AECOM

China Harbour Engineering Company Limited

Contract No. HY/2010/02

Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works

Monthly EM&A Report for June 2014

[07/2014]

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Engineer's Representative By Fax (3698 5999) and By Post
Ove Arup & Partners
Chief Resident Engineer's Office
5 Ying Hei Road, Tung Chung, Lantau
Hong Kong

Attention: Mr. Roger Marechal

Dear Mr. Marechal,

Re: Agreement No. CE 48/2011 (EP)
Environmental Project Office for the
HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities, and Tuen Mun-Chek Lap Kok Link – Investigation

Contract No. HY/2010/02
Hong Kong – Zhuhai – Macao Bridge
Hong Kong Boundary Crossing Facilities – Reclamation Work
Monthly Environmental Monitoring & Audit Report for June 2014

Reference is made to the Environmental Team's submission of the Monthly Environmental Monitoring & Audit Report for June 2014 (letter ref. 60249820/C/RMKY14072101 dated 21 June 2014) copied to us by E-mail on 21 July 2014.

We are pleased to inform you that we have no adverse comment on the captioned Monthly EM&A Report. We write to verify the captioned report in accordance with Condition 5.4 of EP-353/2009/G and Condition 4.4 of EP-354/2009/B (for TM-CLKL Southern Landfall Reclamation only).

ET is reminded to ensure all information reported are true, valid and correct before sending to this office for review.

Thank you very much for your kind attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,

Raymond Dai
Independent Environmental Checker

c.c.	HyD	Mr. Matthew Fung	(By Fax: 3188 6614)
	HyD	Mr. Wai-ping Lee	(By Fax: 3188 6614)
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EXECUTIVE SUMMARY

Contract No. HY/2010/02 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Work (here below, known as "the Project") mainly comprises reclamation at the northeast of the Hong Kong International Airport of an area of about 130-hectare for the construction of an artificial island for the development of the Hong Kong Boundary Crossing Facilities (HKBCF), and about 19-hectare for the southern landfall of the Tuen Mun - Chek Lap Kok Link (TMCLKL). It is a designated project and is governed by the current permits for the Project, i.e. the amended Environmental Permits (EPs) issued on 06 August 2013 (EP-353/2009/G) and 28 January 2014 (EP-354/2009/B) (for TMCLKL Southern Landfall Reclamation only).

Ove Arup & Partners Hong Kong Limited (Arup) was appointed by Highways Department (HyD) as the consultants for the design and construction assignment for the Project's reclamation works (i.e. the Engineer for the Project).

China Harbour Engineering Company Limited (CHEC) was awarded by HyD as the Contractor to undertake the construction work of the Project.

ENVIRON Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO) for the Project.

AECOM Asia Co. Ltd. (AECOM) was appointed by CHEC to undertake the role of Environmental Team for the Project for carrying out the environmental monitoring and audit (EM&A) works.

The construction phase of the Project under the EPs was commenced on 12 March 2012 and will be tentatively completed by early Year 2016. The EM&A programme, including air quality, noise, water quality and dolphin monitoring and environmental site inspections, was commenced on 12 March 2012.

This report documents the findings of EM&A works conducted in the period between 1 and 30 June 2014. As informed by the Contractor, major activities in the reporting period were:-

Marine-based Works

- Cellular structure installation
- Connecting arc cell installation
- Laying geo-textile
- Sand blanket laying
- Sand filling
- Maintenance of silt curtain & silt screen at sea water intake of HKIA
- Stone column installation
- Band drain installation
- Backfill cellular structure
- Geotechnical Instrumentation works
- Surcharge laying
- Vibro-compaction on surcharge
- Capping Beams structures
- Construction of temporary jetties for surcharge laying
- Temporary Watermain construction along access at Portion D
- Flat barge of unloading public fill for surcharge laying
- Precast Yard Setup

Land-based Works

- Maintenance works of Site Office at Works Area WA2
- Maintenance works of Public Works Regional Laboratory at Works Area WA3
- Maintenance of Temporary Marine Access at Works Area WA2

A summary of monitoring and audit activities conducted in the reporting period is listed below:

24-hour Total Suspended Particulates (TSP) monitoring	5 sessions
1-hour TSP monitoring	5 sessions
Noise monitoring	4 sessions
Impact water quality monitoring	13 sessions

Impact dolphin monitoring	2 surveys
Joint Environmental site inspection	4 sessions

Breaches of Action and Limit Levels for Air Quality

All 1-Hour TSP and 24-hour TSP results were below the Action and Limit Level in the reporting month.

Breaches of Action and Limit Levels for Noise

For construction noise, no exceedance was recorded at all monitoring stations in the reporting period.

Breaches of Action and Limit Levels for Water Quality

For impact water quality monitoring, no exceedance was recorded at all monitoring stations in the reporting period.

Impact Dolphin Monitoring

A total of six sightings were made, two "opportunistic" and four "on effort". Three sightings were made on the 3rd of June in NWL; one sighting was made on 5th June in NEL; one was recorded on 16th June in NWL and one sighting was recorded on 17th June in NWL. A total of nineteen individuals were sighted from the two impact dolphin surveys in the reporting period. Sighting details are summarised and plotted in Appendix K and Figure 5c, respectively.

Behaviour: Of the six sightings, two groups were feeding, two groups were surface active, one group was travelling and one group was engaged in multiple activities which included feeding and surface activity. The locations of sighting with different behaviour are mapped in Figure 5d

Two calves were seen in three sightings in June 2014, one of them on two occasions.

Complaint, Notification of Summons and Successful Prosecution

No complaint, notification of summons or prosecution was received in the reporting period.

Reporting Change

There was no reporting change required in the reporting period.

Future Key Issues

Key issues to be considered in the coming month included:-

- Site runoff should be properly collected and treated prior to discharge;
- Minimize loss of sediment from filling works;
- Regular review and maintenance of silt curtain systems, drainage systems and desilting facilities;
- Exposed surfaces/soil stockpiles should be properly treated to avoid generation of silty surface run-off during rainstorm;
- Regular review and maintenance of wheel washing facilities provided at all site entrances/exits;
- Conduct regular inspection of various working machineries and vessels within works areas to avoid any dark smoke emission;
- Suppress dust generated from work processes with use of bagged cements, earth movements, excavation activities, exposed surfaces/soil stockpiles and haul road traffic;
- Quieter powered mechanical equipment should be used;
- Provision of proper and effective noise control measures for operating equipment and machinery on-site, such as erection of movable noise barriers or enclosure for noisy plants;
- Closely check and replace the sound insulation materials regularly;
- Better scheduling of construction works to minimize noise nuisance;
- Properly store and label oil drums and chemical containers placed on site;
- Proper chemicals, chemical wastes and wastes management;
- Maintenance works should be carried out within roofed, paved and confined areas;
- Collection and segregation of construction waste and general refuse on land and in the sea should be carried out properly and regularly; and

- Proper protection and regular inspection of existing trees, transplanted/retained trees.

1 INTRODUCTION

1.1 Background

1.1.1 Contract No. HY/2010/02 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Work (here below, known as "the Project") mainly comprises reclamation at the northeast of the Hong Kong International Airport of an area of about 130-hectare for the construction of an artificial island for the development of the Hong Kong Boundary Crossing Facilities (HKBCF), and about 19-hectare for the southern landfall of the Tuen Mun - Chek Lap Kok Link (TMCLKL).

1.1.2 The environmental impact assessment (EIA) reports (Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities – EIA Report (Register No. AEIAR-145/2009) (HKBCFEIA) and Tuen Mun – Chek Lap Kok Link – EIA Report (Register No. AEIAR-146/2009) (TMCLKLEIA), and their environmental monitoring and audit (EM&A) Manuals (original EM&A Manuals), for the Project were approved by Environmental Protection Department (EPD) in October 2009.

1.1.3 EPD subsequently issued the Environmental Permit (EP) for HKBCF in November 2009 (EP-353/2009) and the Variation of Environmental Permit (VEP) in June 2010 (EP-353/2009/A), November 2010 (EP-353/2009/B), November 2011 (EP-353/2009/C), March 2012 (EP-353/2009/D), October 2012 (EP-353/2009/E), April 2013 (EP-353/2009/F) and August 2013 (EP-353/2009/G). Similarly, EPD issued the Environmental Permit (EP) for TMCLKL in November 2009 (EP-354/2009) and the Variation of Environmental Permit (VEP) in December 2010 (EP-354/2009/A) and January 2014 (EP-354/2009/B).

1.1.4 The Project is a designated project and is governed by the current permits for the Project, i.e. the amended EPs issued on 6 August 2013 (EP-353/2009/G) and 28 January 2014 (EP-354/2009/B) (for TMCLKL Southern Landfall Reclamation only).

1.1.5 A Project Specific EM&A Manual, which included all project-relation contents from the original EM&A Manuals for the Project, was issued in May 2012.

1.1.6 Ove Arup & Partners Hong Kong Limited (Arup) was appointed by Highways Department (HyD) as the consultants for the design and construction assignment for the Project's reclamation works (i.e. the Engineer for the Project).

1.1.7 China Harbour Engineering Company Limited (CHEC) was awarded by HyD as the Contractor to undertake the construction work of the Project.

1.1.8 ENVIRON Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO) for the Project.

1.1.9 AECOM Asia Co. Ltd. (AECOM) was appointed by CHEC to undertake the role of Environmental Team for the Project for carrying out the EM&A works.

1.1.10 The construction phase of the Project under the EPs was commenced on 12 March 2012 and will be tentatively completed by early Year 2016.

1.1.11 According to the Project Specific EM&A Manual, there is a need of an EM&A programme including air quality, noise, water quality and dolphin monitoring and environmental site inspections. The EM&A programme of the Project commenced on 12 March 2012.

1.2 Scope of Report

1.2.1 This is the twenty-eight monthly EM&A Report under the Contract No.HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. This report presents a summary of the environmental monitoring and audit works, list of activities and mitigation measures proposed by the ET for the Project in June 2014.

1.3 Project Organization

1.3.1 The project organization structure is shown in Appendix A. The key personnel contact names and numbers are summarized in Table 1.1.

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
Engineer's Representative (ER) (Ove Arup & Partners Hong Kong Limited)	Chief Resident Engineer	Roger Marechal	3698 5700	2698 5999
IEC / **ENPO** (ENVIRON Hong Kong Limited)	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
	Environmental Project Office Leader	Y. H. Hui	3465 2868	3465 2899
Contractor (China Harbour Engineering Company Limited)	Environmental Officer	Richard Ng	36932253	2578 0413
	24-hour Hotline	Alan C.C. Yeung	9448 0325	--
ET (AECOM Asia Company Limited)	ET Leader	Echo Leong	3922 9280	2317 7609

1.4 Summary of Construction Works

1.4.1 The construction phase of the Project under the EP commenced on 12 March 2012.

1.4.2 As informed by the Contractor, details of the major works carried out in this reporting period are listed below:-

Marine-based Works

- Cellular structure installation
- Connecting arc cell installation
- Laying geo-textile
- Sand blanket laying
- Sand filling
- Maintenance of silt curtain & silt screen at sea water intake of HKIA
- Stone column installation
- Band drain installation
- Backfill cellular structure
- Geotechnical Instrumentation works
- Surcharge laying
- Vibro-compaction on surcharge
- Capping Beams structures
- Construction of temporary jetties for surcharge laying
- Temporary Watermain construction along access at Portion D
- Flat barge of unloading public fill for surcharge laying
- Precast Yard Setup

Land-based Works

- Maintenance works of Site Office at Works Area WA2
- Maintenance works of Public Works Regional Laboratory at Works Area WA3
- Maintenance of Temporary Marine Access at Works Area WA2

1.4.3 The 3-month rolling construction programme of the Project is shown in Appendix B.

1.4.4 The general layout plan of the Project site showing the detailed works areas is shown in Figure 1.

1.4.5 The environmental mitigation measures implementation schedule are presented in Appendix C.

1.5 Summary of EM&A Programme Requirements

1.5.1 The EM&A programme required environmental monitoring for air quality, noise, water quality, marine ecology and environmental site inspections for air quality, noise, water quality, waste management, marine ecology, and landscape and visual impact. The EM&A requirements for each parameter described in the following sections include:-

- All monitoring parameters;
- Monitoring schedules for the reporting month and forthcoming month;
- Action and Limit levels for all environmental parameters;
- Event / Action Plan;
- Environmental mitigation measures, as recommended in the Project EIA reports; and
- Environmental requirement in contract documents.

2 AIR QUALITY MONITORING

2.1 Monitoring Requirements

2.1.1 In accordance with the Project Specific EM&A Manual, baseline 1-hour and 24-hour Total Suspended Particulates (TSP) levels at 4 air quality monitoring stations were established. Impact 1-hour TSP monitoring was conducted for at least three times every 6 days, while impact 24-hour TSP monitoring was carried out for at least once every 6 days. The Action and Limit level of the air quality monitoring is provided in Appendix D.

2.2 Monitoring Equipment

2.2.1 24-hour TSP air quality monitoring was performed using High Volume Sampler (HVS) located at each designated monitoring station. The HVS meets all the requirements of the Project Specific EM&A Manual. Portable direct reading dust meters were used to carry out the 1-hour TSP monitoring. Brand and model of the equipment is given in Table 2.1.

Table 2.1 Air Quality Monitoring Equipment

Equipment	Brand and Model
Portable direct reading dust meter (1-hour TSP)	Sibata Digital Dust Monitor (Model No. LD-3 and LD-3B)
High Volume Sampler (24-hour TSP)	Tisch Environmental Mass Flow Controlled Total Suspended Particulate (TSP) High Volume Air Sampler (Model No. TE-5170)

2.3 Monitoring Locations

2.3.1 Monitoring locations AMS2 and AMS7 were set up at the proposed locations in accordance with Project Specific EM&A Manual. For AMS6 (Dragonair/CNAC (Group) Building), permission on setting up and carrying out impact monitoring works was sought, however, access to the premise has not been granted yet on this report issuing date. For monitoring location AMS3 (Ho Yu College), as proposed in the Project Specific EM&A Manual, approval for carrying out impact monitoring could not be obtained from the principal of the school. Permission on setting up and carrying out impact monitoring works at nearby sensitive receivers, like Caribbean Coast and Coastal Skyline, was also sought. However, approvals for carrying out impact monitoring works within their premises were not obtained. Impact air quality monitoring was conducted at site boundary of the site office area in Works Area WA2 (AMS3B) respectively. Same baseline and Action Level for air quality, as derived from the baseline monitoring data recorded at Ho Yu College, was adopted for this alternative air quality location.

2.3.2 Reference is made to ET's proposal of the omission of air monitoring station (AMS 6) dated on 1 November 2012 and EPD's letter dated on 19 November 2012 regarding the conditional approval of the proposed omission of air monitoring station (AMS 6) for Contract No. HY/2010/02. The aforesaid omission of Monitoring Station AMS6 is effective since 19 November 2012.

2.3.3 Figure 2 shows the locations of monitoring stations. Table 2.2 describes the details of the monitoring stations.

Table 2.2 Locations of Impact Air Quality Monitoring Stations

Monitoring Station	Location	Description
AMS2	Tung Chung Development Pier	Rooftop of the premise
AMS3B	Site Boundary of Site Office Area at Works Area WA2	On ground at the area boundary
AMS6*	Dragonair/CNAC (Group) Building	On ground at boundary of the premise
AMS7	Hong Kong SkyCity Marriott Hotel	On ground at boundary of the premise

#Remarks: Reference is made to EPD conditional approval of the omission of air monitoring station (AMS 6) for the project. The omission will be effective on 19 November 2012.

2.4 Monitoring Parameters, Frequency and Duration

2.4.1 Table 2.3 summarizes the monitoring parameters, frequency and duration of impact TSP monitoring.

Table 2.3 Air Quality Monitoring Parameters, Frequency and Duration

Parameter	Frequency and Duration
1-hour TSP	Three times every 6 days while the highest dust impact was expected
24-hour TSP	Once every 6 days

2.5 Monitoring Methodology

2.5.1 24-hour TSP Monitoring

(a) The HVS was installed in the vicinity of the air sensitive receivers. The following criteria were considered in the installation of the HVS.

(i) A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
(ii) No two samplers should be placed less than 2 meters apart.
(iii) The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
(iv) A minimum of 2 meters separation from walls, parapets and penthouse for rooftop sampler.
(v) A minimum of 2 meters separation from any supporting structure, measured horizontally is required.
(vi) No furnace or incinerator flues nearby.
(vii) Airflow around the sampler was unrestricted.
(viii) Permission was obtained to set up the samplers and access to the monitoring stations.
(ix) A secured supply of electricity was obtained to operate the samplers.
(x) The sampler was located more than 20 meters from any dripline.
(xi) Any wire fence and gate, required to protect the sampler, did not obstruct the monitoring process.
(xii) Flow control accuracy was kept within ±2.5% deviation over 24-hour sampling period.

(b) Preparation of Filter Papers

(i) Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.
(ii) All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ±3 °C; the relative humidity (RH) was < 50% and not variable by more than ±5%. A convenient working RH was 40%.

(iii) All filter papers were prepared and analysed by ALS Technichem (HK) Pty Ltd., which is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes.

(c) Field Monitoring

(i) The power supply was checked to ensure the HVS works properly.
(ii) The filter holder and the area surrounding the filter were cleaned.
(iii) The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
(iv) The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
(v) The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied was sufficient to avoid air leakage at the edges.
(vi) Then the shelter lid was closed and was secured with the aluminum strip.
(vii) The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
(viii) A new flow rate record sheet was set into the flow recorder.
(ix) On site temperature and atmospheric pressure readings were taken and the flow rate of the HVS was checked and adjusted at around 1.1 m^3/min, and complied with the range specified in the updated EM&A Manual (i.e. 0.6-1.7 m^3/min).
(x) The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
(xi) The initial elapsed time was recorded.
(xii) At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
(xiii) The final elapsed time was recorded.
(xiv) The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
(xv) It was then placed in a clean plastic envelope and sealed.
(xvi) All monitoring information was recorded on a standard data sheet.
(xvii) Filters were then sent to ALS Technichem (HK) Pty Ltd. for analysis.

(d) Maintenance and Calibration

(i) The HVS and its accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
(ii) 5-point calibration of the HVS was conducted using TE-5025A Calibration Kit prior to the commencement of baseline monitoring. Bi-monthly 5-point calibration of the HVS will be carried out during impact monitoring.
(iii) Calibration certificate of the HVSs are provided in Appendix E.

2.5.2 1-hour TSP Monitoring

(a) Measuring Procedures

The measuring procedures of the 1-hour dust meter were in accordance with the Manufacturer's Instruction Manual as follows:-

(i) Turn the power on.
(ii) Close the air collecting opening cover.
(iii) Push the "TIME SETTING" switch to [BG].
(iv) Push "START/STOP" switch to perform background measurement for 6 seconds.
(v) Turn the knob at SENSI ADJ position to insert the light scattering plate.
(vi) Leave the equipment for 1 minute upon "SPAN CHECK" is indicated in the display.
(vii) Push "START/STOP" switch to perform automatic sensitivity adjustment. This measurement takes 1 minute.
(viii) Pull out the knob and return it to MEASURE position.
(ix) Push the "TIME SETTING" switch the time set in the display to 3 hours.
(x) Lower down the air collection opening cover.
(xi) Push "START/STOP" switch to start measurement.

(b) Maintenance and Calibration

(i) The 1-hour TSP meter was calibrated at 1-year intervals against a continuous particulate TEOM Monitor, Series 1400ab. Calibration certificates of the Laser Dust Monitors are provided in Appendix E.

(ii) 1-hour validation checking of the TSP meter against HVS is carried out on half-year basis at the air quality monitoring locations.

2.6 Monitoring Schedule for the Reporting Month

2.6.1 The schedule for air quality monitoring in June 2014 is provided in Appendix F.

2.7 Results and Observations

2.7.1 The monitoring results for 1-hour TSP and 24-hour TSP are summarized in Table 2.4 and 2.5 respectively. Detailed impact air quality monitoring results are presented in Appendix G.

Table 2.4 Summary of 1-hour TSP Monitoring Results in the Reporting Period

	Average ($\mu g/m^3$)	Range ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
AMS2	78	73 – 83	374	500
AMS3B	79	75 – 83	368	500
AMS7	79	76 – 83	370	500

Table 2.5 Summary of 24-hour TSP Monitoring Results in the Reporting Period

	Average ($\mu g/m^3$)	Range ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
AMS2	38	20 – 78	176	260
AMS3B	61	21 – 123	167	260
AMS7	43	28 – 75	183	260

2.7.2 All 1-Hour TSP and 24Hr TSP results were below the Action and Limit Level in the reporting month.

2.7.3 The event action plan is annexed in Appendix L.

2.7.4 Meteorological information collected from the wind station during the monitoring periods on the monitoring dates, as shown in Figure 2, including wind speed and wind direction, is annexed in Appendix H.

3 NOISE MONITORING

3.1 Monitoring Requirements

3.1.1 In accordance with the Project Specific EM&A Manual, impact noise monitoring was conducted for at least once per week during the construction phase of the Project. The Action and Limit level of the noise monitoring is provided in Appendix D.

3.2 Monitoring Equipment

3.2.1 Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in Table 3.1.

Table 3.1 Noise Monitoring Equipment

Equipment	Brand and Model
Integrated Sound Level Meter	Rion NL-31 & B&K2238
Acoustic Calibrator	Rion NC-73

3.3 Monitoring Locations

3.3.1 Monitoring locations NMS2 was set up at the proposed locations in accordance with Project Specific EM&A Manual. However, for monitoring location NMS3 (Ho Yu College), as proposed in the Project Specific EM&A Manual, approval for carrying out impact monitoring could not be obtained from the principal of the school. Permission on setting up and carrying out impact monitoring works at nearby sensitive receivers, like Caribbean Coast and Coastal Skyline, was also sought. However, approvals for carrying out impact monitoring works within their premises were not obtained. Impact noise monitoring was conducted at site boundary of the site office area in Works Area WA2 (NMS3B) respectively. Same baseline noise level (as derived from the baseline monitoring data recorded at Ho Yu College) and Limit Level were adopted for this alternative noise monitoring location.

3.3.2 Figure 2 shows the locations of the monitoring stations. Table 3.2 describes the details of the monitoring stations.

Table 3.2 Locations of Impact Noise Monitoring Stations

Monitoring Station	Location	Description
NMS2	Seaview Crescent Tower 1	Free-field on the rooftop of the premise
NMS3B	Site Boundary of Site Office Area at Works Area WA2	Free-field on ground at the area boundary.

3.4 Monitoring Parameters, Frequency and Duration

3.4.1 Table 3.3 summarizes the monitoring parameters, frequency and duration of impact noise monitoring.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Parameter	Frequency and Duration
30-mins measurement at each monitoring station between 0700 and 1900 on normal weekdays (Monday to Saturday). L_{eq}, L_{10} and L_{90} would be recorded.	At least once per week

3.5 Monitoring Methodology

3.5.1 Monitoring Procedure

(a) The sound level meter was set on a tripod at a height of 1.2 m above the ground for free-field measurements at NMS2. A correction of +3 dB(A) shall be made to the free field measurements.

(b) All measurement at NMS3B were free field measurements in the reporting month at NMS3B. A correction of +3 dB(A) shall be made to the free field measurements.

(c) The battery condition was checked to ensure the correct functioning of the meter.

(d) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:-

(i) frequency weighting: A
(ii) time weighting: Fast
(iii) time measurement: $L_{eq(30\text{-}minutes)}$ during non-restricted hours i.e. 07:00 – 1900 on normal weekdays.

(e) Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator for 94dB(A) at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.

(f) During the monitoring period, the L_{eq}, L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.

(g) Noise measurement was paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations were recorded when intrusive noise was unavoidable.

(h) Noise monitoring was cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind with gusts exceeding 10m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

3.5.2 Maintenance and Calibration

(a) The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.

(b) The meter and calibrator were sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.

(c) Calibration certificates of the sound level meters and acoustic calibrators are provided in Appendix E.

3.6 Monitoring Schedule for the Reporting Month

3.6.1 The schedule for construction noise monitoring in June 2014 is provided in Appendix F.

3.7 Monitoring Results

3.7.1 The monitoring results for construction noise are summarized in Table 3.4 and the monitoring data is provided in Appendix I.

Table 3.4 Summary of Construction Noise Monitoring Results in the Reporting Period

	Average, dB(A), $L_{eq\ (30\ mins)}$	Range, dB(A), $L_{eq\ (30\ mins)}$	Limit Level, dB(A), $L_{eq\ (30\ mins)}$
NMS2	66	67 – 68*	75
NMS3B	63	61 – 65*	70/65^

*+3dB(A) Façade correction included
^ Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period.

3.7.2 No Action or Limit Level Exceedance of construction noise was recorded in the reporting month.

3.7.3 Major noise sources during the noise monitoring included construction activities of the Project, construction activities by other contracts and nearby traffic noise.

3.7.4 The event action plan is annexed in Appendix L.

4 WATER QUALITY MONITORING

4.1 Monitoring Requirements

4.1.1 Impact water quality monitoring was carried out to ensure that any deterioration of water quality was detected, and that timely action was taken to rectify the situation. For impact water quality monitoring, measurements were taken in accordance with the Project Specific EM&A Manual. Appendix D shows the established Action/Limit Levels for the environmental monitoring works.

4.2 Monitoring Equipment

4.2.1 Table 4.1 summarises the equipment used in the impact water quality monitoring programme.

Table 4.1 Water Quality Monitoring Equipment

Equipment	Brand and Model
Dissolved Oxygen (DO) and Temperature Meter, Salinity Meter and Turbidimeter	YSI Model 6820
pH Meter	YSI Model 6820 or Thermo Orion 230A+
Positioning Equipment	JRC DGPS 224 Model JLR-4341 with J-NAV 500 Model NWZ4551
Water Depth Detector	Eagle Cuda-168
Water Sampler	Kahlsio Water Sampler (Vertical) 2.2 L with messenger

4.3 Monitoring Parameters, Frequency and Duration

4.3.1 Table 4.2 summarises the monitoring parameters, frequency and monitoring depths of impact water quality monitoring as required in the Project Specific EM&A Manual.

