South-East Asia Japan Cable System (SJC)

Hong Kong Segment

Environmental Impact Monitoring and Site Audit Report

Week 2

25 June 2012 to 1 July 2012

ATKINS

Project Title:	South-East Asia Japan Cable System (SJC), Hong Kong Segment	Project No.: 4575
Document No.:	4575-OR010	Controlled Copy No.:
Document Title:	Environmental Impact Monitoring and Site Audit Report (Week 2)	
Covering Letter/Transmittal Ref. No.:	4575//OC463/SH/EY/twc	Date of Issue: 10 July 2012

Revision, Review and Approval Records

		/	/	/
		/	/	/
		/	/	/
00	Environmental Impact Monitoring and Site Audit Report (Week 2)	Various/ 10 July 2012	Enid Yung/ 10 July 2012	Susana Halliday/ 10 July 2012
Revision	Description	Prepared by / date	Reviewed by / date	Approved by / date

Distribution (if insufficient space, please use separate paper)

Controlled Copy No.	Issued to
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EXECUTIVE SUMMARY

The site preparation works for the SJC cable network system commenced on 21 June 2012. Atkins China Limited (ACL) has been appointed as the Environmental Team (ET) to undertake environmental management and monitoring work in accordance with the EM&A Manual.

This is the second weekly Environmental Impact Monitoring and Site Audit Report for the works specified in the Environmental Permit (EP-423/2011/A) and Environmental Monitoring and Audit (EM&A) Manual. This report summarises the findings and results of the EM&A during the reporting period of the second week of works and covers the reporting period 25 June 2012 to 1 July 2102.

Environmental Monitoring and Audit Progress

The EM&A programme has been undertaken in accordance with the approved EM&A Manual. A summary of the monitoring activities performed in the reporting period is summarised below:

- Weekly site environmental inspection was conducted on 25 June 2012
- Water quality monitoring was conducted on 28 June 2012 during mid-ebb and mid-flood tide periods

Exceedance of Action and Limit Levels

Exceedance of Limit Level of DO was recorded on 28 June 2012. No injection jetting by cable laying vessel was conducted on the sampling days due to a fault in the cable. A moderate thermocline and halocline was observed for the exceeding stations, which would limit water exchange with the surface and thus result in depleted oxygen levels measures on the bottom. This is a natural phenomenon common during Summer time when surface temperatures are high and surface salinities low compared with bottom waters. Therefore, the exceedance of Limit Level of DO was considered that the exceedances were not related to the project works.

Complaint Log

No complaints were received in relation to environmental impact during the reporting period.

Site Inspection and Audit

Site inspections for shore based works were carried out on 25 June 2012 as appropriate. No non-compliances were recorded for the reporting period. A summary of findings conducted during the monitoring period is provided below.

25 June 2012

No environmental observation was found during the site inspection. The contractor was reminded to avoid the sandy water flow to sea directly during excavation.

1. INTRODUCTION

1.1 Background of the Project

1.1.1 South-East Asia Japan Cable System (SJC) is a submarine cable system linking South-East Asia to Japan. SJC will provide direct access and diverse routing between Singapore, the Philippines, Hong Kong, China, Brunei and Japan. The cable system will span approx. 8,900km and will be mainly composed of a seven-fibre pair high capacity submarine cable system with a design capacity of 17.9 terabits per second. The project will increase the broadband capacity of Hong Kong.

1.1.2 The Project is classified as a Designated Project under Item C12 of Part I Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO): "*A dredging operation which is (a) less than 500 metres from the nearest boundary of an existing or planned (iii) bathing beach; and (vii) coastal protection area"*.

1.1.3 In accordance with the EIAO, an environmental assessment was undertaken and a Project Profile was submitted to the Environmental Protection Department (EPD) (PP-444/2011) for an Application for Permission to Apply Directly for Environmental Permit for the project (Application No. DIR-213/2011) (DIR). The DIR was granted by EPD on 1st August 2011 with conditions.

1.1.4 Atkins China Limited (ACL) has been appointed as the Environmental Team (ET) to undertake environmental management and monitoring work in accordance with the EM&A Manual.

1.1.5 This is the second Weekly Environmental Impact Monitoring and Site Audit Report for the works specified in the Environmental Monitoring and Audit (EM&A) Manual. This report summarises the results and findings of the EM&A during the reporting period 25 June 2012 to 1 July 2012.

1.2 Summary of Impact EM&A Requirements

1.2.1 The EM&A programme requires environmental monitoring for water quality, marine mammals and construction and demolition waste management, as specified in the EM&A Manual. This shall be conducted accordingly.

1.3 Works Undertaken

1.3.1 Site preparation works commenced on 25 June 2012 and involved minor excavation of a trench from beach manhole to allow cable laying. Works by injection jetting did not take place between 25 June 2012 and 29 June 2012 due to technical problems. The works does not take place between 29 June to 30 2012 due to the bad weather (the typhoon signal no. 3 was issued on 29 June 2012 and typhoon signal no.8 was issued on 30 June 2012).

2. MONITORING RESULTS

2.1 Water Quality

Programme

2.1.1 The water quality monitoring programme for this reporting period is presented in Table 2-1.

Table 2-1 – Water Quality Monitoring Programme

Date of Sampling	Tidal State	Time of Sampling
28 June 2012	Mid-Ebb	06:25 – 09:05
	Mid-Flood	11:25 – 14:05

Monitoring Stations

2.1.2 Seventeen water quality monitoring stations were sampled during the impact water quality monitoring (see Figure 2-1) and listed in Table 2-2 as follows. These stations are applicable for works undertaken during installation of the cable.

Table 2-2 – Impact Water Quality Monitoring stations

Monitoring Station	Co-ordinates		Station Purpose
A1	839451	808265	180m from point A
A2	839511	808265	120m from point A
A3	839571	808265	60m from point A
A4	839691	808265	60m from point A
A5	839751	808265	120m from point A
A6	839811	808265	180m from point A
B1	839408	808160	180m from point B
B2	839468	808160	120m from point B
B3	839528	808160	60m from point B
B4	839648	808160	60m from point B
B5	839708	808160	120m from point B
B6	839768	808160	180m from point B
C	840081	808353	Control Station
D1	839429	808641	100m from point D
D2	839540	808552	100m from point D
D3	839453	808443	100m from point D
D4	839344	808531	100m from point D

Methodology

2.1.3 Water quality monitoring was conducted in accordance with the methodology described in the EM&A Manual.

2.1.4 The water quality parameters monitored included dissolved oxygen (DO) (% saturation and mg/L), temperature, turbidity (NTU), salinity and suspended solids (SS). DO, temperature, turbidity and salinity were measured *in-situ* whereas SS was determined by laboratory analysis.

2.1.5 The equipment used during monitoring included an YSI SONDE Model no. YSI Sonde 6920 V2 Environmental Monitoring System to measure DO, temperature, turbidity and salinity. All monitoring equipment was checked and calibrated prior to use. The report on the calibration of the equipment is provided in **Annex A**

2.1.6 Laboratory analysis of SS was carried out at ALS Laboratory Group, a recognised HOKLAS accredited laboratory.

Results

2.1.7 The weather during the monitoring period is sunny. The impact monitoring results at each monitoring locations are provided in full in **Annex B**.

