK0926031022	S30 (0.9-1.9M)	4.42	5.45	<0.1	<0.1
HK0926031023	S30 (1.9-2.9M)	5.59	8.63	<0.1	<0.1
HK0926031024	S34 (0-0.9M)	0.65	0.29	<0.1	<0.1
HK0926031025	D238 (0.9-1.9M)	4.83	8.42	<0.1	<0.1
HK0926031026	D202 (1.9-2.9M)	3.48	5.84	<0.1	<0.1
HK0926031027	D214 (1.9-2.9M)	2.74	3.05	<0.1	<0.1
HK0926031028	D234 (0.9-1.9M)	3.48	4.26	<0.1	<0.1
HK0926031029	D234 (1.9-2.9M)	2.99	5.63	<0.1	<0.1
HK0926031030	D298 (1.9-2.9M)	2.92	5.28	<0.1	<0.1
HK0926031031	S35 (1.9-2.9M)	4.93	8.09	<0.1	<0.1
HK0926031032	S5-2 (0-0.9M)	2.14	3.37	<0.1	<0.1
HK0926031033	S5-2 (0.9-1.9M)	0.13	0.64	<0.1	<0.1
HK0926031034	S9 (0-0.9M)	1.84	2.42	<0.1	<0.1
HK0926031035	S9 (0.9-1.9M)	0.11	0.45	<0.1	<0.1

Table 2.4 Water Quality Summary of 10-day amphipod survival test – *Leptocheirus plumulosus*

Lab ID	Sample ID	Temp (°C)		pH		Salinity (ppt)		DO (mg/L)	
		min	max	min	max	min	max	min	max
Control	Control	25	25	8.1	8.6	20	20	6.9	7.7
HK0926031001	REFERENCE SEDIMENT	24	25	8.2	8.5	19	20	7.0	7.5
HK0926031004	S8 (0.9-1.9M)	24	25	8.1	8.4	19	20	7.0	7.5
HK0926031006	S12 (0.9-1.9M)	24	25	8.2	8.4	19	20	7.1	7.5
HK0926031008	S15 (0-0.9M)	24	25	8.1	8.3	19	20	7.1	7.3
HK0926031009	S21 (0.9-1.9M)	24	25	8.1	8.3	19	20	7.0	7.3
HK0926031010	S6 (0-0.9M)	24	25	8.1	8.4	19	20	7.1	7.3
HK0926031011	S6 (0.9-1.9M)	24	25	8.2	8.4	19	20	7.1	7.5
HK0926031012	S6 (1.9-2.9M)	24	25	8.1	8.3	19	20	7.0	7.5
HK0926031015	S11 (0-0.9M)	24	26	8.0	8.2	19	20	6.8	7.5
HK0926031016	S11 (0.9-1.9M)	24	25	8.0	8.2	19	20	6.9	7.4
HK0926031017	D221 (0.9-1.9M)	24	25	8.0	8.2	19	20	6.9	7.3
HK0926031018	D174 (1.9-2.9M)	24	26	8.0	8.2	19	20	7.1	7.5
HK0926031019	D196 (0-0.9M)	24	25	8.0	8.2	19	20	6.5	7.6
HK0926031020	D196 (0.9-1.9M)	24	26	8.0	8.2	19	20	7.2	7.6
HK0926031021	D196 (1.9-2.9M)	24	25	8.0	8.2	19	20	7.1	7.5
HK0926031022	S30 (0.9-1.9M)	24	26	8.0	8.2	19	20	7.0	7.6
HK0926031023	S30 (1.9-2.9M)	24	26	7.9	8.2	19	20	7.1	7.7
HK0926031024	S34 (0-0.9M)	24	25	7.9	8.2	19	20	6.6	7.7
HK0926031025	D238 (0.9-1.9M)	25	26	7.9	8.2	19	20	6.7	7.6
HK0926031026	D202 (1.9-2.9M)	24	25	8.1	8.4	19	20	7.1	7.5
HK0926031027	D214 (1.9-2.9M)	24	26	8.1	8.3	19	20	7.1	7.7
HK0926031028	D234 (0.9-1.9M)	24	25	8.1	8.4	19	20	7.2	7.7
HK0926031029	D234 (1.9-2.9M)	24	25	7.9	8.4	19	20	6.8	7.6
HK0926031030	D298 (1.9-2.9M)	25	26	7.9	8.3	19	20	7.2	7.7
HK0926031031	S35 (1.9-2.9M)	24	26	8.1	8.5	19	20	6.8	7.6
HK0926031032	S5-2 (0-0.9M)	24	26	8.1	8.4	19	20	7.1	7.6
HK0926031033	S5-2 (0.9-1.9M)	25	26	8.1	8.5	19	20	6.8	7.7
HK0926031034	S9 (0-0.9M)	24	26	8.2	8.4	19	20	7.2	7.7
HK0926031035	S9 (0.9-1.9M)	24	25	8.1	8.5	19	20	7.1	7.7

Table 2.5 Summary of Quality Control Data of the 10-day Amphipod Survival Test – *Leptocheirus plumulosus*

Date of Test	Sediment Test		Reference Toxicant Test			
	Mean survival (%) in control sediment		Mean survival (%) in 0 mg Cd/L		96-h LC50 (mgCd / L)	
	Result	Acceptability Criterion	Result	Acceptability Criterion	Result	
11 December 2009 - 21 December 2009	90	≥90%	95	≥90%	0.39	0.84 ± 0.46

3 20-DAY POLYCHAETE GROWTH AND SURVIVAL TEST
– *Neanthes arenaceodentata*

Table 3.1 Test Methodology for the 20-day Polychaete Growth and Survival Test – *Neanthes arenaceodentata*

Parameter	Conditions
1 Reference protocols:	PSEP (1995) & ALS (2000) (Ref. 2 & 5)
2 Organism source:	Collected from Prof. Donald Reish, California State University; 2-3 weeks post emergence; dry weight 0.5-1.0 mg
3 Organism acclimation:	Polychaetes were acclimated in plastic container (20cm x 26cm x 8cm) at 20 ± 1°C with 28 ± 2ppt aerated seawater of 16h : 8h (light : dark) photoperiod Overlying seawater renewed; water quality (temperature, pH, salinity and dissolved oxygen) measured; organisms fed by grounded TetraMarin® in slurry form three times a week Temperature and salinity adjusted to testing condition at <3°C and <5ppt per day respectively
4 Testing periods:	10 December 2009 - 30 December 2009
5 Test type:	Sediment toxicity test; static; renewal
6 Test duration:	20 days
7 Temperature:	20 ± 1°C
8 Salinity:	28 ± 1 ppt
9 Light quality:	Wide-spectrum fluorescent lights
10 Illuminance:	500-1000 lux
11 Photoperiod:	24h : 0h (Light : Dark)
12 Test chamber:	1L glass jar with 10cm internal diameter; 175mL sediment; 800mL overlying seawater; position of test container randomized
13 Number of organisms per chamber:	5
14 Number of replicates:	6 (5 for testing, 1 for water quality measurement)
15 Feeding regime:	Fed every second day (from day 0) with 40mg (dry weight) grounded TetraMarin® in slurry form in each testing chamber
16 Aeration:	Overlying water aerated overnight before the start of test and throughout the test at approximately 100 bubbles/min; maintains >60% dissolved oxygen saturation
17 Overlying water:	Reconstituted seawater made up from artificial sea salt (Brand: Red Sea®); filtered through a 0.5µm filter; sterilized by ultraviolet light
18 Overlying water quality monitoring:	Temperature monitored daily; pH, salinity and dissolved oxygen measured every third day before water renewal; total ammonia and sulfide taken at 0 d and 20 d
19 Control sediment:	Collected from Port Shelter at PS6 (E850234 N820057) on 08 July 2009 by grab sampler; expires on 04 Jan 2010; stored at -20oC after collection; sieved with 0.5mm sieve before testing; ALS Ref ID: HK0914414
20 Endpoints:	Survival; total biomass ¹ ; average individual biomass ¹ ; average individual growth rate

- 21 Statistical analysis: Data tested for normality and homogeneity of variance; Statistically significant differences between the mean survival in testing sediments and reference sediment determined at a probability of $p < 0.05$ using ToxCalc 5.0 (Ref 7)
- 22 Test acceptability criterion: $\geq 90\%$ mean survival and ≥ 0.38 mg/ind/day individual growth rate in control sediment

Reference Toxicant Test

- 23 Test type: Water only test, static
- 24 Toxicant: Cadmium
- 25 Test duration: 96 hours
- 26 Photoperiod: 0h : 24h (Light : Dark)
- 27 Test Chamber: 1L glass jar with 10cm internal diameter; 900 mL seawater; position of test container randomized
- 28 Number of organisms per chamber: 10
- 29 Number of replicates: 2
- 30 Overlying seawater quality monitoring: Temperature, pH, salinity and dissolved oxygen of the seawater measured at test initiation and termination
- 31 Endpoints: Survival
- 32 Statistical analysis: 96-h LC50 for Cadmium determined by ToxCalc 5.0 (Ref 7)
- 33 Test acceptability criterion: $\geq 90\%$ mean survival in control seawater
- 34 Other testing conditions are the same as in the sediment test
-

¹ Number of amphipods appearing on the sediment surface or water column

² Number of surviving amphipods that reburied within 1 h in a separate container containing a 2-cm layer of control sediment and

Table 3.2 Results Summary of the 20-day Polychaete Growth and Survival Test –
Neanthes arenaceodentata

