

The Hongkong Electric Co Ltd
香港電燈有限公司



ENVIRONMENTAL IMPACT ASSESSMENT (EIA) ORDINANCE, CAP. 499

ENVIRONMENTAL PERMIT NO. EP-165/2003

**LAMMA POWER STATION
NAVIGATION CHANNEL IMPROVEMENT**

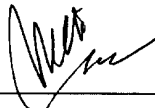
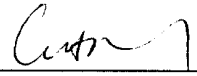
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EXECUTIVE SUMMARY

This is the fourth monthly Environmental Monitoring and Audit (EM&A) report for the Project “Lamma Navigation Channel Improvement” prepared by the Environmental Team (ET). This report presents the results of impact monitoring on marine water quality for the said project in September 2003.

Marine water quality monitoring was performed. The results were checked against the established Action/Limit (AL) levels. On-site audit was conducted once per week. The implementation status of the environmental mitigation measures, Event/Action Plan and environmental complaint handling procedures were also checked.

Construction Activities Undertaken

Construction activities for the project during the reporting month was dredging and dumping of dredged mud. The maximum hourly and daily dredging rates actually achieved by the contractors were within the limits specified in the latest dredging schedule.

Environmental Monitoring Works

Due to adverse weather conditions, the marine water quality monitoring work on 2nd September was rescheduled to 5th September 2003. Other than that, marine water monitoring was conducted as scheduled in the reporting month.

Water Quality

There was no exceedance of Action and Limit Levels for water quality in the reporting month.

Site Environmental Audit

Site audits were carried out on a weekly basis to monitor environmental issues on the construction site. The site conditions were generally satisfactory. All required mitigation measures were implemented.

Environmental Licensing and Permitting

Description	Permit No.	Valid Period		Issued To	Date of Issuance
		From	To		
Environmental Permit	EP-0165/2003	08/04/03	-	HEC	08/04/03
Construction Noise Permit	GW-UW0156-03	01/06/03	30/11/03	Contractor	23/05/03
Marine Dumping Permit	EP/MD/04-011	01/06/03	30/09/03	Contractor	22/05/03
Registration of Chemical Waste Producer	WPN5296-912-P2800-17	22/07/03	-	Contractor	22/07/03

Implementation Status of Environmental Mitigation Measures

Environmental mitigation measures for the construction activities as recommended in the EM&A manual were implemented in the reporting month.

Environmental Complaints

No complaint was received in the reporting month.

Future Key Issues

The future key issues to be considered in the coming month are as follows:

- to continue executing the preventive measures for avoiding noise exceedance and monitoring/ reviewing the noise performance;
- to ensure compliance with the CNP already obtained;
- to keep reviewing the monitoring results and to take necessary actions to ensure the seawater quality;
- to carry out routine inspection and necessary maintenance for the cage-type silt curtains.

Concluding Remarks

The environmental performance of the project was generally satisfactory.

1. INTRODUCTION

1.1 Background

The Environmental Team (hereinafter called the “ET”) was formed within the Hongkong Electric Co. Ltd (HEC) to undertake Environmental Monitoring and Audit for “Lamma Power Station Navigation Channel Improvement” (hereinafter called the “Project”). Under the requirements of Clause 4 of Environmental Permit EP-165/2003, an EM&A programme for impact environmental monitoring is required to be implemented. In accordance with the EM&A Manual, environmental monitoring of water quality and regular environmental audits are required for the Project.

The Project involves restoring the depth of existing channel by dredging to a water depth of -16 mPD approximately with an estimated total dredging volume of 2.98 million m³.

The Project Area is illustrated in Figure 1.1. The shaded area shows the region of the Channel where dredging will be required under this Project. According to the latest bathymetric survey of the Channel, there is already sufficient water depth in the remaining section of the Channel in the south (beyond the shaded area in Figure 1.1) and no dredging will be required.

The dredging options for the Project are:

- (1) continuous dredging using grab dredgers with cage-type silt curtains or
- (2) intermittent dredging using one Trailer Suction Hopper Dredger (TSHD).

Only one of these two dredging options will be deployed. The contractor has chosen to adopt the continuous dredging method using grab dredgers with cage-type silt curtains.

This report summarizes the environmental monitoring and audit work for the Project for the month of September 2003.

1.2 Project Organisation

The management structure to oversee the Project includes the following:

- Environmental Protection Department (The Authority);
- Chief Engineer (Projects) (The official contact person between HEC and EPD);
- Engineer;
- Independent Environmental Checker (IEC);
- Environmental Team (ET);
- Contractor.

The project organisation chart for the construction EM&A programme is shown in Appendix A.

1.3 Construction Works undertaken during the Reporting Month

Construction activities undertaken during the reporting month for this Project were dredging and dumping of dredged mud. The total volume of dredged materials from 1st to 30th September 2003 was 424,980m³. Uncontaminated materials were dumped at the designated location within the East Ninepin Disposal Area and the total dumped volume in September 2003 was 424,980m³. Figure 1.2 shows all dumping locations for this project. Daily records of dredged / dumped volume are presented in Appendix B. The maximum hourly and daily dredging rates actually achieved by the contractors were within the limits specified in the latest dredging schedule.

The main construction activities carried out during the reporting month and the corresponding environmental mitigation measures are summarized in Table 1.1. The implementation of major mitigation measures in the month is provided in Appendix I.

Table 1.1 Construction Activities and Their Corresponding Environmental Mitigation Measures

Construction Activities	Environmental Mitigation Measures
Dredging	<p>Water Quality</p> <ul style="list-style-type: none"> – Three number of grab dredgers with grab capacity of no less than 8m³ were operated on site. – Both maximum total hourly and daily dredging rates specified in the latest dredging schedule were strictly followed. – Daily dredging volume was spread as evenly as possible over the 24-hour period. – Cage-type silt curtains were deployed for all grab dredgers. – Grabs were tightly closed and the hoist speed was suitably low. – All barges for transportation of dredged materials were fitted with tight bottom seals. <p>Noise</p> <ul style="list-style-type: none"> – General noise mitigation measures were employed at work site throughout the construction phase. – The number of dredgers and operation conditions as specified in the CNP were strictly followed. <p>Dredging Waste</p> <ul style="list-style-type: none"> – All vessels for marine transportation of dredged sediment were fitted with tight fitting seals at the bottom openings to prevent leakage. – All vessels were filled to a level such that dredged materials would not spill over during loading and transportation.

Construction Activities	Environmental Mitigation Measures
	<ul style="list-style-type: none">- Dredged wastes were disposed of at Licensed dumping site – East Ninepin.- Records of the quantities of waste generated and disposed of off-site were taken. <p>Marine Ecology</p> <ul style="list-style-type: none">- All construction related vessels approached the site from the designated route to avoid the Finless Porpoise habitat area.- The dumping of chemicals, rubbish, oils etc. into the water was strictly prohibited.

1.4 Summary of EM&A Requirements

The EM&A program requires environmental monitoring of water quality. Regular environmental site audits for water quality and waste management were carried out. The detailed EM&A monitoring work for water quality are described in Sections 2.

The following environmental audits are summarized in Section 3 of this report:

- Environmental monitoring results;
- Waste Management Records;
- Weekly site audit results;
- The status of environmental licensing and permits for the Project;
- The implementation status of environmental protection and pollution control/mitigation measures.

Future key issues will be reported in Section 4 of this report.

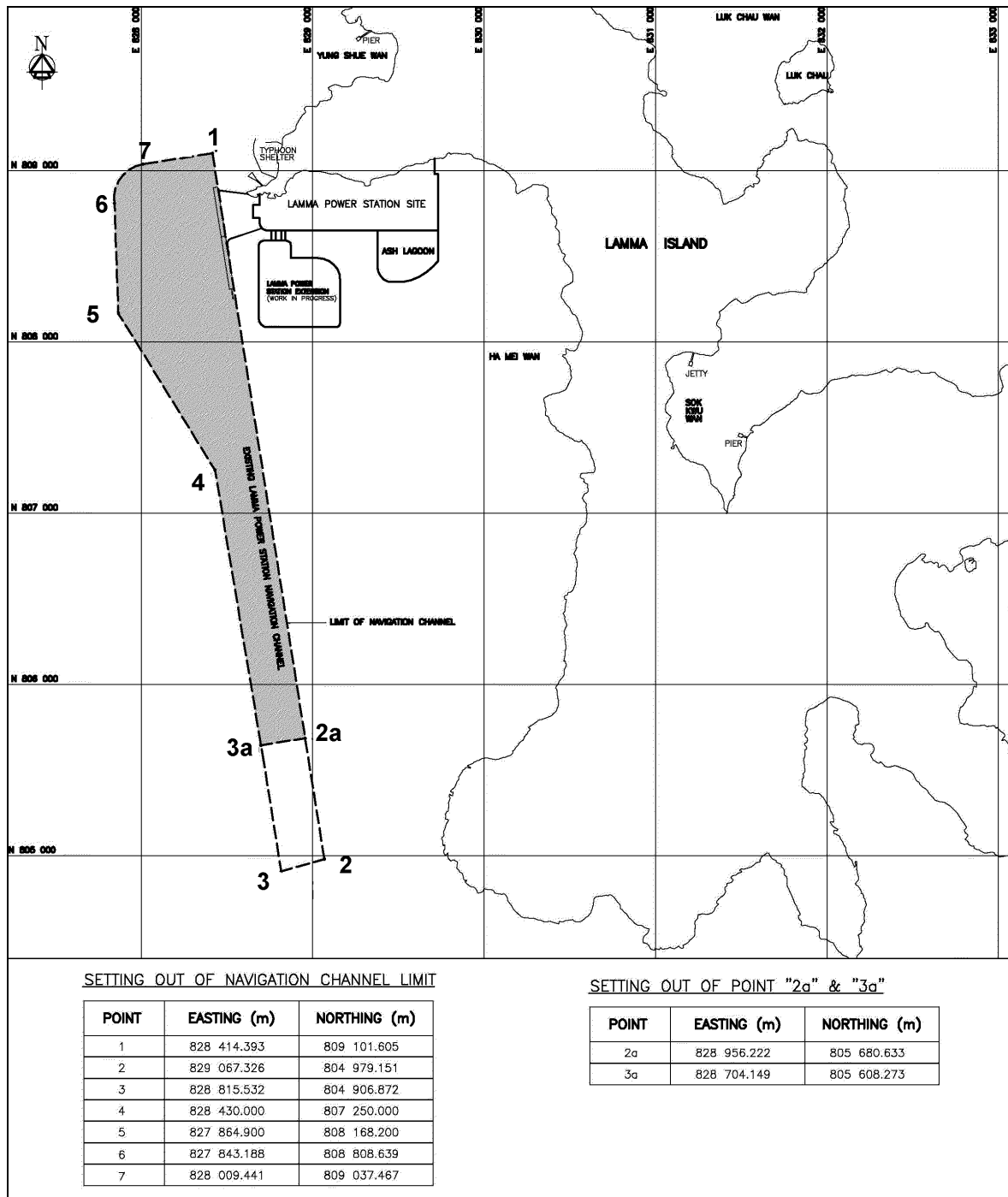


Figure 1.1 Layout of Work Site

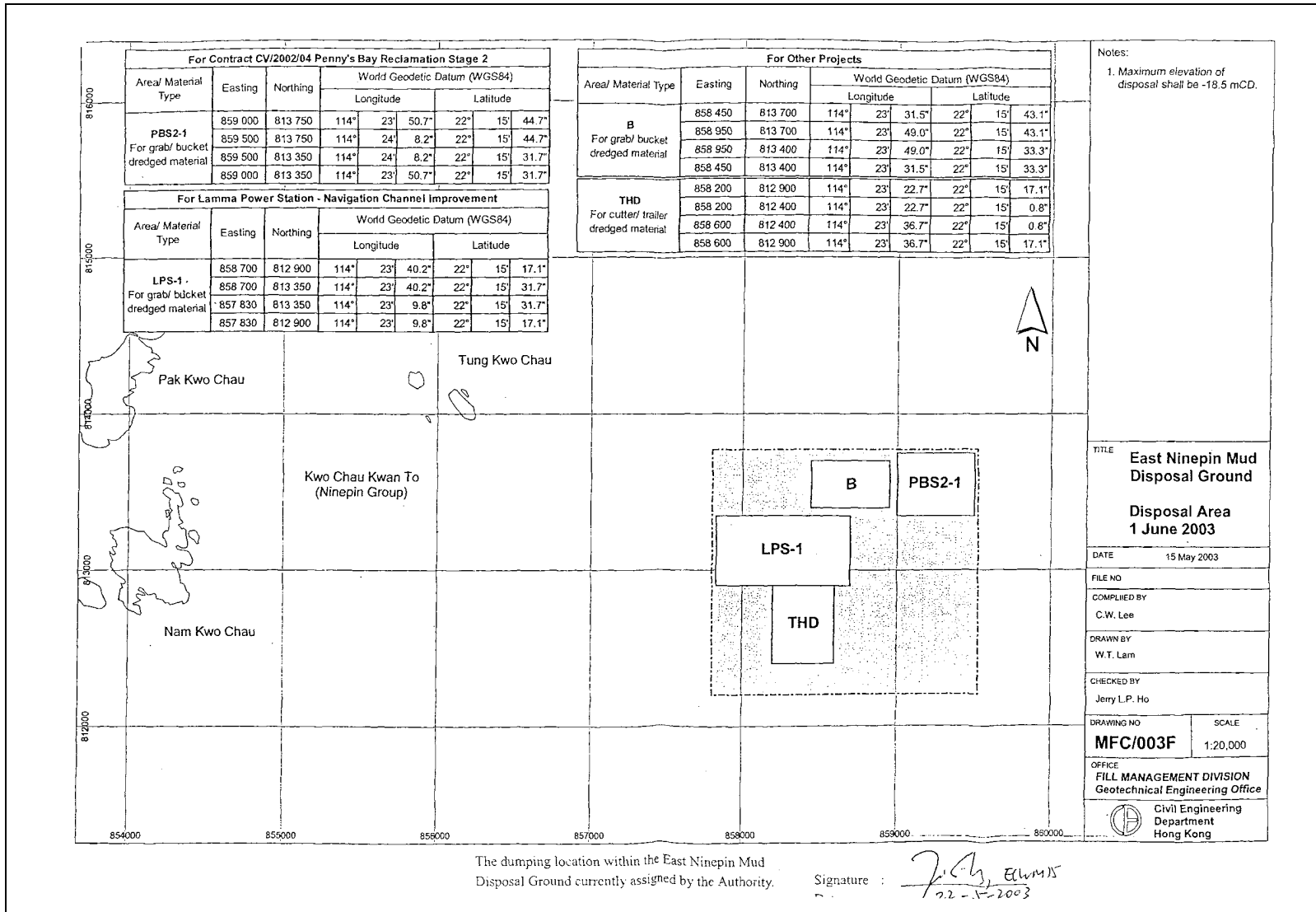


Figure 1.2 Location of Dumping Area

2. WATER QUALITY MONITORING

2.1 Monitoring Requirements

Marine water quality monitoring at the monitoring locations adjacent to the project area was carried out. The purpose was to ensure that deterioration of water quality, if any, would immediately be detected and that timely action could be taken to rectify the situation. The impact monitoring data were checked against the AL levels set out in the Baseline Monitoring Report (Revision 1).

2.2 Monitoring Locations

A total of 10 water quality monitoring locations were selected. 7 Sensitive Receiver (SR) stations were chosen on the basis of their proximity to the construction site. 3 Marine Control stations (CS) as recommended in the EIA were selected to facilitate comparison of the water quality of the SR stations with ambient water quality conditions. Table 2.1 describes the locations of these monitoring stations. Their locations are shown in Figure 2.1.

Table 2.1 Water Quality Monitoring Locations

Type	Monitoring Location	HK Metric Grid E	HK Metric Grid N
Sensitive Receiver Stations	SR6	830 150	811 500
	SR7	829 004	810 903
	SR10	829 194	808 600
	SR11	830 119	808 650
	SR12	830 386	807 189
	SR14	829 977	805 758
	SR15	829 566	804 545
Marine Control Stations	CS1	828 000	813 492
	CS2	825 000	808 000
	CS3	829 000	802 000

2.3 Monitoring Equipment

Table 2.2 summarizes the equipment used in the water-quality monitoring programme.

Table 2.2 Water Quality Monitoring Equipment

Equipment	Detection Limit
YSI 6920 Water Quality Monitor	Temperature: -5 to 45 °C; +/- 0.15 °C Salinity: 0 to 70 ppt; +/- 0.1 ppt Dissolved Oxygen: 0 to 200%; +/- 0.2% 0 to 20 mg/L; +/- 0.2 mg/L Turbidity: 0 to 1000 NTU; +/- 5% of the range pH: 0 to 14 units; +/- 0.2 units
Trimble NT300D GPS	Accuracy better than 3m
Eagle Fisheasy ST Portable Depth Finder	Accuracy better than 0.5m

2.4 Monitoring Parameters, Frequency and Duration

Table 2.3 summarizes the monitoring parameters, frequencies and total duration of water quality monitoring. The monitoring schedule for reporting month is shown in Appendix D.

Table 2.3 Water Quality Monitoring Parameters and Frequency

Monitoring Stations	Parameters	Frequency	No. of Depths	No. of Samples
Sensitive Receiver Stations SR6, SR7, SR10, SR11, SR12, SR14 & SR15 Marine Control Stations CS1, CS2, CS3	<ul style="list-style-type: none"> • Depth, m • Temperature, °C • Salinity, ppt • DO, mg/L • DO Saturation, % • Turbidity, NTU • SS, mg/L • pH 	Three times per week	3 Surface, Mid-Depth and Bottom	2 Mid-ebb and Mid-flood

2.5 Monitoring Procedures and Calibration Details

Monitoring Procedures

- The monitoring stations were accessed using survey boat to within 3m, guided by Differential Global Positioning System (DGPS).
- The water depth of the monitoring location at sampling time was measured using depth meter. Afterwards, the probes of the in-situ measurement equipment were lowered to the predetermined depths and the measurements taken accordingly.
- A water sampler was lowered into the water to the required sampling depths. Upon reaching the pre-determined depth, a messenger to activate the sampler was released which travel down the wire. The water sample was sealed within the sampler before retrieving.
- All measurements were taken at 3 water depths where appropriate, namely 1m below water surface, mid-depth, and 1 meter from seabed, except where the water depth was less than 6m, whereupon the mid-depth measurement would be omitted. If the water depth was less than 3m, only the mid-depth position was monitored.
- One duplicate in-situ measurement and water sample for laboratory analyses were taken at all sampling locations.
- At each measurement depth, two consecutive measurements were taken. The probe was retrieved out of the water after the first measurement and then redeployed for the second measurement. When the difference in value between the first and second measurement of on-site parameters was more than 25% of the value of the first reading, the reading was discarded and further readings were taken.
- A water sampler, consisting of a transparent PVC or glass cylinder of not less than two litres which could be effectively sealed with cups at both ends, was used. 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.
- Water samples for SS measurements were transferred directly to high density polythene sample bottles, packed in ice (cooled to 4°C without being frozen), and delivered to a HOKLAS laboratory as soon as possible after collection.
- In addition, field information such as the general meteorological conditions and observations regarding any significant activities in the vicinity of each monitoring location were also recorded.

Equipment Calibration

The equipment deployed for in-situ measurement of marine water quality was calibrated before use. The methodologies for the calibration follow the instruction manuals provided by the corresponding manufacturers. The calibration records are shown in Appendix F.

Laboratory Analysis & QA/QC

The collected marine water samples were analyzed for Suspended Solids with methodologies shown in Table 2.4.

Table 2.4 Laboratory Analysis Methodologies of Marine Water Samples

Parameter	Method	Limit of Reporting (mg/L)
Suspended Solids	APHA 17 ed 2540 D	1.0

In order to ensure that the laboratory analysis works were carried out properly, stringent QA/QC procedures (which include sample preparation as well as subsequent instrumentation analysis) were followed. According to the requirements stipulated in the EM&A Manual, QA/QC requirements for laboratory testing include:

- 1) "Blind" duplicate samples analysis of 10% collected marine water samples; and
- 2) in-house QA/QC procedures of the testing laboratory (this includes the use of blank, batch duplicates and quality control samples).

Blind Duplicate:

In order to cross check the accuracy of the measurement results by the laboratory analysis, "blind" duplicate samples of 10% of the collected marine water samples were analyzed alongside the normal samples. The sample codes for the "blind" duplicates were determined by the sampling team and are not identifiable by the laboratory. The results of the "blind" duplicate samples are summarized in Appendix F.

Blank:

A laboratory blank is an analyte free matrix to which all reagents are added in the same volumes or proportions as used in the standard sample preparation to monitor contamination introduced in laboratory. All the laboratory blank values and acceptance criterion of suspended solids are summarized in Appendix F.

Batch Duplicate:

Batch duplicate is an intra-laboratory split sample randomly selected from the sample batch to monitor the method precision in a given matrix. The acceptance limit of duplicate values of suspended solids and their duplicate results are summarized in Appendix F.

Quality Control Sample:

The quality control sample is the analysis of a material with a known concentration of contaminants to determine the accuracy of results in a given matrix. The results of quality control samples for suspended solids are shown in Appendix F.

A total of 1,560 sets of samples for Suspended Solids analysis were received during the marine monitoring period including both ebb and flood tides. At least 5% laboratory blanks, batch duplicates and quality control samples for Suspended Solids were used. The acceptance criteria are outlined in Quality Control data.

The QA/QC results in Appendix F indicated that the laboratory analysis works of the collected marine water samples were properly carried out and the measurement results obtained were valid in accordance with the Hong Kong Laboratory Accreditation Scheme (HOKLAS) requirements. Moreover, the “blind” duplicate measurement results indicated that the precision of the measurements for Suspended Solids complied with HOKLAS requirements.

2.6 Results and Observations

Due to adverse weather conditions, the marine water quality monitoring work on 2nd September 2003 was rescheduled to 5th September 2003. Other than that, marine water monitoring was conducted as scheduled in the reporting month. All monitoring data and graphical presentation of the monitoring results are provided in Appendix E.

There was no Action / Limit Level exceedance for water quality in the reporting month.

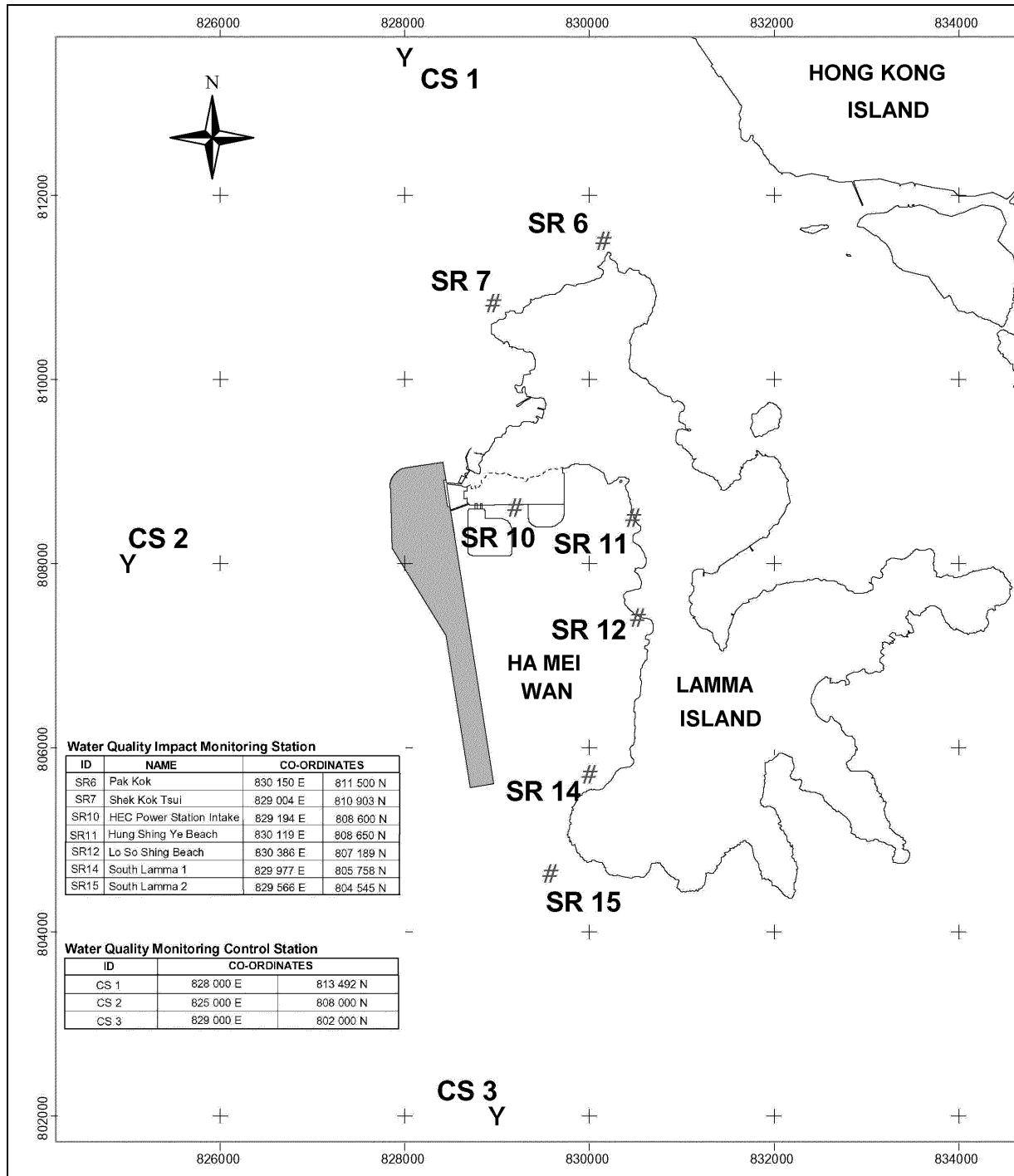


Figure 2.1 Location of Water Quality Monitoring Stations

3. ENVIRONMENTAL AUDIT

3.1 Review of Environmental Monitoring Procedures

The environmental monitoring procedures were regularly reviewed by the Environmental Team. No modification to the existing monitoring procedures was recommended.

3.2 Assessment of Environmental Monitoring Results

Monitoring results for Water Quality

The environmental monitoring results for Water Quality in the reporting month presented in Sections 2 are summarized in Table 3.1.

Table 3.1 Summary of AL Level Exceedances on Monitoring Parameters

Item	Parameter Monitored	Monitoring Period	No. of Exceedances In		Event/Action Plan Implementation Status and Results
			Action Level	Limit Level	
Water					
1	DO (Surface & Middle)	01/09/03-30/09/03	0	0	
2	DO (Bottom)	01/09/03-30/09/03	0	0	
3	SS	01/09/03-30/09/03	0	0	
4	Turbidity	01/09/03-30/09/03	0	0	

Waste Management Records

The estimated amounts of different types of waste generated in September 2003 are shown in Table 3.2.

Table 3.2 Estimated Amounts of Waste Generated in September 2003

Waste Type	Examples	Estimated Amount (m ³)
Dredged Materials	Marine Mud	424,980

The total bulk volume of dredged material was 424,980m³.

3.3 Site Environmental Audit

Site audits were carried out by ET on a weekly basis to monitor environmental issues at the project area to ensure that all mitigation measures were implemented timely and properly. The site conditions were generally satisfactory. All required mitigation measures were implemented. The weekly site inspection results are attached in Appendix H.

3.4 Status of Environmental Licensing and Permitting

All permits/licenses obtained for the project are summarised in Table 3.3.

Table 3.3 Summary of Environmental Licensing and Permit Status

Description	Permit No.	Valid Period		highlights	Status
		From	To		
Environmental Permit	EP-0165/2003	08/04/03	-	The whole construction work site	Valid
Construction Noise Permit	GW-UW0156-03	01/06/03	30/11/03	Operation of PME's allowed during the restricted hours (07:00-07:00 of next day on holidays and 19:00-07:00 of next day on all other days). Only one grab dredger allowed to be operated within each zone (viz. Zone A, B and C). Only one tug boat allowed to be operated within Zone A and B combined.	Issued on 23/05/2003
Marine Dumping Permit	EP/MD/04-011	01/06/03	30/09/03	Dumping at East Ninepin Disposal Area	Valid.
Registration of Chemical Waste Producer	WPN5296-912-P2800-17	22/7/03	-	Major Chemical Waste Type: Waste solvent and waste lubricating oil	Valid

3.5 Implementation Status of Environmental Mitigation Measures

Mitigation measures detailed in the permits and the EM&A Manual (Construction Phase) are required to be implemented. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix I.

3.6 Implementation Status of Action/Limit Plans

The Action/Event Plans for water quality extracted from the EM&A Manual (Construction Phase) and the review report on marine water quality monitoring are presented in Appendix G.

3.7 Implementation Status of Environmental Complaint Handling Procedures

In September 2003, no complaint against the construction activities was received.

Table 3.4 Environmental Complaints / Enquiries Received in September 2003

Case Reference / Date, Time Received / Date, Time Concerned	Descriptions /Actions Taken	Conclusion / Status
Nil	N/A	N/A

Table 3.5 Outstanding Environmental Complaints / Enquiries Received Before

Case Reference / Date, Time Received / Date, Time Concerned	Descriptions /Actions Taken	Conclusion / Status
Nil	N/A	N/A

4. FUTURE KEY ISSUES

4.1 Key Issues for the Coming Month

Key issues to be considered in the coming month include:

Noise Impact

- To continue executing the preventive measures for avoiding noise exceedance and monitoring/ reviewing the noise performance
- To ensure compliance with the CNP already obtained.

Water Impact

- To keep reviewing the monitoring results in order to take corresponding action to ensure the seawater quality.
- To carry out routine inspection and necessary maintenance for the cage-type silt curtains.

4.2 Monitoring Schedules for the Next 3 Months

The tentative environmental monitoring schedules for the next 3 months are shown in Appendix D.

4.3 Construction Program for the Next 3 Months

The tentative construction program for the next 3 months is shown in Appendix J.

5. CONCLUSION

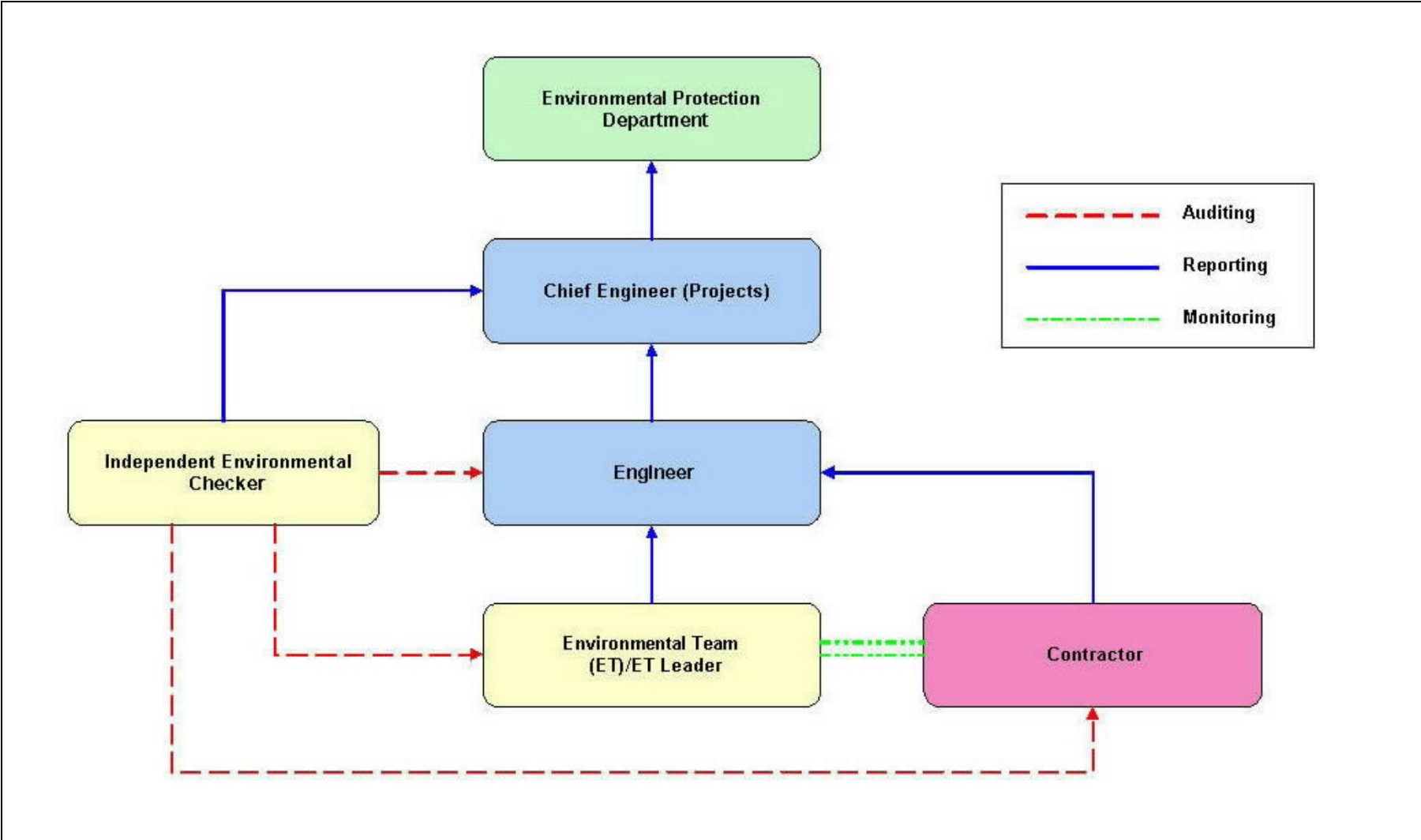
Due to adverse weather conditions, the marine water quality monitoring work on 2nd September 2003 was rescheduled to 5th September 2003. Other than that, marine water monitoring was conducted as scheduled in the reporting month. All monitoring results were checked and reviewed. No Action/Limit level exceedance on water quality parameters was recorded in the reporting month.

The maximum hourly and daily dredging rates actually achieved by the contractor were within the limits specified in the latest dredging schedule.

Environmental mitigation measures recommended in the EM&A manual for the Project were implemented in the reporting month. No complaint against the Project was received. No prosecution was received for this Project in the reporting period.

The environmental performance of the Project was generally satisfactory.

Appendix A Organization Chart



Appendix B

Table B1 Amount of Dredged and Dumped Marine Sediment

Date	Dredged Marine Mud (bulk volume m ³)	Dumped Marine Mud (bulk volume m ³)	Maximum Hourly Dredging Rate (bulk volume m ³ /hr)
1/9/2003	15,210	15,210	944
2/9/2003	2,460	2,460	969
3/9/2003	4,500	4,500	1,150
4/9/2003	10,920	10,920	1,008
5/9/2003	14,460	14,460	897
6/9/2003	13,710	13,710	983
7/9/2003	16,170	16,170	879
8/9/2003	13,710	13,710	1,058
9/9/2003	15,420	15,420	972
10/9/2003	13,170	13,170	920
11/9/2003	12,210	12,210	769
12/9/2003	9,000	9,000	791
13/9/2003	16,170	16,170	1,014
14/9/2003	14,670	14,670	900
15/9/2003	12,630	12,630	911
16/9/2003	12,840	12,840	835
17/9/2003	14,880	14,880	972
18/9/2003	16,800	16,800	1,056
19/9/2003	17,340	17,340	1,116
20/9/2003	18,090	18,090	1,069
21/9/2003	17,760	17,760	1,136
22/9/2003	17,550	17,550	908
23/9/2003	20,970	20,970	981
24/9/2003	13,590	13,590	1,276
25/9/2003	15,090	15,090	1,021
26/9/2003	16,590	16,590	1,102
27/9/2003	17,010	17,010	1,104
28/9/2003	19,260	19,260	1,170
29/9/2003	9,420	9,420	925
30/9/2003	13,380	13,380	648

Summary of dredging rates for the reporting month

1. According to the latest dredging schedule (Table B2), the allowable daily and hourly dredging rates for September 2003 are 26,300m³/day and 1,205m³/hour respectively. The unit is in “in-situ” volume.
2. For the reporting month, the largest quantity of dredged mud was 20,970 m³ (bulk volume) on 23/9/2003. The volume of dredged mud equals to (20,970 m³/1.3) 16,131m³/day in in-situ volume, where 1.3 is a bulking factor. Similarly, the largest maximum hourly dredging rate for the reporting month was (1,276m³/1.3) 982m³/hour in in-situ volume on 24/9/2003.
3. Hence, it can be concluded that the maximum hourly and daily dredging rates actually achieved by the contractors were within the limit specified in the latest dredging schedule.

Table B2 Dredging Schedule for Grab Dredger Option (Revision 2) – Effective from 1 September 2003

Working Zone*	Construction Programme			
	September 2003	October 2003	November 2003	December 2003
ABn	4Nos.**	4 Nos.**	4 Nos.**	4 Nos.**
ABs				
BCn				
BCs	no dredging			
Maximum total daily dredging rate (m ³ /day)	26,300	33,200		
Maximum total hourly dredging rate (m ³ /hour)	1,205	1,522		

Remarks:

*: This table should be read in conjunction with Figure 4 of Environmental Permit No. EP-165/2003

** : A maximum of 4 numbers of grab dredgers, each with a grab capacity of no less than 8 m³ is allowed.

Note:

The above maximum daily dredging rates are derived based on 24-hour dredging operations. If the daily workings hours are restricted, the maximum daily dredging rates will have to be reduced proportionally based on the allowable working hours.