2.1.8 The impact monitoring data on 28 June 2012 and laboratory results at each monitoring location are provided in full in **Annex B**. The recorded field transcripts of the impact monitoring data were checked in hard copy with the electronic version of the results and were found to be accurate. The result of the impact monitoring data at each monitoring location are summarised in **Tables 2-3 and 2-4**.

Mid-Ebb Results

Table 2-3 – Summary of Water Quality Data on 28 June 2012 – Mid-Ebb

Station	Depth	Data Results for Mid Ebb					
		Temperature (oC)	Salinity (ppt)	DO (mg/L)	DOS (%)	Turbidity (NTU)	Suspended Solids (SS)
Control Stations							
C	**s**	N/A	N/A	N/A	N/A	N/A	N/A
	m	28.9	17.5	8.0	115.0	1.7	4
	b	N/A	N/A	N/A	N/A	N/A	N/A
Marine-based Stations							
A1	**s**	28.7	17.5	8.2	116.4	1.7	<2
	m	27.6	25.9	**5.3**	77.9	2.2	<2
	b	26.1	30.8	**3.5**	51.8	5.1	<2
A2	**s**	28.7	18.4	8.2	118.0	1.7	<2
	m	28.1	23.2	**6.1**	89.4	2.2	3
	b	26.2	30.6	**3.5**	52.0	6.1	<2
A3	**s**	28.7	17.2	8.4	119.3	1.8	<2
	m	28.1	23.3	**6.0**	87.8	2.9	<2
	b	27.2	27.2	**4.5**	66.2	3.7	<2
A4	**s**	28.7	17.2	8.4	119.7	2.1	3
	m	28.8	19.7	7.6	110.0	2.2	<2
	b	27.4	26.7	**5.0**	73.0	2.9	<2
A5	**s**	28.6	17.3	8.3	118.0	1.7	<2
	m	28.4	22.8	6.9	101.0	2.1	<2
	b	27.0	28.4	**4.3**	62.9	3.2	<2
A6	**s**	28.8	17.5	8.7	123.6	1.5	<2
	m	29.1	18.4	8.1	117.3	2.0	<2
	b	27.3	27.1	**4.9**	71.8	2.2	<2
B1	**s***	28.7	17.4	8.0	113.1	1.6	5
	m	26.7	29.1	**4.3**	63.5	1.9	5
	b	25.5	31.5	**3.6**	51.9	4.2	8
B2	**s**	28.8	17.4	8.2	117.4	1.7	3
	m*	27.0	28.6	**4.4**	64.0	1.8	3
	b	25.8	31.1	**3.6**	52.3	4.5	3
B3	**s**	28.8	17.5	8.3	117.8	1.7	2
	m	27.2	27.8	**4.7**	68.7	1.7	2
	b*	26.3	31.1	**3.7**	54.0	3.3	<2
B4	**s***	28.8	18.0	8.0	114.1	1.7	5
	m	27.4	26.6	**5.1**	74.0	1.8	2
	b	25.9	31.1	**3.6**	52.4	3.6	4
B5	**s**	28.7	17.8	8.1	116.1	1.8	2
	m	27.4	26.7	**5.0**	73.4	2.0	3
	b	26.3	30.8	**3.7**	54.2	3.3	2
B6	**s**	28.8	17.9	8.1	116.2	1.6	2
	m	27.4	26.6	**5.0**	73.3	2.0	5
	b	26.0	30.9	**3.5**	51.8	2.4	2
D1	**s**	N/A	N/A	N/A	N/A	N/A	N/A
	m	28.7	17.4	8.4	119.2	1.7	<2
	b	N/A	N/A	N/A	N/A	N/A	N/A
D2	**s**	28.8	17.5	8.6	123.0	1.6	2
	m	N/A	N/A	N/A	N/A	N/A	N/A
	b	28.5	18.5	7.0	100.2	2.3	<2
D3	**s**	28.7	17.3	8.5	120.8	1.7	<2
	m	N/A	N/A	N/A	N/A	N/A	N/A
	b	28.4	22.0	6.5	94.9	2.3	<2
D4	**s**	N/A	N/A	N/A	N/A	N/A	N/A
	m	28.7	17.5	8.1	115.7	1.5	<2
	b	N/A	N/A	N/A	N/A	N/A	N/A

Notes: s – 1 m below the surface; m – mid depth; b – 1 m above the seabed
XX: Limit Level Exceedance; **XX**: Action Level Exceedance
* – Average value of duplicate sample

Mid-Ebb Results Summary

2.1.9 During mid-ebb survey, the range of DO level from 3.5mg/L to 8.7mg/L with an saturation level form 51.8% to 123.6%. The range of turbidity measurement was 1.5 to 6.1 NTU with SS content from <2 mg/L to 8 mg/L. The recorded temperature was within the expected range and values for these waters during the time of monitoring.

2.1.10 The DO Limit level and Action level exceedances were found on the middle and bottom level. A moderate thermocline and halocline was observed for the exceeding stations, which would limit water exchange with the surface and thus result in depleted oxygen levels measures on the bottom. This is a natural phenomenon common during Summer time when surface temperatures are high and surface salinities low compared with bottom waters. Therefore, the exceedances of Limit Level of DO were considered non-project related.

Mid-Flood Results

Table 2-4 – Summary of Water Quality Data on 28 June 2012 – Mid-Flood

Station	Depth	Data Results for Mid Ebb					
		Temperature (oC)	Salinity (ppt)	DO (mg/L)	DOS (%)	Turbidity (NTU)	Suspended Solids (SS)
Control Stations							
C	**s**	N/A	N/A	N/A	N/A	N/A	N/A
	m	29.8	17.6	14.1	205.2	2.1	3
	b	N/A	N/A	N/A	N/A	N/A	N/A
Marine-based Stations							
A1	**s***	29.8	17.7	12.9	187.0	2.2	5
	m	27.5	26.2	**5.3**	77.9	2.2	3
	b	26.7	29.5	**4.2**	62.4	3.2	2
A2	**s**	30.0	17.7	13.2	192.1	2.0	3
	m*	27.3	26.6	**4.9**	71.5	2.8	4
	b	26.5	30.5	**3.9**	57.2	3.0	4
A3	**s**	29.7	17.8	12.4	180.4	2.0	3
	m	28.1	21.8	**6.0**	87.2	2.4	4
	b*	27.2	26.6	**4.9**	71.4	2.9	4
A4	**s***	29.6	17.8	12.7	183.5	2.2	4
	m	28.2	22.5	6.4	92.8	2.2	4
	b	27.0	28.1	**4.5**	66.4	3.4	3
A5	**s**	29.7	17.7	13.0	189.0	2.1	5
	m	28.6	19.9	7.7	111.4	1.9	4
	b	28.1	22.9	**6.0**	87.2	2.3	3
A6	**s**	29.4	17.8	12.4	179.1	2.3	3
	m	28.8	18.7	8.1	116.2	2.1	3
	b	27.0	28.4	**4.6**	67.0	3.4	4
B1	**s**	29.4	17.6	11.8	170.8	2.0	3