Lab ID	Sample ID	Survival (%)		Individual Dry Weight (mg)		Individual Growth Rate (mg/ind/day)		Total Dry Weight (mg)	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Control	Control	100.0	0.0	14.7	3.5	0.71	0.18	73.4	17.7
HK0926031001	REFERENCE SEDIMENT	100.0	0.0	16.5	2.1	0.80	0.11	82.7	10.6
HK0926031004	S8 (0.9-1.9M)	96.0	8.9	15.4	2.3	0.74	0.12	#74.0	14.5
HK0926031006	S12 (0.9-1.9M)	100.0	0.0	14.9	1.9	0.72	0.09	#74.4	9.5
HK0926031008	S15 (0-0.9M)	96.0	8.9	13.1	1.9	0.63	0.10	*#62.6	8.5
HK0926031009	S21 (0.9-1.9M)	100.0	0.0	14.4	1.6	0.69	0.08	#72.0	7.9
HK0926031010	S6 (0-0.9M)	100.0	0.0	15.6	1.9	0.75	0.10	78.1	9.6
HK0926031011	S6 (0.9-1.9M)	92.0	11.0	15.3	2.4	0.74	0.12	*#69.6	9.3
HK0926031012	S6 (1.9-2.9M)	96.0	8.9	16.7	2.7	0.81	0.13	79.6	8.9
HK0926031015	S11 (0-0.9M)	100.0	0.0	15.7	1.2	0.76	0.06	78.5	5.9
HK0926031016	S11 (0.9-1.9M)	92.0	17.9	14.0	3.8	0.67	0.19	*#61.9	10.7
HK0926031017	D221 (0.9-1.9M)	96.0	8.9	14.0	1.8	0.68	0.09	*#67.6	12.2
HK0926031018	D174 (1.9-2.9M)	100.0	0.0	15.6	2.5	0.75	0.12	77.8	12.3
HK0926031019	D196 (0-0.9M)	100.0	0.0	15.7	1.8	0.76	0.09	78.3	8.8
HK0926031020	D196 (0.9-1.9M)	100.0	0.0	14.3	3.8	0.69	0.19	#71.7	18.9
HK0926031021	D196 (1.9-2.9M)	100.0	0.0	12.5	2.2	0.60	0.11	*#62.6	11.1
HK0926031022	S30 (0.9-1.9M)	100.0	0.0	15.3	2.8	0.74	0.14	76.3	14.0
HK0926031023	S30 (1.9-2.9M)	100.0	0.0	15.2	2.9	0.74	0.14	76.2	14.3
HK0926031024	S34 (0-0.9M)	96.0	8.9	15.8	3.8	0.76	0.19	76.2	21.3
HK0926031025	D238 (0.9-1.9M)	100.0	0.0	14.3	1.9	0.69	0.10	#71.4	9.6
HK0926031026	D202 (1.9-2.9M)	92.0	17.9	14.2	5.3	0.68	0.26	*#62.7	19.8
HK0926031027	D214 (1.9-2.9M)	96.0	8.9	14.8	3.7	0.71	0.19	#71.2	20.1
HK0926031028	D234 (0.9-1.9M)	100.0	0.0	16.0	1.0	0.77	0.05	79.8	5.2
HK0926031029	D234 (1.9-2.9M)	100.0	0.0	15.4	1.2	0.74	0.06	76.9	6.1
HK0926031030	D298 (1.9-2.9M)	84.0	8.9	16.6	2.8	0.80	0.14	*#69.4	10.6
HK0926031031	S35 (1.9-2.9M)	100.0	0.0	16.1	1.9	0.78	0.09	80.4	9.3
HK0926031032	S5-2 (0-0.9M)	100.0	0.0	14.7	3.1	0.71	0.16	#73.3	15.7
HK0926031033	S5-2 (0.9-1.9M)	100.0	0.0	13.5	2.9	0.65	0.15	*#67.3	14.7
HK0926031034	S9 (0-0.9M)	96.0	8.9	14.1	2.0	0.68	0.10	*#67.1	3.7
HK0926031035	S9 (0.9-1.9M)	96.0	8.9	14.3	1.6	0.69	0.08	*#68.4	8.0

*Mean dry weight in test sediment is significantly different (p<0.05) from that in reference sediment
Mean dry weight in test sediment is <90% of that in reference sediment

Table 3.3 Average Ammonia-N and Sulfide of Overlying Water during the 10-day Amphipod Survival Test – *Neanthes arenaceodentata*

Lab ID	Sample ID	Ammonia-N (Total, mg/L)		Sulfide (mg/L)	
		Day 0	Day 10	Day 0	Day 10
Control	Control	0.65	0.25	<0.1	<0.1
HK0926031001	REFERENCE SEDIMENT	0.61	0.31	<0.1	<0.1
HK0926031004	S8 (0.9-1.9M)	1.75	5.62	<0.1	<0.1
HK0926031006	S12 (0.9-1.9M)	1.36	6.09	<0.1	<0.1
HK0926031008	S15 (0-0.9M)	2.63	1.70	<0.1	<0.1
HK0926031009	S21 (0.9-1.9M)	2.85	5.97	<0.1	<0.1
HK0926031010	S6 (0-0.9M)	3.19	0.31	<0.1	<0.1
HK0926031011	S6 (0.9-1.9M)	2.73	0.17	<0.1	<0.1
HK0926031012	S6 (1.9-2.9M)	2.34	0.52	<0.1	<0.1
HK0926031015	S11 (0-0.9M)	0.49	4.57	<0.1	<0.1
HK0926031016	S11 (0.9-1.9M)	0.72	4.96	<0.1	<0.1
HK0926031017	D221 (0.9-1.9M)	0.66	5.85	<0.1	<0.1
HK0926031018	D174 (1.9-2.9M)	1.58	5.94	<0.1	<0.1
HK0926031019	D196 (0-0.9M)	0.58	4.28	<0.1	<0.1
HK0926031020	D196 (0.9-1.9M)	1.23	4.88	<0.1	<0.1
HK0926031021	D196 (1.9-2.9M)	1.02	5.96	<0.1	<0.1
HK0926031022	S30 (0.9-1.9M)	5.39	7.51	<0.1	<0.1
HK0926031023	S30 (1.9-2.9M)	6.69	8.06	<0.1	<0.1
HK0926031024	S34 (0-0.9M)	1.37	0.20	<0.1	<0.1
HK0926031025	D238 (0.9-1.9M)	5.07	9.74	<0.1	<0.1
HK0926031026	D202 (1.9-2.9M)	2.27	6.92	<0.1	<0.1
HK0926031027	D214 (1.9-2.9M)	2.48	6.17	<0.1	<0.1
HK0926031028	D234 (0.9-1.9M)	3.47	6.30	<0.1	<0.1
HK0926031029	D234 (1.9-2.9M)	4.83	4.58	<0.1	<0.1
HK0926031030	D298 (1.9-2.9M)	4.88	6.20	<0.1	<0.1
HK0926031031	S35 (1.9-2.9M)	5.88	6.73	<0.1	<0.1
HK0926031032	S5-2 (0-0.9M)	4.88	4.42	<0.1	<0.1
HK0926031033	S5-2 (0.9-1.9M)	0.48	4.56	<0.1	<0.1
HK0926031034	S9 (0-0.9M)	2.51	3.01	<0.1	<0.1
HK0926031035	S9 (0.9-1.9M)	0.15	3.87	<0.1	<0.1

Table 3.4 Water Quality Summary of 10-day amphipod survival test – *Neanthes arenaceodentata*

Lab ID	Sample ID	Temp (°C)		pH		Salinity (ppt)		DO (mg/L)	
		min	max	min	max	min	max	min	max
Control	Control								
HK0926031001	REFERENCE SEDIMENT	19	21	7.5	7.5	28	28	7.9	7.8
HK0926031004	S8 (0.9-1.9M)	19	21	8.0	8.2	27	28	6.9	7.4
HK0926031006	S12 (0.9-1.9M)	20	21	8.0	8.2	27	28	6.8	7.4
HK0926031008	S15 (0-0.9M)	19	20	7.9	8.1	27	28	6.5	7.7
HK0926031009	S21 (0.9-1.9M)	19	21	8.0	8.3	27	28	6.6	7.2
HK0926031010	S6 (0-0.9M)	19	21	8.0	8.3	27	28	6.5	7.3
HK0926031011	S6 (0.9-1.9M)	19	21	8.0	8.2	27	28	6.7	7.4
HK0926031012	S6 (1.9-2.9M)	19	21	8.0	8.2	28	28	6.5	7.1
HK0926031015	S11 (0-0.9M)	19	21	7.9	8.2	27	28	6.7	7.3
HK0926031016	S11 (0.9-1.9M)	20	21	7.9	8.1	27	28	6.6	7.1
HK0926031017	D221 (0.9-1.9M)	20	21	7.9	8.2	27	28	6.8	7.1
HK0926031018	D174 (1.9-2.9M)	19	21	8.0	8.3	27	28	6.7	7.2
HK0926031019	D196 (0-0.9M)	19	21	7.8	8.1	27	28	6.7	7.2
HK0926031020	D196 (0.9-1.9M)	19	21	7.9	8.3	28	28	6.9	7.2
HK0926031021	D196 (1.9-2.9M)	19	21	8.0	8.3	27	28	6.8	7.2
HK0926031022	S30 (0.9-1.9M)	19	21	8.0	8.3	27	28	6.5	7.2
HK0926031023	S30 (1.9-2.9M)	19	21	8.0	8.2	27	28	6.6	7.3
HK0926031024	S34 (0-0.9M)	19	21	7.8	8.0	27	28	6.7	7.3
HK0926031025	D238 (0.9-1.9M)	19	21	7.8	8.2	27	29	6.6	7.4
HK0926031026	D202 (1.9-2.9M)	19	21	7.8	8.0	27	28	6.7	7.1
HK0926031027	D214 (1.9-2.9M)	19	21	8.1	8.4	27	28	6.9	7.4
HK0926031028	D234 (0.9-1.9M)	19	21	7.9	8.1	27	28	6.5	7.1
HK0926031029	D234 (1.9-2.9M)	19	21	8.0	8.2	27	28	6.7	7.3
HK0926031030	D298 (1.9-2.9M)	19	21	8.0	8.2	27	28	6.6	7.2
HK0926031031	S35 (1.9-2.9M)	19	21	8.0	8.2	27	28	6.6	6.9
HK0926031032	S5-2 (0-0.9M)	19	21	8.0	8.2	27	28	6.7	7.0
HK0926031033	S5-2 (0.9-1.9M)	19	21	7.7	8.0	27	28	6.6	7.2
HK0926031034	S9 (0-0.9M)	19	21	8.0	8.2	27	29	6.7	7.1
HK0926031035	S9 (0.9-1.9M)	19	21	7.9	8.2	27	28	6.6	7.1

Table 3.5 Summary of Quality Control Data of the 20-day Polychaete Growth and Survival test – Neanthes arenaceodentata

Date of Test	Sediment Test			Reference Toxicant Test				
	Initial dry weight (mg/ind)	Acceptability Criterion	Mean survival (%) in control sediment	Mean ind growth rate (mg/ind/day) in control sediment	Mean survival (%) in 0 mgCd/L seawater	Acceptability Criterion (mgCd/L)	96-h LC50 Acceptability Criterion	
10 December 2009 - 30 December 2009	0.54	0.5-0.1 (mg/ind)	100	0.71	100	90%	6.1	6.9 ± 1.9

4.0 48-HOUR BIVALVE LARVAE SURVIVAL AND NORMALITY TEST –
Mytilus galloprovincialis

