



Proposed 132kV Submarine Cable  
Route for Airport "A" to Castle Peak  
Power Station Cable Circuit

*Tenth Weekly Impact Monitoring Report -  
28<sup>th</sup> January to 3<sup>rd</sup> February 2008*

11<sup>th</sup> February 2008

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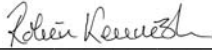
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CLP Power

Proposed 132kV Submarine Cable  
Route for Airport "A" to Castle  
Peak Power Station Cable Circuit:  
*Tenth Weekly Impact Monitoring  
Report – 28<sup>th</sup> January 2008 – 3<sup>rd</sup>  
February 2008*

February 2008

Reference 0072833

For and on behalf of ERM-Hong Kong, Limited
Approved by: <u>Dr Robin Kennish</u>
Signed: <u></u>
Position: <u>Director</u>
Date: <u>11 February 2008</u>

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## ***EXECUTIVE SUMMARY***

The construction works for the Proposed 132kV Submarine Cable Route for Airport "A" to Castle Peak Power Station Cable Circuit (Application No. DIR-143/2006) commenced on 10 November 2007. This is the 10<sup>th</sup> weekly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 28 January to 3 February 2008 in accordance with the EM&A Manual.

### Summary of Construction Works undertaken during the Reporting Period

During the reporting week, at the Airport landing site, dredging operations were undertaken during the reporting period from 28 January to 3 February 2008.

### Water Quality

Three monitoring events were scheduled between 28 January and 3 February 2008 at Airport landing sites. All monitoring events at all designated monitoring stations were performed on schedule, ie on 28 January, 30 January and 2 February 2008

All measured dissolved oxygen levels complied with the Action and Limit (AL) Levels, and all measured Turbidity and Suspended Solids (SS) levels were below AL Levels during the reporting week.

### Environmental Non-conformance

No exceedance of Action and Limit Levels was recorded during the reporting week.

No non-compliance event was recorded during the reporting week.

No complaint and summons/prosecution was received during the reporting week.

### Future Key Issues

During the following week (ie 4 February to 10 February 2008), dredging operations will be carried out at the Airport landing site.

ERM-Hong Kong, Limited (ERM) was appointed by CLP Power (CLP) as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme for the Proposed 132kV Submarine Cable Route for Airport "A" to Castle Peak Power Station Cable Circuit (thereinafter called the ('Project')).

### **1.1 PURPOSE OF THE REPORT**

This is the 10<sup>th</sup> weekly EM&A report, which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from 28 January to 3 February 2008.

### **1.2 STRUCTURE OF THE REPORT**

The structure of the report is as follows:

*Section 1 : Introduction*

Details the background, purpose and structure of the report.

*Section 2 : Project Information*

Summarises background and scope of the project, site description, project organisation and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting period.

*Section 3 : Environmental Monitoring Requirement*

Summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, Event / Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

*Section 4 : Implementation Status on Environmental Mitigation Measures*

Summarises the implementation of environmental protection measures during the reporting period.

*Section 5 : Monitoring Results*

Summarises the monitoring results obtained in the reporting period.

*Section 6 : Environmental Non-conformance*

Summarises any monitoring exceedance, environmental complaints and environmental summons within the reporting period.

*Section 7: Future Key Issues*

Summarises the monitoring schedule for the next week.

*Section 8: Review of EM&A Data and Impact Assessment Predictions*

Compares and contrasts the EM&A data in the reporting period with the impact assessment predictions and annotates with explanations of discrepancies.

*Section 9: Conclusions*

Presents the key findings of the impact monitoring results.

## 2.1 BACKGROUND

CLP will install a 132 kV submarine cable circuit to connect Castle Peak Power Station and Hong Kong International Airport in order to meet the electricity load growth at the Airport.

The proposed cable route will start from Tuen Mun and extend southward crossing the Urmston Road to the Airport. The cable landing sites will be located to the west of Butterfly Beach, Tuen Mun and at the northern part of the platform of the Airport (see *Figure 2.1*).

In September 2006, a Project Profile (PP) for the proposed 132kV Cable Route for Airport "A" to Castle Peak CCTS (thereinafter called the 'Project') was prepared and submitted to the Environmental Protection Department (EPD) under the *Environmental Impact Assessment Ordinance (EIAO)* for application for Permission to apply directly for Environmental Permit (EP) (Application No. *DIR-143/2006*).

An Environmental Permit (*EP-267/2007*) for the works was granted on 29 March 2007. Under the requirements of *Condition 2.12* of the EP, an EM&A programme as set out in the *Environmental Monitoring and Audit Manual (EM&A Manual)* is required to be implemented. In accordance with the *EM&A Manual*, impact monitoring of water quality is required for the Project.

Baseline Monitoring was conducted at Tuen Mun landing site between 18 October and 28 October 2007. Through communications with EPD, a silt curtain at the water intake of the Airport should already be in place during the baseline monitoring. EPD hence advised the baseline monitoring (thereinafter called *Baseline Environmental Monitoring Part B*) for the Airport East section of works should be postponed until a silt curtain is ready. The baseline monitoring for Tuen Mun section of the Project and sediment quality testing were hence undertaken first (thereinafter called *Baseline Environmental Monitoring Part A*) and the results were presented in *Part A* of the report which was submitted to EPD.

The silt curtains were installed at the Airport seawater intake on 20 December 2007 and *Baseline Environmental Monitoring Part B* was then carried out between 22 December 2007 and 2 January 2008.

Impact Monitoring has been carried out at Tuen Mun landing site since 10 November 2007 and at Airport landing site since 16 January 2008. This report, therefore, presents results of the data from monitoring stations around the Tuen Mun and Airport landing sites (*Figure 2.1*). Results of the impact monitoring data will therefore be compared against the results of the *Baseline Environmental Monitoring Part A* and *Part B*.



## 2.2 *SITE DESCRIPTION*

The proposed 132kV cable is located in-between Tuen Mun and the Hong Kong International Airport. The alignment of the cable is illustrated in *Figure 2.1*.

## 2.3 *MARINE CONSTRUCTION WORKS UNDERTAKEN DURING REPORTING WEEK*

During the reporting week, at the Airport landing site, dredging operations were undertaken during the reporting period from 28 January to 3 February 2008.

The works programme of the period between 28 January and 3 February 2008 is presented in *Annex A*.

## 2.4 *PROJECT ORGANISATION*

The Project Organisation chart and contact details are shown in *Annex B*.

## 2.5 *STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS*

A summary of the relevant permits, licences, notifications and/or reports on environmental protection for this Project is presented in *Table 2.1*.

**Table 2.1** *Summary of Environmental Licensing, Notification, Permit and Reporting Status*

<b>Permit / Licence / Notification / Report</b>	<b>Reference</b>	<b>Validity Period</b>	<b>Remarks</b>
EM&A Manual	-	Throughout the construction period	submitted on 25 January 2007
Environmental Permit	EP-267/2007	Throughout the construction period	granted on 29 March 2007
Baseline Environmental Monitoring Report (Part A)	-	Throughout the construction period for Tuen Mun Section	approved by EPD on 8 November 2007
Baseline Environmental Monitoring Report (Part B)	-	Throughout the construction period for Airport Section	approved by EPD on 16 January 2008

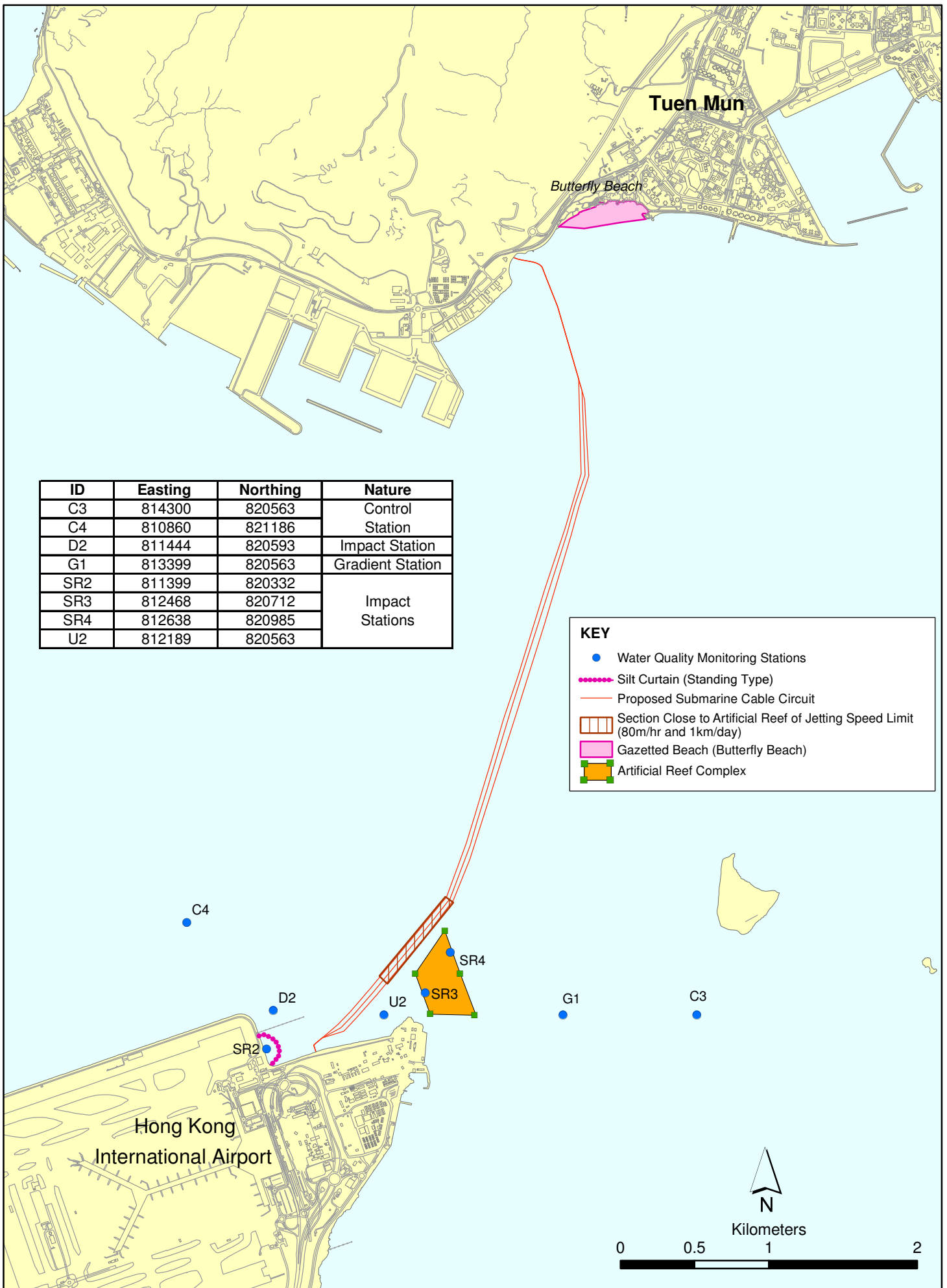


FIGURE 2.1

Location of Water Quality Monitoring Stations  
(at Airport Landing Site)

### 3.1 MONITORING LOCATIONS

In accordance with the *EM&A Manual*, prior to the installation of the cable, water quality sampling was undertaken at stations situated around the cable laying works area at Tuen Mun and the Airport. The locations of the sampling stations are shown in *Figure 2.1*.

- C3 and C4 are Control Stations near the Airport, which are not expected to be influenced by the construction works due to their remoteness from the construction works.
- U2 and D2 are Impact Stations located approximately 300 m either from the cable alignment for monitoring the effect of dredging at the Airport landing point.
- SR2 is Impact Station (sensitive receiver) used to monitor the effect of the construction works to the Seawater Intake at the Airport.
- SR3 and SR4 are Impact Stations (sensitive receivers) used to verify the predictions concerning sediment plume dispersion during dredging at the areas close to the Artificial Reef (AR) and at the landing sites.
- G1 is Gradient Station which is situated in between C3 and the AR. It is used to determine the source of pollutants by comparing the monitoring results with those recorded at C3, SR3 and SR4. Since G1 is located between C3 and the construction work alignment, it serves the gradient function with C3 during flood tide, but has no relationship and function with C4 during ebb tide.

The co-ordinates of these monitoring stations are listed in *Table 3.1*.

**Table 3.1** *Co-ordinates of Water Quality Monitoring Stations (HK Grid)*

<b>Station</b>	<b>Nature</b>	<b>Easting</b>	<b>Northing</b>
C3	Control Station	814300	820563
C4	Control Station	810860	821186
U2	Impact Station	812189	820563
D2	Impact Station	811444	820593
SR2	Impact Station	811399	820332
SR3	Impact Station	812468	820712
SR4	Impact Station	812638	820985
G1	Gradient Station	813399	820563

### 3.2 *MONITORING PARAMETERS AND FREQUENCY*

The impact water quality monitoring was conducted in accordance with the requirements stated in *EM&A Manual*. These are presented below.

#### 3.2.1 *Monitoring Parameters*

Parameters measured *in situ* were:

- dissolved oxygen (DO) (% saturation and mg L<sup>-1</sup>);
- temperature (°C);
- turbidity (NTU); and
- salinity (‰).

The only parameter measured in the laboratory was:

- suspended solids (SS) (mgL<sup>-1</sup>).

In addition to the water quality parameters, other relevant data were measured and recorded in field logs, including the location of the sampling stations, water depth, time, weather conditions, sea conditions, tidal state, special phenomena and work activities undertaken around the monitoring and works area that may influence the monitoring results.

#### 3.2.2 *Monitoring Frequency*

Impact water quality monitoring was carried out three times a week. The interval between two sets of monitoring was not less than 36 hours. The monitoring was undertaken at 8 locations (five impact monitoring stations D2, U2, SR2, SR3 and SR4, one gradient station G1, and two control monitoring stations C3 and C4), as shown on *Figure 2.1*. Samples were taken during mid-flood and mid-ebb tidal state on each sampling occasion.