Appendix C Action and Limit Levels for Water Quality Monitoring

Table C1 Action / Limit Levels for Dissolved Oxygen (mg/L)

(a) Surface and Middle – Dry Season (November – March)

	SR6	SR7	SR11	SR12	SR14	SR15
Action Level (5%-ile)	5.2*	5.2*				
1%-ile	4.3**	4.6**				
Limit Level	4.0***					

Note:

- * - figure 5.2 mg/L represents 5%-ile of baseline monitoring data and Marine Water Quality (MWQ) in Hong Kong from 1997 to 2001
- ** - figures 4.3 and 4.6 mg/L represent 1%-ile of baseline monitoring data and MWQ in Hong Kong from 1997 to 2001
- *** - WQO for DO in non-FCZ
- All the figures may be subjected to review by EPD as and when necessary.

(b) Surface and Middle – Wet Season (April – October)

	SR6	SR7	SR11	SR12	SR14	SR15
Action Level (5%-ile)	4.2*	4.6*				
1%-ile	3.9**	4.3**				
Limit Level	4.0***					

Note:

- * - figures 4.2 and 4.6 mg/L represent 5%-ile MWQ in Hong Kong from 1997 to 2001
- ** - figures 3.9 and 4.3 mg/L represent 1%-ile of MWQ in Hong Kong from 1997 to 2001
- *** - the WQO for DO in non-FCZ
- All the figures may be subjected to review by EPD as and when necessary.

(c) Bottom – Dry Season (November – March)

	SR6	SR7	SR11	SR12	SR14	SR15
Action Level (5%-ile)	5.5*	5.4*				
1%-ile	4.1**	4.8**				
Limit Level	2.0***					

Note:

- * - figures 5.5 and 5.4 mg/L represent 5%-ile of baseline monitoring data and MWQ in Hong Kong from 1997 to 2001
- ** - figures 4.1 and 4.8 mg/L represent 1%-ile of baseline monitoring data and MWQ in Hong Kong from 1997 to 2001
- *** - WQO for DO in non-FCZ
- All the figures may be subjected to review by EPD as and when necessary.

(d) Bottom – Wet Season (April – October)

	SR6	SR7	SR11	SR12	SR14	SR15
Action Level (5%-ile)	2.7*	3.5*				
1%-ile	2.3**	2.0**				
Limit Level	2.0***					

Note:

- a. * - figures 2.7 and 3.5 mg/L represent 5%-ile of MWQ in Hong Kong from 1997 to 2001
- b. ** - figures 2.3 and 2.0 mg/L represent 1%-ile of MWQ in Hong Kong from 1997 to 2001
- c. *** - WQO for DO in non-FCZ
- d. All the figures may be subjected to review by EPD as and when necessary.

Table C2 Action / Limit Levels for Turbidity (NTU)

(depth-average)

	SR6	SR7	SR11	SR12	SR14	SR15
Action Level (95%-ile)	16.4	15.3	13.5	14.2	16.1	16.1
Limit Level (99%-ile)	17.4	16.1	16.2	16.2	16.5	16.8

Note:

1. 95% ile of baseline data is adopted for setting the Action Level for various SRs according to the EM&A Manual.
2. 99% ile of baseline data is adopted for setting the Limit Level for various SRs according to the EM&A Manual.
3. All the figures may be subjected to review by EPD as and when necessary.

Table C3 Action / Limit Levels for Suspended Solids (mg/L)

(depth-average)

	SR6	SR7	SR10	SR11	SR12	SR14	SR15
95%-ile	16.8	16.4	16.0	16.1	16.8	17.9	16.7
Action Level	16.8	16.4	--	16.1	16.8	17.9	16.7
99%-ile	16.9	16.8	16.2	16.4	17.0	18.8	17.8
Limit Level	16.9	16.8	100	16.4	17.0	18.8	17.8

Note:

1. No Action Level is applied to SR10 according to the EM&A Manual
2. Limit Level of SR10 is 100 mg/L according to the EM&A Manual
3. 95% ile of baseline data is adopted for setting the Action Level for various SRs according to the EM&A Manual.
4. 99% ile of baseline data is adopted for setting the Limit Level for various SRs according to the EM&A Manual.
5. All the figures may be subjected to review by EPD as and when necessary.

Appendix D

Environmental Monitoring Schedule

Navigation Channel Improvement Project - Marine Water Monitoring Schedule
Marine Water Monitoring Schedule

Sep-2003

No.	Date		Tide	High tide	Low tide	Tentative Start Time
1	2/9/2003	Tue	Mid-flood	13:47	07:02	09:30
			Mid-ebb	13:47	19:02	15:30
2	4/9/2003	Thu	Mid-ebb	02:16	10:11	08:30
			Mid-flood	18:04	10:11	13:00
3	6/9/2003	Sat	Mid-ebb	04:48	13:15	08:30
			Mid-flood	20:59	13:15	16:00
4	8/9/2003	Mon	Mid-ebb	06:56	14:42	09:45
			Mid-flood	21:50	14:42	16:00
5	10/9/2003	Wed	Mid-ebb	08:38	15:47	11:15
			Mid-flood	22:26	15:47	16:00
6	12/9/2003	Fri	Mid-flood	10:02	03:46	08:30
			Mid-ebb	10:02	16:37	12:15
7	14/9/2003	Sun	Mid-flood	11:20	05:06	08:30
			Mid-ebb	11:20	17:22	13:15
8	16/9/2003	Tue	Mid-flood	12:39	06:32	08:30
			Mid-ebb	12:39	17:52	14:15
9	19/9/2003	Fri	Mid-ebb	00:47	10:31	08:30
			Mid-flood	20/9/2003 02:04	10:31	16:00
10	22/9/2003	Mon	Mid-ebb	05:25	13:48	08:30
			Mid-flood	21:13	13:48	16:00
11	24/9/2003	Wed	Mid-ebb	07:23	14:48	10:00
			Mid-flood	21:09	14:48	16:00
12	26/9/2003	Fri	Mid-ebb	09:12	15:46	11:30
			Mid-flood	21:44	15:46	16:00
13	29/9/2003	Mon	Mid-flood	11:51	05:08	08:30
			Mid-ebb	11:51	17:16	13:30

Notes: 1. The time of high tide and low tide is made reference to tidal information at Chi Ma Wan provided by the HKO.

2. Monitoring works will not be arranged during night time period for safety reasons.

3. Monitoring works should be carried out three days per week at mid-flood and mid-ebb.

4. The interval between two sets of monitoring should not be less than 36 hours.

Navigation Channel Improvement Project - Marine Water Monitoring Schedule
Marine Water Monitoring Schedule

Oct-2003

No.	Date		Tide	High tide	Low tide	Tentative Start Time
1	1/10/2003	Wed	Mid-flood	14:28	06:59	09:45
			Mid-ebb	14:28	18:14	15:15
2	3/10/2003	Fri	Mid-ebb	01:28	10:08	08:30
			Mid-flood	4/10/2003 02:48	10:08	16:00
3	6/10/2003	Mon	Mid-ebb	05:47	13:32	08:45
			Mid-flood	20:51	13:32	16:00
4	8/10/2003	Wed	Mid-ebb	07:50	14:38	10:15
			Mid-flood	21:18	14:38	16:00
5	10/10/2003	Fri	Mid-ebb	09:18	15:27	11:15
			Mid-flood	21:39	15:27	16:00
6	13/10/2003	Mon	Mid-flood	11:15	04:53	08:30
			Mid-ebb	11:15	16:27	12:45
7	15/10/2003	Wed	Mid-ebb	06:14	12:42	08:30
			Mid-flood	16:34	12:42	13:45
8	18/10/2003	Sat	Mid-ebb	17/10/2003 23:36	09:31	08:30
			Mid-flood	19/10/2003 00:34	09:31	16:00
9	20/10/2003	Mon	Mid-ebb	02:36	12:01	08:30
			Mid-flood	21/10/2003 04:47	12:01	16:00
10	22/10/2003	Wed	Mid-ebb	06:01	13:24	08:45
			Mid-flood	20:05	13:24	15:45
11	24/10/2003	Fri	Mid-ebb	08:10	14:28	10:15
			Mid-flood	20:32	14:28	16:00
12	27/10/2003	Mon	Mid-flood	12:10	05:04	08:30
			Mid-ebb	12:10	16:33	13:15
13	29/10/2003	Wed	Mid-flood	13:26	05:58	08:45
			Mid-ebb	13:26	17:02	14:15

Notes: 1. The time of high tide and low tide is made reference to tidal information at Chi Ma Wan provided by the HKO.

2. Monitoring works will not be arranged during night time period for safety reasons.

3. Monitoring works should be carried out three days per week at mid-flood and mid-ebb.

4. The interval between two sets of monitoring should not be less than 36 hours.

Navigation Channel Improvement Project - Marine Water Monitoring Schedule
Marine Water Monitoring Schedule

Nov-2003

No.	Date		Tide	High tide	Low tide	Tentative Start Time
1	1/11/2003	Sat	Mid-ebb	01:03	09:45	08:30
			Mid-flood	2/11/2003 02:17	09:45	16:00
2	4/11/2003	Tue	Mid-ebb	05:21	12:40	08:30
			Mid-flood	19:54	12:40	15:15
3	6/11/2003	Thu	Mid-ebb	07:38	13:47	09:45
			Mid-flood	20:23	13:47	16:00
4	8/11/2003	Sat	Mid-ebb	09:11	14:32	10:45
			Mid-flood	20:52	14:32	16:00
5	10/11/2003	Mon	Mid-ebb	10:30	15:07	11:45
			Mid-flood	20:59	15:07	16:00
6	12/11/2003	Wed	Mid-flood	11:54	05:21	08:30
			Mid-ebb	11:54	15:29	12:45
7	14/11/2003	Fri	Mid-flood	13:58	06:49	09:30
			Mid-ebb	13:58	15:55	14:00
8	18/11/2003	Tue	Mid-ebb	01:48	10:49	08:30
			Mid-flood	18:53	10:49	13:45
9	20/11/2003	Thu	Mid-ebb	05:32	12:20	08:30
			Mid-flood	18:57	12:20	14:45
10	22/11/2003	Sat	Mid-ebb	08:03	13:34	09:45
			Mid-flood	19:43	13:34	15:45
11	24/11/2003	Mon	Mid-ebb	10:14	14:44	11:30
			Mid-flood	20:38	14:44	16:00
12	26/11/2003	Wed	Mid-flood	12:28	05:02	08:30
			Mid-ebb	12:28	15:50	13:15
13	28/11/2003	Fri	Mid-flood	14:40	07:03	09:45
			Mid-ebb	14:40	16:07	14:30

Notes: 1. The time of high tide and low tide is made reference to tidal information at Chi Ma Wan provided by the HKO.

2. Monitoring works will not be arranged during night time period for safety reasons.

3. Monitoring works should be carried out three days per week at mid-flood and mid-ebb.

4. The interval between two sets of monitoring should not be less than 36 hours.

Navigation Channel Improvement Project - Marine Water Monitoring Schedule
Marine Water Monitoring Schedule

Dec-2003

No.	Date		Tide	High tide	Low tide	Tentative Start Time
1	1/12/2003	Mon	Mid-ebb	01:45	09:59	08:30
			Mid-flood	18:15	09:59	13:00
2	3/12/2003	Wed	Mid-ebb	04:18	11:33	08:30
			Mid-flood	18:52	11:33	14:15
3	5/12/2003	Fri	Mid-ebb	07:18	12:37	09:00
			Mid-flood	19:35	12:37	15:00
4	8/12/2003	Mon	Mid-ebb	09:47	13:34	10:45
			Mid-flood	20:08	13:34	15:45
5	10/12/2003	Wed	Mid-ebb	11:08	14:21	11:45
			Mid-flood	20:44	14:21	16:00
6	12/12/2003	Fri	Mid-flood	12:42	05:55	08:30
			Mid-ebb	12:42	15:14	13:00
7	16/12/2003	Tue	Mid-flood	16:37	08:58	11:45
			Mid-ebb	16:37	19:32	16:00
8	18/12/2003	Thu	Mid-flood	17:36	10:33	13:00
			Mid-ebb	17:36	23:18	16:00
9	20/12/2003	Sat	Mid-ebb	06:46	11:58	08:30
			Mid-flood	18:27	11:58	14:15
10	22/12/2003	Mon	Mid-ebb	09:26	13:19	10:15
			Mid-flood	19:25	13:19	15:15
11	24/12/2003	Wed	Mid-flood	11:33	04:10	08:30
			Mid-ebb	11:33	14:40	12:00
12	26/12/2003	Fri	Mid-flood	13:15	05:56	08:30
			Mid-ebb	13:15	16:07	13:45
13	29/12/2003	Mon	Mid-flood	15:52	08:13	11:00
			Mid-ebb	15:52	19:07	16:00

Notes: 1. The time of high tide and low tide is made reference to tidal information at Chi Ma Wan provided by the HKO.

2. Monitoring works will not be arranged during night time period for safety reasons.

3. Monitoring works should be carried out three days per week at mid-flood and mid-ebb.

4. The interval between two sets of monitoring should not be less than 36 hours.

Appendix E
Water Quality Monitoring Results

Date: 4/9/2003
Weather: Overcast
Sea Condition: Moderate
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)	Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)		
							Value	DA	Value	DA	Average	DA	
SR6	15:20	Surface	1	27.9	32.9	7.93	91.9	6.01	5.69	2.5	5.6	9.6	9.0
			27.9	32.9	7.93	90.5	5.92	2.3					
		11	27.1	35.9	7.95	83.1	5.43	4.0	6.3				
	Bottom	21	25.9	37.3	7.93	67.5	4.43	9.8	11.3				
26.0		37.4	7.92	64.9	4.26	4.35	10.5						
Other Observations:			Nil										
SR7	15:03	Surface	1	27.9	32.9	7.92	90.1	5.88	5.66	2.0	3.5	7.4	6.9
			27.9	33.0	7.93	88.7	5.79	1.9					
		4.5	27.9	33.4	7.95	84.3	5.50	3.7	10.6				
	Bottom	8	27.9	33.7	7.95	82.5	5.37	4.8	2.8				
27.8		33.7	7.95	82.3	5.35	5.36	4.7						
Other Observations:			Nil										
SR10	14:47	Surface	1	27.9	34.6	7.99	91.2	5.91	5.47	3.5	4.1	12.6	8.5
			27.8	34.6	7.98	90.7	5.87	3.7					
		4.5	27.8	34.7	8.00	78.3	5.07	3.9	9.6				
	Bottom	7.5	27.7	34.9	7.99	74.7	4.84	4.6	3.3				
27.7		35.0	7.99	74.5	4.82	4.83	4.8						
Other Observations:			Nil										
SR11	14:33	Surface	1	27.8	34.5	8.00	87.1	5.64	5.36	3.5	4.7	5.1	7.4
			27.7	34.6	8.00	86.6	5.61	3.6					
		4	27.7	34.8	8.00	78.3	5.07	3.9	12.3				
	Bottom	7	27.8	34.9	7.99	74.5	4.83	6.7	4.9				
27.7		35.1	7.99	75.5	4.89	4.86	6.4						
Other Observations:			Nil										
SR12	14:19	Surface	1	27.8	34.7	8.00	87.7	5.68	5.43	3.3	4.6	6.7	6.4
			27.8	34.7	8.00	88.3	5.72	3.2					
		4.5	27.8	34.7	8.00	80.0	5.18	3.1	6.3				
	Bottom	7.5	27.7	35.1	7.99	73.7	4.78	7.0	6.2				
27.6		35.1	7.98	73.4	4.76	4.77	8.2						
Other Observations:			Nil										
SR14	14:06	Surface	1	27.8	34.4	7.99	88.8	5.75	5.52	3.8	4.3	2.1	4.3
			27.8	34.5	8.00	89.6	5.80	3.7					
		5	27.9	34.7	8.00	81.4	5.27	3.9	6.0				
	Bottom	8.5	27.7	35.0	7.99	75.0	4.86	5.1	4.7				
27.6		35.1	7.99	74.7	4.84	4.85	5.3						
Other Observations:			Nil										
SR15	13:53	Surface	1	27.9	34.2	8.01	89.6	5.81	5.58	3.1	2.7	6.7	8.0
			27.9	34.2	8.00	90.6	5.87	3.0					
		11.5	27.9	34.5	8.01	82.4	5.34	2.2	6.6				
	Bottom	21.5	27.3	35.3	7.98	76.7	4.97	2.8	10.6				
27.4		35.1	7.90	75.9	4.92	4.95	2.6						
Other Observations:			Nil										
CS1	13:11	Surface	1	27.8	32.9	7.94	94.3	6.15	5.66	2.2	3.2	5.5	6.6
			27.9	33.0	7.94	92.4	6.03	2.0					
		5	27.8	33.2	7.95	80.3	5.24	1.9	6.5				
	Bottom	8.5	27.8	33.3	7.95	79.7	5.20	1.8	7.8				
27.5		34.6	7.95	78.0	5.08	5.02	5.7						
Other Observations:			Nil										
CS2	13:23	Surface	1	27.9	32.8	7.95	90.5	5.91	5.68	2.5	4.0	2.9	6.0
			28.0	32.8	7.95	91.1	5.95	2.7					
		5.5	27.8	34.5	7.98	83.6	5.46	3.9	7.5				
	Bottom	10	27.7	34.5	7.97	82.4	5.38	4.1	7.7				
27.6		34.7	7.98	77.4	5.03	5.05	5.4						
Other Observations:			Nil										
CS3	13:39	Surface	1	27.2	35.5	7.99	89.9	5.84	5.53	1.5	1.8	7.2	6.6
			27.3	35.6	8.00	88.7	5.76	1.4					
		11.5	27.2	35.9	8.00	81.6	5.30	0.9	5.7				
	Bottom	22	27.1	35.8	8.00	80.3	5.22	1.0	6.8				
27.0		35.8	8.00	79.6	5.17	5.18	3.2						
Other Observations:			Nil										

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 4/9/2003
Weather: Overcast
Sea Condition: Moderate
Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	10:09	Surface	1	27.7	33.1	7.94	81.9	5.36	5.14	2.1	4.1	4.8	8.5
				27.7	33.0	7.94	81.6	5.34		1.9			
		Middle	10.5	27.4	35.1	7.97	75.9	4.94		4.6		11.3	
	Bottom	20	26.3	37.2	7.97	63.5	4.16	5.7	9.3				
26.2			37.2	7.97	62.9	4.12	5.9						
Other Observations:				Nil									
SR7	09:59	Surface	1	27.8	32.6	7.99	85.1	5.57	5.56	2.2	2.4	3.8	4.9
				27.8	32.6	7.99	84.9	5.56		2.0			
		Middle	4.5	27.8	32.9	8.01	85.0	5.56		2.6		7.4	
	Bottom	7.5	27.8	33.1	8.01	85.4	5.58	2.6	3.6				
27.7			33.1	8.02	85.2	5.57	2.4						
Other Observations:				Nil									
SR10	09:47	Surface	1	27.8	34.7	7.97	82.8	5.36	5.28	5.8	6.4	11.3	5.9
				27.8	34.7	7.98	82.0	5.31		5.4			
		Middle	4	27.8	34.7	7.99	80.6	5.22		3.8		4.3	
	Bottom	7	27.4	35.7	7.95	68.8	4.47	9.6	2.2				
27.4			35.6	7.95	68.5	4.44	10.1						
Other Observations:				Nil									
SR11	09:38	Surface	1	27.6	34.9	7.97	79.8	5.17	5.07	5.9	7.7	8.1	8.2
				27.6	34.9	7.97	79.3	5.14		5.6			
		Middle	4	27.5	35.2	7.98	77.5	5.02		5.3		7.6	
	Bottom	6.5	27.4	35.1	7.98	76.6	4.96	5.1	9.0				
27.3			35.7	7.94	66.5	4.31	12.8						
Other Observations:				Nil									
SR12	09:27	Surface	1	27.9	34.3	7.99	87.9	5.73	5.37	4.8	5.6	2.9	5.4
				27.8	34.3	7.99	86.8	5.64		4.5			
		Middle	4	27.8	34.8	7.98	78.2	5.06		4.4		3.4	
	Bottom	7	27.8	34.8	7.99	77.8	5.03	4.3	9.9				
27.7			34.9	7.98	76.9	4.98	7.6						
Other Observations:				Nil									
SR14	09:18	Surface	1	27.8	34.2	7.97	84.4	5.47	5.37	2.8	2.6	6.2	4.9
				27.8	34.2	7.98	83.9	5.44		2.6			
		Middle	4.5	27.8	34.7	7.99	81.6	5.29		2.5		4.5	
	Bottom	8	27.7	34.7	7.99	81.2	5.26	2.4	4.0				
27.7			34.8	7.99	80.6	5.23	2.7						
Other Observations:				Nil									
SR15	09:07	Surface	1	27.8	34.5	7.99	87.1	5.65	5.43	3.0	4.2	6.8	6.6
				27.8	34.5	7.98	85.8	5.57		2.8			
		Middle	10.5	27.5	35.1	7.98	81.3	5.27		2.5		3.9	
	Bottom	20	27.5	35.1	7.97	80.8	5.24	2.6	9.2				
26.3			37.2	7.92	56.9	3.72	6.8						
Other Observations:				Nil									
CS1	08:32	Surface	1	27.7	32.5	7.92	79.9	5.24	5.12	3.3	4.0	1.9	3.4
				27.8	32.5	7.93	80.7	5.29		3.5			
		Middle	4.5	27.8	33.2	7.94	76.8	4.98		3.9		4.0	
	Bottom	8	27.8	33.2	7.94	76.0	4.96	3.7	4.5				
27.8			33.8	7.96	76.5	4.97	4.5						
Other Observations:				Nil									
CS2	08:43	Surface	1	27.8	32.4	7.91	79.7	5.22	5.20	2.1	4.8	1.7	3.3
				27.9	32.4	7.92	79.4	5.20		2.2			
		Middle	5.5	27.9	32.6	7.94	79.3	5.18		2.3		3.6	
	Bottom	9.5	27.9	32.6	7.94	79.4	5.19	2.5	4.5				
27.8			34.0	7.97	77.3	5.02	9.6						
Other Observations:				Nil									
CS3	08:56	Surface	1	27.7	33.9	7.98	92.0	6.08	5.77	1.9	7.7	3.4	7.0
				27.8	34.0	7.98	90.8	6.00		2.0			
		Middle	11	27.6	34.4	8.01	84.7	5.51		4.4		5.9	
	Bottom	20.5	27.7	34.4	8.00	84.5	5.49	5.4	11.7				
27.4			34.7	7.99	72.2	4.69	15.9						
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 5/9/2003
Weather: Overcast
Sea Condition: Moderate
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	18:43	Surface	1	27.4	35.1	7.95	73.7	4.79	4.64	2.0	4.5	5.3	8.3
				27.4	35.1	7.94	71.7	4.66		2.2			
		Middle	11	27.1	35.7	7.95	69.9	4.54		3.2		7.5	
	Bottom	21	26.6	36.8	7.95	68.1	4.45	8.1	12.3				
Other Observations:				Nil									
SR7	18:27	Surface	1	27.8	33.6	7.87	81.4	5.18	5.00	1.5	3.1	5.4	7.7
				27.8	33.6	7.85	77.3	5.04		1.6			
		Middle	4.5	27.4	34.7	7.89	75.9	4.93		2.1		7.0	
	Bottom	8	27.5	34.7	7.88	74.6	4.85	2.3	10.7				
Other Observations:				Nil									
SR10	18:13	Surface	1	27.4	36.4	8.04	88.9	5.75	5.44	1.4	2.0	6.0	7.9
				27.4	36.4	8.03	86.1	5.56		1.5			
		Middle	4.5	27.3	36.6	8.04	81.1	5.24		1.7		6.9	
	Bottom	7.5	27.3	36.6	8.04	80.6	5.20	1.8	10.9				
Other Observations:				Nil									
SR11	18:00	Surface	1	27.6	36.5	8.03	83.6	5.40	5.21	1.7	3.3	5.6	8.7
				27.6	36.6	8.02	81.8	5.27		1.8			
		Middle	4	27.4	36.7	8.03	79.2	5.09		3.3		9.3	
	Bottom	7	27.4	36.7	8.04	79.0	5.08	3.4	11.3				
Other Observations:				Nil									
SR12	17:45	Surface	1	27.1	36.5	8.05	89.5	5.80	5.33	2.9	3.4	5.6	7.2
				27.1	36.6	8.04	83.6	5.42		3.0			
		Middle	4.5	27.0	36.8	8.03	78.2	5.06		3.2		6.3	
	Bottom	7.5	27.1	36.8	8.04	77.8	5.04	3.3	9.7				
Other Observations:				Nil									
SR14	17:25	Surface	1	27.2	36.7	8.02	76.0	4.92	4.84	1.7	2.6	3.3	5.7
				27.2	36.6	8.03	75.6	4.89		1.8			
		Middle	6	27.0	36.8	8.02	74.2	4.80		2.8		5.2	
	Bottom	10.5	27.1	36.8	8.01	73.4	4.76	2.5	8.6				
Other Observations:				Nil									
SR15	17:08	Surface	1	27.2	36.7	8.04	80.9	5.24	5.14	1.3	3.2	5.6	8.3
				27.2	36.7	8.03	80.0	5.18		1.4			
		Middle	11	27.2	36.9	8.07	78.3	5.05		3.3		8.7	
	Bottom	21	27.2	36.9	8.06	78.8	5.09	3.6	10.6				
Other Observations:				Nil									
CS1	16:05	Surface	1	27.8	32.6	7.93	77.5	5.06	4.70	1.5	2.6	3.9	5.8
				27.9	32.6	7.92	74.5	4.87		1.8			
		Middle	5	27.5	33.3	7.90	68.4	4.46		2.2		5.0	
	Bottom	9	27.6	33.3	7.91	67.0	4.42	2.5	8.7				
Other Observations:				Nil									
CS2	16:20	Surface	1	28.0	34.7	7.98	89.1	5.71	5.21	3.8	4.5	3.0	7.2
				28.0	34.7	7.97	83.8	5.40		4.0			
		Middle	6	27.2	36.1	8.01	75.1	4.86		4.2		8.7	
	Bottom	11	27.2	36.1	8.00	75.3	4.88	4.4	9.8				
Other Observations:				Nil									
CS3	16:51	Surface	1	27.6	35.4	8.04	88.8	5.74	5.46	1.0	2.2	5.0	6.6
				27.6	35.4	8.03	85.2	5.58		1.1			
		Middle	11.5	27.1	36.7	8.03	81.4	5.24		2.4		6.5	
	Bottom	22	27.1	36.6	8.03	82.0	5.29	2.6	8.4				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 5/9/2003
Weather: Rainy
Sea Condition: Moderate
Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	11:03	Surface	1	27.6	33.0	8.01	86.9	5.69	5.40	2.8	6.4	6.8	6.9
				27.6	33.0	8.01	86.5	5.67		2.8			
		Middle	11	27.5	34.2	7.98	78.6	5.12		4.6		4.9	
	Bottom	20.5	27.0	36.2	8.03	78.6	5.12	5.13	11.8	9.0			
Other Observations:				Nil									
SR7	10:50	Surface	1	27.6	32.9	8.01	88.6	5.81	5.58	3.4	4.4	8.5	7.9
				27.6	32.9	8.01	87.5	5.74		3.4			
		Middle	4.5	27.6	33.3	7.99	82.5	5.40		4.3		4.3	
	Bottom	8	27.8	33.7	8.00	80.0	5.23	5.22	5.5	10.8			
Other Observations:				Nil									
SR10	10:35	Surface	1	27.9	36.0	8.00	85.4	5.47	5.41	3.0	2.6	2.7	7.1
				28.0	36.0	8.00	85.3	5.46		2.9			
		Middle	4.5	27.3	36.3	8.01	82.7	5.36		2.1		7.4	
	Bottom	7.5	27.0	36.4	8.00	81.9	5.32	5.32	2.8	11.4			
Other Observations:				Nil									
SR11	10:22	Surface	1	27.2	36.7	8.08	89.9	5.81	5.67	2.7	3.0	3.3	7.8
				27.2	36.7	8.08	89.4	5.78		2.7			
		Middle	4	27.1	36.7	8.05	85.4	5.55		2.6		8.1	
	Bottom	6.5	27.0	36.8	8.05	84.2	5.46	5.46	3.4	12.0			
Other Observations:				Nil									
SR12	10:10	Surface	1	27.1	36.7	8.05	88.2	5.71	5.60	1.9	2.0	2.1	10.1
				27.2	36.7	8.05	87.7	5.68		1.9			
		Middle	4	27.0	36.7	8.05	85.2	5.52		1.8		15.4	
	Bottom	7	27.0	36.8	8.04	83.3	5.40	5.40	2.4	12.8			
Other Observations:				Nil									
SR14	09:56	Surface	1	27.7	36.3	8.03	90.1	5.83	5.73	1.2	4.2	2.8	6.9
				27.7	36.3	8.03	89.4	5.78		1.2			
		Middle	4.5	27.3	36.3	8.03	87.3	5.65		4.0		9.4	
	Bottom	8	27.2	36.4	8.03	86.4	5.60	5.60	7.3	8.6			
Other Observations:				Nil									
SR15	09:40	Surface	1	27.4	36.1	8.03	92.2	5.96	5.77	1.7	5.1	2.0	5.9
				27.4	36.1	8.03	91.8	5.91		1.7			
		Middle	10.5	27.1	36.6	8.04	86.6	5.63		6.9		5.6	
	Bottom	20	26.9	36.7	8.03	83.0	5.39	5.39	6.7	10.1			
Other Observations:				Nil									
CS1	08:45	Surface	1	27.6	33.3	7.95	85.0	5.58	5.49	0.9	4.6	2.3	3.0
				27.6	33.3	7.95	84.7	5.56		0.9			
		Middle	4.5	27.6	33.3	7.94	82.7	5.41		6.0		2.3	
	Bottom	8	27.6	33.4	7.94	80.2	5.25	5.25	7.0	4.3			
Other Observations:				Nil									
CS2	09:05	Surface	1	27.5	32.9	7.98	89.0	5.90	5.74	1.0	3.8	3.0	6.7
				27.5	32.9	7.98	88.9	5.88		1.1			
		Middle	5.5	27.5	33.0	7.95	85.2	5.60		4.3		5.0	
	Bottom	9.5	27.3	35.5	8.01	80.8	5.28	5.25	5.9	12.1			
Other Observations:				Nil									
CS3	09:26	Surface	1	27.5	34.8	8.05	96.0	6.25	6.17	1.6	4.5	5.2	5.1
				27.5	34.8	8.05	95.8	6.23		1.6			
		Middle	11	27.4	36.8	8.10	94.6	6.09		4.0		1.9	
	Bottom	20.5	27.0	36.8	8.07	90.0	5.80	5.78	7.8	8.1			
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 6/9/2003
Weather: Rainy
Sea Condition: Rough
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)	Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)		
							Value	DA	Value	DA	Average	DA	
SR6	18:05	Surface	1	27.3	34.2	7.96	93.5	6.13	5.64	1.1	2.3	4.2	4.2
			27.3	34.2	7.97	89.3	5.85	1.0					
		11	26.7	36.9	8.03	83.1	5.38	2.5		2.6		4.6	
	Bottom	20.5	26.5	37.1	7.70	73.2	4.78	4.77	3.3	4.0			
26.5		37.1	7.68	72.8	4.76	3.4							
Other Observations:			Nil										
SR7	17:50	Surface	1	27.3	33.9	7.97	85.9	5.84	5.55	1.0	2.9	4.5	4.4
			27.3	33.9	7.98	86.9	5.63	1.1					
		4.5	27.4	34.4	8.00	82.7	5.39	4.7		4.9		5.6	
	Bottom	8	27.3	35.8	8.04	81.0	5.25	5.25	2.8	3.3			
27.2		35.8	8.04	80.8	5.24	3.0							
Other Observations:			Nil										
SR10	17:35	Surface	1	27.2	36.0	7.97	85.2	5.57	5.32	6.9	5.2	5.4	4.7
			27.1	36.0	7.98	83.7	5.45	7.0					
		4.5	27.2	36.3	8.01	79.4	5.16	4.1		4.2		5.0	
	Bottom	7.5	27.2	36.5	8.00	77.6	5.02	5.00	4.4	3.8			
27.2		36.6	8.01	76.9	4.98	4.6							
Other Observations:			Nil										
SR11	17:22	Surface	1	27.2	36.4	7.99	84.7	5.50	5.22	1.0	1.9	5.9	6.3
			27.2	36.4	8.00	82.1	5.32	1.1					
		4	27.2	36.6	8.00	77.8	5.04	1.6		1.7		4.4	
	Bottom	7	27.1	36.7	7.98	74.3	4.81	4.78	2.8	8.7			
27.1		36.7	7.97	73.4	4.75	3.0							
Other Observations:			Nil										
SR12	17:10	Surface	1	27.2	36.4	8.00	84.6	5.49	5.22	1.2	1.6	6.2	5.0
			27.2	36.4	8.01	81.3	5.27	1.3					
		4.5	27.2	36.6	8.01	77.9	5.04	1.6		1.5		4.3	
	Bottom	7.5	27.2	36.8	8.03	77.7	5.02	5.04	2.0	4.6			
27.2		36.8	8.03	78.1	5.05	1.9							
Other Observations:			Nil										
SR14	16:56	Surface	1	27.2	36.6	8.01	85.8	5.56	5.29	1.2	2.2	4.8	5.1
			27.2	36.6	8.01	82.9	5.37	1.3					
		5	27.2	36.7	8.02	79.4	5.14	1.8		1.9		5.4	
	Bottom	8.5	27.1	36.8	8.02	77.4	5.01	4.99	3.3	5.1			
27.1		36.8	8.02	76.5	4.96	3.6							
Other Observations:			Nil										
SR15	16:45	Surface	1	27.0	36.7	8.01	88.8	5.77	5.33	1.6	2.1	4.9	5.5
			27.0	36.7	8.00	83.1	5.39	1.7					
		10.5	27.0	36.8	8.02	77.8	5.04	1.3		1.2		3.7	
	Bottom	20	26.9	37.0	8.02	77.9	5.06	5.05	3.3	7.8			
26.9		37.0	8.01	77.7	5.04	3.2							
Other Observations:			Nil										
CS1	16:00	Surface	1	27.3	33.6	7.95	88.9	5.85	5.47	1.3	2.4	3.6	5.2
			27.3	33.6	7.95	84.1	5.53	1.4					
		5	27.4	34.1	7.96	80.5	5.27	1.8		2.0		7.0	
	Bottom	8.5	27.1	36.2	8.02	76.5	4.95	5.02	3.6	5.1			
27.1		36.1	8.01	78.3	5.08	4.0							
Other Observations:			Nil										
CS2	16:15	Surface	1	27.3	36.2	8.02	92.8	6.01	5.71	1.6	3.2	4.6	4.8
			27.3	36.2	8.01	89.9	5.82	1.8					
		5.5	27.3	36.8	8.04	85.6	5.53	2.2		2.4		5.1	
	Bottom	10	27.3	36.4	8.02	82.1	5.31	5.34	5.4	4.8			
27.4		36.4	8.03	82.9	5.36	5.5							
Other Observations:			Nil										
CS3	16:30	Surface	1	27.1	36.5	8.02	84.7	5.49	5.41	6.6	4.7	5.9	5.6
			27.1	36.5	8.03	84.6	5.46	6.7					
		11	27.1	36.5	8.03	82.5	5.34	4.0		4.1		5.3	
	Bottom	21	27.1	36.6	8.04	81.8	5.29	5.29	3.3	5.5			
27.1		36.6	8.04	81.5	5.28	3.2							
Other Observations:			Nil										