Table 4.1 Test Methodology for the 48-hour Bivalve Larvae Survival and Normality Test – *Mytilus galloprovincialis*

Parameter	Condition
1 Reference protocols:	PSEP (1995) and ALS (2001) (Ref 2 and 6)
2 Organism Source:	Collected from Carlsbad
3 Organism acclimation:	Organisms were used on the day of arrival
4 Initiation and termination dates:	14 December 2009 - 16 December 2009
5 Test type:	Static; non-renewal
6 Test duration:	48 hours
7 Temperature:	16 ± 1°C
8 Salinity:	28 ± 1 ppt
9 Light quality:	Wide-spectrum fluorescent lights
10 Illuminance:	500 – 1000 lux
11 Photoperiod:	14h : 10h (Light : Dark)
12 Test chamber:	1L glass jar with 10cm internal diameter; 18.0 ± 0.5 g of sediment; 900mL overlying seawater; sediment stirred for 10sec and allowed to settle for 4h prior to the inoculation of embryos; position of test container randomized
13 Spawning:	Thermal stimulation by increasing seawater temperature
14 Life stage of organism:	<2h post-fertilization
15 Number of organisms per chamber:	20,000 – 40,000 (around 30 embryos / mL)
16 Number of replicates:	6 (5 for testing, 1 for water quality measurement)
17 Feeding regime:	None
18 Aeration:	100 bubbles/minute if dissolved oxygen drops to <60% saturation
19 Overlying water:	Natural seawater collected from uncontaminated area in Sai Kung; Filtered through a 0.5µm; sterilized by ultraviolet light; salinity adjusted to 28ppt with fresh water or artificial sea salt (Brand: Red Sea®)
20 Overlying water quality monitoring:	Temperature, pH, salinity and dissolved oxygen were recorded daily
21 Negative control:	Seawater without sediment
22 Endpoints:	Survival, normal development, and normality survival ¹
23 Statistical analysis:	No statistical analysis is performed as no Reference Sediment was provided for parallel run with the testing sediment
24 Test acceptability criterion:	>70% mean normal survival in seawater control
Reference Toxicant Test	
25 Toxicant:	Copper
26 Test chamber:	1L glass jar with 10cm internal diameter; 900mL seawater; position of test container randomized
27 Number of replicates:	4 (3 for testing; 1 for water quality measurement)
28 Endpoints:	Normal Survival
29 Statistical analysis:	48-h EC50 (and 95% confidence interval) for Cu calculated using ToxCalc 5.0 (Ref. 7)
30 Other testing conditions are the same as in the sediment samples test	

¹ Normality survival integrates the normality and survival end points, and measures survival of only the normal larvae relative to the starting number

Table 4.2 Results Summary of the 48-hour Bivalve Larvae Survival and Normality Test – *Mytilus galloprovincialis*

Lab ID	Sample ID	Survival (%)		Normality (%)		Normal Survival (%)	
		Mean	SD	Mean	SD	Mean	SD
Control	Control	96.4	5.0	93.9	0.6	90.8	5.1
HK0926031001	REFERENCE SEDIMENT	99.9	0.2	97.5	1.2	98.2	1.9
HK0926031004	S8 (0.9-1.9M)	82.7	3.7	95.8	2.9	*#79.2	3.2
HK0926031006	S12 (0.9-1.9M)	93.7	10.4	96.0	2.0	92.0	11.8
HK0926031008	S15 (0-0.9M)	66.5	14.2	94.3	2.5	*#62.7	14.2
HK0926031009	S21 (0.9-1.9M)	68.8	8.0	94.7	2.5	*#65.2	8.2
HK0926031010	S6 (0-0.9M)	72.7	8.1	95.9	0.5	*#69.7	7.6
HK0926031011	S6 (0.9-1.9M)	86.0	5.8	97.0	0.5	*#83.4	5.4
HK0926031012	S6 (1.9-2.9M)	93.5	4.8	96.9	1.1	*#91.1	6.3
HK0926031015	S11 (0-0.9M)	75.5	6.9	95.2	2.0	*#71.9	7.0
HK0926031016	S11 (0.9-1.9M)	72.3	3.4	95.1	0.6	*#68.7	3.5
HK0926031017	D221 (0.9-1.9M)	74.9	5.4	94.3	1.5	*#70.5	4.0
HK0926031018	D174 (1.9-2.9M)	88.5	5.2	96.4	2.0	*#85.3	6.3
HK0926031019	D196 (0-0.9M)	74.9	8.7	95.4	1.5	*#71.4	7.4
HK0926031020	D196 (0.9-1.9M)	82.0	7.4	95.9	1.7	*#78.6	5.7
HK0926031021	D196 (1.9-2.9M)	89.4	8.1	96.3	1.3	*#86.0	6.6
HK0926031022	S30 (0.9-1.9M)	89.1	11.7	97.6	1.4	*#87.4	11.8
HK0926031023	S30 (1.9-2.9M)	80.3	4.0	95.8	0.9	#76.9	3.6
HK0926031024	S34 (0-0.9M)	84.4	6.2	96.7	1.6	*#81.5	5.3
HK0926031025	D238 (0.9-1.9M)	80.2	9.0	96.0	1.5	*#77.0	8.2
HK0926031026	D202 (1.9-2.9M)	97.6	3.7	96.2	1.3	94.8	5.1
HK0926031027	D214 (1.9-2.9M)	85.6	8.1	95.3	1.6	*#81.6	8.2
HK0926031028	D234 (0.9-1.9M)	82.8	4.2	97.7	1.4	*#80.9	3.7
HK0926031029	D234 (1.9-2.9M)	82.1	4.4	97.6	1.2	*#80.1	4.6
HK0926031030	D298 (1.9-2.9M)	79.8	6.5	93.4	1.7	*#74.6	6.8
HK0926031031	S35 (1.9-2.9M)	66.1	4.5	96.7	0.9	*#63.9	4.0
HK0926031032	S5-2 (0-0.9M)	94.3	3.2	96.7	0.8	*#91.1	2.3
HK0926031033	S5-2 (0.9-1.9M)	60.5	13.0	96.3	0.7	*#58.3	12.5
HK0926031034	S9 (0-0.9M)	100.0	0.0	97.5	1.0	100.0	0.0
HK0926031035	S9 (0.9-1.9M)	86.0	5.5	96.0	0.7	*#82.6	5.1

* Mean normal survival in test sediment is significantly different ($p < 0.05$) from that in reference sediment

Mean normal survival in test sediment is $< 80\%$ of that in reference sediment

Table 4.3 Average Ammonia-N and Sulfide of Overlying Water of the 48-h bivalve Survival and Normality Test – *Mytilus galloprovincialis*

Lab ID	Sample ID	Ammonia-N (Total, mg/L)		Sulfide (mg/L)	
		0 Hour	48 Hour	0 Hour	48 Hour
Control	Control	<0.01	0.06	<0.1	<0.1
HK0926031001	REFERENCE SEDIMENT	0.11	0.14	<0.1	<0.1
HK0926031004	S8 (0.9-1.9M)	0.29	0.38	<0.1	<0.1
HK0926031006	S12 (0.9-1.9M)	0.31	0.43	<0.1	<0.1
HK0926031008	S15 (0-0.9M)	0.41	0.49	<0.1	<0.1
HK0926031009	S21 (0.9-1.9M)	0.45	0.65	<0.1	<0.1
HK0926031010	S6 (0-0.9M)	0.57	0.57	<0.1	<0.1
HK0926031011	S6 (0.9-1.9M)	0.46	0.53	<0.1	<0.1
HK0926031012	S6 (1.9-2.9M)	0.24	0.33	<0.1	<0.1
HK0926031015	S11 (0-0.9M)	0.10	0.11	<0.1	<0.1
HK0926031016	S11 (0.9-1.9M)	<0.01	0.12	<0.1	<0.1
HK0926031017	D221 (0.9-1.9M)	<0.01	0.12	<0.1	<0.1
HK0926031018	D174 (1.9-2.9M)	0.30	0.47	<0.1	<0.1
HK0926031019	D196 (0-0.9M)	<0.01	0.08	<0.1	<0.1
HK0926031020	D196 (0.9-1.9M)	0.21	0.30	<0.1	<0.1
HK0926031021	D196 (1.9-2.9M)	0.21	0.43	<0.1	<0.1
HK0926031022	S30 (0.9-1.9M)	0.97	1.34	<0.1	<0.1
HK0926031023	S30 (1.9-2.9M)	1.03	1.46	<0.1	<0.1
HK0926031024	S34 (0-0.9M)	0.22	0.22	<0.1	<0.1
HK0926031025	D238 (0.9-1.9M)	0.91	1.26	<0.1	<0.1
HK0926031026	D202 (1.9-2.9M)	0.75	0.98	<0.1	<0.1
HK0926031027	D214 (1.9-2.9M)	0.65	0.82	<0.1	<0.1
HK0926031028	D234 (0.9-1.9M)	0.69	0.91	<0.1	<0.1
HK0926031029	D234 (1.9-2.9M)	0.78	0.99	<0.1	<0.1
HK0926031030	D298 (1.9-2.9M)	0.70	1.04	<0.1	<0.1
HK0926031031	S35 (1.9-2.9M)	1.13	1.39	<0.1	<0.1
HK0926031032	S5-2 (0-0.9M)	0.46	0.64	<0.1	<0.1
HK0926031033	S5-2 (0.9-1.9M)	<0.01	0.10	<0.1	<0.1
HK0926031034	S9 (0-0.9M)	0.38	0.51	<0.1	<0.1
HK0926031035	S9 (0.9-1.9M)	0.12	0.09	<0.1	<0.1

Table 4.4 Water Quality Summary of the 48-h bivalve Survival and Normality Test-Mytilus galloprovincialis