Table 4.2 Impact Water Quality Monitoring Parameters and Frequency

Monitoring Stations	Parameter, unit	Frequency	No. of depth
Impact Stations: IS5, IS(Mf)6, IS7, IS8, IS(Mf)9, IS10, IS(Mf)11, IS(Mf)16, IS17/IS17(N) *Control/Far Field Stations:* CS(Mf)3, CS(Mf)5, CS4, CS6, CSA *Sensitive Receiver Stations:* SR3-SR7, SR10A&SR10B	• Depth, m • Temperature, ^{o}C • Salinity, ppt • Dissolved Oxygen (DO), mg/L • DO Saturation, % • Turbidity, NTU • pH • Suspended Solids (SS), mg/L	Three times per week during mid-ebb and mid-flood tides (within ± 1.75 hour of the predicted time)	3 (1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth is less than 6 m, in which case the mid-depth station may be omitted. Should the water depth be less than 3 m, only the mid-depth station will be monitored).

4.4 Monitoring Locations

4.4.1 In accordance with the Project Specific EM&A Manual, twenty-one stations (9 Impact Stations, 7 Sensitive Receiver Stations and 5 Control/Far Field Stations) were designated for impact water quality monitoring. The nine Impact Stations (IS) were chosen on the basis of their proximity to the reclamation and thus the greatest potential for water quality impacts, the seven Sensitive Receiver Stations (SR) were chosen as they are close to the key sensitive receives and the five Control/ Far Field Stations (CS) were chosen to facilitate comparison of the water quality of the IS stations with less influence by the Project/ ambient water quality conditions.

4.4.2 Due to safety concern and topographical condition of the original locations of SR4 and SR10B, alternative impact water quality monitoring stations, naming as SR4 (N) and SR10B (N), were adopted, which are situated in vicinity of the original impact water quality monitoring stations (SR4 and SR10B) and could be reachable.

4.4.3 Due to the perimeter silt curtain was temporary rearranged to facilitate the safe anchorage of the construction barges/vessels and the original monitoring station IS17 was relocated to alternative impact water quality monitoring station IS17(N).

4.4.4 As informed by the Contractor in June 2014, the perimeter silt curtain alignment has been rearranged. In accordance with our observation on 25 June 2014, the original monitoring location of IS17 was no longer enclosed by the perimeter silt curtain. Therefore, IWQM work at the original monitoring location of IS17 has been resumed since 25 June 2014.

4.4.5 Same baseline and Action Level for water quality, as derived from the baseline monitoring data recorded, were adopted for these alternative impact water quality monitoring stations.

4.4.6 The locations of these monitoring stations are summarized in Table 4.3 and depicted in Figure 3.

Table 4.3 Impact Water Quality Monitoring Stations

Station	Description	East	North
IS5	Impact Station (Close to HKBCF construction site)	811579	817106
IS(Mf)6	Impact Station (Close to HKBCF construction site)	812101	817873
IS7	Impact Station (Close to HKBCF construction site)	812244	818777
IS8	Impact Station (Close to HKBCF construction site)	814251	818412
IS(Mf)9	Impact Station (Close to HKBCF construction site)	813273	818850
IS10	Impact Station (Close to HKBCF construction site)	812577	820670
IS(Mf)11	Impact Station (Close to HKBCF construction site)	813562	820716
IS(Mf)16	Impact Station (Close to HKBCF construction site)	814328	819497
IS17	Impact Station (Close to HKBCF construction site)	814539	820391
IS17(N)	Impact Station (Close to HKBCF construction site)	814767	820391
SR3	Sensitive receivers (San Tau SSSI)	810525	816456
SR4(N)	Sensitive receivers (Tai Ho)	814705	817859
SR5	Sensitive receivers (Artificial Reef in NE Airport)	811489	820455
SR6	Sensitive receivers (Sha Chau and Lung Kwu Chau Marine Park)	805837	821818
SR7	Sensitive receivers (Tai Mo Do)	814293	821431
SR10A	Sensitive receivers (Ma Wan FCZ)1	823741	823495
SR10B(N)	Sensitive receivers (Ma Wan FCZ)2	823683	823187

Station	Description	East	North
CS(Mf)3	Control Station	809989	821117
CS(Mf)5	Control Station	817990	821129
CS4	Control Station	810025	824004
CS6	Control Station	817028	823992
CSA	Control Station	818103	823064

4.5 Monitoring Methodology

4.5.1 Instrumentation

(a) The in-situ water quality parameters, viz. dissolved oxygen, temperature, salinity, turbidity and pH, were measured by multi-parameter meters (i.e. Model YSI 6820 CE-C-M-Y) and pH meter (i.e. Thermo Orion 230A+) respectively.

4.5.2 Operating/Analytical Procedures

(a) Digital Differential Global Positioning Systems (DGPS) were used to ensure that the correct location was selected prior to sample collection.

(b) Portable, battery-operated echo sounders were used for the determination of water depth at each designated monitoring station.

(c) All in-situ measurements were taken at 3 water depths, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth was less than 6 m, in which case the mid-depth station was omitted. Should the water depth be less than 3 m, only the mid-depth station was monitored.

(d) At each measurement/sampling depth, two consecutive in-situ monitoring (DO concentration and saturation, temperature, turbidity, pH, salinity) and water sample for SS. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement. Where the difference in the value between the first and second readings of DO or turbidity parameters was more than 25% of the value of the first reading, the reading was discarded and further readings were taken.

(e) Duplicate samples from each independent sampling event were collected for SS measurement. Water samples were collected using the water samplers and the samples were stored in high-density polythene bottles. Water samples collected were well-mixed in the water sampler prior to pre-rinsing and transferring to sample bottles. Sample bottles were pre-rinsed with the same water samples. The sample bottles were then be packed in cool-boxes (cooled at $4^{o}C$ without being frozen), and delivered to ALS Technichem (HK) Pty Ltd. for the analysis of suspended solids concentrations. The laboratory determination work would be started within 24 hours after collection of the water samples. ALS Technichem (HK) Pty Ltd. is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes. For QA/QC procedures, one duplicate samples of every batch of 20 samples was analyzed.

(f) The analysis method and reporting and detection limit for SS is shown in Table 4.4.

Table 4.4 Laboratory Analysis for Suspended Solids

Parameters	Instrumentation	Analytical Method	Reporting Limit	Detection Limit
Suspended Solid (SS)	Weighting	APHA 2540-D	0.5mg/L	0.5mg/L

(g) Other relevant data were recorded, including monitoring location / position, time, water depth, tidal stages, weather conditions and any special phenomena or work underway at the construction site in the field log sheet for information.

4.5.3 Maintenance and Calibration

(a) All in situ monitoring instruments would be calibrated and calibrated by ALS Technichem (HK) Pty Ltd. before use and at 3-monthly intervals throughout all stages of the water quality monitoring programme. Calibration details are provided in Appendix E.

(b) The dissolved oxygen probe of YSI 6820 was calibrated by wet bulb method. Before the calibration routine, the sensor for dissolved oxygen was thermally equilibrated in water-saturated air. Calibration cup is served as a calibration chamber and it was loosened from airtight condition before it is used for the calibration. Calibration at ALS Technichem (HK) Pty Ltd. was carried out once every three months in a water sample with a known concentration of dissolved oxygen. The sensor was immersed in the water and after thermal equilibration, the known mg/L value was keyed in and the calibration was carried out automatically.

(c) The turbidity probe of YSI 6820 is calibrated two times a month. A zero check in distilled water was performed with the turbidity probe of YSI 6820 once per monitoring day. The probe will be calibrated with a solution of known NTU at ALS Technichem (HK) Pty Ltd. once every three months.

4.6 Monitoring Schedule for the Reporting Month

4.6.1 The schedule for impact water quality monitoring in June 2014 is provided in Appendix F.

4.7 Results and Observations

4.7.1 Impact water quality monitoring results and graphical presentations are provided in Appendix J.

4.7.2 For impact water quality monitoring, no exceedance was recorded at all monitoring stations in the reporting period.

Table 4.5 Summary of Water Quality Exceedances

Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		SS		Total	
		Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood
IS5	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)6	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS7	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS8	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)9	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS10	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)11	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)16	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS17 /IS17(N)	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR3	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR4(N)	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR5	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR6	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR7	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR10A	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR10B (N)	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
Total	**Action**	0	0	0	0	0	0	0	0	0	
	Limit	0	0	0	0	0	0	0	0	0	

Note: S: Surface; and
M: Mid-depth.

4.7.3 The event action plan is annexed in Appendix L.

5 DOLPHIN MONITORING

5.1 Monitoring Requirements

5.1.1 Vessel based surveys for the Chinese White Dolphin (CWD), *Sousa chinensis,* are to be conducted by a dedicated team comprising a qualified marine mammal ecologist and experienced marine mammal observers (MMOs). The purpose of the surveys are to evaluate the impact of the HKCBF reclamation and, if deemed detrimental, to take appropriate action as per the EM&A manual.

5.1.2 This 'Impact Monitoring' follows several months of 'Baseline Monitoring' so similar survey methodologies have been adopted to facilitate comparisons between datasets. Further, the data collected are compatible with, and are available for, incorporation into the data set managed by the Agriculture, Fisheries and Conservation Department (AFCD) as part of Hong Kong's long term Marine Mammal Monitoring Programme.

5.2 Monitoring Equipment

5.2.1 Table 5.1 summarises the equipment used for the impact dolphin monitoring.

Table 5.1 Dolphin Monitoring Equipment

Equipment	Model
Commercially licensed motor vessel	15m in length with a 4.5m viewing platform
Global Positioning System (GPS) x2	Integrated into T7000 Garmin GPS Map 78C
Computers (T7000 Tablet, Intel Atom)	Windows 7/MSO 13 Logger
Camera	Nikon D90 300m 2.8D fixed focus Nikon D90 20-400m zoom lens
Laser Rangefinder	Infinitor LRF1000/ Kings 950
Marine Binocular x3	Nexus 7 x 50 marine binocular with compass and reticules Fujinon 7 x 50 marine binocular with compass and reticules

5.3 Monitoring Frequency and Conditions

5.3.1 Dolphin monitoring is conducted twice per month in each survey area.

5.3.2 Dolphin monitoring is conducted only when visibility is good (e.g., over 1km) and the sea condition is at a Beaufort Sea State of 4 or better.

5.3.3 When thunder storm, black rain or typhoon warnings are in force, all survey effort is stopped.

5.4 Monitoring Methodology and Location

5.4.1 The impact dolphin monitoring is vessel-based and combines line-transect and photo-ID methodology. The survey follows pre-set and fixed transect lines in the two areas defined by AFCD as:

5.4.2 Northeast Lantau survey area; and

5.4.3 Northwest Lantau survey area.

5.4.4 The co-ordinates for the transect lines and layout map have been provided by AFCD and are shown in Table 5.2 and Figure 4.

Table 5.2 Impact Dolphin Monitoring Line Transect Co-ordinates (Provided by AFCD)

	HK Grid System		Long Lat in WGS84	
ID	X	Y	Long	Lat
1	804671	814577	113.870308	22.269741
1	804671	831404	113.869975	22.421696
2	805475	815457	113.878087	22.277704
2	805477	826654	113.877896	22.378814
3	806464	819435	113.887615	22.313643
3	806464	822911	113.887550	22.345030
4	807518	819771	113.897833	22.316697
4	807518	829230	113.897663	22.402113
5	808504	820220	113.907397	22.320761
5	808504	828602	113.907252	22.396462
6	809490	820466	113.916965	22.323003
6	809490	825352	113.916884	22.367128
7	810499	820690	113.926752	22.325043
7	810499	824613	113.926688	22.360464
8	811508	820847	113.936539	22.326475
8	811508	824254	113.936486	22.357241
9	812516	820892	113.946329	22.326894
9	812516	824254	113.946279	22.357255
10*	813525	818270	113.956156	22.303225
10*	813525	824657	113.956065	22.360912
11	814556	818449	113.966160	22.304858
11	814556	820992	113.966125	22.327820
12	815542	818807	113.975726	22.308109
12	815542	824882	113.975647	22.362962
13	816506	819480	113.985072	22.314192
13	816506	824859	113.985005	22.362771
14	817537	820220	113.995070	22.320883
14	817537	824613	113.995018	22.360556
15	818568	820735	114.005071	22.325550
15	818568	824433	114.005030	22.358947
16	819532	821420	114.014420	22.331747
16	819532	824209	114.014390	22.356933
17	820451	822125	114.023333	22.338117
17	820451	823671	114.023317	22.352084
18	821504	822371	114.033556	22.340353
18	821504	823761	114.033544	22.352903
19	822513	823268	114.043340	22.348458
19	822513	824321	114.043331	22.357971
20	823477	823402	114.052695	22.349680
20	823477	824613	114.052686	22.360610
21	805476	827081	113.877878	22.382668
21	805476	830562	113.877811	22.414103
22	806464	824033	113.887520	22.355164
22	806464	829598	113.887416	22.405423
23	814559	821739	113.966142	22.334574
23	814559	824768	113.966101	22.361920

*****Remark: Due to the presence of deployed silt curtain systems at the site boundaries of the Project, some of the transect lines shown in Figure 5 could not be fully surveyed during the regular survey. Transect 10 is reduced from 6.4km to approximately 3.6km in length due to the HKBCF construction site. Therefore the total transect length for both NEL and NWL combined is reduced to approximately 111km.

5.5 Monitoring Procedures

5.5.1 The study area incorporates 23 transects which are to be surveyed twice per month. Each survey day lasts approximately 9 hours.

5.5.2 The survey vessel departs from Tung Chung Development Pier, Tsing Yi Public Pier or the nearest safe and convenient pier.

5.5.3 When the vessel reaches the start of a transect line, “on effort” survey begins. Areas between transect lines and traveling to and from the study area are defined as “off effort”.

5.5.4 The transect line is surveyed at a speed of 6-8 knots (11-14 km/hr). For the sake of safety, the speed was sometimes a bit slower to avoid collision with other vessels. During some periods, tide and current flow in the survey areas exceeds 7 knots which can affect survey speed. There are a minimum of four marine mammal observers (MMOs) present on each survey, rotating through four positions, observers (2), data recorder (1) and ‘rest’ (1). Rotations occur every 30 minutes or at the end of dolphin encounters. The data recorder records effort, weather and sightings data directly onto the programme Logger and is not part of the observer team. The observers search with naked eye and binoculars between 90° and 270° abeam (bow being 0°).

5.5.5 When a group of dolphins is sighted, position, bearing and distance data are recorded immediately onto the computer and, after a short observation, an estimate made of group size. These parameters are linked to the time-GPS-ships data which are automatically stored in the programme Logger throughout the survey period. In this manner, information on heading, position, speed, weather, effort and sightings are stored in a format suitable for use with DISTANCE software for subsequent line transect analyses.

5.5.6 Once the vessel leaves the transect line, it is deemed to be “off effort”. The dolphins are approached with the purpose of taking high resolution pictures for proper photo-identification of individual CWD. Attempts to photograph all dolphins in the group are made. Both the left and right hand sides of the dorsal fin area of each dolphin in the group are photographed, if possible. On finishing photographing, the vessel will return to the transect line at the point of departure and “on effort” survey is resumed.

5.5.7 Sightings which are made while on the transect line are referred to as "on effort sightings", while not on the actual transect line are referred to as an “opportunistic sightings” (e.g. another group of dolphins is sighted while travelling back to the transect line). Only “on effort sightings” can be used in analyses which require effort or rate quantification, e.g., encounter rate per 100km searched. This is also how “on effort sightings” are treated in the baseline report. “Opportunistic sightings” provide additional information on individual habitat use and population distribution and they are noted accordingly.

5.5.8 As time and GPS data are automatically logged throughout the survey and are linked to sightings data input, start and end times of encounters and deviation from the transect lines are recorded and can be subsequently reviewed.

5.6 Monitoring Schedule for the Reporting Month

5.6.1 The schedule for dolphin monitoring in June 2014 is provided in Appendix F.

5.6.2 Two surveys covering both study areas were completed.

5.7 Results and Observations

5.7.1 Dolphin surveys were conducted on 3, 5, 16 and 17 June 2014. A total of 220.1 km of transect line was conducted under favourable conditions. The total length travelled was also 220.1km, please note that that some lines were shortened due to works and/or shipping traffic.

The effort summary and sightings data are shown in Tables 5.3 and 5.4, respectively. The survey efforts conducted in June 2014 are plotted in Figure 5a-b. For Table 5.3, only on-effort information is included. Transects conducted in all Beaufort Sea State are included. Compared to previous monthly reports, the whole number Beaufort Sea State scale is used so as to ease comparison with other dolphin monitoring reports.

Table 5.3 Impact Dolphin Monitoring Survey Effort Summary, Effort by Area and Beaufort Sea State

Survey	Date	Area	Beaufort	Effort (km)	Total Distance Travelled (km)
1	06/03/2014	NWL	1	17.3	**58.6**
	06/03/2014	NWL	2	30.5	
	06/03/2014	NWL	3	10.8	
	06/05/2014	NWL	2	15.0	**51.8**
	06/05/2014	NEL	1	22.5	
	06/05/2014	NEL	2	14.3	
2	06/16/2014	NWL	1	5.3	**60.5**
	06/16/2014	NWL	2	16.3	
	06/16/2014	NWL	3	2.0	
	06/16/2014	NEL	1	35.8	
	06/16/2014	NEL	2	1.1	
	06/17/2014	NWL	0	0.1	**49.2**
	06/17/2014	NWL	2	19.2	
	06/17/2014	NWL	3	29.9	
TOTAL in June 2014					**220.1**

*Remark: Surveys conduct under Beaufort Sea State 3 or below are considered as under favourable condition.

Table 5.4 Impact Dolphin Monitoring Survey Details June 2014

Date	Location	No. Sightings "on effort"	No. Sightings "opportunistic"
03/06/2014	NW L	1	2
	NEL	0	0
05/06/2014	NW L	0	0
	NEL	1	0
16/06/2014	NW L	1	0
	NEL	0	0
17/06/2014	NW L	1	0
	NEL	0	0
TOTAL in June 2014		**4**	**2**

Table 5.5 The Encounter Rate of Number of Dolphin Sightings & Total Number of Dolphins per Area^

Encounter Rate of Number of Dolphin Sightings (STG)*						
Date	**NEL Track**	**NWL Track**	**NEL Sightings**	**NWL Sightings**	**NEL Encounter Rate**	**NWL Encounter Rate**
3 & 5/6/2014	36.8 km	73.6 km	1	1	2.7	1.4
16 & 17/6/2014	36.9 km	72.8 km	0	2	0	2.7
Encounter Rate of Total Number of Dolphins (ANI)**						
Date	**NEL Track**	**NWL Track**	**NEL Dolphins**	**NWL Dolphins**	**NEL Encounter Rate**	**NWL Encounter Rate**
3 & 5/6/2014	36.8 km	73.6 km	6	1	16.3	1.4
16 & 17/6/2014	36.9 km	72.8 km	0	4	0	5.5

* Encounter Rate of Number of Dolphin Sightings (STG) presents encounter rates in terms of groups per 100km.
** Encounter Rate of Total Number of Dolphins (ANI) presents encounter rates in terms of individuals per 100km. And the encounter rate is not corrected for individuals, calculation may represent double counting.
^The table is made only for reference to the quarterly STG & ANI, which were adopted for the Event & Action Plan.

5.7.2 A total of six sightings were made, two "opportunistic" and four "on effort". Three sightings were made on the 3rd of June in NWL; one sighting was made on 5th June in NEL; one was recorded on 16th June in NWL and one sighting was recorded on 17th June in NWL. A total of nineteen individuals were sighted from the two impact dolphin surveys in the reporting period. Sighting details are summarised and plotted in Appendix K and Figure 5c, respectively.

5.7.3 Behaviour: Of the six sightings, two groups were feeding, two groups were surface active, one group was travelling and one group was engaged in multiple activities which included feeding and surface activity. The locations of sighting with different behaviour are mapped in Figure 5d.

5.7.4 Two calves were seen in three sightings in June 2014, one of them on two occasions.

5.7.5 Photo ID analyses for April 2014 is presented in Appendix K.

5.7.6 Five resightings were noted in May 2014 and one new individual was added to the catalogue. Within the impact monitoring period, HZMB 002 has been sighted 12 times since March 2012; HZMB 054 has been sighted nine times since September 2012; HZMB 085 has been sighted three times since February 2013; HZMB 094 has been sighted five times since March 2013; and HZMB 105 has been sighted twice since July 2013. New individual HZMB 120 was added to the catalogue. It is noted that individuals which have been noted consistently both in the baseline period and in impact monitoring are being recorded regularly as well as seasonally. It is noted from AFCD data that there are several types of residents, e.g., "year round" and "seasonal", and certainly for some individuals this previously documented pattern still occurs.

5.7.7 Noteworthy Observation[1]:

5.7.7.1 When impact monitoring was conducted at the southern parts of transect lines 1 & 2, the view of the area was partially blocked by the working vessels and fixed structures which do not belong to HKBCF Reclamation Works. The number of fixed structures has increased and the working vessels have moved when compared to last month's observations. As the working vessels will move during the on-going works, it is considered that they will temporarily affect survey protocol, survey data collection,

[1] A noteworthy observation is to show that either the conduct of the surveys themselves is affected, i.e., the noted vessel or works impedes the progress or view of the survey platform. In addition, the vessel or construction works may be different or additional to that observed previously and further, are of such a nature that they are a likely to create an impact on the movement or behaviour of the subject of the impact survey, in this case, the dolphins.

dolphin movement, dolphin habitat use and dolphin behaviour, whereas the fixed structures will continuously affect survey protocol, survey data collection, dolphin movement, dolphin habitat use and dolphin behaviour.

5.7.7.2 The HKBCF Project effected lines 12 and 13. The view of the area was partially blocked by the working vessels and in water structures. The number of fixed structures increased and working vessels had moved position when compared to observations made during last month's survey. As the working vessels will move as construction progresses, they will cause temporary effects to survey protocol, survey data collection, dolphin movement, dolphin habitat use and dolphin behaviour, whereas thefixed structures will affect all survey protocols and dolphin ecology in the long term.

5.7.7.3 The northern end of line 10 was affected by works which do not belongs to the HKBCF Reclamation Works; in particular, the view of the area was partially blocked by the working vessels. The in water structures has increased in size and the working vessels have moved position when compared to observations made during last month's survey. As the working vessels will move during the on-going works, they will temporarily affect survey data collection, dolphin movement, dolphin habitat use and dolphin behaviour. The works here are creating a reclamation/sea wall site which is permanent and will thus continuously affect all survey protocols and dolphin ecology.

5.7.7.4 It was observed that lines 11 and 12 had been affected by the others construction activities in the vicinity, which are not related to the HKBCF Reclamation Works.

5.7.7.5 The new project is ongoing located at the southern ends of lines 4 and 5. These works partially blocked some of the survey view. As reported last month, there are no fixed structures, however, the moving platform and related vessels move between survey periods. As it is not known what activities these barges and platforms are conducting, the effect that these works may specifically have on dolphins is not known at this time.

5.7.7.6 In Jun 14, the impact survey vessel route shifted slightly to the east at the northern end of transect line 11 due to works at HKBCF. In future, the impact survey route will follow as closely as possible the predefined transect 11. According to the review provided by the dolphin specialist during the investigation in Jan 2014, the shift in the transect line will not affect the overall dolphin impact monitoring analyses.

5.7.8 The survey effort log notes the areas in which the visibility is limited or the survey is affected so that these can be accounted for in any subsequent analyses. Some of these obstructions will become permanent and some will be temporary as the HZMB is built and other projects progress. It is advised that the impact monitoring surveys should be completed as close to the predefined lines as possible (as per Figure 4 of this report).

5.7.9 The above noteworthy observations are largely a result of multiple and on-going infrastructure projects within the Lantau area. No amendment to EM&A protocols can negate the effects of these projects, e.g., it is a highly dynamic environment and viewing conditions may alter every survey (sometimes within surveys) and most of the survey area is affected, to some degree, by marine construction works. Instead, survey data analyses should incorporate any noteworthy observations which may affect either data collection or dolphin distribution and behavioural changes. The above mentioned activities recorded during boat survey will not affect implementation of the EM&A Programme provided appropriate data analyses are conducted. Given that viewing conditions will change frequently during the construction phase of HZMB, it is inappropriate at this time to implement any changes in EM&A procedures, however, a review of survey conditions will be made from time to time to assess if changes to procedures are required.

5.7.10 The event action plan is annexed in Appendix L.

6 ENVIRONMENTAL SITE INSPECTION AND AUDIT

6.1 Site Inspection

6.1.1 Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. In the reporting month, 4 site inspections were carried out on 5, 12, 19 and 26 June 2014.

6.1.2 Particular observations during the site inspections are described below:

Air Quality

6.1.3 Dark smoke was observed generated by excavator. The Contractor was reminded to regularly maintain the plants to avoid generation of dark smoke. The Contractor prevented generation of dark smoke by plant. (Closed)

6.1.4 Dust control measures such as water car was observed. However the Contractor was reminded to review the need to enhance current dust control measures. (Reminder)

6.1.5 Public fill/exposed soil was observed, surface was kept moist. However, the Contractor was reminded to continue to provide dust control measures to exposed soil. (Reminder)

6.1.6 Fugitive dust was observed generated when excavator was drove through a road; the Contractor was reminded to provide dust control measures. Dust control measures such as watering was provided on the road. (Closed)

Noise

6.1.7 No adverse observation was identified in the reporting month.

Water Quality

6.1.8 Oil drum and idle air compressor were observed without drip tray on reclamation work. The Contractor was reminded to provide enough drip trays for oil drum. The Contractor provided enough drip trays for oil drum or removed the oil drum and the Contractor relocated the air compressor. (Closed)

6.1.9 Waste at waste collection point, generator and oil drums were observed partially submerged into sea water. The Contractor was advised to put the collected waste, generator and oil drums to higher ground to prevent the situation at near barge 天駿 3 and at near at Portion B. Waste at waste collection point, generator and oil drums were moved to higher ground. (Closed)

Chemical and Waste Management

6.1.10 General refuse and unwanted band drain material were observed at various locations of the reclamation work. The Contractor was reminded to clear the and properly dispose these wastes of regularly. The general refuse and unwanted band drain materials were cleared and disposed of by the Contractor. (Closed)

Landscape and Visual Impact

6.1.11 No relevant works was carried out in the reporting month.

Others

6.1.12 Rectifications of remaining identified items are undergoing by the Contractor. Follow-up inspections on the status on provision of mitigation measures will be conducted to ensure all identified items are mitigated properly.