### 3.3 *MONITORING EQUIPMENT AND METHODOLOGY*

#### 3.3.1 *Monitoring Equipment*

##### *Dissolved Oxygen, Temperature, Salinity, Turbidity Measuring Equipment*

The instrument was a portable, weatherproof multi-parameter measuring instrument (YSI 6820) complete with cables, multi-probe sensor, comprehensive operation manuals, and was operable from a DC power source. It was capable of measuring:

- dissolved oxygen levels in the range of 0 – 50 mg L<sup>-1</sup>; and 0-500% saturation;
- temperature of -5 to 50 °C;
- turbidity levels between 0-1000 NTU (response of the sensor was checked with certified standard turbidity solutions before the start of measurement); and,
- salinity in the range of 0-40 ppt (checked with 30 ppt Salinity solutions before the start of the measurement).

##### *Water Depth Gauge*

The water depth gauge affixed to the bottom of the water quality monitoring vessel was used.

##### *Current Velocity and Direction*

Current velocity and direction was estimated by conducting float tracking.

##### *Positioning Device*

A Global Positioning System (GPS) was used (C-Navigator World DGPS, GPS 72A) during monitoring to ensure the accurate recording of the position of the monitoring vessel before taking measurements. The use of DGPS was used for positioning device, which was well calibrated at appropriate checkpoint.

##### *Water Sampling Equipment*

Water samples for suspended solids measurement were collected by the use of a multi-bottle water sampling system (General Oceanics Inc., Rosette Sampler ROS02), consisting of PVC bottles of more than two litres, which could be effectively sealed with cups at both ends. The water sampler had a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler was at the selected water depth.

### 3.3.2

## *Monitoring Methodology*

### *Timing & Frequency*

The water quality sampling was undertaken within a 3 hour window of 1.5 hours before and 1.5 hours after mid-flood and mid-ebb tides. Tidal range for flood and ebb tides was not less than 0.5m for capturing representative tides.

Reference was made to the predicted tides at Lok On Pai, which is the tidal station nearest to the Project site, published on the website of Hong Kong Observatory<sup>(1)</sup>. Based on the predicted water levels at Lok On Pai, the impact water quality monitoring was conducted between 28 January and 3 February 2008, following the schedule presented in *Annex C*.

Duplicate samples were collected from each of the monitoring events for *in situ* measurements and laboratory analysis.

### *Depths*

Each station was sampled and measurements were taken at three depths, 1 m below the sea surface, mid depth and 1m above the sea bed.

### *Protocols*

The multi-parameter measuring instrument (YSI 6820) was checked and calibrated by an HOKLAS accredited laboratory before use. Onsite calibration was also carried out to check the responses of sensors and electrodes using certified standard solutions before each use. Sufficient stocks of spare parts were maintained for replacements when necessary, and backup monitoring equipment was made available.

Water samples for SS measurements were collected in high density polythene bottles, packed in ice (cooled to 4° C without being frozen), and delivered to an HOKLAS accredited laboratory as soon as possible after collection.

### *Laboratory Analysis*

All laboratory work was carried out by an HOKLAS accredited laboratory. Water samples of about 1,000 mL were collected at the monitoring and control stations for carrying out the laboratory determinations. The determination work started within the next working day after collection of the water samples. The analyses followed the standard methods as described in *APHA Standard Methods for the Examination of Water and Wastewater*, 19<sup>th</sup> Edition, unless otherwise specified (APHA 2540D for SS).

The QA/QC details were in accordance with requirements of HOKLAS or another internationally accredited scheme (for details refer to *Annex D*).

(1) Hong Kong Observatory (2007) <http://www.hko.gov.hk/tide/eLOPtide.htm> [Accessed on 13 October 2007]

### 3.3.3 *Action and Limit Levels*

The Action and Limit levels for the Airport landing site, which were established based on the results of *Baseline Environmental Monitoring Part B*, are presented in *Tables 3.2* respectively.

**Table 3.2** *Action and Limit Levels for Water Quality for the Airport Landing Site*

Parameter	Unit	Tide	Depth	Action Level	Limit Level
Suspended Solids (SS)	mg L <sup>-1</sup>	Mid-Ebb	Depth-averaged	21.6	29.8
		Mid-Flood	Depth-averaged	30.8	34.3
Dissolved Oxygen (DO)	mg L <sup>-1</sup>	Mid-Ebb	Surface and Middle	6.6	4.0
			Bottom	6.9	2.0
		Mid-Flood	Surface and Middle	6.8	4.0
			Bottom	6.8	2.0
Turbidity	NTU	Mid-Ebb	Depth-averaged	17.4	25.9
		Mid-Flood	Depth-averaged	22.9	27.9

**Notes:**

- (1) The results recorded at the gradient station during the mid-flood period will be used to decide whether any exceedance being recorded during mid-flood are arising from the marine works of this Project.
- (2) Turbidity and SS levels will make reference to 120% and 130% of value recorded at the upstream control station during the same tidal conditions to assess the compliance of Action and Limit Levels respectively.

### 3.3.4 *Event and Action Plan*

The Event and Action Plan for water quality monitoring which was stipulated in the *EM&A Manual* is presented in *Table 3.3*.

**Table 3.3** *Event and Action Plan for Water Quality*

<b>Event</b>	<b>Action</b>
Action Level Exceedance	<p><b>Step 1</b> - repeat sampling event;</p> <p><b>Step 2</b> - identify source(s) of impact and confirm whether exceedance was due to the construction works;</p> <p><b>Step 3</b> - inform EPD and LCSD and confirm notification of the non-compliance in writing;</p> <p><b>Step 4</b> - discuss with cable installation contractor the most appropriate method of reducing suspended solids during cable installation (e.g. reduce cable laying speed/ volume of water used during installation, increase effectiveness of silt curtain).</p> <p><b>Step 5</b> - repeat measurements after implementation of mitigation for confirmation of compliance.</p> <p><b>Step 6</b> - if non compliance continues - increase measures in Step 3 and repeat measurements in Step 3. If non compliance occurs a third time, suspend cable laying operations.</p>
Limit Level Exceedance	<p>Undertake <b>Steps 1-5</b> immediately, if further non compliance continues at the Limit Level, suspend cable laying operations until an effective solution is identified.</p>



## 4 *IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES*

### 4.1 *RECOMMENDED MITIGATION MEASURES*

Mitigation measures for water quality control have been recommended in the Project Profile and the Environmental Permit. The Contractor is responsible for the design and implementation of the following measures.

During cable laying the following will be undertaken:

- Although the sediment loss during both grab dredging and suction dredging is expected to be quite small, the Contractor will be employing a silt curtain around the dredgers to reduce the dispersion of sediments from the landing points.
- Closed grab dredgers will be used to avoid dispersion of suspended solids into the sea.
- The maximum dredging rate at Tuen Mun shore approach will be limited to 1,500 m<sup>3</sup> day<sup>-1</sup> for working 10 hours per day, i.e., 150 m<sup>3</sup> hr<sup>-1</sup>.
- The maximum dredging rates of grab dredgers and suction method, whichever to be deployed by the contractor, at the Airport shore approach will be limited to 650 m<sup>3</sup> day<sup>-1</sup> and 1,600 m<sup>3</sup> day<sup>-1</sup> for working 16 hours per day, i.e., 41 m<sup>3</sup> hr<sup>-1</sup> and 100 m<sup>3</sup> hr<sup>-1</sup>.
- All barges used for the transport of dredged materials will be fitted with tight bottom seals in order to prevent leakage of material during loading and transport.
- All barges will be filled to a level, to ensure that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action.
- The forward speed of the jetting machine will be limited to a maximum of 80 m hr<sup>-1</sup> and 24 hours operation.

### 4.2 *IMPLEMENTATION STATUS OF MITIGATION MEASURES*

In addition to the regulatory requirements as mentioned in *Section 4.1* above, the Contractor has implemented a precautionary measure for the works undertaken at the inshore area. As a precautionary measure, a silt curtain has been installed at the Airport seawater intake.

**5.1 IMPACT MONITORING RESULTS**

The monitoring data and graphical presentations of the results are included in *Annex E*. These are summarised below.

A total of three monitoring events were scheduled between 28 January and 3 February at the Airport landing sites. All monitoring events at all designated monitoring stations were performed on schedule, ie on 28 January, 30 January and 2 February 2008.

No major activities influencing the water quality were identified between 28 January and 3 February.

All measured dissolved oxygen levels complied with the Action and Limit (AL) Levels, and all measured Turbidity and Suspended Solids (SS) levels were below AL Levels during the reporting week. (*Annex E*).

## **6 ENVIRONMENTAL NON-CONFORMANCES**

### **6.1 SUMMARY OF ENVIRONMENTAL EXCEEDANCE**

No exceedance of the Action and Limit Levels was recorded during the reporting period.

### **6.2 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE**

No non-compliance event was recorded during the reporting period.

### **6.3 SUMMARY OF ENVIRONMENTAL COMPLAINT**

No complaint was received during the reporting period.

### **6.4 SUMMARY OF ENVIRONMENTAL SUMMONS AND PROSECUTION**

No summons or prosecution on environmental matters was received during the reporting period.

## 7 *FUTURE KEY ISSUES*

### 7.1 *KEY ISSUES FOR THE COMING MONTH*

During the following week (ie 4 February to 10 February 2008), dredging operations will be carried out at the Airport landing site. The expected construction programme is enclosed in *Annex A*.

### 7.2 *MONITORING SCHEDULE FOR THE COMING MONTHS*

The tentative schedule of impact water quality monitoring in February 2008 is presented in *Annex C*. The environmental monitoring will be conducted at the same monitoring locations as those for this reporting week.

Dredging operation was carried out at Airport land site during the period of 28 January to 3 February 2008, the monitoring data collected are therefore compared with the impact assessment predictions in the Project Profile. *Table 8.1* shows the predicted maximum suspended solids (SS) elevations that would occur at different distances away from dredging works at the shore ends after taking into account the deployment of silt curtains.

**Table 8.1** *Predicted Elevations of Suspended Solids Concentration due to Dredging at Shore Ends following the Deployment of Silt Curtains*

Distance from Source (m)	Airport (Grab Dredging)
	Concentration (mg L <sup>-1</sup> )
10	54
100	5
200	3
500	1
1000	1
2000	0
3000	0

*Table 8.2* shows the SS levels that were recorded at monitoring stations on 28 and 30 January, 2 February 2008 together with a calculation of elevations by taking control station data as ambient concentrations. During the reporting week, at Airport landing site, the distance between impact stations and the dredger ranged from 250 m to 1100 m. For Airport landing site, most of the measured elevations of SS at the monitoring stations (*Table 8.2*) were in line with previous predictions (*Table 8.1*). Though some measured elevations of SS exceeded the predictions, they did not result in any exceedence of the AL level.

**Table 8.2** *Depth-averaged Suspended Sediment (SS) Elevations (mg L<sup>-1</sup>) due to Dredging at Impact Station during the Reporting Week*

Date of Monitoring	Tidal State	Station	Distance from Grab Dredger (m)	SS Level (mg L <sup>-1</sup> )	Ambient SS Level (mg L <sup>-1</sup> ) <sup>(1)</sup>	Measured SS Elevation (mg L <sup>-1</sup> )	Predicted SS Elevation (mg L <sup>-1</sup> ) <sup>(2)</sup>
28/01/2008	Mid-Ebb	D2	~900	6.83	C4 - 5.00	1.83	1
28/01/2008	Mid-Ebb	U2	~400	6.50	C4 - 5.00	1.50	2
28/01/2008	Mid-Ebb	SR2	~1100	8.75	C4 - 5.00	3.75	1
28/01/2008	Mid-Ebb	SR3	~250	9.33	C4 - 5.00	4.33	3
28/01/2008	Mid-Ebb	SR4	~250	11.00	C4 - 5.00	6.00	3
28/01/2008	Mid-Flood	D2	~900	17.83	C3 - 10.00	7.33	1
28/01/2008	Mid-Flood	U2	~400	11.33	C3 - 10.00	0.83	2
28/01/2008	Mid-Flood	SR2	~1100	11.75	C3 - 10.00	1.25	1
28/01/2008	Mid-Flood	SR3	~250	5.33	C3 - 10.00	-5.17	3
28/01/2008	Mid-Flood	SR4	~250	7.67	C3 - 10.00	-2.83	3
30/01/2008	Mid-Ebb	D2	~900	6.00	C4 - 7.17	-1.17	1
30/01/2008	Mid-Ebb	U2	~400	5.83	C4 - 7.17	-1.33	2
30/01/2008	Mid-Ebb	SR2	~1100	10.25	C4 - 7.17	3.08	1
30/01/2008	Mid-Ebb	SR3	~250	6.17	C4 - 7.17	-1.00	3
30/01/2008	Mid-Ebb	SR4	~250	4.67	C4 - 7.17	-2.50	3
30/01/2008	Mid-Flood	D2	~900	6.33	C3 - 4.83	1.50	1
30/01/2008	Mid-Flood	U2	~400	8.83	C3 - 4.83	4.00	2
30/01/2008	Mid-Flood	SR2	~1100	8.25	C3 - 4.83	3.42	1
30/01/2008	Mid-Flood	SR3	~250	5.17	C3 - 4.83	0.33	3
30/01/2008	Mid-Flood	SR4	~250	2.17	C3 - 4.83	-2.67	3
02/02/2008	Mid-Ebb	D2	~900	5.83	C4 - 4.17	1.67	1
02/02/2008	Mid-Ebb	U2	~400	6.83	C4 - 4.17	2.67	2
02/02/2008	Mid-Ebb	SR2	~1100	6.75	C4 - 4.17	2.58	1
02/02/2008	Mid-Ebb	SR3	~250	6.83	C4 - 4.17	2.67	3
02/02/2008	Mid-Ebb	SR4	~250	4.50	C4 - 4.17	0.33	3
02/02/2008	Mid-Flood	D2	~900	5.50	C3 - 4.33	1.17	1
02/02/2008	Mid-Flood	U2	~400	4.67	C3 - 4.33	0.33	2
02/02/2008	Mid-Flood	SR2	~1100	4.50	C3 - 4.33	0.17	1
02/02/2008	Mid-Flood	SR3	~250	4.00	C3 - 4.33	-0.33	3
02/02/2008	Mid-Flood	SR4	~250	3.50	C3 - 4.33	-0.83	3

**Notes:**

- (1) Negative means SS levels at impact stations were lower than the ambient stations. This may be due to the natural fluctuation at the ambient.
- (2) The predicted values represent the maximum SS elevations.