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 6/9/2003
Weather: Overcast
Sea Condition: Moderate
Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	11:28	Surface	1	27.4	34.4	7.99	90.7	6.92	5.71	1.5	2.6	2.0	
				27.3	34.4	8.00	85.3	5.57		1.3			
		Middle	10.5	27.4	34.4	8.00	78.9	5.16		1.8			
	Bottom	20	27.4	34.8	8.05	78.6	5.09	5.13	4.4	1.7			
Other Observations:				Nil									
SR7	11:13	Surface	1	27.4	34.1	8.02	92.8	6.08	5.72	1.5	3.7	4.3	
				27.4	34.1	8.01	87.7	5.74		1.7			
		Middle	4.5	27.4	33.9	8.02	84.4	5.53		4.4			3.4
	Bottom	8	27.3	34.2	8.03	82.9	5.43	5.43	4.8	5.9			
Other Observations:				Nil									
SR10	10:55	Surface	1	27.2	35.7	8.01	93.6	6.10	5.81	1.1	2.9	5.0	
				27.2	35.7	8.02	91.0	5.92		1.2			
		Middle	4	27.2	35.7	8.01	86.0	5.59		4.5			4.7
	Bottom	7	27.2	36.0	8.02	85.3	5.53	5.52	2.8	5.0			
Other Observations:				Nil									
SR11	10:41	Surface	1	27.2	36.0	8.02	90.0	5.85	5.50	1.0	2.9	5.8	
				27.2	36.0	8.03	84.8	5.51		1.1			
		Middle	4	27.2	35.4	8.01	82.5	5.35		3.3			10.2
	Bottom	7	27.1	36.7	8.01	76.9	4.97	4.94	4.2	2.6			
Other Observations:				Nil									
SR12	10:30	Surface	1	27.2	35.9	8.02	92.2	5.98	5.61	1.2	3.6	6.5	
				27.2	35.9	8.03	87.6	5.69		1.4			
		Middle	4	27.2	36.4	8.03	83.9	5.43		2.2			4.3
	Bottom	7	27.1	36.7	8.02	80.7	5.22	5.20	7.0	10.2			
Other Observations:				Nil									
SR14	10:16	Surface	1	27.3	35.8	8.03	93.8	6.09	5.74	1.2	2.2	6.0	
				27.2	35.8	8.02	87.9	5.71		1.1			
		Middle	4.5	27.3	36.2	8.02	86.3	5.60		1.3			5.6
	Bottom	8	27.2	36.4	8.04	80.9	5.23	5.25	3.8	3.4			
Other Observations:				Nil									
SR15	10:03	Surface	1	27.5	35.9	8.01	98.9	6.39	5.59	1.8	3.3	3.7	
				27.4	35.9	8.00	89.6	5.80		2.0			
		Middle	10	27.2	36.3	8.03	78.9	5.10		3.0			4.7
	Bottom	19	27.2	36.6	8.02	75.6	4.89	4.95	5.1	4.7			
Other Observations:				Nil									
CS1	08:55	Surface	1	27.4	33.9	7.96	89.4	5.85	5.34	6.6	4.2	4.3	
				27.4	33.9	7.95	81.3	5.32		6.8			
		Middle	4.5	27.4	33.9	7.96	77.8	5.10		4.0			3.1
	Bottom	8	27.4	34.0	7.96	76.8	5.02	5.03	1.8	5.1			
Other Observations:				Nil									
CS2	09:20	Surface	1	27.4	33.7	7.98	99.6	6.52	5.94	1.4	2.4	2.8	
				27.4	33.8	7.97	94.0	6.16		1.5			
		Middle	5.5	27.5	33.2	7.97	85.7	5.61		1.6			2.8
	Bottom	10	27.3	35.1	8.05	78.3	5.05	5.09	3.9	3.4			
Other Observations:				Nil									
CS3	09:44	Surface	1	27.6	35.3	8.00	94.2	6.12	5.64	1.0	2.2	3.1	
				27.6	35.3	8.00	89.5	5.80		1.1			
		Middle	10.5	27.4	35.5	8.04	82.1	5.31		1.3			5.4
	Bottom	19.5	27.3	35.5	8.04	74.4	4.85	4.86	4.1	2.1			
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 8/9/2003
Weather: Sunny
Sea Condition: Moderate
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	18:10	Surface	1	27.5	34.6	7.92	79.4	5.18	5.14	5.8	7.0	7.4	8.1
				27.5	34.6	7.92	80.0	5.22		6.1			
		Middle	11.5	27.3	34.8	7.92	77.3	5.04		6.4		9.7	
	Bottom	22	27.3	35.8	7.93	72.9	4.76	8.2	4.75	8.5	7.3		
27.2			35.7	7.94	72.5	4.73	8.5						
Other Observations:				Nil									
SR7	17:57	Surface	1	27.6	34.5	7.89	78.6	5.10	5.08	5.2	6.3	10.9	10.8
				27.7	34.6	7.90	79.2	5.14		5.5			
		Middle	5	27.5	34.7	7.90	76.9	5.01		6.4		9.1	
	Bottom	8.5	27.4	34.8	7.89	76.3	4.98	7.0	4.92	7.3	12.4		
27.3			34.8	7.89	74.5	4.86	7.3						
Other Observations:				Nil									
SR10	17:41	Surface	1	27.9	36.3	7.99	78.9	5.06	4.87	4.6	5.4	5.8	8.6
				28.0	36.4	8.00	78.8	4.99		4.4			
		Middle	4.5	27.8	36.4	8.01	73.7	4.72		5.5		10.3	
	Bottom	7.5	27.7	36.4	8.01	73.3	4.70	5.7	4.67	6.1	9.8		
27.7			36.4	8.01	73.1	4.69	6.2						
Other Observations:				Nil									
SR11	17:28	Surface	1	28.0	36.4	8.03	79.9	5.10	5.00	6.0	6.8	6.9	6.9
				28.0	36.4	8.03	80.1	5.12		5.7			
		Middle	4	27.5	36.4	8.02	75.3	4.89		6.3		5.5	
	Bottom	7	27.4	36.4	8.02	75.0	4.87	6.4	4.67	8.3	8.2		
27.2			36.5	8.01	71.8	4.66	8.3						
Other Observations:				Nil									
SR12	17:16	Surface	1	27.9	36.1	8.01	78.3	5.04	4.93	5.0	7.5	6.3	9.9
				27.8	36.0	8.01	79.1	5.09		5.3			
		Middle	4.5	27.5	36.2	8.01	74.9	4.82		6.6		8.3	
	Bottom	7.5	27.6	36.2	8.02	74.3	4.78	6.8	4.75	10.6	15.2		
27.2			36.3	8.00	74.4	4.79	10.9						
Other Observations:				Nil									
SR14	17:03	Surface	1	27.9	36.2	8.02	80.0	5.13	5.02	5.1	6.5	8.3	7.5
				27.9	36.2	8.01	78.8	5.05		4.8			
		Middle	5	27.3	36.4	8.01	76.8	4.92		5.8		6.7	
	Bottom	8.5	27.4	36.4	8.01	77.7	4.98	5.7	4.71	8.7	7.5		
27.1			36.4	8.01	73.8	4.73	9.0						
Other Observations:				Nil									
SR15	16:49	Surface	1	27.6	36.4	8.03	80.9	5.26	5.06	4.7	8.6	6.5	8.8
				27.5	36.4	8.02	79.9	5.19		4.5			
		Middle	11	27.1	36.4	8.02	75.0	4.84		9.2		8.9	
	Bottom	20.5	27.0	36.4	8.02	76.0	4.94	9.6	5.06	11.6	11.1		
27.0			36.5	8.02	77.3	5.02	12.0						
Other Observations:				Nil									
CS1	16:03	Surface	1	27.6	33.6	7.93	79.8	5.21	4.98	5.4	7.0	9.5	9.8
				27.6	33.6	7.93	79.0	5.16		5.1			
		Middle	5	27.4	33.9	7.92	73.2	4.78		5.5		9.9	
	Bottom	8.5	27.4	33.9	7.92	72.6	4.75	5.4	4.58	10.7	10.0		
27.3			34.4	7.91	70.6	4.61	9.9						
Other Observations:				Nil									
CS2	16:17	Surface	1	27.7	34.6	7.94	78.3	5.09	4.90	5.6	7.4	6.2	9.2
				27.7	34.7	7.95	78.8	5.12		5.7			
		Middle	5.5	27.6	34.8	7.94	72.5	4.71		6.1		9.1	
	Bottom	9.5	27.5	34.8	7.94	72.0	4.68	6.5	4.64	10.4	12.2		
27.3			34.9	7.93	71.0	4.62	10.1						
Other Observations:				Nil									
CS3	16:35	Surface	1	27.7	36.2	8.01	82.9	5.33	5.14	3.0	2.4	6.4	4.8
				27.7	36.3	8.02	85.6	5.50		3.2			
		Middle	11.5	27.2	36.3	8.02	75.8	4.87		2.0		5.0	
	Bottom	21.5	27.2	36.3	8.02	75.3	4.84	2.3	4.42	2.1	3.2		
27.1			36.5	8.03	69.7	4.48	1.9						
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 8/9/2003
Weather: Overcast
Sea Condition: Moderate
Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	11:58	Surface	1	27.3	35.1	8.03	84.8	5.53	5.51	3.5	3.9	3.9	4.3
				27.3	35.2	8.02	84.2	5.49		3.3			
		Middle	11	27.3	35.5	8.05	85.0	5.53		3.9			
	Bottom	21	27.2	35.4	8.04	84.5	5.50	3.7	3.7				
Other Observations:				Nil									
SR7	11:45	Surface	1	27.3	34.9	8.04	88.1	5.74	5.67	3.4	4.5	2.7	4.3
				27.3	34.9	8.04	87.6	5.71		3.7			
		Middle	4.5	27.2	35.3	8.05	86.4	5.63		3.8			
	Bottom	8	27.2	35.3	8.05	85.9	5.60	4.0	3.7				
Other Observations:				Nil									
SR10	11:28	Surface	1	28.0	36.3	8.00	81.3	5.21	5.22	6.5	5.8	5.1	4.9
				27.9	36.4	7.99	80.3	5.14		6.3			
		Middle	4	27.7	36.4	8.02	81.7	5.25		5.9			
	Bottom	7	27.7	36.4	8.01	82.2	5.28	5.7	5.2				
Other Observations:				Nil									
SR11	11:12	Surface	1	27.6	36.4	8.01	80.4	5.19	5.10	3.5	6.9	7.0	8.2
				27.5	36.3	8.02	79.8	5.15		3.6			
		Middle	4	27.2	36.5	8.01	77.6	5.03		6.8			
	Bottom	6.5	27.2	36.5	8.01	77.4	5.01	7.3	14.2				
Other Observations:				Nil									
SR12	11:02	Surface	1	27.3	36.5	8.02	79.1	5.11	5.11	5.4	10.5	5.1	8.3
				27.3	36.5	8.02	80.2	5.18		5.7			
		Middle	4	27.2	36.5	8.01	78.4	5.08		11.0			
	Bottom	7	27.1	36.4	8.02	78.1	5.06	11.4	4.2				
Other Observations:				Nil									
SR14	10:48	Surface	1	27.2	36.4	8.03	81.0	5.24	5.24	5.6	5.6	3.9	3.4
				27.2	36.5	8.02	81.6	5.28		5.4			
		Middle	4.5	27.1	36.5	8.02	80.7	5.23		5.3			
	Bottom	8	27.1	36.5	8.03	80.3	5.21	5.2	2.0				
Other Observations:				Nil									
SR15	10:35	Surface	1	27.2	36.4	8.02	81.2	5.27	5.29	6.4	6.9	5.2	4.3
				27.1	36.3	8.02	81.7	5.30		6.2			
		Middle	10	27.0	36.4	8.03	81.8	5.31		6.9			
	Bottom	19	27.0	36.5	8.03	81.5	5.29	7.3	5.4				
Other Observations:				Nil									
CS1	09:49	Surface	1	27.5	34.4	7.96	80.9	5.29	5.20	5.4	4.4	5.2	5.8
				27.4	34.5	7.95	80.3	5.25		5.0			
		Middle	4.5	27.2	34.6	7.97	78.0	5.10		3.2			
	Bottom	8	27.2	34.6	7.97	78.6	5.14	3.5	6.7				
Other Observations:				Nil									
CS2	10:03	Surface	1	27.5	34.1	7.94	84.9	5.53	5.30	3.6	3.3	3.7	5.3
				27.4	34.2	7.94	83.0	5.41		3.5			
		Middle	5	27.4	34.2	7.95	78.7	5.14		3.4			
	Bottom	9	27.2	34.9	7.97	77.3	5.05	2.9	5.4				
Other Observations:				Nil									
CS3	10:23	Surface	1	27.2	36.5	7.99	86.2	5.59	5.38	3.4	5.2	6.5	5.8
				27.1	36.4	8.01	83.9	5.46		3.6			
		Middle	10.5	27.1	36.5	8.03	81.1	5.26		4.1			
	Bottom	19.5	27.0	36.5	8.02	80.3	5.21	3.9	5.2				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 10/9/2003
Weather: Sunny
Sea Condition: Calm
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	18:06	Surface	1	27.8	33.7	7.94	91.8	5.93	5.71	1.2	4.5	6.3	7.9
				28.3	33.7	7.95	89.8	5.80		1.0			
		Middle	10.5	27.9	34.0	7.93	86.8	5.63		5.5		6.4	
	Bottom	20	27.9	34.2	7.94	83.8	5.44	5.45	6.5	11.1			
Other Observations:				Nil									
SR7	17:55	Surface	1	27.8	34.2	7.95	89.0	5.77	5.64	1.4	2.3	9.1	10.4
				27.8	34.2	7.94	87.5	5.68		1.5			
		Middle	4.5	27.8	34.2	7.94	85.4	5.54		1.9		8.2	
	Bottom	8	27.8	34.2	7.93	85.5	5.55	2.0	14.0				
Other Observations:				Nil									
SR10	17:35	Surface	1	29.3	36.2	8.09	98.7	6.18	6.17	1.1	1.6	8.6	7.9
				29.3	36.2	8.08	98.9	6.20		1.2			
		Middle	4	29.0	36.3	8.09	97.4	6.15		1.5		8.8	
	Bottom	7	28.3	36.4	8.07	93.8	6.00	5.92	2.0	6.2			
Other Observations:				Nil									
SR11	17:20	Surface	1	29.3	35.9	8.10	97.5	6.12	6.39	1.2	1.7	3.8	5.5
				29.3	35.9	8.11	100.7	6.32		1.0			
		Middle	4	29.1	36.4	8.13	104.0	6.53		1.8		7.1	
	Bottom	7	28.8	36.4	8.12	103.7	6.58	6.58	2.2	5.6			
Other Observations:				Nil									
SR12	17:11	Surface	1	29.1	35.1	8.08	103.3	6.51	6.49	1.5	2.7	14.2	7.6
				29.0	35.1	8.08	106.0	6.68		1.6			
		Middle	4.5	28.4	36.3	8.08	100.8	6.41		2.4		3.5	
	Bottom	7.5	28.3	36.4	8.09	100.0	6.36	6.42	2.6	5.1			
Other Observations:				Nil									
SR14	17:00	Surface	1	29.0	34.5	8.09	103.5	6.59	6.43	0.8	1.5	6.8	7.1
				29.0	34.6	8.08	103.8	6.60		0.7			
		Middle	4.5	28.4	35.3	8.05	99.5	6.34		1.0		4.5	
	Bottom	8	28.4	35.3	8.04	96.9	6.18	5.85	1.1	10.2			
Other Observations:				Nil									
SR15	16:45	Surface	1	29.1	34.1	8.12	95.8	6.11	6.03	1.2	2.3	6.2	6.5
				29.1	34.1	8.11	98.2	6.26		1.1			
		Middle	10.5	27.9	36.4	8.08	91.7	5.88		2.0		5.9	
	Bottom	20	27.9	36.4	8.09	91.3	5.87	5.73	2.1	7.3			
Other Observations:				Nil									
CS1	16:00	Surface	1	28.2	32.1	7.93	96.1	6.22	5.85	1.3	2.3	11.3	17.3
				28.2	32.1	7.94	92.7	6.04		1.2			
		Middle	4.5	27.9	33.0	7.93	85.0	5.62		2.0		21.1	
	Bottom	8	27.9	33.0	7.92	84.7	5.53	5.29	2.1	19.5			
Other Observations:				Nil									
CS2	16:12	Surface	1	28.2	35.0	7.97	99.2	6.45	6.32	1.1	1.6	11.9	14.0
				28.1	35.0	7.97	97.5	6.34		1.2			
		Middle	5.5	27.6	35.0	7.98	98.3	6.30		1.4		12.1	
	Bottom	10	27.6	35.0	7.97	95.5	6.20	5.49	1.6	18.1			
Other Observations:				Nil									
CS3	16:30	Surface	1	27.8	34.0	7.97	98.3	6.39	6.16	1.0	1.7	6.3	6.0
				27.9	34.0	7.97	100.2	6.42		1.1			
		Middle	11	27.5	35.2	7.98	93.7	6.08		1.2		5.1	
	Bottom	20.5	27.5	35.2	7.97	88.3	5.73	5.45	1.3	6.5			
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 10/9/2003
Weather: Sunny
Sea Condition: Calm
Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	13:28	Surface	1	28.0	34.4	7.97	99.5	6.41	6.11	1.1	2.2	5.2	5.3
				28.0	34.4	7.98	97.1	6.26		1.0			
		Middle	10.5	27.8	34.8	7.98	91.0	5.89		1.5		6.0	
	Bottom	19.5	28.0	34.9	7.99	99.9	5.80	5.85	3.8	4.6			
Other Observations:				Nil									
SR7	13:13	Surface	1	28.6	33.9	7.95	113.5	7.28	6.43	1.2	2.1	1.6	5.9
				28.6	34.0	7.95	99.9	6.42		1.3			
		Middle	4.5	27.7	35.0	7.96	93.5	6.05		1.6		11.7	
	Bottom	8	27.7	35.3	7.99	90.4	5.84	5.86	3.2	4.5			
Other Observations:				Nil									
SR10	12:59	Surface	1	29.9	36.3	8.07	95.8	5.75	5.77	1.8	2.7	4.6	5.5
				29.9	36.3	8.07	93.2	5.78		2.0			
		Middle	4	28.7	36.4	8.09	91.2	5.70		2.2		5.6	
	Bottom	7	27.9	36.6	8.07	90.9	5.81	5.78	3.6	6.2			
Other Observations:				Nil									
SR11	12:45	Surface	1	28.9	36.4	8.13	100.5	6.33	6.38	1.0	2.3	2.0	6.8
				28.9	36.4	8.13	100.7	6.34		1.1			
		Middle	4	28.4	36.4	8.12	101.3	6.43		2.2		4.0	
	Bottom	6.5	27.8	36.4	8.09	97.7	6.23	6.27	3.7	14.6			
Other Observations:				Nil									
SR12	12:35	Surface	1	28.8	36.4	8.09	93.3	5.88	5.98	1.2	2.3	7.1	4.3
				28.8	36.3	8.08	93.6	5.90		1.4			
		Middle	4	28.8	36.4	8.11	94.6	5.97		1.6		2.0	
	Bottom	7	28.2	36.5	8.12	98.2	6.24	6.26	3.8	3.9			
Other Observations:				Nil									
SR14	12:20	Surface	1	28.7	36.4	8.10	92.9	5.81	6.08	1.2	2.5	2.1	3.4
				28.7	36.4	8.09	94.8	5.97		1.4			
		Middle	4.5	28.3	36.4	8.12	97.9	6.21		1.6		2.9	
	Bottom	8	28.3	36.6	8.11	99.6	6.33	6.32	4.2	5.3			
Other Observations:				Nil									
SR15	12:05	Surface	1	28.5	36.2	8.10	99.9	6.32	6.24	1.0	3.4	11.3	8.3
				28.5	36.2	8.10	99.7	6.33		1.1			
		Middle	10	27.9	36.5	8.11	98.6	6.31		1.5		9.2	
	Bottom	19	27.8	36.5	8.10	94.8	6.00	6.29	1.6	4.5			
Other Observations:				Nil									
CS1	11:30	Surface	1	28.4	33.7	8.02	98.0	6.31	6.10	1.2	1.9	8.4	6.0
				28.5	33.7	8.02	98.3	6.33		1.4			
		Middle	4.5	27.7	34.4	7.96	93.1	6.03		1.5		8.2	
	Bottom	7.5	27.8	34.4	7.97	88.3	5.73	5.47	1.6	1.5			
Other Observations:				Nil									
CS2	11:43	Surface	1	27.7	34.4	7.97	91.4	5.93	5.82	0.7	1.1	2.4	5.6
				27.7	34.4	7.97	88.1	5.73		0.8			
		Middle	5.5	27.5	36.4	8.07	90.0	5.79		1.1		3.3	
	Bottom	10	27.5	36.4	8.06	90.2	5.81	6.00	1.2	11.2			
Other Observations:				Nil									
CS3	11:50	Surface	1	28.1	35.0	8.08	101.4	6.45	6.42	1.0	2.8	4.4	2.9
				28.1	35.0	8.07	103.1	6.61		1.1			
		Middle	10.5	27.5	35.8	8.03	99.1	6.40		1.9		1.9	
	Bottom	19.5	27.5	35.7	8.02	96.0	6.21	6.12	2.0	2.6			
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 12/9/2003
Weather: Sunny
Sea Condition: Calm
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)	Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)		
							Value	DA	Value	DA	Average	DA	
SR6	11:20	Surface	1	27.9	33.4	8.03	92.8	6.06	5.95	3.4	6.6	6.7	9.7
			27.9	33.4	8.03	92.6	6.03	3.4					
		Middle	12	27.7	35.5	8.09	90.7	5.85	6.3	6.3			
	Bottom	22.5	27.5	36.1	8.09	88.0	5.70	5.67	10.0	10.0	11.1		
Other Observations:			Nil										
SR7	11:10	Surface	1	28.4	35.2	8.10	99.3	6.37	6.18	7.2	10.2	3.2	9.8
			28.4	35.2	8.10	99.1	6.34	7.2					
		Middle	5	27.9	35.9	8.12	93.8	6.02	10.7	10.7			
	Bottom	8.5	27.6	36.2	8.10	88.4	5.70	5.69	12.6	12.6	15.3		
Other Observations:			Nil										
SR10	10:47	Surface	1	28.4	34.0	8.14	114.3	7.36	7.17	2.9	3.2	3.6	4.4
			28.4	34.0	8.14	113.7	7.33	2.9					
		Middle	4.5	28.4	34.9	8.11	108.4	7.00	3.2	3.2			
	Bottom	7.5	28.3	35.5	8.11	105.4	6.74	6.73	3.6	3.6	5.3		
Other Observations:			Nil										
SR11	10:35	Surface	1	28.7	33.7	8.14	114.8	7.39	7.63	2.1	2.9	3.8	5.3
			28.7	33.7	8.14	114.4	7.38	2.1					
		Middle	4.5	28.3	34.4	8.16	122.4	7.85	3.3	3.3			
	Bottom	7.5	28.2	34.6	8.14	118.6	7.68	7.67	3.4	3.4	3.3		
Other Observations:			Nil										
SR12	10:24	Surface	1	28.5	33.8	8.15	119.4	7.69	7.45	4.1	4.0	5.2	5.3
			28.5	33.4	8.15	119.3	7.68	4.0					
		Middle	4.5	28.2	34.0	8.10	112.0	7.24	3.4	3.3			
	Bottom	8	28.1	35.4	8.08	103.0	6.61	6.60	4.4	4.5	7.2		
Other Observations:			Nil										
SR14	10:14	Surface	1	28.3	33.9	8.14	119.6	7.69	7.41	4.2	5.7	10.0	8.9
			28.3	33.9	8.14	120.2	7.75	4.3					
		Middle	5	28.0	35.4	8.12	111.0	7.13	4.8	4.9			
	Bottom	8.5	27.7	36.2	8.09	99.8	6.42	6.39	7.9	7.9	6.7		
Other Observations:			Nil										
SR15	09:29	Surface	1	28.7	34.0	8.29	156.0	9.99	8.05	5.6	6.1	8.9	6.4
			28.7	34.0	8.29	156.2	10.03	5.6					
		Middle	11	27.5	36.4	8.10	93.6	6.10	2.8	2.9			
	Bottom	21	26.8	37.0	7.98	71.5	4.65	4.63	9.5	9.9	6.4		
Other Observations:			Nil										
CS1	08:35	Surface	1	27.9	34.5	8.08	96.7	6.28	6.13	3.2	4.8	5.0	7.6
			27.9	34.5	8.08	96.2	6.22	3.2					
		Middle	5	27.7	34.9	8.07	92.9	6.01	4.1	4.2			
	Bottom	9	27.4	36.4	8.07	86.0	5.56	5.54	6.9	7.1	11.7		
Other Observations:			Nil										
CS2	08:50	Surface	1	28.1	33.2	7.97	92.7	6.02	5.85	3.6	5.4	5.4	6.0
			28.1	33.2	7.97	92.1	6.00	3.6					
		Middle	6	27.9	34.0	7.99	87.7	5.68	5.6	5.7			
	Bottom	10.5	27.6	35.1	8.00	83.4	5.40	5.40	6.8	6.9	6.1		
Other Observations:			Nil										
CS3	09:15	Surface	1	28.8	33.9	8.30	155.9	10.00	8.30	6.2	4.4	7.4	8.7
			28.8	33.9	8.30	155.9	10.03	6.2					
		Middle	11.5	27.9	35.9	8.10	102.8	6.64	4.0	4.0			
	Bottom	21.5	27.1	36.7	8.03	85.6	5.55	5.52	2.9	2.9	13.2		
Other Observations:			Nil										

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 12/9/2003

Weather: Sunny

Sea Condition: Calm

Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	14:25	Surface	1	29.0	34.4	8.10	108.0	6.84	6.52	3.3	6.2	4.0	5.9
				29.0	34.4	8.10	108.4	6.91		3.3			
		Middle	11.5	28.2	35.7	8.06	96.3	6.20		6.3		7.2	
	Bottom	22	27.6	36.0	8.01	85.6	5.52	9.0	6.5				
Other Observations:				Nil									
SR7	14:10	Surface	1	29.0	34.1	8.04	97.2	6.23	6.39	3.0	3.7	4.2	5.6
				29.0	34.1	8.04	97.4	6.24		3.1			
		Middle	4.5	28.4	34.3	8.05	101.6	6.53		3.3		7.3	
	Bottom	8	28.6	35.0	8.06	105.3	6.71	4.5	5.5				
Other Observations:				Nil									
SR10	13:55	Surface	1	29.4	34.5	8.22	139.2	8.80	8.05	2.9	5.6	7.7	7.5
				29.4	34.5	8.22	140.0	8.84		3.1			
		Middle	4	29.5	35.3	8.11	116.3	7.30		6.2		5.5	
	Bottom	7	28.1	35.7	8.08	95.1	6.11	6.5	9.2				
Other Observations:				Nil									
SR11	13:40	Surface	1	29.3	33.9	8.33	158.3	10.03	8.26	4.7	6.4	6.6	7.2
				29.3	33.9	8.33	158.4	10.04		4.3			
		Middle	4	28.3	34.9	8.14	101.4	6.50		3.6		6.1	
	Bottom	7	28.3	35.4	8.09	98.9	6.33	3.7	8.8				
Other Observations:				Nil									
SR12	13:30	Surface	1	28.6	34.1	8.27	153.8	9.87	8.62	4.0	7.2	7.2	7.5
				28.6	34.1	8.27	155.4	9.96		3.7			
		Middle	4.5	28.1	35.6	8.11	114.7	7.36		3.8		7.0	
	Bottom	7.5	27.9	36.0	8.04	92.7	5.95	3.9	8.3				
Other Observations:				Nil									
SR14	13:15	Surface	1	28.5	34.1	8.18	132.0	8.49	7.97	4.0	5.3	7.5	8.6
				28.5	34.1	8.18	130.3	8.39		4.1			
		Middle	4.5	28.2	34.7	8.13	116.9	7.53		3.8		6.9	
	Bottom	8	28.1	35.5	8.09	103.2	6.62	3.9	11.6				
Other Observations:				Nil									
SR15	13:05	Surface	1	28.5	34.3	8.23	128.3	8.23	7.31	4.1	7.0	6.2	6.9
				28.5	34.3	8.23	129.7	8.31		4.0			
		Middle	10.5	27.7	36.1	8.08	98.8	6.36		8.0		5.1	
	Bottom	20	26.8	36.4	8.04	92.7	5.97	8.0	9.4				
Other Observations:				Nil									
CS1	12:15	Surface	1	28.5	33.7	8.02	90.9	5.85	5.86	3.3	3.7	5.9	8.4
				28.5	33.7	8.02	90.8	5.84		3.3			
		Middle	4.5	28.3	34.3	8.02	91.1	5.87		3.7		8.1	
	Bottom	8	28.2	34.9	8.05	95.0	6.11	3.7	11.4				
Other Observations:				Nil									
CS2	12:30	Surface	1	29.0	33.1	8.05	97.2	6.23	6.76	3.0	5.3	9.1	8.6
				29.0	33.1	8.05	97.2	6.23		3.0			
		Middle	5.5	28.3	33.8	8.13	112.1	7.23		5.9		7.4	
	Bottom	9.5	27.6	35.5	8.04	91.2	6.00	5.9	9.5				
Other Observations:				Nil									
CS3	12:53	Surface	1	28.6	34.4	8.17	112.7	7.23	6.91	3.5	3.8	5.4	6.3
				28.6	34.4	8.18	113.9	7.31		3.5			
		Middle	11	27.9	35.5	8.10	101.9	6.56		3.9		7.4	
	Bottom	21	27.2	36.5	8.03	101.3	6.53	3.9	6.1				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 14/9/2003
Weather: Rainy
Sea Condition: Moderate
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	10:39	Surface	1	28.0	34.0	8.03	101.2	6.53	6.31	6.2	6.0	5.7	7.0
				28.1	34.1	8.04	103.4	6.67		5.9			
		Middle	11.5	28.2	34.4	8.09	92.9	6.00		6.5		7.7	
	Bottom	21.5	28.3	34.5	8.10	93.3	6.02	6.3	7.6				
Other Observations:				Nil									
SR7	10:25	Surface	1	28.3	34.4	8.14	106.5	6.84	6.80	4.5	5.9	1.0*	6.4
				28.4	34.3	8.15	108.2	6.95		4.6			
		Middle	5	28.2	34.6	8.16	104.5	6.71		4.9		7.9	
	Bottom	8.5	28.2	34.6	8.16	104.0	6.68	5.2	10.4				
Other Observations:				Nil									
SR10	10:19	Surface	1	28.3	33.9	8.04	94.6	6.10	6.10	3.5	3.2	6.0	5.0
				28.4	34.0	8.04	95.2	6.14		3.3			
		Middle	4.5	28.4	34.2	8.05	94.9	6.09		3.7		3.4	
	Bottom	7.5	28.5	34.2	8.05	94.3	6.05	3.6	5.7				
Other Observations:				Nil									
SR11	10:07	Surface	1	28.0	34.2	8.05	99.8	6.42	6.49	1.9	2.4	3.9	6.7
				28.1	34.1	8.06	100.5	6.46		1.7			
		Middle	4	28.4	34.2	8.09	101.5	6.52		2.4		8.9	
	Bottom	7	28.5	34.3	8.08	101.8	6.54	2.5	7.4				
Other Observations:				Nil									
SR12	09:55	Surface	1	28.2	33.9	8.06	97.5	6.28	6.23	3.1	8.9	8.5	6.6
				28.2	33.9	8.05	97.2	6.26		3.3			
		Middle	4.5	28.4	34.1	8.07	96.6	6.21		8.7		3.3	
	Bottom	7.5	28.4	34.2	8.07	96.0	6.17	8.4	8.1				
Other Observations:				Nil									
SR14	09:43	Surface	1	28.4	33.7	8.08	98.6	6.37	5.96	4.3	9.2	1.6	12.2
				28.4	33.6	8.08	96.9	6.26		4.6			
		Middle	5	27.1	36.3	8.00	86.9	5.62		9.0		16.2	
	Bottom	8.5	27.1	36.3	7.99	86.4	5.58	8.7	18.8				
Other Observations:				Nil									
SR15	09:30	Surface	1	28.3	33.8	8.09	99.8	6.45	6.10	3.8	10.0	5.9	13.1
				28.3	33.9	8.10	100.7	6.51		3.5			
		Middle	11	26.9	36.8	8.01	88.7	5.73		12.4		15.4	
	Bottom	21	27.0	36.7	8.02	88.1	5.69	11.7	18.2				
Other Observations:				Nil									
CS1	08:50	Surface	1	28.1	34.1	8.05	95.7	6.18	6.27	4.1	4.6	2.4	5.9
				28.2	34.0	8.04	96.0	6.20		3.8			
		Middle	5	28.3	34.2	8.10	98.3	6.33		4.0		6.4	
	Bottom	8.5	28.3	34.2	8.10	99.2	6.36	4.1	8.9				
Other Observations:				Nil									
CS2	09:03	Surface	1	28.0	33.9	7.98	91.7	5.94	5.74	4.0	5.5	5.9	6.0
				28.0	33.9	7.99	92.8	6.01		4.1			
		Middle	5.5	28.0	34.0	7.98	85.1	5.51		4.6		7.6	
	Bottom	10	27.9	34.1	7.97	84.8	5.49	4.7	4.7				
Other Observations:				Nil									
CS3	09:18	Surface	1	28.0	34.1	8.03	94.7	6.12	5.57	5.0	9.1	7.1	11.0
				28.1	34.1	8.04	95.5	6.17		4.7			
		Middle	12	27.7	35.5	8.01	77.8	5.02		8.2		7.9	
	Bottom	22.5	27.6	35.6	8.01	77.0	4.97	8.5	18.2				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 14/9/2003
Weather: Rainy
Sea Condition: Moderate
Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	15:22	Surface	1	27.9	34.5	8.09	101.5	6.50	6.28	4.5	7.9	5.3	5.0
				28.0	34.5	8.10	103.2	6.61		4.3			
		Middle	11	28.0	35.1	8.07	93.6	6.04		7.8			
	Bottom	20.5	28.1	34.9	8.08	92.6	5.97	7.7	4.8				
Other Observations:				Nil									
SR7	15:09	Surface	1	28.3	34.4	8.14	106.5	6.84	6.68	5.7	5.9	3.6	5.1
				28.3	34.5	8.13	106.0	6.81		6.1			
		Middle	4.5	28.2	34.6	8.11	101.9	6.55		4.8			
	Bottom	8	28.2	34.6	8.11	101.3	6.51	4.9	6.2				
Other Observations:				Nil									
SR10	14:55	Surface	1	28.3	33.9	8.08	98.8	6.36	6.26	5.1	4.6	4.6	4.8
				28.4	34.0	8.07	98.0	6.31		5.3			
		Middle	4	28.5	34.2	8.07	96.8	6.21		4.7			
	Bottom	7	28.5	34.2	8.07	96.2	6.17	4.4	4.5				
Other Observations:				Nil									
SR11	14:43	Surface	1	28.4	34.3	8.11	98.8	6.38	6.50	3.7	6.3	4.4	4.2
				28.5	34.3	8.11	99.9	6.45		3.5			
		Middle	4	28.5	34.4	8.09	103.0	6.60		4.2			
	Bottom	6.5	28.5	34.5	8.10	102.5	6.57	4.1	6.2				
Other Observations:				Nil									
SR12	14:31	Surface	1	28.4	34.4	8.06	94.5	6.07	6.00	9.7	10.6	6.8	7.3
				28.4	34.4	8.07	96.8	6.21		9.5			
		Middle	4	28.0	35.1	8.07	91.0	5.85		9.4			
	Bottom	7	28.1	35.0	8.07	91.3	5.87	9.2	6.3				
Other Observations:				Nil									
SR14	14:18	Surface	1	28.4	34.1	8.07	98.2	6.32	6.26	6.3	8.6	7.3	8.4
				28.3	34.1	8.07	99.9	6.43		6.4			
		Middle	4.5	28.4	34.5	8.09	95.9	6.16		7.5			
	Bottom	8	28.4	34.5	8.08	95.2	6.12	7.8	10.5				
Other Observations:				Nil									
SR15	14:05	Surface	1	28.2	34.4	8.07	97.9	6.30	6.18	4.9	6.4	6.8	6.7
				28.3	34.4	8.08	97.5	6.27		5.1			
		Middle	10.5	28.1	34.9	8.09	94.2	6.06		7.8			
	Bottom	20	28.1	34.9	8.09	94.8	6.10	7.6	5.3				
Other Observations:				Nil									
CS1	13:20	Surface	1	28.1	34.3	8.08	101.0	6.50	6.48	4.1	4.1	5.8	5.1
				28.2	34.3	8.08	101.8	6.55		3.9			
		Middle	4.5	28.3	34.2	8.10	100.5	6.47		3.6			
	Bottom	8	28.3	34.3	8.09	99.3	6.39	3.7	5.2				
Other Observations:				Nil									
CS2	13:34	Surface	1	27.9	33.7	7.97	89.5	5.81	5.59	3.1	5.0	3.3	5.3
				28.0	33.7	7.97	88.4	5.74		3.2			
		Middle	5	28.0	33.9	7.98	84.5	5.48		5.2			
	Bottom	9	28.0	33.9	7.98	82.1	5.32	5.4	5.9				
Other Observations:				Nil									
CS3	13:51	Surface	1	28.3	34.1	8.15	102.8	6.62	6.62	1.7	3.1	6.2	5.7
				28.3	34.1	8.15	104.5	6.73		1.8			
		Middle	11	28.2	34.4	8.10	102.4	6.60		2.2			
	Bottom	20.5	28.1	34.4	8.11	101.5	6.54	2.4	4.9				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 16/9/2003
Weather: Overcast
Sea Condition: Moderate
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	11:12	Surface	1	27.7	33.6	8.02	104.1	6.79	6.31	1.1	3.0	6.5	7.0
				27.7	33.6	8.03	99.6	6.50		1.2			
		Middle	11	27.7	34.0	8.03	91.9	5.98		3.8			
	Bottom	21	27.6	34.5	8.05	98.7	5.83	5.82	4.0	7.5			
Other Observations:				Nil									
SR7	10:56	Surface	1	27.9	33.6	8.03	111.2	7.22	6.48	1.6	2.6	6.1	5.8
				27.9	33.6	8.04	103.0	6.69		1.8			
		Middle	4.5	28.2	34.0	8.06	92.7	6.01		2.0			
	Bottom	8	27.7	34.1	8.06	91.4	5.94	5.91	3.8	7.0			
Other Observations:				Nil									
SR10	10:38	Surface	1	27.8	34.1	8.01	101.8	6.61	6.42	1.8	3.5	4.3	3.9
				27.8	34.1	8.00	100.6	6.54		2.0			
		Middle	4.5	27.8	34.3	8.03	96.6	6.27		2.5			
	Bottom	7.5	27.8	34.5	8.02	96.4	6.25	6.18	2.8	3.4			
Other Observations:				Nil									
SR11	10:26	Surface	1	27.9	34.2	8.05	104.5	6.78	6.51	1.0	2.7	4.0	5.3
				27.9	34.2	8.06	102.2	6.63		0.9			
		Middle	4	27.8	34.5	8.05	97.8	6.34		2.8			
	Bottom	7	27.8	34.5	8.05	97.0	6.30	6.17	3.0	5.0			
Other Observations:				Nil									
SR12	10:15	Surface	1	27.8	34.0	8.00	100.0	6.51	6.37	1.6	2.8	4.5	4.8
				27.8	34.0	8.01	99.3	6.46		1.4			
		Middle	4.5	27.9	34.7	8.05	96.4	6.25		2.0			
	Bottom	7.5	27.9	35.1	8.07	95.1	6.14	6.12	4.8	7.4			
Other Observations:				Nil									
SR14	10:04	Surface	1	27.8	34.2	8.03	109.9	7.14	6.69	1.0	2.4	2.9	4.7
				27.8	34.2	8.02	104.9	6.81		1.2			
		Middle	4.5	27.8	34.6	8.05	98.8	6.40		1.8			
	Bottom	8	27.8	34.9	8.07	98.6	6.39	6.34	1.9	5.3			
Other Observations:				Nil									
SR15	09:53	Surface	1	27.7	35.3	8.09	108.7	7.02	6.78	0.8	1.8	3.8	5.8
				27.7	35.3	8.09	106.1	6.86		0.7			
		Middle	11	27.6	35.5	8.12	102.7	6.63		1.3			
	Bottom	20.5	27.6	35.5	8.12	102.4	6.62	6.54	1.4	2.7			
Other Observations:				Nil									
CS1	09:15	Surface	1	27.9	32.9	7.95	84.4	5.51	5.41	1.6	2.4	5.3	8.2
				27.9	32.9	7.96	83.7	5.47		1.8			
		Middle	5	27.9	32.9	7.95	81.6	5.33		2.2			
	Bottom	8.5	27.9	32.9	7.95	81.4	5.32	5.25	2.4	9.9			
Other Observations:				Nil									
CS2	09:30	Surface	1	27.7	33.5	7.95	106.4	6.95	6.42	1.0	1.5	6.5	11.6
				27.8	33.5	7.96	100.5	6.56		1.1			
		Middle	5.5	27.7	33.5	7.95	93.4	6.09		1.4			
	Bottom	9.5	27.7	33.6	7.95	93.0	6.06	5.97	1.6	14.7			
Other Observations:				Nil									
CS3	09:41	Surface	1	27.7	35.4	8.10	111.2	7.20	6.91	0.9	2.1	6.8	6.6
				27.7	35.4	8.09	107.9	6.98		1.0			
		Middle	11	27.6	35.4	8.11	104.2	6.74		1.5			
	Bottom	21	27.6	35.4	8.10	103.9	6.72	6.66	1.8	6.1			
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 16/9/2003