6.2 Advice on the Solid and Liquid Waste Management Status

6.2.1 The Contractor had registered as a chemical waste producer for this Project. Receptacles were available for general refuse collection and sorting.

6.2.2 As advised by the Contractor, 752,771.1m^3 of fill were imported for the Project use in the reporting period. 140kg of paper/cardboard packaging, 8,800kg of chemical waste, 169m^3 of general refuse were generated and disposed of in the reporting period. Monthly summary of waste flow table is detailed in Appendix M.

6.2.3 The Contractor is advised to properly maintain on site C&D materials and wastes storage, collection, sorting and recording system, dispose of C&D materials and wastes at designated ground and maximize reuse / recycle of C&D materials and wastes. The Contractor is reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.

6.2.4 The Contractor is reminded that chemical waste should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labeling and Storage of Chemical Wastes.

6.3 Environmental Licenses and Permits

6.3.1 The environmental licenses and permits for the Project and valid in the reporting month is summarized in Table 6.1.

Table 6.1 Summary of Environmental Licensing and Permit Status

Statutory Reference	License/ Permit	License or Permit No.	Valid Period		License/ Permit Holder	Remarks
			From	To		
EIAO	Environmental Permit	EP-353/2009/G	06/08/2012	N/A	HyD	Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities
		EP-354/2009/B	28/01/2014	N/A		Tuen Mun – Chek Lap Kok Link (TMCLKL Southern Landfall Reclamation only)
APCO	NA notification	--	30/12/2011	--	CHEC	Works Area WA2 and WA3
APCO	NA notification	--	17/01/2012	--	CHEC	Works Area WA4
WDO	Chemical Waste Producer Registration	5213-951-C1186-21	30/3/2012	N/A	CHEC	Chemical waste produced in Contract HY/2010/02
WDO	Chemical Waste Producer Registration	5213-974-C3750-01	31/10/2012	--	CHEC	Registration as Chemical Waste Producer at To Kau Wan(WA4)
WDO	Chemical Waste Producer Registration	5213-839-C3750-02	13/09/2012	--	CHEC	Registration as Chemical Waste Producer at TKO 137(FB)
WDO	Billing Account for Disposal of Construction Waste	7014181	05/12/2011	N/A	CHEC	Waste disposal in Contract HY/2010/02
NCO	Construction Noise Permit	GW-RS0211-14	11/03/2014	10/09/2014	CHEC	Reclamation Works in Contract HY/2010/02
NCO	Construction Noise Permit	GW-RS0490-14	22/05/2014	21/08/2014	CHEC	Reclamation Works in Contract HY/2010/02
NCO	Construction Noise Permit	GW-RE0656-14	30/06/2014	22/12/2014	CHEC	Section of TKO Fill Bank under Contract HY/2010/02

6.4 Implementation Status of Environmental Mitigation Measures

6.4.1 In response to the site audit findings, the Contractors carried out corrective actions.

6.4.2 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in Appendix C. Most of the necessary mitigation measures were implemented properly.

6.4.3 Training of marine travel route for marine vessels operator was given to relevant staff and relevant records were kept properly.

6.4.4 Regarding the implementation of dolphin monitoring and protection measures (i.e. implementation of Dolphin Watching Plan, Dolphin Exclusion Zone and Silt Curtain integrity Check), regular checking were conducted by the experienced MMOs within the works area to ensure no dolphin was trapped by the enclosed silt curtain systems. Any dolphin spotted within the enclosed silt curtain systems was reported and recorded. Relevant procedures were followed and measures were well implemented. Silt curtain systems were also inspected timely in accordance to the submitted plan. All inspection records were kept properly.

6.4.5 Acoustic decoupling measures on noisy plants on construction vessels were checked regularly and the Contractor was reminded to ensure provision of ongoing maintenance to noisy plants and to carry out improvement work once insufficient acoustic decoupling measures were found.

6.4.6 Frequency of watering per day on exposed soil was checked; with reference to the record provided by the Contract, watering was conducted at least 8 times per day on reclaimed land. The Contractor was reminded to ensure provision of watering of at least 8 times per day on all exposed soil within the Project site and associated works areas throughout the construction phase.

6.5 Summary of Exceedances of the Environmental Quality Performance Limit

6.5.1 All 1-Hour TSP and 24-hour TSP results were below the Action and Limit Level in the reporting month.

6.5.2 For construction noise, no exceedance was recorded at all monitoring stations in the reporting period.

6.5.3 For impact water quality monitoring, no exceedance was recorded at all monitoring stations in the reporting period.

6.5.4 Cumulative statistics on exceedance is provided in Appendix N.

6.6 Summary of Complaints, Notification of Summons and Successful Prosecutions

6.6.1 The Environmental Complaint Handling Procedure is annexed in Figure 6.

6.6.2 No environmental complaint, notification of summons and successful prosecutions was received in the reporting period.

6.6.3 Statistics on complaints, notifications of summons and successful prosecutions are summarized in Appendix N.

7 FUTURE KEY ISSUES

7.1 Construction Programme for the Coming Months

7.1.1 As informed by the Contractor, the major works for the Project in July 2014 and August 2014 will be*:-

Marine-based Works

- Cellular structure installation
- Connecting arc cell installation
- Laying geo-textile
- Sand blanket laying
- Sand filling
- Maintenance of silt curtain & silt screen at sea water intake of HKIA
- Band drain installation
- Backfill cellular structure
- Geotechnical Instrumentation works
- Surcharge laying
- Capping Beams structures
- Construction of temporary jetties for surcharge laying
- Temporary Watermain construction along access at Portion D
- Flat barge of unloading public fill for surcharge laying
- Precast Yard Setup

Land-based Works

- Maintenance works of Site Office at Works Area WA2
- Maintenance works of Public Works Regional Laboratory at Works Area WA3
- Maintenance of Temporary Marine Access at Works Area WA2

*Construction activities in Jul & Aug 14 will be changed subject to works progress.

7.2 Key Issues for the Coming Month

7.2.1 Key issues to be considered in the coming months:-

- Site runoff should be properly collected and treated prior to discharge;
- Minimize loss of sediment from filling works;
- Regular review and maintenance of silt curtain systems, drainage systems and desilting facilities;
- Exposed surfaces/soil stockpiles should be properly treated to avoid generation of silty surface run-off during rainstorm;
- Regular review and maintenance of wheel washing facilities provided at all site entrances/exits;
- Conduct regular inspection of various working machineries and vessels within works areas to avoid any dark smoke emission;
- Suppress dust generated from work processes with use of bagged cements, earth movements, excavation activities, exposed surfaces/soil stockpiles and haul road traffic;
- Quieter powered mechanical equipment should be used;
- Provision of proper and effective noise control measures for operating equipment and machinery on-site, such as erection of movable noise barriers or enclosure for noisy plants;
- Closely check and replace the sound insulation materials regularly;
- Better scheduling of construction works to minimize noise nuisance;
- Properly store and label oil drums and chemical containers placed on site;
- Proper chemicals, chemical wastes and wastes management;
- Maintenance works should be carried out within roofed, paved and confined areas;
- Collection and segregation of construction waste and general refuse on land and in the sea should be carried out properly and regularly; and
- Proper protection and regular inspection of existing trees, transplanted/retained trees.

7.3 Monitoring Schedule for the Coming Month

7.3.1 The tentative schedule for environmental monitoring in July 2014 is provided in Appendix F.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

8.1.1 The construction phase and EM&A programme of the Project commenced on 12 March 2012.

8.1.2 For impact air quality monitoring, all 1-Hour TSP and 24-hour TSP results were below the Action and Limit Level in the reporting month.

8.1.3 For construction noise, no exceedance was recorded at all monitoring stations in the reporting period.

8.1.4 For impact water quality monitoring, no exceedance was recorded at all monitoring stations in the reporting period.

8.1.5 For dolphin monitoring, a total of six sightings were made, two “opportunistic” and four “on effort”. Three sightings were made on the 3rd of June in NWL; one sighting was made on 5th June in NEL; one was recorded on 16th June in NWL and one sighting was recorded on 17th June in NWL. A total of nineteen individuals were sighted from the two impact dolphin surveys in the reporting period. Sighting details are summarised and plotted in Appendix K and Figure 5c, respectively.

8.1.6 Dolphin behaviour: Of the six sightings, two groups were feeding, two groups were surface active, one group was travelling and one group was engaged in multiple activities which included feeding and surface activity. The locations of sighting with different behaviour are mapped in Figure 5d

8.1.7 Two calves of CWD were seen in three sightings in June 2014, one of them on two occasions.

8.1.8 Environmental site inspection was carried out 4 times in June 2014. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audits.

8.1.9 No notification of environmental complaint, summons and successful prosecution was received in the reporting period.

8.2 Recommendations

8.2.1 According to the environmental site inspections performed in the reporting month, the following recommendations were provided:

Air Quality Impact

- All working plants and vessels on site should be regularly inspected and properly maintained to avoid dark smoke emission.
- All vehicles should be washed to remove any dusty materials before leaving the site.
- Haul roads should be sufficiently dampened to minimize fugitive dust generation.
- Wheel washing facilities should be properly maintained and reviewed to ensure properly functioning.
- Temporary exposed slopes and open stockpiles should be properly covered.
- Enclosure should be erected for cement debagging, batching and mixing operations.
- Water spraying should be provided to suppress fugitive dust for any dusty construction activity.

Construction Noise Impact

- Quieter powered mechanical equipment should be used as far as possible.
- Noisy operations should be oriented to a direction away from sensitive receivers as far as possible.
- Proper and effective noise control measures for operating equipment and machinery on-site should be provided, such as erection of movable noise barriers, enclosure for noisy plants or enhancement works to provide sufficient acoustic decoupling measure(s). Closely check and replace the sound insulation materials regularly
- Vessels and equipment operating should be checked regularly and properly maintained.
- Noise Emission Label (NEL) shall be affixed to the air compressor and hand-held breaker operating within works area.
- Acoustic decoupling measures should be properly implemented for all existing and incoming construction vessels with continuous and regularly checking to ensure effective implementation of acoustic decoupling measures.

Water Quality Impact

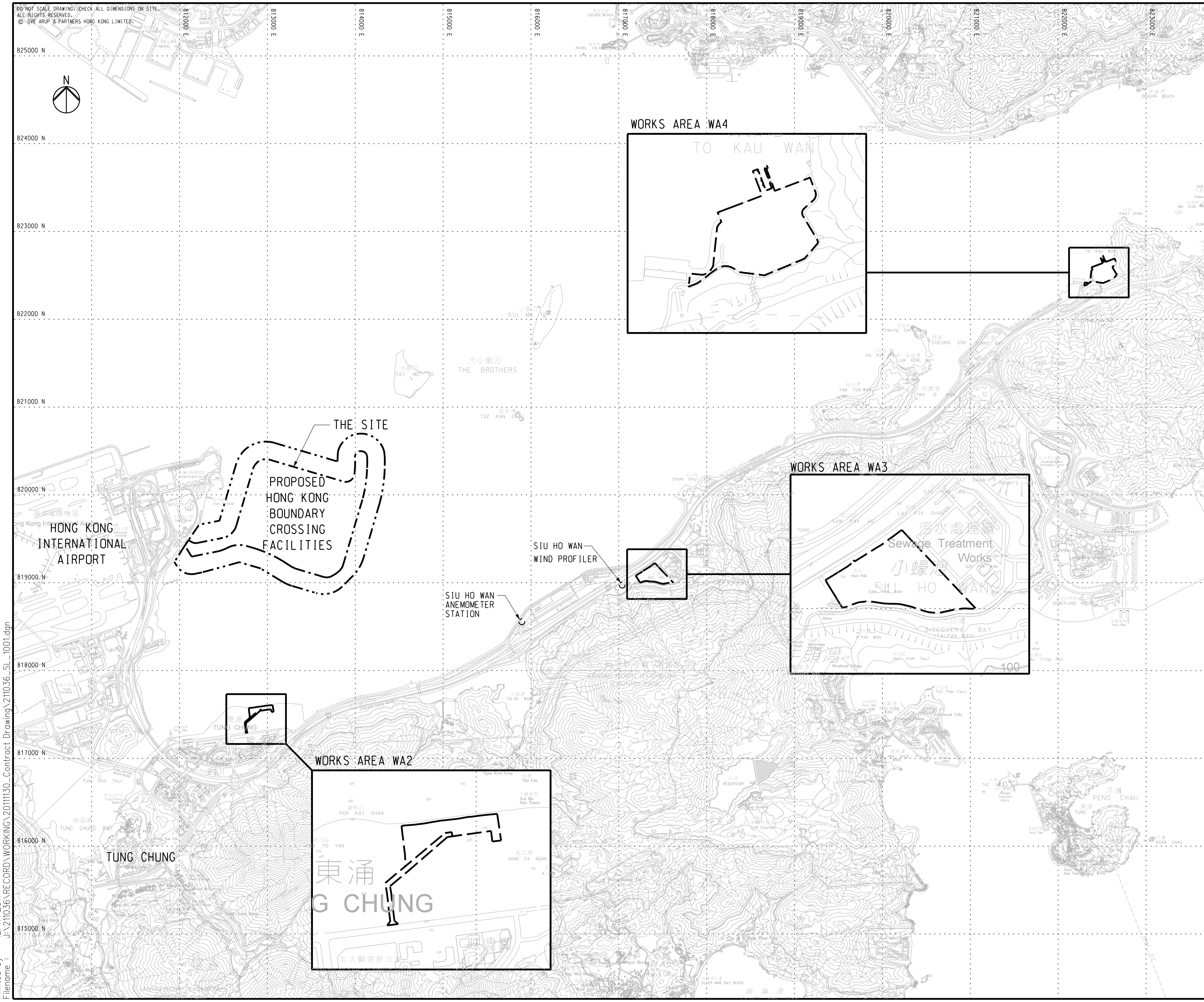
- Regular review and maintenance of silt curtain systems, drainage systems and desilting facilities in order to make sure they are functioning effectively.
- Construction of seawall should be completed as early as possible.
- Regular inspect and review the loading process from barges to avoid splashing of material.
- Silt, debris and leaves accumulated at public drains, wheel washing bays and perimeter u-channels and desilting facilities should be cleaned up regularly.
- Silty effluent should be treated/ desilted before discharged. Untreated effluent should be prevented from entering public drain channel.
- Proper drainage channels/bunds should be provided at the site boundaries to collect/intercept the surface run-off from works areas.
- Exposed slopes and stockpiles should be covered up properly during rainstorm.

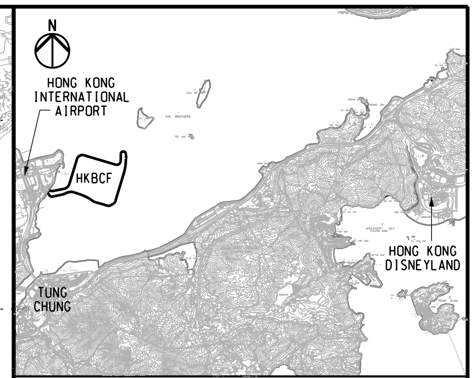
Chemical and Waste Management

- All types of wastes, both on land and floating in the sea, should be collected and sorted properly and disposed of timely and properly. They should be properly stored in designated areas within works areas temporarily.
- All chemical containers, batteries and oil drums should be properly stored and labelled.
- All plants and vehicles on site should be properly maintained to prevent oil leakage. Proper measures, like drip trays and/or bundings, should be provided for retaining leaked oil/chemical from plants.
- All kinds of maintenance works should be carried out within roofed, paved and confined areas.
- All drain holes of the drip trays utilized within works areas should be properly plugged to avoid any oil and chemical waste leakage.
- Oil stains on soil surface, accumulated oil mixture and empty chemical containers should be cleared and disposed of as chemical waste.
- Regular review should be conducted for working barges and patrol boats to ensure sufficient measures and spill control kits were provided on working barges and patrol boats to avoid any spreading of leaked oil/chemicals.

Landscape and Visual Impact

- All existing, retained/transplanted trees at the works areas should be properly fenced off and regularly inspected.





KEY PLAN

NOTES

1. ALL COORDINATES ARE RELATED TO HONG KONG 1980 GRID.
2. ALL LEVELS ARE IN METRES ABOVE HONG KONG PRINCIPAL DATUM (mPD).
3. REFER TO DRG NO. 211036/SL/1002 FOR THE DEFINITION OF SETTING OUT LINE (SOL) FOR THE HONG KONG BOUNDARY CROSSING FACILITIES (HKBCF) RECLAMATION SITE.
4. REFER TO DRG NO. 211036/SL/1004 FOR DETAILS OF SITE BOUNDARY.
5. FOR EXTENT OF SORTING FACILITIES AT FILL BANK AT TSEUNG KWAN O AREA 137 REFER TO DRG NO. 211036/SL/1015.

LEGEND

- SITE BOUNDARY
- SETTING OUT LINE (SOL)
- WORKS AREA BOUNDARY

Rev	Description	By	Date
-	FOR CONSTRUCTION	HYJL	11/11

Consultant

ARUP 奧雅納工程顧問 Ove Arup & Partners Hong Kong Limited

Supported By :
- Ecosystems Ltd.
- EDA Marine Ltd.
- Geotechnical Consulting Group (Asia) Ltd.
- Hong Kong Cetacean Research Project
- InteliBuild Technyx Asia Limited
- Tony Gee and Partners LLP

Contract No. and Title:
Contract No. HY/2010/02
Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities
- Reclamation Works

Drawing title
KEY PLAN

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211036/SL/1001		-	
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Scale 1:20000 @A1 1:40000 @A3		Status WORKING	

路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

Printed by : 12/17/2011
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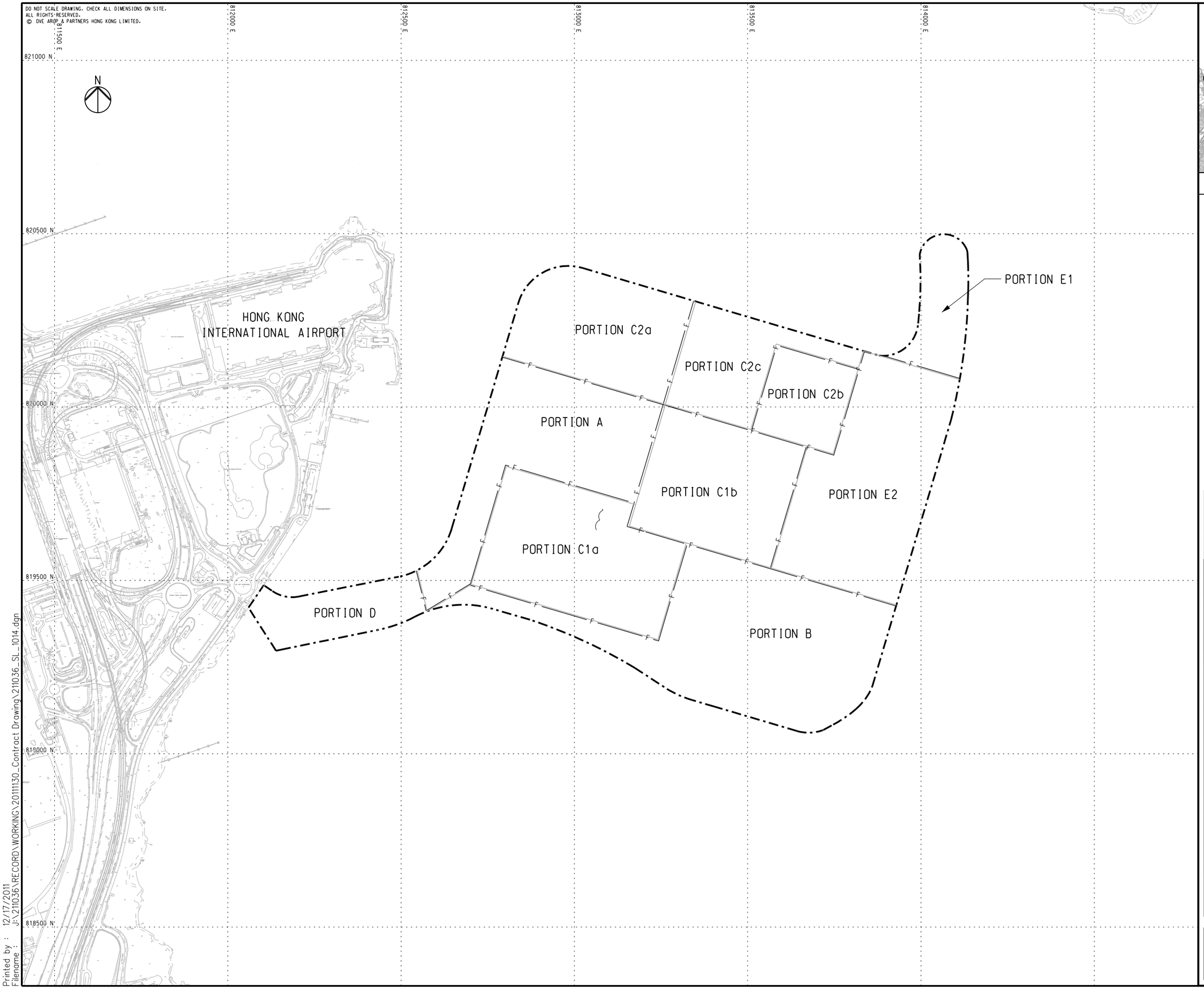

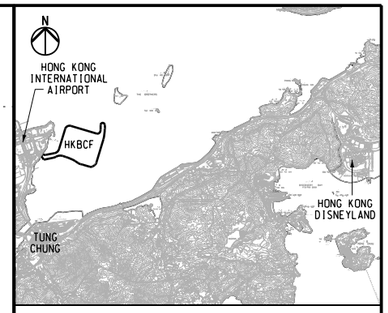

KEY PLAN

NOTES

1. FOR LEGENDS AND NOTES FOR CHAIN LINK FENCE AND GATE REFER TO DRG NO. 211036/SL/1013.
2. THE ERECTION OF CHAIN LINK FENCE AND GATES SHALL BE COMPLETED BY THE HANDOVER DATE OF EACH PORTION OF SITE, OR AS INSTRUCTED BY THE ENGINEER.
3. FOR SETTING OUT COORDINATES OF DIFFERENT PORTIONS OF SITE REFER TO DRG NO. 211036/SL/1003.
4. ACCESS POINTS BETWEEN PORTIONS SHALL BE PROVIDED BY THE CONTRACTOR. AND THE LOCATIONS SHALL BE AGREED WITH THE ENGINEER ON SITE.
5. FOR HOARDING AND FENCE AT FILL BANK AT TSEUNG KWAN O AREA 137 REFER TO DRG NO. 211036/SL/1015.