Lab ID	Sample ID	Temp (°C)		pH		Salinity (ppt)		DO (mg/L O2)	
		min	max	min	max	min	max	min	max
Control	Control	16	16	7.8	7.9	28	28	7.6	7.9
HK0926031001	REFERENCE SEDIMENT	16	16	7.8	7.8	28	28	7.7	7.8
HK0926031004	S8 (0.9-1.9M)	16	16	7.8	7.9	28	28	7.6	7.7
HK0926031006	S12 (0.9-1.9M)	16	16	7.9	7.9	28	28	7.7	7.9
HK0926031008	S15 (0-0.9M)	16	16	7.8	7.9	28	28	7.6	7.8
HK0926031009	S21 (0.9-1.9M)	16	17	7.7	7.8	28	28	7.5	7.8
HK0926031010	S6 (0-0.9M)	16	16	7.8	7.8	28	28	7.5	7.9
HK0926031011	S6 (0.9-1.9M)	16	16	7.7	7.9	28	28	7.4	7.9
HK0926031012	S6 (1.9-2.9M)	16	16	7.7	7.8	28	28	7.5	7.8
HK0926031015	S11 (0-0.9M)	16	16	7.8	7.9	28	28	7.6	7.8
HK0926031016	S11 (0.9-1.9M)	16	16	7.8	7.9	28	28	7.6	7.8
HK0926031017	D221 (0.9-1.9M)	16	16	7.8	7.8	28	28	7.5	7.9
HK0926031018	D174 (1.9-2.9M)	16	16	7.9	7.9	28	28	7.5	7.9
HK0926031019	D196 (0-0.9M)	16	16	7.8	7.9	28	28	7.4	7.8
HK0926031020	D196 (0.9-1.9M)	16	16	7.8	7.8	28	28	7.4	7.9
HK0926031021	D196 (1.9-2.9M)	16	16	7.7	7.8	28	28	7.5	7.9
HK0926031022	S30 (0.9-1.9M)	16	16	7.8	7.9	28	28	7.5	7.8
HK0926031023	S30 (1.9-2.9M)	16	16	7.8	7.9	28	28	7.6	7.8
HK0926031024	S34 (0-0.9M)	16	16	7.8	7.9	28	28	7.5	7.9
HK0926031025	D238 (0.9-1.9M)	16	16	7.8	7.9	28	28	7.5	7.9
HK0926031026	D202 (1.9-2.9M)	16	16	7.8	7.9	28	28	7.4	7.9
HK0926031027	D214 (1.9-2.9M)	16	16	7.8	7.8	28	28	7.4	7.8
HK0926031028	D234 (0.9-1.9M)	16	16	7.8	7.9	28	28	7.5	7.9
HK0926031029	D234 (1.9-2.9M)	16	16	7.8	7.9	28	28	7.6	7.8
HK0926031030	D298 (1.9-2.9M)	16	16	7.8	7.9	28	28	7.5	7.8
HK0926031031	S35 (1.9-2.9M)	16	16	7.8	7.8	28	28	7.5	7.8
HK0926031032	S5-2 (0-0.9M)	16	16	7.8	7.9	28	28	7.7	7.9
HK0926031033	S5-2 (0.9-1.9M)	16	16	7.8	7.8	28	28	7.8	7.8
HK0926031034	S9 (0-0.9M)	16	17	7.7	7.8	28	28	7.8	7.8
HK0926031035	S9 (0.9-1.9M)	16	16	7.7	7.8	28	28	7.9	7.9

Table 4.5 Summary of Quality Control Data of the 48-hour Bivalve Larvae Survival and Normality test – Mytilus galloprovincialis

Date of Test	Sediment Test		Reference Toxicant Test	
	Mean Normality Survival (%) in control sediment Result	Acceptability Criterion	Mean Normality Survival (%) in control seawater Result	96-h LC50 (µgCd / L) Result
14 December 2009 - 16 December 2009	90.8	≥70%	90.8	7.89
				9.24 ± 2.61

5 References

- (1) APHA (American Public Health Association) 1995. Standard Methods for the Examination of Water and Wastewater. 19th edition. American Public Health Association, American Water Works Association and Water Environment Federation, Washington, DC.
- (2) PSEP (Puget Sound Estuary Program) 1995. Recommended guidelines for conducting laboratory bioassays on Puget Sound sediments. U.S. Environmental Protection Agency, Region 10, Office of Puget Sound, Seattle WA.
- (3) USEPA (U.S. Environmental Protection Agency) 1994. Methods for assessing the toxicity of sediment-associated contaminants with estuarine and marine amphipods. Office of Research and Development. U.S. Environmental Protection Agency, Cincinnati, OH. EPA/600/R94/025.
- (4) ALS 2000. 10-Day Amphipod Survival Test – *Leptocheirus plumulosus*. QWI-HK/ET001. In: Ecotoxicology Work Instruction. ALS Technichem (HK) Pty Ltd, Hong Kong.
- (5) ALS 2000. 20-Day Polychaete Growth and Survival Test – *Neanthes arenaceodentata*. QWI-HK/ET002. In: Ecotoxicology Work Instruction. ALS Technichem (HK) Pty Ltd, Hong Kong.
- (6) ALS 2001. 48 Hour Bivalve Larvae Survival and Normality Test – *Mytilus galloprovincialis*. QWI-HK/ET003. In: Ecotoxicology Work Instruction. ALS Technichem (HK) Pty Ltd, Hong Kong.
- (7) TOXCALC™-Toxicity Data Analysis Software (v5.0.32) User's Guide. 1994-2008. Tidepool Scientific Software, Nckinleyville, CA 95519.

APPENDIX A

Sediment descriptions

Sediment Description

Sample ID	Colour	Grain Size	Smell	Shells/Debris	Other Observation
HK0926031-1	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-4	1 LIGHT GREY	2 SILT	1 NONE	1 NONE	1 NONE
HK0926031-6	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-8	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-9	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-10	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-11	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-12	99 Other pink and light gray	4 COARSE SAND	1 NONE	1 NONE	1 NONE
HK0926031-15	1 LIGHT GREY	2 SILT	1 NONE	1 NONE	1 NONE
HK0926031-16	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-17	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-18	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-19	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-20	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-21	1 LIGHT GREY	2 SILT	1 NONE	3 WOOD	1 NONE
HK0926031-22	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-23	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-24	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-25	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-26	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE

Sediment Description

Sample ID	Colour	Grain Size	Smell	Shells/Debris	Other Observation
HK0926031-27	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-28	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-29	1 LIGHT GREY	2 SILT	1 NONE	1 NONE	1 NONE
HK0926031-30	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-31	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-32	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-33	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-34	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE
HK0926031-35	1 LIGHT GREY	2 SILT	1 NONE	2 SHELLS	1 NONE

Batch: HK0926031
Date of Issue: 23/12/2009
Client: LAM GEOTECHNICS LIMITED
Client Reference:

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Particle Size Analysis

Weight Retained

Sample	Lab no.	Total dry weight (gram)	Sieve Size							
			+2mm	+710um	+300um	+150um	+106um	+75um	+63um	-63um
REFERENCE SEDIMENT	HK0926031001	77.3	1.7	<0.1	1.0	2.3	2.8	7.2	3.9	58.3
S8 (0.9-1.9M)	HK0926031004	57.9	0.5	0.7	1.5	1.1	0.3	0.3	0.2	53.4
S12 (0.9-1.9M)	HK0926031006	56.2	<0.1	<0.1	1.1	1.1	0.5	0.2	0.1	53.2
S15 (0-0.9M)	HK0926031008	59.1	<0.1	<0.1	3.4	2.8	1.0	1.1	0.6	50.1
S21 (0.9-1.9M)	HK0926031009	59.4	<0.1	<0.1	1.5	1.0	0.2	0.1	0.1	56.5
S6 (0-0.9M)	HK0926031010	62.4	<0.1	<0.1	3.1	2.8	1.0	1.2	0.8	53.5
S6 (0.9-1.9M)	HK0926031011	69.5	<0.1	<0.1	2.5	2.5	0.9	1.0	0.6	62.0
S6 (1.9-2.9M)	HK0926031012	117.7	20.7	23.1	14.8	9.6	2.1	1.5	0.8	45.1
S11 (0-0.9M)	HK0926031015	59.1	0.0	0.1	3.4	1.7	0.4	0.3	0.2	53.0

Percent Retained

Sample	Lab no.	Total dry weight (%)	Sieve Size							
			+2mm	+710um	+300um	+150um	+106um	+75um	+63um	-63um
REFERENCE SEDIMENT	HK0926031001	100.0	2.2	<1	1.3	3.0	3.6	9.4	5.1	75.5
S8 (0.9-1.9M)	HK0926031004	100.0	0.8	1.2	2.6	1.9	0.5	0.5	<1	92.1
S12 (0.9-1.9M)	HK0926031006	100.0	<1	<1	2.0	1.9	0.9	<1	<1	94.7
S15 (0-0.9M)	HK0926031001	100.0	<1	<1	5.8	4.8	1.7	1.9	1.1	84.8
S21 (0.9-1.9M)	HK0926031004	100.0	<1	<1	2.6	1.7	<1	<1	<1	95.1
S6 (0-0.9M)	HK0926031006	100.0	<1	<1	5.0	4.5	1.7	1.9	1.2	85.7
S6 (0.9-1.9M)	HK0926031008	100.0	<1	<1	3.6	3.6	1.3	1.5	0.8	89.2
S6 (1.9-2.9M)	HK0926031009	100.0	17.6	19.6	12.6	8.1	1.8	1.3	0.6	38.3
S11 (0-0.9M)	HK0926031010	100.0	<1	<1	5.8	2.9	0.6	<1	<1	89.7

Cumulative Percentage Retained

Sample	Lab no.	Total dry weight (%)	Sieve Size							
			+2mm	+710um	+300um	+150um	+106um	+75um	+63um	-63um
REFERENCE SEDIMENT	HK0926031001	--	2.2	2.2	3.5	6.5	10.1	19.4	24.5	100.0
S8 (0.9-1.9M)	HK0926031004	--	0.8	2.0	4.7	6.6	7.1	7.6	7.9	100.0
S12 (0.9-1.9M)	HK0926031006	--	<1	<1	2.0	3.9	4.8	5.2	5.3	100.0
S15 (0-0.9M)	HK0926031001	--	<1	<1	5.8	10.6	12.2	14.1	15.2	100.0
S21 (0.9-1.9M)	HK0926031004	--	<1	<1	2.6	4.3	4.6	4.8	4.9	100.0
S6 (0-0.9M)	HK0926031006	--	<1	<1	5.0	9.5	11.2	13.1	14.3	100.0
S6 (0.9-1.9M)	HK0926031008	--	<1	<1	3.6	7.2	8.5	10.0	10.8	100.0
S6 (1.9-2.9M)	HK0926031009	--	17.6	37.2	49.8	58.0	59.8	61.0	61.7	100.0
S11 (0-0.9M)	HK0926031010	--	<1	<1	6.1	8.9	9.5	10.0	10.3	100.0

Batch: HK0926031
 Date of Issue: 23/12/2009
 Client: LAM GEOTECHNICS LIMITED
 Client Reference:

CERTIFICATE OF ANALYSIS



Particle Size Analysis

Weight Retained

Sample	Lab no.	Total dry weight (gram)	Sieve Size							
			+2mm	+710µm	+300µm	+150µm	+106µm	+75µm	+63µm	-63µm
D238 (0.9-1.9M)	HK0926031025	59.5	<0.1	0.1	3.1	1.7	0.3	0.1	0.6	53.7
D202 (1.9-2.9M)	HK0926031026	57.1	<0.1	<0.1	3.6	1.7	0.6	0.3	0.2	50.7
D214 (1.9-2.9M)	HK0926031027	59.0	<0.1	<0.1	4.0	1.3	0.2	0.2	0.2	53.2
D234 (0.9-1.9M)	HK0926031028	59.4	<0.1	<0.1	6.0	2.0	0.4	0.2	0.2	50.8
D234 (1.9-2.9M)	HK0926031029	58.1	<0.1	<0.1	4.5	1.1	0.2	0.2	0.2	52.0
D298 (1.9-2.9M)	HK0926031030	65.2	<0.1	<0.1	1.3	1.2	0.7	1.9	1.7	58.4
S35 (1.9-2.9M)	HK0926031031	57.5	<0.1	<0.1	6.1	0.9	0.1	0.2	0.4	49.7
S5-2 (0-0.9M)	HK0926031032	55.1	<0.1	<0.1	6.7	5.1	0.5	0.4	0.2	42.2
S5-2 (0.9-1.9M)	HK0926031033	60.0	<0.1	<0.1	0.7	0.9	0.2	0.1	0.1	58.1

Percent Retained

Sample	Lab no.	Total dry weight (%)	Sieve Size							
			+2mm	+710µm	+300µm	+150µm	+106µm	+75µm	+63µm	-63µm
D238 (0.9-1.9M)	HK0926031025	100.0	<1	<1	5.2	2.9	<1	<1	1.0	90.3
D202 (1.9-2.9M)	HK0926031026	100.0	<1	<1	6.3	3.0	1.1	<1	<1	88.8
D214 (1.9-2.9M)	HK0926031027	100.0	<1	<1	6.7	2.2	<1	<1	<1	90.1
D234 (0.9-1.9M)	HK0926031025	100.0	<1	<1	10.1	3.3	0.6	<1	<1	85.4
D234 (1.9-2.9M)	HK0926031026	100.0	<1	<1	7.7	1.8	<1	<1	<1	89.5
D298 (1.9-2.9M)	HK0926031027	100.0	<1	<1	1.9	1.9	1.1	2.9	2.7	89.5
S35 (1.9-2.9M)	HK0926031028	100.0	<1	<1	10.7	1.5	<1	<1	0.8	86.5
S5-2 (0-0.9M)	HK0926031029	100.0	<1	<1	12.2	9.2	0.8	0.7	<1	76.6
S5-2 (0.9-1.9M)	HK0926031030	100.0	<1	<1	1.2	1.4	<1	<1	<1	96.8

Cumulative Percentage Retained

Sample	Lab no.	Total dry weight (%)	Sieve Size							
			+2mm	+710µm	+300µm	+150µm	+106µm	+75µm	+63µm	-63µm
D238 (0.9-1.9M)	HK0926031025	--	<1	<1	5.3	8.2	8.7	8.8	9.7	100.0
D202 (1.9-2.9M)	HK0926031026	--	<1	<1	6.3	9.2	10.3	10.8	11.2	100.0
D214 (1.9-2.9M)	HK0926031027	--	<1	<1	6.7	8.9	9.3	9.6	9.9	100.0
D234 (0.9-1.9M)	HK0926031025	--	<1	<1	10.1	13.4	14.0	14.3	14.6	100.0
D234 (1.9-2.9M)	HK0926031026	--	<1	<1	7.7	9.5	9.9	10.2	10.5	100.0
D298 (1.9-2.9M)	HK0926031027	--	<1	<1	1.9	3.8	4.9	7.8	10.5	100.0
S35 (1.9-2.9M)	HK0926031028	--	<1	<1	10.7	12.2	12.3	12.8	13.5	100.0
S5-2 (0-0.9M)	HK0926031029	--	<1	<1	12.2	21.4	22.2	23.0	23.4	100.0
S5-2 (0.9-1.9M)	HK0926031030	--	<1	<1	1.2	2.6	2.9	3.1	3.2	100.0

CERTIFICATE OF ANALYSIS

Batch: HK0926031
 Date of Issue: 23/12/2009
 Client: LAM GEOTECHNICS LIMITED
 Client Reference:



Particle Size Analysis

Sample	Lab no.	Total dry weight (gram)	Sieve Size							
			+2mm	+710um	+300um	+150um	+106um	+75um	+63um	-63um
S9 (0-0.9M)	HK0926031034	71.7	< 0.1	< 0.1	4.5	4.7	0.7	0.5	0.4	60.8
S9 (0.9-1.9M)	HK0926031035	77.9	< 0.1	< 0.1	0.3	0.4	0.2	0.2	0.1	76.7

Percent Retained

Sample	Lab no.	Total dry weight (%)	Sieve Size							
			+2mm	+710um	+300um	+150um	+106um	+75um	+63um	-63um
S9 (0-0.9M)	HK0926031034	100.0	< 1	< 1	6.3	6.5	1.0	0.7	< 1	84.9
S9 (0.9-1.9M)	HK0926031035	100.0	< 1	< 1	< 1	0.5	< 1	< 1	< 1	98.5

Cumulative Percentage Retained

Sample	Lab no.	Total dry weight (%)	Sieve Size							
			+2mm	+710um	+300um	+150um	+106um	+75um	+63um	-63um
S9 (0-0.9M)	HK0926031034	100.0	< 1	< 1	6.3	12.8	13.9	14.6	15.1	100.0
S9 (0.9-1.9M)	HK0926031035	100.0	< 1	< 1	< 1	0.9	1.1	1.3	1.5	100.0



Page Number : 3 of 4
 Client : LAM GEOTECHNICS LIMITED
 Work Order : HK0926021

Client sample ID	Client sampling date / time	Compound LOR Unit Laboratory sample ID	EKO55K: Ammonia as N		EK085: Sulphide as S2-	
			0.01 mg/L ED/EK: Inorganic Nonmetallic Parameters	4.83	0.1 mg/L ED/EK: Inorganic Nonmetallic Parameters	<0.1
D238 (0.9-1.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-026	4.83		<0.1	
D202 (1.9-2.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-027	3.48		<0.1	
D214 (1.9-2.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-028	2.74		<0.1	
D234 (0.9-1.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-029	3.48		<0.1	
D234 (1.9-2.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-030	2.99		<0.1	
D298 (1.9-2.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-031	2.92		<0.1	
S35 (1.9-2.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-032	4.93		<0.1	
S5-2 (0-0.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-033	2.14		<0.1	
S5-2 (0.9-1.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-034	0.13		<0.1	
S9 (0-0.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-035	1.84		<0.1	
S9 (0.9-1.9M) AMPHIPOD DAY 0	[11-DEC-2009]	HK0926021-036	0.11		<0.1	



Laboratory Duplicate (DUP) Report

Matrix: WATER		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Method: Compound
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1197371)	HK0926212-001	Anonymous	Anonymous
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1197372)	HK0926021-035	S9 (0-0.9M) AMPHIPOD DAY 0	S9 (0-0.9M) AMPHIPOD DAY 0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200960)	HK0926021-002	REFERENCE SEDIMENT AMPHIPOD DAY 0	REFERENCE SEDIMENT AMPHIPOD DAY 0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200961)	HK0926021-028	D214 (1.9-2.9M) AMPHIPOD DAY 0	D214 (1.9-2.9M) AMPHIPOD DAY 0

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

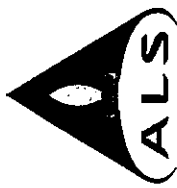
Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report	
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1197371)	18496-25-8	0.1	mg/L	<0.1	0.5 mg/L
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1197372)	18496-25-8	0.1	mg/L	<0.1	0.5 mg/L
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200960)	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200961)	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L

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

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Method: Compound
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200960)	HK0926021-001	CONTROL AMPHIPOD DAY 0 EK055K: Ammonia as N	CONTROL AMPHIPOD DAY 0 EK055K: Ammonia as N
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200961)	HK0926021-027	D202 (1.9-2.9M) AMPHIPOD DAY 0	D202 (1.9-2.9M) AMPHIPOD DAY 0

ALS Technichem (HK) Pty Ltd

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ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client	: LAM GEOTECHNICS LIMITED	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR C M YEE	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK0926023
Address	: 1/F., CENTRE POINT, 181-185 GLOUCESTER ROAD, WANCHAI, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Samuel@Lamconstruct.com.hk	E-mail	: Godfrey.Chan@alsenviro.com		
Telephone	: +852 2839 5633	Telephone	: +852 2610 1044	Date received	: 11-DEC-2009
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: LG29024-KWAI TSING CONTAINER BASIN-MARINE GROUND INVESTIGATION	Quote number	: HK1313/2009**	Date of issue	: 22-DEC-2009
Order number	: CV/2009/13			No. of samples - Received	: 30
C-O-C number	: ----			- Analysed	: 30
Site	: ----				

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0926023 supersedes any previous reports with this reference. The completion date of analysis is 21-DEC-2009. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK0926023 : Project Name: Kwai Tsing Container Basin - Marine Ground Investigation.

Sample(s) were received in an ambient condition.