Weather: Overcast

Sea Condition: Moderate

Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	16:15	Surface	1	28.3	33.8	8.02	105.7	6.82	6.50	2.1	3.2	6.6	5.9
				28.3	33.9	8.01	103.3	6.66					
		27.8	34.9	8.08	97.0	6.27	2.8						
	Bottom	20	27.6	35.4	8.06	89.6	5.80	5.77	4.4	5.5			
Other Observations:				Nil									
SR7	16:01	Surface	1	28.7	34.1	8.01	109.0	6.98	6.60	1.0	1.3	8.7	10.3
				28.7	34.1	8.00	102.6	6.57					
		28.4	34.1	8.02	100.2	6.42	1.2						
	Middle	4.5	28.4	34.1	8.02	99.8	6.41	1.3	9.6				
Bottom	8	28.1	34.2	8.04	98.3	6.33	6.35	1.7	12.7				
Other Observations:				Nil									
SR10	15:45	Surface	1	28.0	34.1	8.03	108.7	7.05	6.70	1.8	3.9	10.0	8.9
				28.0	34.1	8.04	104.6	6.78					
		28.0	34.1	8.03	100.0	6.48	2.2						
	Middle	4.5	28.0	34.1	8.03	100.1	6.49	2.6	8.4				
Bottom	7.5	27.9	34.3	8.06	98.2	6.36	6.34	7.2	8.5				
Other Observations:				Nil									
SR11	15:33	Surface	1	28.1	34.1	8.05	107.0	6.92	6.79	0.8	2.2	11.2	10.5
				28.1	34.1	8.05	105.8	6.84					
		28.1	34.2	8.05	103.8	6.71	2.2						
	Middle	3.5	28.1	34.2	8.04	103.2	6.67	2.1	8.5				
Bottom	6	27.9	34.2	8.04	101.5	6.58	6.49	3.5	11.8				
Other Observations:				Nil									
SR12	15:25	Surface	1	28.1	34.1	8.03	102.2	6.61	6.52	1.2	2.7	4.4	7.0
				28.1	34.1	8.04	101.1	6.54					
		27.8	34.2	8.06	99.9	6.47	1.6						
	Middle	4	27.8	34.2	8.06	99.2	6.44	1.8	7.5				
Bottom	7	27.9	35.0	8.10	96.8	6.26	6.23	5.0	9.2				
Other Observations:				Nil									
SR14	15:14	Surface	1	27.9	34.8	8.09	108.0	7.00	6.72	0.9	2.5	5.9	8.5
				27.9	34.8	8.10	105.2	6.81					
		27.9	34.8	8.09	101.1	6.54	1.4						
	Middle	4.5	27.9	34.8	8.10	100.7	6.51	1.6	7.5				
Bottom	8	27.8	34.8	8.11	98.7	6.38	6.38	4.8	12.2				
Other Observations:				Nil									
SR15	15:00	Surface	1	28.0	34.7	8.08	106.9	6.92	6.59	6.5	7.8	7.2	7.0
				28.0	34.7	8.08	103.8	6.71					
		27.7	35.3	8.11	99.2	6.40	7.7						
	Middle	10	27.7	35.3	8.12	98.1	6.33	7.8	7.5				
Bottom	19	27.7	35.6	8.13	95.1	6.13	6.15	8.8	6.4				
Other Observations:				Nil									
CS1	14:15	Surface	1	28.0	33.0	7.93	92.4	6.01	5.91	1.2	1.7	5.2	6.0
				28.0	33.0	7.94	91.6	5.97					
		28.0	33.0	7.94	90.3	5.88	1.5						
	Middle	4.5	28.0	33.0	7.94	90.0	5.76	1.7	5.6				
Bottom	8	28.0	33.0	7.95	89.0	5.80	5.80	2.2	7.4				
Other Observations:				Nil									
CS2	14:30	Surface	1	27.8	33.5	7.95	101.1	6.59	6.36	1.0	1.4	15.0	15.0
				27.8	33.5	7.94	99.9	6.51					
		27.7	33.5	7.98	95.7	6.19	1.3						
	Middle	5.5	27.7	33.6	7.97	94.3	6.14	6.05	1.4	11.8			
Bottom	9.5	27.8	33.6	8.04	93.4	6.07	6.05	1.8	18.2				
Other Observations:				Nil									
CS3	14:44	Surface	1	28.0	34.9	8.08	108.3	6.99	6.79	1.0	3.1	5.9	6.3
				28.0	34.9	8.09	105.7	6.82					
		27.8	35.1	8.10	103.7	6.70	1.8						
	Middle	10.5	27.8	35.2	8.11	103.1	6.66	6.51	2.0	6.4			
Bottom	20	27.7	35.6	8.13	100.9	6.51	6.51	6.0	6.5				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 19/9/2003
Weather: Sunny
Sea Condition: Calm
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	18:00	Surface	1	29.0	30.7	8.03	91.0	5.88	5.54	1.1	2.0	3.0	4.0
				29.0	30.7	8.02	90.2	5.82		1.2			
		Middle	11.5	27.9	35.2	8.02	81.7	5.26		1.9		4.0	
	Bottom	22	27.6	35.7	7.97	74.8	4.83	2.8	5.1				
Other Observations:				Nil									
SR7	17:50	Surface	1	29.4	29.3	7.95	89.1	5.79	5.69	1.4	4.2	7.1	5.8
				29.4	29.2	7.95	89.5	5.81		1.6			
		Middle	4.5	28.7	31.8	7.96	86.5	5.60		2.4		5.9	
	Bottom	8	28.0	35.1	7.97	81.5	5.23	8.6	4.5				
Other Observations:				Nil									
SR10	17:35	Surface	1	30.1	33.1	8.14	99.1	6.24	5.94	1.1	1.6	5.3	6.0
				30.1	33.1	8.13	100.0	6.30		1.2			
		Middle	4.5	28.6	34.1	8.09	88.2	5.65		1.4		7.7	
	Bottom	7.5	28.1	35.0	8.03	71.4	4.59	2.0	5.2				
Other Observations:				Nil									
SR11	17:25	Surface	1	30.3	32.8	8.15	99.9	6.27	6.68	1.6	2.6	2.9	1.9
				30.3	32.8	8.16	104.2	6.45		1.7			
		Middle	4	30.2	32.9	8.16	110.7	6.97		2.1		1.0	
	Bottom	7	28.1	35.0	8.00	74.4	4.78	3.8	1.7				
Other Observations:				Nil									
SR12	17:10	Surface	1	30.3	32.9	8.09	94.0	5.90	6.02	1.6	2.1	1.1	2.9
				30.3	32.9	8.10	95.4	5.99		1.7			
		Middle	4.5	29.9	33.2	8.07	96.9	6.11		2.0		4.4	
	Bottom	8	28.1	35.3	8.09	81.5	5.22	2.5	3.3				
Other Observations:				Nil									
SR14	16:56	Surface	1	29.5	32.4	8.06	90.2	5.73	5.81	1.1	1.7	13.0	6.9
				29.5	32.4	8.06	91.2	5.81		1.3			
		Middle	4.5	29.4	33.2	8.06	92.4	5.88		1.6		4.8	
	Bottom	8	28.5	33.9	8.05	83.2	5.35	2.5	3.1				
Other Observations:				Nil									
SR15	16:44	Surface	1	29.4	32.3	8.06	84.0	5.34	5.52	1.7	1.9	3.8	4.3
				29.3	32.3	8.05	88.7	5.67		1.9			
		Middle	11	28.2	34.8	8.12	87.6	5.61		2.0		4.4	
	Bottom	21	27.3	36.4	7.95	76.7	4.93	1.8	4.8				
Other Observations:				Nil									
CS1	16:00	Surface	1	29.2	30.6	7.99	85.5	5.53	5.47	1.2	2.9	6.0	5.3
				28.2	30.6	8.00	85.6	5.54		1.4			
		Middle	4.5	28.5	31.8	7.97	83.1	5.40		2.0		4.4	
	Bottom	8	28.4	32.9	7.99	78.1	5.05	5.1	5.6				
Other Observations:				Nil									
CS2	16:15	Surface	1	28.6	30.6	7.99	72.3	4.66	5.16	1.8	4.8	3.9	5.7
				28.6	30.6	8.00	82.2	5.29		2.0			
		Middle	5.5	27.9	35.6	8.03	86.4	5.52		3.5		4.4	
	Bottom	10	27.8	35.8	8.00	69.2	4.45	8.9	9.0				
Other Observations:				Nil									
CS3	16:30	Surface	1	29.5	30.9	8.06	91.9	5.92	5.41	1.8	3.3	3.4	5.5
				29.5	30.9	8.06	93.9	6.04		2.0			
		Middle	11.5	28.0	35.3	8.04	76.6	4.92		3.3		8.2	
	Bottom	22	27.2	36.4	7.92	53.1	3.45	4.6	4.9				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 19/9/2003
Weather: Sunny
Sea Condition: Calm
Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)	Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)		
							Value	DA	Value	DA	Average	DA	
SR6	10:41	Surface	1	28.5 28.5	30.6 30.6	8.01 8.00	99.0 95.8	6.48 6.28	6.15	1.2 1.1	3.2	5.4	5.9
			Middle	11	28.3 28.3	31.8 31.8	8.02 8.02	91.2 90.7		5.93 5.91		1.8 1.9	
		Bottom	21	28.1 28.1	32.0 32.1	8.02 8.02	71.5 69.5	4.56 4.43		6.6 6.4		5.9	
	Other Observations:			Nil									
SR7	10:30	Surface	1	28.5 28.5	30.2 30.2	8.04 8.05	101.1 98.0	6.64 6.44	6.35	0.9 1.0	1.6	5.8	7.1
			Middle	4.5	28.4 28.4	30.7 30.7	8.05 8.04	94.0 93.6		6.16 6.14		1.4 1.6	
		Bottom	8	28.4 28.4	30.7 30.8	8.04 8.04	92.5 92.4	6.06 6.05		2.2 2.3		8.2	
	Other Observations:			Nil									
SR10	10:21	Surface	1	29.5 29.4	32.7 32.8	8.04 8.04	100.8 100.6	6.40 6.42	6.39	1.2 1.4	2.7	6.0	7.8
			Middle	4	29.1 29.1	33.3 33.3	8.04 8.03	99.9 99.7		6.38 6.36		2.1 2.2	
		Bottom	7	28.2 28.2	34.8 34.7	8.09 8.08	90.4 88.1	5.80 5.66		4.7 4.8		12.5	
	Other Observations:			Nil									
SR11	10:12	Surface	1	29.7 29.7	32.7 32.7	8.05 8.05	101.8 102.5	6.46 6.51	6.18	1.2 1.1	3.2	5.6	9.0
			Middle	4	28.7 28.7	34.2 34.2	8.05 8.05	92.0 91.5		5.90 5.86		3.5 4.0	
		Bottom	7	28.3 28.3	34.8 34.8	8.03 8.03	84.0 81.1	5.39 5.21		4.5 4.8		16.0	
	Other Observations:			Nil									
SR12	10:02	Surface	1	29.3 29.2	32.6 32.6	8.03 8.03	98.0 97.8	6.28 6.26	6.15	1.2 1.1	2.4	8.7	8.2
			Middle	4	28.6 28.6	34.1 34.1	8.08 8.07	94.8 93.3		6.08 5.99		1.6 1.8	
		Bottom	7	28.4 28.4	34.4 34.4	8.09 8.08	91.6 91.4	5.87 5.86		4.1 4.3		9.6	
	Other Observations:			Nil									
SR14	09:51	Surface	1	29.5 29.5	32.8 32.8	8.04 8.04	99.2 98.7	6.32 6.28	6.16	0.8 0.9	1.4	6.4	7.2
			Middle	4.5	28.7 28.7	33.8 33.8	8.04 8.03	95.0 92.7		6.08 5.94		1.2 1.4	
		Bottom	8	28.3 28.3	34.9 35.0	8.14 8.14	91.3 93.3	5.85 5.98		1.9 2.0		6.7	
	Other Observations:			Nil									
SR15	09:38	Surface	1	29.6 29.6	33.2 33.2	8.02 8.03	103.3 101.6	6.56 6.45	6.32	1.0 1.1	3.7	6.5	7.9
			Middle	10.5	28.2 28.2	35.2 35.2	8.14 8.13	95.8 95.5		6.14 6.13		1.3 1.4	
		Bottom	20	27.3 27.3	36.4 36.4	7.96 7.97	66.8 55.0	4.34 3.56		8.5 8.6		10.5	
	Other Observations:			Nil									
CS1	08:40	Surface	1	28.5 28.5	28.8 28.7	8.00 7.99	94.0 92.6	6.18 6.11	5.93	1.2 1.4	2.3	6.8	6.7
			Middle	4.5	28.3 28.3	31.4 31.4	7.97 7.98	83.4 85.9		5.83 5.61		2.2 2.3	
		Bottom	7.5	28.2 28.2	32.7 32.8	7.97 7.96	83.0 82.7	5.38 5.37		3.4 3.5		7.2	
	Other Observations:			Nil									
CS2	09:02	Surface	1	28.6 28.6	29.6 29.6	7.97 7.98	98.1 97.0	6.44 6.38	6.23	1.1 1.2	2.9	4.3	5.5
			Middle	5	28.3 28.3	31.5 31.5	7.96 7.95	93.1 92.6		6.07 6.04		2.5 2.4	
		Bottom	9	28.1 28.3	32.7 32.7	7.94 7.95	88.0 86.1	5.70 5.59		5.0 5.1		7.7	
	Other Observations:			Nil									
CS3	09:23	Surface	1	28.6 28.6	32.0 32.0	7.98 7.97	101.6 100.5	6.58 6.52	6.31	1.8 2.0	3.2	7.2	8.5
			Middle	11	28.2 28.2	35.0 34.9	8.10 8.10	95.6 83.3		6.13 5.99		3.3 3.5	
		Bottom	20.5	27.3 27.3	36.6 36.5	7.96 7.97	74.9 69.2	4.84 4.82		4.3 4.2		10.3	
	Other Observations:			Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 22/9/2003
Weather: Overcast
Sea Condition: Moderate
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	18:13	Surface	1	27.9	35.3	8.02	97.3	6.23	5.79	6.5	9.4	7.6	10.6
				28.0	35.3	8.02	96.4	6.17		6.2			
		Middle	11.5	26.9	37.2	7.88	84.7	5.42		5.9		7.9	
	Bottom	22	26.1	37.9	7.86	50.0	3.20	16.2	16.2				
Other Observations:				Nil									
SR7	17:59	Surface	1	29.1	33.6	8.24	128.6	8.19	7.37	1.1	2.0	6.8	6.9
				29.0	33.7	8.25	125.2	8.13		1.2			
		Middle	5	28.6	34.6	8.12	103.1	6.60		1.3		5.7	
	Bottom	8.5	28.5	34.6	8.12	102.5	6.56	1.2	8.3				
Other Observations:				Nil									
SR10	17:42	Surface	1	28.5	34.9	8.10	94.4	6.02	5.94	1.6	2.5	5.9	7.0
				28.6	35.0	8.09	96.4	6.15		1.7			
		Middle	4.5	28.5	35.2	8.09	91.5	5.83		2.2		5.8	
	Bottom	7.5	28.4	35.2	8.09	89.9	5.74	2.1	9.3				
Other Observations:				Nil									
SR11	17:31	Surface	1	28.4	34.3	8.16	100.8	6.44	6.10	1.4	2.4	3.0	3.8
				28.5	34.3	8.17	98.5	6.35		1.5			
		Middle	4	28.6	34.9	8.12	91.0	5.81		1.8		2.9	
	Bottom	7	28.6	34.9	8.11	90.5	5.78	1.7	5.7				
Other Observations:				Nil									
SR12	17:19	Surface	1	28.5	34.6	8.13	96.9	6.19	5.87	1.2	3.7	4.6	4.9
				28.5	34.7	8.12	95.4	6.10		1.3			
		Middle	4.5	28.4	35.3	8.09	87.0	5.56		1.6		4.1	
	Bottom	7.5	28.3	35.2	8.09	88.1	5.63	1.5	6.1				
Other Observations:				Nil									
SR14	17:06	Surface	1	28.4	33.8	8.27	121.7	7.84	7.02	2.7	3.1	6.5	4.8
				28.5	33.9	8.26	122.3	7.88		2.5			
		Middle	5.5	28.3	35.2	8.14	97.5	6.24		3.6		5.1	
	Bottom	10	28.3	35.2	8.12	95.5	6.11	3.8	3.0				
Other Observations:				Nil									
SR15	16:52	Surface	1	28.5	34.2	8.22	127.6	8.18	7.34	0.7	3.8	7.5	6.0
				28.5	34.2	8.21	128.4	8.23		0.6			
		Middle	11	28.3	35.5	8.10	100.5	6.42		0.9		3.1	
	Bottom	21	28.3	35.4	8.09	102.2	6.53	1.0	7.5				
Other Observations:				Nil									
CS1	16:04	Surface	1	28.0	33.8	8.04	99.2	6.42	6.36	1.3	3.6	11.2	7.9
				28.1	33.9	8.05	100.6	6.51		1.4			
		Middle	5.5	28.3	34.3	8.09	97.8	6.29		1.9		6.9	
	Bottom	9.5	28.3	34.4	8.10	96.8	6.23	2.1	5.6				
Other Observations:				Nil									
CS2	16:18	Surface	1	28.3	33.4	8.13	112.8	7.29	6.68	2.2	1.6	6.9	10.7
				28.3	33.4	8.14	113.4	7.33		2.4			
		Middle	6	28.4	34.6	8.10	94.8	6.08		1.1		5.1	
	Bottom	11	28.4	34.5	8.10	94.0	6.03	1.1	20.1				
Other Observations:				Nil									
CS3	16:35	Surface	1	28.3	34.7	8.16	115.1	7.35	6.48	1.2	3.5	4.4	6.9
				28.4	34.8	8.17	114.8	7.33		1.1			
		Middle	11.5	27.9	36.6	8.01	88.3	5.64		0.9		4.1	
	Bottom	21.5	27.7	36.7	8.00	87.4	5.58	0.8	12.2				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 22/9/2003

Weather: Overcast

Sea Condition: Moderate

Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	10:58	Surface	1	29.1	32.8	8.32	130.5	8.35	7.22	2.0	4.4	5.1	9.1
				29.1	32.8	8.32	129.8	8.31		2.2			
		Middle	11	28.6	35.1	8.19	96.6	6.17		1.7		8.3	
	Bottom	21	27.2	37.3	8.00	50.6	3.24	9.4	13.8				
Other Observations:				Nil									
SR7	10:42	Surface	1	29.2	33.0	8.32	129.2	8.24	7.85	1.6	1.4	5.7	5.4
				29.3	33.1	8.33	130.4	8.31		1.5			
		Middle	4.5	29.3	33.4	8.31	117.1	7.46		1.4		6.5	
	Bottom	8	28.6	35.1	8.21	95.3	6.08	1.2	4.1				
Other Observations:				Nil									
SR10	10:26	Surface	1	28.7	32.8	8.22	112.6	7.22	6.55	1.7	2.3	9.3	9.8
				28.8	32.9	8.21	112.0	7.19		1.6			
		Middle	4	28.6	34.5	8.10	92.7	5.94		1.3		11.4	
	Bottom	7	28.2	35.6	8.05	73.6	4.71	3.9	8.8				
Other Observations:				Nil									
SR11	10:14	Surface	1	28.8	34.4	8.13	114.4	7.35	6.64	2.6	2.8	6.6	7.4
				28.8	34.3	8.12	115.8	7.44		2.8			
		Middle	4	28.6	34.9	8.14	91.2	5.83		2.3		7.5	
	Bottom	6.5	28.5	35.0	8.13	92.6	5.92	2.2	8.2				
Other Observations:				Nil									
SR12	10:02	Surface	1	28.8	32.5	8.26	128.8	8.27	7.51	2.7	2.6	3.9	5.3
				28.9	32.4	8.25	128.1	8.23		2.9			
		Middle	4	28.7	34.7	8.20	104.3	6.67		1.8		4.9	
	Bottom	7	28.6	34.8	8.19	107.1	6.85	2.0	7.3				
Other Observations:				Nil									
SR14	09:49	Surface	1	28.5	32.4	8.30	129.4	8.32	7.43	0.9	1.4	4.3	5.2
				28.6	32.4	8.29	128.3	8.25		1.0			
		Middle	5	28.6	34.9	8.17	102.1	6.53		1.3		5.6	
	Bottom	8.5	28.5	35.0	8.18	103.4	6.61	1.5	5.7				
Other Observations:				Nil									
SR15	09:36	Surface	1	28.2	35.3	8.05	95.2	6.09	5.69	2.0	3.8	8.6	4.9
				28.3	35.3	8.06	94.1	6.02		1.8			
		Middle	10.5	27.7	35.9	7.98	84.1	5.38		1.6		4.0	
	Bottom	20	27.7	36.0	7.99	82.1	5.25	1.4	2.1				
Other Observations:				Nil									
CS1	08:51	Surface	1	28.1	33.1	8.02	94.7	6.15	6.01	1.3	2.5	11.9	9.0
				28.1	33.2	8.03	93.5	6.07		1.4			
		Middle	5	28.3	33.3	8.06	90.7	5.89		3.5		7.5	
	Bottom	8.5	28.3	33.4	8.06	91.5	5.94	3.3	7.7				
Other Observations:				Nil									
CS2	09:04	Surface	1	28.2	32.5	8.09	105.1	6.84	6.85	3.3	3.3	8.8	8.2
				28.2	32.4	8.10	105.3	6.86		3.5			
		Middle	5.5	28.3	32.6	8.12	105.5	6.87		3.7		7.4	
	Bottom	9.5	28.3	32.7	8.11	104.7	6.82	3.6	8.3				
Other Observations:				Nil									
CS3	09:22	Surface	1	28.5	32.7	8.24	128.1	8.26	7.13	2.1	2.5	4.1	5.1
				28.6	32.7	8.23	129.3	8.35		2.2			
		Middle	11	28.4	35.5	8.14	93.3	5.96		1.3		1.8	
	Bottom	20.5	28.4	35.6	8.13	92.9	5.94	1.2	9.4				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 24/9/2003
Weather: Sunny
Sea Condition: Calm
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	18:10	Surface	1	28.1	35.3	8.14	100.4	6.45	6.09	4.1	4.4	8.0	8.9
				28.1	35.3	8.14	99.7	6.40		4.1			
		Middle	11	27.8	35.3	8.06	89.4	5.76		4.0		7.7	
	Bottom	20.5	27.7	35.4	8.05	84.1	5.43	5.42	4.9	11.1			
Other Observations:				Nil									
SR7	17:55	Surface	1	28.0	35.2	8.11	99.8	6.43	6.36	3.3	4.1	7.4	10.6
				28.0	35.2	8.11	99.5	6.40		3.3			
		Middle	4.5	28.0	35.3	8.10	98.2	6.31		2.9		15.4	
	Bottom	8	28.1	35.3	8.10	98.1	6.31	2.9	9.1				
Other Observations:				Nil									
SR10	17:40	Surface	1	28.5	35.4	8.21	108.4	6.91	6.87	2.7	3.0	14.6	9.6
				28.5	35.4	8.21	108.2	6.90		2.7			
		Middle	4.5	28.5	35.5	8.19	107.4	6.84		2.5		7.6	
	Bottom	8	28.5	35.5	8.19	107.3	6.84	2.4	6.5				
Other Observations:				Nil									
SR11	17:25	Surface	1	28.6	35.4	8.21	111.9	7.12	7.00	2.0	5.3	4.4	4.8
				28.6	35.4	8.21	111.7	7.11		1.8			
		Middle	4	28.5	35.3	8.18	108.1	6.90		2.4		4.3	
	Bottom	7	28.5	35.3	8.18	107.3	6.85	2.4	5.8				
Other Observations:				Nil									
SR12	17:10	Surface	1	28.3	35.5	8.21	108.4	6.93	6.86	4.8	5.2	5.3	7.4
				28.3	35.5	8.21	108.2	6.92		4.7			
		Middle	4.5	28.3	35.5	8.19	106.3	6.80		5.1		8.7	
	Bottom	7.5	28.3	35.5	8.19	106.1	6.78	5.0	8.2				
Other Observations:				Nil									
SR14	17:00	Surface	1	28.1	35.7	8.17	101.2	6.48	6.32	3.4	5.3	7.4	10.2
				28.1	35.7	8.17	100.6	6.45		3.4			
		Middle	5	28.1	35.8	8.14	96.5	6.18		5.1		11.1	
	Bottom	8.5	28.1	35.8	8.14	96.2	6.16	5.1	12.0				
Other Observations:				Nil									
SR15	16:55	Surface	1	28.2	35.7	8.20	108.9	6.97	6.72	0.8	3.2	7.1	7.7
				28.2	35.7	8.20	108.8	6.96		0.9			
		Middle	10.5	28.2	35.8	8.16	101.3	6.48		2.9		6.7	
	Bottom	20	28.2	35.8	8.16	100.9	6.45	2.8	9.3				
Other Observations:				Nil									
CS1	16:00	Surface	1	27.5	35.4	8.00	77.2	5.01	4.90	6.7	7.6	8.4	8.0
				27.5	35.4	8.00	76.8	4.98		6.7			
		Middle	5	27.5	35.4	7.98	74.2	4.81		8.6		8.0	
	Bottom	8.5	27.5	35.4	7.98	73.9	4.79	8.6	7.7				
Other Observations:				Nil									
CS2	16:20	Surface	1	28.1	35.1	8.11	100.4	6.45	6.29	8.9	9.1	9.5	10.6
				28.1	35.1	8.11	99.8	6.41		8.8			
		Middle	5.5	28.0	35.1	8.08	95.9	6.17		8.9		9.7	
	Bottom	9.5	28.0	35.1	8.08	95.1	6.12	9.0	12.6				
Other Observations:				Nil									
CS3	16:40	Surface	1	28.3	35.5	8.21	113.1	7.23	6.78	1.3	5.1	6.1	10.4
				28.3	35.5	8.21	113.2	7.24		1.3			
		Middle	11	27.9	35.9	8.13	97.5	6.35		3.9		10.2	
	Bottom	20.5	27.9	35.9	8.13	97.0	6.30	3.9	14.8				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 24/9/2003
Weather: Sunny
Sea Condition: Calm
Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	12:15	Surface	1	28.0	34.7	8.23	116.1	7.50	7.38	0.6	0.9	6.8	8.2
				28.0	34.7	8.23	116.3	7.51		0.6			
		Middle	11	28.2	35.2	8.24	113.3	7.26		0.6		9.0	
	Bottom	20.5	28.2	35.3	8.24	109.4	7.00	1.5	8.8				
28.3			35.5	8.24	109.6	7.02	1.6						
Other Observations:				Nil									
SR7	12:05	Surface	1	28.0	34.9	8.24	117.8	7.55	7.56	0.8	1.2	7.4	8.1
				28.0	34.9	8.24	117.9	7.56		0.8			
		Middle	4.5	28.0	34.9	8.26	117.7	7.56		0.9		7.3	
	Bottom	8	28.0	34.9	8.26	117.9	7.57	0.9					
28.2			35.5	8.25	110.9	7.10	1.9	9.6					
Other Observations:				Nil									
SR10	11:45	Surface	1	28.3	35.3	8.21	110.5	7.07	6.94	1.0	1.5	8.7	7.4
				28.3	35.3	8.21	110.4	7.07		0.9			
		Middle	4.5	28.3	35.4	8.18	106.3	6.81		1.4		7.5	
	Bottom	7.5	28.2	35.4	8.18	106.0	6.79	1.3					
28.2			35.4	8.18	104.6	6.70	2.2	5.9					
Other Observations:				Nil									
SR11	11:30	Surface	1	28.4	35.3	8.17	107.8	6.90	6.89	2.3	2.8	6.4	6.5
				28.4	35.3	8.17	107.9	6.91		2.2			
		Middle	4	28.2	35.3	8.19	107.3	6.88		1.1		5.7	
	Bottom	6.5	28.2	35.3	8.19	107.4	6.88	1.1					
28.2			35.4	8.18	103.8	6.65	4.9	7.4					
Other Observations:				Nil									
SR12	11:20	Surface	1	28.2	35.3	8.19	109.9	7.04	6.90	1.2	5.6	10.4	13.4
				28.2	35.3	8.19	109.9	7.04		1.2			
		Middle	4	28.1	35.5	8.18	105.6	6.77		4.9		13.9	
	Bottom	7	28.1	35.5	8.18	105.4	6.76	5.1					
28.1			35.5	8.18	103.5	6.64	10.5	16.1					
Other Observations:				Nil									
SR14	11:08	Surface	1	28.2	35.4	8.21	111.6	7.15	7.11	1.0	0.8	6.7	9.0
				28.2	35.3	8.21	111.3	7.13		1.0			
		Middle	4.5	28.1	35.4	8.20	110.2	7.07		0.9		10.1	
	Bottom	8	28.1	35.4	8.20	110.4	7.07	0.9					
28.1			35.4	8.20	110.4	7.08	0.6	10.1					
Other Observations:				Nil									
SR15	10:55	Surface	1	28.2	35.4	8.20	111.2	7.13	7.17	0.6	1.9	8.1	8.2
				28.2	35.4	8.20	111.0	7.12		0.6			
		Middle	10.5	28.1	35.5	8.22	112.4	7.21		2.1		8.0	
	Bottom	19.5	28.1	35.5	8.22	112.6	7.22	2.1					
28.0			35.8	8.19	105.9	6.81	2.9	8.6					
Other Observations:				Nil									
CS1	10:00	Surface	1	27.9	34.8	8.09	98.2	6.34	6.16	3.2	3.5	12.2	10.8
				27.9	34.8	8.09	97.9	6.32		3.2			
		Middle	4.5	27.7	34.8	8.07	92.6	6.00		3.6		9.7	
	Bottom	8	27.7	34.8	8.07	92.5	5.98	3.6					
27.8			35.0	8.07	88.6	5.73	3.8	10.6					
Other Observations:				Nil									
CS2	10:18	Surface	1	28.0	34.3	8.19	123.5	7.99	7.87	0.4	1.0	14.7	11.8
				28.0	34.3	8.19	124.2	8.04		0.4			
		Middle	5.5	27.8	34.6	8.18	119.6	7.74		0.6		9.4	
	Bottom	9.5	27.8	34.6	8.18	119.0	7.71	0.6					
28.2			35.6	8.20	111.9	7.13	2.1	11.2					
Other Observations:				Nil									
CS3	10:40	Surface	1	28.2	35.4	8.23	116.0	7.44	7.44	0.4	0.5	6.8	6.5
				28.2	35.4	8.23	116.1	7.44		0.4			
		Middle	10.5	28.1	35.5	8.23	115.9	7.43		0.4		3.8	
	Bottom	20	28.1	35.5	8.23	115.9	7.43	0.4					
27.6			35.8	8.10	114.3	7.34	0.7	9.0					
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 26/9/2003
Weather: Sunny
Sea Condition: Moderate
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	18:15	Surface	1	27.9	35.1	7.96	90.9	5.88	5.72	3.9	6.3	9.5	8.9
				27.9	35.1	7.96	91.2	5.93		3.9			
		Middle	11	27.6	35.2	7.93	85.0	5.56		5.9			
	Bottom	20.5	27.6	35.3	7.95	82.1	5.31	9.2	9.6				
Other Observations:				Nil									
SR7	18:05	Surface	1	27.6	35.3	7.97	90.6	5.86	5.70	8.8	9.4	7.4	9.9
				27.6	35.3	7.97	89.6	5.82		8.8			
		Middle	4.5	27.6	35.4	7.97	85.8	5.56		9.0			
	Bottom	7.5	27.7	35.4	7.98	85.6	5.55	9.1	11.8				
Other Observations:				Nil									
SR10	17:45	Surface	1	28.1	35.9	8.13	106.2	6.79	6.68	3.8	3.9	5.9	8.5
				28.1	35.9	8.13	105.3	6.73		3.8			
		Middle	4	28.2	35.9	8.12	103.3	6.60		3.7			
	Bottom	7	28.2	35.9	8.12	103.1	6.59	3.7	8.0				
Other Observations:				Nil									
SR11	17:30	Surface	1	28.2	35.9	8.16	107.5	6.93	6.64	4.0	5.2	4.6	6.4
				28.2	35.9	8.16	106.9	6.84		4.1			
		Middle	4	27.9	35.9	8.13	99.6	6.40		4.5			
	Bottom	7	27.9	35.9	8.13	99.4	6.38	4.6	8.1				
Other Observations:				Nil									
SR12	17:20	Surface	1	28.2	35.9	8.11	102.6	6.57	6.45	5.6	6.1	5.6	6.7
				28.2	35.9	8.11	102.2	6.52		5.7			
		Middle	4	28.2	35.8	8.13	99.4	6.36		6.3			
	Bottom	7	28.2	35.8	8.13	98.6	6.33	6.3	8.6				
Other Observations:				Nil									
SR14	17:10	Surface	1	28.3	35.8	8.14	104.0	6.64	6.51	4.7	5.9	7.4	7.2
				28.3	35.6	8.14	103.2	6.60		4.7			
		Middle	4.5	28.2	35.7	8.13	100.2	6.42		6.5			
	Bottom	8	28.2	35.7	8.13	99.7	6.39	6.4	6.1				
Other Observations:				Nil									
SR15	17:00	Surface	1	27.9	35.9	8.10	102.6	6.58	6.39	7.8	9.0	10.3	12.3
				27.9	35.9	8.10	102.3	6.55		7.8			
		Middle	10.5	27.9	36.0	8.10	97.1	6.23		8.4			
	Bottom	20	27.9	36.1	8.09	96.0	6.20	8.4	18.0				
Other Observations:				Nil									
CS1	16:00	Surface	1	27.5	35.0	7.94	89.3	5.79	5.61	14.3	15.5	15.2	17.3
				27.4	35.0	7.94	89.2	5.78		14.1			
		Middle	4.5	27.6	35.0	7.94	83.1	5.41		14.7			
	Bottom	8	27.5	35.1	7.94	83.5	5.44	14.4	15.0				
Other Observations:				Nil									
CS2	16:20	Surface	1	27.6	35.4	7.98	98.2	6.40	6.21	11.6	11.2	6.2	8.2
				27.6	35.4	7.99	97.8	6.37		11.6			
		Middle	5.5	27.8	35.7	7.99	93.7	6.05		10.7			
	Bottom	9.5	27.8	35.4	8.00	92.0	5.94	10.7	11.2				
Other Observations:				Nil									
CS3	16:45	Surface	1	27.8	35.6	8.05	103.4	6.68	6.51	5.3	6.6	2.2	7.2
				27.8	35.6	8.05	103.1	6.63		5.2			
		Middle	10.5	27.9	35.5	8.08	98.8	6.36		6.5			
	Bottom	20	27.9	35.5	8.08	98.8	6.36	6.7	11.0				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 26/9/2003
Weather: Sunny
Sea Condition: Moderate
Tide: Mid-Ebb