LEGEND

- SETTING OUT LINE (SOL)
- WORKS AREA BOUNDARY
- PORTIONS BOUNDARY LINE

Rev	Description	By	Date
-	FOR CONSTRUCTION	HYJL	11/11

Consultant

ARUP 奧雅納工程顧問 Ove Arup & Partners Hong Kong Limited

Supported By :
- Ecosystems Ltd.
- EDA Marine Ltd.
- Geotechnical Consulting Group (Asia) Ltd.
- Hong Kong Cetacean Research Project
- InteliBuild Technyx Asia Limited
- Tony Gee and Partners LLP

Contract No. and Title:
Contract No. HY/2010/02
Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities
- Reclamation Works

Drawing title
WORKS AREA LAYOUT
AND HORADING PLAN
(SHEET 2 OF 3)

Drawing no.	Rev.
211036/SL/1014	-

Drawn	Date	Checked	Approved
RL	06/10	KKY	DML

Scale 1:5000 @A1 1:10000 @A3
Status WORKING

路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

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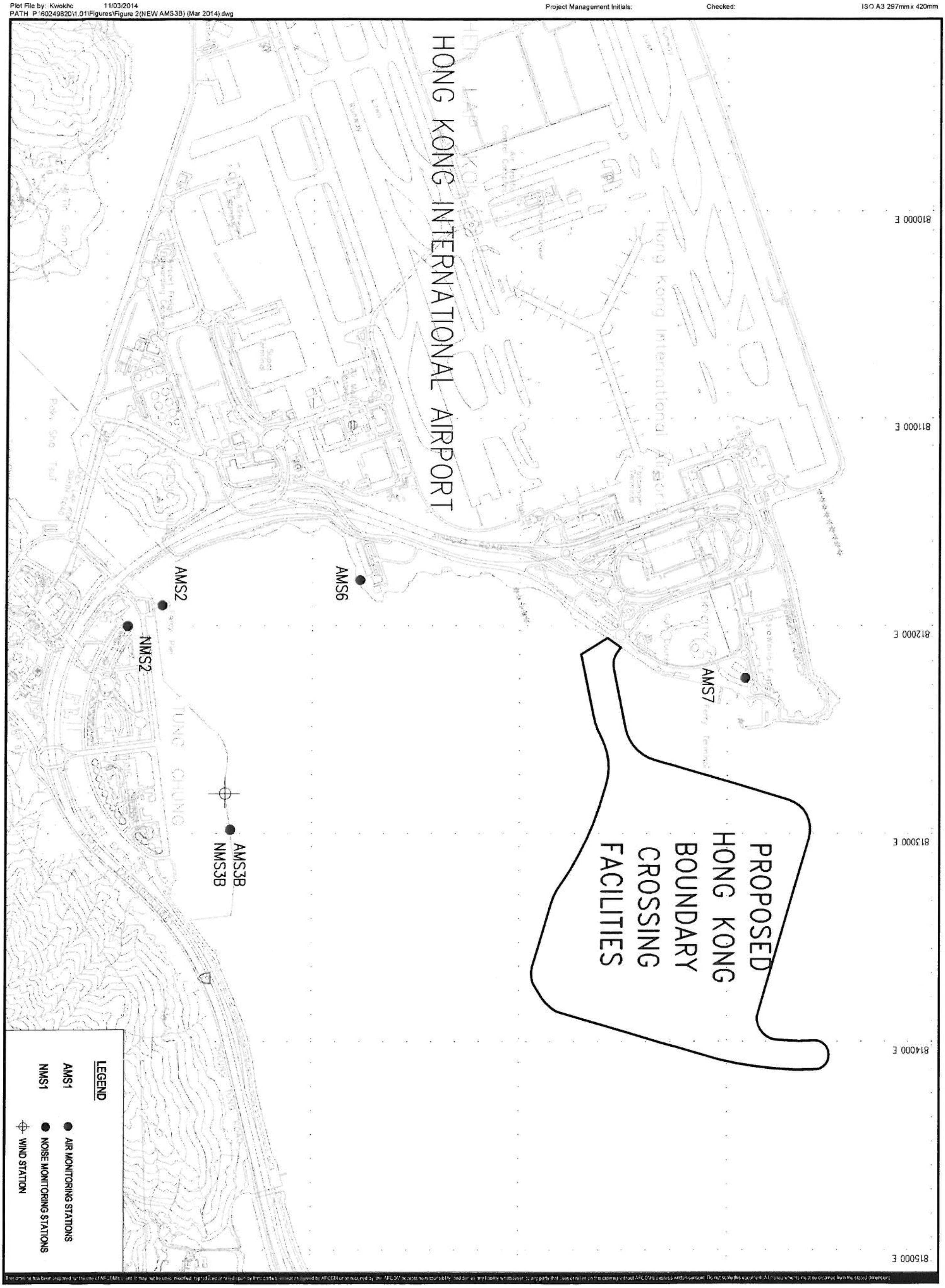

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: - Date: MARCH 2014

AIR QUALITY AND NOISE MONITORING STATIONS FOR HKBCF

AECOM

Figure 2

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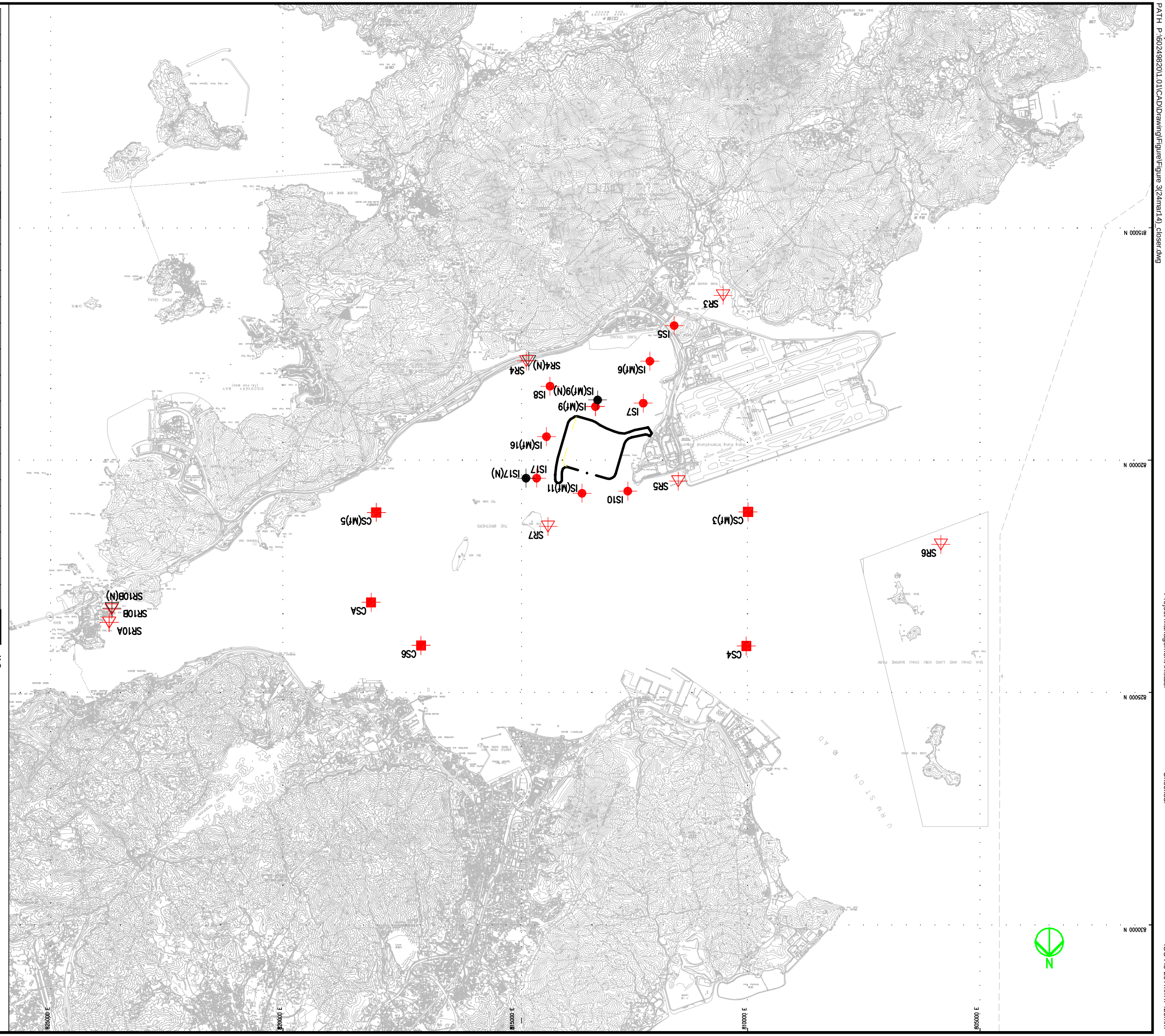
25/03/2014

Project Management Initials:

Checked:

ISO A3 297mm x 420mm



MONITORING STATIONS	CO-ORDINATES	
	EASTING	NORTHING
IS5	811579	817106
IS(M)6	812101	817873
IS7	812244	818777
IS8	814251	818412
IS(M)9	813273	818850
IS(M)9(N)	813226	818708
IS10	812577	820670
IS(M)11	813562	820716
IS(M)16	814328	819497
IS17	814539	820391
IS17(N)	814767	820391
SR3	810525	816456
SR4(N)	814705	817859
SR5	811489	820455
SR6	805837	821818
SR7	814293	821431
SR10A	823741	823495
SR10B(N)	823683	823187
CS(M)3	809989	821117
CS(M)5	817990	821129
CS4	810025	824004
CS6	817028	823992
CSA	818103	823064

SETTING OUT SCHEDULE

LEGEND

- IS — IMPACT STATIONS
- CS — CONTROL / FAR FIELD STATIONS
- SR — SENSITIVE RECEIVERS STATIONS
- SR — SENSITIVE RECEIVERS STATIONS (RELOCATED)
- IS — IMPACT STATIONS (RELOCATED)

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

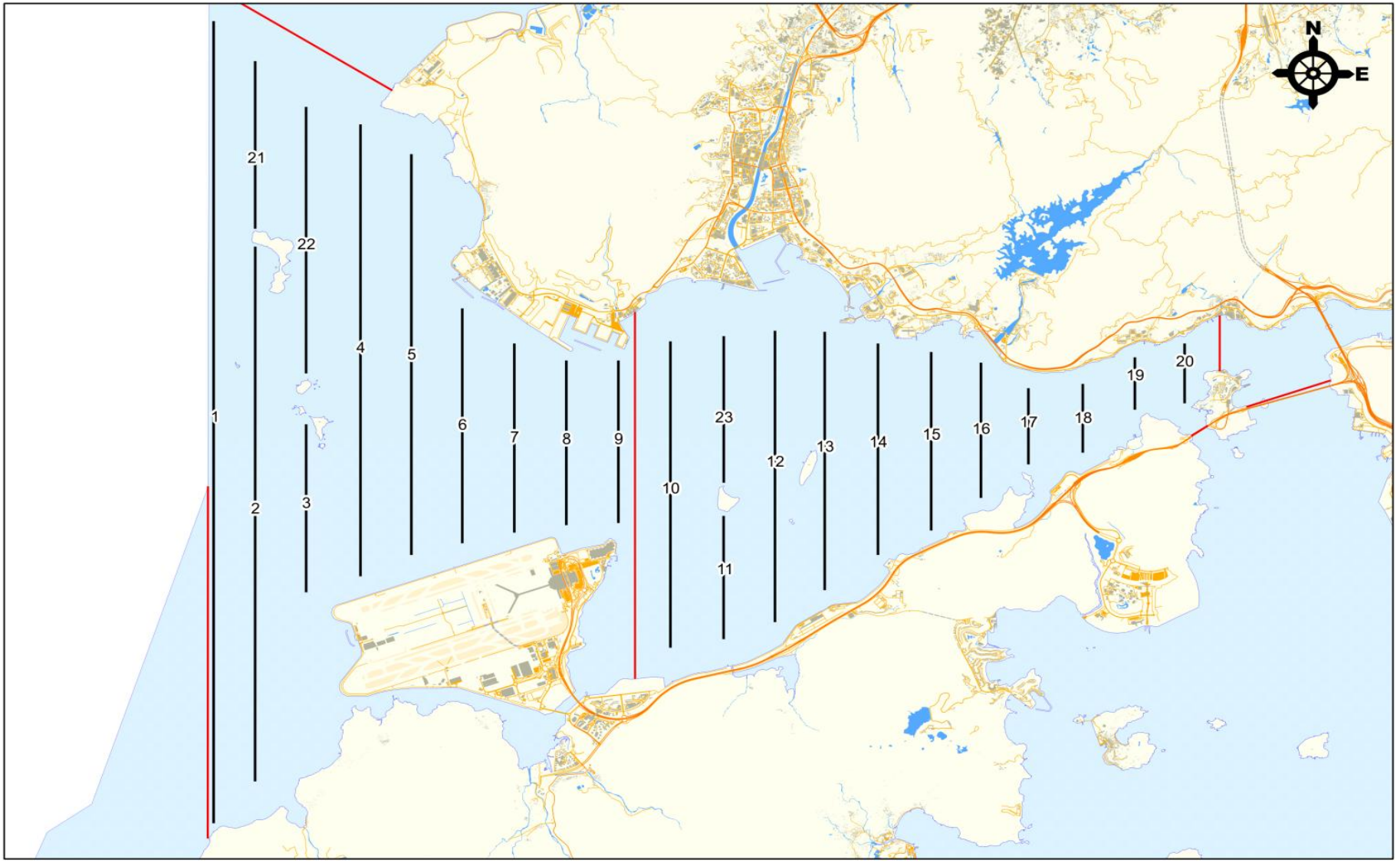
Project No.: -

Date: MAR 2014

WATER QUALITY MONITORING STATION

AECOM

Figure 3



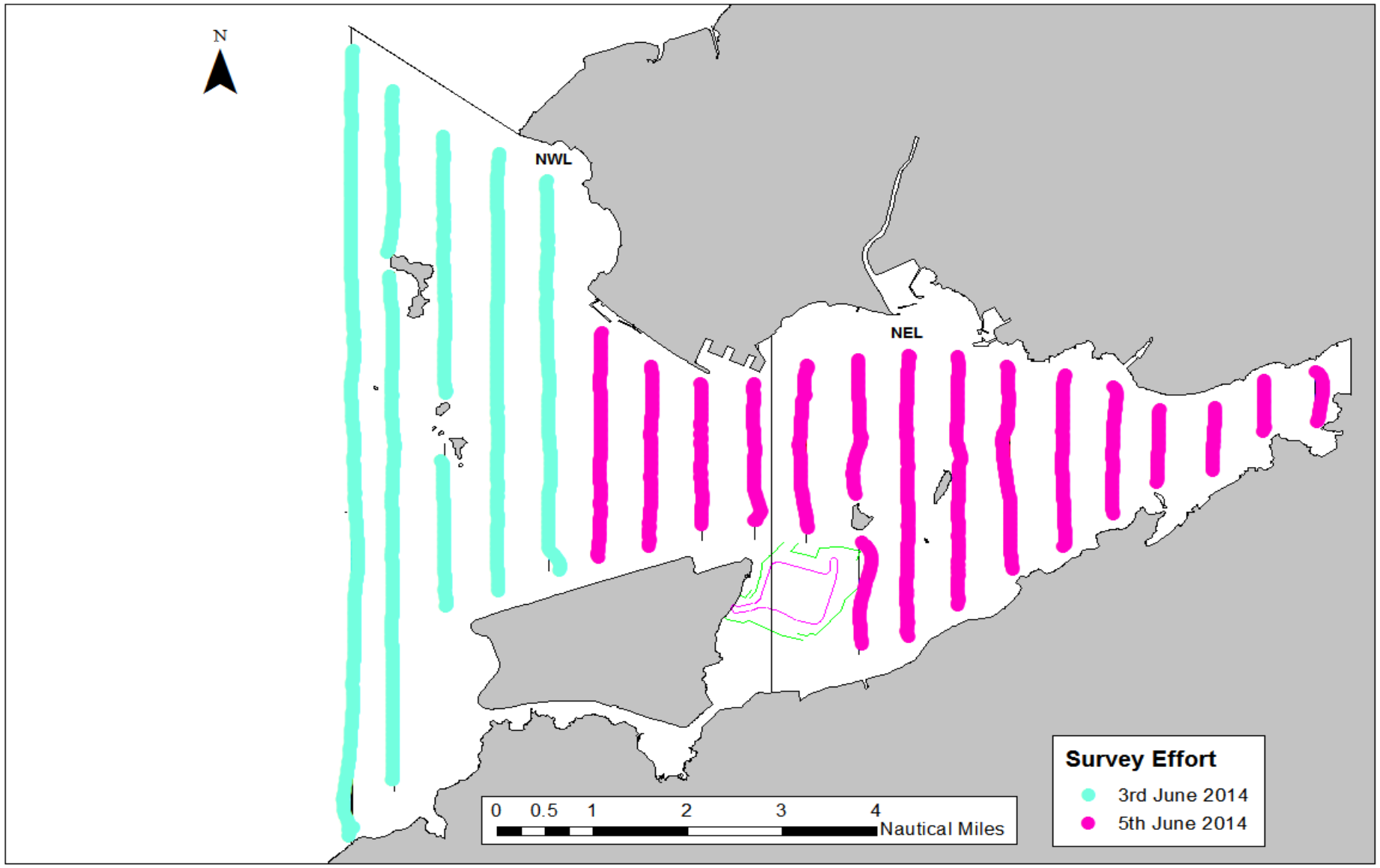
***Remark: Transect 10 is now 3.6km in length due to the HKBCF construction site. The total transect length for both NEL and NWL combined is 111km.**