## CONCLUSIONS

This Weekly Impact Monitoring Report presents the EM&A work undertaken during the period from 28 January to 3 February 2008 in accordance with the EM&A Manual and the requirements under *EP-267/2007*.

No exceedance of Action and Limit Levels was recorded during the reporting week.

No non-compliance event was recorded during the reporting week.

No complaint and summons/prosecution was received during the reporting week.

The ET will keep track of the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Annex A

Works Programme of the  
Period between 21 January  
and 17 February 2008

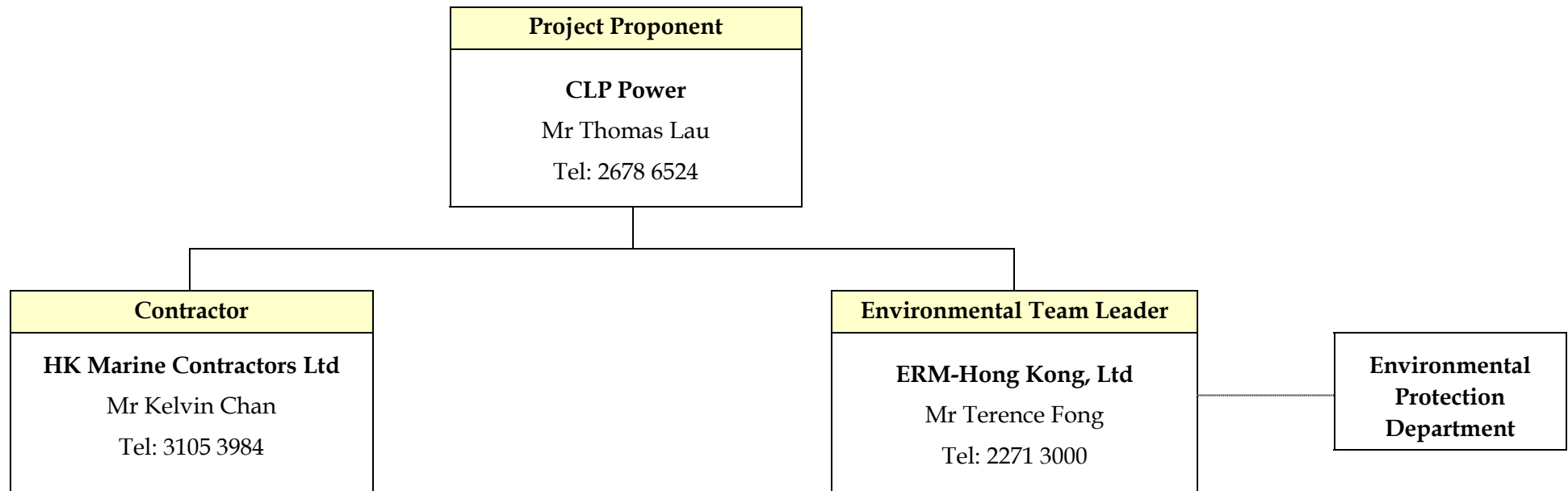




Annex B

## Project Organisation Chart (with Contact Details)

**ANNEX B - PROJECT ORGANIZATION (WITH CONTACT DETAILS)**



\_\_\_\_\_ Line of Project Management Responsibility  
 ..... Communication Channel

Annex C

## Tentative Monitoring Schedule

**Proposed 132kV Submarine Cable Route for Airport "A" to Castle Peak Power Station Cable Circuit  
Tentative Water Quality Monitoring Schedule at Tuen Mun and Airport landing site - January 2008**

Reference Tidal Station: Lok On Pai (source: HK Observatory Department)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan	02-Jan	03-Jan	04-Jan	05-Jan
			Mid-Ebb 07:14 Mid-Flood 13:54 <i>Baseline Monitoring (Airport)</i>			
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
			Mid-Ebb 13:43 Mid-Flood 18:41 <i>Impact Monitoring</i>		Mid-Flood 09:44 Mid-Ebb 14:59 <i>Impact Monitoring</i>	
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
Mid-Ebb 10:43 Mid-Flood 16:21 <i>Impact Monitoring (Tuen Mun)</i>		Mid-Flood 11:49 Mid-Ebb 18:13 <i>Impact Monitoring (Tuen Mun)</i>	Mid-Flood 12:25 Mid-Ebb 19:23 <i>Impact Monitoring (Airport)</i>	Mid-Flood 13:06 Mid-Ebb 20:38 <i>Impact Monitoring (Tuen Mun)</i>	Mid-Ebb 08:24 Mid-Flood 13:50 <i>Impact Monitoring (Airport)</i>	Mid-Flood 14:43 Mid-Ebb 22:48 <i>Impact Monitoring (Tuen Mun)</i>
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
Mid-Ebb 15:56 Mid-Flood 23:42 <i>Impact Monitoring (Airport)</i>		Mid-Ebb 12:58 Mid-Flood 18:02 <i>Impact Monitoring (Airport)</i>		Mid-Flood 09:04 Mid-Ebb 14:19 <i>Impact Monitoring (Airport)</i>		Mid-Flood 10:01 Mid-Ebb 15:30 <i>Impact Monitoring (Airport)</i>
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		
	Mid-Flood 10:45 Mid-Ebb 16:42 <i>Impact Monitoring (Airport)</i>		Mid-Flood 11:35 Mid-Ebb 18:47 <i>Impact Monitoring (Airport)</i>			

The schedule is subject to agreement from the EPD on the monitoring times. The schedule will be revised after reviewing the progress of the construction works or due to adverse (safety,

**Proposed 132kV Submarine Cable Route for Airport "A" to Castle Peak Power Station Cable Circuit  
Tentative Water Quality Monitoring Schedule at Tuen Mun and Airport landing site - February 2008**

Reference Tidal Station: Lok On Pai (source: HK Observatory Department)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Feb	02-Feb
						Mid-Flood 10:08 Mid-Ebb 22:24 <i>Impact Monitoring (Airport)</i>
03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb
	Mid-Ebb 11:34 Mid-Flood 16:06 <i>Impact Monitoring (Airport)</i>		Mid-Flood 07:46 Mid-Ebb 12:54 <i>Impact Monitoring (Airport)</i>			Mid-Flood 08:55 Mid-Ebb 14:32 <i>Impact Monitoring (Airport)</i>
10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb
	Mid-Flood 09:41 Mid-Ebb 15:44 <i>Impact Monitoring (Airport)</i>		Mid-Flood 10:38 Mid-Ebb 17:27 <i>Impact Monitoring (Airport)</i>		Mid-Flood 11:50 Mid-Ebb 20:08 <i>Impact Monitoring (Airport)</i>	
17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb
	Mid-Flood 16:09 Mid-Ebb 23:37 <i>Impact Monitoring (Airport)</i>	Mid-Ebb 12:11 Mid-Flood 17:19 <i>Impact Monitoring (Tuen Mun)</i>	Mid-Ebb 12:48 Mid-Flood 18:12 <i>Impact Monitoring (Airport)</i>	Mid-Ebb 13:22 Mid-Flood 18:58 <i>Impact Monitoring (Tuen Mun)</i>	Mid-Ebb 13:53 Mid-Flood 19:39 <i>Impact Monitoring (Airport)</i>	Mid-Flood 08:40 Mid-Ebb 14:21 <i>Impact Monitoring (Tuen Mun)</i>
24-Feb	25-Feb	26-Feb	27-Feb	28-Feb	29-Feb	
	Mid-Flood 09:18 Mid-Ebb 15:22 <i>Impact Monitoring (Airport)</i>	Mid-Flood 09:39 Mid-Ebb 15:58 <i>Impact Monitoring (Tuen Mun)</i>	Mid-Flood 10:00 Mid-Ebb 16:40 <i>Impact Monitoring (Airport)</i>	Mid-Flood 10:18 Mid-Ebb 17:34 <i>Impact Monitoring (Tuen Mun)</i>	Mid-Flood 10:21 Mid-Ebb 19:13 <i>Impact Monitoring (Airport)</i>	

The schedule is subject to agreement from the EPD on the monitoring times. The schedule will be revised after reviewing the progress of the construction works or due to adverse (safety, weather etc) conditions.

Annex D

## QA/QC Results of Laboratory Testing for Suspended Solids



### CERTIFICATE OF ANALYSIS

Client	: ERM HONG KONG	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 9
Contact	: MS KAREN LUI	Contact	: Alice Wong	Work Order	: HK0801428
Address	: 21/F, LINCOLN HOUSE, 979 KING`S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Karen.Lui@erm.com	E-mail	: Alice.Wong@alsenviro.com		
Telephone	: 2271 3000	Telephone	: +852 2610 1044		
Facsimile	: 2723 5660	Facsimile	: +852 2610 2021		
Project	: EM&A FOR THE PROPOSED 132kV SUBMARINE CABLE ROUTE FOR AIRPORT "A" TO CASTLE PEAK CCTS	Quote number	: ----	Date received	: 28 Jan 2008
Order number	: ----			Date of issue	: 1 Feb 2008
C-O-C number	: ----			No. of samples	- Received : 92
Site	: ----				- Analysed : 92

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0801428 supersedes any previous reports with this reference. The completion date of analysis is 30 Jan 2008. 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 HK0801428 : **Sample(s) were received in a chilled condition.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
<b>Fung Lim Chee, Richard</b>	<b>General Manager</b>	<b>Inorganics</b>



**Quality Control - Laboratory Duplicate (DUP) Results**

Matrix Type: WATER				Duplicate (DUP) Results				
Laboratory Sample ID	Client Sample ID	Method: Analysis Description	CAS number	LOR	Units	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 583042)</b>								
HK0801428-001	2008/01/28/10:26/C4/B/F/	EA025: Suspended Solids (SS)	----	1	mg/L	10	14	31.8
	REPL. 1							
HK0801428-011	2008/01/28/10:00/SR3/M/F/	EA025: Suspended Solids (SS)	----	1	mg/L	4	3	0.0
	REPL. 2							
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 583043)</b>								
HK0801428-021	2008/01/28/10:17/D2/T/F/	EA025: Suspended Solids (SS)	----	1	mg/L	19	16	19.0
	REPL. 1							
HK0801428-031	2008/01/28/09:49/SR4/B/F/	EA025: Suspended Solids (SS)	----	1	mg/L	11	13	20.7
	REPL. 1							
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 583044)</b>								
HK0801428-041	2008/01/28/09:42/G1/M/F/	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
	REPL. 2							
HK0801428-051	2008/01/28/16:12/C4/M/E/	EA025: Suspended Solids (SS)	----	1	mg/L	4	6	37.4
	REPL. 2							
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 583045)</b>								
HK0801428-061	2008/01/28/15:52/U2/T/E/	EA025: Suspended Solids (SS)	----	1	mg/L	4	6	32.1
	REPL. 1							
HK0801428-071	2008/01/28/15:16/C3/B/E/	EA025: Suspended Solids (SS)	----	1	mg/L	9	7	24.6
	REPL. 1							
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 583046)</b>								
HK0801428-081	2008/01/28/15:38/SR4/M/E/	EA025: Suspended Solids (SS)	----	1	mg/L	14	13	10.7
	REPL. 2							
HK0801428-091	2008/01/28/15:34/SR2/B/E/	EA025: Suspended Solids (SS)	----	1	mg/L	8	10	14.5
	REPL. 2							

**Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results**





Matrix Type: WATER		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		Method: Analysis Description	CAS number	LOR		Units	Result	SCS	DCS	Low	High
<b>EA/ED: Physical and Aggregate Properties (QCLot: 583042)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	106	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 583043)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	110	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 583044)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 583045)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	106	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 583046)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----



### CERTIFICATE OF ANALYSIS

Client	: ERM HONG KONG	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 9
Contact	: MS KAREN LUI	Contact	: Alice Wong	Work Order	: HK0801584
Address	: 21/F, LINCOLN HOUSE, 979 KING`S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Karen.Lui@erm.com	E-mail	: Alice.Wong@alsenviro.com		
Telephone	: 2271 3000	Telephone	: +852 2610 1044		
Facsimile	: 2723 5660	Facsimile	: +852 2610 2021		
Project	: EM&A FOR THE PROPOSED 132kV SUBMARINE CABLE ROUTE FOR AIRPORT "A" TO CASTLE PEAK CCTS	Quote number	: ----	Date received	: 30 Jan 2008
Order number	: ----			Date of issue	: 4 Feb 2008
C-O-C number	: ----			No. of samples	- Received : 92
Site	: ----				- Analysed : 92

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0801584 supersedes any previous reports with this reference. The completion date of analysis is 4 Feb 2008. 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 HK0801584 : **Sample(s) were received in a chilled condition.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
<b>Fung Lim Chee, Richard</b>	<b>General Manager</b>	<b>Inorganics</b>



**Quality Control - Laboratory Duplicate (DUP) Results**

Matrix Type: WATER				Duplicate (DUP) Results				
Laboratory Sample ID	Client Sample ID	Method: Analysis Description	CAS number	LOR	Units	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 584537)</b>								
HK0801584-001	2008/01/30/11:02/C4/B/F/ REPL. 1	EA025: Suspended Solids (SS)	----	1	mg/L	3	3	0.0
HK0801584-011	2008/01/30/10:37/SR3/M/F/ REPL. 2	EA025: Suspended Solids (SS)	----	1	mg/L	5	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 584538)</b>								
HK0801584-021	2008/01/30/10:52/D2/T/F/ REPL. 1	EA025: Suspended Solids (SS)	----	1	mg/L	6	5	0.0
HK0801584-032	2008/01/30/10:27/SR4/M/F/ REPL. 1	EA025: Suspended Solids (SS)	----	1	mg/L	1	1	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 584539)</b>								
HK0801584-043	2008/01/30/10:32/SR2/B/F/ REPL. 1	EA025: Suspended Solids (SS)	----	1	mg/L	10	9	11.4
HK0801584-051	2008/01/30/18:19/C4/M/E/ REPL. 2	EA025: Suspended Solids (SS)	----	1	mg/L	8	6	18.2
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 584540)</b>								
HK0801584-062	2008/01/30/18:02/U2/B/E/ REPL. 2	EA025: Suspended Solids (SS)	----	1	mg/L	7	8	18.0
HK0801584-071	2008/01/30/17:28/C3/B/E/ REPL. 1	EA025: Suspended Solids (SS)	----	1	mg/L	7	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 584541)</b>								
HK0801584-081	2008/01/30/17:48/SR4/M/E/ REPL. 2	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
HK0801584-091	2008/01/30/17:27/SR2/B/E/ REPL. 2	EA025: Suspended Solids (SS)	----	1	mg/L	9	10	0.0

**Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results**



**Matrix Type: WATER**

Method: Analysis Description		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
		LOR	Units	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						SCS	DCS	Low	High	Value	Control Limit
CAS number											
<b>EA/ED: Physical and Aggregate Properties (QCLot: 584537)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	106	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 584538)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 584539)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 584540)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 584541)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	94.0	----	85	115	----	----



### CERTIFICATE OF ANALYSIS

Client	: ERM HONG KONG	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 9
Contact	: MS KAREN LUI	Contact	: Alice Wong	Work Order	: HK0801719
Address	: 21/F, LINCOLN HOUSE, 979 KING`S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Karen.Lui@erm.com	E-mail	: Alice.Wong@alsenviro.com		
Telephone	: 2271 3000	Telephone	: +852 2610 1044		
Facsimile	: 2723 5660	Facsimile	: +852 2610 2021		
Project	: EM&A FOR THE PROPOSED 132kV SUBMARINE CABLE ROUTE FOR AIRPORT "A" TO CASTLE PEAK CCTS	Quote number	: ----	Date received	: 4 Feb 2008
Order number	: ----			Date of issue	: 6 Feb 2008
C-O-C number	: ----			No. of samples	- Received : 92
Site	: ----				- Analysed : 92

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0801719 supersedes any previous reports with this reference. The completion date of analysis is 6 Feb 2008. 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.

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
<b>Fung Lim Chee, Richard</b>	<b>General Manager</b>	<b>Inorganics</b>



**Quality Control - Laboratory Duplicate (DUP) Results**

Matrix Type: WATER				Duplicate (DUP) Results				
Laboratory Sample ID	Client Sample ID	Method: Analysis Description	CAS number	LOR	Units	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 587734)</b>								
HK0801719-002	2008/02/02/22:07/C4/M/E/	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
	REPL.1							
HK0801719-011	2008/02/02/21:39/SR/M/E/	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
	REPL.2							
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 587735)</b>								
HK0801719-021	2008/02/02/21:57/D2/T/E/	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
	REPL.1							
HK0801719-031	2008/02/02/21:27/SR4/B/E/	EA025: Suspended Solids (SS)	----	1	mg/L	6	5	20.5
	REPL.1							
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 587736)</b>								
HK0801719-041	2008/02/02/21:20/G1/M/E/	EA025: Suspended Solids (SS)	----	1	mg/L	3	4	0.0
	REPL.2							
HK0801719-052	2008/02/02/09:53/C4/T/F/	EA025: Suspended Solids (SS)	----	1	mg/L	7	6	0.0
	REPL.2							
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 587737)</b>								
HK0801719-066	2008/02/02/09:40/D2/M/F/	EA025: Suspended Solids (SS)	----	1	mg/L	4	5	24.6
	REPL.1							
HK0801719-073	2008/02/02/08:56/C3/T/F/	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
	REPL.1							
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 587738)</b>								
HK0801719-083	2008/02/02/09:04/G1/B/F/	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
	REPL.1							
HK0801719-091	2008/02/02/09:53/SR2/B/F/	EA025: Suspended Solids (SS)	----	1	mg/L	5	6	21.8
	REPL.2							

**Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results**



Matrix Type: WATER		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		Method: Analysis Description	CAS number	LOR		Units	Result	SCS	DCS	Low	High
<b>EA/ED: Physical and Aggregate Properties (QCLot: 587734)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 587735)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	93.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 587736)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 587737)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 587738)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	93.5	----	85	115	----	----

Annex E

## Impact Water Quality Monitoring Results



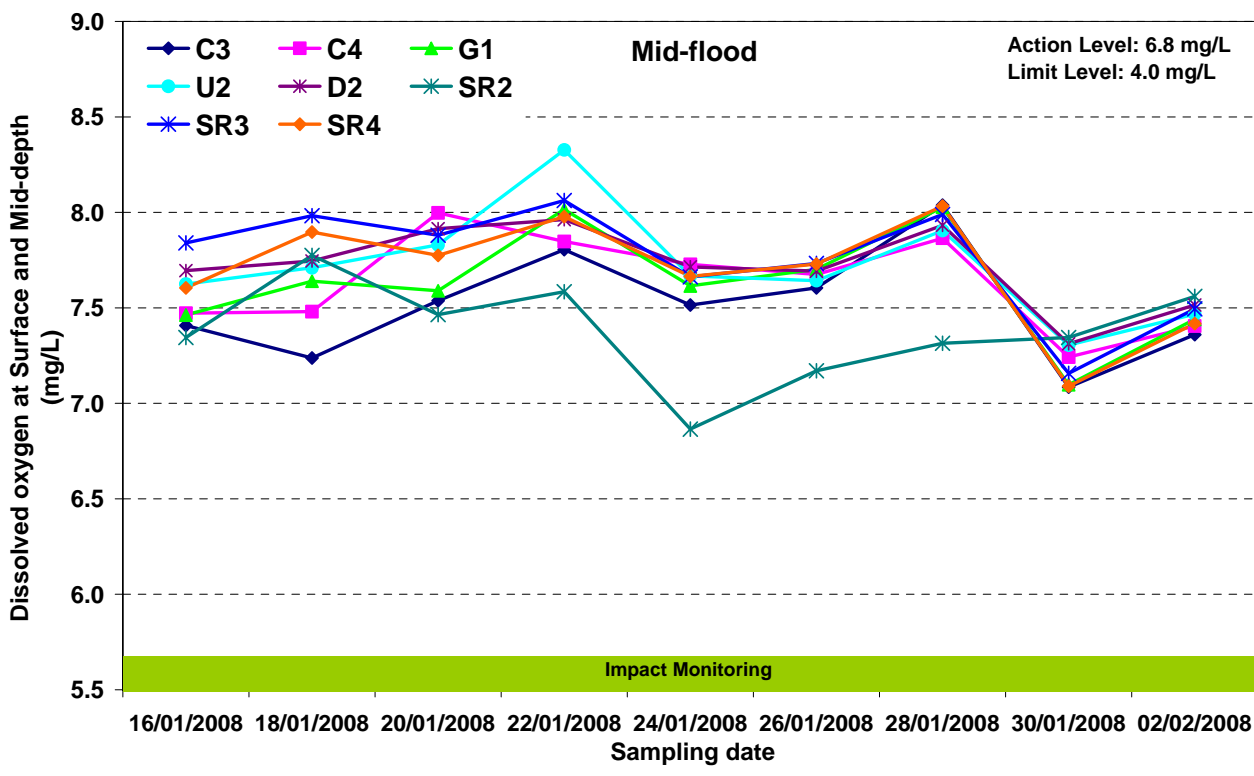
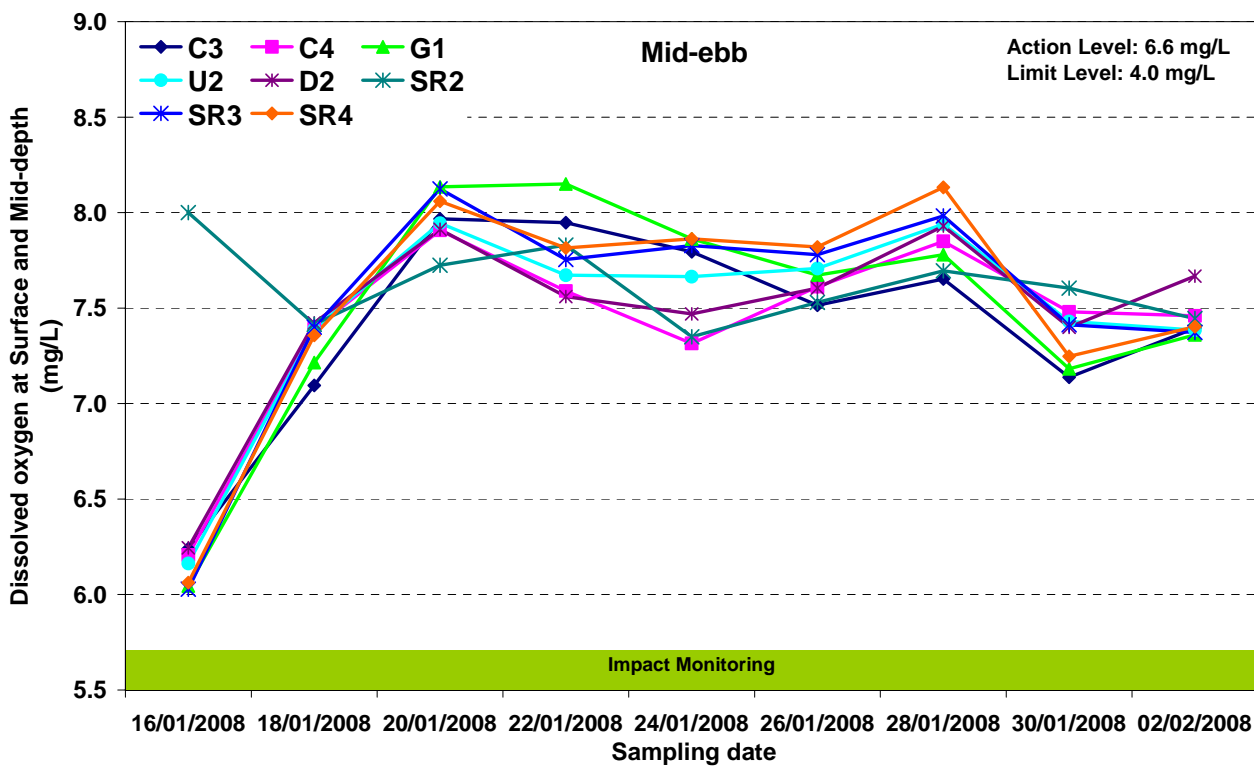


Figure E1 Dissolved oxygen concentration (mean of surface and mid-depth) (mg/L) of water samples from the eight sampling locations near the airport at mid-ebb and mid-flood between 28 January and 3 February 2008, and previous monitoring period between 14 January 2008 and 27 January 2008



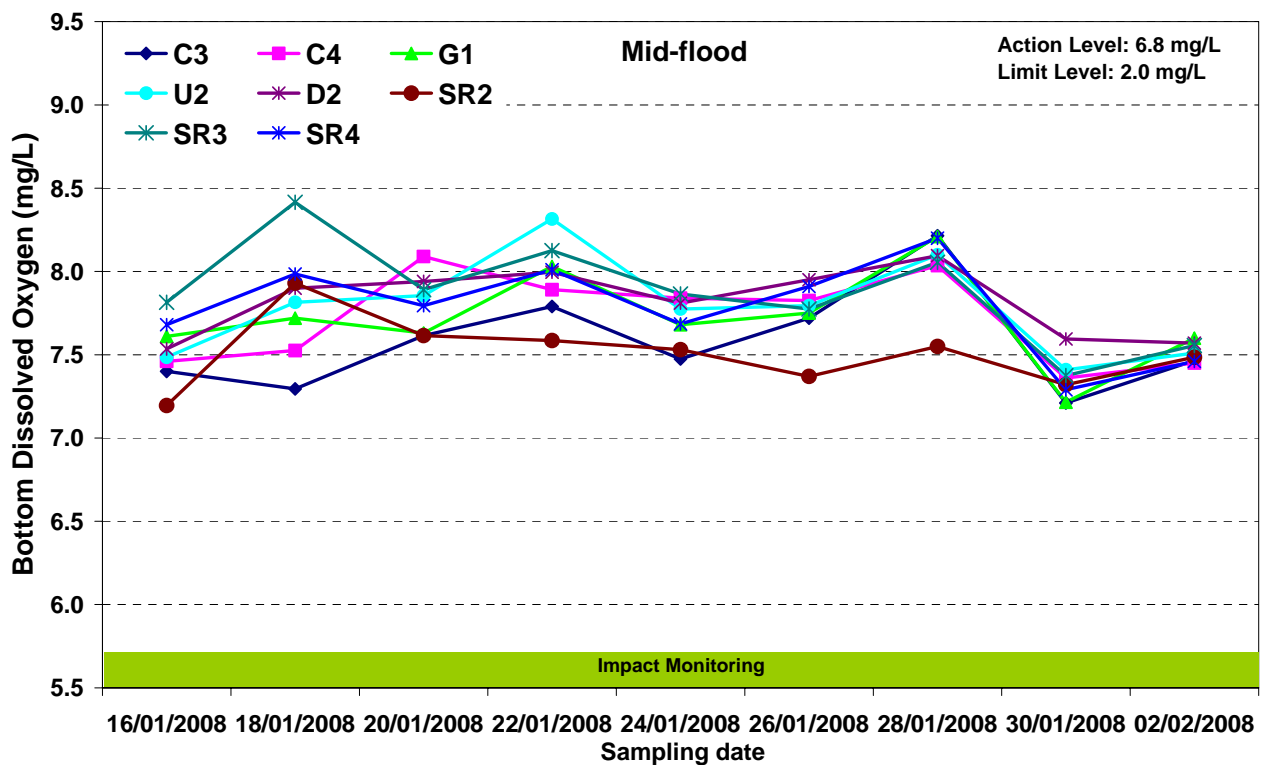
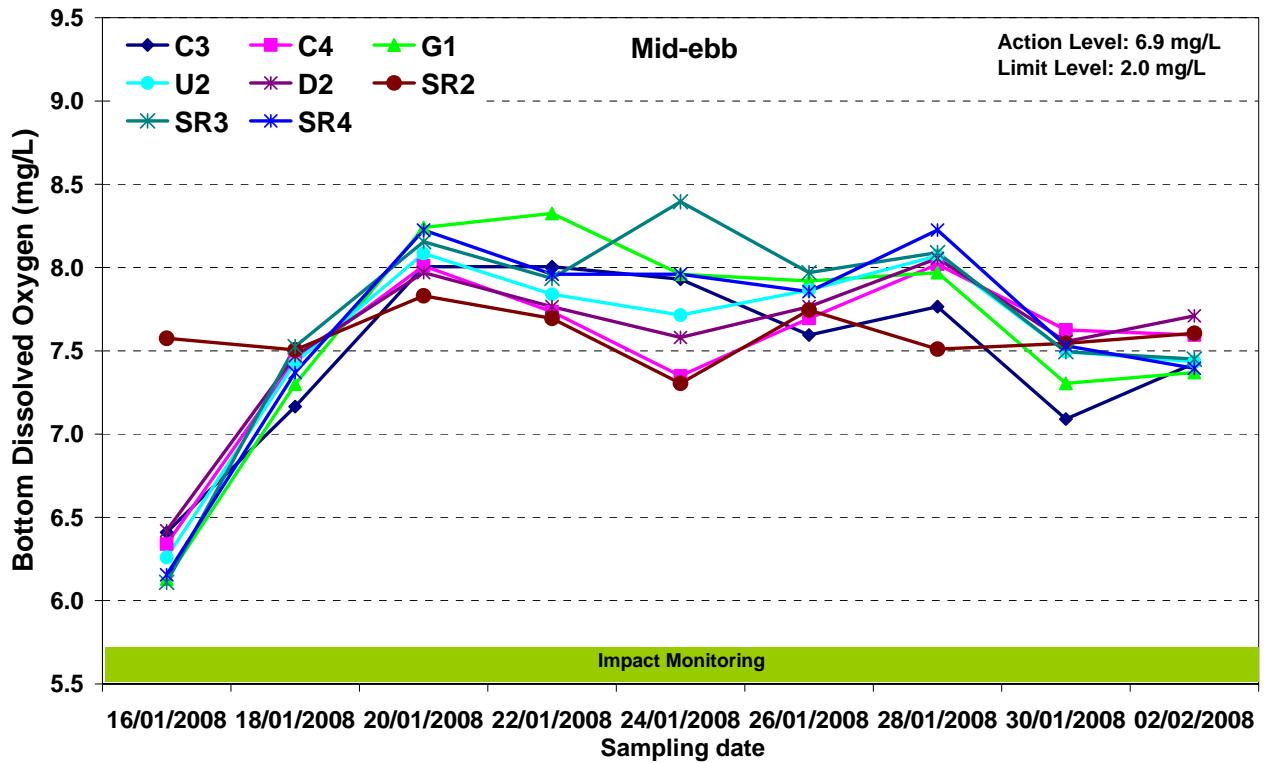