Station	Depth	Data Results for Mid Ebb					
		Temperature (oC)	Salinity (ppt)	DO (mg/L)	DOS (%)	Turbidity (NTU)	Suspended Solids (SS)
	m	26.7	28.8	**3.9**	56.7	2.9	3
	b	25.0	32.7	**3.8**	54.7	4.1	2
B2	**s**	29.2	17.6	11.8	170.2	2.1	4
	m	28.0	22.6	**5.1**	74.0	2.6	3
	b	25.3	32.4	**3.8**	55.5	3.3	3
B3	**s**	29.2	17.8	11.4	164.2	6.1	3
	m	27.3	27.1	**4.8**	70.6	3.7	<2
	b	25.0	32.5	**3.8**	55.3	3.3	2
B4	**s**	29.3	17.8	11.7	169.1	2.8	3
	m	27.2	27.2	**4.8**	70.8	2.9	2
	b	25.6	32.1	**3.7**	54.9	2.8	2
B5	**s**	29.7	17.5	12.8	185.4	2.0	4
	m	26.7	29.5	**4.2**	61.5	2.8	3
	b	25.2	32.4	**3.6**	52.5	6.7	3
B6	**s**	29.3	17.6	13.5	195.1	2.2	4
	m	26.9	29.1	**4.6**	67.0	1.9	4
	b	25.6	32.2	**3.8**	56.0	3.5	4
D1	**s**	N/A	N/A	N/A	N/A	N/A	N/A
	m	29.8	17.5	14.5	210.3	2.3	4
	b	N/A	N/A	N/A	N/A	N/A	N/A
D2	**s**	30.1	17.5	14.5	210.9	2.5	<2
	m	N/A	N/A	N/A	N/A	N/A	N/A
	b	28.0	23.3	6.4	92.8	4.3	3
D3	**s**	30.1	17.4	13.9	202.4	2.3	3
	m	N/A	N/A	N/A	N/A	N/A	N/A
	b	27.5	26.0	5.4	79.5	2.5	2
D4	**s**	N/A	N/A	N/A	N/A	N/A	N/A
	m	29.4	18.2	11.2	162.6	2.4	2
	b	N/A	N/A	N/A	N/A	N/A	N/A

Notes: s – 1 m below the surface; m – mid depth; b – 1 m above the seabed
XX : Limit Level Exceedance; **XX**: Action Level Exceedance
* – Average value of duplicate sample

Mid-Flood Results Summary

2.1.11 During mid-flood survey, the range of DO level from 3.6mg/L to 14.5mg/L with an saturation level form 52.5% to 210.9%. The range of turbidity measurement was 1.9 to 6.7 NTU with SS content from <2 mg/L to 5 mg/L. The recorded temperature was within the expected range and values for these waters during the time of monitoring.

2.1.12 The DO Limit level and Action level exceedances were found on the middle and bottom level. A moderate thermocline and halocline was observed for the exceeding stations, which would limit water exchange with the surface and thus result in depleted oxygen levels measures on the bottom. This is a natural phenomenon common during the summer when surface temperatures are high and surface salinities low compared with bottom waters. Therefore, the exceedances of Limit Level of DO were considered non-project related.

2.2 Marine Mammals

2.2.1 No marine works within marine mammals inspection area in accordance with the EM&A manual were undertaken during the reporting period. Therefore, no marine mammal inspection was conducted during reporting period.

2.3 Construction and Demolition Waste Management

2.3.1 Weekly environmental site inspection was undertaken on 25 June 2012.

3. ENVIRONMENTAL NON-COMPLIANCE AND COMPLAINTS

3.1 Environmental Exceedances

Water Quality

3.1.1 Water quality monitoring was conducted on 28 June 2012 during reporting period. Exceedances of Limit Level of DO were recorded on 28 June 2012. No injection jetting by cable laying vessel was conducted on the sampling days due to a fault in the cable. A moderate thermocline and halocline was observed for the exceeding stations, which would limit water exchange with the surface and thus result in depleted oxygen levels measures on the bottom. This is a natural phenomenon common during Summer time when surface temperatures are high and surface salinities low compared with bottom waters. Therefore, the exceedances of Limit Level of DO were considered non-project related.

3.2 Site Inspections

3.2.1 Site inspections for shore based works were carried out on 25 June 2012 as appropriate. No non-compliances were recorded for the reporting period. A summary of findings conducted during the monitoring period is provided in Table 3-1.

Table 3-1 – Summary of Environmental Site Inspections

Date of Inspection	Observation	Action
25 June 2012	Nil.	No environmental observation was found during the site inspection. The contractor was reminded to avoid the sandy water flow to sea directly during excavation.

Photo 1: Excavation work was carried out on 25 June 2012 for cable laying.

3.3 Environmental Complaint

3.3.1 No complaints were received in relation to environmental impact during the reporting period.

4. FORECAST AND SCHEDULE

4.1 Key Engineering Works for the Coming Week

- Prepare cable laying by injection jetting accordingly; and
- Completion of shore works including backfilling of trench.

4.2 Monitoring Schedule for the Coming Week

Water Quality Monitoring

4.2.1 The proposed water quality monitoring schedule for the coming week is provided in Table 4-1 below.

Table 4-1 – Water Quality Monitoring Programme

Date	Day	Sampling Time	
		Mid-Flood	Mid-Ebb
6 July 2012	Friday	~ 12:25-15:55	~ 5:35-9:05

Marine Mammal Inspection

4.2.2 Marine mammal inspections shall be carried out during cable installation by injection jetting works.

5. CONCLUSION

5.1.1 This is the second weekly Environmental Impact Monitoring and Site Audit Report prepared by Atkins China Limited (ACL), for the consultancy services for the south-East Asia Japan Cable System (SJC) Project. This report been prepared in compliance with the Environmental Permit (EP-423 / 2011 /A) and associated EM&A Manual, and covers the reporting period 25 to 1 July 2012.