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

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

Signatory


Fung Lim Chee, Richard

Position

General Manager

Authorised results for:-

Inorganics



Analytical Results

Sub-Matrix: SEAWATER

Compound **EK055K: Ammonia as N** **EK085: Sulphide as S2-**

LOR Unit: 0.01 mg/L
 ED/EK: Inorganic Nonmetallic Parameters
 ED/EK: Inorganic Nonmetallic Parameters

Client sample ID	Client sampling date / time	Laboratory sample ID	ED/EK: Inorganic Nonmetallic Parameters	ED/EK: Inorganic Nonmetallic Parameters
CONTROL POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-001	0.65	<0.1
REFERENCE SEDIMENT POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-002	0.61	<0.1
S8 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-005	1.75	<0.1
S12 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-007	1.36	<0.1
S15 (0.0-0.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-009	2.63	<0.1
S21 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-010	2.85	<0.1
S6 (0.0-0.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-011	3.19	<0.1
S6 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-012	2.73	<0.1
S6 (1.9-2.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-013	2.34	<0.1
S11 (0.0-0.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-016	0.49	<0.1
S11 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-017	0.72	<0.1
D221 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-018	0.66	<0.1
D174 (1.9-2.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-019	1.58	<0.1
D196 (0.0-0.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-020	0.58	<0.1
D196 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-021	1.23	<0.1
D196 (1.9-2.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-022	1.02	<0.1
S30 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-023	5.39	<0.1
S30 (1.9-2.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-024	6.69	<0.1
S34 (0.0-0.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-025	1.37	<0.1



Page Number : 3 of 4
 Client : LAM GEOTECHNICS LIMITED
 Work Order : HK0926023

Sub-Matrix: SEAWATER

Client sample ID	Client sampling date / Laboratory sample time	Compound LOR Unit	EK055K: Ammonia as N		EK085: Sulphide as S2-	
			0.01 mg/L ED/EK: Inorganic Nonmetallic Parameters	5.07	0.1 mg/L ED/EK: Inorganic Nonmetallic Parameters	<0.1
D238 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-026				
D202 (1.9-2.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-027	2.27		<0.1	
D214 (1.9-2.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-028	2.48		<0.1	
D234 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-029	3.47		<0.1	
D234 (1.9-2.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-030	4.83		<0.1	
D298 (1.9-2.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-031	4.88		<0.1	
S35 (1.9-2.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-032	5.88		<0.1	
S5-2 (0-0.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-033	4.88		<0.1	
S5-2 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-034	0.48		<0.1	
S9 (0-0.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-035	2.51		<0.1	
S9 (0.9-1.9M) POLYCHAETE DAY 0	[10-DEC-2009]	HK0926023-036	0.15		<0.1	



Laboratory Duplicate (DUP) Report

Matrix: WATER		Method: Compound		Laboratory Duplicate (DUP) Report		RPD (%)
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1197372)						
HK0926021-035	Anonymous	18496-25-8	0.1	mg/L	<0.1	<0.1
EK085: Sulphide as S2-						0.0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1197373)						
HK0926021-036	Anonymous	18496-25-8	0.1	mg/L	<0.1	<0.1
EK085: Sulphide as S2-						0.0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200964)						
HK0926021-028	Anonymous	7664-41-7	0.01	mg/L	2.74	2.75
EK055K: Ammonia as N						0.4
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200962)						
HK0926023-018	D221 (0.9-1.9M) POLYCHAETE DAY 0	7664-41-7	0.01	mg/L	0.66	0.68
EK055K: Ammonia as N						3.0

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

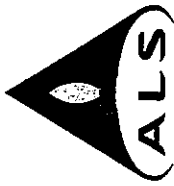
Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Spike Concentration	LCS	DCS	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1197372)							
EK085: Sulphide as S2-	18496-25-8	0.1	mg/L	0.5 mg/L	106	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1197373)							
EK085: Sulphide as S2-	18496-25-8	0.1	mg/L	0.5 mg/L	109	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200964)							
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.5 mg/L	104	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200962)							
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.5 mg/L	95.8	---	---

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

Matrix: WATER		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report		RPDs (%)	
Laboratory sample ID	Client sample ID	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200961)							
HK0926021-027	Anonymous	7664-41-7	0.5 mg/L	# Not Determined	---	75	---
EK055K: Ammonia as N						125	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1200962)							
HK0926023-017	S11 (0.9-1.9M) POLYCHAETE DAY 0	7664-41-7	0.5 mg/L	116	---	75	---
EK055K: Ammonia as N						125	---

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client : LAM GEOTECHNICS LIMITED
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Facsimile : ---
Project : LG29024-KWAI TSING CONTAINER
BASIN-MARINE GROUND INVESTIGATION
Order number : CVI2009/13
C-O-C number : ---
Site : ---

Laboratory : ALS Technichem HK Pty Ltd
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E-mail : Godfrey.Chan@alsenviro.com
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Facsimile : +852 2610 2021
Quote number : HK1313/2009**

Page : 1 of 3
Work Order : HK0926031
Date received : 11-DEC-2009
Date of issue : 23-DEC-2009
No. of samples - Received : 29
- Analysed : 29


Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0926031 supersedes any previous reports with this reference. The completion date of analysis is 21-DEC-2009. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK0926031 : Project Name: Kwai Tsing Container Basin - Marine Ground Investigation.
Sample(s) were received in an ambient condition.
Sediment sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

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

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



Analytical Results

Sub-Matrix: SEDIMENT

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound	EA055: Moisture Content (dried @ 103°C)	EP005: Total Organic Carbon
		LOR Unit		0.1 %	0.05 %
				EAVED: Physical and Aggregate Properties	EP: Aggregate Organics
REFERENCE SEDIMENT					
S8 (0.9-1.9M)	[10-DEC-2009]	HK0926031-001		42.8	0.81
S12 (0.9-1.9M)	[10-DEC-2009]	HK0926031-004		44.3	0.46
S15 (0-0.9M)	[10-DEC-2009]	HK0926031-006		47.4	0.47
S21 (0.9-1.9M)	[10-DEC-2009]	HK0926031-008		47.2	0.68
S6 (0-0.9M)	[10-DEC-2009]	HK0926031-009		46.4	0.52
S6 (0.9-1.9M)	[10-DEC-2009]	HK0926031-010		49.3	0.76
S6 (1.9-2.9M)	[10-DEC-2009]	HK0926031-011		49.2	0.61
S11 (0-0.9M)	[10-DEC-2009]	HK0926031-012		19.8	0.10
S11 (0.9-1.9M)	[10-DEC-2009]	HK0926031-015		48.5	0.49
S11 (0.9-1.9M)	[10-DEC-2009]	HK0926031-016		40.9	0.52
D221 (0.9-1.9M)	[10-DEC-2009]	HK0926031-017		46.0	0.62
D174 (1.9-2.9M)	[10-DEC-2009]	HK0926031-018		46.6	0.61
D196 (0-0.9M)	[10-DEC-2009]	HK0926031-019		45.8	0.60
D196 (0.9-1.9M)	[10-DEC-2009]	HK0926031-020		43.6	0.76
D196 (1.9-2.9M)	[10-DEC-2009]	HK0926031-021		40.0	0.67
S30 (0.9-1.9M)	[10-DEC-2009]	HK0926031-022		45.4	0.70
S30 (1.9-2.9M)	[10-DEC-2009]	HK0926031-023		43.8	0.57
S34 (0-0.9M)	[10-DEC-2009]	HK0926031-024		49.3	0.94
D238 (0.9-1.9M)	[10-DEC-2009]	HK0926031-025		45.6	0.61
D202 (1.9-2.9M)	[10-DEC-2009]	HK0926031-026		45.3	0.58
D214 (1.9-2.9M)	[10-DEC-2009]	HK0926031-027		44.1	0.61
D234 (0.9-1.9M)	[10-DEC-2009]	HK0926031-028		45.0	0.62
D234 (1.9-2.9M)	[10-DEC-2009]	HK0926031-029		43.9	0.59
D298 (1.9-2.9M)	[10-DEC-2009]	HK0926031-030		41.1	0.65
S35 (1.9-2.9M)	[10-DEC-2009]	HK0926031-031		44.5	0.50
S5-2 (0-0.9M)	[10-DEC-2009]	HK0926031-032		38.3	0.45
S5-2 (0.9-1.9M)	[10-DEC-2009]	HK0926031-033		43.0	0.58
S9 (0-0.9M)	[10-DEC-2009]	HK0926031-034		44.6	0.58
S9 (0.9-1.9M)	[10-DEC-2009]	HK0926031-035		35.4	0.47



Page Number : 3 of 3
 Client : LAM GEOTECHNICS LIMITED
 Work Order : HK0926031

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 (%)
EAI/ED: Physical and Aggregate Properties (QC Lot: 1196083)							
HK0926031-001	REFERENCE SEDIMENT	EA055: Moisture Content (dried @ 103°C)	0.1	%	42.8	43.2	1.2
HK0926031-017	D221 (0.9-1.9M)	EA055: Moisture Content (dried @ 103°C)	0.1	%	46.0	46.3	0.6
EAI/ED: Physical and Aggregate Properties (QC Lot: 1196084)							
HK0926031-027	D214 (1.9-2.9M)	EA055: Moisture Content (dried @ 103°C)	0.1	%	44.1	44.5	0.8
EP: Aggregate Organics (QC Lot: 1198422)							
HK0926031-001	REFERENCE SEDIMENT	EP005: Total Organic Carbon	0.05	%	0.81	0.82	1.3
HK0926031-006	S12 (0.9-1.9M)	EP005: Total Organic Carbon	0.05	%	0.47	0.47	0.0
EP: Aggregate Organics (QC Lot: 1198423)							
HK0926031-009	S21 (0.9-1.9M)	EP005: Total Organic Carbon	0.05	%	0.52	0.55	5.9

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	DCS	Spike Recovery (%)	Recovery Limits (%)	Value	Control Limit
EP: Aggregate Organics (QC Lot: 1198422)											
EP005: Total Organic Carbon		0.05	%	<0.05	40 %	104		85	115		
EP: Aggregate Organics (QC Lot: 1198423)											
EP005: Total Organic Carbon		0.05	%	<0.05	40 %	107		85	115		

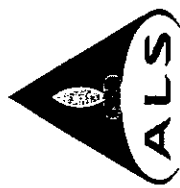
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Matrix: SOIL		Method: Compound				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
Laboratory sample ID	Client sample ID	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit	
EP: Aggregate Organics (QC Lot: 1198422)									
HK0926031-004	S8 (0.9-1.9M)	EP005: Total Organic Carbon	40 %	104		75	125		
EP: Aggregate Organics (QC Lot: 1198423)									
HK0926031-008	S15 (0-0.9M)	EP005: Total Organic Carbon	40 %	101		75	125		

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client : LAM GEOTECHNICS LIMITED	Laboratory : ALS Technichem HK Pty Ltd	Page : 1 of 4
Contact : MR C M YEE	Contact : Chan Kwok Fai, Godfrey	Work Order : HK0926476
Address : 1/F., CENTRE POINT, 181-185 GLOUCESTER ROAD, WANCHAI, HONG KONG	Address : 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	
E-mail : Samuel@Lamconstruct.com.hk	E-mail : Godfrey.Chan@alsenviro.com	
Telephone : +852 2839 5633	Telephone : +852 2610 1044	Date received : 21-DEC-2009
Facsimile : ----	Facsimile : +852 2610 2021	Date of issue : 04-JAN-2010
Project : LG29024	Quote number : ----	No. of samples : Received : 30
Order number : ----		Analysed : 30
C-O-C number : ----		
Site : ----		

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0926476 supersedes any previous reports with this reference. The completion date of analysis is 31-DEC-2009. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK0926476 : Project Name: Kwai Tsing Container Basin - Marine Ground Investigation.