Figure E2 Dissolved oxygen concentration (bottom) (mg/L) of water samples from the eight sampling locations near the airport at mid-ebb and mid-flood between 28 January and 3 February 2008, and previous monitoring period between 14 January 2008 and 27 January 2008



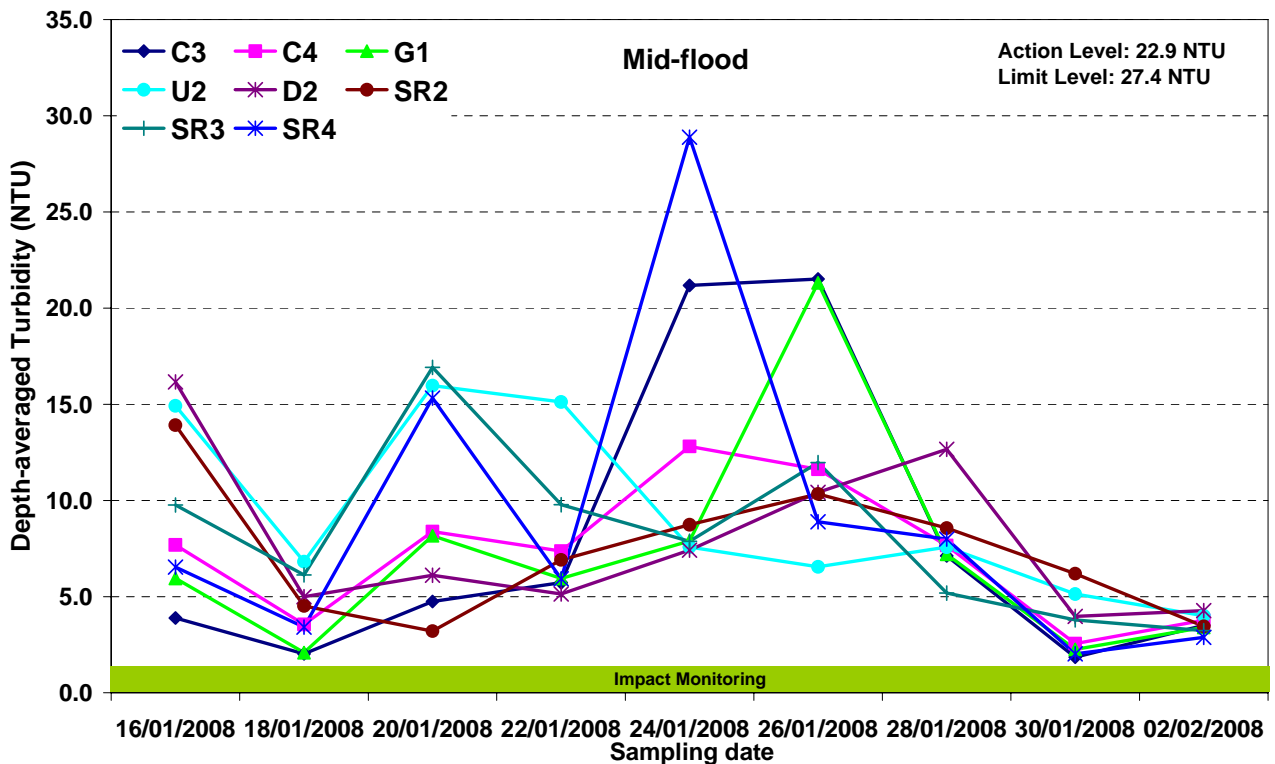
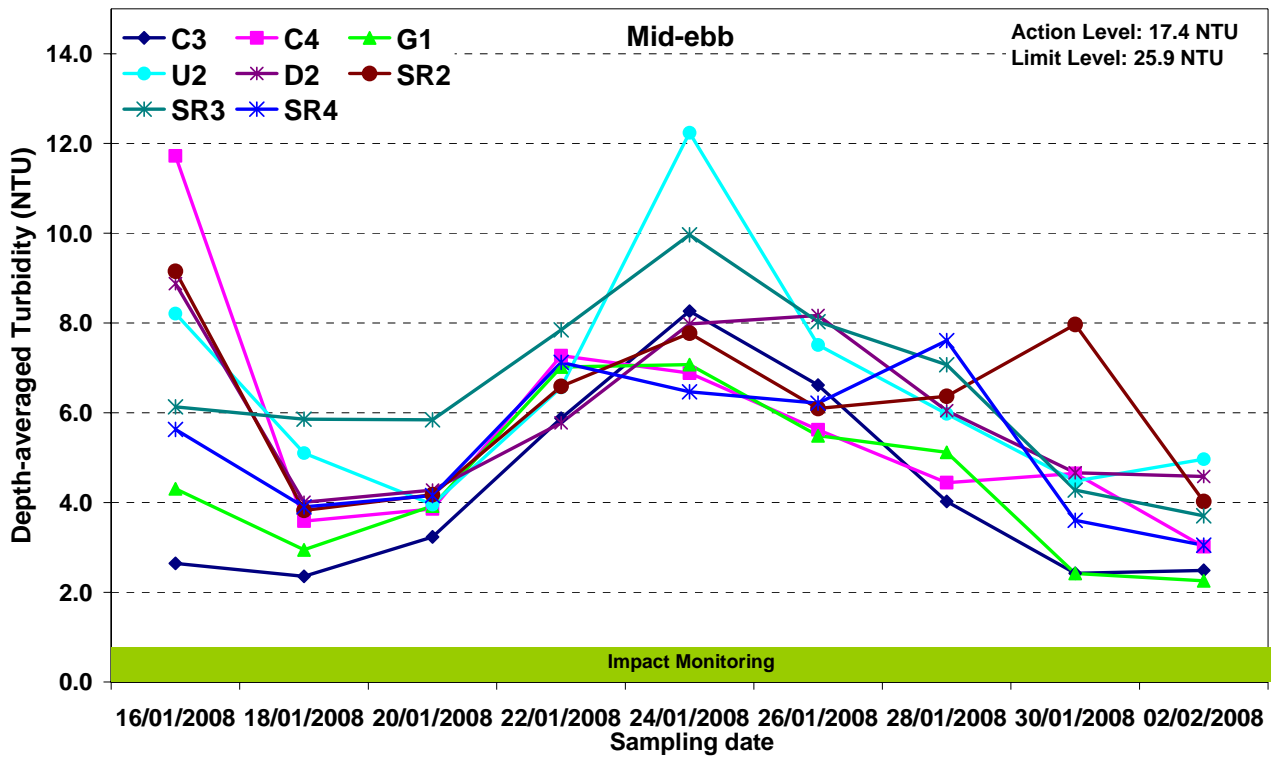


Figure E3 Depth-averaged turbidity (NTU) of water samples of water samples from the eight sampling locations near the airport at mid-ebb and mid-flood between 28 January and 3 February 2008, and previous monitoring period between 14 January 2008 and 27 January 2008



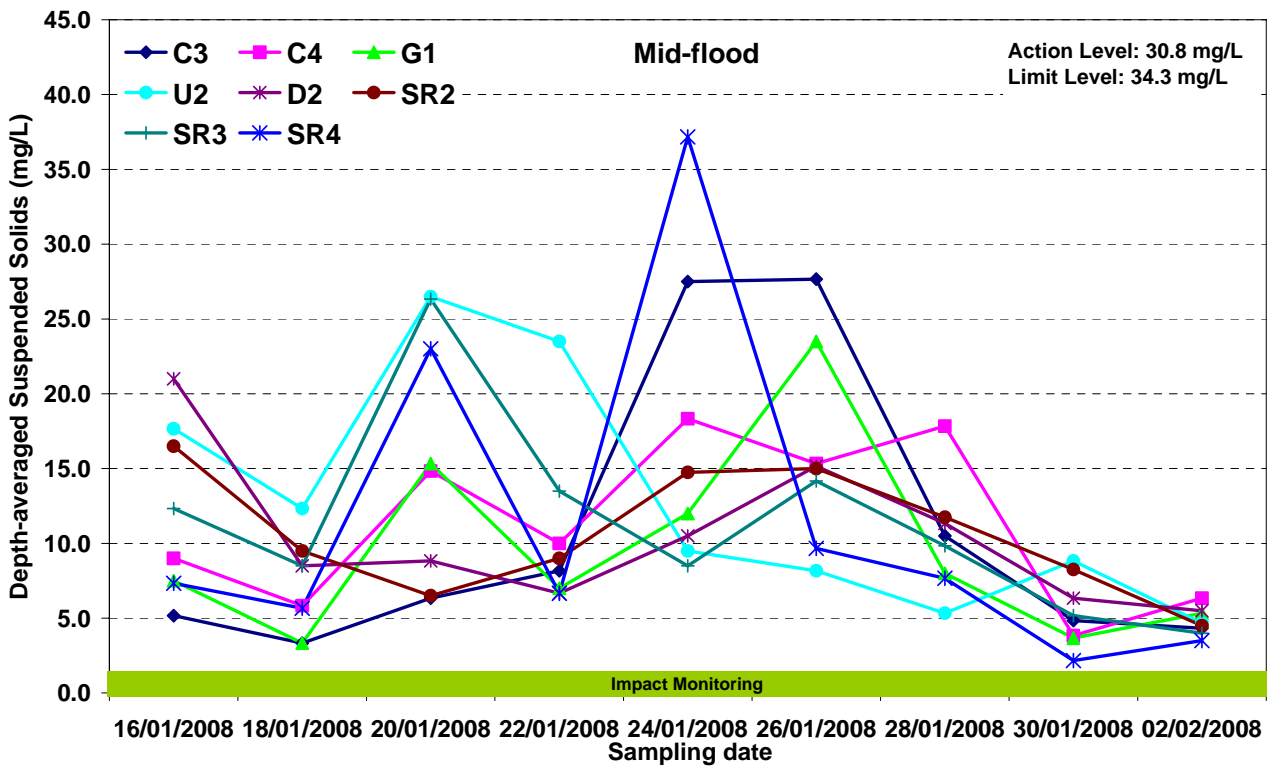
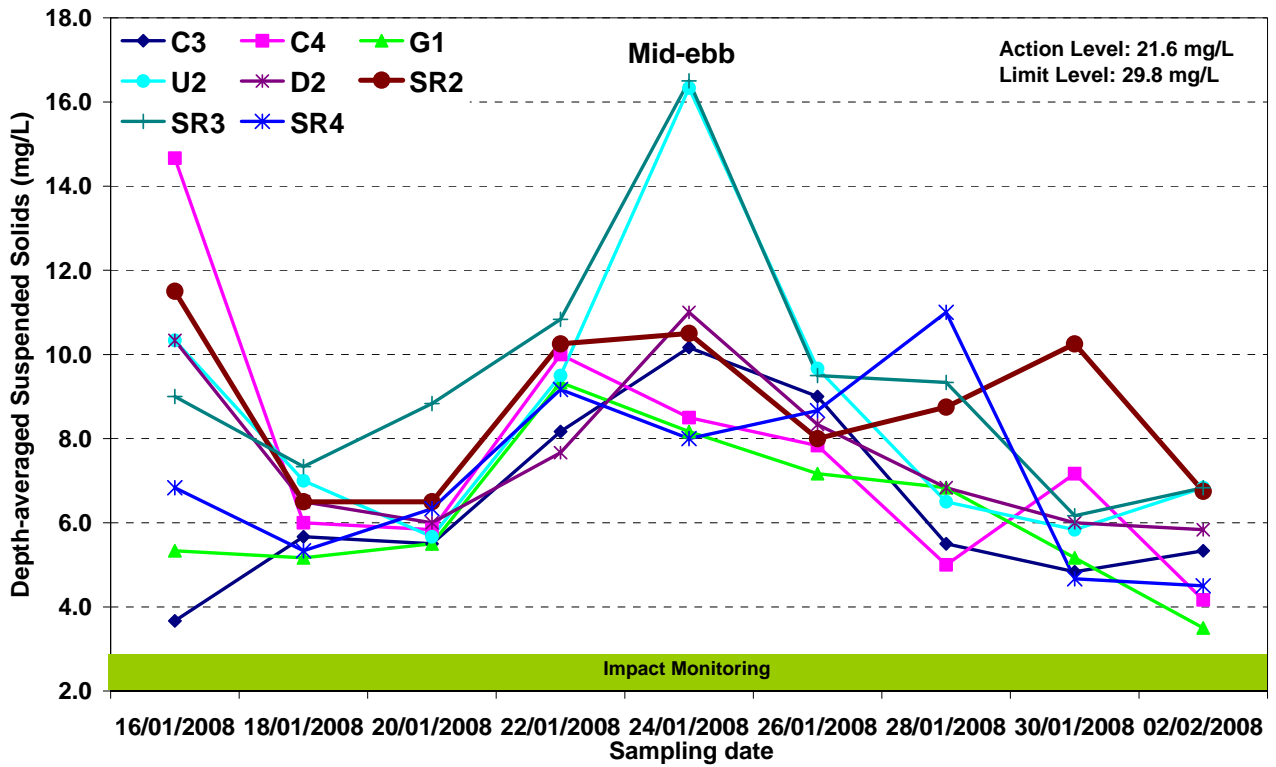