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 Date: January 13

Impact Dolphin Monitoring
Line Transect Layout Map

AECOM

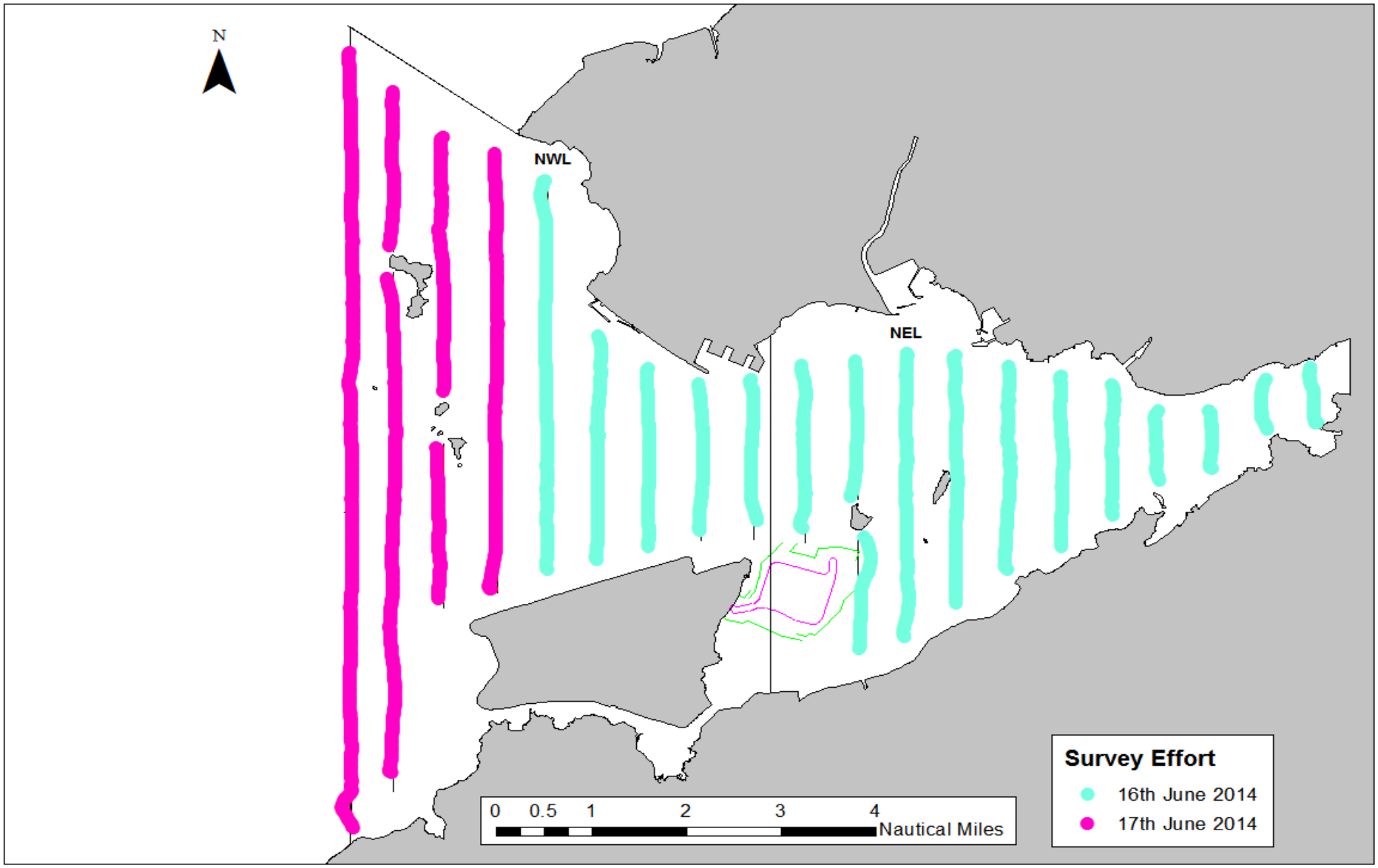
Figure 4



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 **Date: July 2014**

Impact Dolphin Monitoring Survey Efforts on 3 and 5 June 2014

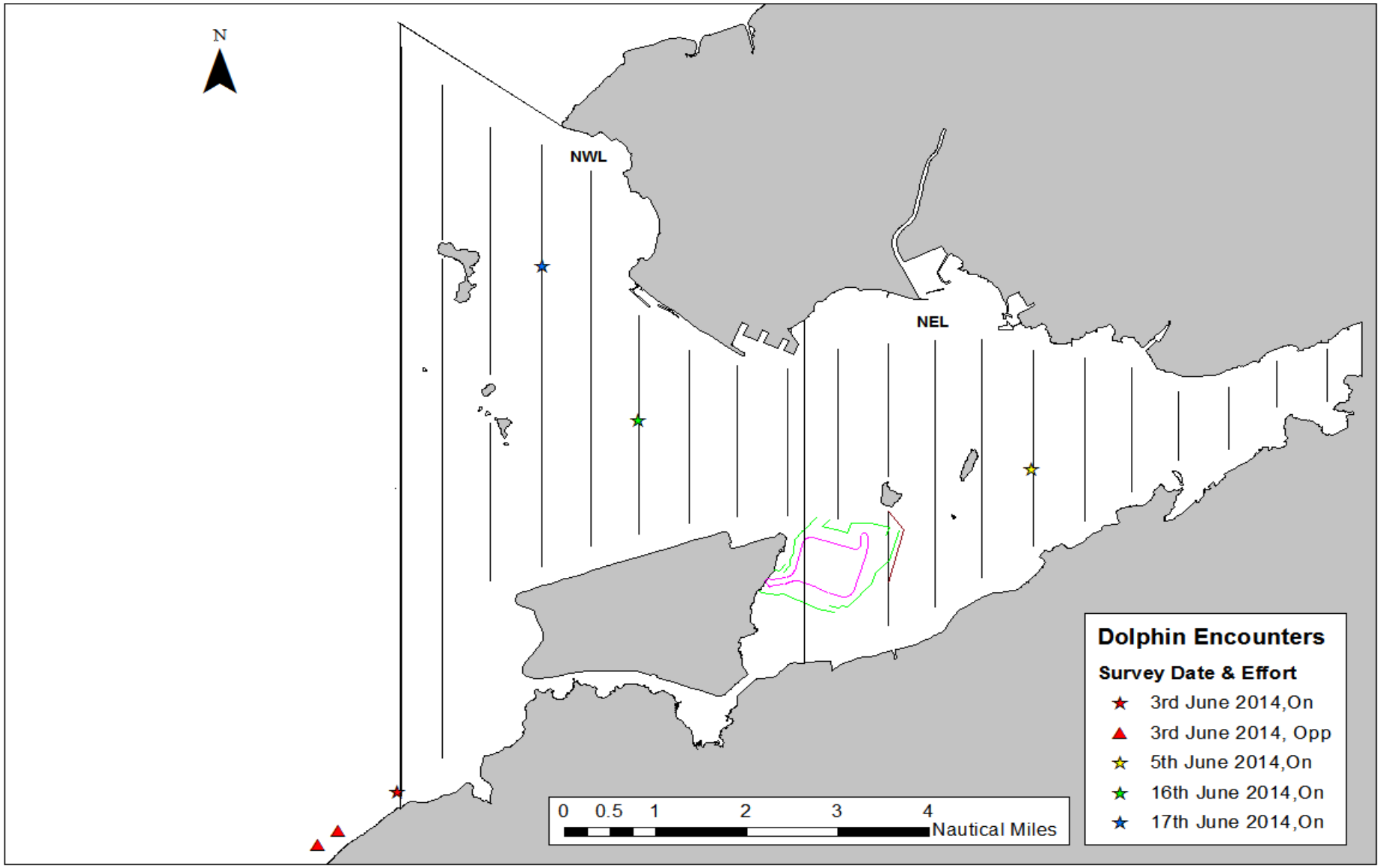
Figure 5a



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 **Date: July 2014**

Impact Dolphin Monitoring Survey Efforts on 16 and 17 June 2014

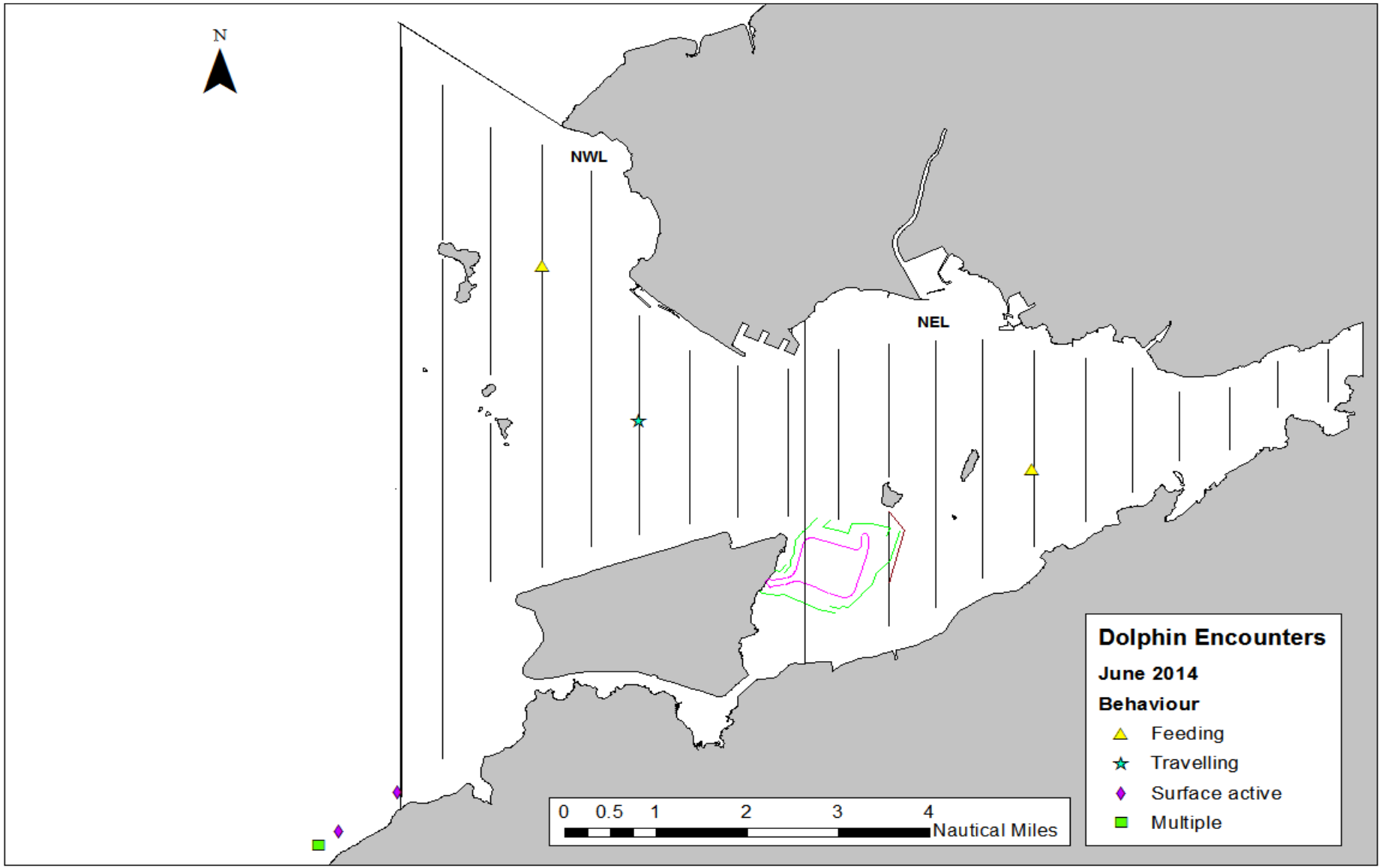
Figure 5b



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 **Date: July 2014**

Impact Dolphin Monitoring Survey
Sightings in June 2014

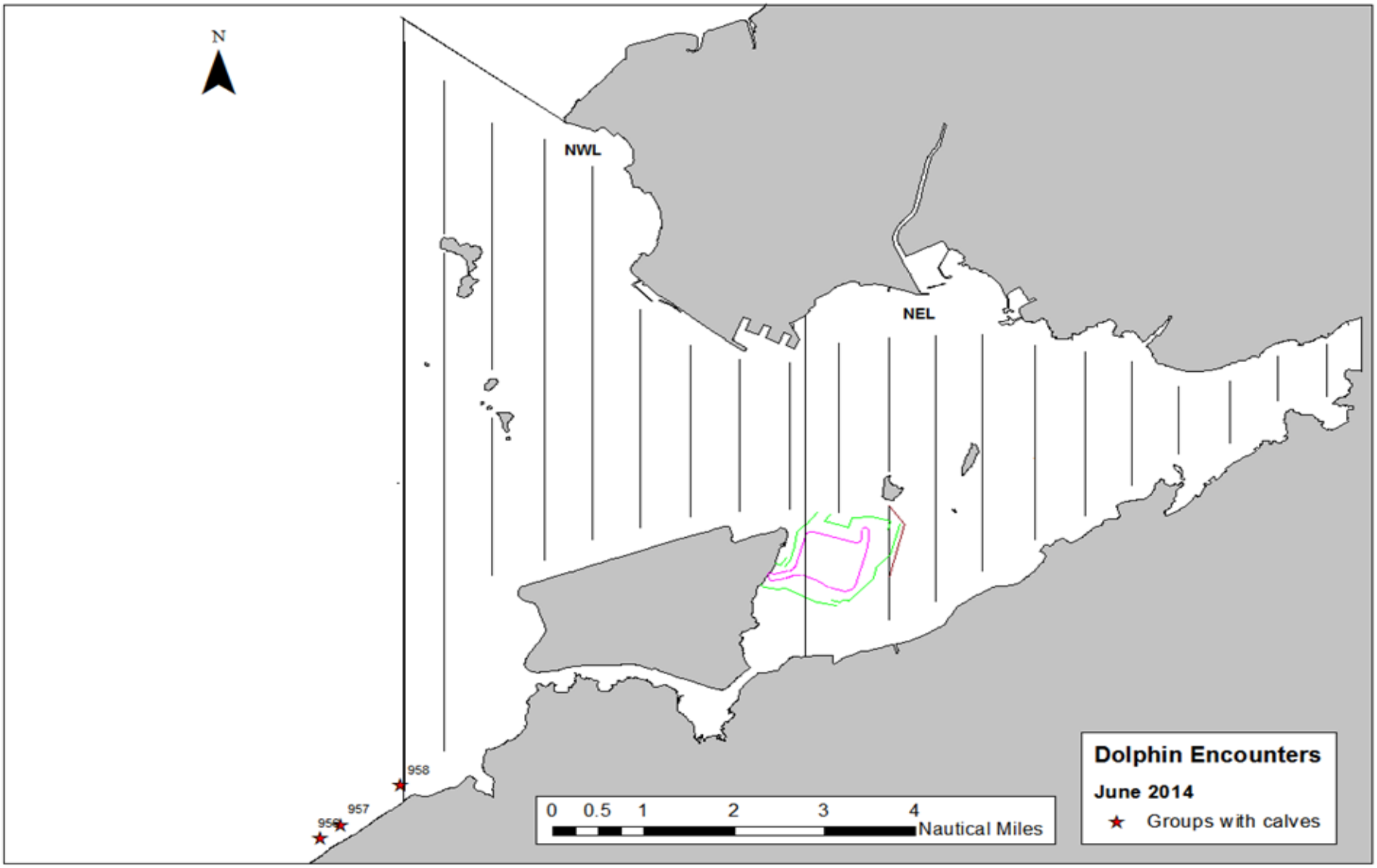
Figure 5c



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 **Date: July 2014**

Impact Dolphin Monitoring Survey
Behaviour Map in June 2014

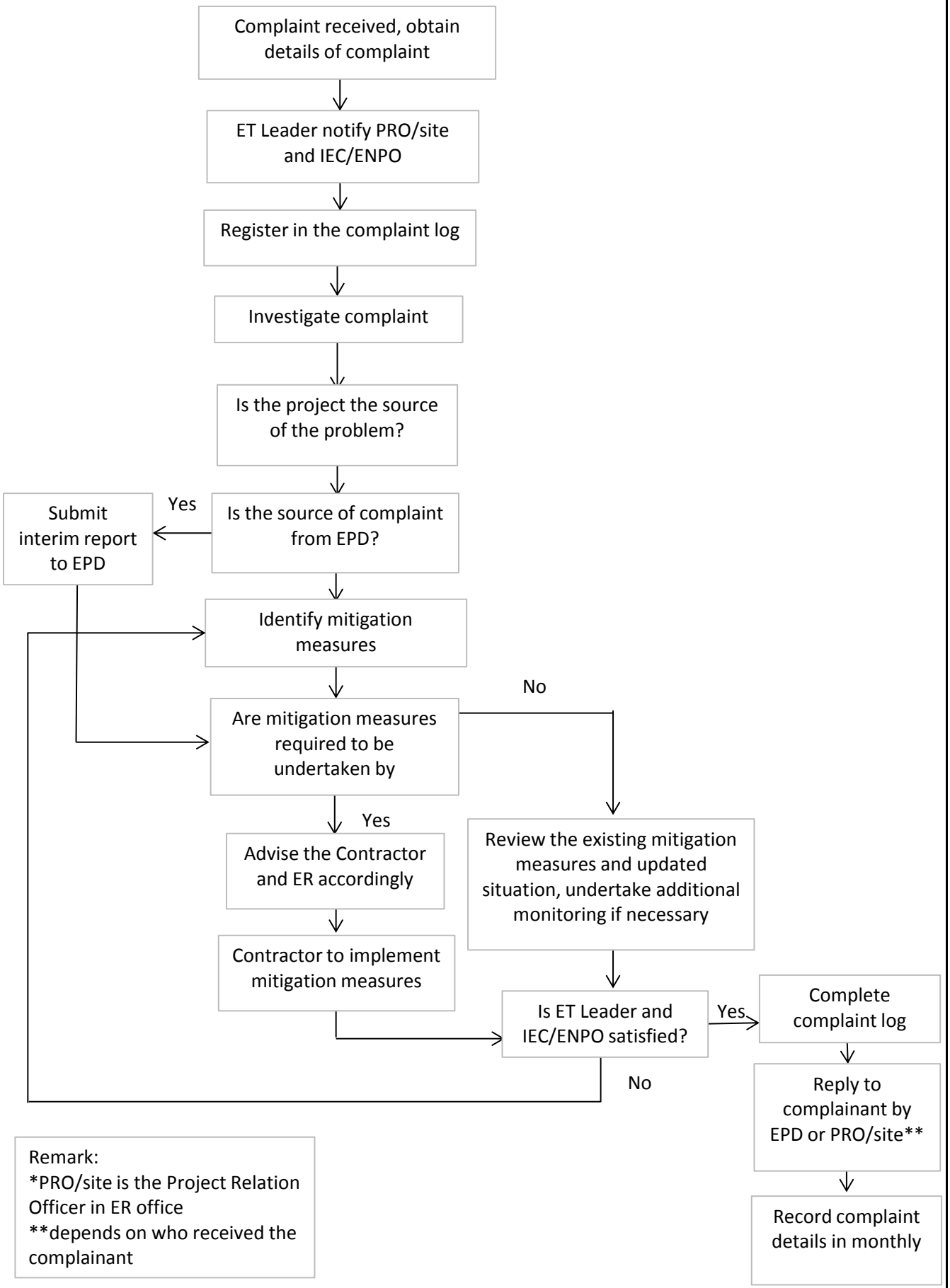
Figure 5d



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS
Project No.: 60249820 **Date: July 2014**

Impact Dolphin Monitoring Survey Calf
Map in June 2014

Figure 5e

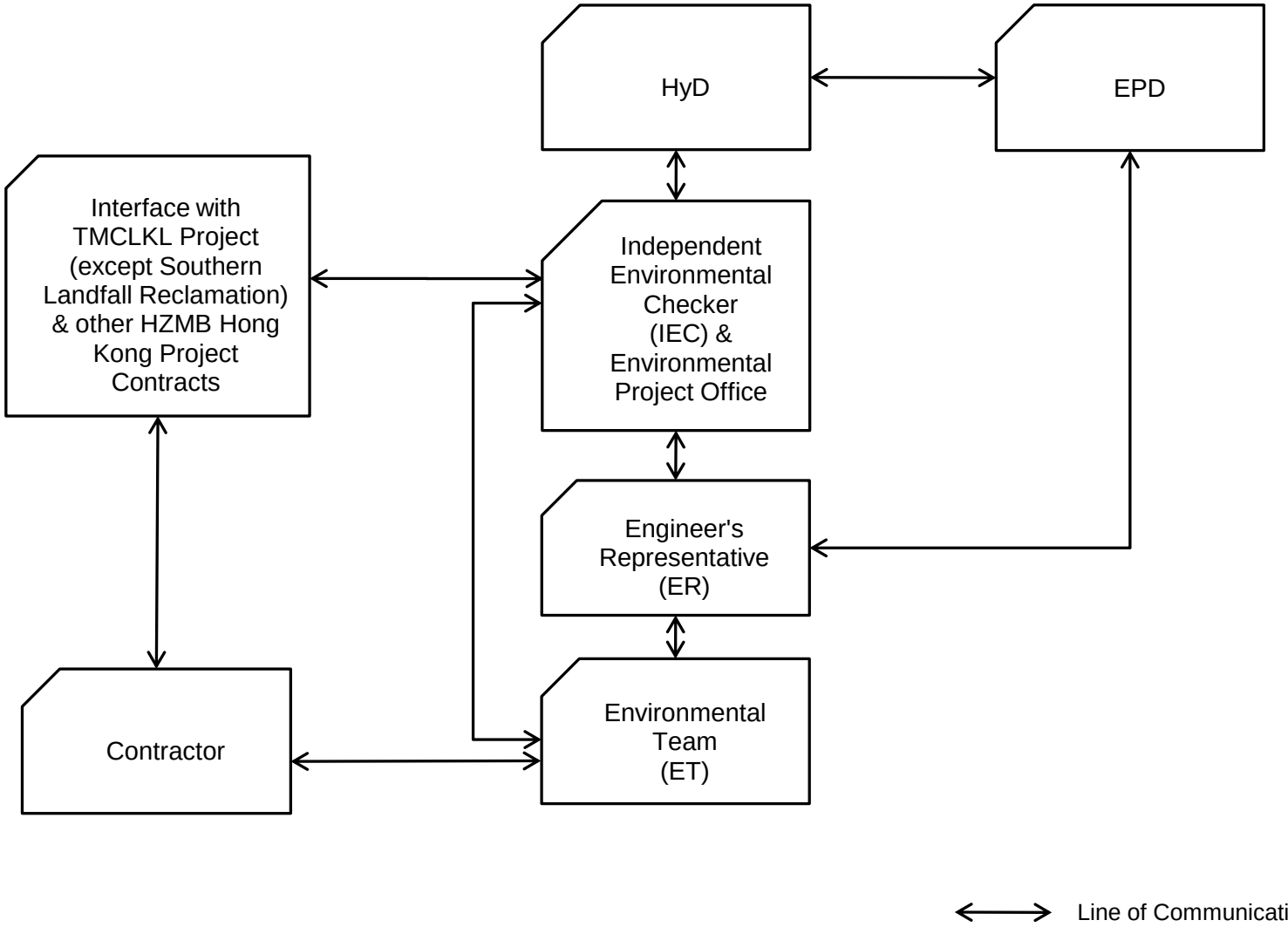


HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

AECOM

Environmental Complaint Handling Procedure

Project No.: 60249820 **Date: July 2012** **Figure 6**



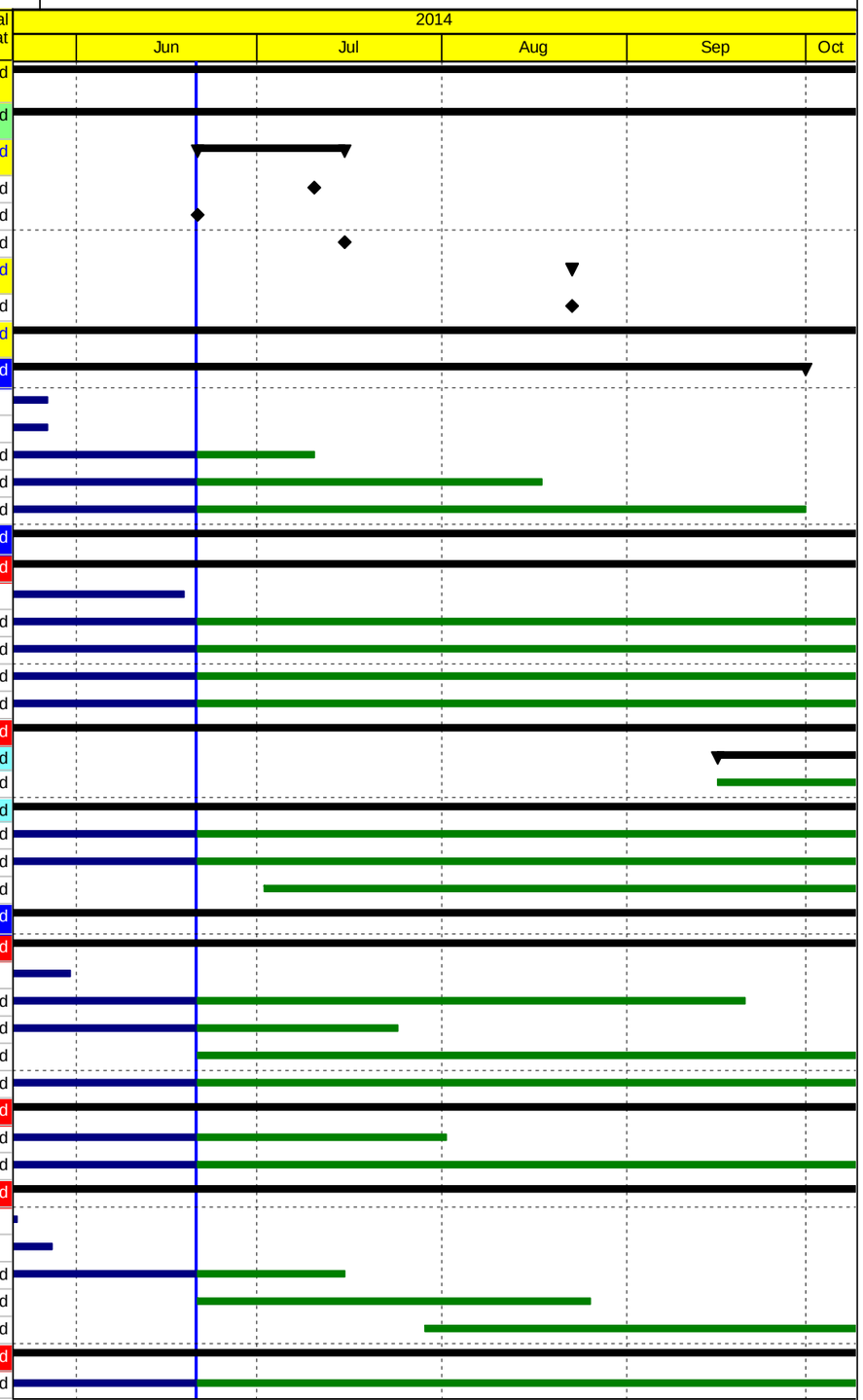
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
--RECLAMATION WORKS
Project No.: 60249820 Date: April 2013

Project Organisation for Environmental Works

AECOM

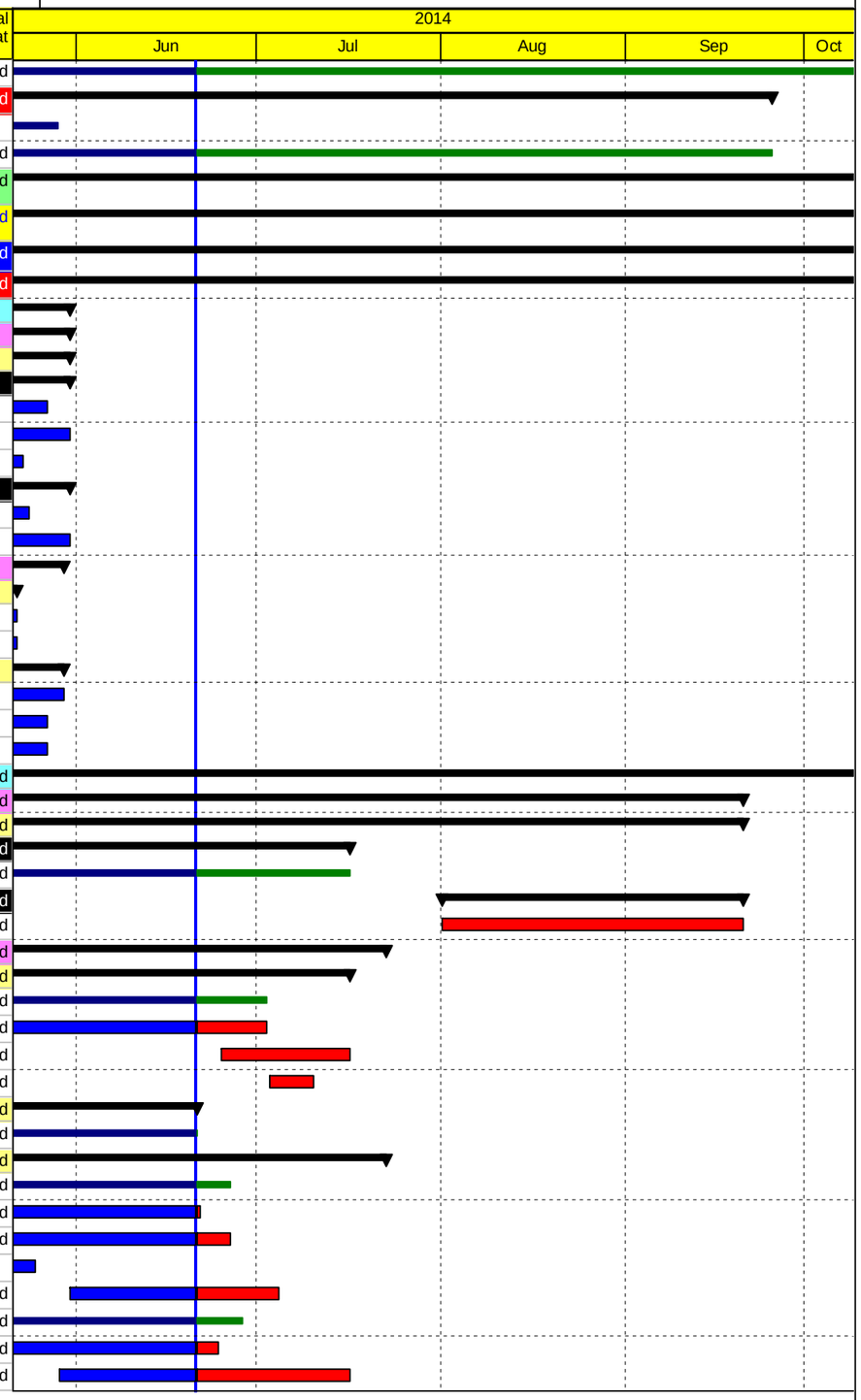
Appendix A

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
30th Monthly Progress Report Status as on 21Jun2014 Ver.5		1745d	21-May-12 A	28-Feb-17	23d
Contract Key Dates		1217d	13-Aug-12 A	30-Mar-16	-44d
Key Dates for achievement of Stages and completion of Sections		25d	21-Jun-14	15-Jul-14	-77d
G1040	KD-2, Achievement of Stage 2 (420days+EOT 2days, 24Jan2013)	0d		10-Jul-14*	-165d
G1050	KD-3, Achievement of Stage 3 (730days+EOT 2days, 30Nov2013)	0d		21-Jun-14*	-202d
G1063	KD-4, Completion of Section A Main Area (730days+EOT 0.5days, 29Nov2013) PCB Area 29 Apr2014	0d		15-Jul-14*	-77d
Vacation of Site		0d	22-Aug-14	22-Aug-14	0d
G1370	Works Area TKO-WA (Zone C)	0d		22-Aug-14*	0d
Summary Programme		1217d	13-Aug-12 A	30-Mar-16	-44d
Sewawall Construction		658d	30-Nov-12 A	30-Sep-14	-22d
G1430	STONE COLUMNS OUTSIDE CELLS	491d	30-Nov-12 A	27-May-14 A	
G1435	STONE COLUMNS INSIDE CELLS AFTER CELLULAR STRUCTURES	236d	02-Sep-13 A	27-May-14 A	
G1445	CELLULAR WALLS AT MARINE ACCESS	333d	14-Jul-13 A	10-Jul-14	-166d
G1605	RUBBLE MOUND SLOPPING SEAWALL	329d	21-Aug-13 A	17-Aug-14	-87d
G1610	CONFORMING SLOPPING SEAWALL	186d	17-Mar-14 A	30-Sep-14	-22d
Reclamation Construction		1169d	17-Jan-13 A	30-Mar-16	-44d
Reclamation Below +5.5mPD		946d	17-Jan-13 A	10-Sep-15	-236d
G1490	SAND BLANKET	466d	18-Feb-13 A	19-Jun-14 A	
G1500	VERTICAL BAND DRAIN BY MARINE	570d	17-Jan-13 A	12-Jan-15	-62d
G1510	RECLAMATION +2.5MPD	464d	06-Jun-13 A	22-Jan-15	-66d
G1515	VERTICAL BAND DRAIN BY LAND	346d	13-Sep-13 A	12-Dec-14	-92d
G1520	RECLAMATION +5.5MPD	511d	02-Dec-13 A	10-Sep-15	-195d
Surcharge Above +5.5mPD		658d	16-Jan-14 A	30-Mar-16	-36d
Edge Area		382d	16-Sep-14	24-Dec-15	-71d
G1530	EDGE SIDE SURCHARGE LAYING	382d	16-Sep-14*	24-Dec-15	-71d
Reclamation Area		658d	16-Jan-14 A	30-Mar-16	-36d
G1580	LAYING SURCHARGE TO TOP LEVEL	528d	16-Jan-14 A	14-Nov-15	-47d
G1590	SURCHARGE MONITORING	611d	05-Feb-14 A	12-Mar-16	-34d
G1600	REMOVAL OF SURCHARGE	522d	02-Jul-14*	30-Mar-16	-36d
Portion Summary		259d	13-Aug-12 A	01-Feb-15	-81d
Portion E		257d	13-Aug-12 A	12-Jan-15	-76d
PSE1000	STONE COLUMN	0d	16-Apr-13 A	31-May-14 A	
PSE1010	CELLULAR STRUCTURE	0d	13-Aug-12 A	20-Sep-14	-79d
PSE1030	SAND BLANKET	0d	08-Jul-13 A	24-Jul-14	-39d
PSE1040	RECLAMATION +2.5MPD	196d	21-Jun-14	02-Jan-15	-102d
PSE1050	VERTICAL BAND DRAIN	0d	13-Jun-13 A	12-Jan-15	-76d
Portion A		0d	12-Dec-13 A	19-Dec-14	-183d
PSA1060	RECLAMATION +5.5MPD	0d	12-Dec-13 A	01-Aug-14	-184d
PSA1070	SURCHARGE LAYING UP TO TOP LEVEL	0d	16-Jan-14 A	19-Dec-14	-183d
Portion B		259d	13-Apr-13 A	04-Jan-15	-137d
PSB1000	STONE COLUMN	0d	13-Apr-13 A	22-May-14 A	
PSB1040	RECLAMATION +2.5MPD	69d	10-Apr-14 A	27-May-14 A	
PSB1050	VERTICAL BAND DRAIN	0d	19-Jul-13 A	15-Jul-14	-27d
PSB1060	RECLAMATION +5.5MPD	66d	21-Jun-14	25-Aug-14	-231d
PSB1070	SURCHARGE LAYING UP TO TOP LEVEL	160d	29-Jul-14	04-Jan-15	-137d
Portion C		180d	24-Apr-13 A	01-Feb-15	-81d
PSC1040	RECLAMATION +2.5MPD	0d	23-Dec-13 A	01-Feb-15	-81d