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	14:20	Surface	1	28.1	35.9	8.14	102.8	6.60	6.49	3.7	3.9	7.0	8.8
				28.2	35.9	8.14	103.1	6.62		3.8			
		Middle	11	28.1	35.9	8.12	99.3	6.36		3.7		7.5	
	Bottom	21	28.0	36.1	8.10	95.2	6.10	6.11	4.1	12.0			
Other Observations:				Nil									
SR7	14:10	Surface	1	27.9	35.5	8.12	95.4	6.15	6.12	6.0	6.6	5.4	7.4
				28.0	35.6	8.12	95.5	6.14		6.0			
		Middle	4.5	27.9	35.5	8.11	94.8	6.10		6.4		6.6	
	Bottom	8	27.9	35.6	8.15	93.4	6.02	6.02	7.5	10.1			
Other Observations:				Nil									
SR10	13:45	Surface	1	28.1	35.6	8.11	100.0	6.41	6.30	7.5	7.5	4.9	5.7
				28.1	35.6	8.11	99.2	6.36		7.5			
		Middle	4	28.0	35.7	8.13	97.0	6.23		6.4		6.7	
	Bottom	7	27.9	35.7	8.14	94.5	6.06	6.06	8.7	5.4			
Other Observations:				Nil									
SR11	13:20	Surface	1	28.0	35.9	8.14	100.3	6.43	6.21	4.8	6.2	7.5	8.9
				28.0	35.9	8.14	99.4	6.38		4.8			
		Middle	4	27.9	36.0	8.12	93.7	6.02		6.3		11.8	
	Bottom	7	27.9	36.0	8.12	93.5	6.00	6.3	7.5				
Other Observations:				Nil									
SR12	13:10	Surface	1	28.0	35.9	8.14	102.1	6.53	6.37	5.1	7.3	6.3	8.4
				28.1	35.9	8.15	102.4	6.56		5.0			
		Middle	4	27.9	35.9	8.11	96.2	6.20		8.0		9.3	
	Bottom	7	27.9	35.9	8.10	95.9	6.18	6.18	8.0	9.5			
Other Observations:				Nil									
SR14	12:58	Surface	1	28.0	35.9	8.15	104.5	6.69	6.55	4.6	5.3	12.1	8.9
				28.0	35.9	8.15	104.6	6.70		4.8			
		Middle	5	27.9	36.0	8.13	100.0	6.41		5.0		6.4	
	Bottom	8.5	27.9	36.1	8.10	100.0	6.40	5.1	8.1				
Other Observations:				Nil									
SR15	12:45	Surface	1	27.9	35.9	8.14	102.2	6.54	6.46	11.2	8.5	8.5	7.1
				27.9	35.9	8.14	101.6	6.50		11.0			
		Middle	10.5	28.1	35.9	8.12	99.6	6.38		8.5		6.7	
	Bottom	20	28.1	35.9	8.12	99.8	6.40	8.6	6.1				
Other Observations:				Nil									
CS1	11:50	Surface	1	27.8	35.4	8.00	91.6	6.00	5.84	6.4	7.3	9.9	10.2
				27.8	35.4	8.00	91.2	5.93		6.4			
		Middle	5	27.7	35.4	8.02	89.4	5.73		6.6		9.8	
	Bottom	8.5	27.7	35.4	8.02	88.2	5.70	6.6	11.1				
Other Observations:				Nil									
CS2	12:10	Surface	1	28.0	35.3	8.04	104.1	6.70	6.56	6.3	6.9	9.9	11.1
				28.0	35.3	8.04	104.4	6.73		6.3			
		Middle	5.5	27.9	35.3	8.06	98.9	6.39		5.9		11.1	
	Bottom	10	27.9	35.3	8.06	99.4	6.42	5.9	12.3				
Other Observations:				Nil									
CS3	12:30	Surface	1	28.1	35.4	8.18	109.8	7.02	6.98	1.8	2.9	6.5	7.2
				28.2	35.4	8.18	109.8	7.02		1.9			
		Middle	11	27.9	35.9	8.17	108.0	6.92		3.0		6.1	
	Bottom	20.5	27.9	35.8	8.17	108.8	6.94	3.0	8.9				
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

Date: 29/9/2003
Weather: Sunny
Sea Condition: Moderate
Tide: Mid-Flood

Water Quality Monitoring Result

Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	10:53	Surface	1	28.2	34.8	8.01	97.1	6.25	6.19	4.7	10.1	10.7	10.1
				28.2	34.9	8.00	96.5	6.22		4.9			
		Middle	11.5	27.9	35.4	8.06	96.2	6.19		10.8			
	Bottom	21.5	27.9	35.7	8.07	89.2	5.74	5.80	15.4	14.7	11.4		
Other Observations:				Nil									
SR7	10:41	Surface	1	28.2	34.9	8.04	103.2	6.64	6.59	6.5	7.2	9.3	10.2
				28.1	35.0	8.05	102.7	6.60		6.2			
		Middle	5	28.1	35.0	8.05	102.4	6.58		7.6			
	Bottom	8.5	28.1	35.2	8.06	99.1	6.37	6.33	7.3	7.5	11.8		
Other Observations:				Nil									
SR10	10:25	Surface	1	28.3	35.7	8.05	98.4	6.28	6.17	5.8	6.4	6.2	4.9
				28.3	35.7	8.05	97.7	6.24		5.6			
		Middle	4.5	28.0	35.8	8.05	95.0	6.08		6.17			
	Bottom	7.5	28.1	35.8	8.05	94.7	6.06	5.98	6.4	6.3	3.7		
Other Observations:				Nil									
SR11	10:14	Surface	1	28.5	35.6	8.05	99.3	6.33	6.28	4.8	6.0	6.3	7.3
				28.4	35.5	8.05	98.8	6.30		4.7			
		Middle	4	28.2	35.7	8.05	97.9	6.25		6.10			
	Bottom	7	28.1	35.9	8.06	95.1	6.09	6.10	7.5	7.8	6.9		
Other Observations:				Nil									
SR12	10:02	Surface	1	28.3	35.6	8.03	96.9	6.21	6.17	4.9	5.5	9.0	7.8
				28.3	35.6	8.03	96.7	6.18		5.0			
		Middle	4.5	28.1	35.6	8.03	96.0	6.15		6.24			
	Bottom	7.5	28.0	35.8	8.05	97.5	6.23	6.24	5.9	5.8	8.2		
Other Observations:				Nil									
SR14	09:50	Surface	1	28.3	35.5	8.02	95.6	6.12	6.12	6.8	9.5	12.7	11.8
				28.3	35.6	8.02	96.4	6.17		7.1			
		Middle	5	28.0	35.9	8.03	94.8	6.09		6.10			
	Bottom	8.5	27.9	36.0	8.05	95.2	6.11	6.10	11.7	11.5	10.8		
Other Observations:				Nil									
SR15	09:37	Surface	1	28.5	35.6	8.05	96.5	6.18	6.15	7.6	9.9	12.8	13.2
				28.4	35.7	8.04	96.2	6.16		7.9			
		Middle	11	27.9	35.9	8.06	95.5	6.12		6.13			
	Bottom	21	27.9	36.0	8.06	95.9	6.15	6.13	11.1	11.4	13.7		
Other Observations:				Nil									
CS1	08:51	Surface	1	28.3	34.9	8.01	98.5	6.33	6.25	2.6	4.6	10.2	8.2
				28.2	34.9	8.00	96.5	6.21		2.8			
		Middle	5	28.1	35.1	8.02	96.7	6.21		6.05			
	Bottom	8.5	28.0	35.5	8.02	94.3	6.07	6.05	6.5	6.8	7.2		
Other Observations:				Nil									
CS2	09:06	Surface	1	28.6	35.2	8.01	102.6	6.56	6.42	4.8	6.7	4.5	8.3
				28.6	35.2	8.01	101.0	6.46		5.1			
		Middle	5.5	28.1	35.6	8.05	98.8	6.33		6.21			
	Bottom	9.5	28.0	35.7	8.07	97.4	6.24	6.21	9.0	9.2	11.8		
Other Observations:				Nil									
CS3	09:23	Surface	1	28.3	35.9	8.09	104.1	6.65	6.55	2.2	3.5	5.2	5.7
				28.2	35.8	8.09	103.9	6.63		1.9			
		Middle	11.5	27.9	36.1	8.07	100.6	6.46		6.31			
	Bottom	22	27.8	36.3	8.08	98.4	6.32	6.31	5.1	5.4	5.9		
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

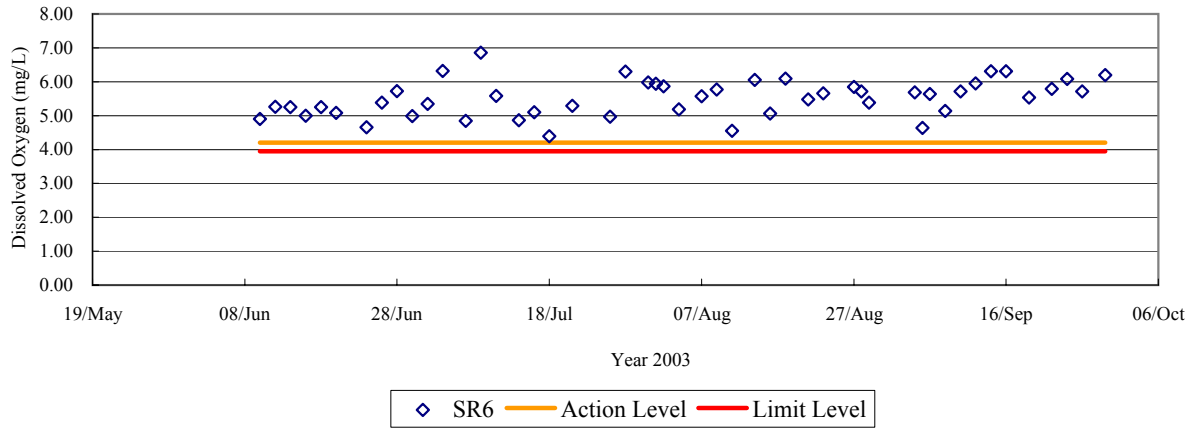
Date: 29/9/2003
Weather: Sunny
Sea Condition: Moderate
Tide: Mid-Ebb

Water Quality Monitoring Result

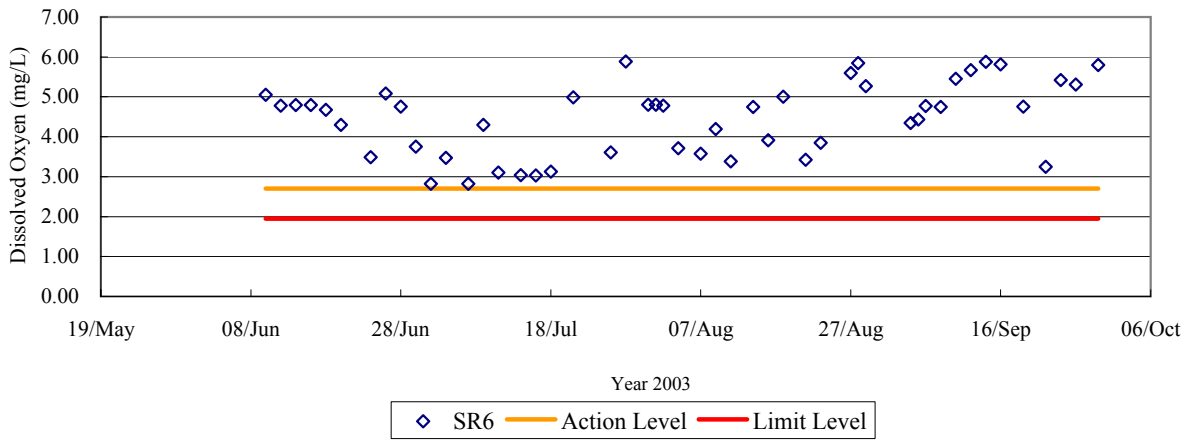
Location	Time	Depth (m)		Temp. (°C)	Salinity (ppt)	pH	D.O. Sat. (%)	D.O. (mg/L)		Turbidity (NTU)		S.S. (mg/L)	
								Value	DA	Value	DA	Average	DA
SR6	15:44	Surface	1	28.6	35.4	8.02	103.6	6.61	6.54	4.4	6.5	12.3	10.7
				28.5	35.5	8.02	103.3	6.59		4.7			
		Middle	11	28.4	35.5	8.02	101.2	6.46		6.0			
	Bottom	20.5	28.0	35.7	8.04	99.8	6.40	6.38	8.9	7.6			
Other Observations:				Nil									
SR7	15:32	Surface	1	28.4	35.4	8.07	109.4	6.99	6.88	6.4	6.9	10.9	11.6
				28.4	35.5	8.06	108.8	6.95		6.6			
		Middle	4.5	28.3	35.7	8.04	106.5	6.81		7.2			
	Bottom	8	28.2	35.8	8.03	105.1	6.72	6.73	7.1	14.0			
Other Observations:				Nil									
SR10	15:15	Surface	1	28.4	35.8	8.07	100.5	6.39	6.32	4.2	5.0	12.4	10.0
				28.5	35.8	8.07	99.7	6.34		3.9			
		Middle	4	28.5	35.8	8.06	98.7	6.28		5.6			
	Bottom	7	28.4	35.9	8.05	98.3	6.25	6.06	5.7	8.3			
Other Observations:				Nil									
SR11	15:04	Surface	1	28.6	35.7	8.08	103.8	6.59	6.47	7.4	7.9	6.0	6.5
				28.6	35.7	8.08	104.1	6.61		7.7			
		Middle	4	28.2	35.8	8.06	99.4	6.34		6.8			
	Bottom	6.5	28.2	35.8	8.06	98.9	6.32	5.76	6.5	8.8			
Other Observations:				Nil									
SR12	14:52	Surface	1	28.6	35.9	8.07	100.4	6.40	6.20	7.1	7.1	8.4	10.1
				28.5	36.0	8.07	98.7	6.29		6.7			
		Middle	4	28.0	36.1	8.08	94.1	6.03		6.5			
	Bottom	7	28.0	36.1	8.08	94.9	6.08	6.00	6.3	13.5			
Other Observations:				Nil									
SR14	14:39	Surface	1	28.9	35.4	8.06	105.2	6.73	6.56	7.0	6.6	8.8	9.4
				29.0	35.4	8.06	104.6	6.69		6.7			
		Middle	4.5	28.0	36.0	8.08	100.8	6.45		6.3			
	Bottom	8	28.1	36.0	8.08	99.6	6.38	6.20	6.6	9.3			
Other Observations:				Nil									
SR15	14:25	Surface	1	28.4	35.9	8.07	96.3	6.16	6.13	6.1	6.8	11.3	12.1
				28.4	35.9	8.07	95.7	6.12		5.8			
		Middle	11	28.0	36.1	8.08	95.0	6.08		6.7			
	Bottom	20.5	28.0	36.1	8.08	96.1	6.15	6.15	6.9	14.7			
Other Observations:				Nil									
CS1	13:36	Surface	1	28.8	35.2	8.00	100.7	6.42	6.35	5.1	5.7	8.9	11.1
				28.7	35.2	8.01	99.8	6.36		4.9			
		Middle	4.5	28.6	35.2	8.00	98.7	6.29		5.7			
	Bottom	8	28.6	35.2	7.99	99.0	6.31	6.17	5.8	18.2			
Other Observations:				Nil									
CS2	13:54	Surface	1	28.7	35.2	8.01	101.1	6.44	6.42	5.0	4.9	7.1	6.8
				28.6	35.2	8.00	100.6	6.41		5.2			
		Middle	5	28.6	35.3	8.01	100.3	6.39		4.4			
	Bottom	9	28.6	35.3	8.01	100.8	6.42	6.28	4.5	6.1			
Other Observations:				Nil									
CS3	14:10	Surface	1	28.6	35.8	8.06	97.5	6.22	6.24	2.8	3.6	10.3	8.4
				28.5	35.8	8.06	97.1	6.20		2.6			
		Middle	11	28.2	35.9	8.07	98.0	6.25		4.6			
	Bottom	21	28.2	36.0	8.08	98.4	6.28	6.43	4.8	7.8			
Other Observations:				Nil									

* Contains sample results < detection limit but assumed to be at the detection limit for the sake of computation.

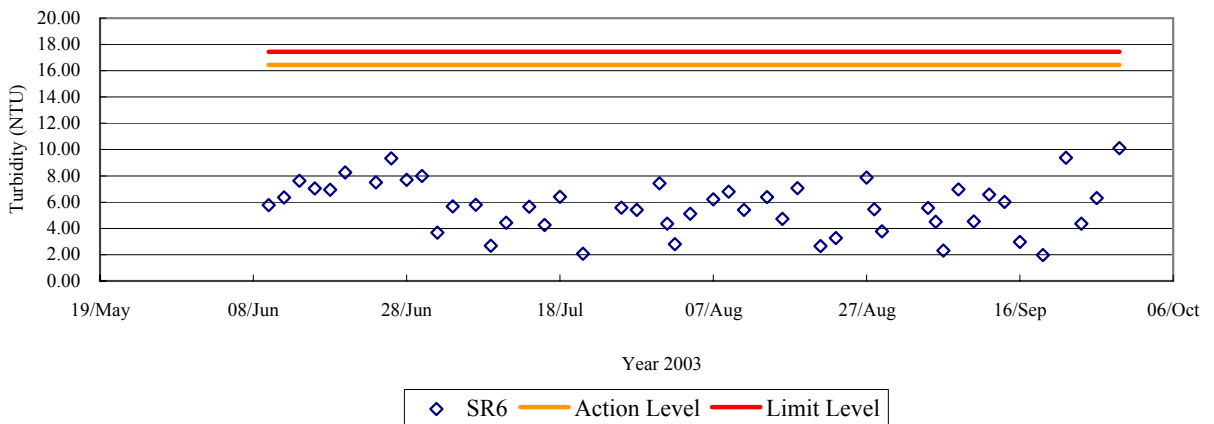
Dissolved Oxygen (Surface & Middle) at Location SR6 for Mid-Flood Tide



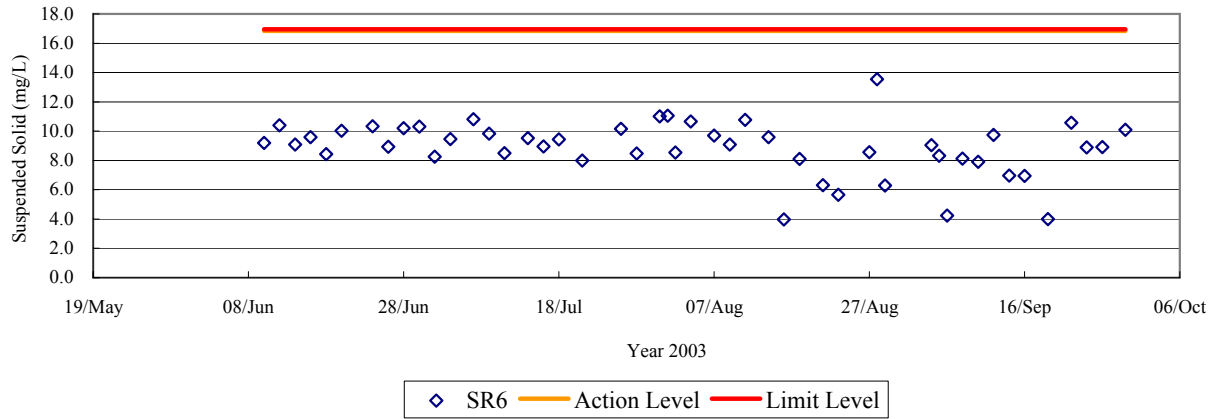
Dissolved Oxygen (Bottom) at Location SR6 for Mid-Flood Tide



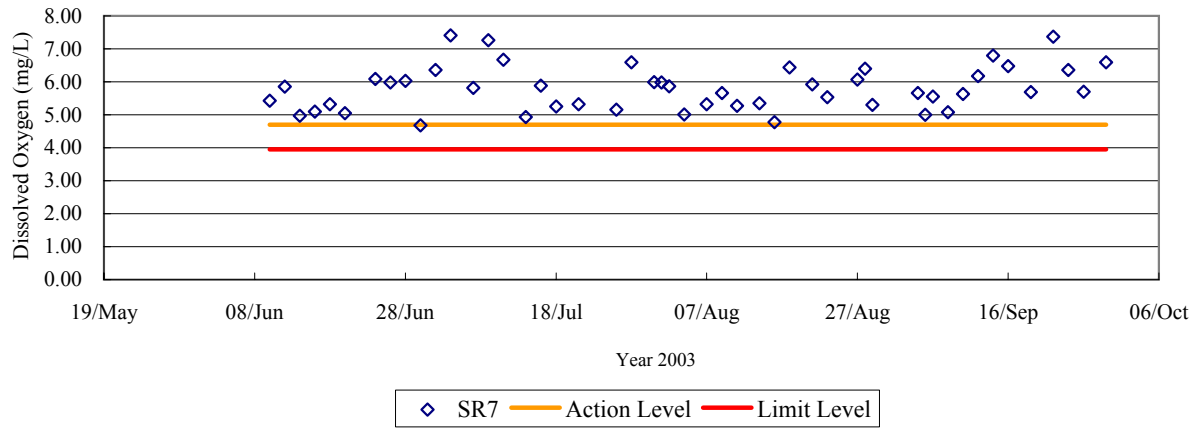
Turbidity (Depth Averaged) at Location SR6 for Mid-Flood Tide



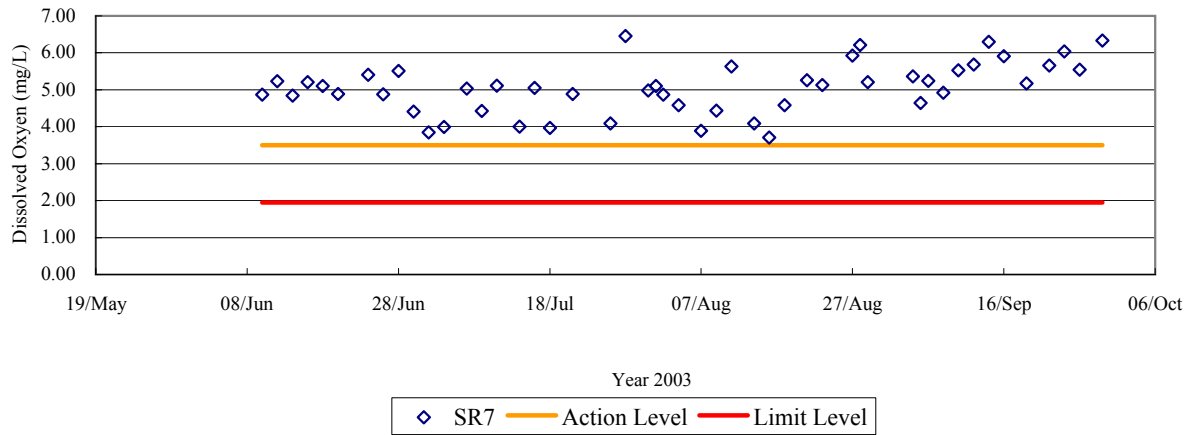
Suspended Solid (Depth Averaged) at Location SR6 for Mid-Flood Tide



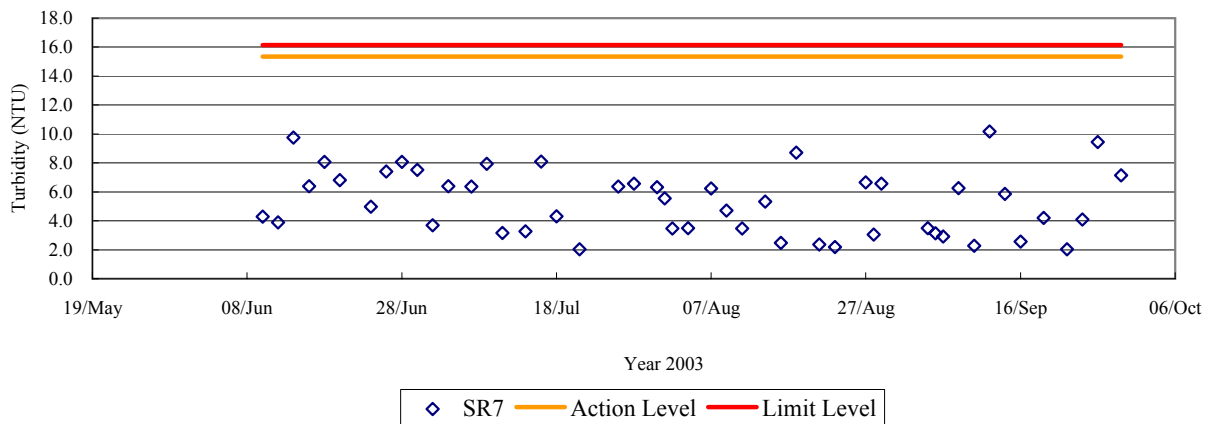
Dissolved Oxygen (Surface & Middle) at Location SR7 for Mid-Flood Tide



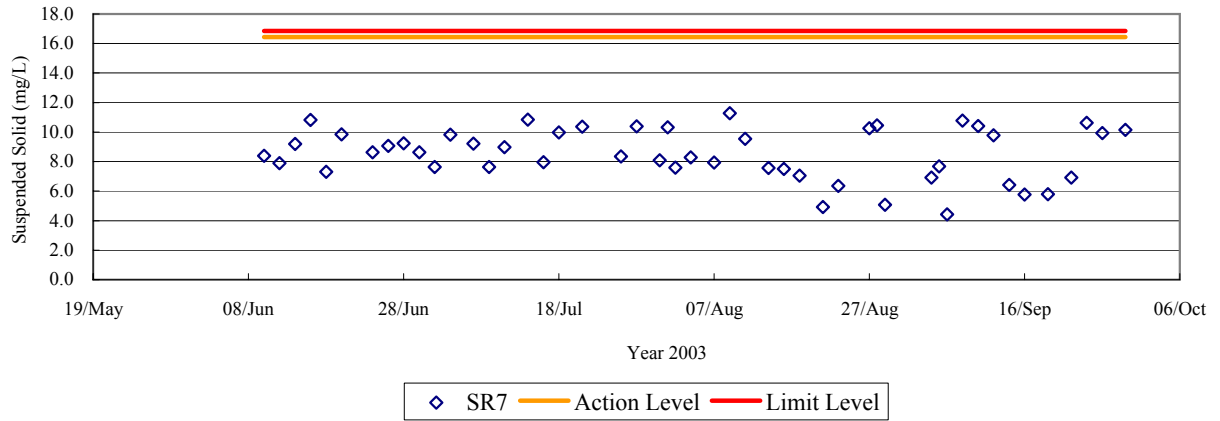
Dissolved Oxygen (Bottom) at Location SR7 for Mid-Flood Tide



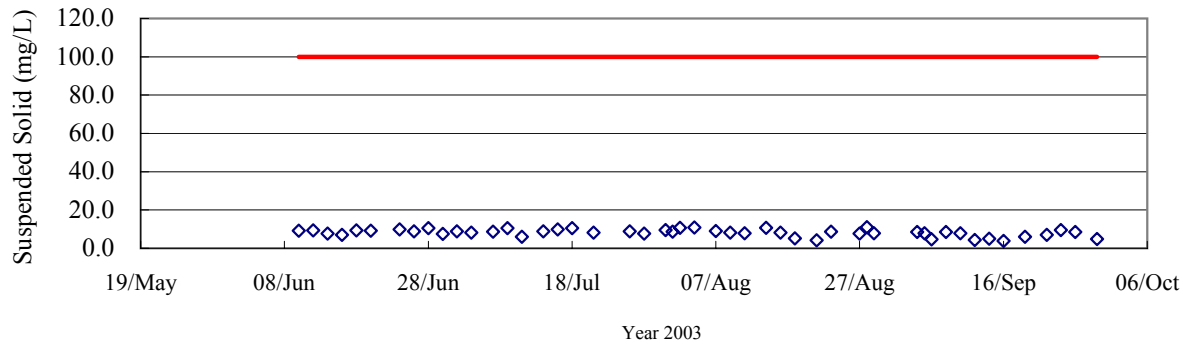
Turbidity (Depth Averaged) at Location SR7 for Mid-Flood Tide



Suspended Solid (Depth Averaged) at Location SR7 for Mid-Flood Tide

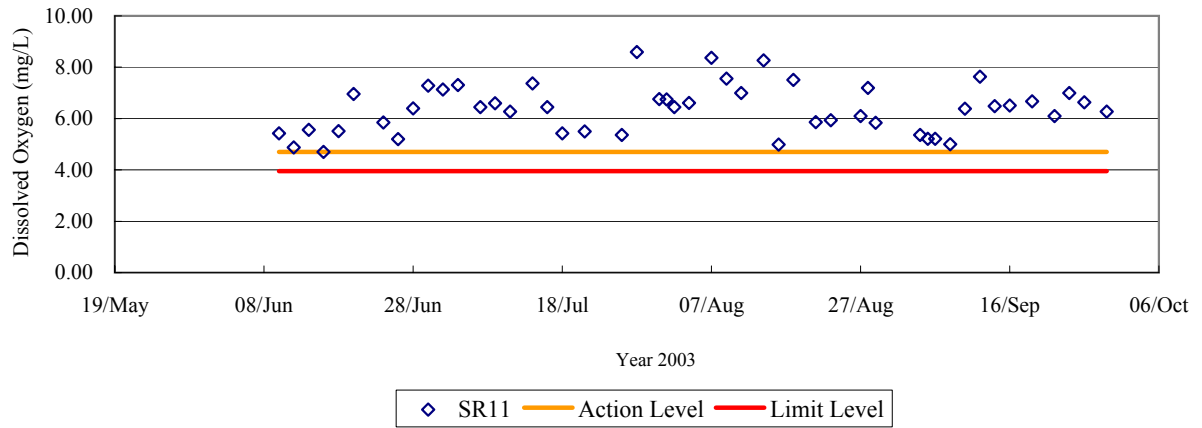


Suspended Solid (Depth Averaged) at Location SR10 for Mid-Flood Tide

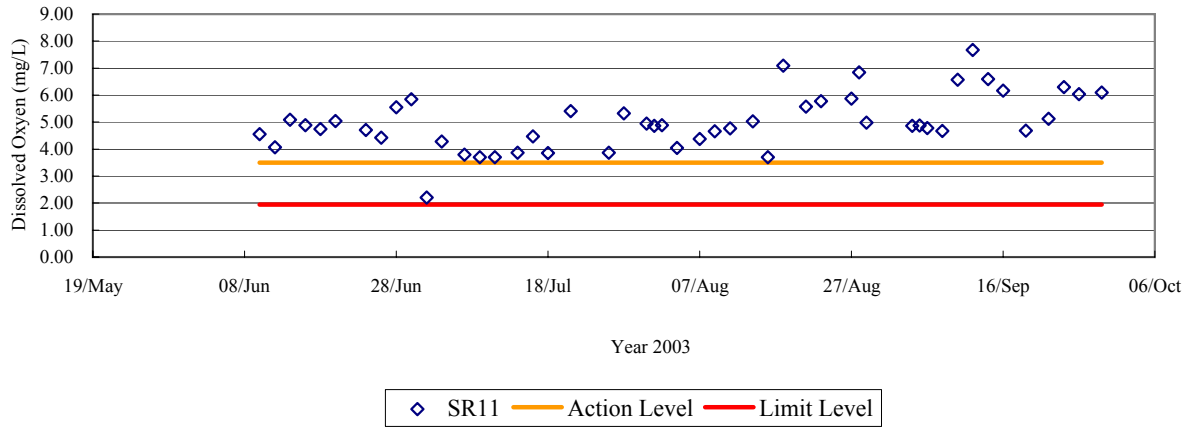


◆ SR10 — Limit Level

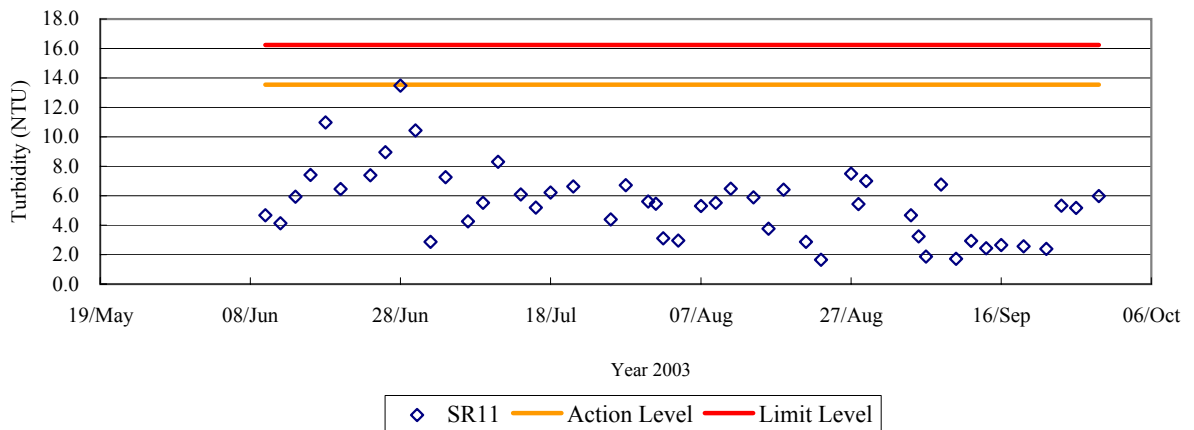
Dissolved Oxygen (Surface & Middle) at Location SR11 for Mid-Flood Tide



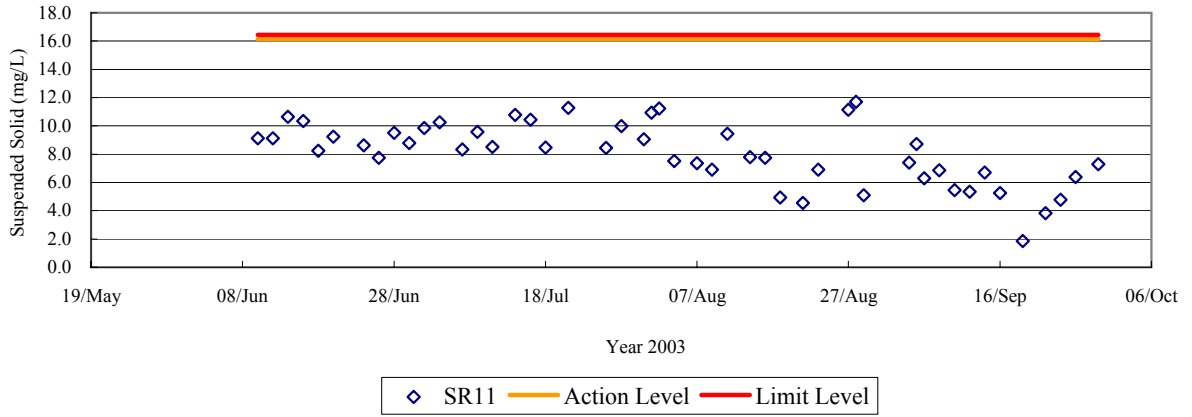
Dissolved Oxygen (Bottom) at Location SR11 for Mid-Flood Tide



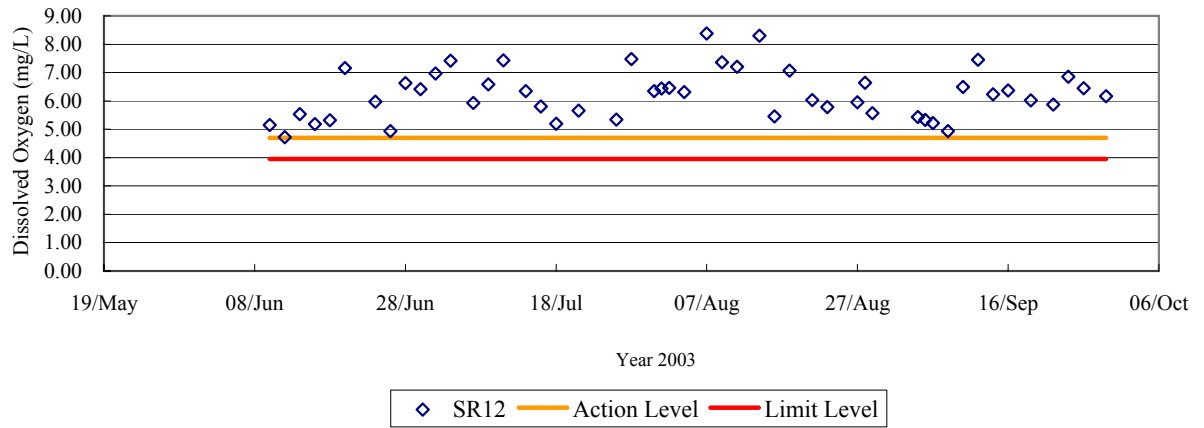
Turbidity (Depth Averaged) at Location SR11 for Mid-Flood Tide



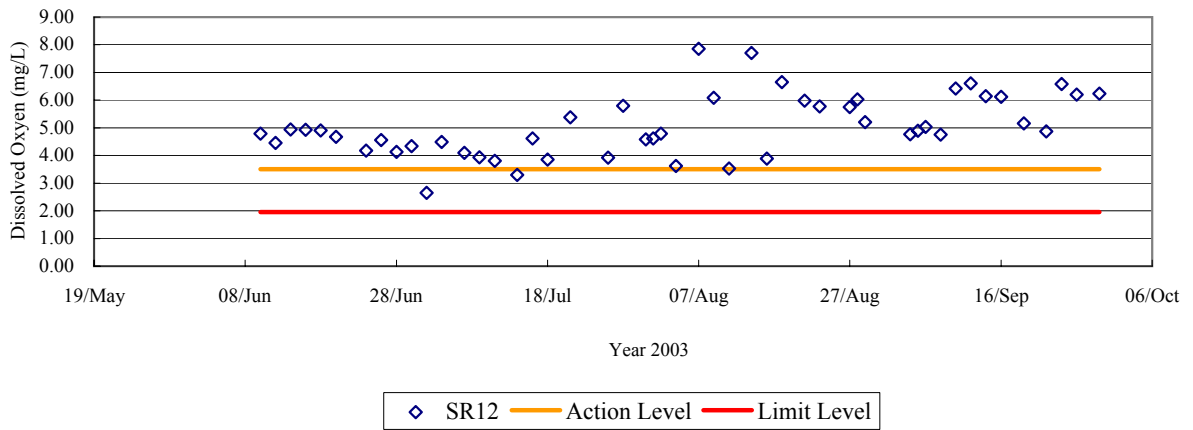
Suspended Solid (Depth Averaged) at Location SR11 for Mid-Flood Tide