Sample(s) were received in an ambient condition.

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

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

Signature

Richard Fung Lim Chee, Richard

Position

General Manager

Authorised results for:-

Inorganics

ALS Laboratory Group

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Analytical Results

Sub-Matrix: SEAWATER

Compound: EK055K: Ammonia as N EK085: Sulphide as S2-

Client sample ID Client sampling date / time Laboratory sample ID LOR Unit ED/EK: Inorganic Nonmetallic Parameters ED/EK: Inorganic Nonmetallic Parameters

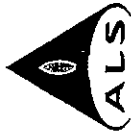
Client sample ID	Client sampling date / time	Laboratory sample ID	LOR Unit	ED/EK: Inorganic Nonmetallic Parameters	ED/EK: Inorganic Nonmetallic Parameters
CONTROL AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-001	0.22	<0.1	<0.1
REFERENCE SEDIMENT AMPHIPOD DA	[21-DEC-2009]	HK0926476-002	0.12	<0.1	<0.1
S8 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-003	2.03	<0.1	<0.1
S12 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-004	1.54	<0.1	<0.1
S15 (0-0.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-005	0.25	<0.1	<0.1
S21 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-006	3.63	<0.1	<0.1
S6 (0-0.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-007	0.21	<0.1	<0.1
S6 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-008	0.95	<0.1	<0.1
S6 (1.9-2.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-009	0.62	<0.1	<0.1
S11 (0-0.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-010	0.61	<0.1	<0.1
S11 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-011	0.41	<0.1	<0.1
D221 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-012	0.80	<0.1	<0.1
D174 (1.9-2.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-013	1.58	<0.1	<0.1
D196 (0-0.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-014	0.54	<0.1	<0.1
D196 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-015	1.31	<0.1	<0.1
D196 (1.9-2.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-016	1.00	<0.1	<0.1
S30 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-017	5.45	<0.1	<0.1
S30 (1.9-2.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-018	8.63	<0.1	<0.1
S34 (0-0.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-019	0.29	<0.1	<0.1



Sub-Matrix: SEAWATER

Compound: EK055K: Ammonia as N
EK085: Sulphide as S2-

Client sample ID	Client sampling date / time	Laboratory sample ID	LOR Unit	ED/EK: Inorganic Nonmetallic Parameters	ED/EK: Inorganic Nonmetallic Parameters
D238 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-020	0.01 mg/L	8.42	0.1 mg/L
D202 (1.9-2.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-021		5.84	<0.1
D214 (1.9-2.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-022		3.05	<0.1
D234 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-023		4.26	<0.1
D234 (1.9-2.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-024		5.63	<0.1
D298 (1.9-2.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-025		5.28	<0.1
S35 (1.9-2.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-026		8.09	<0.1
S5-2 (0-0.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-027		3.37	<0.1
S5-2 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-028		0.64	<0.1
S9 (0-0.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-029		2.42	<0.1
S9 (0.9-1.9M) AMPHIPOD DAY 10	[21-DEC-2009]	HK0926476-030		0.45	<0.1



Page Number : 4 of 4
 Client : LAM GEOTECHNICS LIMITED
 Work Order : HK0926476

Laboratory Duplicate (DUP) Report

Matrix: WATER		Method: Compound		Laboratory Duplicate (DUP) Report		
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Duplicate Result	RPD (%)
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1209265)	D238 (0.9-1.9M)	7664-41-7	0.01	mg/L	8.22	2.4
HK0926476-020	AMPHIPOD DAY 10					
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1209266)	Anonymous	7664-41-7	0.1	mg/L	3.1	0.0
HK0927545-010						
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1210050)	Anonymous	18496-25-8	0.1	mg/L	0.2	0.0
HK0927772-002						
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1210061)	Anonymous	18496-25-8	0.1	mg/L	<0.1	0.0
HK0926887-009						

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

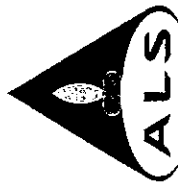
Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	High	Value	RPDs (%)	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1209265)	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	96.5	---	---	85	115	---	---	---
EK055K: Ammonia as N													
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1209266)	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	93.6	---	---	85	115	---	---	---
EK055K: Ammonia as N													
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1210060)	18496-25-8	0.1	mg/L	<0.1	0.5 mg/L	110	---	---	85	115	---	---	---
EK085: Sulphide as S2													
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1210061)	18496-25-8	0.1	mg/L	<0.1	0.5 mg/L	106	---	---	85	115	---	---	---
EK085: Sulphide as S2													

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

Matrix: WATER		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	CAS Number	Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	RPDs (%)	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1209265)	D238 (0.9-1.9M)	7664-41-7	0.5 mg/L	# Not Determined	---	---	75	125	---	---	---
HK0926476-020	AMPHIPOD DAY 10										
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1209266)	Anonymous	7664-41-7	0.5 mg/L	# Not Determined	---	---	75	125	---	---	---
HK0927545-010											

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

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Project : LG29024 - KWAI TSING CONTAINER BASIN -
MARINE GROUND INVESTIGATION
Order number : ----
C-O-C number : ----
Site : ----

Laboratory : ALS Technichem HK Pty Ltd
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Telephone : +852 2610 1044
Facsimile : +852 2610 2021
Quote number : HK/1313/2009**

Page : 1 of 4
Work Order : HK0926480

Date received : 16-DEC-2009
Date of issue : 29-DEC-2009
No. of samples : 30
 - Received : 30
 - Analysed : 30

Report Comments

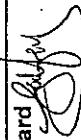
This report for ALS Technichem (HK) Pty Ltd work order reference HK0926480 supersedes any previous reports with this reference. The completion date of analysis is 24-DEC-2009. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK0926480 : Sample(s) were received in an ambient condition.
Water sample(s) analysed and reported on an as received basis.

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Signatory

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 : LAM GEOTECHNICS LIMITED
 Work Order : HK0926480

Analytical Results

Sub-Matrix: SEAWATER

Compound: EK055A: Ammonia as N EK085: Sulphide as S2-

Client sample ID	Client sampling date / time	LOR Unit	ED/EK: Inorganic Nonmetallic Parameters	ED/EK: Inorganic Nonmetallic Parameters
CONTROL BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.06	<0.1
REFERENCE SEDIMENT BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.14	<0.1
S8 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.38	<0.1
S12 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.43	<0.1
S15 (0-0.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.49	<0.1
S21 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.65	<0.1
S6 (0-0.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.57	<0.1
S6 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.53	<0.1
S6 (1.9-2.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.33	<0.1
S11 (0-0.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.11	<0.1
S11 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.12	<0.1
D221 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.12	<0.1
D174 (1.9-2.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.47	<0.1
D196 (0-0.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.08	<0.1
D196 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.30	<0.1
D196 (1.9-2.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.43	<0.1
S30 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	1.34	<0.1
S30 (1.9-2.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	1.46	<0.1
S34 (0-0.9M) BIVALVE 48 HOUR	[16-DEC-2009]	0.01 mg/L	0.22	<0.1



Sub-Matrix: SEAWATER

Compound EK055A: Ammonia as N EK085: Sulphide as S2-

Client sample ID	Client sampling date / time	Laboratory sample ID	LOR Unit	ED/EK: Inorganic Nonmetallic Parameters	ED/EK: Inorganic Nonmetallic Parameters	0.01 mg/L	0.1 mg/L	<0.1
D238 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-020		1.26				
D202 (1.9-2.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-021		0.98				<0.1
D214 (1.9-2.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-022		0.82				<0.1
D234 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-023		0.91				<0.1
D234 (1.9-2.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-024		0.99				<0.1
D298 (1.9-2.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-025		1.04				<0.1
S35 (1.9-2.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-026		1.39				<0.1
S5-2 (0-0.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-027		0.64				<0.1
S5-2 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-028		0.10				<0.1
S9 (0-0.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-029		0.51				<0.1
S9 (0.9-1.9M) BIVALVE 48 HOUR	[16-DEC-2009]	HK0926480-030		0.09				<0.1



Laboratory Duplicate (DUP) Report

Matrix: WATER		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Compound
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206102)			
HK0926480-010	S11 (0.9-1.9M) BIVALVE 48 HOUR	EK055A: Ammonia as N	7664-41-7 0.01 mg/L 0.11 0.10 9.5
HK0926480-020	D238 (0.9-1.9M) BIVALVE 48 HOUR	EK055A: Ammonia as N	7664-41-7 0.01 mg/L 1.26 1.25 0.8
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206103)			
HK0927000-036	Anonymous	EK055A: Ammonia as N	7664-41-7 0.01 mg/L 0.29 0.27 7.1
HK0926480-030	S9 (0.9-1.9M) BIVALVE 48 HOUR	EK055A: Ammonia as N	7664-41-7 0.01 mg/L 0.09 0.09 0.0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1207009)			
HK0926480-030	S9 (0.9-1.9M) BIVALVE 48 HOUR	EK085: Sulphide as S2-	18496-25-8 0.1 mg/L <0.1 <0.1 0.0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1207010)			
HK0926020-035	Anonymous	EK085: Sulphide as S2-	18496-25-8 0.1 mg/L <0.1 <0.1 0.0

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

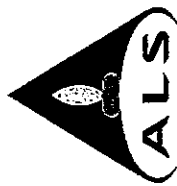
Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206102)													
EK055A: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	5.0 mg/L	97.9	85	115	85	115	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206103)													
EK055A: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	5.0 mg/L	93.8	85	115	85	115	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1207009)													
EK085: Sulphide as S2-	18496-25-8	0.1	mg/L	<0.1	0.5 mg/L	105	85	115	85	115	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1207010)													
EK085: Sulphide as S2-	18496-25-8	0.1	mg/L	<0.1	0.5 mg/L	107	85	115	85	115	---	---	---

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

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Compound
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206102)			
HK0926480-020	D238 (0.9-1.9M) BIVALVE 48 HOUR	EK055A: Ammonia as N	7664-41-7 0.5 mg/L 102 75 125
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206103)			
HK0927000-036	Anonymous	EK055A: Ammonia as N	7664-41-7 0.5 mg/L 104 75 125

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

Client	: LAM GEOTECHNICS LIMITED	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR C M YEE	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK0926778
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Telephone	: +852 2839 5633	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: LG29024 - KWAI TSING CONTAINER BASIN - MARINE GROUND INVESTIGATION	Quote number	: HK/1313/2009**	Date received	: 17-DEC-2009
Order number	: ----			Date of issue	: 30-DEC-2009
C-O-C number	: ----			No. of samples	: - Received : 24
Site	: ----				: - Analysed : 24

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0926778 supersedes any previous reports with this reference. The completion date of analysis is 24-DEC-2009. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK0926778 : Sample(s) were received in an ambient condition.
Water sample(s) analysed and reported on an as received basis.