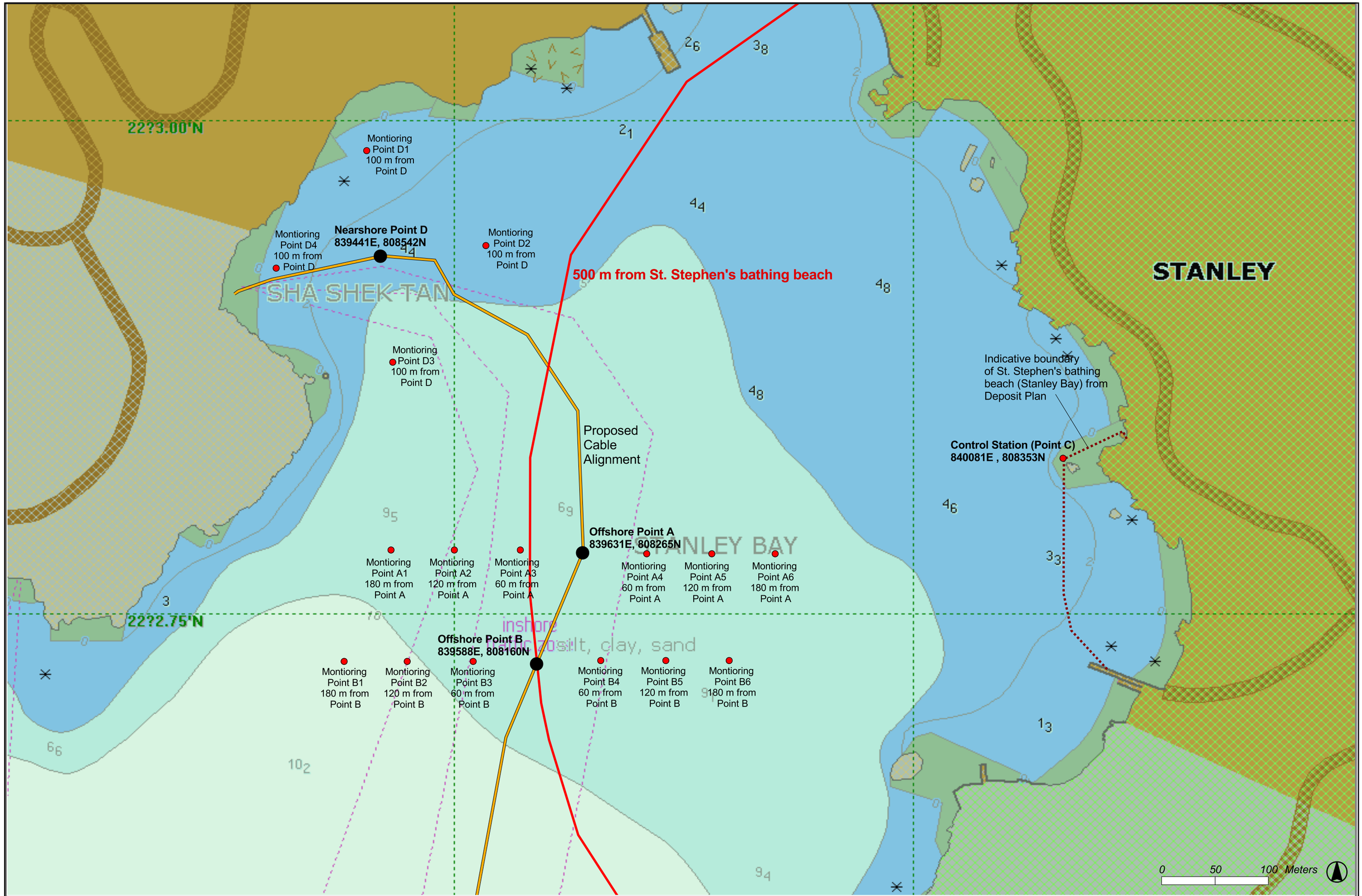
5.1.2 Water quality monitoring was conducted on 28 June 2012 during reporting period.

5.1.3 Site inspection was carried out as appropriate with no non-compliances recorded for the reporting period. During site inspection on 25 June 2012, no environmental observation was recorded and the contractor was reminded to avoid the sandy water flow to sea directly during excavation.

5.1.4 Exceedances of Limit Level of DO were recorded on 28 June 2012. No injection jetting by cable laying vessel was conducted on the sampling days due to a fault in the cable. A moderate thermocline and halocline was observed for the exceeding stations, which would limit water exchange with the surface and thus result in depleted oxygen levels measures on the bottom. This is a natural phenomenon common during Summer time when surface temperatures are high and surface salinities low compared with bottom waters. Therefore, the exceedances of Limit Level of DO were considered non-project related..

5.1.5 Overall, environmental impacts arising from the project activities have been controlled and properly rectified.

Figures



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South East Asia Japan Cable System (SJC) - Hong Kong Segment

Title

Indicative Location of Water Quality Monitoring Stations

Scale at A1	Date	Figure:
NTS	June 2012	2-1

Annex A

Calibration Certificates for Water Quality Monitoring Equipment

ALS Technichem (HK) Pty Ltd

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR IVAN LEUNG	**WORK ORDER:**	HK1210017
CLIENT:	ALS TECHNICHEM (HK) PTY LTD	**LABORATORY:**	HONG KONG
ADDRESS:	11/F., CHUNG SHUN KNITTING CENTRE, 1-3 WING YIP STREET, KWAI CHUNG, N.T., HONG KONG	**DATE RECEIVED:**	17/04/2012
		DATE OF ISSUE:	20/04/2012

COMMENTS

It is certified that the item under calibration/checking has been calibrated/checked by corresponding calibrated equipment in the laboratory.
Maximum Tolerance and calibration frequency stated in the report, unless otherwise stated, the internal aceptance criteria of ALS will be followed.

Scope of Test:	Conductivity, Dissolved Oxygen, pH, Salinity, Temperature and Turbidity
Description:	YSI Sonde
Brand Name:	YSI
Model No.:	6920 V2
Serial No.:	11F100014
Equipment No.:	--
Date of Calibration:	18 April, 2012

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: HONG KONG

Address

ALS Technichem (HK) Pty Ltd

11/F Chung Shun Knitting Centre
1-3 Wing Yip Street
Kwai Chung
HONG KONG

Phone: 852-2610 1044
Fax: 852-2610 2021
Email: hongkong@alsglobal.com

Mr Chan Kwok Fai, Godfrey
Laboratory Manager - Hong Kong

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1210017
Date of Issue: 20/04/2012
Client: ALS TECHNICHEM (HK) PTY LTD

Description: YSI Sonde
Brand Name: YSI
Model No.: 6920 V2
Serial No.: 11F100014
Equipment No.: --
Date of Calibration: 18 April, 2012 Date of next Calibration: 18 July, 2012

Parameters:

Conductivity

Method Ref: APHA (21st edition), 2510B

Expected Reading (mS/cm)	Displayed Reading (mS/cm)	Tolerance (%)
0.1469	0.143	-2.7
6.667	6.478	-2.8
12.890	12.72	-1.3
58.670	56.04	-4.5
	Tolerance Limit (%)	10.0

Dissolved Oxygen

Method Ref: APHA (21st edition), 4500O: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
5.35	5.26	-0.09
6.29	6.33	0.04
8.25	8.39	0.14
	Tolerance Limit (±mg/L)	0.20

pH Value

Method Ref: APHA 21st Ed. 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.01	0.01
7.0	7.10	0.10
10.0	10.10	0.10
	Tolerance Limit (±unit)	0.2

Salinity

Method Ref: APHA (21st edition), 2520B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0	--
10	10.26	2.6
20	20.59	3.0
30	31.10	3.7
	Tolerance Limit (±%)	10.0

Mr Chan Kwok Fai, Godfrey
Laboratory Manager - Hong Kong

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1210017
Date of Issue: 20/04/2012
Client: ALS TECHNICHEM (HK) PTY LTD

Description: YSI Sonde
Brand Name: YSI
Model No.: 6920 V2
Serial No.: 11F100014
Equipment No.: --
Date of Calibration: 18 April, 2012 Date of next Calibration: 18 July, 2012