Figure E4 Depth-averaged suspended solids concentration (mg/L) of water samples from the eight sampling locations near the airport at mid-ebb and mid-flood between 28 January and 3 February 2008, and previous monitoring period between 14 January 2008 and 27 January 2008



Sampling Date	01/28/08
Weather & Ambient Temperature	Cloudy, 13C

Mid-Ebb

Station	<b>C3</b>					
Time (hh:mm)	15:16-15:20					
Water Depth (m)	12.20					
Monitoring Depth (m)	1.10		6.10		11.00	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2
Water Temperature (°C)	17.3	17.3	17.2	17.2	17.2	17.2
Salinity (ppt)	32.3	32.3	32.3	32.3	32.2	32.3
pH	7.8	7.8	7.8	7.8	7.8	7.8
D.O. Saturation (%)	97.8	96.0	97.0	96.0	98.9	97.0
D.O. (mg/L)	7.72	7.59	7.69	7.61	7.84	7.69
Turbidity (NTU)	2.50	2.40	4.80	4.20	4.80	5.50
SS (mg/L)	2.0	4.0	5.0	5.0	9.0	8.0
Remarks						

Depth-averaged	17.23	-	
Bottom	-		
Surface & Middle	7.65		

Station	<b>U2</b>					
Time (hh:mm)	15:51-15:54					
Water Depth (m)	9.50					
Monitoring Depth (m)	1.00		4.80		8.00	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2
Water Temperature (°C)	16.4	16.4	16.3	16.4	16.3	16.3
Salinity (ppt)	32.2	32.1	32.2	32.2	32.1	32.2
pH	7.8	7.8	7.8	7.8	7.8	7.8
D.O. Saturation (%)	99.0	97.6	99.9	97.9	101.7	98.4
D.O. (mg/L)	7.97	7.86	8.05	7.88	8.20	7.94
Turbidity (NTU)	4.40	4.80	6.20	5.70	7.80	7.10
SS (mg/L)	4.0	4.0	6.0	6.0	11.0	8.0
Remarks						

Depth-averaged	16.36	-	
Bottom	-		
Surface & Middle	7.94		

Station	<b>C4</b>					
Time (hh:mm)	16:09-16:13					
Water Depth (m)	10.20					
Monitoring Depth (m)	0.80		5.20		9.20	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2
Water Temperature (°C)	16.5	16.5	16.5	16.5	16.5	16.5
Salinity (ppt)	32.2	32.2	32.2	32.2	32.2	32.2
pH	7.8	7.8	7.8	7.8	7.8	7.8
D.O. Saturation (%)	98.0	96.5	99.2	97.1	101.9	97.7
D.O. (mg/L)	7.88	7.75	7.97	7.80	8.19	7.85
Turbidity (NTU)	4.30	4.20	4.30	4.70	4.40	4.44
SS (mg/L)	4.0	4.0	6.0	4.0	5.0	7.0
Remarks						

Depth-averaged	16.49	-	
Bottom	-		
Surface & Middle	7.85		

Station	<b>SR2</b>					
Time (hh:mm)	15:28-15:37					
Water Depth (m)	4.10					
Monitoring Depth (m)	1.10		3.20		3.20	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2
Water Temperature (°C)	16.5	16.5			16.5	16.4
Salinity (ppt)	31.9	31.9			31.9	32.0
pH	8.0	8.0			8.0	8.0
D.O. Saturation (%)	97.1	94.1			93.9	92.6
D.O. (mg/L)	7.82	7.57			7.56	7.46
Turbidity (NTU)	5.60	5.60			6.50	7.70
SS (mg/L)	11.0	8.0			8.0	8.0
Remarks						

Depth-averaged	16.49	-	
Bottom	-		
Surface & Middle	7.70		

Station	<b>D2</b>					
Time (hh:mm)	16:00-16:03					
Water Depth (m)	8.80					
Monitoring Depth (m)	1.00		4.00		7.40	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2
Water Temperature (°C)	16.3	16.3	16.3	16.3	16.3	16.4
Salinity (ppt)	32.2	32.2	32.2	32.2	32.2	32.2
pH	7.8	7.8	7.8	7.8	7.8	7.8
D.O. Saturation (%)	98.5	97.8	99.2	97.9	101.5	98.4
D.O. (mg/L)	7.94	7.89	8.00	7.89	8.18	7.93
Turbidity (NTU)	6.90	5.80	6.10	5.80	5.80	6.10
SS (mg/L)	8.0	6.0	6.0	8.0	7.0	6.0
Remarks						

Depth-averaged	16.34	-	
Bottom	-		
Surface & Middle	7.93		

Station	<b>SR3</b>					
Time (hh:mm)	15:43-15:47					
Water Depth (m)	13.80					
Monitoring Depth (m)	1.00		6.50		11.90	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2
Water Temperature (°C)	16.4	16.4	16.4	16.3	16.4	16.4
Salinity (ppt)	32.1	32.1	32.2	32.1	32.2	32.2
pH	7.8	7.8	7.8	7.8	7.8	7.8
D.O. Saturation (%)	99.6	97.9	100.4	98.3	102.3	98.5
D.O. (mg/L)	8.03	7.89	8.09	7.92	8.24	7.94
Turbidity (NTU)	4.80	5.60	6.30	5.40	10.00	10.50
SS (mg/L)	6.0	5.0	5.0	8.0	17.0	15.0
Remarks						

Depth-averaged	16.37	-	
Bottom	-		
Surface & Middle	7.98		

Station	<b>G1</b>					
Time (hh:mm)	15:26-15:29					
Water Depth (m)	13.20					
Monitoring Depth (m)	1.10		6.60		12.00	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2
Water Temperature (°C)	17.3	17.2	17.2	17.2	17.2	17.2
Salinity (ppt)	32.3	32.3	32.3	32.3	32.3	32.3
pH	7.8	7.8	7.8	7.8	7.8	7.8
D.O. Saturation (%)	99.2	97.2	99.5	97.3	102.6	98.5
D.O. (mg/L)	7.84	7.69	7.88	7.71	8.13	7.81
Turbidity (NTU)	3.20	4.00	5.70	5.60	6.50	5.80
SS (mg/L)	4.0	5.0	8.0	8.0	8.0	8.0
Remarks						

Depth-averaged	17.21	-	
Bottom	-		
Surface & Middle	7.78		

Station	<b>SR4</b>					
Time (hh:mm)	15:35-15:39					
Water Depth (m)	14.50					
Monitoring Depth (m)	1.20		7.20		12.90	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2
Water Temperature (°C)	16.3	16.3	16.3	16.3	16.3	16.3
Salinity (ppt)	32.1	32.1	32.2	32.2	32.2	32.2
pH	7.8	7.8	7.8	7.8	7.8	7.8
D.O. Saturation (%)	101.4	100.0	101.8	99.9	103.6	100.4
D.O. (mg/L)	8.19	8.07	8.21	8.06	8.35	8.10
Turbidity (NTU)	5.40	4.80	9.00	9.40	8.10	9.10
SS (mg/L)	7.0	13.0	11.0	14.0	9.0	12.0
Remarks						

Depth-averaged	16.30	-	
Bottom	-		
Surface & Middle	8.13		

Sampling Date	01/28/08
Weather & Ambient Temperature	Cloudy, 11C

Mid-Flood

Station C3									
Time (hh:mm)									
09:30-09:33									
Water Depth (m)									
11.50									
Monitoring Depth (m)		1.10		5.50		10.00			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle
Water Temperature (°C)	16.6	16.6	16.5	16.5	16.5	16.5	16.52	-	
Salinity (ppt)	32.0	32.1	32.3	32.2	32.5	32.5	32.26	-	
pH	7.8	7.9	7.8	7.9	7.9	7.9	7.85		
D.O. Saturation (%)	100.4	98.5	101.6	99.8	104.8	100.0	100.85	-	
D.O. (mg/L)	8.06	7.91	8.16	8.02	8.41	8.02	8.10	8.22	8.04
Turbidity (NTU)	4.80	5.30	6.60	6.60	10.20	9.40	7.12	-	
SS (mg/L)	7.0	12.0	9.0	9.0	11.0	15.0	10.50	-	
Remarks									

Station U2									
Time (hh:mm)									
10:05-10:10									
Water Depth (m)									
9.00									
Monitoring Depth (m)		1.10		4.50		8.10			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle
Water Temperature (°C)	16.1	16.1	16.1	16.1	16.1	16.1	16.07	-	
Salinity (ppt)	32.0	32.0	32.1	32.1	32.1	32.1	32.05	-	
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.90		
D.O. Saturation (%)	97.9	96.6	98.2	97.3	100.2	99.7	98.30	-	
D.O. (mg/L)	7.94	7.83	7.96	7.89	8.12	8.08	7.97	8.10	7.91
Turbidity (NTU)	7.40	7.20	8.50	7.40	8.30	6.80	7.57	-	
SS (mg/L)	9.0	13.0	11.0	8.0	9.0	18.0	11.33	-	
Remarks									

Station C4									
Time (hh:mm)									
10:26-10:29									
Water Depth (m)									
9.40									
Monitoring Depth (m)		0.90		4.70		8.00			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle
Water Temperature (°C)	16.3	16.3	16.3	16.3	16.3	16.3	16.29	-	
Salinity (ppt)	32.1	32.1	32.1	32.2	32.2	32.2	32.15	-	
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.91		
D.O. Saturation (%)	97.9	96.6	98.4	96.9	101.9	97.3	98.14	-	
D.O. (mg/L)	7.90	7.80	7.94	7.82	8.22	7.85	7.92	8.04	7.87
Turbidity (NTU)	6.10	5.80	7.60	6.20	9.90	10.50	7.66	-	
SS (mg/L)	8.0	7.0	7.0	11.0	10.0	16.0	9.83	-	
Remarks									

Station SR2									
Time (hh:mm)									
10:07-10:17									
Water Depth (m)									
4.10									
Monitoring Depth (m)		1.10		4.10		3.00			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle
Water Temperature (°C)	16.6	16.7			16.5	16.4	16.55	-	
Salinity (ppt)	31.7	31.7			32.0	32.1	31.88	-	
pH	8.0	8.0			8.0	8.1	7.99		
D.O. Saturation (%)	95.2	87.0			94.0	93.6	92.43	-	
D.O. (mg/L)	7.65	6.98			7.57	7.53	7.43	7.55	7.32
Turbidity (NTU)	8.20	9.50			8.60	8.00	8.56	-	
SS (mg/L)	14.0	12.0			11.0	10.0	11.75	-	
Remarks									

Station D2									
Time (hh:mm)									
10:16-10:19									
Water Depth (m)									
8.20									
Monitoring Depth (m)		1.00		4.30		7.10			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle
Water Temperature (°C)	16.1	16.1	16.2	16.2	16.2	16.2	16.16	-	
Salinity (ppt)	32.1	32.1	32.1	32.1	32.1	32.1	32.11	-	
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.91		
D.O. Saturation (%)	98.4	96.9	99.1	97.4	102.3	98.1	98.69	-	
D.O. (mg/L)	7.97	7.86	8.02	7.88	8.27	7.92	7.99	8.10	7.93
Turbidity (NTU)	12.60	10.00	13.10	12.60	13.30	14.20	12.66	-	
SS (mg/L)	19.0	17.0	18.0	16.0	16.0	21.0	17.83	-	
Remarks									

Station SR3									
Time (hh:mm)									
09:57-10:01									
Water Depth (m)									
12.90									
Monitoring Depth (m)		1.00		6.00		11.00			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle
Water Temperature (°C)	16.2	16.2	16.2	16.2	16.3	16.3	16.25	-	
Salinity (ppt)	32.1	32.1	32.1	32.1	32.4	32.2	32.16	-	
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.91		
D.O. Saturation (%)	99.3	98.1	99.7	98.4	101.2	98.6	99.20	-	
D.O. (mg/L)	8.02	7.93	8.06	7.95	8.15	7.96	8.01	8.06	7.99
Turbidity (NTU)	3.60	3.70	4.40	4.00	8.90	6.40	5.19	-	
SS (mg/L)	4.0	6.0	1.0	4.0	12.0	5.0	5.33	-	
Remarks									