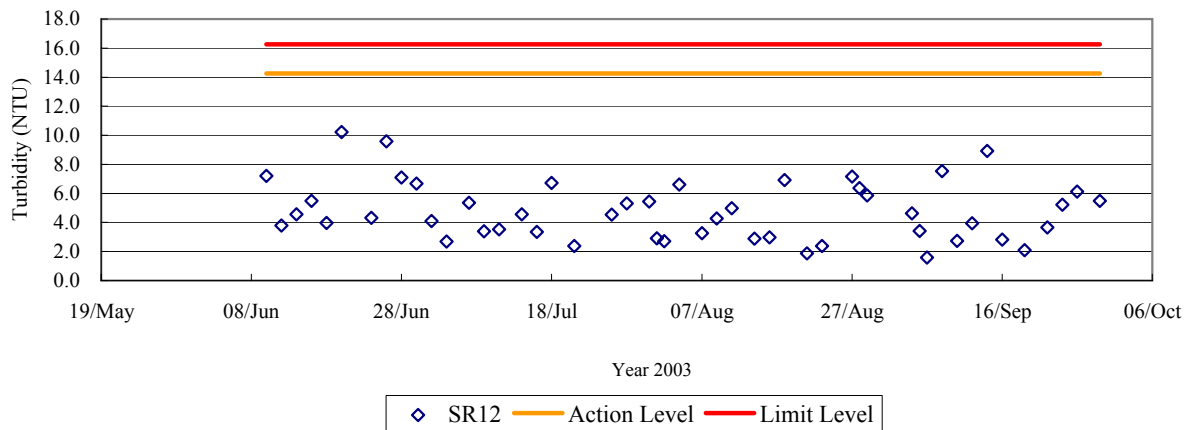
Dissolved Oxygen (Surface & Middle) at Location SR12 for Mid-Flood Tide



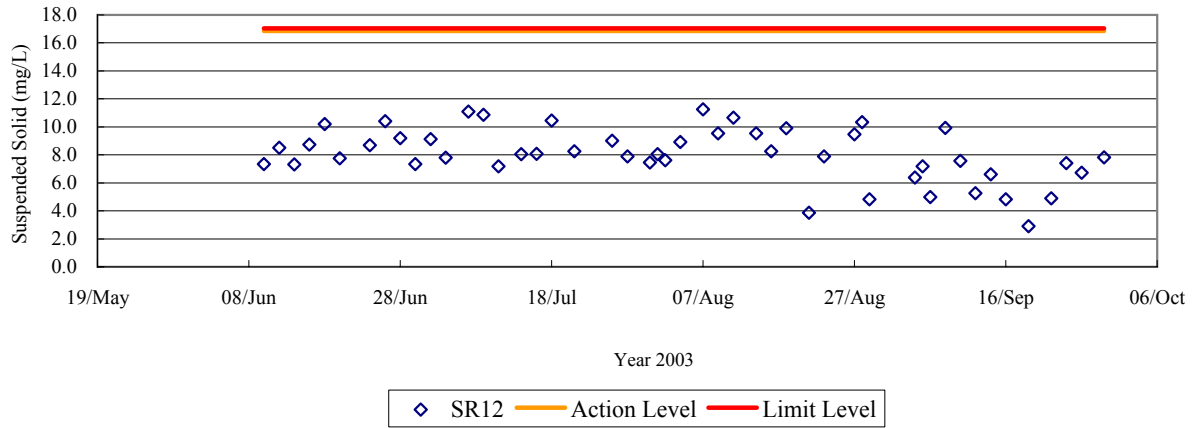
Dissolved Oxygen (Bottom) at Location SR12 for Mid-Flood Tide



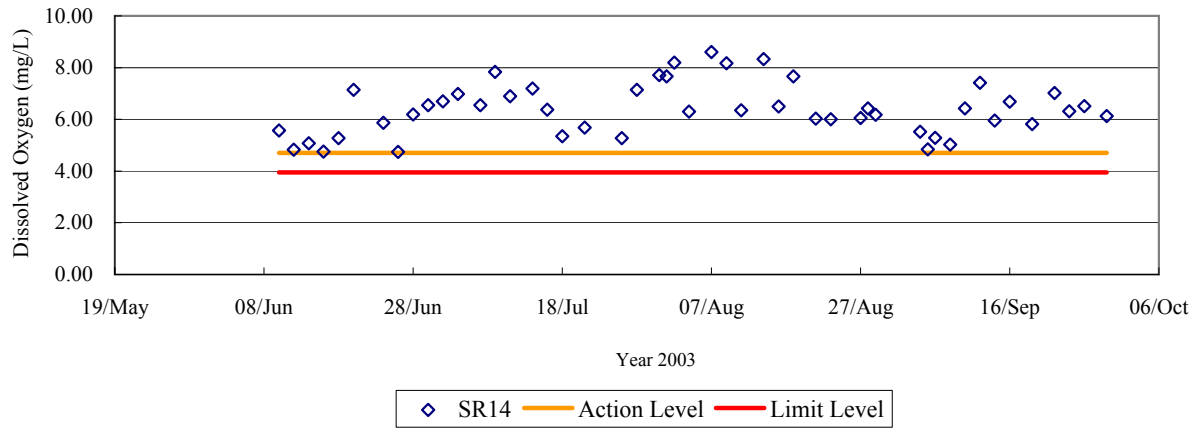
Turbidity (Depth Averaged) at Location SR12 for Mid-Flood Tide



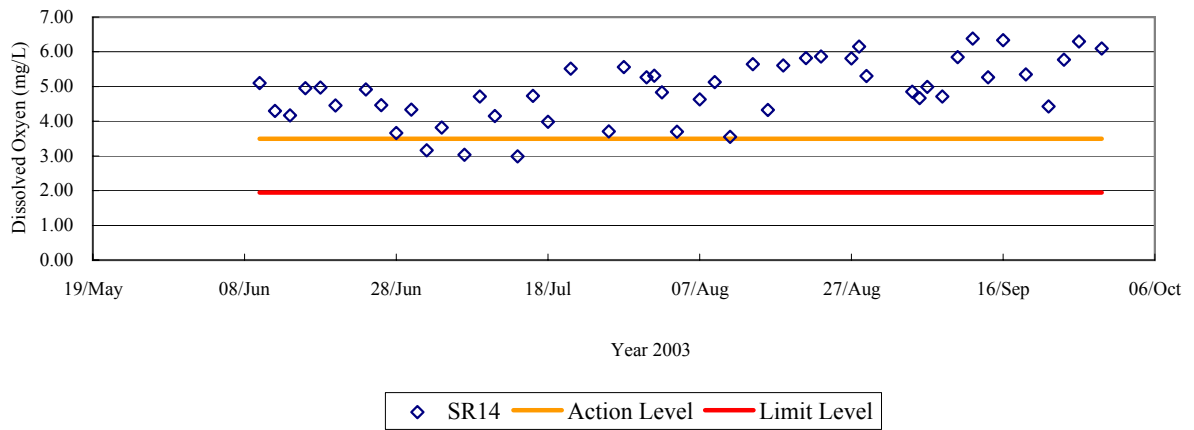
Suspended Solid (Depth Averaged) at Location SR12 for Mid-Flood Tide



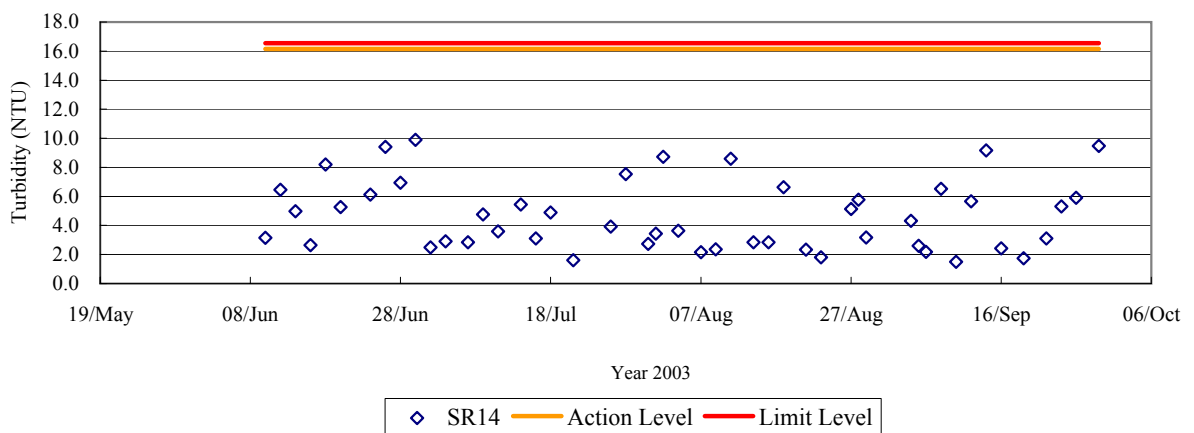
Dissolved Oxygen (Surface & Middle) at Location SR14 for Mid-Flood Tide



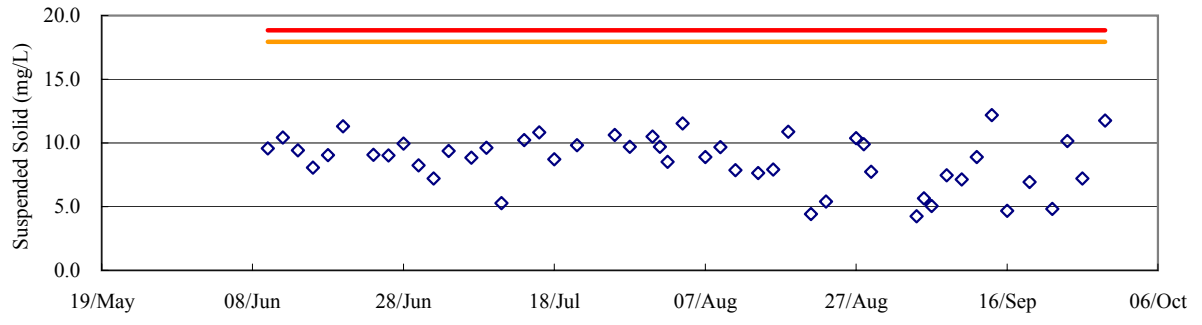
Dissolved Oxygen (Bottom) at Location SR14 for Mid-Flood Tide



Turbidity (Depth Averaged) at Location SR14 for Mid-Flood Tide



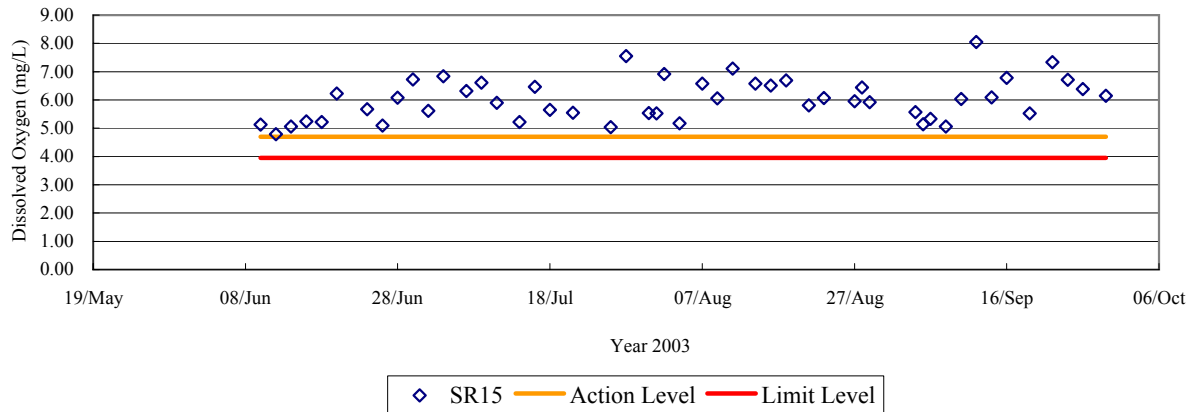
Suspended Solid (Depth Averaged) at Location SR14 for Mid-Flood Tide



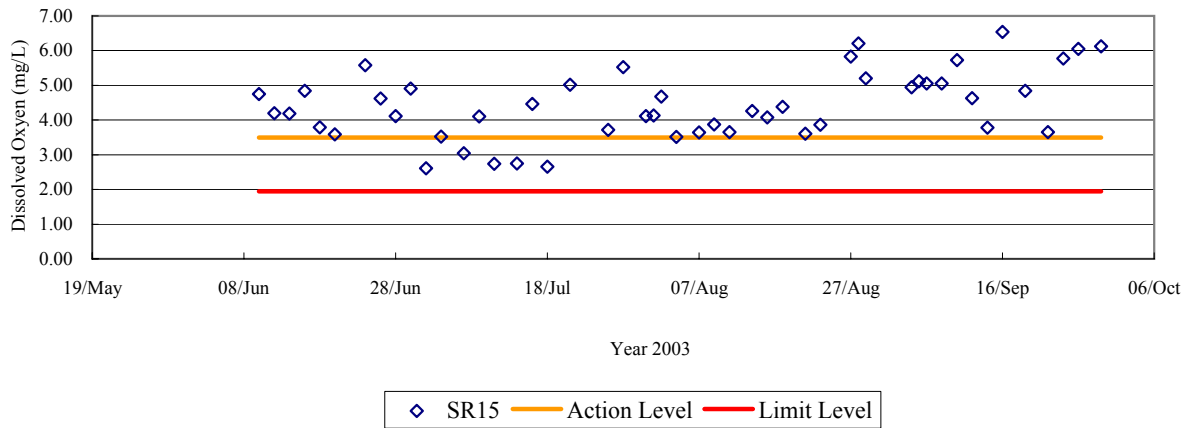
Year 2003

◆ SR14 — Action Level — Limit Level

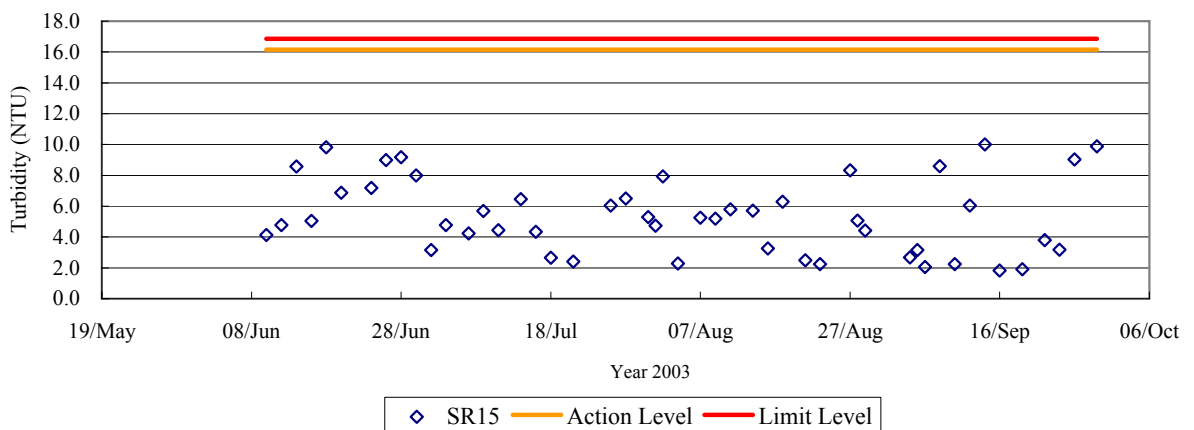
Dissolved Oxygen (Surface & Middle) at Location SR15 for Mid-Flood Tide



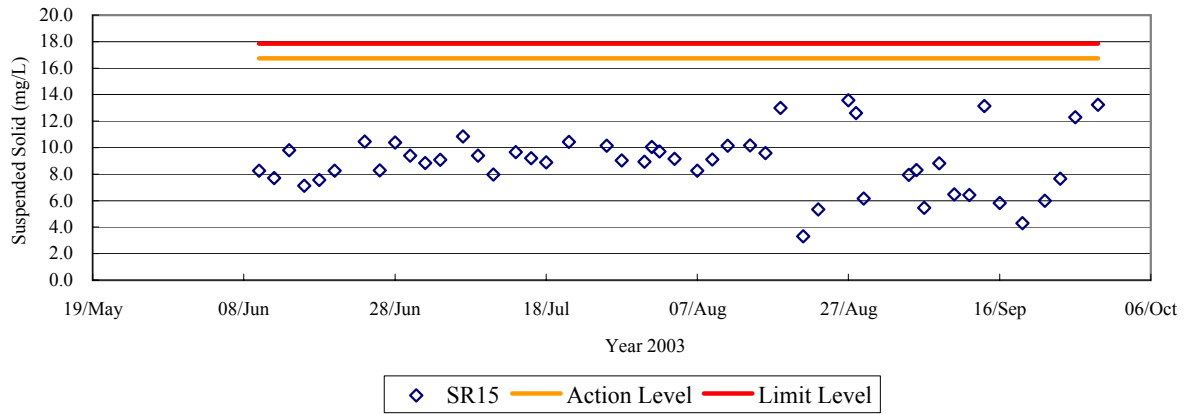
Dissolved Oxygen (Bottom) at Location SR15 for Mid-Flood Tide



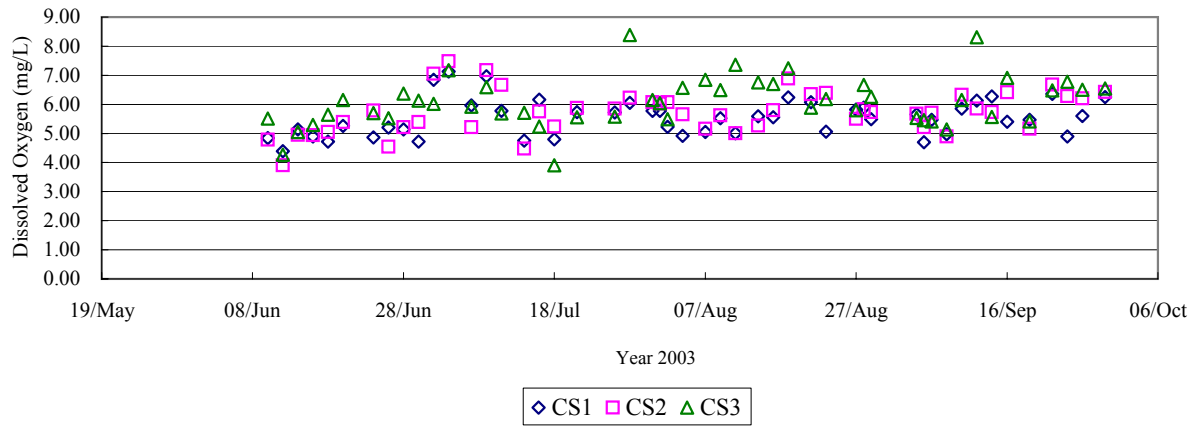
Turbidity (Depth Averaged) at Location SR15 for Mid-Flood Tide



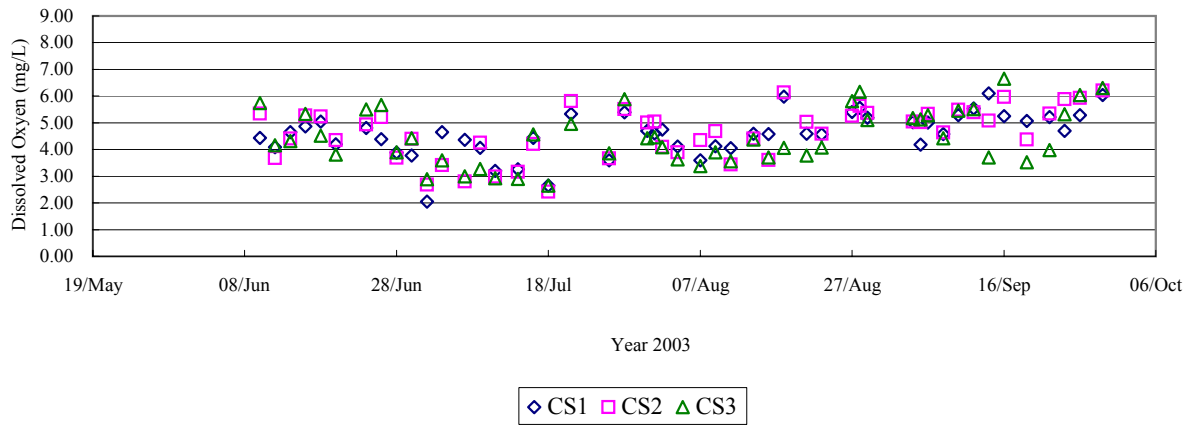
Suspended Solid (Depth Averaged) at Location SR15 for Mid-Flood Tide



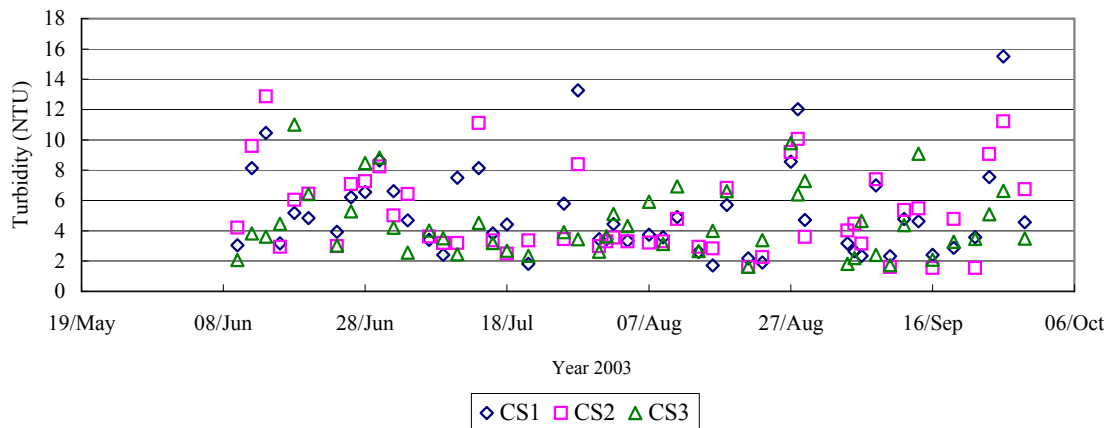
Dissolved Oxygen (Surface & Middle) from CS1 to CS3 for Mid-Flood Tide



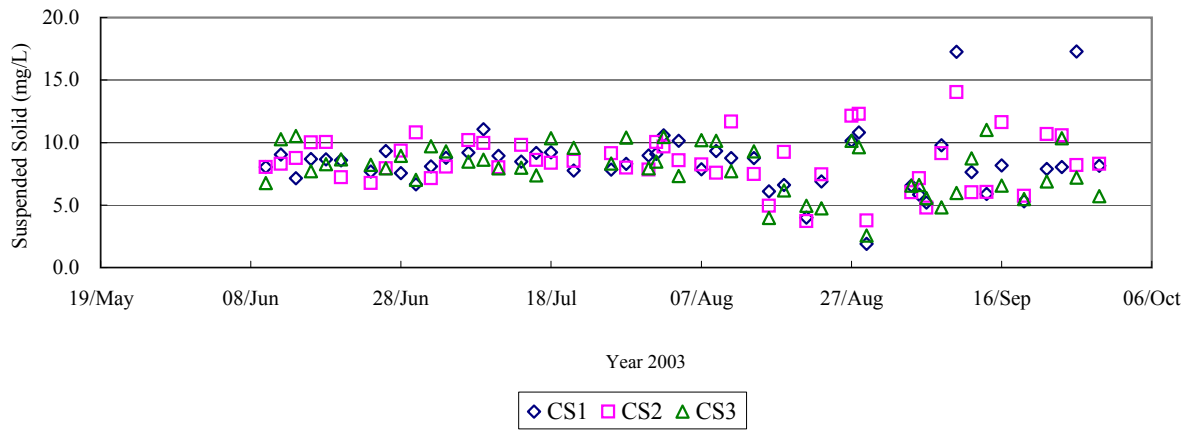
Dissolved Oxygen (Bottom) from CS1 to CS3 for Mid-Flood Tide



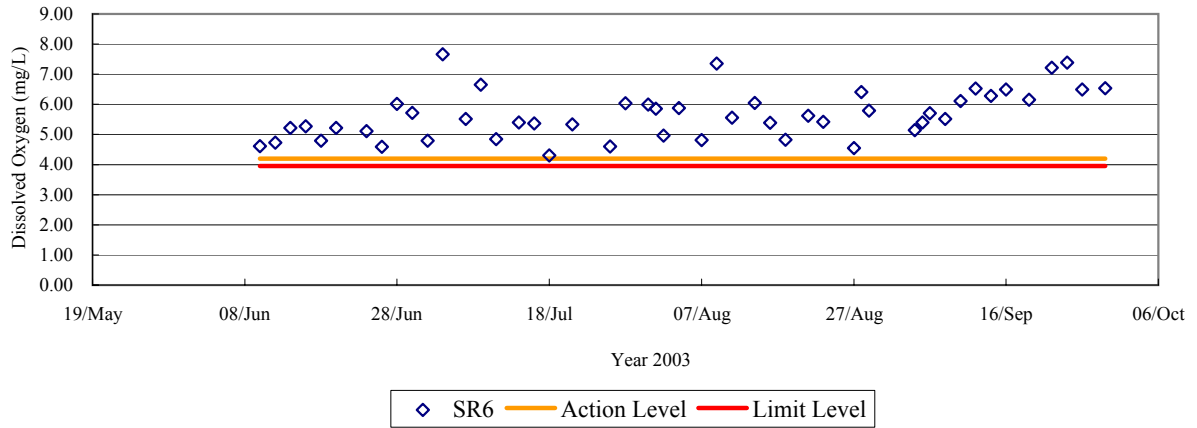
Turbidity (Depth Averaged) from CS1 to CS3 for Mid-Flood Tide



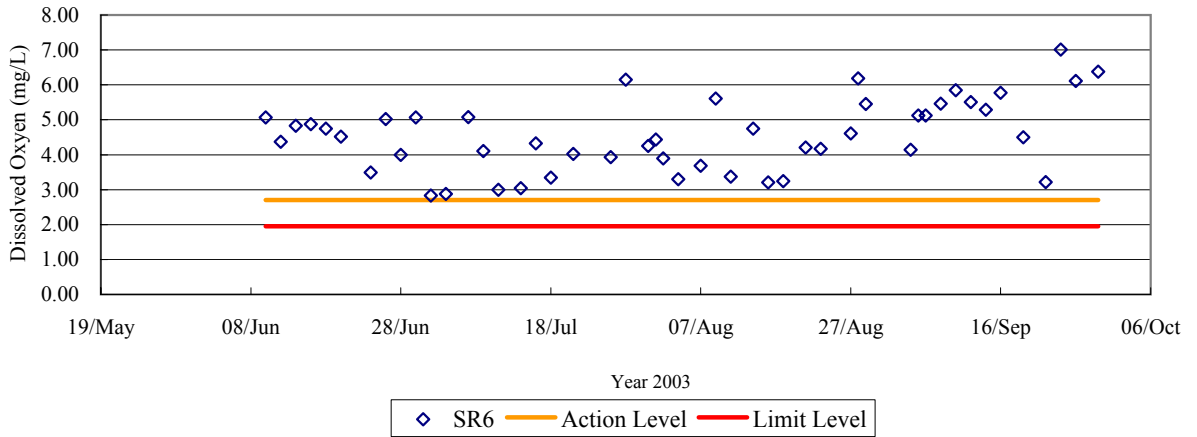
Suspended Solid (Depth Averaged) from CS1 to CS3 for Mid-Flood Tide



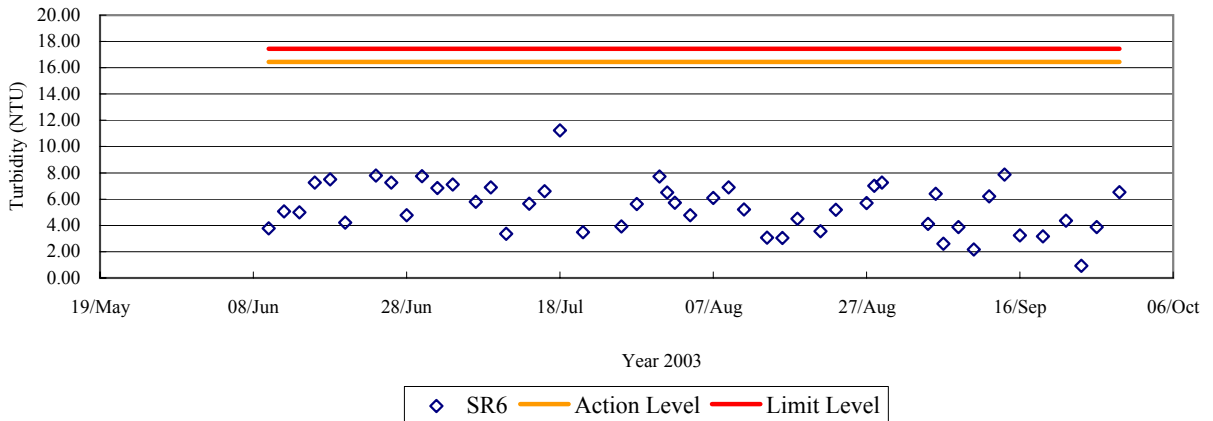
Dissolved Oxygen (Surface & Middle) at Location SR6 for Mid-Ebb Tide



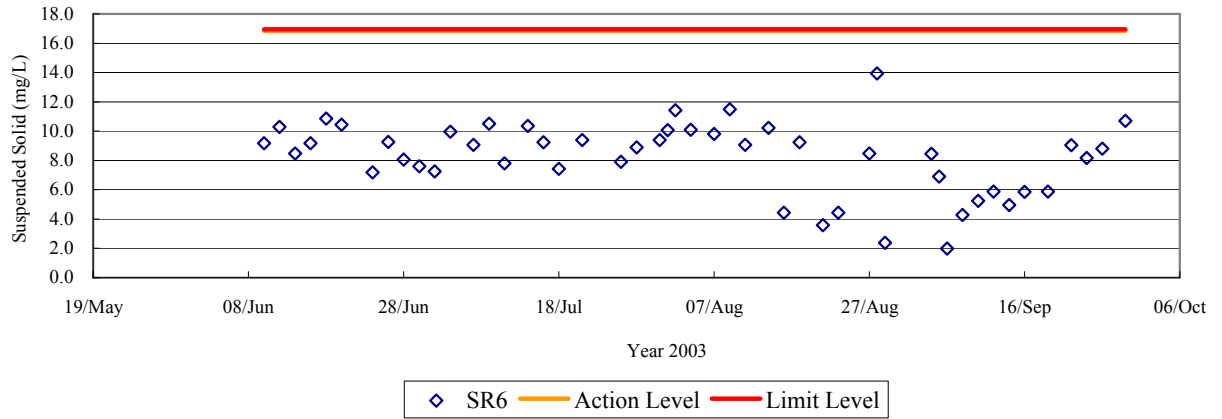
Dissolved Oxygen (Bottom) at Location SR6 for Mid-Ebb Tide



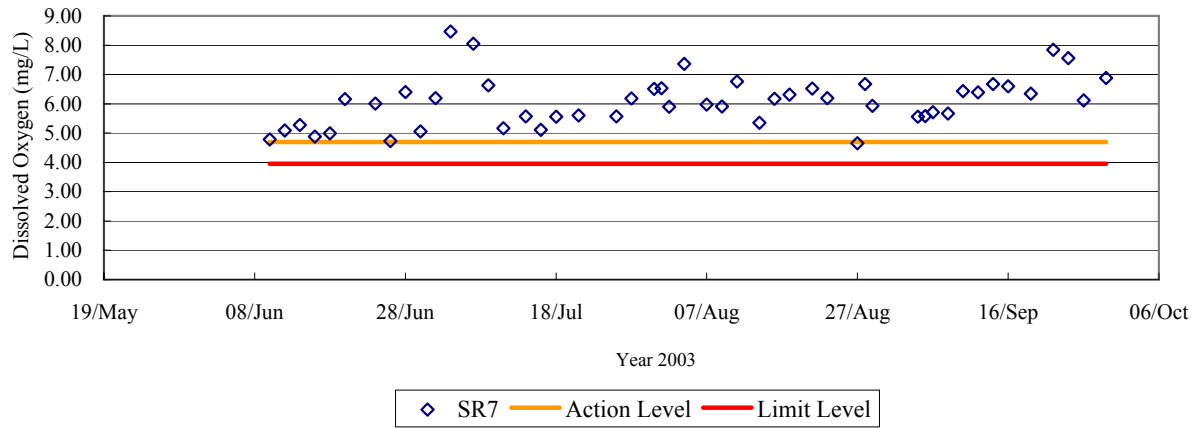
Turbidity (Depth Averaged) at Location SR6 for Mid-Ebb Tide



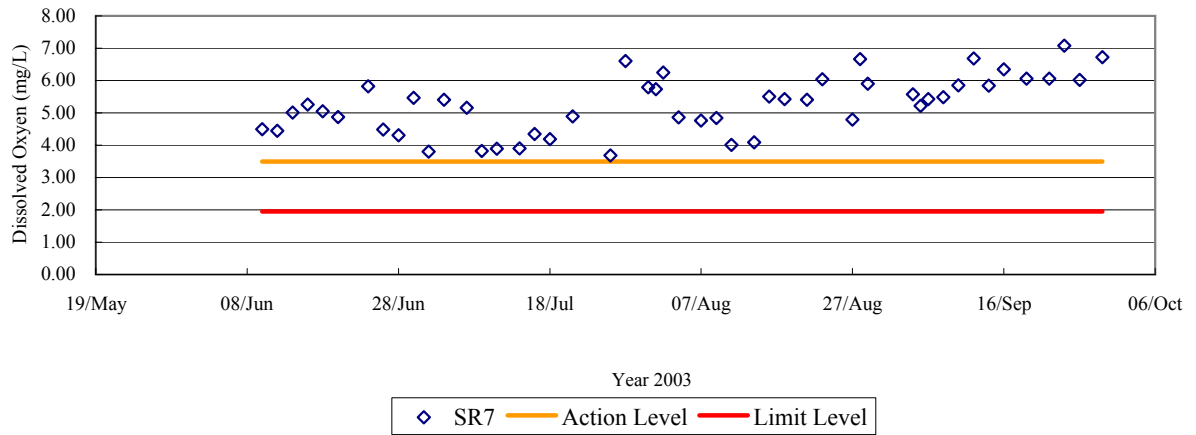
Suspended Solid (Depth Averaged) at Location SR6 for Mid-Ebb Tide



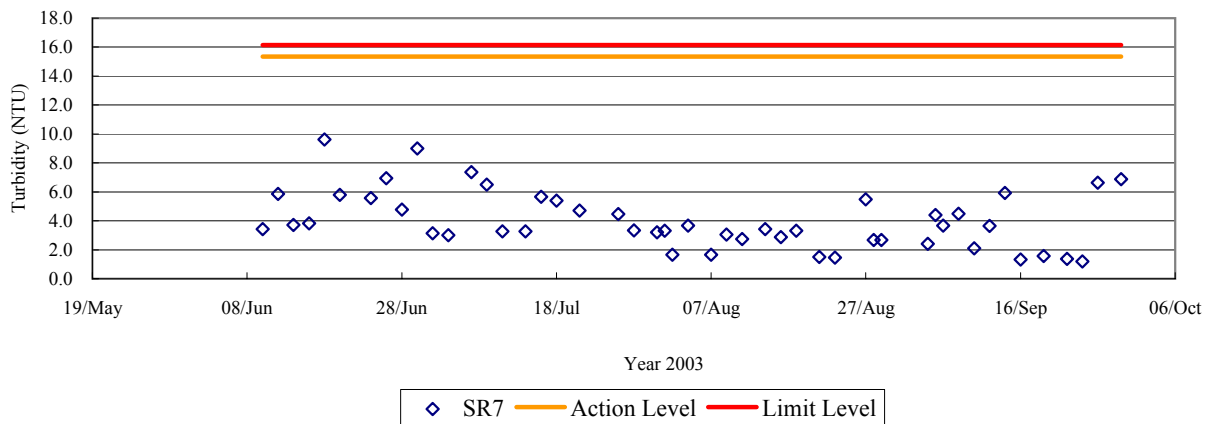
Dissolved Oxygen (Surface & Middle) at Location SR7 for Mid-Ebb Tide



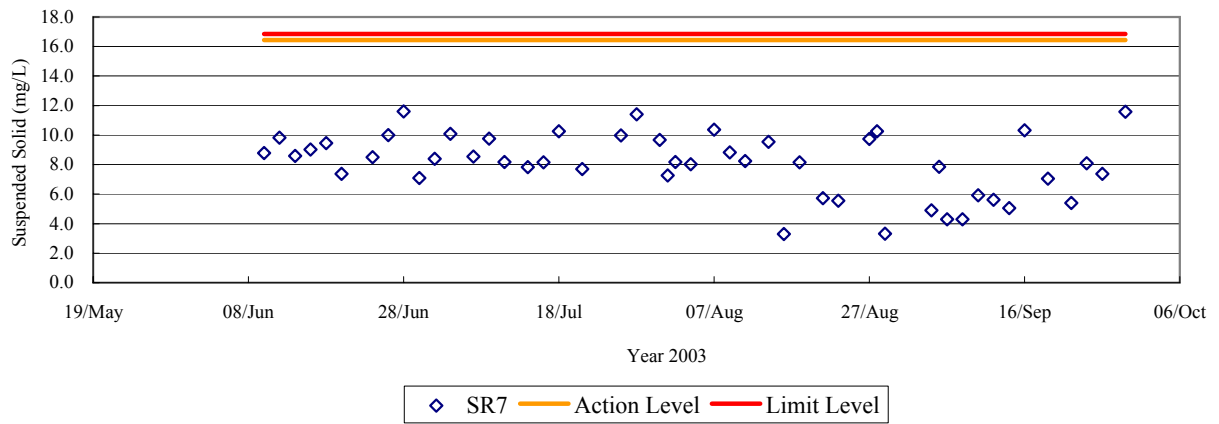
Dissolved Oxygen (Bottom) at Location SR7 for Mid-Ebb Tide