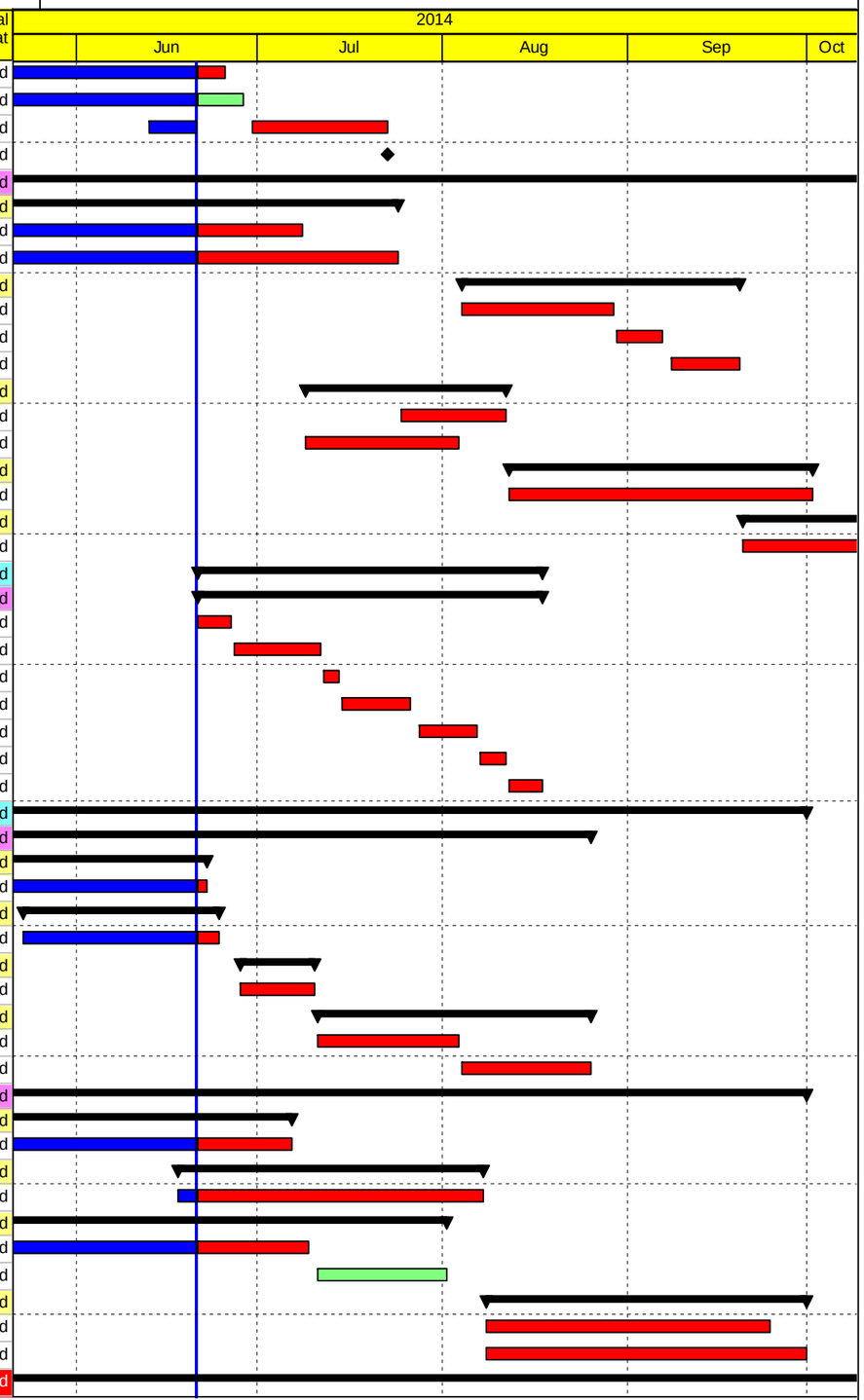
Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
PSC1050	VERTICAL BAND DRAIN	121d	24-Apr-13 A	14-Nov-14	-121d
Portion D		102d	14-Apr-14 A	25-Sep-14	-156d
PSD1080	RECLAMATION +5.5MPD	61d	14-Apr-14 A	28-May-14 A	
PSD1090	SURCHARGE LAYING UP TO TOP LEVEL	72d	20-May-14 A	25-Sep-14	-156d
Work Zone, as defined in PS Clause 1.03(6)		871d	27-Aug-13 A	03-Feb-16	414d
Portion A, B, C & E		871d	27-Aug-13 A	03-Feb-16	414d
Portion A, B, C & E		871d	27-Aug-13 A	03-Feb-16	414d
Seawall		432d	27-Aug-13 A	01-Nov-14	873d
Ground Treatment		111d	21-Jan-14 A	31-May-14 A	
Stone Columns Outside cellular Structures by Marine Plant		86d	21-Feb-14 A	31-May-14 A	
Seawall Portion E1 at C068 - C091 24cells 6,428nrs		86d	21-Feb-14 A	31-May-14 A	
C068 - C079		69d	21-Feb-14 A	31-May-14 A	
SCOE1-A0	PE1 Stone Columns C068 - C078 Row 12-14 325nrs (8nrs/day) FTB16	45d	17-Mar-14 A	27-May-14 A	
SCOE1-A0	PE1 Stone Columns C072 - C075 Row 01-11 769nrs (14nrs/day) FTB20	68d	21-Feb-14 A	31-May-14 A	
SCOE1-A0	PE1 Stone Columns C078 - C079 Row 01-11 780nrs (14nrs/day) FTB19	56d	07-Mar-14 A	23-May-14 A	
C080 - C091		73d	07-Mar-14 A	31-May-14 A	
SCOE1-B0	PE1 Stone Columns C081 - C083 Row 01-11 479nrs (14nrs/day) FTB18	34d	18-Apr-14 A	24-May-14 A	
SCOE1-B0	PE1 Stone Columns C085 - C090 Row 01-11 284nrs (18nrs/day) FTB18	65d	07-Mar-14 A	31-May-14 A	
Stone Columns Inside cells by Land Plant 2,640nrs		105d	21-Jan-14 A	30-May-14 A	
Seawall Portion B at K028 - K051 24cells 1,920nrs		81d	21-Jan-14 A	22-May-14 A	
SCIB0-070	PB Stone Columns inside cells K044 - K046 136nrs (5nrs/day) LB-AP3	61d	15-Feb-14 A	22-May-14 A	
SCIB0-080	PB Stone Columns inside cells K047 - K050 267nrs (5nrs/day) LB-AP1	81d	21-Jan-14 A	22-May-14 A	
Seawall Portion E2 at K052 - C060 9cells 720nrs		80d	21-Feb-14 A	30-May-14 A	
SCIE2-020	PE2 Stone Columns inside cells K052 - K055 320nrs (5nrs/day) LB-AP2	64d	21-Feb-14 A	30-May-14 A	
SCIE2-040	PE2 Stone Columns inside cells K057 - C059 240nrs (3nrs/day) LB-BV1	80d	21-Feb-14 A	27-May-14 A	
SCIE2-050	PE2 Stone Columns inside cells C061 - C062 240nrs (3nrs/day) LB-BV2	80d	21-Feb-14 A	27-May-14 A	
Cellular Structures		432d	27-Aug-13 A	01-Nov-14	873d
Cellular Main Cells 85cells		390d	27-Aug-13 A	20-Sep-14	-77d
Full Guide Frames Method 85cells		390d	27-Aug-13 A	20-Sep-14	-77d
Portion C & E C112 to C063 50cells		316d	27-Aug-13 A	16-Jul-14	-11d
CSE1a-010	PE1 Tempoary Corrosion Protection for Vertical Seawall at E1	316d	27-Aug-13 A	16-Jul-14	-11d
Portion E1 C078 & C079 & Portion E2 C065 & C066 4cells		48d	01-Aug-14	20-Sep-14	-74d
CSE1-040	PE1 Cellular Structure C078 & C079 2cells Type_C 9,143m3	48d	01-Aug-14	20-Sep-14	-74d
Connecting Arcs		312d	30-Sep-13 A	22-Jul-14	975d
Portion E2 between K051/K052 to C066/C067 16arcs		191d	07-Jan-14 A	16-Jul-14	-81d
CAE2-020	PE2 Connecting Arc structure C062/C063 to C066/C067 5pair arcs	129d	07-Jan-14 A	02-Jul-14	-149d
CAE2-024S	PE2 Connecting Arc C062/C063 - C066/C067 Seaside upper arcs splicing 5nrs (205)	31d	22-Apr-14 A	02-Jul-14	-131d
CAE2-025L	PE2 Connecting Arc C063/C064 - C065/C066 Landside upper arcs splicing 3nrs (WC1)	18d	25-Jun-14	16-Jul-14	-65d
CAE2-028	PE2 Final backfill cellular cells & Arcs C063/C064, C064/C065, C065/C066 & C066/C067 Type_C 12,535m3	7d	03-Jul-14	10-Jul-14	-131d
Portion C2c between C091/C092 to C102/C103 12arcs		184d	30-Sep-13 A	21-Jun-14	934d
CAC2c-020	PC2c Connecting Arc structure C087/C088 to C099/C100 9pair arcs	184d	30-Sep-13 A	21-Jun-14	934d
Portion E1 between C073/C074 to C090/C091 18arcs		290d	22-Oct-13 A	22-Jul-14	349d
CAE1-010	PE1 Connecting Arc structure C080/C081 to C090/C091 11pair arcs	219d	22-Oct-13 A	26-Jun-14	-12d
CAE1-014L	PE1 Connecting Arc C084/C085 - C087/C088 Landside upper arcs splicing 4nrs (HF)	34d	07-Apr-14 A	21-Jun-14	-34d
CAE1-014S	PE1 Connecting Arc C080/C081 - C086/C087 Seaside upper arcs splicing 7nrs (205)	65d	21-Mar-14 A	26-Jun-14	-11d
CAE1-016L	PE1 Connecting Arc C080/C081 - C083/C084 Landside upper arcs splicing 4nrs (HF)	24d	30-Mar-14 A	25-May-14 A	
CAE1-018	PE1 Final backfill cellular cells & Arcs C080/C081 to C090/C091 Type_C 91,454.5 m3	22d	31-May-14 A	04-Jul-14	-12d
CAE1-030	PE1 Connecting Arc structure C067/C068 to C076/C077 10pair arcs	146d	18-Dec-13 A	28-Jun-14	6d
CAE1-034L	PE1 Connecting Arc C072/C073 - C076/C077 Landside upper arcs splicing 5nrs (210)	44d	01-Apr-14 A	24-Jun-14	-65d
CAE1-034S	PE1 Connecting Arc C072/C73 - C076/C077 Seaside upper arcs splicing 5nrs (WC1)	33d	29-May-14 A	16-Jul-14	-9d



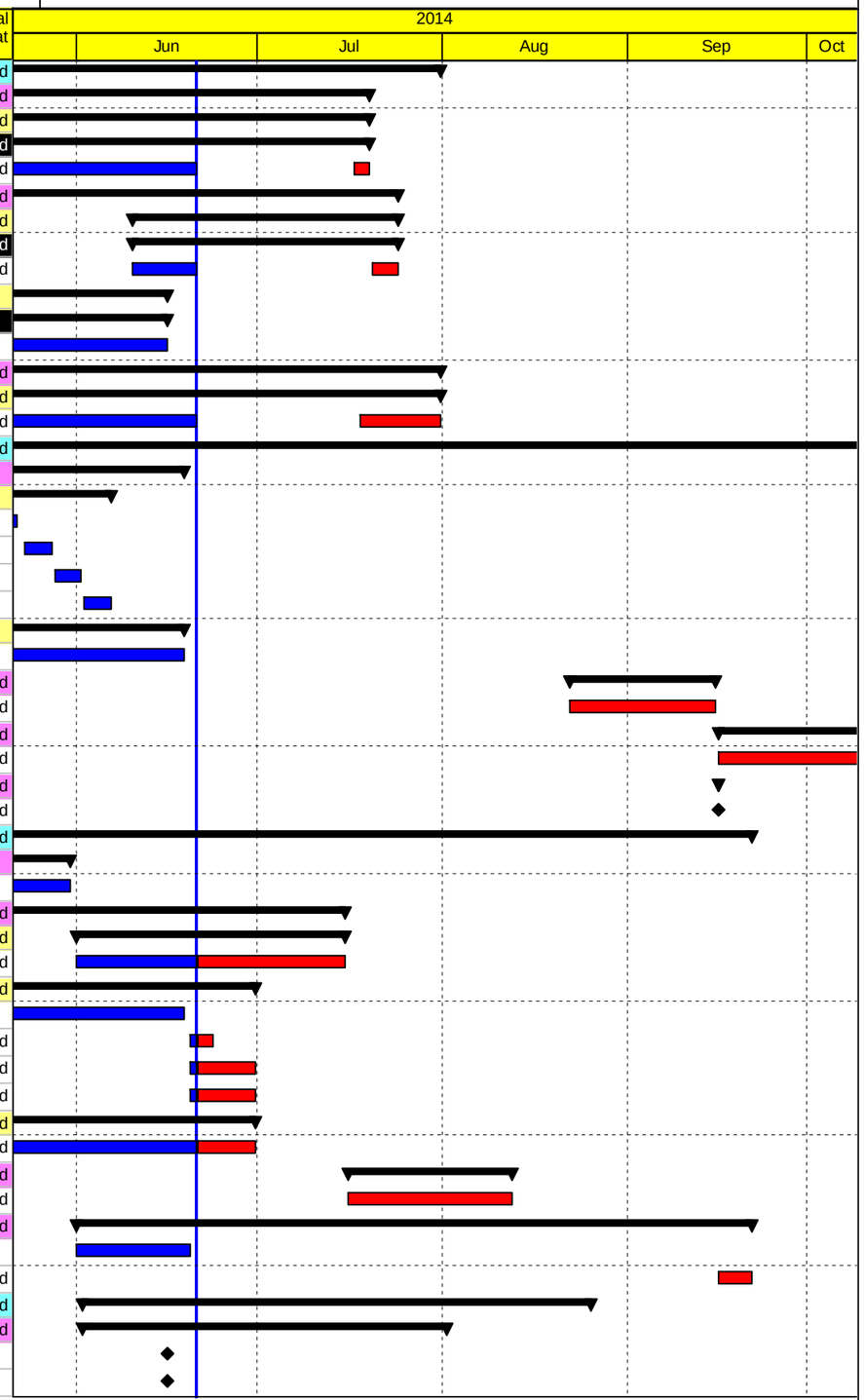
Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CAE1-044L	PE1 Connecting Arc C067/C068 - C071/C072 Landside upper arcs splicing 5nrs (401)	53d	21-Mar-14 A	25-Jun-14	-37d
CAE1-044S	PE1 Connecting Arc C067/C068 - C071/C072 Seaside upper arcs splicing 5nrs (WC1)	30d	09-May-14 A	28-Jun-14	5d
CAE1-048	PE1 Final backfill cellular cells & Arcs C077 to C066 Type_C 108,416m3	26d	13-Jun-14 A	22-Jul-14	-8d
CAE1-099	PE1 Completion of Cellular Cell at interface of TM-CLKL Tunnel	0d		22-Jul-14	349d
Capping Beams		187d	15-Apr-14 A	01-Nov-14	-12d
Portion B between K028 to K056 Capping Beams		85d	15-Apr-14 A	24-Jul-14	-210d
CB025-00010	PB Capping Beams structure K028 - K043 16-1=15cells 4days/cell	50d	15-Apr-14 A	08-Jul-14	-210d
CB025-00020	PB Capping Beams structure K044 - K056 13cells 4days/cell	52d	29-Apr-14 A	24-Jul-14	-210d
Portion E2 between K057 to C067 Capping Beams		44d	04-Aug-14	19-Sep-14	-12d
CBE2-000	PE2 Capping Beams structure K057 to C062 6cells 4days/cell	24d	04-Aug-14	29-Aug-14	-19d
CBE2-005	PE2 Capping Beams structure K063 to C064 2cells 4days/cell	8d	30-Aug-14	06-Sep-14	-19d
CBE2-010	PE2 Capping Beams structure C065 to C067 3cells 4days/cell	12d	08-Sep-14	19-Sep-14	-12d
Portion C2a between C112 to C103 Capping Beams		31d	09-Jul-14	11-Aug-14	-93d
CBC2a-010	PC2a Capping Beams structure C106 to C103 4cells 4days/cell	16d	25-Jul-14	11-Aug-14	-93d
CBC2a-020	PC2a Capping Beams structure C112 to C107 6cells 4days/cell	24d	09-Jul-14	03-Aug-14	-86d
Portion C2c between C102 to C091 Capping Beams		48d	12-Aug-14	01-Oct-14	-19d
CBC2c-000	PC2c Capping Beams structure C102 to C091 12cells 4days/cell	48d	12-Aug-14	01-Oct-14	-19d
Portion E1 between C090 to C074 Capping Beams		40d	20-Sep-14	01-Nov-14	-12d
CBE1-030	PE1 Capping Beams structure C068 to C077 10cells 4days/cell	40d	20-Sep-14	01-Nov-14	-12d
Optimizing Rubble Mound Seawalls		54d	21-Jun-14	17-Aug-14	-81d
Seawall Portion C2a at C117 - C113		54d	21-Jun-14	17-Aug-14	-81d
RFC2a-0040	PC2a at C117 - C113 Filter Layer (Cat0 Fill 1m) under the Rubble Mound 23,430m3	6d	21-Jun-14	26-Jun-14	-135d
RFC2a-0050	PC2a at C117 - C113 Rockfill (Cat1) upto -3.0mPD 27,930m3	14d	27-Jun-14	11-Jul-14	-135d
RFC2a-0060	PC2a at C117 - C113 Sand Blanket behind upto -4.0mPD	2d	12-Jul-14	14-Jul-14	-135d
RFC2a-0070	PC2a at C117 - C113 Rockfill (Cat1), filter layer & geotextile +2.5mPD 21,060m3	12d	15-Jul-14	26-Jul-14	-135d
RFC2a-0080	PC2a at C117 - C113 Rockfill (Cat1) for platform upto +2.5mPD 19,530m3	10d	28-Jul-14	06-Aug-14	-109d
RFC2a-0090	PC2a at C117 - C113 Rockfill (Cat1 Fill) upto +6.0mPD & geotextile laying 7,980m3	4d	07-Aug-14	11-Aug-14	-93d
RFC2a-0100	PC2a at C117 - C113 UnderLayer (0mPD 12,600m3	6d	12-Aug-14	17-Aug-14	-81d
Conforming Sloping Seawalls		142d	01-May-14 A	30-Sep-14	-4d
Geotextile		108d	01-May-14 A	25-Aug-14	-20d
Seawall Portion C2a at C112 - C103 10cells		20d	01-May-14 A	22-Jun-14	-47d
SGC2a-000	PC2a Geotextile at C112 - C103 10cells	20d	01-May-14 A	22-Jun-14	-47d
Seawall Portion C2c at C102 - C091 12cells		24d	23-May-14 A	24-Jun-14	-17d
SGC2c-000	PC2c Geotextile at C102 - C091 12cells	24d	23-May-14 A	24-Jun-14	-17d
Seawall Portion E2 at K052 - C067 16cells		12d	28-Jun-14	10-Jul-14	-20d
SGE2-010	PE2 Geotextile at K063 - K067 5cells	12d	28-Jun-14	10-Jul-14	-20d
Seawall Portion E1 at C068 - C090 23cells		42d	11-Jul-14	25-Aug-14	-20d
SGE1-010	PE1 Geotextile at C090 - C080 11cells	22d	11-Jul-14	03-Aug-14	-20d
SGE1-030	PE1 Geotextile at C077 - C068 10cells	20d	04-Aug-14	25-Aug-14	-20d
Rockfill		139d	05-May-14 A	30-Sep-14	-4d
Seawall Portion C2a at C112 - C103 10cells		40d	05-May-14 A	06-Jul-14	-123d
RFC2a-000	PC2a Rockfill at C112 - C103 Rockfill 10cells	40d	05-May-14 A	06-Jul-14	-123d
Seawall Portion C2c at C102 - C091 12cells		48d	18-Jun-14 A	07-Aug-14	-15d
RFC2c-000	PC2c Rockfill at C102 - C091 12cells	48d	18-Jun-14 A	07-Aug-14	-15d
Seawall Portion E2 at K052 - C067 16cells		74d	14-May-14 A	01-Aug-14	52d
RFE2-010	PE2 Rockfill at C052 - C062 11cells	44d	14-May-14 A	09-Jul-14	-18d
RFE2-020	PE2 Rockfill at C063 - C067 5cells	20d	11-Jul-14	01-Aug-14	52d
Seawall Portion E1 at C068 - C090 23cells		50d	08-Aug-14	30-Sep-14	-21d
RFE1-010	PE1 Rockfill at C090 - C080 11cells	44d	08-Aug-14	24-Sep-14	-15d
RFE1-030	PE1 Rockfill at C077 - C068 10cells	50d	08-Aug-14	30-Sep-14	-21d
Reclamation		229d	10-Mar-14 A	24-Oct-14	-100d



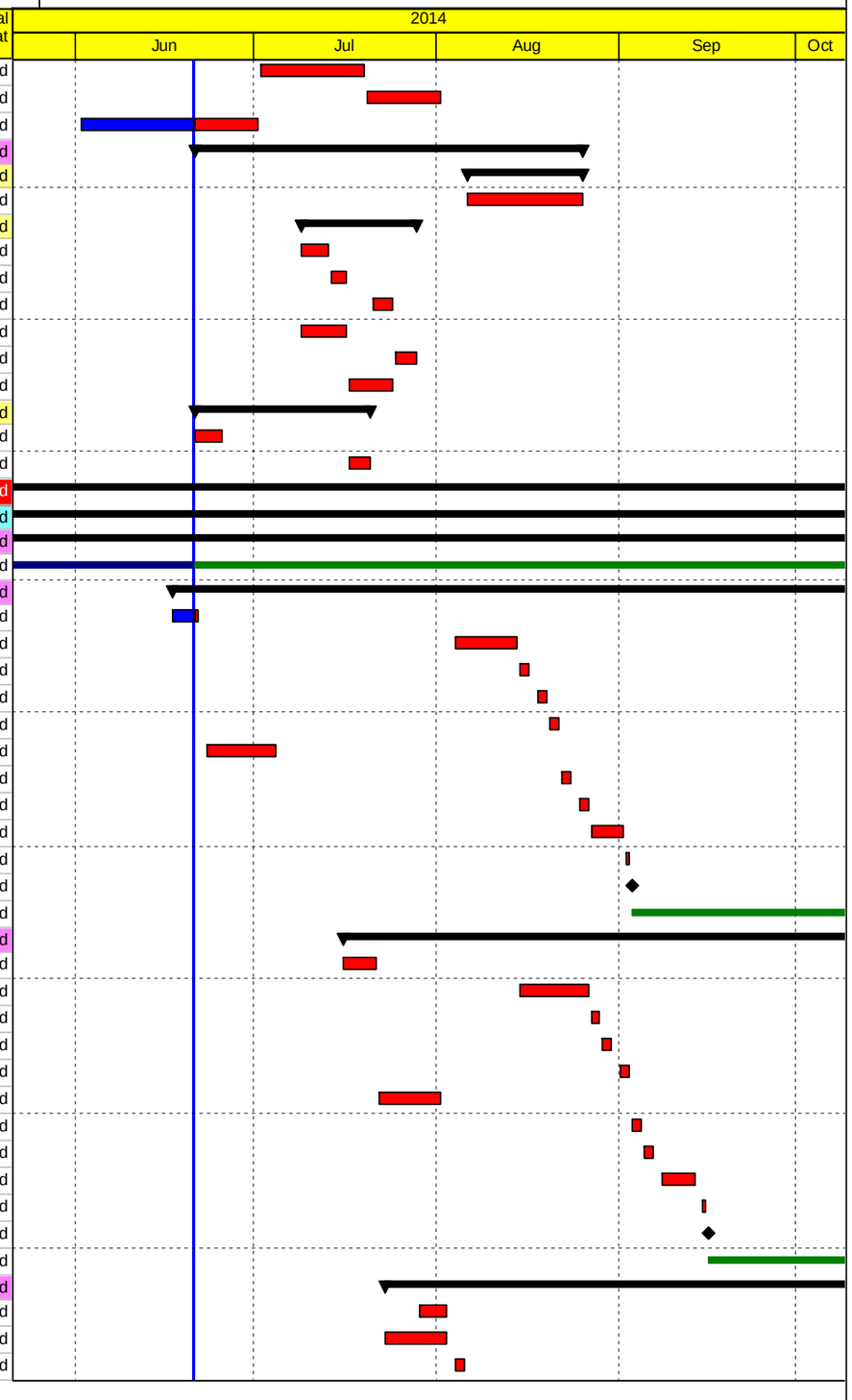
Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Ground Treatment		91d	01-Apr-14 A	31-Jul-14	-80d
Geotextile		8d	01-May-14 A	19-Jul-14	-74d
Existing Seabed Below -5mPD		8d	01-May-14 A	19-Jul-14	-74d
Land Portion E2 Northern Part		8d	01-May-14 A	19-Jul-14	-74d
GERE2-010	PE2 Geotextile for sand blanket Northern (seabed below -5mPD)	8d	01-May-14 A	19-Jul-14	-74d
Sand Blankets		53d	30-Apr-14 A	24-Jul-14	-75d
Existing Seabed below -5mPD		15d	10-Jun-14 A	24-Jul-14	-75d
Land Portion E2 Northern Part		15d	10-Jun-14 A	24-Jul-14	-75d
SABRE2-020	Sand Blankets at PE2 71,000m3 5,000m3/day North-East	15d	10-Jun-14 A	24-Jul-14	-75d
Existing Seabed Above -5mPD		28d	30-Apr-14 A	16-Jun-14 A	
Land Portion E2 Southern Part		28d	30-Apr-14 A	16-Jun-14 A	
SABRE2-012	Sand Blankets at PE2 142,000m3 5000m3/day South	28d	30-Apr-14 A	16-Jun-14 A	
Vertical Band Drains by Marine Plant		84d	01-Apr-14 A	31-Jul-14	-74d
Land Portion E2 Northern Part 84,746nrs		84d	01-Apr-14 A	31-Jul-14	-74d
VBDE2-020	Vertical Band Drains 61,714nrs by marine plant at PE2 (750nrs/day)	84d	01-Apr-14 A	31-Jul-14	-74d
Marine Fill		170d	06-May-14 A	24-Oct-14	-126d
Land Portion B		34d	06-May-14 A	19-Jun-14 A	
Edge K028 - K054		19d	06-May-14 A	06-Jun-14 A	
MFB3-010	Marine Fill Type A Sand 100% stg2 at PB Edge at K028 - K034 140,000m3 27,000m3/day	6d	06-May-14 A	22-May-14 A	
MFB3-020	Marine Fill Type A Sand 100% stg2 at PB Edge at K035 - K040 106,000m3 27,000m3/day	5d	23-May-14 A	27-May-14 A	
MFB4-010	Marine Fill Type A Sand 100% stg3 at PB Edge at K041 - K048 200,000m3 40,000m3/day	5d	28-May-14 A	01-Jun-14 A	
MFB4-020	Marine Fill Type A Sand 100% stg3 at PB Edge at K049 - K054 270,000m3 40,000m3/day	5d	02-Jun-14 A	06-Jun-14 A	
Main Area		24d	08-May-14 A	19-Jun-14 A	
MFB6-010	Marine Fill Type A Sand 100% stg5 at PB Main North 240,000m3 10,000m3/day	24d	08-May-14 A	19-Jun-14 A	
Land Portion C1b		23d	22-Aug-14	15-Sep-14	-182d
MFC1b-030	Marine Fill Type A Sand 70% at PC1b east 454,612m3 20,000m3/day	23d	22-Aug-14	15-Sep-14	-182d
Land Portion C2a		36d	16-Sep-14	24-Oct-14	-182d
MFC2a-010	Marine Fill Type A Sand 70% at PC2a 730,287m3 20,000m3/day	36d	16-Sep-14	24-Oct-14	-182d
Land Portion E2		0d	16-Sep-14	16-Sep-14	-87d
MFE2-005	Start PE2 after Marine Fill Type A Sand 100% at PC1b	0d	16-Sep-14		-87d
Vertical Band Drains by Land Plant		196d	10-Mar-14 A	21-Sep-14	-67d
Land Portion A 233,590nrs		83d	10-Mar-14 A	31-May-14 A	
VBDA0-060	Vertical Band Drains 39,000nrs by Land plant at PA C127 - C134 w CLP substation 500nrs/day (2VP + 4HP (NS	83d	10-Mar-14 A	31-May-14 A	
Land Portion B 304,328nrs		76d	10-May-14 A	15-Jul-14	-210d
Edge K13 - K27 26,798nrs by Land		45d	01-Jun-14 A	15-Jul-14	-210d
VBDB0-010	Vertical Band Drains by land plant at PB Edge K013 - K027 26,798nrs 650nrs/day (6VP + 6HP(NS))	45d	01-Jun-14 A	15-Jul-14	-210d
Edge K28 - K54 76,000nrs by Land		48d	10-May-14 A	30-Jun-14	-207d
VBDB0-040	Vertical Band Drains by land plant at PB Edge K028 - K034 38,520nrs 4,000nrs/day (13HP)	10d	10-May-14 A	19-Jun-14 A	
VBDB0-045	Vertical Band Drains by land plant at PB Edge K035 - K040 12,000nrs 4,000nrs/day (13HP)	3d	20-Jun-14 A	23-Jun-14	-211d
VBDB0-050	Vertical Band Drains by land plant at PB Edge K041 - K048 44,000nrs 4,000nrs/day	11d	20-Jun-14 A	30-Jun-14	-211d
VBDB0-055	Vertical Band Drains by land plant at PB Edge K049 - K054 20,000nrs 4,000nrs/day	5d	20-Jun-14 A	30-Jun-14	-207d
Main Area 201,530nrs by Land		4d	20-May-14 A	30-Jun-14	-215d
VBDB0-060	Vertical Band Drains by land plant at PB Main North 15,000nrs 4,000nrs/day (13HP)	4d	20-May-14 A	30-Jun-14	-215d
Land Portion C1a 17,700nrs by Land		28d	16-Jul-14	12-Aug-14	-27d
VBDC1a-020	Vertical Band Drains 17,700nrs by land plant at PC1a 650nrs/day (6VP + 6HP(NS))	28d	16-Jul-14	12-Aug-14	-27d
Land Portion C1b 98,260nrs by Land		83d	01-Jun-14 A	21-Sep-14	-180d
VBDC1b-010	Vertical Band Drains 18,000nrs by land plant at PC1b west 3,000nrs/day (11HP)	6d	01-Jun-14 A	20-Jun-14 A	
VBDC1b-020	Vertical Band Drains 18,000nrs by land plant at PC1b east 3,000nrs/day (11HP)	6d	16-Sep-14	21-Sep-14	-180d
Earthwork Fill		66d	02-Jun-14 A	25-Aug-14	-208d
Land Portion A		42d	02-Jun-14 A	01-Aug-14	-184d
EFA0-040	Allow fill up above +2.5mPD by Vane Shear Test	0d	16-Jun-14 A		
EFA0-042	Allow to Earthwork Fill at PA A2	0d	16-Jun-14 A		