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

Signatory

PP Fung Lim Chee, Richard

Position

General Manager

Authorised results for:-

Inorganics

ALS Laboratory Group
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Page Number : 2 of 3
 Client : LAM GEOTECHNICS LIMITED
 Work Order : HK0926778

Analytical Results

Sub-Matrix: SEAWATER

Compound: EK055K: Ammonia as N

0.01 mg/L
 ED/EK: Inorganic
 Nonmetallic Parameters

Client sample ID	Client sampling date / time	LOR Unit Laboratory sample ID	Value
REFERENCE SEDIMENT POREWATER	[10-DEC-2009]	HK0926778-001	4.37
S12 (0.9-1.9M) POREWATER	[10-DEC-2009]	HK0926778-002	14.3
S15 (0-0.9M) POREWATER	[10-DEC-2009]	HK0926778-003	26.6
S21 (0.9-1.9M) POREWATER	[10-DEC-2009]	HK0926778-004	24.5
S6 (0-0.9M) POREWATER	[10-DEC-2009]	HK0926778-005	25.5
S6 (0.9-1.9M) POREWATER	[10-DEC-2009]	HK0926778-006	24.0
S6 (1.9-2.9M) POREWATER	[10-DEC-2009]	HK0926778-007	23.6
S11 (0-0.9M) POREWATER	[10-DEC-2009]	HK0926778-008	3.58
D221 (0.9-1.9M) POREWATER	[10-DEC-2009]	HK0926778-009	5.68
D174 (1.9-2.9M) POREWATER	[10-DEC-2009]	HK0926778-010	14.1
D196 (0-0.9M) POREWATER	[10-DEC-2009]	HK0926778-011	3.48
D196 (0.9-1.9M) POREWATER	[10-DEC-2009]	HK0926778-012	7.72
S30 (0.9-1.9M) POREWATER	[10-DEC-2009]	HK0926778-013	48.1
S30 (1.9-2.9M) POREWATER	[10-DEC-2009]	HK0926778-014	50.9
S34 (0-0.9M) POREWATER	[10-DEC-2009]	HK0926778-015	10.2
D238 (0.9-1.9M) POREWATER	[10-DEC-2009]	HK0926778-016	48.6
D202 (1.9-2.9M) POREWATER	[10-DEC-2009]	HK0926778-017	31.8
D214 (1.9-2.9M) POREWATER	[10-DEC-2009]	HK0926778-018	30.6
D234 (0.9-1.9M) POREWATER	[10-DEC-2009]	HK0926778-019	27.3
D234 (1.9-2.9M) POREWATER	[10-DEC-2009]	HK0926778-020	34.8
S9 (0-0.9M) POREWATER	[10-DEC-2009]	HK0926778-021	24.2
S5-2 (0-0.9M) POREWATER	[10-DEC-2009]	HK0926778-022	38.1
S5-2 90.9-1.9M) POREWATER	[10-DEC-2009]	HK0926778-023	4.36
S35 (1.9-2.9M) POREWATER	[10-DEC-2009]	HK0926778-024	55.0



Laboratory Duplicate (DUP) Report

Matrix: WATER		Method: Compound		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206101)							
HK0926479-008	Anonymous	7664-41-7	0.01	mg/L	7.99	7.68	4.0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206104)							
HK0926778-007	S6 (1.9-2.9M) POREWATER	7664-41-7	0.01	mg/L	23.6	23.1	2.1
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206105)							
HK0927036-001	Anonymous	7664-41-7	0.01	mg/L	0.82	0.80	2.5

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

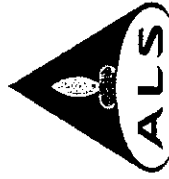
Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPDs (%)	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206101)														
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	92.7	85	115	85	115	---	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206104)														
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	112	85	115	85	115	---	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206105)														
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	95.0	85	115	85	115	---	---	---	---

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

Matrix: WATER		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	RPDs (%)	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206101)											
HK0926479-008	Anonymous	7664-41-7	0.5 mg/L	# Not Determined	---	75	75	125	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206104)											
HK0926479-002	Anonymous	7664-41-7	0.5 mg/L	110	---	75	75	125	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1206105)											
HK0927036-001	Anonymous	7664-41-7	0.5 mg/L	94.0	---	75	75	125	---	---	---

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES



CERTIFICATE OF ANALYSIS

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Quote number : HK/1313/2009**

Page : 1 of 4
Work Order : HK0927696

Date received : 30-DEC-2009
Date of issue : 11-JAN-2010
No. of samples : Received : 30
: Analyzed : 30

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0927696 supersedes any previous reports with this reference. The completion date of analysis is 07-JAN-2010. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK0927696 : Project Name: Kwai Tsing Container Basin - Marine Ground Investigation.

Sample(s) were received in an ambient condition.

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

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Signatory

Fung Lim Chee, Richard

Position

General Manager

Authorised results for:-

Inorganics

ALS Laboratory Group

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Analytical Results

Sub-Matrix: SEAWATER

Compound: EK055K: Ammonia as N
 EK085: Sulphide as S2-

Client sample ID	Client sampling date / time	Laboratory sample ID	LOR Unit		ED/EK: Inorganic		Nonmetallic Parameters	
			0.01 mg/L	0.1 mg/L	ED/EK: Inorganic	Nonmetallic Parameters		
CONTROL POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-001	0.25	<0.1		<0.1		
REFERENCE SEDIMENT POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-002	0.31	<0.1		<0.1		
S8 (0.9-1.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-003	5.62	<0.1		<0.1		
S12 (0.9-1.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-004	6.09	<0.1		<0.1		
S15 (0.0-0.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-005	1.70	<0.1		<0.1		
S21 (0.9-1.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-006	5.97	<0.1		<0.1		
S6 (0.0-0.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-007	0.31	<0.1		<0.1		
S6 (0.9-1.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-008	0.17	<0.1		<0.1		
S6 (1.9-2.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-009	0.52	<0.1		<0.1		
S11 (0.0-0.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-010	4.57	<0.1		<0.1		
S11 (0.9-1.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-011	4.96	<0.1		<0.1		
D221 (0.9-1.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-012	5.85	<0.1		<0.1		
D174 (1.9-2.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-013	5.94	<0.1		<0.1		
D196 (0.0-0.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-014	4.28	<0.1		<0.1		
D196 (0.9-1.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-015	4.88	<0.1		<0.1		
D196 (1.9-2.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-016	5.96	<0.1		<0.1		
S30 (0.9-1.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-017	7.51	<0.1		<0.1		
S30 (1.9-2.9M) POLYCHAETE DAY 20	[30-DEC-2009]	HK0927696-018	8.06	<0.1		<0.1		



Page Number : 3 of 4
 Client : LAM GEOTECHNICS LIMITED
 Work Order : HK0927696

Client sample ID	Sub-Matrix: SEAWATER	Client sampling date / time	Compound Laboratory sample ID	EK055K: Ammonia as N		EK085: Sulphide as S ₂	
				ED/EK: Inorganic Nonmetallic Parameters	0.01 mg/L	ED/EK: Inorganic Nonmetallic Parameters	0.1 mg/L
S34 (0.0-0.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-019	0.20	<0.1	<0.1	<0.1
D238 (0.9-1.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-020	9.74	<0.1	<0.1	<0.1
D202 (1.9-2.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-021	6.92	<0.1	<0.1	<0.1
D214 (1.9-2.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-022	6.17	<0.1	<0.1	<0.1
D234 (0.9-1.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-023	6.30	<0.1	<0.1	<0.1
D234 (1.9-2.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-024	4.58	<0.1	<0.1	<0.1
D298 (1.9-2.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-025	6.20	<0.1	<0.1	<0.1
S35 (1.9-2.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-026	6.73	<0.1	<0.1	<0.1
S5-2 (0.0-0.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-027	4.42	<0.1	<0.1	<0.1
S5-2 (0.9-1.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-028	4.56	<0.1	<0.1	<0.1
S9 (0.0-0.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-029	3.01	<0.1	<0.1	<0.1
S9 (0.9-1.9M) POLYCHAETE DAY 20		[30-DEC-2009]	HK0927696-030	3.87	<0.1	<0.1	<0.1



Laboratory Duplicate (DUP) Report

Matrix: WATER	Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213182)	HK0927696-014	D196 (0.0-9M)	EK085: Sulphide as S2-	18496-25-8	0.1	mg/L	<0.1	<0.1	0.0
POLYCHAETE DAY 20									
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213183)	HK0927696-017	S30 (0.9-1.9M)	EK085: Sulphide as S2-	18496-25-8	0.1	mg/L	<0.1	<0.1	0.0
POLYCHAETE DAY 20									
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213184)	HK0927696-030	S9 (0.9-1.9M)	EK085: Sulphide as S2-	18496-25-8	0.1	mg/L	<0.1	<0.1	0.0
POLYCHAETE DAY 20									
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213697)	HK1000230-001	Anonymous	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	<0.01	0.0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213698)	HK1000004-001	Anonymous	EK055K: Ammonia as N	7664-41-7	0.1	mg/L	45.6	44.5	2.4

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

Matrix: WATER	Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
Method Blank (MB) Report														
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213182)	EK085: Sulphide as S2-	18496-25-8	0.1	mg/L	<0.1	0.5 mg/L	108	85	115	85	115	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213183)	EK085: Sulphide as S2-	18496-25-8	0.1	mg/L	<0.1	0.5 mg/L	108	85	115	85	115	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213184)	EK085: Sulphide as S2-	18496-25-8	0.1	mg/L	<0.1	0.5 mg/L	107	85	115	85	115	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213697)	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	95.6	85	115	85	115	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213698)	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	98.7	85	115	85	115	---	---	---

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

Matrix: WATER	Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report													
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213697)	HK1000230-001	Anonymous	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	101	75	125	75	125	---	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1213698)	HK1000004-001	Anonymous	EK055K: Ammonia as N	7664-41-7	5 mg/L	# Not Determined	75	125	75	125	---	---	---