Parameters:

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
13.5	13.11	-0.4
22.5	21.96	-0.5
39.0	38.78	-0.2
	Tolerance Limit (°C)	2.0

Turbidity

Method Ref: APHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.6	--
4	4.2	5.0
10	10.6	6.0
20	20.4	2.0
50	51.7	3.4
100	101.2	1.2
	Tolerance Limit (±%)	10.0

Mr Chan Kwok Fai, Godfrey
Laboratory Manager – Hong Kong

Annex B

Water Quality Monitoring Data and Result

Marine Water Quality Monitoring - Data Record Sheet

Project Name: Stanley Bay marine water monitoring

Date of Monitoring: 28/06/2012 Weather : Sunny Tide: ebb Sea Condition: Calm

Monitoring Equipment	Equipment No.
YSI Sonde 6920 V2	

Monitoring Location	Time	Water Depth (m)	Sampling Depth (m)	Temperature (oC)	Salinity (ppt)	DO (mg/L)	DOS (%)	Turbidity (NTU)
A1	**08:25**	**10.2**	1.0	28.7	17.5	8.2	116.4	1.7
			5.1	27.6	25.9	5.3	77.9	2.2
			9.2	26.1	30.8	3.5	51.8	5.1
A2	**08:15**	**9.2**	1.0	28.7	18.4	8.2	118.0	1.7
			4.6	28.1	23.2	6.1	89.4	2.2
			8.2	26.2	30.6	3.5	52.0	6.1
A3	**08:05**	**8.2**	1.0	28.7	17.2	8.4	119.3	1.8
			4.1	28.1	23.3	6.0	87.8	2.9
			7.2	27.2	27.2	4.5	66.2	3.7
A4	**07:55**	**7.3**	1.0	28.7	17.2	8.4	119.7	2.1
			3.7	28.8	19.7	7.6	110.0	2.2
			6.3	27.4	26.7	5.0	73.0	2.9
A5	**07:45**	**6.4**	1.0	28.6	17.3	8.3	118.0	1.7
			3.2	28.4	22.8	6.9	101.0	2.1
			5.4	27.0	28.4	4.3	62.9	3.2
A6	**07:35**	**6.7**	1.0	28.8	17.5	8.7	123.6	1.5
			3.4	29.1	18.4	8.1	117.3	2.0
			5.7	27.3	27.1	4.9	71.8	2.2

Project Name: Stanley Bay marine water monitoring

Date of Monitoring: 28/06/2012 Weather : Sunny Tide: ebb Sea Condition: Calm

Monitoring Equipment	Equipment No.
YSI Sonde 6920 V2	

Monitoring Location	Time	Water Depth (m)	Sampling Depth (m)	Temperature (oC)	Salinity (ppt)	DO (mg/L)	DOS (%)	Turbidity (NTU)
B1	**06:25**	**12.8**	1.0	28.7	17.4	8.0	114.4	1.6
			6.4	26.7	29.1	4.3	63.5	1.9
			11.8	25.5	31.5	3.6	51.9	4.2
B2	**06:35**	**11.4**	1.0	28.8	17.4	8.2	117.4	1.7
			5.7	26.8	28.9	4.4	63.9	1.9
			10.4	25.8	31.1	3.6	52.3	4.5
B3	**06:45**	**11.7**	1.0	28.8	17.5	8.3	117.8	1.7
			5.9	27.2	27.8	4.7	68.7	1.7
			10.7	26.3	31.1	3.7	54.0	3.3
B4	**06:55**	**11.3**	1.0	28.8	18.2	8.0	114.5	1.8
			5.7	27.4	26.6	5.1	74.0	1.8
			10.3	25.9	31.1	3.6	52.4	3.6
B5	**07:05**	**10.6**	1.0	28.7	17.8	8.1	116.1	1.8
			5.3	27.4	26.7	5.0	73.4	2.0
			9.6	26.3	30.8	3.7	54.2	3.3
B6	**07:15**	**10.2**	1.0	28.8	17.9	8.1	116.2	1.6
			5.1	27.4	26.6	5.0	73.3	2.0
			9.2	26.0	30.9	3.5	51.8	2.4

Project Name: Stanley Bay marine water monitoring

Date of Monitoring: 28/06/2012 Weather : Sunny Tide: ebb Sea Condition: Calm

Monitoring Equipment	Equipment No.
YSI Sonde 6920 V2	

Monitoring Location	Time	Water Depth (m)	Sampling Depth (m)	Temperature (oC)	Salinity (ppt)	DO (mg/L)	DOS (%)	Turbidity (NTU)
C	07:25	2.6						
			1.3	28.9	17.5	8.0	115.0	1.7
D1	09:05	2.5						
			1.3	28.7	17.4	8.4	119.2	1.7
D2	08:55	5.0	1.0	28.8	17.5	8.6	123.0	1.6
			4.0	28.5	18.5	7.0	100.2	2.3
D3	08:35	5.3	1.0	28.7	17.3	8.5	120.8	1.7
			4.3	28.4	22.0	6.5	94.9	2.3
D4	08:45	2.6						
			1.3	28.7	17.5	8.1	115.7	1.5

Marine Water Quality Monitoring - Data Record Sheet

Project Name: Stanley Bay marine water monitoring

Date of Monitoring: 28/06/2012 Weather : Cloudy Tide: Flood Sea Condition: Calm

Monitoring Equipment	Equipment No.
YSI Sonde 6920 V2	

Monitoring Location	Time	Water Depth (m)	Sampling Depth (m)	Temperature (oC)	Salinity (ppt)	DO (mg/L)	DOS (%)	Turbidity (NTU)
A1	**13:25**	**9.2**	1.0	29.8	17.6	13.2	192.1	2.2
			4.6	27.5	26.2	5.3	77.9	2.2
			8.2	26.7	29.5	4.2	62.4	3.2
A2	**13:15**	**9.2**	1.0	30.0	17.7	13.2	192.1	2.0
			4.6	28.0	22.9	6.1	88.7	2.4
			8.2	26.5	30.5	3.9	57.2	3.0
A3	**13:05**	**9.0**	1.0	29.7	17.8	12.4	180.4	2.0
			4.5	28.1	21.8	6.0	87.2	2.4
			8.0	26.3	30.3	3.7	54.0	3.2
A4	**12:55**	**7.5**	1.0	29.4	17.9	12.1	174.9	2.2
			3.8	28.2	22.5	6.4	92.8	2.2
			6.5	27.0	28.1	4.5	66.4	3.4
A5	**12:45**	**6.4**	1.0	29.7	17.7	13.0	189.0	2.1
			3.2	28.6	19.9	7.7	111.4	1.9
			5.4	28.1	22.9	6.0	87.2	2.3
A6	**12:35**	**6.4**	1.0	29.4	17.8	12.4	179.1	2.3
			3.2	28.8	18.7	8.1	116.2	2.1
			5.4	27.0	28.4	4.6	67.0	3.4