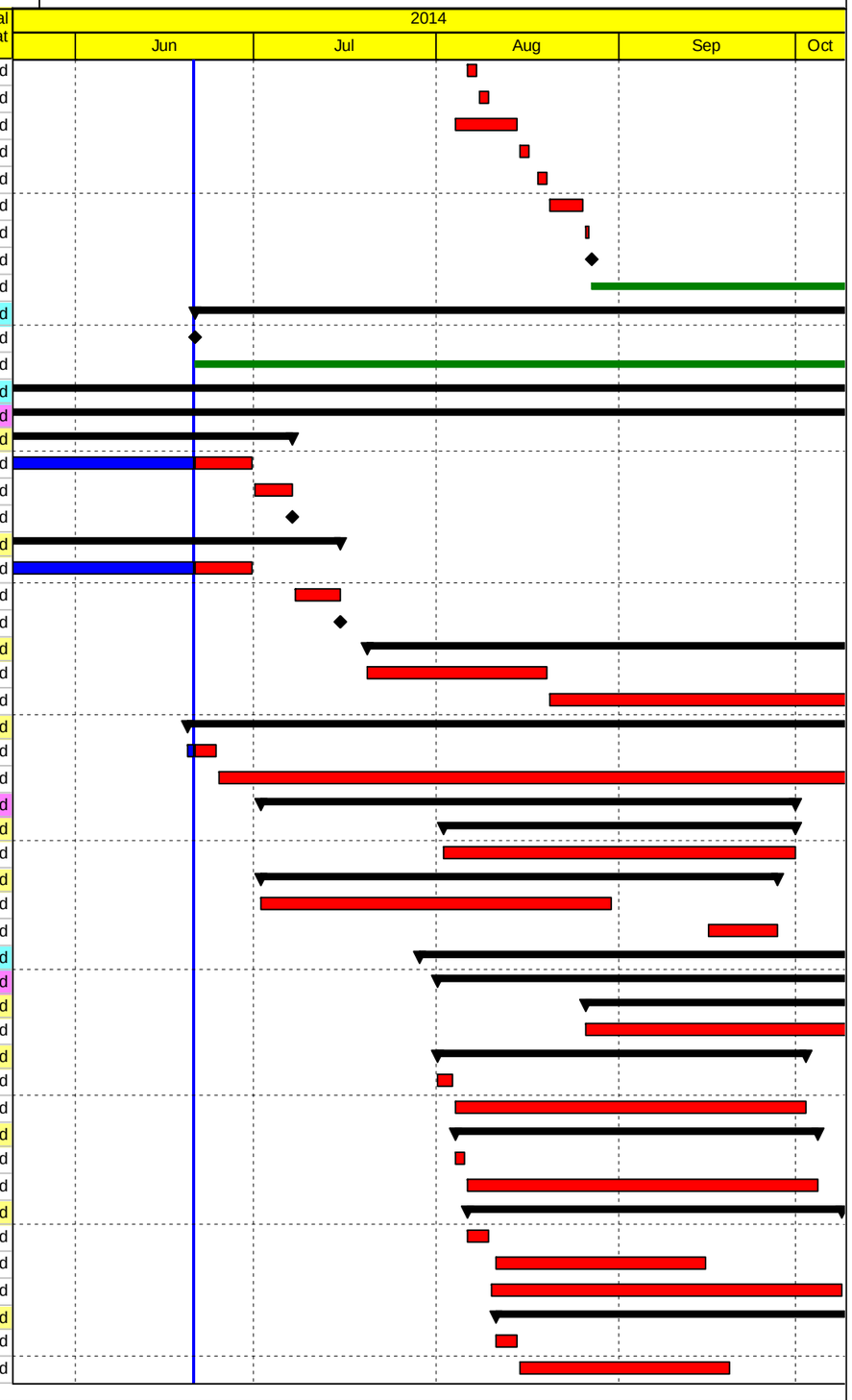
Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
EFA0-045	Earthwork Fill Type D Sand 100% at PA at C122 - C126 other area 202,000m3 12,000m3/day	17d	02-Jul-14*	19-Jul-14	-221d
EFA0-050	Earthwork Fill Type D Sand 100% at PA at C122 - C126 Edge Area 146,046m3 12,000m3/day	12d	20-Jul-14	01-Aug-14	-166d
EFA0-070	Earthwork Fill Type D Sand 100% at PA at C127 - C134 Edge Area 202,097m3 12,000m3/day at CLP area	17d	02-Jun-14 A	01-Jul-14	-221d
Land Portion B		66d	21-Jun-14	25-Aug-14	-231d
Edge K013 - K027		20d	06-Aug-14	25-Aug-14	-231d
EFB0-010	Earthwork Fill Type D Sand 100% at PB Edge at K013 - K027 400,000m3 20,000m3/day	20d	06-Aug-14	25-Aug-14	-231d
Edge K028 - K054		20d	09-Jul-14	28-Jul-14	-211d
EFB0-030	Earthwork Fill Type D Sand 100% at PB Edge at K028 - K034 186,000m3 40,000m3/day	5d	09-Jul-14	13-Jul-14	-231d
EFB0-035	Earthwork Fill Type D Sand 100% at PB Edge at K035 - K040 106,000m3 40,000m3/day	3d	14-Jul-14	16-Jul-14	-231d
EFB0-040	Earthwork Fill Type D Sand 100% at PB Edge at K041 - K048 160,000m3 40,000m3/day	4d	21-Jul-14	24-Jul-14	-231d
EFB0-045	Earthwork Fill Type D Sand 100% at PB Edge at K041 - K048 80,000m3 10,000m3/day	8d	09-Jul-14	16-Jul-14	-207d
EFB0-050	Earthwork Fill Type D Sand 100% at PB Edge at K049 - K054 160,000m3 40,000m3/day	4d	25-Jul-14	28-Jul-14	-231d
EFB0-055	Earthwork Fill Type D Sand 100% at PB Edge at K049 - K054 80,000m3 10,000m3/day	8d	17-Jul-14	24-Jul-14	-207d
Main Area		30d	21-Jun-14	20-Jul-14	-231d
EFB0-020	Earthwork Fill Type D Sand 100% at PB Main South 190000m3 40,000m3/day	5d	21-Jun-14	25-Jun-14	-218d
EFB0-032	Earthwork Fill Type D Sand 100% at PB Main North 135,000m3 40,000m3/day	4d	17-Jul-14	20-Jul-14	-231d
Surcharge		688d	05-Feb-14 A	24-Dec-15	455d
Temporary Jettys		571d	04-May-14 A	24-Dec-15	-86d
1st Temporary Jetty at C118		299d	04-May-14 A	09-Apr-15	-133d
TP10120	1st TJ Operating of public fill 3,000m3/day	299d	04-May-14 A	09-Apr-15	-133d
2nd Temporary Jetty at C101		556d	17-Jun-14 A	24-Dec-15	-86d
TP20010	Footing at Land - Place Steel Bridge precast footing and anchor block on	5d	17-Jun-14 A	21-Jun-14	-100d
TP20020	Marine Piling 10nrs	10d	04-Aug-14	14-Aug-14	-141d
TP20030	Installation of Dolphins 2nrs	2d	15-Aug-14	16-Aug-14	-131d
TP20040	Installation of main pier	2d	18-Aug-14	19-Aug-14	-131d
TP20050	Installation of steel bridge from Jetty to the land footing	2d	20-Aug-14	21-Aug-14	-131d
TP20060	Assembly of conveyor	10d	23-Jun-14	04-Jul-14	-100d
TP20070	Installation of conveyor	2d	22-Aug-14	23-Aug-14	-131d
TP20080	Installation of accessory parts	2d	25-Aug-14	26-Aug-14	-131d
TP20090	Trial testing	5d	27-Aug-14	01-Sep-14	-131d
TP20100	Certification for the System	1d	02-Sep-14	02-Sep-14	-131d
TP20110	Start Operation of unloading public fill at C101	0d	03-Sep-14		-162d
TP20120	2nd TJ Operating of public fill 3,000m3/day	444d	03-Sep-14	24-Dec-15	-80d
3rd Temporary Jetty at C105		527d	16-Jul-14	24-Dec-15	-86d
TP30010	Footing at Land - Place Steel Bridge precast footing and anchor block on	5d	16-Jul-14	21-Jul-14	-114d
TP30020	Marine Piling 10nrs	10d	15-Aug-14	26-Aug-14	-141d
TP30030	Installation of Dolphins 2nrs	2d	27-Aug-14	28-Aug-14	-141d
TP30040	Installation of main pier	2d	29-Aug-14	30-Aug-14	-141d
TP30050	Installation of steel bridge from Jetty to the land footing	2d	01-Sep-14	02-Sep-14	-141d
TP30060	Assembly of conveyor	10d	22-Jul-14	01-Aug-14	-114d
TP30070	Installation of conveyor	2d	03-Sep-14	04-Sep-14	-141d
TP30080	Installation of accessory parts	2d	05-Sep-14	06-Sep-14	-141d
TP30090	Trial testing	5d	08-Sep-14	13-Sep-14	-141d
TP30100	Certification for the System	1d	15-Sep-14	15-Sep-14	-141d
TP30110	Start Operation of unloading public fill at C105	0d	16-Sep-14		-175d
TP30120	3rd TJ Operating of public fill 3,000m3/day	432d	16-Sep-14	24-Dec-15	-80d
5th Temporary Jetty at K053		441d	23-Jul-14	06-Oct-15	-231d
TP50010	Footing at Land - Place Steel Bridge precast footing and anchor block on	5d	29-Jul-14	02-Aug-14	-141d
TP50020	Marine Piling 10nrs	10d	23-Jul-14	02-Aug-14	-141d
TP50030	Installation of Dolphins 2nrs	2d	04-Aug-14	05-Aug-14	-122d

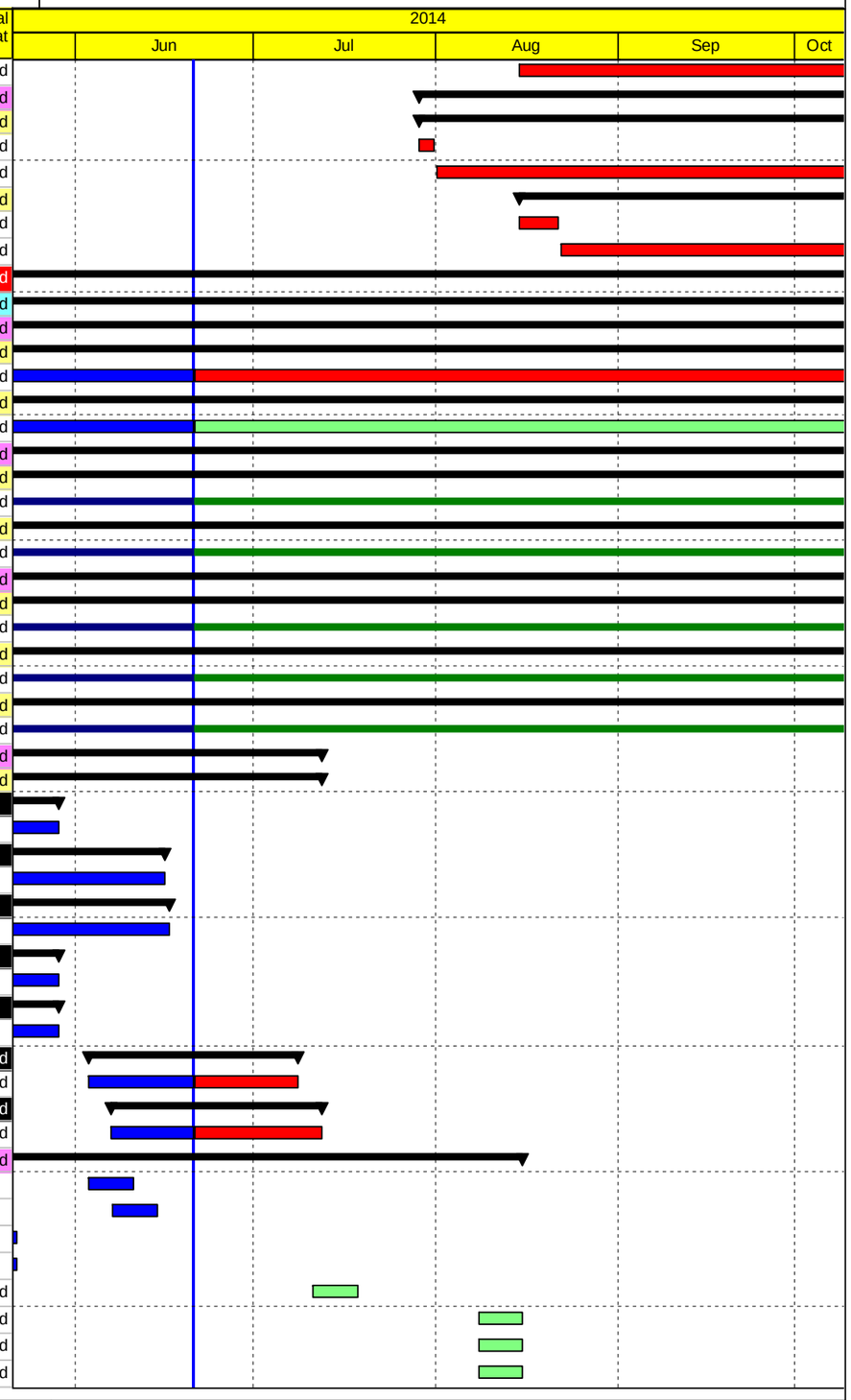


Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
TP50040	Installation of main pier	2d	06-Aug-14	07-Aug-14	-122d
TP50050	Installation of steel bridge from Jetty to the land footing	2d	08-Aug-14	09-Aug-14	-122d
TP50060	Assembly of conveyor	10d	04-Aug-14*	14-Aug-14	-126d
TP50070	Installation of conveyor	2d	15-Aug-14	16-Aug-14	-126d
TP50080	Installation of accessory parts	2d	18-Aug-14	19-Aug-14	-126d
TP50090	Trial testing	5d	20-Aug-14	25-Aug-14	-126d
TP50100	Certification for the System	1d	26-Aug-14	26-Aug-14	-126d
TP50110	Start Operation of unloading public fill at K053	0d	27-Aug-14		-157d
TP50120	5th TJ Operating of public fill 3,000m3/day	377d	27-Aug-14	06-Oct-15	-214d
Flat Barges for unloading		171d	21-Jun-14	08-Dec-14	836d
FB10010	Flat Barge for unloading at C132	0d	21-Jun-14*		1007d
FB10020	Flat Barge Operation of unloading public fill for surcharge laying at C132	159d	21-Jun-14	08-Dec-14	-162d
Portion A Surcharge		316d	05-Feb-14 A	17-Dec-14	-232d
Main Reclamation Areas		316d	05-Feb-14 A	17-Dec-14	-232d
A1 PCB East		153d	05-Feb-14 A	07-Jul-14	-69d
SURA0-120	Surcharge Period at PA PCB East 3.5mths (8-4.5=3.5mths)	105d	05-Feb-14 A	30-Jun-14	-142d
SURA0-130	Sand Surcharge Removal at PA PCB East 126,794m3 20,000m3/day	7d	01-Jul-14	07-Jul-14	-131d
SURA0-140	Completion of PA PCB East	0d		07-Jul-14	-69d
A1 PCB West		142d	24-Feb-14 A	15-Jul-14	-77d
SURA0-220	Surcharge Period at PA PCB West 3.5mths (8-4.5=3.5mths)	105d	24-Feb-14 A	30-Jun-14	-134d
SURA0-230	Sand Surcharge Removal at PA PCB West 126,794m3 20,000m3/day	7d	08-Jul-14	15-Jul-14	-131d
SURA0-240	Completion of PA PCB West	0d		15-Jul-14	-77d
A2		151d	20-Jul-14	17-Dec-14	-243d
SURA0-410	Surcharge Laying upto +11.5mPD & compaction upto +8.5mPD on Main Area at PA 285,671m3 10,000m3/day	29d	20-Jul-14	19-Aug-14	-221d
SURA0-420	Surcharge Period on Main Area at PA 6mth (8-2-1-1=4mths)	120d	20-Aug-14	17-Dec-14	-243d
at C127 - C134 for Power Substation Area		120d	20-Jun-14 A	22-Oct-14	-180d
SURA0-310	Sand Surcharge Laying upto +11.5mPD & compaction upto +8.5mPD on Main Area at PA CLP substation 10,00(	4d	20-Jun-14 A	24-Jun-14	-163d
SURA0-320	Surcharge Period on Main Area at PA CLP substation 6mth (8-2-1-1=4mths)	120d	25-Jun-14	22-Oct-14	-180d
Edge Areas		91d	02-Jul-14	30-Sep-14	-178d
at C125 - C119		60d	02-Aug-14	30-Sep-14	-183d
SUEA0-055	Pause Period on Edge Area at PA 2mths	60d	02-Aug-14	30-Sep-14	-183d
at C134 - C126		88d	02-Jul-14	27-Sep-14	-175d
SUEA0-005	Pause Period on Edge Area at PA 2mths	60d	02-Jul-14	30-Aug-14	-159d
SUEA0-010	Surcharge Laying & compaction upto 8.5mPD on Edge Area at PA 107,295m3 10,000m3/day	11d	16-Sep-14	27-Sep-14	-162d
Land Portion B		144d	29-Jul-14	19-Dec-14	-59d
Edge Areas		85d	01-Aug-14	24-Oct-14	-231d
at K013 - K027		60d	26-Aug-14	24-Oct-14	-231d
SUEB0-005	Surcharge Period 2mths after Fill upto +5.5mPD at PB at K013-K027	60d	26-Aug-14	24-Oct-14	-231d
at K028 - K034		63d	01-Aug-14	02-Oct-14	-223d
SUEB0-060	Sand Surcharge Laying up to 8.5mPD on Edge Area at PB at K028 - K034 100,000m3 40,000m3/day	3d	01-Aug-14	03-Aug-14	-210d
SUEB0-070	Surcharge Period 1st stage on Edge Area at PB 2mths (4.5-2.5=2mths)	60d	04-Aug-14	02-Oct-14	-223d
at K035 - K040		62d	04-Aug-14	04-Oct-14	-222d
SUEB0-140	Sand Surcharge Laying up to 8.5mPD on Edge Area at PB at K035 - K040 60,000m3 40,000m3/day	2d	04-Aug-14	05-Aug-14	-210d
SUEB0-150	Surcharge Period 1st stage on Edge Area at PB 2mths (4.5-2.5=2mths)	60d	06-Aug-14	04-Oct-14	-222d
at K041 - K048		64d	06-Aug-14	08-Oct-14	-224d
SUEB0-0100	Sand Surcharge Laying up to 8.5mPD on Edge Area at PB at K041 - K051 160,000m3 40,000m3/day	4d	06-Aug-14	09-Aug-14	-204d
SUEB0-0105	Additonal GI Works by Other Contractors HY/2010/07	30d	11-Aug-14	15-Sep-14	-163d
SUEB0-0110	Surcharge Period 1st stage on Edge Area at PB 2mths (4.5-2.5=2mths)	60d	10-Aug-14	08-Oct-14	-224d
at K049 - K054		64d	11-Aug-14	13-Oct-14	-224d
SUEB0-190	Sand Surcharge Laying up to 8.5mPD on Edge Area at PB at K049 - K054 160,000m3 40,000m3/day	4d	11-Aug-14	14-Aug-14	-203d
SUEB0-195	Additonal GI Works by Other Contractors HY/2010/07	30d	15-Aug-14	19-Sep-14	-163d