Station G1									
Time (hh:mm)									
09:40-09:43									
Water Depth (m)									
12.80									
Monitoring Depth (m)		0.90		6.10		11.10			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle
Water Temperature (°C)	16.7	16.7	16.6	16.5	16.4	16.4	16.55	-	
Salinity (ppt)	32.2	32.2	32.3	32.3	32.4	32.5	32.32	-	
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.90		
D.O. Saturation (%)	100.1	98.8	101.7	100.0	104.3	100.1	100.83	-	
D.O. (mg/L)	8.01	7.91	8.16	8.03	8.38	8.04	8.09	8.21	8.03
Turbidity (NTU)	7.20	5.20	7.40	7.20	8.50	7.90	7.20	-	
SS (mg/L)	9.0	8.0	8.0	8.0	9.0	6.0	8.00	-	
Remarks									

Station SR4									
Time (hh:mm)									
09:49-09:52									
Water Depth (m)									
13.90									
Monitoring Depth (m)		1.00		6.90		13.10			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle
Water Temperature (°C)	16.5	16.6	16.5	16.5	16.4	16.4	16.48	-	
Salinity (ppt)	32.2	32.2	32.3	32.2	32.4	32.5	32.32	-	
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.91		
D.O. Saturation (%)	101.3	98.3	101.3	99.4	104.3	99.7	100.70	-	
D.O. (mg/L)	8.13	7.88	8.14	7.98	8.38	8.02	8.09	8.20	8.03
Turbidity (NTU)	6.20	5.90	7.50	6.40	11.00	11.10	8.00	-	
SS (mg/L)	8.0	6.0	7.0	8.0	11.0	6.0	7.67	-	
Remarks									

Sampling Date	01/30/08
Weather & Ambient Temperature	Cloudy, 11C

Mid-Ebb

Station C3							Station U2												
Time (hh:mm)							Time (hh:mm)												
Water Depth (m)							Water Depth (m)												
Monitoring Depth (m)							Monitoring Depth (m)												
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle
Water Temperature (°C)	16.9	16.9	16.9	16.9	17.0	17.0	16.96	-		Water Temperature (°C)	16.0	16.1	16.1	16.2	16.2	16.2	16.13	-	
Salinity (ppt)	32.4	32.4	32.4	32.4	32.4	32.4	32.37	-		Salinity (ppt)	32.0	32.1	32.1	32.2	32.2	32.2	32.13	-	
pH	7.8	7.8	7.8	7.8	7.8	7.8	7.79	-		pH	7.9	7.9	7.8	7.9	7.8	7.8	7.85	-	
D.O. Saturation (%)	90.2	89.7	89.2	89.5	89.0	89.5	89.52	-		D.O. Saturation (%)	92.0	91.8	91.7	91.4	93.3	92.1	92.04	-	
D.O. (mg/L)	7.18	7.14	7.10	7.13	7.07	7.11	7.12	7.09	7.14	D.O. (mg/L)	7.47	7.44	7.43	7.38	7.55	7.44	7.45	7.50	7.43
Turbidity (NTU)	2.10	2.10	2.30	2.40	2.80	2.70	2.42	-		Turbidity (NTU)	4.30	4.70	3.80	4.00	5.00	5.10	4.48	-	
SS (mg/L)	3.0	4.0	4.0	3.0	7.0	8.0	4.83	-		SS (mg/L)	5.0	6.0	6.0	5.0	6.0	7.0	5.83	-	
Remarks										Remarks									

Station C4							Station SR2												
Time (hh:mm)							Time (hh:mm)												
Water Depth (m)							Water Depth (m)												
Monitoring Depth (m)							Monitoring Depth (m)												
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle
Water Temperature (°C)	16.0	16.0	16.0	16.0	16.0	16.0	15.98	-		Water Temperature (°C)	16.1	16.2			16.1	16.2	16.14	-	
Salinity (ppt)	32.1	32.1	32.2	32.2	32.2	32.2	32.15	-		Salinity (ppt)	31.9	31.9			31.9	32.0	31.93	-	
pH	7.9	7.9	7.8	7.9	7.8	7.9	7.85	-		pH	7.9	8.0			7.9	8.0	7.93	-	
D.O. Saturation (%)	92.5	91.9	92.3	91.8	95.8	92.0	92.72	-		D.O. Saturation (%)	97.0	90.7			94.9	91.4	93.48	-	
D.O. (mg/L)	7.51	7.47	7.49	7.45	7.78	7.47	7.53	7.63	7.48	D.O. (mg/L)	7.86	7.35			7.69	7.40	7.58	7.55	7.61
Turbidity (NTU)	3.70	3.60	5.20	5.20	5.50	4.80	4.65	-		Turbidity (NTU)	8.40	8.00			8.20	7.30	7.97	-	
SS (mg/L)	7.0	7.0	7.0	8.0	8.0	6.0	7.17	-		SS (mg/L)	12.0	10.0			10.0	9.0	10.25	-	
Remarks										Remarks									

Station D2							Station SR3												
Time (hh:mm)							Time (hh:mm)												
Water Depth (m)							Water Depth (m)												
Monitoring Depth (m)							Monitoring Depth (m)												
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle
Water Temperature (°C)	16.2	16.2	16.3	16.3	16.3	16.3	16.24	-		Water Temperature (°C)	16.4	16.4	16.3	16.2	16.1	15.9	16.22	-	
Salinity (ppt)	32.0	32.0	32.2	32.2	32.2	32.2	32.13	-		Salinity (ppt)	32.2	32.2	32.2	32.2	32.1	32.1	32.16	-	
pH	7.8	7.9	7.8	7.9	7.8	7.9	7.84	-		pH	7.8	7.9	7.8	7.9	7.8	7.9	7.85	-	
D.O. Saturation (%)	91.6	91.5	91.9	91.3	95.6	91.8	92.27	-		D.O. Saturation (%)	92.3	91.7	91.8	92.0	92.8	91.9	92.08	-	
D.O. (mg/L)	7.41	7.41	7.42	7.36	7.71	7.40	7.45	7.56	7.40	D.O. (mg/L)	7.42	7.38	7.41	7.44	7.52	7.47	7.44	7.50	7.41
Turbidity (NTU)	4.40	4.30	3.90	3.60	6.00	5.70	4.66	-		Turbidity (NTU)	3.60	3.70	4.00	4.90	5.40	4.00	4.28	-	
SS (mg/L)	6.0	5.0	8.0	7.0	4.0	6.0	6.00	-		SS (mg/L)	4.0	6.0	8.0	6.0	5.0	8.0	6.17	-	
Remarks										Remarks									

Station G1							Station SR4												
Time (hh:mm)							Time (hh:mm)												
Water Depth (m)							Water Depth (m)												
Monitoring Depth (m)							Monitoring Depth (m)												
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle
Water Temperature (°C)	16.9	16.9	17.0	16.9	17.0	17.0	16.94	-		Water Temperature (°C)	16.9	16.9	16.8	16.7	15.6	15.6	16.41	-	
Salinity (ppt)	32.4	32.4	32.4	32.4	32.4	32.4	32.37	-		Salinity (ppt)	32.4	32.4	32.3	32.3	32.1	32.2	32.28	-	
pH	7.8	7.8	7.8	7.8	7.8	7.8	7.82	-		pH	7.8	7.9	7.8	7.9	7.8	7.8	7.84	-	
D.O. Saturation (%)	90.4	90.2	90.3	90.0	93.6	90.2	90.77	-		D.O. Saturation (%)	90.6	90.4	91.3	91.1	93.0	91.1	91.26	-	
D.O. (mg/L)	7.20	7.18	7.19	7.16	7.44	7.17	7.22	7.31	7.18	D.O. (mg/L)	7.21	7.20	7.30	7.28	7.61	7.45	7.34	7.53	7.25
Turbidity (NTU)	2.40	2.20	2.30	2.30	3.00	2.20	2.42	-		Turbidity (NTU)	2.60	2.10	3.20	3.00	5.30	5.40	3.60	-	
SS (mg/L)	6.0	5.0	6.0	5.0	4.0	5.0	5.17	-		SS (mg/L)	2.0	3.0	6.0	4.0	5.0	8.0	4.67	-	
Remarks										Remarks									

Sampling Date	01/30/08
Weather & Ambient Temperature	Cloudy, 11C

Mid-Flood

Station C3							Station U2														
Time (hh:mm)							Time (hh:mm)														
Water Depth (m)							Water Depth (m)														
Monitoring Depth (m)							Monitoring Depth (m)														
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle		
Water Temperature (°C)	17.0	17.0	17.0	17.0	17.0	17.0	17.01	-		Water Temperature (°C)	16.2	16.1	16.1	16.1	16.0	16.0	16.08	-			
Salinity (ppt)	32.4	32.4	32.4	32.4	32.3	32.4	32.38	-		Salinity (ppt)	32.2	32.2	32.2	32.2	32.2	32.2	32.19	-			
pH	7.7	7.8	7.7	7.8	7.7	7.8	7.75	-		pH	7.8	7.8	7.8	7.8	7.8	7.8	7.83	-			
D.O. Saturation (%)	89.8	88.8	89.1	88.9	92.2	89.2	89.68	-		D.O. Saturation (%)	90.2	89.9	90.6	90.3	92.1	90.5	90.59	-			
D.O. (mg/L)	7.14	7.06	7.08	7.06	7.33	7.09	7.13	7.21	7.09	D.O. (mg/L)	7.30	7.28	7.33	7.31	7.48	7.34	7.34	7.41	7.31		
Turbidity (NTU)	1.80	1.40	1.60	1.60	2.70	1.90	1.85	-		Turbidity (NTU)	3.70	4.20	4.10	4.70	5.80	8.30	5.14	-			
SS (mg/L)	4.0	4.0	6.0	4.0	6.0	5.0	4.83	-		SS (mg/L)	6.0	9.0	6.0	7.0	12.0	13.0	8.83	-			
Remarks										Remarks											

Station C4							Station SR2														
Time (hh:mm)							Time (hh:mm)														
Water Depth (m)							Water Depth (m)														
Monitoring Depth (m)							Monitoring Depth (m)														
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle		
Water Temperature (°C)	16.3	16.3	16.3	16.3	16.3	16.3	16.31	-		Water Temperature (°C)	16.4	16.4			16.3	16.4	16.38	-			
Salinity (ppt)	32.2	32.2	32.3	32.2	32.3	32.3	32.27	-		Salinity (ppt)	32.0	32.0			32.0	32.1	32.01	-			
pH	7.9	7.9	7.8	7.9	7.9	7.9	7.86	-		pH	7.9	8.0			7.8	8.0	7.92	-			
D.O. Saturation (%)	89.8	89.4	90.4	89.7	92.8	89.9	90.34	-		D.O. Saturation (%)	95.1	87.1			92.3	89.3	90.95	-			
D.O. (mg/L)	7.24	7.21	7.29	7.23	7.48	7.24	7.28	7.36	7.24	D.O. (mg/L)	7.67	7.02			7.45	7.19	7.33	7.32	7.35		
Turbidity (NTU)	2.30	2.40	2.60	2.30	3.00	2.60	2.56	-		Turbidity (NTU)	6.50	6.10			5.70	6.40	6.19	-			
SS (mg/L)	3.0	5.0	4.0	3.0	3.0	5.0	3.83	-		SS (mg/L)	7.0	7.0			10.0	9.0	8.25	-			
Remarks										Remarks											

Station D2							Station SR3														
Time (hh:mm)							Time (hh:mm)														
Water Depth (m)							Water Depth (m)														
Monitoring Depth (m)							Monitoring Depth (m)														
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle		
Water Temperature (°C)	16.2	16.2	16.2	16.2	16.2	16.2	16.17	-		Water Temperature (°C)	16.9	16.9	16.2	16.5	16.2	16.2	16.47	-			
Salinity (ppt)	32.2	32.2	32.2	32.2	32.2	32.2	32.19	-		Salinity (ppt)	32.3	32.3	32.2	32.2	32.2	32.2	32.23	-			
pH	7.8	7.9	7.8	7.9	7.8	7.8	7.83	-		pH	7.8	7.8	7.8	7.8	7.8	7.8	7.83	-			
D.O. Saturation (%)	90.7	90.0	90.7	90.4	94.8	93.0	91.61	-		D.O. Saturation (%)	89.0	87.7	91.1	89.6	93.4	89.0	89.96	-			
D.O. (mg/L)	7.33	7.28	7.33	7.31	7.67	7.52	7.41	7.60	7.31	D.O. (mg/L)	7.09	6.98	7.36	7.20	7.55	7.20	7.23	7.38	7.16		
Turbidity (NTU)	3.90	2.40	4.60	3.90	4.80	4.20	3.97	-		Turbidity (NTU)	2.20	1.80	4.90	3.50	5.10	5.30	3.79	-			
SS (mg/L)	6.0	7.0	7.0	5.0	5.0	8.0	6.33	-		SS (mg/L)	3.0	2.0	7.0	5.0	6.0	8.0	5.17	-			
Remarks										Remarks											

Station G1							Station SR4														
Time (hh:mm)							Time (hh:mm)														
Water Depth (m)							Water Depth (m)														
Monitoring Depth (m)							Monitoring Depth (m)														
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle		
Water Temperature (°C)	17.0	17.0	17.0	17.0	17.0	17.0	16.99	-		Water Temperature (°C)	17.0	17.0	17.0	17.0	16.6	16.5	16.83	-			
Salinity (ppt)	32.4	32.4	32.4	32.4	32.4	32.4	32.38	-		Salinity (ppt)	32.4	32.4	32.4	32.4	32.2	32.3	32.33	-			
pH	7.8	7.8	7.8	7.8	7.8	7.8	7.81	-		pH	7.8	7.8	7.8	7.8	7.8	7.8	7.81	-			
D.O. Saturation (%)	89.7	88.8	89.5	89.1	92.5	89.1	89.77	-		D.O. Saturation (%)	89.8	88.3	89.6	88.9	92.7	89.1	89.73	-			
D.O. (mg/L)	7.13	7.06	7.12	7.08	7.35	7.08	7.14	7.22	7.10	D.O. (mg/L)	7.14	7.02	7.13	7.07	7.43	7.15	7.16	7.29	7.09		
Turbidity (NTU)	1.80	2.30	2.00	2.00	2.60	2.70	2.26	-		Turbidity (NTU)	1.60	1.50	1.80	1.70	2.10	3.30	2.02	-			
SS (mg/L)	3.0	4.0	5.0	3.0	3.0	4.0	3.67	-		SS (mg/L)	2.0	3.0	1.0	1.0	3.0	3.0	2.17	-			
Remarks										Remarks											