Project Name: Stanley Bay marine water monitoring

Date of Monitoring: 28/06/2012 Weather : Cloudy Tide: Flood Sea Condition: Calm

Monitoring Equipment	Equipment No.
YSI Sonde 6920 V2	

Monitoring Location	Time	Water Depth (m)	Sampling Depth (m)	Temperature (oC)	Salinity (ppt)	DO (mg/L)	DOS (%)	Turbidity (NTU)
B1	11:25	12.4	1.0	29.4	17.6	11.8	170.8	2.0
			6.2	26.7	28.8	3.9	56.7	2.9
			11.4	25.0	32.7	3.8	54.7	4.1
B2	11:35	10.8	1.0	29.2	17.6	11.8	170.2	2.1
			5.4	28.0	22.6	5.1	74.0	2.6
			9.8	25.3	32.4	3.8	55.5	3.3
B3	11:45	11.3	1.0	29.2	17.8	11.4	164.2	6.1
			5.7	27.3	27.1	4.8	70.6	3.7
			10.3	25.0	32.5	3.8	55.3	3.3
B4	11:55	10.4	1.0	29.3	17.8	11.7	169.1	2.8
			5.2	27.2	27.2	4.8	70.8	2.9
			9.4	25.6	32.1	3.7	54.9	2.8
B5	12:05	12.4	1.0	29.7	17.5	12.8	185.4	2.0
			6.2	26.7	29.5	4.2	61.5	2.8
			11.4	25.2	32.4	3.6	52.5	6.7
B6	12:15	10.1	1.0	29.3	17.6	13.5	195.1	2.2
			5.1	26.9	29.1	4.6	67.0	1.9
			9.1	25.6	32.2	3.8	56.0	3.5

Project Name: Stanley Bay marine water monitoring

Date of Monitoring: 28/06/2012 Weather : Cloudy Tide: Flood Sea Condition: Calm

Monitoring Equipment	Equipment No.
YSI Sonde 6920 V2	

Monitoring Location	Time	Water Depth (m)	Sampling Depth (m)	Temperature (oC)	Salinity (ppt)	DO (mg/L)	DOS (%)	Turbidity (NTU)
C	12:25	2.4	1.2	29.8	17.6	14.1	205.2	2.1
D1	14:05	1.2	0.6	29.8	17.5	14.5	210.3	2.3
			1.0	30.1	17.5	14.5	210.9	2.5
D2	13:55	5.1						
			4.1	28.0	23.3	6.4	92.8	4.3
			1.0	30.1	17.4	13.9	202.4	2.3
D3	13:35	5.1						
			4.1	27.5	26.0	5.4	79.5	2.5
D4	13:45	2.5	1.3	29.4	18.2	11.2	162.6	2.4

Project Name: Stanley Bay marine water monitoring

Date of Monitoring: Weather : _____ Tide: _____ Sea Condition: _____

Monitoring Equipment	Equipment No.
YSI Sonde 6920 V2	

Monitoring Location	Time	Water Depth (m)	Sampling Depth (m)	Temperature (oC)	Salinity (ppt)	DO (mg/L)	DOS (%)	Turbidity (NTU)
B1-S-E				28.6	17.3	7.9	111.8	1.6
B2-M-E				27.1	28.2	4.4	64.1	1.7
B3-B-E				26.3	31.1	3.7	54.0	3.3
B4-S-E				28.7	17.7	8.0	113.7	1.6
A4-S-F				29.7	17.8	12.5	181.8	2.1
A3-B-F				26.5	30.3	3.7	54.3	3.1
A2-M-F				28.0	22.9	6.1	88.7	2.5
A1-S-F				29.8	17.6	13.2	192.0	2.2

CERTIFICATE OF ANALYSIS

Client	: **ATKINS CHINA LTD**	*Laboratory*	: **ALS Technichem HK Pty Ltd**	*Page*	: **1 of 5**		
Contact	: **MS ENID YUNG**	*Contact*	: **Chan Kwok Fai, Godfrey**	*Work Order*	: **HK1216512**		
Address	: **5TH FLOOR, WHARF T&T CENTRE, HARBOUR CITY, TSIM SHA TSUI HONG KONG**	*Address*	: **11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong**				
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Project	: **QUOTATION OF WATER TEST - STANLEY**	*Quote number*	: **----**	*Date received*	: **28-JUN-2012**		
Order number	: **----**			*Date of issue*	: **06-JUL-2012**		
C-O-C number	: **----**			*No. of samples*	- *Received* :	**94**	
Site	: **----**				- *Analysed* :	**94**	

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1216512 supersedes any previous reports with this reference. The completion date of analysis is 06-JUL-2012. 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 HK1216512 :

Sample(s) were collected by ALS Technichem (HK) staff on 28/06/2012.

Temperature, Salinity, Dissolved Oxygen and Turbidity were measured on-site by ALS Technichem (HK) staff.