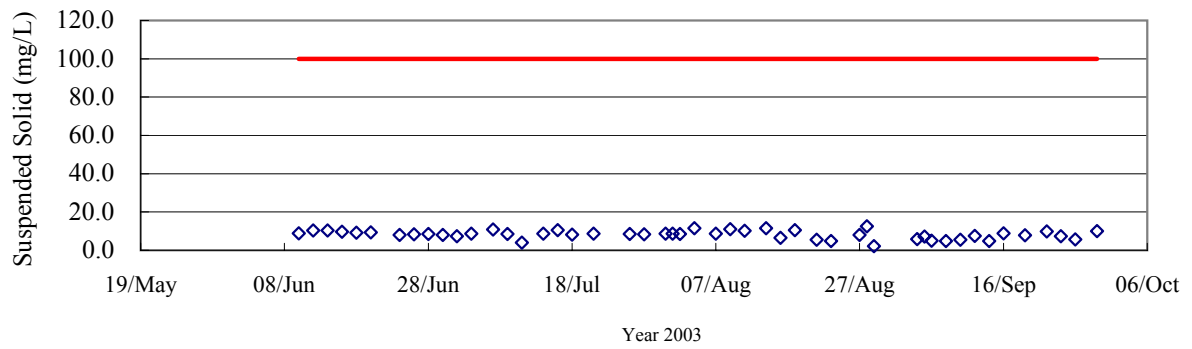
Turbidity (Depth Averaged) at Location SR7 for Mid-Ebb Tide



Suspended Solid (Depth Averaged) at Location SR7 for Mid-Ebb Tide

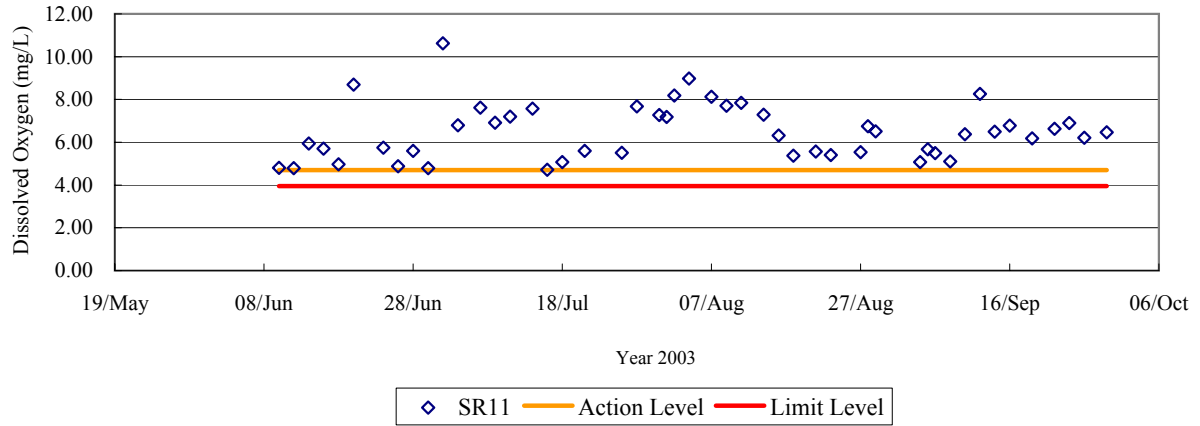


Suspended Solid (Depth Averaged) at Location SR10 for Mid-Ebb Tide

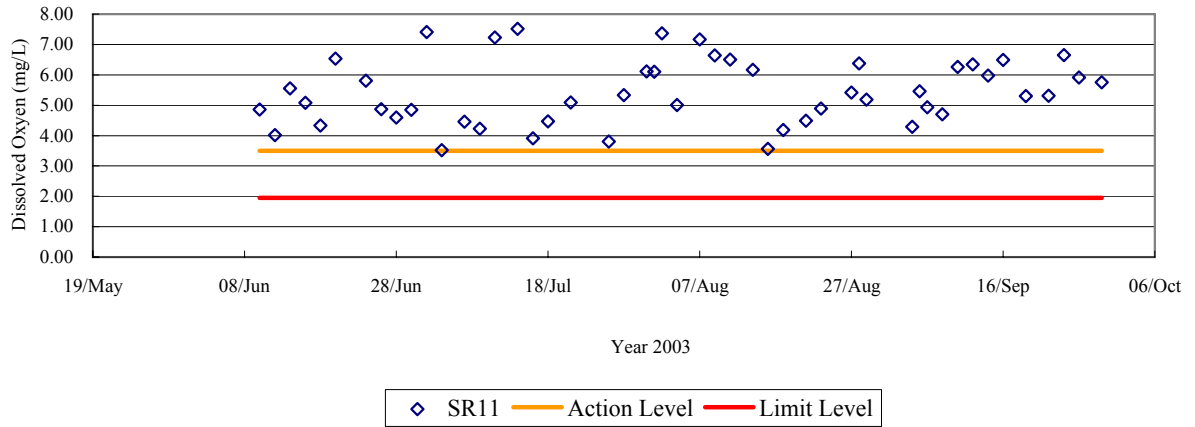


◆ SR10 — Limit Level

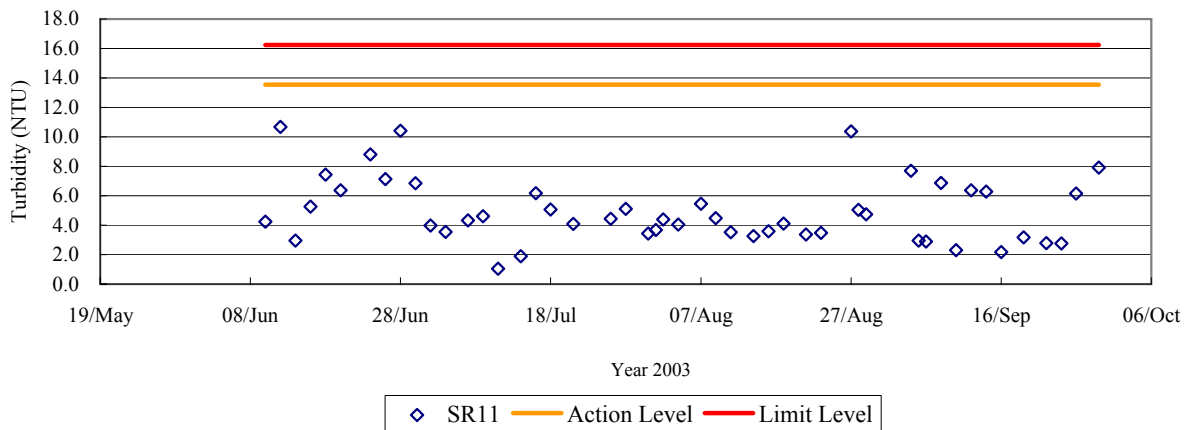
Dissolved Oxygen (Surface & Middle) at Location SR11 for Mid-Ebb Tide



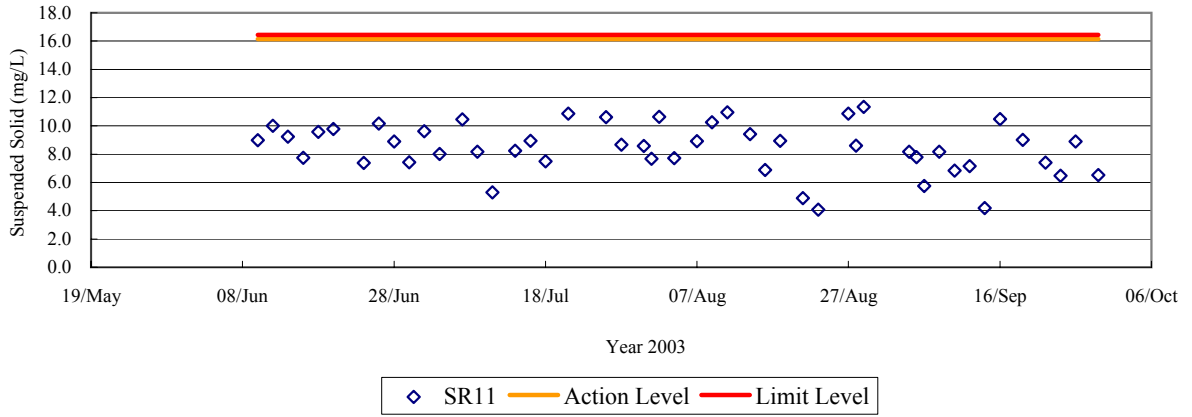
Dissolved Oxygen (Bottom) at Location SR11 for Mid-Ebb Tide



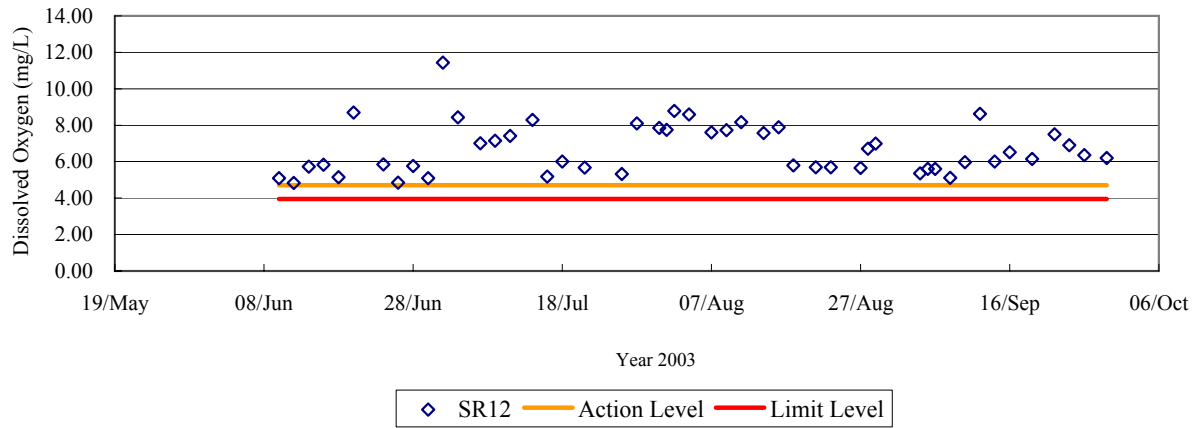
Turbidity (Depth Averaged) at Location SR11 for Mid-Ebb Tide



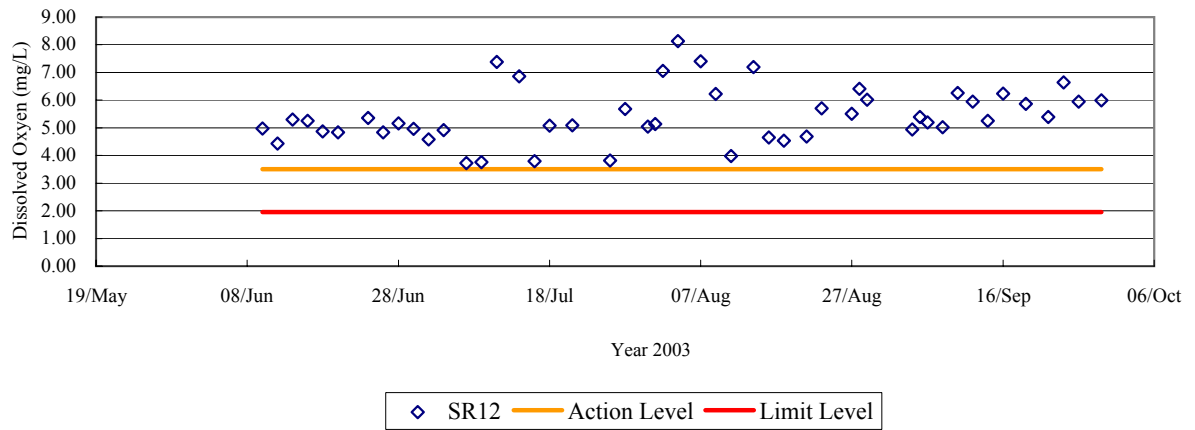
Suspended Solid (Depth Averaged) at Location SR11 for Mid-Ebb Tide



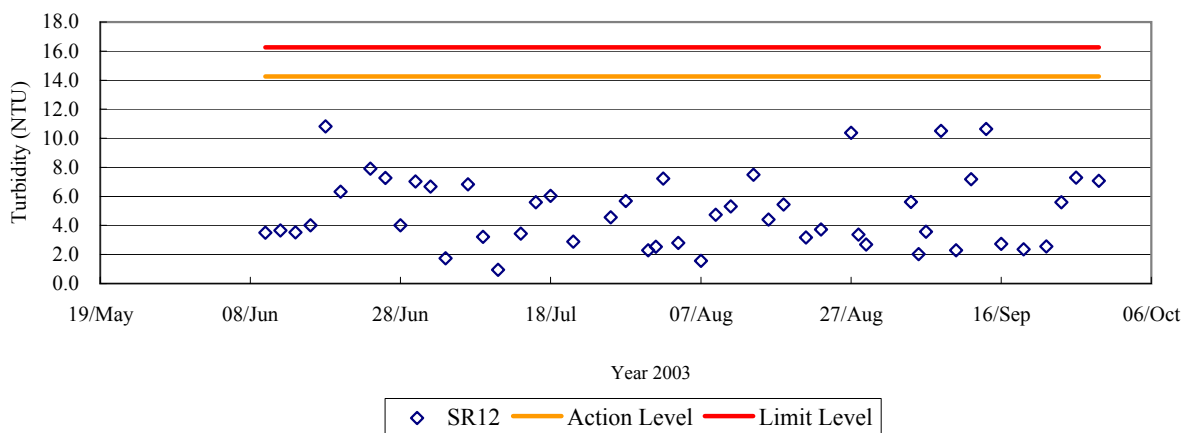
Dissolved Oxygen (Surface & Middle) at Location SR12 for Mid-Ebb Tide



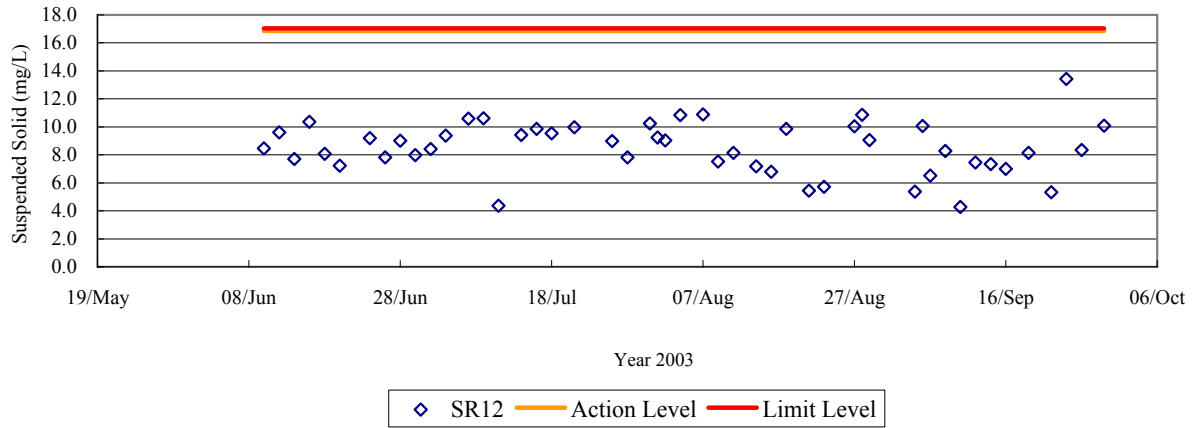
Dissolved Oxygen (Bottom) at Location SR12 for Mid-Ebb Tide



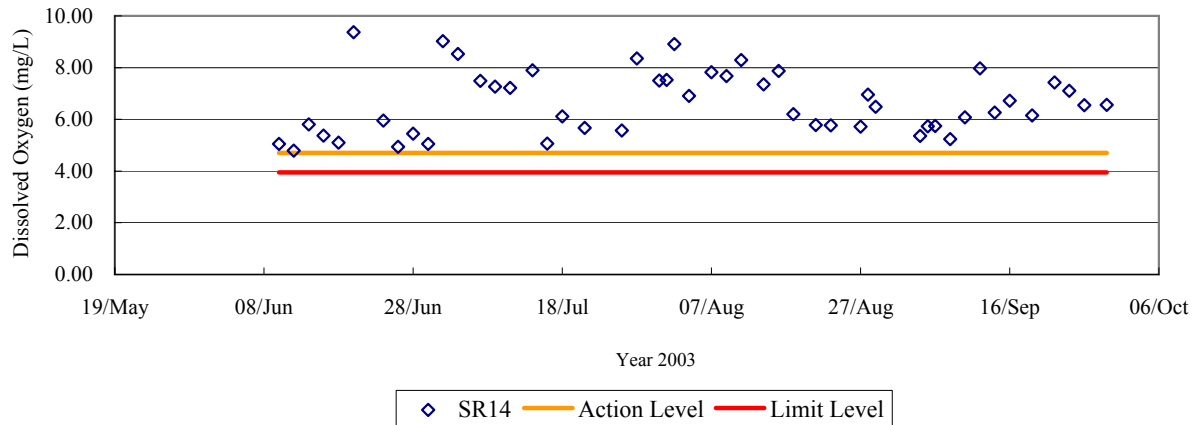
Turbidity (Depth Averaged) at Location SR12 for Mid-Ebb Tide



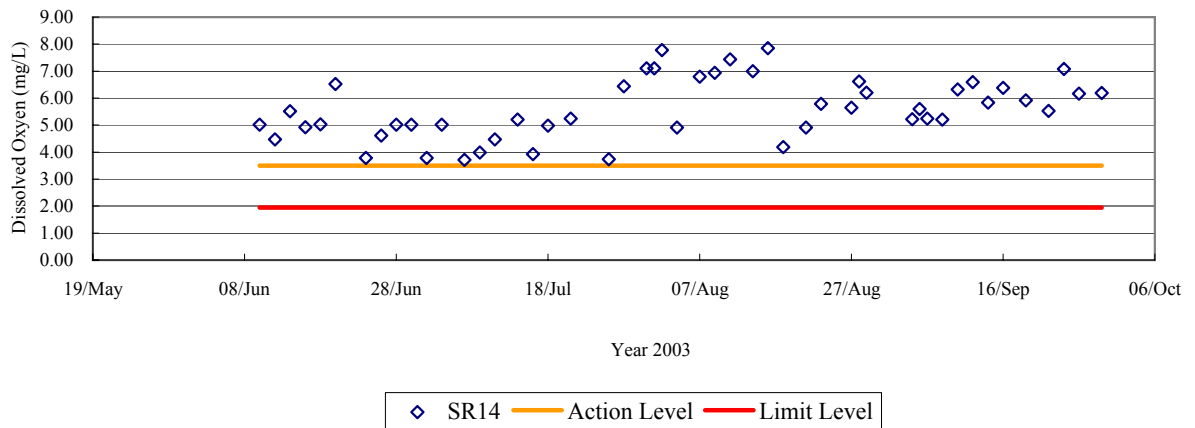
Suspended Solid (Depth Averaged) at Location SR12 for Mid-Ebb Tide



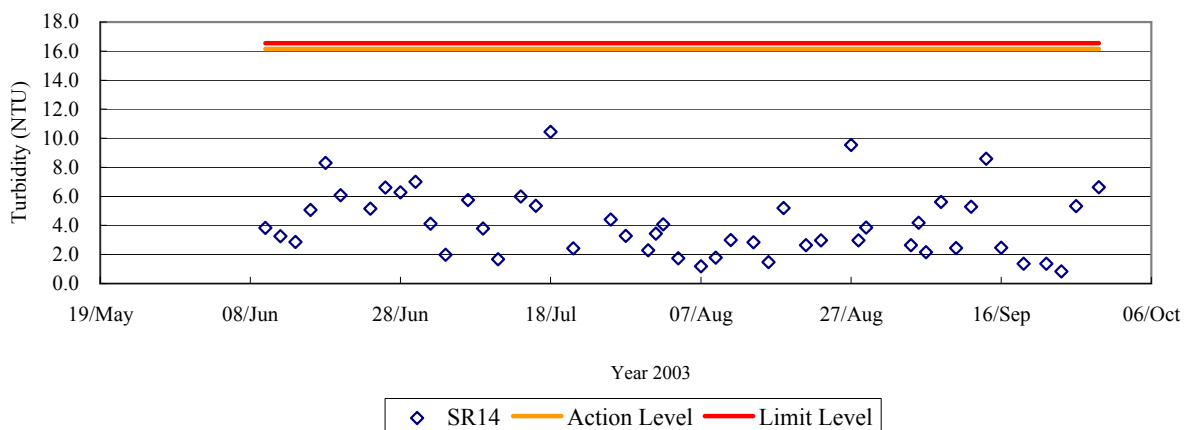
Dissolved Oxygen (Surface & Middle) at Location SR14 for Mid-Ebb Tide



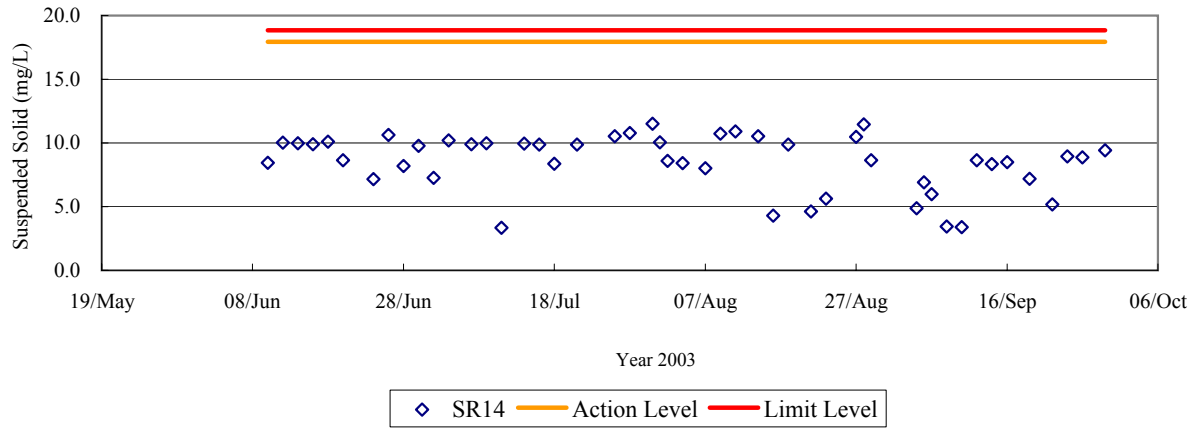
Dissolved Oxygen (Bottom) at Location SR14 for Mid-Ebb Tide



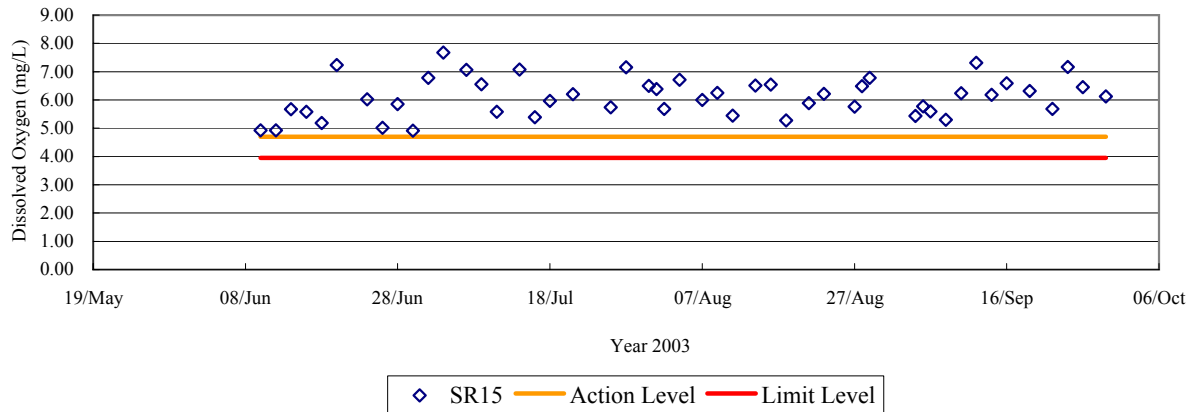
Turbidity (Depth Averaged) at Location SR14 for Mid-Ebb Tide



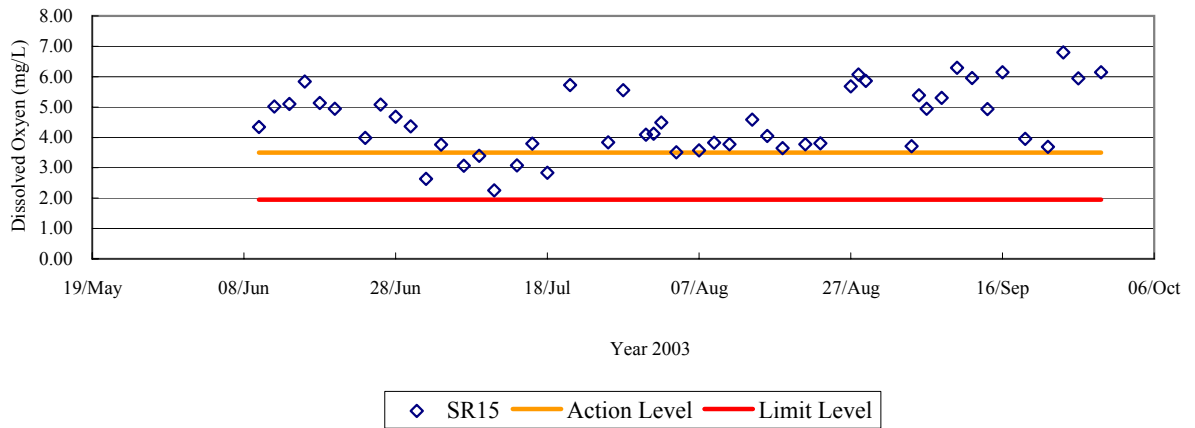
Suspended Solid (Depth Averaged) at Location SR14 for Mid-Ebb Tide



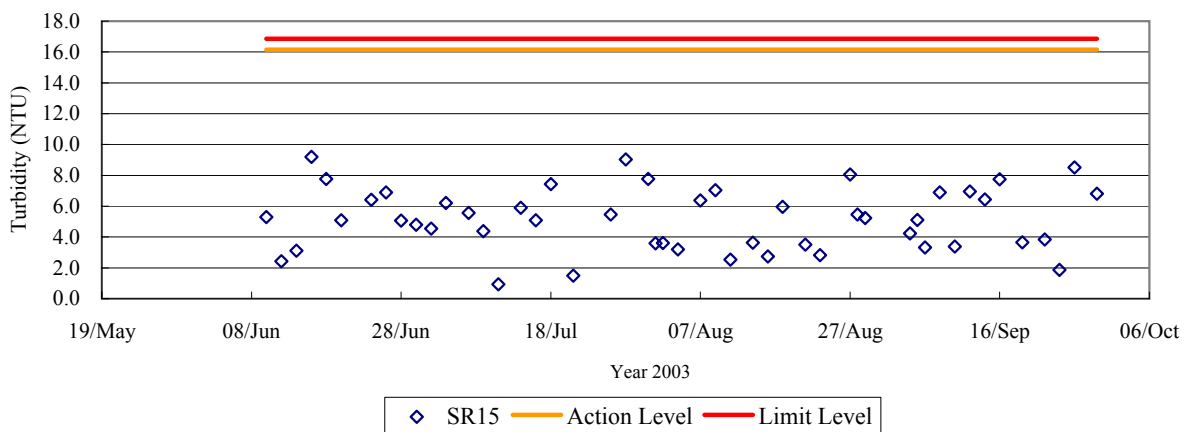
Dissolved Oxygen (Surface & Middle) at Location SR15 for Mid-Ebb Tide



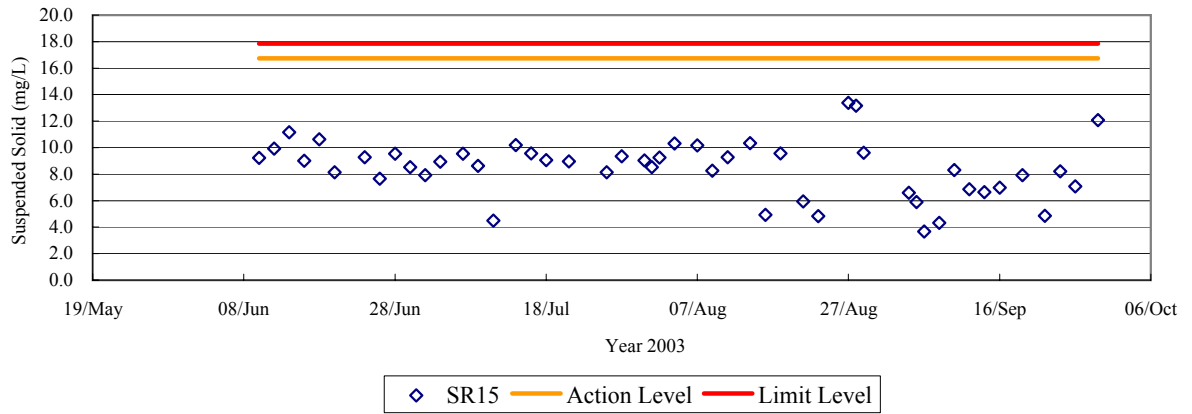
Dissolved Oxygen (Bottom) at Location SR15 for Mid-Ebb Tide



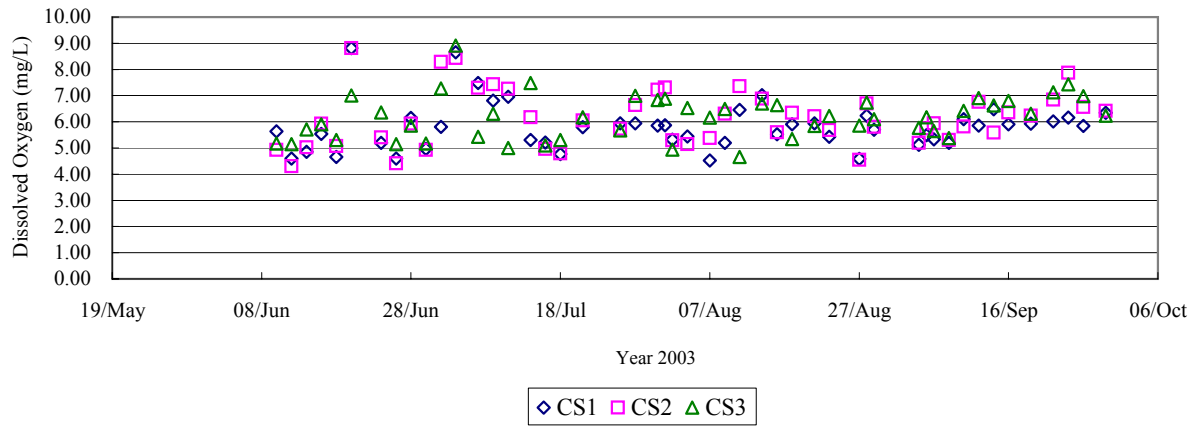
Turbidity (Depth Averaged) at Location SR15 for Mid-Ebb Tide



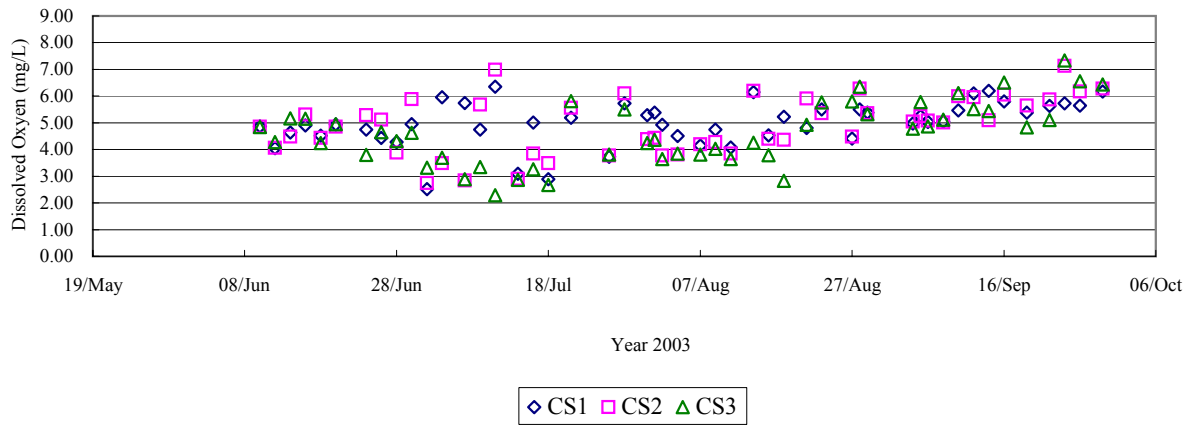
Suspended Solid (Depth Averaged) at Location SR15 for Mid-Ebb Tide



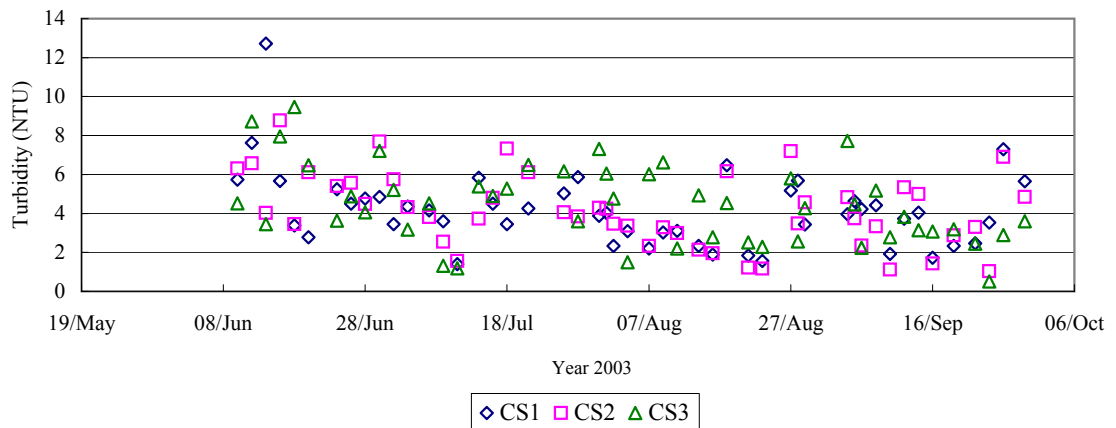
Dissolved Oxygen (Surface & Middle) from CS1 to CS3 for Mid-Ebb Tide



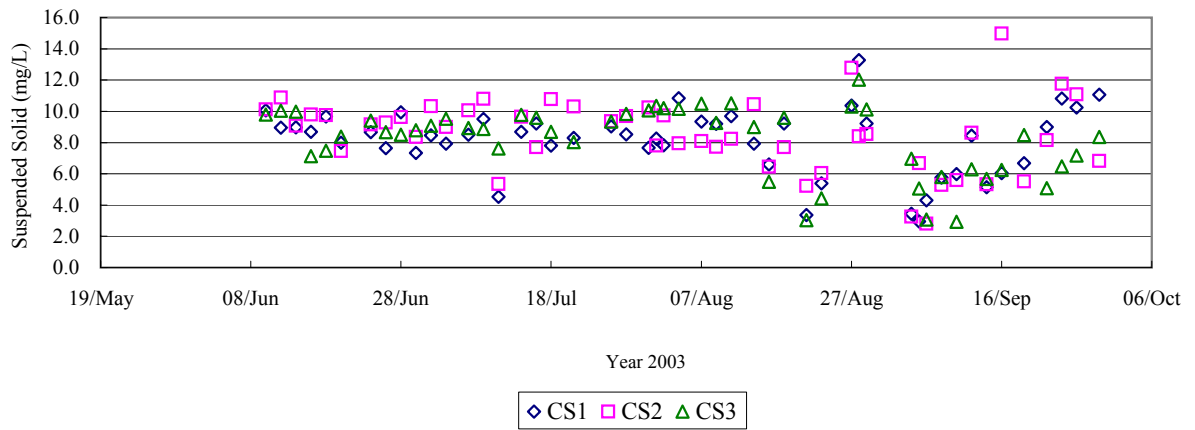
Dissolved Oxygen (Bottom) from CS1 to CS3 for Mid-Ebb Tide



Turbidity (Depth Averaged) from CS1 to CS3 for Mid-Ebb Tide



Suspended Solid (Depth Averaged) from CS1 to CS3 for Mid-Ebb Tide



Appendix F

Calibration Records and Laboratory QA/QC Results

Equipment Calibration Record

Equipment No.	YSI - 6P20 - 1	Equipment Description	YSI 6P20 monitor
Calibration method reference	YSI Calibration Manual	Calibration equipment used (if any)	—

	pH	DO	Turbidity
Use of reference material (if any)	pH 7.00 & pH 10.00 Buffer Check Std.	—	0 NTU & 100 NTU Formazin Turbidity Std
Permissible tolerance of calibration	± 0.12 pH	± 5%	± 5%

Calibration Result

Date	Standard	pH		DO	Turbidity		Calibrated by
		7.00	10.00	100%	0	100	
4/9/03	Before	7.01	9.99	100.8	-0.6	100.4	TM
	After	6.99	9.98	99.2	0.1	99.5	TM
5/9/03	Before	7.00	10.01	99.6	0.5	99.8	WMB
	After	7.02	10.03	99.9	-0.3	96.4	WMB
6/9/03	Before	7.01	10.00	100.4	-0.1	100.2	WMB
	After	6.98	9.97	98.4	0	101.7	WMB
8/9/03	Before	7.03	10.01	97.9	0.4	100.5	TM
	After	7.05	9.98	102.6	-0.2	99.3	TM
10/9/03	Before	6.99	10.02	99.9	0.5	100.2	WMB
	After	6.97	10.03	99.4	-0.3	102.4	WMB
12/9/03	Before	7.01	10.00	99.7	0.1	99.9	WMB
	After	6.98	9.97	98.8	0	97.6	WMB
14/9/03	Before	7.03	9.99	100.3	0.4	100.2	TM
	After	7.01	9.96	99.1	-0.7	98.7	TM
16/9/03	Before	7.04	10.03	97.9	0.2	100.5	WMB
	After	7.05	10.01	102.6	-0.1	99.1	WMB
19/9/03	Before	6.98	10.00	100.7	-0.4	100.0	WMB
	After	6.96	9.98	99.9	0.6	98.6	WMB
22/9/03	Before	7.00	10.02	99.2	0.2	99.9	TM
	After	6.99	9.99	98.5	-0.3	100.7	TM
24/9/03	Before	6.98	9.98	97.9	0	100.4	WMB
	After	6.97	9.95	98.2	-0.1	101.2	WMB
26/9/03	Before	6.98	10.00	98.6	0.4	100.1	WMB
	After	7.02	10.03	99.4	-0.3	102.5	WMB
29/9/03	Before	7.04	10.01	100.1	0.2	99.9	TM
	After	6.98	9.97	99.5	0.6	98.3	TM
	Before						
	After						