Sampling Date	02/02/2008
Weather & Ambient Temperature	Rainy, 11C

Mid-Ebb

Station C3							Station U2																	
Time (hh:mm)							21:04-21:09									21:45-21:49								
Water Depth (m)							12.30									9.50								
Monitoring Depth (m)							1.00			6.10			11.00			1.10			4.70			8.10		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle					
Water Temperature (°C)	16.0	16.0	16.0	16.0	16.0	16.0	15.95	-		Water Temperature (°C)	15.7	15.7	15.6	15.5	15.5	15.5	15.57	-						
Salinity (ppt)	32.3	32.3	32.3	32.3	32.3	32.3	32.31	-		Salinity (ppt)	32.3	32.3	32.3	32.3	32.3	32.3	32.31	-						
pH	7.9	7.9	7.8	7.9	7.8	7.9	7.86	-		pH	7.9	7.9	7.9	7.9	7.9	7.9	7.90	-						
D.O. Saturation (%)	91.2	91.2	91.3	90.8	91.8	91.2	91.24	-		D.O. Saturation (%)	90.7	90.1	90.6	90.3	91.0	90.4	90.52	-						
D.O. (mg/L)	7.40	7.40	7.41	7.37	7.45	7.40	7.41	7.43	7.40	D.O. (mg/L)	7.40	7.34	7.41	7.39	7.46	7.41	7.40	7.44	7.39					
Turbidity (NTU)	2.30	2.30	2.30	3.20	2.30	2.40	2.49	-		Turbidity (NTU)	4.70	4.00	4.90	5.70	5.30	5.40	4.97	-						
SS (mg/L)	7.0	6.0	4.0	5.0	6.0	4.0	5.33	-		SS (mg/L)	6.0	6.0	6.0	8.0	6.0	9.0	6.83	-						
Remarks										Remarks														

Station C4							Station SR2																	
Time (hh:mm)							22:06-22:11									21:22-21:31								
Water Depth (m)							9.60									4.20								
Monitoring Depth (m)							1.20			4.40			8.00			1.10			4.20			3.00		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle					
Water Temperature (°C)	15.5	15.6	15.5	15.5	15.2	15.2	15.42	-		Water Temperature (°C)	15.3	15.3			15.3	15.3	15.32	-						
Salinity (ppt)	32.3	32.3	32.3	32.3	32.3	32.3	32.31	-		Salinity (ppt)	32.0	32.1			32.1	32.1	32.05	-						
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.90	-		pH	8.0	8.0			7.9	8.0	7.98	-						
D.O. Saturation (%)	90.3	91.7	90.5	92.1	91.5	93.0	91.51	-		D.O. Saturation (%)	90.2	90.6			94.0	90.7	91.38	-						
D.O. (mg/L)	7.39	7.50	7.41	7.54	7.54	7.65	7.51	7.60	7.46	D.O. (mg/L)	7.43	7.46			7.74	7.47	7.53	7.61	7.45					
Turbidity (NTU)	2.70	2.50	2.80	2.90	3.60	3.40	3.02	-		Turbidity (NTU)	1.20	4.80			4.90	5.10	4.02	-						
SS (mg/L)	4.0	3.0	4.0	4.0	4.0	6.0	4.17	-		SS (mg/L)	7.0	6.0			7.0	7.0	6.75	-						
Remarks										Remarks														

Station D2							Station SR3																	
Time (hh:mm)							21:55-21:59									21:34-21:39								
Water Depth (m)							8.40									13.40								
Monitoring Depth (m)							0.90			4.00			6.90			1.10			6.60			12.00		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle					
Water Temperature (°C)	15.0	15.0	15.1	15.1	15.0	15.0	15.03	-		Water Temperature (°C)	15.7	15.7	15.6	15.7	15.4	15.5	15.61	-						
Salinity (ppt)	32.0	32.0	32.2	32.3	32.3	32.3	32.17	-		Salinity (ppt)	32.3	32.3	32.3	32.3	32.3	32.3	32.30	-						
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.90	-		pH	7.9	7.9	7.9	7.9	7.9	7.9	7.91	-						
D.O. Saturation (%)	92.7	92.5	92.5	92.8	93.5	93.1	92.85	-		D.O. Saturation (%)	90.2	90.2	90.5	90.5	90.8	91.0	90.52	-						
D.O. (mg/L)	7.69	7.67	7.64	7.67	7.72	7.70	7.68	7.71	7.67	D.O. (mg/L)	7.35	7.36	7.39	7.39	7.44	7.46	7.40	7.45	7.37					
Turbidity (NTU)	4.60	4.10	4.70	4.60	5.10	4.60	4.58	-		Turbidity (NTU)	2.90	3.10	3.50	4.00	3.80	4.80	3.71	-						
SS (mg/L)	6.0	4.0	7.0	8.0	5.0	5.0	5.83	-		SS (mg/L)	6.0	5.0	6.0	8.0	8.0	8.0	6.83	-						
Remarks										Remarks														

Station G1							Station SR4																	
Time (hh:mm)							21:17-21:20									21:27-21:30								
Water Depth (m)							13.20									14.40								
Monitoring Depth (m)							1.10			6.50			12.10			1.10			7.10			13.10		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&Middle	Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface&M iddle					
Water Temperature (°C)	15.9	15.9	15.9	15.9	15.9	15.9	15.93	-		Water Temperature (°C)	15.8	15.7	15.7	15.7	15.7	15.7	15.72	-						
Salinity (ppt)	32.3	32.3	32.3	32.3	32.3	32.3	32.34	-		Salinity (ppt)	32.3	32.3	32.3	32.3	32.3	32.3	32.31	-						
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.90	-		pH	7.9	7.9	7.9	7.9	7.9	7.9	7.91	-						
D.O. Saturation (%)	91.1	90.5	90.7	90.4	91.1	90.4	90.68	-		D.O. Saturation (%)	91.0	91.2	90.6	90.5	91.0	90.5	90.78	-						
D.O. (mg/L)	7.40	7.34	7.36	7.34	7.40	7.34	7.36	7.37	7.36	D.O. (mg/L)	7.41	7.44	7.38	7.38	7.42	7.37	7.40	7.40	7.40					
Turbidity (NTU)	2.50	2.20	2.10	1.90	2.40	2.30	2.26	-		Turbidity (NTU)	2.70	2.90	2.80	3.00	3.50	3.20	3.05	-						
SS (mg/L)	4.0	4.0	3.0	3.0	4.0	3.0	3.50	-		SS (mg/L)	4.0	3.0	4.0	6.0	6.0	4.0	4.50	-						
Remarks										Remarks														

Sampling Date	02/02/2008
Weather & Ambient Temperature	Rainy, 8C

Mid-Flood

Station		C3								
Time (hh:mm)		08:55-08:58								
Water Depth (m)		11.70								
Monitoring Depth (m)		1.00		5.60		10.00				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface & Middle	
Water Temperature (°C)	16.1	16.1	16.1	16.1	16.1	16.1	16.10	-		
Salinity (ppt)	32.4	32.4	32.4	32.4	32.3	32.4	32.36	-		
pH	7.8	7.8	7.8	7.8	7.8	7.8	7.79			
D.O. Saturation (%)	91.2	90.6	91.5	90.5	94.0	90.6	91.40	-		
D.O. (mg/L)	7.38	7.34	7.40	7.32	7.60	7.33	7.40	7.47	7.36	
Turbidity (NTU)	3.70	2.90	3.60	3.70	3.70	3.20	3.50	-		
SS (mg/L)	4.0	3.0	5.0	5.0	4.0	5.0	4.33	-		
Remarks										

Station		U2								
Time (hh:mm)		09:30-09:33								
Water Depth (m)		9.00								
Monitoring Depth (m)		1.00		4.30		8.00				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface & Middle	
Water Temperature (°C)	15.3	15.4	15.3	15.4	15.2	15.3	15.31	-		
Salinity (ppt)	32.2	32.2	32.2	32.2	32.2	32.3	32.23	-		
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.89			
D.O. Saturation (%)	91.3	90.5	91.0	90.6	91.6	90.9	90.98	-		
D.O. (mg/L)	7.50	7.44	7.49	7.44	7.54	7.48	7.48	7.51	7.47	
Turbidity (NTU)	3.80	3.90	3.70	4.00	4.00	4.40	4.01	-		
SS (mg/L)	4.0	6.0	5.0	4.0	4.0	5.0	4.67	-		
Remarks										

Station		C4								
Time (hh:mm)		09:50-09:53								
Water Depth (m)		9.70								
Monitoring Depth (m)		1.10		4.70		8.10				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface & Middle	
Water Temperature (°C)	15.7	15.7	15.6	15.7	15.6	15.6	15.62	-		
Salinity (ppt)	32.3	32.3	32.3	32.3	32.3	32.3	32.33	-		
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.90			
D.O. Saturation (%)	91.8	89.9	90.9	90.4	91.3	90.9	90.86	-		
D.O. (mg/L)	7.49	7.33	7.42	7.38	7.47	7.43	7.42	7.45	7.41	
Turbidity (NTU)	3.70	3.10	3.50	3.90	3.70	4.60	3.77	-		
SS (mg/L)	7.0	7.0	5.0	7.0	7.0	5.0	6.33	-		
Remarks										

Station		SR2								
Time (hh:mm)		09:47-09:55								
Water Depth (m)		4.20								
Monitoring Depth (m)		1.20		3.10						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface & Middle	
Water Temperature (°C)	15.4	15.4			15.4	15.4	15.42	-		
Salinity (ppt)	31.9	31.9			32.0	32.0	31.95	-		
pH	7.9	7.9			7.9	7.9	7.90			
D.O. Saturation (%)	95.6	88.3			92.4	89.8	91.48	-		
D.O. (mg/L)	7.86	7.26			7.59	7.38	7.52	7.49	7.56	
Turbidity (NTU)	2.70	2.60			4.00	4.60	3.46	-		
SS (mg/L)	4.0	4.0			5.0	5.0	4.50	-		
Remarks										

Station		D2								
Time (hh:mm)		09:40-09:43								
Water Depth (m)		8.40								
Monitoring Depth (m)		1.20		4.00		6.90				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface & Middle	
Water Temperature (°C)	15.3	15.4	15.3	15.4	15.3	15.3	15.34	-		
Salinity (ppt)	32.3	32.3	32.3	32.3	32.3	32.3	32.28	-		
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.89			
D.O. Saturation (%)	91.3	91.2	91.5	92.1	91.8	92.2	91.69	-		
D.O. (mg/L)	7.50	7.48	7.52	7.56	7.55	7.59	7.53	7.57	7.52	
Turbidity (NTU)	3.80	3.70	4.20	3.70	4.60	5.60	4.28	-		
SS (mg/L)	6.0	7.0	4.0	4.0	5.0	7.0	5.50	-		
Remarks										

Station		SR3								
Time (hh:mm)		09:22-09:25								
Water Depth (m)		13.40								
Monitoring Depth (m)		1.00		6.70		12.00				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface & Middle	
Water Temperature (°C)	15.3	15.6	15.3	15.3	15.3	15.3	15.33	-		
Salinity (ppt)	32.3	32.3	32.3	32.2	32.3	32.3	32.28	-		
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.88			
D.O. Saturation (%)	91.8	90.5	92.0	90.9	92.6	91.0	91.48	-		
D.O. (mg/L)	7.55	7.39	7.57	7.47	7.62	7.49	7.52	7.56	7.50	
Turbidity (NTU)	2.90	2.80	3.40	3.10	3.70	3.30	3.23	-		
SS (mg/L)	4.0	4.0	5.0	3.0	4.0	4.0	4.00	-		
Remarks										

Station		G1								
Time (hh:mm)		09:04-09:08								
Water Depth (m)		12.80								
Monitoring Depth (m)		1.00		5.60		11.30				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface & Middle	
Water Temperature (°C)	16.1	16.1	16.1	16.1	16.1	16.1	16.08	-		
Salinity (ppt)	32.4	32.4	32.3	32.4	32.3	32.4	32.36	-		
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.86			
D.O. Saturation (%)	92.4	91.3	92.4	91.6	96.0	91.8	92.57	-		
D.O. (mg/L)	7.48	7.39	7.48	7.41	7.77	7.43	7.49	7.60	7.44	
Turbidity (NTU)	2.90	2.90	3.50	2.60	3.50	4.90	3.40	-		
SS (mg/L)	6.0	5.0	4.0	5.0	6.0	6.0	5.33	-		
Remarks										

Station		SR4								
Time (hh:mm)		09:14-09:17								
Water Depth (m)		13.90								
Monitoring Depth (m)		1.00		6.80		12.00				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	Surface & Middle	
Water Temperature (°C)	15.9	15.9	15.9	15.9	15.8	15.9	15.86	-		
Salinity (ppt)	32.3	32.3	32.3	32.3	32.3	32.3	32.31	-		
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.87			
D.O. Saturation (%)	91.9	90.7	91.7	90.9	92.2	91.3	91.45	-		
D.O. (mg/L)	7.46	7.37	7.46	7.38	7.50	7.42	7.43	7.46	7.42	
Turbidity (NTU)	2.60	2.60	3.00	2.60	3.50	2.80	2.88	-		
SS (mg/L)	4.0	2.0	3.0	4.0	4.0	4.0	3.50	-		
Remarks										