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

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

Analytical Results

Sub-Matrix: **MARINE WATER**

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound	EA025: Suspended Solids (SS)	EA012-SAMP: Temperature	EA020-SAMP: Salinity	EA045-SAMP: Turbidity	EP025-SAMP: Dissolved Oxygen
			LOR Unit	2 mg/L	0.1 °C	0.1 g/L	1 NTU	0.1 mg/L
				EA/ED: Physical and Aggregate Properties	OS: On-Site Measurement	OS: On-Site Measurement	OS: On-Site Measurement	OS: On-Site Measurement
A1-S MID-EBB	28-JUN-2012 08:25	HK1216512-001		<2	**28.7**	**17.5**	**2**	**8.2**
A1-M MID-EBB	28-JUN-2012 08:25	HK1216512-002		<2	**27.6**	**25.9**	**2**	**5.3**
A1-B MID-EBB	28-JUN-2012 08:25	HK1216512-003		<2	**26.1**	**30.8**	**5**	**3.5**
A2-S MID-EBB	28-JUN-2012 08:15	HK1216512-004		<2	**28.7**	**18.4**	**2**	**8.2**
A2-M MID-EBB	28-JUN-2012 08:15	HK1216512-005		**3**	**28.1**	**23.2**	**2**	**6.1**
A2-B MID-EBB	28-JUN-2012 08:15	HK1216512-006		<2	**26.2**	**30.6**	**6**	**3.5**
A3-S MID-EBB	28-JUN-2012 08:05	HK1216512-007		<2	**28.7**	**17.2**	**2**	**8.4**
A3-M MID-EBB	28-JUN-2012 08:05	HK1216512-008		<2	**28.1**	**23.3**	**3**	**6.0**
A3-B MID-EBB	28-JUN-2012 08:05	HK1216512-009		<2	**27.2**	**27.2**	**4**	**4.5**
A4-S MID-EBB	28-JUN-2012 07:55	HK1216512-010		**3**	**28.7**	**17.2**	**2**	**8.4**
A4-M MID-EBB	28-JUN-2012 07:55	HK1216512-011		<2	**28.8**	**19.7**	**2**	**7.6**
A4-B MID-EBB	28-JUN-2012 07:55	HK1216512-012		<2	**27.4**	**26.7**	**3**	**5.0**
A5-S MID-EBB	28-JUN-2012 07:45	HK1216512-013		<2	**28.6**	**17.3**	**2**	**8.3**
A5-M MID-EBB	28-JUN-2012 07:45	HK1216512-014		<2	**28.4**	**22.8**	**2**	**6.9**
A5-B MID-EBB	28-JUN-2012 07:45	HK1216512-015		<2	**27.0**	**28.4**	**3**	**4.3**
A6-S MID-EBB	28-JUN-2012 07:35	HK1216512-016		<2	**28.8**	**17.5**	**2**	**8.7**
A6-M MID-EBB	28-JUN-2012 07:35	HK1216512-017		<2	**29.1**	**18.4**	**2**	**8.1**
A6-B MID-EBB	28-JUN-2012 07:35	HK1216512-018		<2	**27.3**	**27.1**	**2**	**4.9**
B1-S MID-EBB	28-JUN-2012 06:25	HK1216512-019		**6**	**28.7**	**17.4**	**2**	**8.0**
B1-M MID-EBB	28-JUN-2012 06:25	HK1216512-020		**5**	**26.7**	**29.1**	**2**	**4.3**
B1-B MID-EBB	28-JUN-2012 06:25	HK1216512-021		**8**	**25.5**	**31.5**	**4**	**3.6**
B2-S MID-EBB	28-JUN-2012 06:35	HK1216512-022		**3**	**28.8**	**17.4**	**2**	**8.2**
B2-M MID-EBB	28-JUN-2012 06:35	HK1216512-023		**2**	**26.8**	**28.9**	**2**	**4.4**
B2-B MID-EBB	28-JUN-2012 06:35	HK1216512-024		**3**	**25.8**	**31.1**	**4**	**3.6**
B3-S MID-EBB	28-JUN-2012 06:45	HK1216512-025		**2**	**28.8**	**17.5**	**2**	**8.3**
B3-M MID-EBB	28-JUN-2012 06:45	HK1216512-026		**2**	**27.2**	**27.8**	**2**	**4.7**
B3-B MID-EBB	28-JUN-2012 06:45	HK1216512-027		<2	**26.3**	**31.1**	**3**	**3.7**
B4-S MID-EBB	28-JUN-2012 06:55	HK1216512-028		**5**	**28.8**	**18.2**	**2**	**8.0**
B4-M MID-EBB	28-JUN-2012 06:55	HK1216512-029		**2**	**27.4**	**26.6**	**2**	**5.1**
B4-B MID-EBB	28-JUN-2012 06:55	HK1216512-030		**4**	**25.9**	**31.1**	**4**	**3.6**
B5-S MID-EBB	28-JUN-2012 07:05	HK1216512-031		**2**	**28.7**	**17.8**	**2**	**8.1**
B5-M MID-EBB	28-JUN-2012 07:05	HK1216512-032		**3**	**27.4**	**26.7**	**2**	**5.0**
B5-B MID-EBB	28-JUN-2012 07:05	HK1216512-033		**2**	**26.3**	**30.8**	**3**	**3.7**
B6-S MID-EBB	28-JUN-2012 07:15	HK1216512-034		**2**	**28.8**	**17.9**	**2**	**8.1**
B6-M MID-EBB	28-JUN-2012 07:15	HK1216512-035		**5**	**27.4**	**26.6**	**2**	**5.0**

Sub-Matrix: **MARINE WATER**

Compound			**EA025: Suspended Solids (SS)**	**EA012-SAMP: Temperature**	**EA020-SAMP: Salinity**	**EA045-SAMP: Turbidity**	**EP025-SAMP: Dissolved Oxygen**
		LOR Unit	2 mg/L	0.1 °C	0.1 g/L	1 NTU	0.1 mg/L
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*	EA/ED: Physical and Aggregate Properties	OS: On-Site Measurement	OS: On-Site Measurement	OS: On-Site Measurement	OS: On-Site Measurement
B6-B MID-EBB	28-JUN-2012 07:15	HK1216512-036	**2**	**26.0**	**30.9**	**2**	**3.5**
CM MID-EBB	28-JUN-2012 07:25	HK1216512-037	**4**	**28.9**	**17.5**	**2**	**8.0**
D1-M MID-EBB	28-JUN-2012 09:05	HK1216512-038	<2	**28.7**	**17.4**	**2**	**8.4**
D2-S MID-EBB	28-JUN-2012 08:55	HK1216512-039	**2**	**28.8**	**17.5**	**2**	**8.6**
D2-B MID-EBB	28-JUN-2012 08:55	HK1216512-040	<2	**28.5**	**18.5**	**2**	**7.0**
D3-S MID-EBB	28-JUN-2012 08:35	HK1216512-041	<2	**28.7**	**17.3**	**2**	**8.5**
D3-B MID-EBB	28-JUN-2012 08:35	HK1216512-042	<2	**28.4**	**22.0**	**2**	**6.5**
D4-M MID-EBB	28-JUN-2012 08:45	HK1216512-043	<2	**28.7**	**17.5**	**2**	**8.1**
A1-S MID-FLOOD	28-JUN-2012 13:25	HK1216512-044	**4**	**29.8**	**17.6**	**2**	**13.2**
A1-M MID-FLOOD	28-JUN-2012 13:25	HK1216512-045	**3**	**27.5**	**26.2**	**2**	**5.3**
A1-B MID-FLOOD	28-JUN-2012 13:25	HK1216512-046	**2**	**26.7**	**29.5**	**3**	**4.2**
A2-S MID-FLOOD	28-JUN-2012 13:15	HK1216512-047	**3**	**30.0**	**17.7**	**2**	**13.2**
A2-M MID-FLOOD	28-JUN-2012 13:15	HK1216512-048	**3**	**28.0**	**22.9**	**2**	**6.1**
A2-B MID-FLOOD	28-JUN-2012 13:15	HK1216512-049	**4**	**26.5**	**30.5**	**3**	**3.9**
A3-S MID-FLOOD	28-JUN-2012 13:05	HK1216512-050	**3**	**29.7**	**17.8**	**2**	**12.4**
A3-M MID-FLOOD	28-JUN-2012 13:05	HK1216512-051	**4**	**28.1**	**21.8**	**2**	**6.0**
A3-B MID-FLOOD	28-JUN-2012 13:05	HK1216512-052	**4**	**26.3**	**30.3**	**3**	**3.7**
A4-S MID-FLOOD	28-JUN-2012 12:55	HK1216512-053	**5**	**29.4**	**17.9**	**2**	**12.1**
A4-M MID-FLOOD	28-JUN-2012 12:55	HK1216512-054	**4**	**28.2**	**22.5**	**2**	**6.4**
A4-B MID-FLOOD	28-JUN-2012 12:55	HK1216512-055	**3**	**27.0**	**28.1**	**3**	**4.5**
A5-S MID-FLOOD	28-JUN-2012 12:45	HK1216512-056	**5**	**29.7**	**17.7**	**2**	**13.0**
A5-M MID-FLOOD	28-JUN-2012 12:45	HK1216512-057	**4**	**28.6**	**19.9**	**2**	**7.7**
A5-B MID-FLOOD	28-JUN-2012 12:45	HK1216512-058	**3**	**28.1**	**22.9**	**2**	**6.0**
A6-S MID-FLOOD	28-JUN-2012 12:35	HK1216512-059	**3**	**29.4**	**17.8**	**2**	**12.4**
A6-M MID-FLOOD	28-JUN-2012 12:35	HK1216512-060	**3**	**28.8**	**18.7**	**2**	**8.1**
A6-B MID-FLOOD	28-JUN-2012 12:35	HK1216512-061	**4**	**27.0**	**28.4**	**3**	**4.6**
B1-S MID-FLOOD	28-JUN-2012 11:25	HK1216512-062	**3**	**29.4**	**17.6**	**2**	**11.8**
B1-M MID-FLOOD	28-JUN-2012 11:25	HK1216512-063	**3**	**26.7**	**28.8**	**3**	**3.9**
B1-B MID-FLOOD	28-JUN-2012 11:25	HK1216512-064	**2**	**25.0**	**32.7**	**4**	**3.8**
B2-S MID-FLOOD	28-JUN-2012 11:35	HK1216512-065	**4**	**29.2**	**17.6**	**2**	**11.8**
B2-M MID-FLOOD	28-JUN-2012 11:35	HK1216512-066	**3**	**28.0**	**22.6**	**3**	**5.1**
B2-B MID-FLOOD	28-JUN-2012 11:35	HK1216512-067	**3**	**25.3**	**32.4**	**3**	**3.8**
B3-S MID-FLOOD	28-JUN-2012 11:45	HK1216512-068	**3**	**29.2**	**17.8**	**6**	**11.4**
B3-M MID-FLOOD	28-JUN-2012 11:45	HK1216512-069	<2	**27.3**	**27.1**	**4**	**4.8**
B3-B MID-FLOOD	28-JUN-2012 11:45	HK1216512-070	**2**	**25.0**	**32.5**	**3**	**3.8**