Approved by:

Date: 3/10/2003

SUMMARY OF QUALITY CONTROL DATA – QC SAMPLES RESULTS

Parameter	Control Limit	QC ID	Measured Value	QC ID	Measured Value	QC ID	Measured Value	QC ID	Measured Value	QC ID	Measured Value	QC ID	Measured Value	QC ID	Measured Value
Suspended Solids mg/L	89 – 103%	P0309A14	93%	P0309A28	94%	P0309A41	94%	P0309A56	92%	P0309A70	95%	P0309A83	95%	P0309B14	99%
		P0309B28	94%	P0309B41	98%	P0309B56	98%	P0309B70	97%	P0309B83	97%	P0309C14	91%	P0309C28	94%
		P0309C41	97%	P0309C56	97%	P0309C70	90%	P0309C83	91%	P0309D14	98%	P0309D28	97%	P0309D41	91%
		P0309D56	90%	P0309D70	93%	P0309D83	98%	P0309E14	95%	P0309E28	94%	P0309E41	95%	P0309E56	98%
		P0309E70	95%	P0309E83	96%	P0309F14	99%	P0309F28	102%	P0309F41	98%	P0309F56	98%	P0309F70	96%
		P0309F83	95%	P0309G14	96%	P0309G28	97%	P0309G41	95%	P0309G56	95%	P0309G70	95%	P0309G83	97%
		P0309H14	92%	P0309H28	91%	P0309H41	90%	P0309H56	92%	P0309H70	90%	P0309H83	89%	P0309I14	90%
		P0309I28	90%	P0309I41	89%	P0309I56	92%	P0309I70	90%	P0309I83	89%	P0309J14	91%	P0309J28	96%
		P0309J41	93%	P0309J56	89%	P0309J70	91%	P0309J83	89%	P0309K14	89%	P0309K28	93%	P0309K41	89%
		P0309K56	91%	P0309K70	91%	P0309K83	89%	P0309L14	92%	P0309L28	93%	P0309L41	90%	P0309L56	95%
		P0309L70	90%	P0309L83	89%	P0309M14	92%	P0309M28	91%	P0309M41	91%	P0309M56	95%	P0309M70	90%
		P0309M83	89%												

Total:78

SUMMARY OF QUALITY CONTROL DATA – BLANK RESULTS

Parameter	Control Limit	Blank ID	Measured Value	Blank ID	Measured Value	Blank ID	Measured Value	Blank ID	Measured Value	Blank ID	Measured Value	Blank ID	Measured Value	Blank ID	Measured Value
Suspended Solids mg/L	<1	P0309A15	<1	P0309A29	<1	P0309A42	<1	P0309A57	<1	P0309A71	<1	P0309A84	<1	P0309B15	<1
		P0309B29	<1	P0309B42	<1	P0309B57	<1	P0309B71	<1	P0309B84	<1	P0309C15	<1	P0309C29	<1
		P0309C42	<1	P0309C57	<1	P0309C71	<1	P0309C84	<1	P0309D15	<1	P0309D29	<1	P0309D42	<1
		P0309D57	<1	P0309D71	<1	P0309D84	<1	P0309E15	<1	P0309E29	<1	P0309E42	<1	P0309E57	<1
		P0309E71	<1	P0309E84	<1	P0309F15	<1	P0309F29	<1	P0309F42	<1	P0309F57	<1	P0309F71	<1
		P0309F84	<1	P0309G15	<1	P0309G29	<1	P0309G42	<1	P0309G57	<1	P0309G71	<1	P0309G84	<1
		P0309H15	<1	P0309H29	<1	P0309H42	<1	P0309H57	<1	P0309H71	<1	P0309H84	<1	P0309I15	<1
		P0309I29	<1	P0309I42	<1	P0309I57	<1	P0309I71	<1	P0309I84	<1	P0309J15	<1	P0309J29	<1
		P0309J42	<1	P0309J57	<1	P0309J71	<1	P0309J84	<1	P0309K15	<1	P0309K29	<1	P0309K42	<1
		P0309K57	<1	P0309K71	<1	P0309K84	<1	P0309L15	<1	P0309L29	<1	P0309L42	<1	P0309L57	<1
		P0309L71	<1	P0309L84	<1	P0309M15	<1	P0309M29	<1	P0309M42	<1	P0309M57	<1	P0309M71	<1
		P0309M84	<1												

Total:78

SUMMARY OF QUALITY CONTROL DATA – DUPLICATE RESULTS

Parameter	Control Limit	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value
Suspended Solids mg/L	Exceed 20%	P0309A13	11.2	P0309A27	8.6	P0309A40	9.0	P0309A55	6.2	P0309A69	5.0	P0309A82	10.5	P0309B13	4.7
			10.7		9.1		9.8		6.2		5.0		10.5		5.2
		P0309B27	12.7	P0309B40	9.4	P0309B55	6.8	P0309B69	11.0	P0309B82	10.0	P0309C13	1.8	P0309C27	2.8
			13.5		10.2		7.5		11.5		11.5		1.6		2.4
		P0309C40	4.8	P0309C55	4.8	P0309C69	8.1	P0309C82	7.4	P0309D13	5.4	P0309D27	14.8	P0309D40	5.4
			4.4		4.6		8.4		7.7		5.8		13.9		6.0
		P0309D55	9.4	P0309D69	8.6	P0309D82	11.3	P0309E13	5.9	P0309E27	15.6	P0309E40	4.5	P0309E55	6.9
			10.1		7.4		10.5		5.2		14.3		5.1		6.2
		P0309E69	5.7	P0309E82	7.1	P0309F13	11.5	P0309F27	3.2	P0309F40	6.5	P0309F55	7.2	P0309F69	8.8
			4.9		7.3		11.2		3.4		6.3		7.4		7.9
		P0309F82	9.4	P0309G13	7.2	P0309G27	7.6	P0309G40	18.6	P0309G55	5.0	P0309G69	6.4	P0309G82	5.5
			9.6		6.7		7.9		18.9		5.1		6.8		4.9
		P0309H13	6.5	P0309H27	4.2	P0309H40	2.7	P0309H55	5.6	P0309H69	11.6	P0309H82	5.9	P0309I13	5.9
			7.8		4.2		2.5		5.7		12.7		5.3		6.0
		P0309I27	14.9	P0309I40	10.0	P0309I55	4.0	P0309I69	2.4	P0309I82	4.5	P0309J13	7.6	P0309J27	8.3
			14.0		12.0		4.0		2.0		5.0		7.0		9.0
		P0309J40	2.1	P0309J55	7.8	P0309J69	5.4	P0309J82	6.9	P0309K13	9.0	P0309K27	6.7	P0309K40	9.1
			2.0		7.0		5.0		8.0		10.0		6.0		9.0
		P0309K55	8.4	P0309K69	5.5	P0309K82	8.5	P0309L13	7.9	P0309L27	7.0	P0309L40	6.2	P0309L55	8.4
			9.0		6.0		9.0		8.0		7.0		7.0		7.0
P0309L69	8.1	P0309L82	16.9	P0309M13	8.3	P0309M27	6.8	P0309M40	13.4	P0309M55	11.0	P0309M69	7.0		
	8.0		16.0		9.0		6.0		15.0		11.5		8.5		
P0309M82	15.3														
	18.0														

Total:78

SUMMARY OF QUALITY CONTROL DATA – BLIND DUPLICATE RESULTS

Parameter	Control Limit	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value
Suspended Solids mg/L	Exceed 20%	P0309A05	3.7	P0309A11	4.5	P0309A20	11.4	P0309A25	7.3	P0309A33	6.0	P0309A38	4.0	P0309A47	7.3	P0309A53	9.5	P0309A62	12.5	P0309A67	12.6	P0309A75	2.0	P0309A80	6.2
			3.3		4.5		11.8		7.3		6.0		4.2		7.5		9.3		12.1		12.3		2.3		6.6
		P0309B05	4.6	P0309B11	6.3	P0309B20	2.6	P0309B25	7.7	P0309B33	2.7	P0309B38	5.6	P0309B47	9.2	P0309B53	4.9	P0309B62	6.1	P0309B67	9.0	P0309B75	3.0	P0309B80	8.3
			5.1		7.0		2.7		8.6		2.9		6.1		8.9		5.3		6.2		10.1		3.5		9.3
		P0309C05	3.0	P0309C11	2.5	P0309C20	5.1	P0309C25	10.6	P0309C33	9.2	P0309C38	4.9	P0309C47	4.8	P0309C53	3.9	P0309C62	5.6	P0309C67	4.6	P0309C75	5.2	P0309C80	4.0
			2.7		2.9		5.7		10.2		8.5		5.5		5.5		3.8		5.7		5.5		5.2		3.6
		P0309D05	6.6	P0309D11	3.9	P0309D20	3.8	P0309D25	3.7	P0309D33	4.2	P0309D38	2.4	P0309D47	8.7	P0309D53	7.5	P0309D62	6.1	P0309D67	5.8	P0309D75	7.6	P0309D80	8.6
			7.0		4.0		4.5		3.1		3.6		2.1		8.5		7.6		5.2		5.0		8.7		8.7
		P0309E05	3.1	P0309E11	5.0	P0309E20	4.8	P0309E25	4.1	P0309E33	2.0	P0309E38	9.7	P0309E47	12.8	P0309E53	6.0	P0309E62	9.0	P0309E67	6.7	P0309E75	7.4	P0309E80	5.6
			3.3		4.8		4.1		3.5		2.1		9.0		12.3		6.5		8.6		6.9		7.2		5.9
		P0309F05	6.4	P0309F11	6.7	P0309F20	3.6	P0309F25	8.9	P0309F33	10.0	P0309F38	4.1	P0309F47	7.4	P0309F53	3.9	P0309F62	7.7	P0309F67	6.1	P0309F75	7.6	P0309F80	4.9
			6.7		6.9		3.7		9.0		10.1		4.1		7.2		4.1		8.0		6.2		7.5		5.1
		P0309G05	7.7	P0309G11	5.8	P0309G20	6.5	P0309G25	9.2	P0309G33	1.7	P0309G38	14.2	P0309G47	6.6	P0309G53	5.1	P0309G62	4.7	P0309G67	2.2	P0309G75	7.7	P0309G80	8.0
			6.8		6.1		6.8		8.7		1.8		15.8		6.8		4.8		4.8		2.3		7.5		8.5
		P0309H05	14.1	P0309H11	7.1	P0309H20	4.4	P0309H25	7.0	P0309H33	2.6	P0309H38	11.7	P0309H47	11.3	P0309H53	6.0	P0309H62	9.4	P0309H67	8.4	P0309H75	5.2	P0309H80	7.1
			13.9		7.4		4.8		7.4		3.1		11.1		11.5		6.9		9.2		8.2		5.9		7.7
		P0309I05	4.2	P0309I11	5.7	P0309I20	5.9	P0309I25	5.0	P0309I33	6.7	P0309I38	6.7	P0309I47	4.7	P0309I53	2.9	P0309I62	5.6	P0309I67	1.0	P0309I75	12.0	P0309I80	4.8
			4.0		6.0		6.0		5.0		7.0		7.0		4.0		3.0		6.0		1.0		11.0		4.0
		P0309J05	6.8	P0309J11	5.1	P0309J20	9.6	P0309J25	7.0	P0309J33	4.6	P0309J38	4.0	P0309J47	5.2	P0309J53	8.2	P0309J62	5.7	P0309J67	2.7	P0309J75	5.9	P0309J80	3.1
			6.0		6.0		11.0		6.0		5.0		4.0		5.0		8.0		5.0		3.0		5.0		3.0
		P0309K05	8.7	P0309K11	7.5	P0309K20	8.4	P0309K25	5.3	P0309K33	7.3	P0309K38	8.0	P0309K47	10.4	P0309K53	7.9	P0309K62	15.2	P0309K67	4.5	P0309K75	6.8	P0309K80	6.3
			9.0		7.0		9.0		5.0		6.0		9.0		10.0		7.0		13.0		5.0		6.0		6.0
		P0309L05	10.2	P0309L11	6.9	P0309L20	4.8	P0309L25	11.5	P0309L33	13.2	P0309L38	7.4	P0309L47	11.4	P0309L53	8.9	P0309L62	5.7	P0309L67	7.0	P0309L75	6.7	P0309L80	9.4
			11.0		7.0		4.0		12.0		14.0		6.0		13.0		9.0		5.0		8.0		7.0		11.0
		P0309M05	8.2	P0309M11	11.4	P0309M20	6.4	P0309M25	8.4	P0309M33	12.4	P0309M38	13.5	P0309M47	8.0	P0309M53	13.0	P0309M62	11.8	P0309M67	4.7	P0309M75	8.0	P0309M80	9.7
			9.0		10.0		7.0		9.0		11.2		16.0		7.6		13.5		14.0		4.0		8.5		9.0

Total:156

Appendix G Event/Action Plans

Exceedance	ET Leader	IEC	Engineer	Contractor
Action level exceeded on one sampling day	Verbally inform the Contractor, and IEC. Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, Engineer and Contractor; Repeat measurement on next day of exceedance.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose and discuss mitigation measures with Engineer; Implement the agreed mitigation measures.
Action level exceeded on more than one consecutive sampling day	Repeat in-situ measurements to confirm findings; Identify source(s) of impact; Inform Contractor and IEC; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measure with IEC, Engineer and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; Repeat measurement on next day of exceedance.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with ET and Contractor on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer within 3 working days and discuss with ET and Engineer; Implement the agreed mitigation measures.

Exceedance	ET Leader	IEC	Engineer	Contractor
Limit level exceeded on one sampling day	Verbally inform the Contractor, IEC and the EPD of the exceedance; Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measure with IEC, Engineer and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer within 3 working days and discuss with Engineer; Implement the agreed mitigation measures.
Limit level exceeded by more than one consecutive sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform Contractor, IEC and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measure with IEC, Engineer and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures; Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine works until no exceedance of the Limit Level.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer within 3 working days and discuss with Engineer; Implement the agreed mitigation measures.. As directed by the Engineer, to slow down or to stop all or part of the marine work

Appendix H

Site Audit Summary

The Hongkong Electric Co. Ltd.
Lamma Power Station Navigation Channel Improvement Project
Weekly Site Inspection Checklist

Inspection date Time Inspected By
 Site Contractor:

Weather

Condition Sunny Fine Overcast Hazy Drizzle Rain Storm
 Temperature °C Humidity High Moderate Low
 Wind Calm Light Breeze Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP 1.3	Is a copy of Environmental Permit together with all documents referred to in the permit kept in Engineers' and Contractors' offices for inspection at all sites/offices covered in the permit?		✓			
EP 1.5	Is a copy of the most up-to-date Environmental Permit displayed at on the construction site at a convenient location for public information?		✓			

WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
EM&A: 5.4	Does the contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		✓			
EM&A: 5.4	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?		✓			
EM&A: 3.2.5	Are wastes disposed of at designated marine dumping sites approved by the Marine Fill Committee of the Civil Engineering Department?		✓			

WATER QUALITY & MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP: 3.2 EM&A: A1	Is dredging work prohibited at Working Zone BCs from February to April to protect Finless Porpoise during calving seasons?		✓			

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP: 3.3 EM&A: A2	Do marine vessels avoid the Finless Porpoise habitat area when moving from and to disposal sites?		/			
EM&A: A2	Is marine vessel speed subject to a maximum limit of 10 knots in southern Lamma waters?		/			
EP: 3.4 EM&A: A4	Are grab dredger option and TSHD option prohibited to operate concurrently?		/			
EP: 3.5 EM&A: C1	Is dredging work carried out in phases in accordance with the latest dredging schedule?		/			
EP:3.5 EM&A: C2	Does each of the deployed grab dredgers have a grab capacity of no less than 8m ³ ?		/			
EP:3.5 EM&A: C3	Are cage-type silt curtains deployed for grab dredgers?		/			
EP:3.5 EM&A: C3	Are the silt curtains maintained properly throughout the dredging operation?		/			
EP: 3.5 EM&A: C4	Is it prohibited to operate more than 5 grab dredgers concurrently at anytime?		/			
EM&A: D1	Is daily dredging volume spread as evenly as possible over the 24 hour period whenever practical?		/			
EM&A: D1	Is special care taken during lowering and lifting grabs to minimize unnecessary disturbance to the seabed?		/			
EM&A: D1	Do vessels have adequate clearance to the seabed?		/			
EM&A: D1	Are barges fitted with tight fitting seals to their bottom openings to prevent leakage of material during loading and transportation?		/			
EM&A: D1	Are grabs closed tightly to minimize loss of sediment during dredging		/			
EM&A: D1	Is the descent speed of hoist controlled suitably low?		/			
EM&A: D1	Are barges filled to a level, which ensures that materials do not spill over during loading and transportation?		/			
EM&A: D1	Are large objects removed from the grab to avoid losses from partially closed grabs?	✓				
EM&A: D2	Have the vessel operators been fully briefed on the following: a) Possible presence of dolphins and porpoises in the vicinity of the Study Area and along routes to the Project Area; b) Rules for safe vessel operation around cetaceans; c) Slowing to 10 knots in the presence of cetaceans within the area marked on Figure B3 (Annex B of EM&A Manual); and d) The dumping of chemicals, rubbish, oils etc into the waters is strictly prohibited and enforced.		/			

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
NCO	Are valid construction noise permits, if required, available for inspection?		/			
EM&A: A3	Is the number of dredgers and operation conditions strictly followed as specified in the CNP.		/			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		/			

Abbreviation

EP: Environmental Permit (Environmental Permit No. EP-165/2003)
 EM&A: EM&A Manual (Construction Phase)
 NCO: Noise Control Ordinance
 Unk: Unknown


Remark


Nil

Signatures

ET Member

Contractor's Representative


 (Name in Block Letters:
 Tony Wong)


 (Name in Block Letters:
 CHEUNG KWONG KUEN)

The Hongkong Electric Co. Ltd.
Lamma Power Station Navigation Channel Improvement Project
Weekly Site Inspection Checklist

Inspection date Time Inspected By

ET: <i>Long Wong</i>
Contractor: <i>K.H. Cheung</i>

 Site

Weather

Condition Sunny Fine Overcast Hazy Drizzle Rain Storm
 Temperature °C Humidity High Moderate Low
 Wind Calm Light Breeze Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP 1.3	Is a copy of Environmental Permit together with all documents referred to in the permit kept in Engineers' and Contractors' offices for inspection at all sites/offices covered in the permit?		/			
EP 1.5	Is a copy of the most up-to-date Environmental Permit displayed at on the construction site at a convenient location for public information?		/			

WASTE MANAGEMENT

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
EM&A: 5.4	Does the contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		/			
EM&A: 5.4	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?		/			
EM&A: 3.2.5	Are wastes disposed of at designated marine dumping sites approved by the Marine Fill Committee of the Civil Engineering Department?		/			

WATER QUALITY & MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP: 3.2 EM&A: A1	Is dredging work prohibited at Working Zone BCs from February to April to protect Finless Porpoise during calving seasons?		/			

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP: 3.3 EM&A: A2	Do marine vessels avoid the Finless Porpoise habitat area when moving from and to disposal sites?		/			
EM&A: A2	Is marine vessel speed subject to a maximum limit of 10 knots in southern Lamma waters?		/			
EP: 3.4 EM&A: A4	Are grab dredger option and TSHD option prohibited to operate concurrently?		/			
EP: 3.5 EM&A: C1	Is dredging work carried out in phases in accordance with the latest dredging schedule?		/			
EP:3.5 EM&A: C2	Does each of the deployed grab dredgers have a grab capacity of no less than 8m ³ ?		/			
EP:3.5 EM&A: C3	Are cage-type silt curtains deployed for grab dredgers?		/			
EP:3.5 EM&A: C3	Are the silt curtains maintained properly throughout the dredging operation?		/			
EP: 3.5 EM&A: C4	Is it prohibited to operate more than 5 grab dredgers concurrently at anytime?		/			
EM&A: D1	Is daily dredging volume spread as evenly as possible over the 24 hour period whenever practical?		/			
EM&A: D1	Is special care taken during lowering and lifting grabs to minimize unnecessary disturbance to the seabed?		/			
EM&A: D1	Do vessels have adequate clearance to the seabed?		/			
EM&A: D1	Are barges fitted with tight fitting seals to their bottom openings to prevent leakage of material during loading and transportation?		/			
EM&A: D1	Are grabs closed tightly to minimize loss of sediment during dredging		/			
EM&A: D1	Is the descent speed of hoist controlled suitably low?		/			
EM&A: D1	Are barges filled to a level, which ensures that materials do not spill over during loading and transportation?		/			
EM&A: D1	Are large objects removed from the grab to avoid losses from partially closed grabs?	/				
EM&A: D2	Have the vessel operators been fully briefed on the following: a) Possible presence of dolphins and porpoises in the vicinity of the Study Area and along routes to the Project Area; b) Rules for safe vessel operation around cetaceans; c) Slowing to 10 knots in the presence of cetaceans within the area marked on Figure B3 (Annex B of EM&A Manual); and d) The dumping of chemicals, rubbish, oils etc into the waters is strictly prohibited and enforced.		/			

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
NCO	Are valid construction noise permits, if required, available for inspection?		✓			
EM&A: A3	Is the number of dredgers and operation conditions strictly followed as specified in the CNP.		✓			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			

Abbreviation

EP: Environmental Permit (Environmental Permit No. EP-165/2003)
 EM&A: EM&A Manual (Construction Phase)
 NCO: Noise Control Ordinance
 Unk: Unknown


Remark


Nil

Signatures

ET Member

Contractor's Representative


 (Name in Block letters:
 Larry Wong)


 (Name in Block letters:
 CHEUNG KWONG KWAN)

The Hongkong Electric Co. Ltd.
Lamma Power Station Navigation Channel Improvement Project
Weekly Site Inspection Checklist

Inspection date Time Inspected By ET:
 Contractor:
 Site

Weather

Condition Sunny Fine Overcast Hazy Drizzle Rain Storm
 Temperature °C Humidity High Moderate Low
 Wind Calm Light Breeze Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP 1.3	Is a copy of Environmental Permit together with all documents referred to in the permit kept in Engineers' and Contractors' offices for inspection at all sites/offices covered in the permit?		/			
EP 1.5	Is a copy of the most up-to-date Environmental Permit displayed at on the construction site at a convenient location for public information?		/			

WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
EM&A: 5.4	Does the contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		/			
EM&A: 5.4	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?		/			
EM&A: 3.2.5	Are wastes disposed of at designated marine dumping sites approved by the Marine Fill Committee of the Civil Engineering Department?		/			

WATER QUALITY & MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP: 3.2 EM&A: A1	Is dredging work prohibited at Working Zone BCs from February to April to protect Finless Porpoise during calving seasons?		/			

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP: 3.3 EM&A: A2	Do marine vessels avoid the Finless Porpoise habitat area when moving from and to disposal sites?		/			
EM&A: A2	Is marine vessel speed subject to a maximum limit of 10 knots in southern Lamma waters?		/			
EP: 3.4 EM&A: A4	Are grab dredger option and TSHD option prohibited to operate concurrently?		/			
EP: 3.5 EM&A: C1	Is dredging work carried out in phases in accordance with the latest dredging schedule?		/			
EP:3.5 EM&A: C2	Does each of the deployed grab dredgers have a grab capacity of no less than 8m ³ ?		/			
EP:3.5 EM&A: C3	Are cage-type silt curtains deployed for grab dredgers?		/			
EP:3.5 EM&A: C3	Are the silt curtains maintained properly throughout the dredging operation?		/			
EP: 3.5 EM&A: C4	Is it prohibited to operate more than 5 grab dredgers concurrently at anytime?		/			
EM&A: D1	Is daily dredging volume spread as evenly as possible over the 24 hour period whenever practical?		/			
EM&A: D1	Is special care taken during lowering and lifting grabs to minimize unnecessary disturbance to the seabed?		/			
EM&A: D1	Do vessels have adequate clearance to the seabed?		/			
EM&A: D1	Are barges fitted with tight fitting seals to their bottom openings to prevent leakage of material during loading and transportation?		/			
EM&A: D1	Are grabs closed tightly to minimize loss of sediment during dredging		/			
EM&A: D1	Is the descent speed of hoist controlled suitably low?		/			
EM&A: D1	Are barges filled to a level, which ensures that materials do not spill over during loading and transportation?		/			
EM&A: D1	Are large objects removed from the grab to avoid losses from partially closed grabs?	/				
EM&A: D2	Have the vessel operators been fully briefed on the following: a) Possible presence of dolphins and porpoises in the vicinity of the Study Area and along routes to the Project Area; b) Rules for safe vessel operation around cetaceans; c) Slowing to 10 knots in the presence of cetaceans within the area marked on Figure B3 (Annex B of EM&A Manual); and d) The dumping of chemicals, rubbish, oils etc into the waters is strictly prohibited and enforced.		/			

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
NCO	Are valid construction noise permits, if required, available for inspection?		✓			
EM&A: A3	Is the number of dredgers and operation conditions strictly followed as specified in the CNP.		✓			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			

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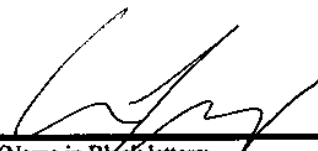
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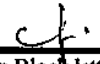
Nil

Signatures

ET Member

Contractor's Representative


 (Name in Block letters:
L.K. Wong)


 (Name in Block letters:
CHEUNG KWONG KWUN)

The Hongkong Electric Co. Ltd.
Lamma Power Station Navigation Channel Improvement Project
Weekly Site Inspection Checklist

Inspection date Time Inspected By ET:
 Contractor:
 Site

Weather

Condition Sunny Fine Overcast Hazy Drizzle Rain Storm
 Temperature °C Humidity High Moderate Low
 Wind Calm Light Breeze Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP 1.3	Is a copy of Environmental Permit together with all documents referred to in the permit kept in Engineers' and Contractors' offices for inspection at all sites/offices covered in the permit?		/			
EP 1.5	Is a copy of the most up-to-date Environmental Permit displayed at on the construction site at a convenient location for public information?		/			

WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
EM&A: 5.4	Does the contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		/			
EM&A: 5.4	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?		/			
EM&A: 3.2.5	Are wastes disposed of at designated marine dumping sites approved by the Marine Fill Committee of the Civil Engineering Department?		/			

WATER QUALITY & MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP: 3.2 EM&A: A1	Is dredging work prohibited at Working Zone BCs from February to April to protect Finless Porpoise during calving seasons?		/			

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP: 3.3 EM&A: A2	Do marine vessels avoid the Finless Porpoise habitat area when moving from and to disposal sites?		/			
EM&A: A2	Is marine vessel speed subject to a maximum limit of 10 knots in southern Lamma waters?		/			
EP: 3.4 EM&A: A4	Are grab dredger option and TSHD option prohibited to operate concurrently?		/			
EP: 3.5 EM&A: C1	Is dredging work carried out in phases in accordance with the latest dredging schedule?		/			
EP:3.5 EM&A: C2	Does each of the deployed grab dredgers have a grab capacity of no less than 8m ³ ?		/			
EP:3.5 EM&A: C3	Are cage-type silt curtains deployed for grab dredgers?		/			
EP:3.5 EM&A: C3	Are the silt curtains maintained properly throughout the dredging operation?		/			
EP: 3.5 EM&A: C4	Is it prohibited to operate more than 5 grab dredgers concurrently at anytime?		/			
EM&A: D1	Is daily dredging volume spread as evenly as possible over the 24 hour period whenever practical?		/			
EM&A: D1	Is special care taken during lowering and lifting grabs to minimize unnecessary disturbance to the seabed?		/			
EM&A: D1	Do vessels have adequate clearance to the seabed?		/			
EM&A: D1	Are barges fitted with tight fitting seals to their bottom openings to prevent leakage of material during loading and transportation?		/			
EM&A: D1	Are grabs closed tightly to minimize loss of sediment during dredging		/			
EM&A: D1	Is the descent speed of hoist controlled suitably low?		/			
EM&A: D1	Are barges filled to a level, which ensures that materials do not spill over during loading and transportation?		/			
EM&A: D1	Are large objects removed from the grab to avoid losses from partially closed grabs?	/				
EM&A: D2	Have the vessel operators been fully briefed on the following: a) Possible presence of dolphins and porpoises in the vicinity of the Study Area and along routes to the Project Area; b) Rules for safe vessel operation around cetaceans; c) Slowing to 10 knots in the presence of cetaceans within the area marked on Figure B3 (Annex B of EM&A Manual); and d) The dumping of chemicals, rubbish, oils etc into the waters is strictly prohibited and enforced.		/			

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
NCO	Are valid construction noise permits, if required, available for inspection?		✓			
EM&A: A3	Is the number of dredgers and operation conditions strictly followed as specified in the CNP.		✓			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			

Abbreviation

EP: Environmental Permit (Environmental Permit No. EP-165/2003)
 EM&A: EM&A Manual (Construction Phase)
 NCO: Noise Control Ordinance
 Unk: Unknown

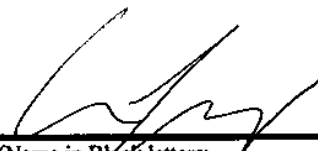
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
Nil

Signatures

ET Member

Contractor's Representative


 (Name in Block letters:
L.K. Wong)


 (Name in Block letters:
CHEONG KWONG KWUN)

The Hongkong Electric Co. Ltd.
Lamma Power Station Navigation Channel Improvement Project
Weekly Site Inspection Checklist

Inspection date Time Inspected By ET:
 Contractor:
 Site

Weather

Condition Sunny Fine Overcast Hazy Drizzle Rain Storm
Temperature °C **Humidity** High Moderate Low
Wind Calm Light Breeze Strong

GENERAL

Ref.	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP 1.3	Is a copy of Environmental Permit together with all documents referred to in the permit kept in Engineers' and Contractors' offices for inspection at all sites/offices covered in the permit?		/			
EP 1.5	Is a copy of the most up-to-date Environmental Permit displayed at on the construction site at a convenient location for public information?		/			

WASTE MANAGEMENT

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
Dredged Materials						
EM&A: 5.4	Does the contractor possess valid dumping permits for dredged marine mud and have them available for inspection?		/			
EM&A: 5.4	Has the contractor kept a complete set of dumping records/ticketing system and made them available for inspection?		/			
EM&A: 3.2.5	Are wastes disposed of at designated marine dumping sites approved by the Marine Fill Committee of the Civil Engineering Department?		/			

WATER QUALITY & MARINE ECOLOGY

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP: 3.2 EM&A: A1	Is dredging work prohibited at Working Zone BCs from February to April to protect Finless Porpoise during calving seasons?		/			

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
EP: 3.3 EM&A: A2	Do marine vessels avoid the Finless Porpoise habitat area when moving from and to disposal sites?		/			
EM&A: A2	Is marine vessel speed subject to a maximum limit of 10 knots in southern Lamma waters?		/			
EP: 3.4 EM&A: A4	Are grab dredger option and TSHD option prohibited to operate concurrently?		/			
EP: 3.5 EM&A: C1	Is dredging work carried out in phases in accordance with the latest dredging schedule?		/			
EP:3.5 EM&A: C2	Does each of the deployed grab dredgers have a grab capacity of no less than 8m ³ ?		/			
EP:3.5 EM&A: C3	Are cage-type silt curtains deployed for grab dredgers?		/			
EP:3.5 EM&A: C3	Are the silt curtains maintained properly throughout the dredging operation?		/			
EP: 3.5 EM&A: C4	Is it prohibited to operate more than 5 grab dredgers concurrently at anytime?		/			
EM&A: D1	Is daily dredging volume spread as evenly as possible over the 24 hour period whenever practical?		/			
EM&A: D1	Is special care taken during lowering and lifting grabs to minimize unnecessary disturbance to the seabed?		/			
EM&A: D1	Do vessels have adequate clearance to the seabed?		/			
EM&A: D1	Are barges fitted with tight fitting seals to their bottom openings to prevent leakage of material during loading and transportation?		/			
EM&A: D1	Are grabs closed tightly to minimize loss of sediment during dredging		/			
EM&A: D1	Is the descent speed of hoist controlled suitably low?		/			
EM&A: D1	Are barges filled to a level, which ensures that materials do not spill over during loading and transportation?		/			
EM&A: D1	Are large objects removed from the grab to avoid losses from partially closed grabs?	/				
EM&A: D2	Have the vessel operators been fully briefed on the following: a) Possible presence of dolphins and porpoises in the vicinity of the Study Area and along routes to the Project Area; b) Rules for safe vessel operation around cetaceans; c) Slowing to 10 knots in the presence of cetaceans within the area marked on Figure B3 (Annex B of EM&A Manual); and d) The dumping of chemicals, rubbish, oils etc into the waters is strictly prohibited and enforced.		/			

NOISE

Ref	Checklist Condition	N/A	Yes	No	Unk	Remarks
NCO	Are valid construction noise permits, if required, available for inspection?		✓			
EM&A: A3	Is the number of dredgers and operation conditions strictly followed as specified in the CNP.		✓			
NCO	Are conditions of construction noise permits, if any, for the relevant part(s) of the works implemented accordingly?		✓			

Abbreviation

EP: Environmental Permit (Environmental Permit No. EP-165/2003)
 EM&A: EM&A Manual (Construction Phase)
 NCO: Noise Control Ordinance
 Unk: Unknown

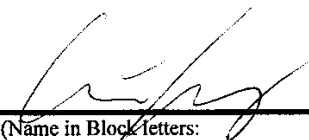
Remark

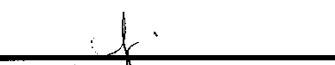
Nil

Signatures

ET Member

Contractor's Representative


 (Name in Block letters:
 L. E. Wong)


 (Name in Block letters:
 CHEUNG KWONG KOW)

Appendix I: Summary of EMIS

Mitigation Measures and their Implementation

EM&A Log Ref.	Mitigation Measures	Implementation Status
	MITIGATION MEASURES FOR BOTH GRAB DREDGER AND TSHD OPTIONS	
A1	No dredging should be carried out at Working Zone BCs from February to April.	C
A2	Vessel route between the dredging site and the disposal sites should avoid the Finless Porpoise habitat area and be subject to a maximum speed limit of 10 knots in southern Lamma waters as indicated in Figure B3 (Annex B of EM&A Manual).	C
A3	The number of dredgers and operation conditions specified in the applicable CNPs should be strictly followed. In applying for the CNPs, it should be ensured that the number of dredgers and operation conditions are compatible with the recommendations of this EIA.	C
A4	The grab dredger option and TSHD option should not be operated concurrently.	C
	MITIGATION MEASURES FOR TSHD OPTION ONLY	
B1	Dredging works should be carried out in phases in accordance with the programme, number of dredgers and maximum dredging rates specified in Table B4 (Annex B of EM&A Manual).	C
B2	There should not be more than one TSHD operating concurrently at any time.	N/A
	MITIGATION MEASURES FOR GRAB DREDGER OPTION ONLY	
C1	Dredging works should be carried out in phases in accordance with the programme, number of dredgers and maximum dredging rates specified in the latest dredging schedule.	C
C2	Each grab dredger to be deployed should have a grab capacity of no less than 8 m ³ .	C
C3	Cage-type silt curtains as illustrated in Figure B1 (Annex B of EM&A Manual) should be deployed for grab dredgers. The silt curtains should be properly maintained during the dredging period.	C
C4	There should be no more than 5 grab dredgers operating concurrently at any time.	C
	GOOD SITE PRACTICE	
D1	Daily dredging volume should be spread as evenly as possible over the 24 hour period whenever practical. Special care should be taken during lowering and lifting grabs to minimize unnecessary disturbance to the seabed.	C
	Vessels used should have adequate clearance of the seabed.	C
	Barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material.	C
	Grabs should be tightly closed and hoist speed is suitably low.	C
	Barges should not be filled to a level which will cause overflow of materials during loading and transportation.	C

EM&A Log Ref.	Mitigation Measures	Implementation Status
D2	<p>The vessel operators should be fully briefed on the following:</p> <ul style="list-style-type: none"> • Possible presence of dolphins and porpoises in the vicinity of the Study Area and along routes to the Project Area; • Rules for safe vessel operation around cetaceans; • Slowing to 10 knots in the presence of cetaceans within the area marked on Figure B3 (Annex B of EM&A Manual); and • The dumping of chemicals, rubbish, oils etc into the waters 	C

Remarks:

- C - Compliance with mitigation measure
NC - Non-compliance with mitigation measure
N/A - Not Applicable

Appendix J

Tentative Construction Programme

HEC Contract no. 02/8011
 Lamma Power Station
 Navigation Channel Improvement
 Three Months Rolling Programme

ID	Task Name	Duration	Start	Finish	Oct	Nov	Dec
1							
2							
3	Dredging Work	166 days	Wed 16/6/03	Sun 30/11/03	[Task bar spanning Oct, Nov, Dec]		
4	Dredging along navigation channel	166 days	Wed 16/6/03	Sun 30/11/03	[Task bar spanning Oct, Nov, Dec]		
5							
6	Miscellaneous Work	74 days	Wed 3/9/03	Sat 15/11/03	[Task bar spanning Oct, Nov, Dec]		
7	Recovery of sunken vessel	74 days	Wed 3/9/03	Sat 15/11/03	[Task bar spanning Oct, Nov, Dec]		

Project: Three months programme
 Date: Mon 6/10/03

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	