Sub-Matrix: **MARINE WATER**

Compound			**EA025: Suspended Solids (SS)**	**EA012-SAMP: Temperature**	**EA020-SAMP: Salinity**	**EA045-SAMP: Turbidity**	**EP025-SAMP: Dissolved Oxygen**
LOR Unit			2 mg/L	0.1 °C	0.1 g/L	1 NTU	0.1 mg/L
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*	EA/ED: Physical and Aggregate Properties	OS: On-Site Measurement	OS: On-Site Measurement	OS: On-Site Measurement	OS: On-Site Measurement
B4-S MID-FLOOD	28-JUN-2012 11:55	HK1216512-071	**3**	**29.3**	**17.8**	**3**	**11.7**
B4-M MID-FLOOD	28-JUN-2012 11:55	HK1216512-072	**2**	**27.2**	**27.2**	**3**	**4.8**
B4-B MID-FLOOD	28-JUN-2012 11:55	HK1216512-073	**2**	**25.6**	**32.1**	**3**	**3.7**
B5-S MID-FLOOD	28-JUN-2012 12:05	HK1216512-074	**4**	**29.7**	**17.5**	**2**	**12.8**
B5-M MID-FLOOD	28-JUN-2012 12:05	HK1216512-075	**3**	**26.7**	**29.5**	**3**	**4.2**
B5-B MID-FLOOD	28-JUN-2012 12:05	HK1216512-076	**3**	**25.2**	**32.4**	**7**	**3.6**
B6-S MID-FLOOD	28-JUN-2012 12:15	HK1216512-077	**4**	**29.3**	**17.6**	**2**	**13.5**
B6-M MID-FLOOD	28-JUN-2012 12:15	HK1216512-078	**4**	**26.9**	**29.1**	**2**	**4.6**
B6-B MID-FLOOD	28-JUN-2012 12:15	HK1216512-079	**4**	**25.6**	**32.2**	**4**	**3.8**
CM MID-FLOOD	28-JUN-2012 12:25	HK1216512-080	**3**	**29.8**	**17.6**	**2**	**14.1**
D1-M MID-FLOOD	28-JUN-2012 14:05	HK1216512-081	**4**	**29.8**	**17.5**	**2**	**14.5**
D2-S MID-FLOOD	28-JUN-2012 13:55	HK1216512-082	<2	**30.1**	**17.5**	**2**	**14.5**
D2-B MID-FLOOD	28-JUN-2012 13:55	HK1216512-083	**3**	**28.0**	**23.3**	**4**	**6.4**
D3-S MID-FLOOD	28-JUN-2012 13:35	HK1216512-084	**3**	**30.1**	**17.4**	**2**	**13.9**
D3-B MID-FLOOD	28-JUN-2012 13:35	HK1216512-085	**2**	**27.5**	**26.0**	**2**	**5.4**
D4-M MID-FLOOD	28-JUN-2012 13:45	HK1216512-086	**2**	**29.4**	**18.2**	**2**	**11.2**
B1-S-E FIELD DUPLICATE	[28-JUN-2012]	HK1216512-087	**4**	**28.6**	**17.3**	**2**	**7.9**
B2-M-E FIELD DUPLICATE	[28-JUN-2012]	HK1216512-088	**3**	**27.1**	**28.2**	**2**	**4.4**
B3-B-E FIELD DUPLICATE	[28-JUN-2012]	HK1216512-089	<2	**26.3**	**31.1**	**3**	**3.7**
B4-S-E FIELD DUPLICATE	[28-JUN-2012]	HK1216512-090	**4**	**28.7**	**17.7**	**2**	**8.0**
A1-S-F FIELD DUPLICATE	[28-JUN-2012]	HK1216512-091	**5**	**29.8**	**17.6**	**2**	**13.2**
A2-M-F FIELD DUPLICATE	[28-JUN-2012]	HK1216512-092	**4**	**28.0**	**22.9**	**2**	**6.1**
A3-B-F FIELD DUPLICATE	[28-JUN-2012]	HK1216512-093	**3**	**26.5**	**30.3**	**3**	**3.7**
A4-S-F FIELD DUPLICATE	[28-JUN-2012]	HK1216512-094	**3**	**29.7**	**17.8**	**2**	**12.5**

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

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: 2388098)								
HK1216512-001	A1-S MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.0
HK1216512-011	A4-M MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 2388099)								
HK1216512-021	B1-B MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	8	7	0.0
HK1216512-031	B5-S MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	2	3	38.2
EA/ED: Physical and Aggregate Properties (QC Lot: 2388100)								
HK1216512-041	D3-S MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.0
HK1216512-051	A3-M MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	4	6	45.4
EA/ED: Physical and Aggregate Properties (QC Lot: 2388101)								
HK1216512-061	A6-B MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	4	3	0.0
HK1216512-071	B4-S MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	3	5	34.4
EA/ED: Physical and Aggregate Properties (QC Lot: 2388102)								
HK1216512-081	D1-M MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	4	3	35.0
HK1216512-091	A1-S-F FIELD DUPLICATE	EA025: Suspended Solids (SS)	----	2	mg/L	5	3	40.2

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 2388098)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 2388099)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 2388100)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	99.5	----	85	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 2388101)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	99.5	----	85	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 2388102)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	103	----	85	113	----	----

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

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**