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
SUEB0-200	Surcharge Period 1st stage on Edge Area at PB 2mths (4.5-2.5=2mths)	60d	15-Aug-14	13-Oct-14	-224d
Reclamation Areas		144d	29-Jul-14	19-Dec-14	-59d
at Main 1		123d	29-Jul-14	28-Nov-14	-38d
SURB0-010	Sand Surcharge Laying upto top on Main Reclamation Area at PB South 110,000m3 40,000m3/day	3d	29-Jul-14*	31-Jul-14	-210d
SURB0-020	Surcharge Period on Main Reclamation Area at PB 6mths (7-3=4mths)	120d	01-Aug-14	28-Nov-14	-38d
at Main 2		127d	15-Aug-14	19-Dec-14	-59d
SURB0-060	Sand Surcharge Laying upto top on Main Reclamation Area at PB K041 - K051 267,000m3 40,000m3/day	7d	15-Aug-14	21-Aug-14	-182d
SURB0-070	Surcharge Period on Main Reclamation Area at PB 6mths (7-3=4mths)	120d	22-Aug-14	19-Dec-14	-59d
Geotechnical Instrumentation Works		725d	20-Jan-14 A	03-Feb-16	414d
Geotechnical Instrumentation Works for Seawalls		725d	20-Jan-14 A	03-Feb-16	-212d
Cluster Type SA 2nrs Piezometer, Extensometer and Settlement Marker Cluster inside Cells		303d	02-Apr-14 A	29-Jan-15	55d
SA-1 K048 Portion B		274d	02-Apr-14 A	31-Dec-14	0d
CTSA1-020	Montioring of SA-1 C048 PB by weekly for subsequent 10mths	274d	02-Apr-14 A	31-Dec-14	0d
SA-2 C113 Portion C2a		303d	02-Apr-14 A	29-Jan-15	55d
CTSA2-020	Monitoring of SA-2 C113 PC2a by weekly for subsequent 10mths	303d	02-Apr-14 A	29-Jan-15	55d
Cluster Type SB 2nrs Inclinometer Cluster inside cells		485d	28-Mar-14 A	15-Aug-15	-143d
SB-1 K049 Portion B		299d	28-Mar-14 A	22-Feb-15	-53d
CTSB1-030	Monitoring of SB-1 K049 PB by Weekly until removal of surcharge	299d	28-Mar-14 A	22-Feb-15	-53d
SB-2 C112 Portion C2a		485d	28-Mar-14 A	15-Aug-15	-143d
CTSB2-030	Monitoring of SB-2 C112 PC2a by Weekly until removal of surcharge	485d	28-Mar-14 A	15-Aug-15	-143d
Cluster Type SC 3nrs Strain Guage and Inclinometer Cluster inside cells		725d	20-Jan-14 A	03-Feb-16	-212d
SC-1 K044 Portion B		294d	22-Mar-14 A	09-Feb-15	-40d
CTSC1-030	Monitoring of SC-1 K044 PB by Weekly until removal of surcharge	294d	22-Mar-14 A	09-Feb-15	-40d
SC-2 C074 Portion E1		664d	22-Mar-14 A	03-Feb-16	-212d
CTSC2-030	Monitoring of SC-2 C074 PE1 by Weekly until removal of surcharge	664d	22-Mar-14 A	03-Feb-16	-212d
SC-3 C108 Portion C2a		552d	20-Jan-14 A	15-Aug-15	-143d
CTSC3-030	Monitoring of SC-3 C108 PC2a by Weekly until removal of surcharge	552d	20-Jan-14 A	15-Aug-15	-143d
Cluster Type SD 26nrs Instrumentation and CPT Cluster behind cells		104d	21-Mar-14 A	12-Jul-14	-153d
Portion B		104d	21-Mar-14 A	12-Jul-14	-153d
SD-01 K014		13d	14-May-14 A	29-May-14 A	
CTSD-010	Installation of SD-01 (K014) PB	13d	14-May-14 A	29-May-14 A	
SD-02 K019		30d	12-May-14 A	16-Jun-14 A	
CTSD-020	Installation of SD-02 (K019) PB	30d	12-May-14 A	16-Jun-14 A	
SD-03 K023		30d	12-May-14 A	17-Jun-14 A	
CTSD-030	Installation of SD-03 (K023) PB	30d	12-May-14 A	17-Jun-14 A	
SD-06 K038		32d	21-Mar-14 A	29-May-14 A	
CTSD-060	Installation of SD-06 (K038) PB	30d	21-Mar-14 A	29-May-14 A	
SD-07 K042		30d	22-Apr-14 A	29-May-14 A	
CTSD-070	Installation of SD-07 (K042) PB	30d	22-Apr-14 A	29-May-14 A	
SD-08 K047		30d	03-Jun-14 A	08-Jul-14	-153d
CTSD-080	Installation of SD-08 (K047) PB	30d	03-Jun-14 A	08-Jul-14	-150d
SD-09 K051		30d	07-Jun-14 A	12-Jul-14	-153d
CTSD-090	Installation of SD-09 (K051) PB	30d	07-Jun-14 A	12-Jul-14	-150d
Cluster Type SE 26nrs Surface movement marker cluster at top of cell and sloping seawall		101d	14-May-14 A	15-Aug-14	66d
CTSE-070	Installation of SE-07 (K046) PB	7d	03-Jun-14 A	10-Jun-14 A	
CTSE-080	Installation of SE-08 (K049) PB	7d	07-Jun-14 A	14-Jun-14 A	
CTSE-090	Installation of SE-09 (K052) PE2	7d	14-May-14 A	22-May-14 A	
CTSE-100	Installation of SE-10 (C059) PE2	7d	14-May-14 A	22-May-14 A	
CTSE-110	Installation of SE-11 (C064) PE2	7d	11-Jul-14	18-Jul-14	55d
CTSE-120	Installation of SE-12 (C069) PE2	7d	08-Aug-14	15-Aug-14	60d
CTSE-130	Installation of SE-13 (C071) PE1	7d	08-Aug-14	15-Aug-14	60d
CTSE-140	Installation of SE-14 (C077) PE1	7d	08-Aug-14	15-Aug-14	31d



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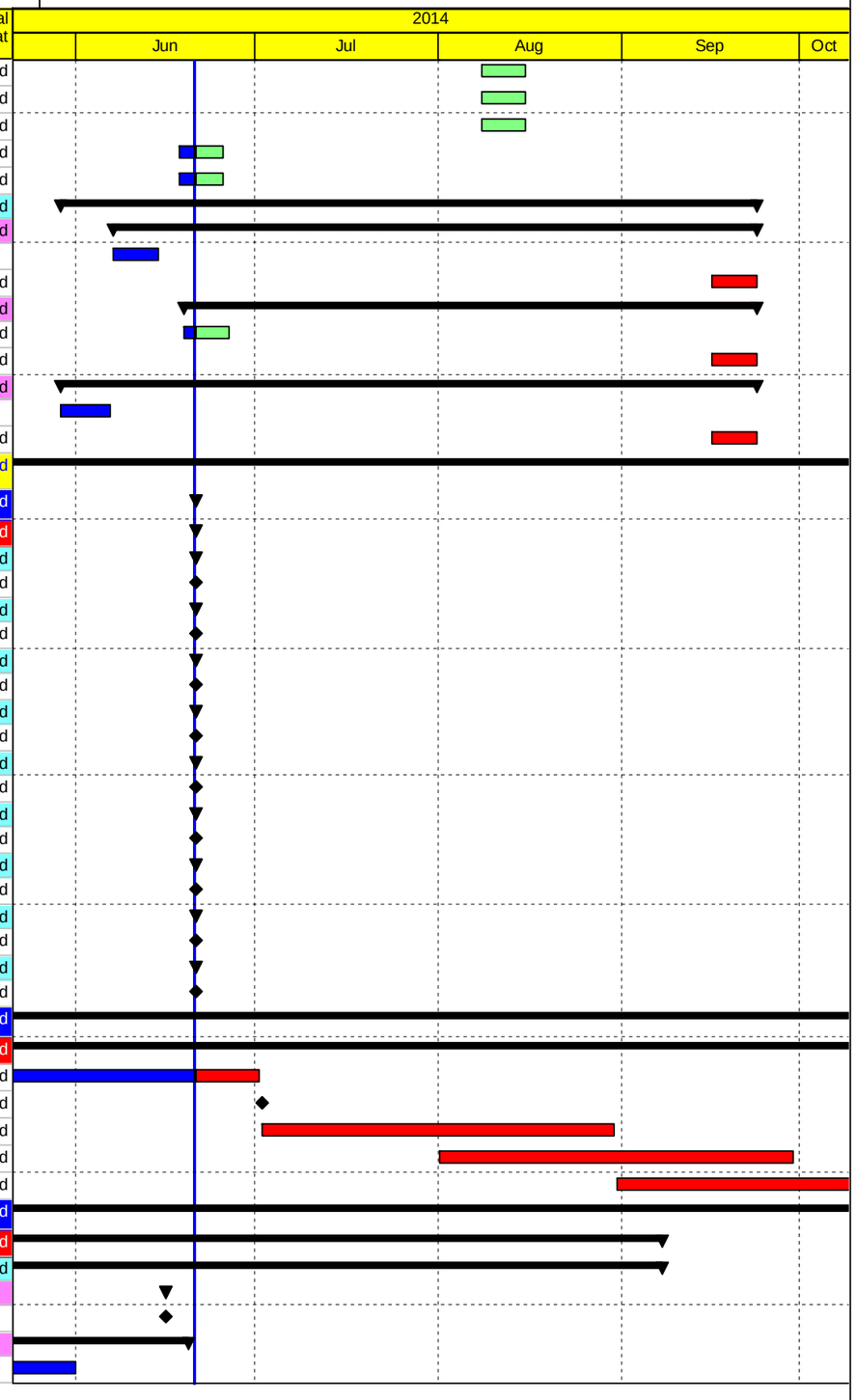
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CTSE-150	Installation of SE-15 (C079) PE1	7d	08-Aug-14	15-Aug-14	31d
CTSE-160	Installation of SE-16 (C082) PE1	7d	08-Aug-14	15-Aug-14	31d
CTSE-170	Installation of SE-17 (C087) PE1	7d	08-Aug-14	15-Aug-14	31d
CTSE-180	Installation of SE-18 (C092) PC2c	7d	18-Jun-14 A	25-Jun-14	108d
CTSE-190	Installation of SE-19 (C097) PC2c	7d	18-Jun-14 A	25-Jun-14	90d
Geotechnical Instrumentation Works for Reclamation RA & RB		99d	29-May-14 A	23-Sep-14	750d
RA		92d	07-Jun-14 A	23-Sep-14	-137d
CTRA-040	Installation of RA 9sets at PB	7d	07-Jun-14 A	14-Jun-14 A	
CTRA-060	Installation of RA 6sets at PC1b	7d	16-Sep-14	23-Sep-14	-135d
RB		82d	19-Jun-14 A	23-Sep-14	750d
SMT1-040	Installation of RB at PB	7d	19-Jun-14 A	26-Jun-14	824d
SMT1-060	Installation of RB at PC1b	7d	16-Sep-14	23-Sep-14	-135d
Settlement Marker Type 2		99d	29-May-14 A	23-Sep-14	-137d
SMT2-040	M2 - Installation of Settlement Marker Type2 at PB	7d	29-May-14 A	06-Jun-14 A	
SMT2-060	M2 - Installation of Settlement Marker Type2 at PC1b	7d	16-Sep-14	23-Sep-14	-135d
Portion D		312d	01-Mar-14 A	07-Jan-15	807d
Submission		0d	21-Jun-14	21-Jun-14	1007d
Design Submission		0d	21-Jun-14	21-Jun-14	1007d
Stability Analysis and Settlement Assessment for Vertical Seawall w No Dredging		0d	21-Jun-14	21-Jun-14	1007d
PD-DGN-02010	Stability Analysis and settlement assessment for vertical seawall with no dredging	0d		21-Jun-14*	1007d
Stability Analysis and Settlement Assessment for Sloping Seawall w No Dredging		0d	21-Jun-14	21-Jun-14	1007d
PD-DGN-03010	Stability Analysis and Settlement Assessment for Sloping seawall with no dredging	0d		21-Jun-14*	1007d
Settlement Assessment for Culverts C1 - C4 w No Dredging		0d	21-Jun-14	21-Jun-14	1007d
PD-DGN-04010	Settlement assessment for box culverts C1 - C4 with no dredging	0d		21-Jun-14*	1007d
Structural Analysis for Culverts C1 - C4 w Precast Method		0d	21-Jun-14	21-Jun-14	-13d
PD-DGN-05010	Structural analysis for Box Culverts C1 - C4 with Precast Method	0d		21-Jun-14*	-13d
Drainage Impact Assessment & Temporary Diversion (stg2 - for construction of box culvert EC1)		0d	21-Jun-14	21-Jun-14	-13d
PD-DGN-07010	Drainage Impact Assessment and Temporary Diversion (stage 2 - for construction of box culvert EC1)	0d		21-Jun-14*	-13d
Settlement Assessment for Box Culvert EC1		0d	21-Jun-14	21-Jun-14	-13d
PD-DGN-08010	Settlement Assessment for Box culvert EC1 Submission 1st	0d		21-Jun-14*	-13d
Structural Analysis for Box Culvert EC1 w Precast & Cast in-situ Method		0d	21-Jun-14	21-Jun-14	-13d
PD-DGN-09010	Structural Analysis for Box culvert EC1 with Precast and Cast in-situ Method	0d		21-Jun-14*	-13d
Detailed General Arrangement & RC drawings for C1 to C4 w Precast Method		0d	21-Jun-14	21-Jun-14	-13d
PD-DGN-10010	Detailed General Arrangement and RC drawings for Box culverts C1 to C4 with Precast Method	0d		21-Jun-14*	-13d
Detailed General Arrangement & RC drawings for EC1 w Precast & Cast insitu Methods		0d	21-Jun-14	21-Jun-14	1007d
PD-DGN-11010	Detailed General Arrangement and RC drawings for Box Culverts EC1 with Precast and Cast in-situ Method	0d		21-Jun-14*	1007d
Precast Yard for Seawall Blocks & Culverts		243d	01-Mar-14 A	29-Oct-14	-115d
Culverts		243d	01-Mar-14 A	29-Oct-14	-115d
PD-PY-0100	Precast Yard Setup	92d	01-Mar-14 A	01-Jul-14	-123d
PD-PY-0200	Commencement of Preccst Box Culvert	0d	02-Jul-14*		-123d
PD-PY-0210	Precast C1 6nrs	60d	02-Jul-14	30-Aug-14	-123d
PD-PY-0220	Precast EC1 10nrs	60d	01-Aug-14	29-Sep-14	-123d
PD-PY-0230	Precast C2 5nrs	60d	31-Aug-14	29-Oct-14	-115d
Site Construction		281d	01-Apr-14 A	07-Jan-15	-148d
Seawall Construction		160d	01-Apr-14 A	07-Sep-14	-99d
Access at Portion D		160d	01-Apr-14 A	07-Sep-14	-99d
Construction of Temporary Bridge		0d	16-Jun-14 A	16-Jun-14 A	
AA1070	PD - Access Road from AA for delivery of public fill material	0d	16-Jun-14 A		
Temporary Access to Portion A		81d	01-Apr-14 A	20-Jun-14 A	
A1080	PD Construction of Temporary Access to PA	61d	01-Apr-14 A	01-Jun-14 A	



Remaining Level of Effort
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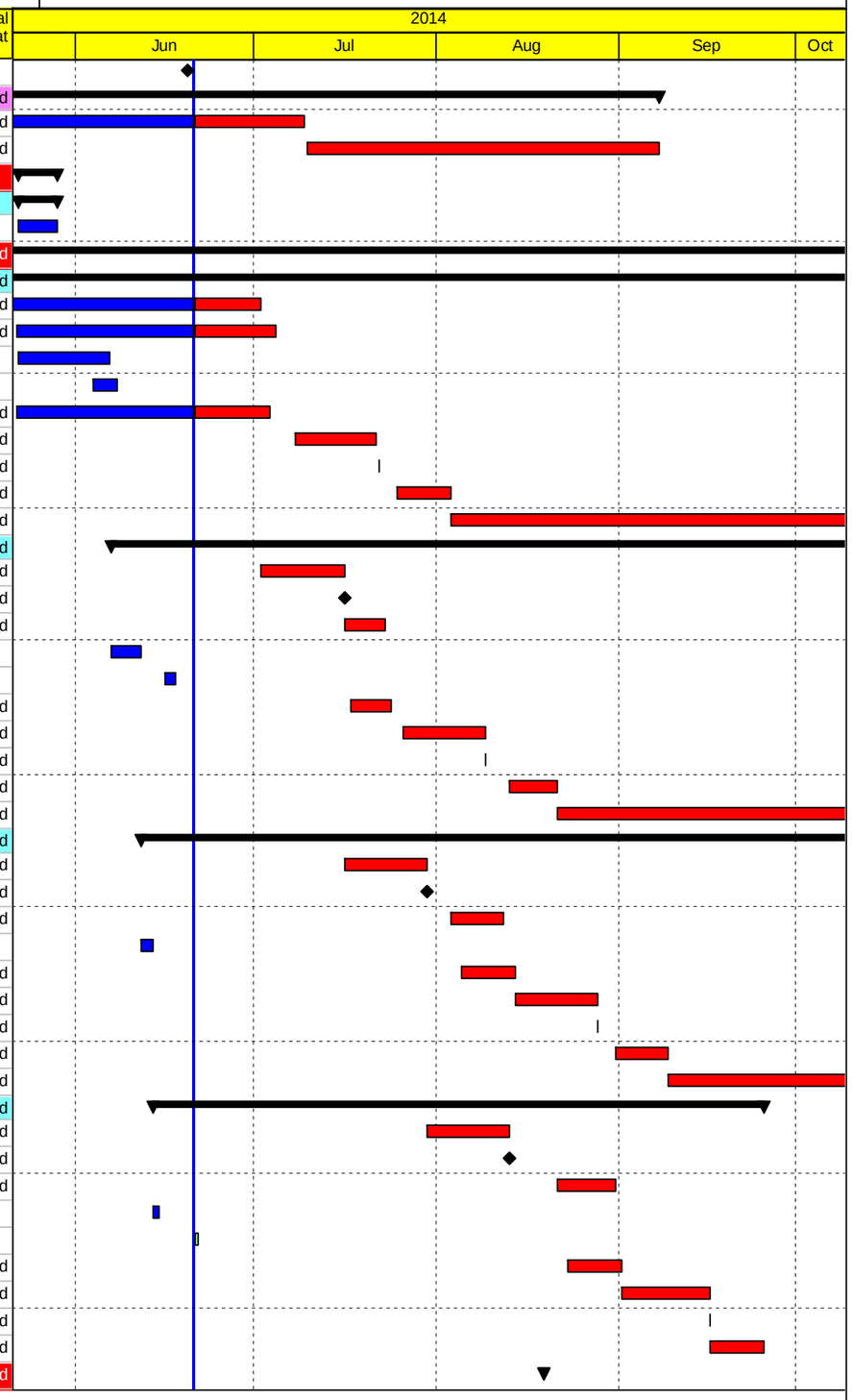
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
A1085	PD Provide Access to PA	0d	20-Jun-14 A		
WaterMain Construction		136d	25-Apr-14 A	07-Sep-14	-99d
A30010	PD - Temp Watermain Construction approved by AA & WSD	24d	25-Apr-14 A	09-Jul-14	-79d
A30020	PD - Temp Watermain Construction along Access	60d	10-Jul-14	07-Sep-14*	-99d
Reclamation Above +2.5mPD		7d	22-May-14 A	28-May-14 A	
East2 (North CH 325 - 450 & CH 5800 - 5700)		7d	22-May-14 A	28-May-14 A	
A2170	PD - Earthwork Fill upto + 5.5 mPD at East2 47,268m3 10,000m3/day	7d	22-May-14 A	28-May-14 A	
Surcharge		238d	14-May-14 A	07-Jan-15	-167d
West1 Portion		201d	14-May-14 A	01-Dec-14	-192d
A1628	PD West1 - Vent Shear Test after +5.5mPD 6nrs	12d	14-May-14 A	02-Jul-14	-154d
A1640	PD West1 - Surcharge Laying upto 8.5mPD 42,843m3 5,000m3/day outstanding	15d	22-May-14 A	04-Jul-14	-172d
A1640-010	PD D1.1 - D1.5 - Surcharge Laying upto +5.8mPD with Compaction	16d	22-May-14 A	06-Jun-14 A	
A1640-020	PD D1.1 - D1.5 - Surcharge Laying upto +6.1mPD with Compaction	1d	04-Jun-14 A	08-Jun-14 A	
A1650	PD West1 - Surcharge compaction upto 8.5mPD	15d	22-May-14 A	03-Jul-14	-190d
A1652	PD West1 - Vent Shear Test after +8.5mPD 6nrs	12d	08-Jul-14	21-Jul-14	-151d
A1656	PD West1 - Surcharge Pause Period 0mths	0d	22-Jul-14	22-Jul-14	-189d
A1658	PD West1 - Surcharge Laying +11.5mPD 42,843m3 5,000m3/day	8d	25-Jul-14	03-Aug-14	-174d
A1660	PD West1 - Surcharge Period 4mths	120d	03-Aug-14	01-Dec-14	-192d
West2 Portion		181d	07-Jun-14 A	19-Dec-14	-182d
A2192	PD West2 - Vent Shear Test 6nrs	12d	02-Jul-14	16-Jul-14	-154d
A2194	PD West2 - Allow to surcharge upto 8.5mPD by result of Vent Shear Test	0d		16-Jul-14	-154d
A2200	PD West2 - Surcharge Laying upto +8.5mPD 42,843m3 5,000m3/day outstanding	7d	16-Jul-14	23-Jul-14	-174d
A2200-010	PD D2.1 - D2.5 - Surcharge Laying upto +5.8mPD with Compaction	1d	07-Jun-14 A	12-Jun-14 A	
A2200-020	PD D2.1 - D2.5 - Surcharge Laying upto +6.1mPD with Compaction	1d	16-Jun-14 A	18-Jun-14 A	
A2210	PD West2 - Surcharge compaction upto 8.5mPD	7d	17-Jul-14	24-Jul-14	-183d
A2212	PD West2 - Vent Shear Test after +8.5mPD 6nrs	12d	26-Jul-14	09-Aug-14	-146d
A2216	PD West2 - Surcharge Pause Period 0mths	0d	09-Aug-14	09-Aug-14	-179d
A2218	PD West2 - Surcharge Laying +11.5mPD 42,843m3 5,000m3/day	8d	13-Aug-14	21-Aug-14	-169d
A2220	PD West2 - Surcharge Period 4mths	120d	21-Aug-14	19-Dec-14	-182d
East1 Portion		200d	12-Jun-14 A	07-Jan-15	-167d
A1672	PD East1 - Vent Shear Test 6nrs	12d	16-Jul-14	30-Jul-14	-146d
A1673	PD East1 - Allow to surcharge upto 8.5mPD by result of Vent Shear Test	0d		30-Jul-14	-146d
A1675	PD East1 - Surcharge Laying upto +8.5mPD 42,843m3 5,000m3/day outstanding	8d	03-Aug-14	12-Aug-14	-169d
A1675-010	PD D2.6 - D3.3 - Surcharge Laying upto +5.8mPD with Compaction	1d	12-Jun-14 A	14-Jun-14 A	
A1680	PD East1 - Surcharge Compaction upto 8.5mPD	9d	05-Aug-14	14-Aug-14	-163d
A1682	PD East1 - Vent Shear Test after +8.5mPD 6nrs	12d	14-Aug-14	28-Aug-14	-132d
A1686	PD East1 - Surcharge Pause Period 0mths	0d	28-Aug-14	28-Aug-14	-163d
A1688	PD East1 - Surcharge Laying +11.5mPD 42,843m3 5,000m3/day	8d	31-Aug-14	09-Sep-14	-154d
A1690	PD East1 - Surcharge Period 4mths	120d	09-Sep-14	07-Jan-15	-167d
East2 Portion		96d	14-Jun-14 A	25-Sep-14	-156d
A2234	PD East2 - Vent Shear Test 6nrs	12d	30-Jul-14	13-Aug-14	-127d
A2236	PD East2 - Allow to surcharge upto 8.5 by result of Vent Shear Test	0d		13-Aug-14	-127d
A2240	PD East2 - Surcharge Laying upto +8.5mpD 42843m3 5,000m3/day	9d	21-Aug-14	31-Aug-14	-154d
A2240-010	PD D3.4 - D3.7 - Surcharge Laying upto +5.8mPD with Compaction	1d	14-Jun-14 A	15-Jun-14 A	
A2240-020	PD East2 - Surcharge Laying upto +6.1mPD with Compaction	1d	21-Jun-14	21-Jun-14	
A2250	PD East2 - Surcharge Compaction upto 8.5mPD	9d	23-Aug-14	01-Sep-14	-156d
A2252	PD East2 - Vent Shear Test after +8.5mPD 6nrs	12d	01-Sep-14	16-Sep-14	-125d
A2256	PD East2 - Surcharge Pause Period 0mths	0d	16-Sep-14	16-Sep-14	-156d
A2258	PD East2 - Surcharge Laying +11.5mPD 42,843m3 5,000m3/day	8d	16-Sep-14	25-Sep-14	-145d
Box Curvert Construction		0d	19-Aug-14	19-Aug-14	-7d



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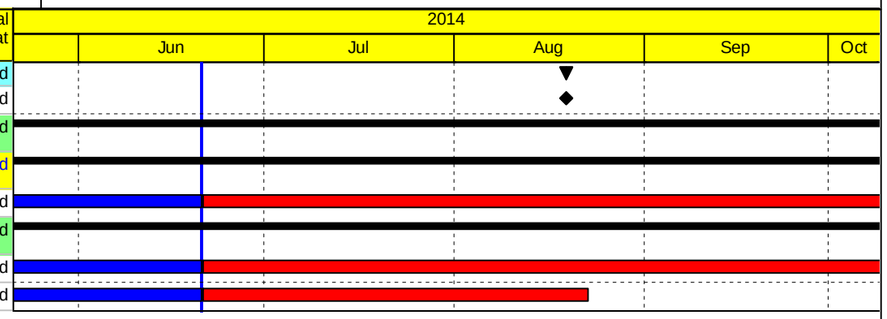
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Extension Culvert EC1		0d	19-Aug-14	19-Aug-14	-7d
EC1-0005	The Area of EC1 handback by HY/2011/03	0d	19-Aug-14*		-7d
Works Area WA2 (Tung Chung)		1435d	21-May-12 A	28-Feb-17	0d
Zone A		1435d	21-May-12 A	28-Feb-17	0d
A1880	Maintenance of Engineer's Accommodation	1431d	21-May-12 A	28-Feb-17	0d
Works Area TKO Fill Bank		1255d	25-Sep-12 A	30-Nov-16	0d
WA-TKO-1040	Operate and Maintain Public Fill Sorting Facilities in Zone A, B1 & B2	1251d	25-Sep-12 A	30-Nov-16	0d
WA-TKO-1050	Maintainance of Site in Zone C	568d	25-Sep-12 A	22-Aug-14	0d



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Appendix C - Implementation Schedule of Environmental Mitigation Measures

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
Air Quality				
S5.5.6.1 of HKBCFEIA	A1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	All construction sites	V
S5.5.6.2 of HKBCFEIA and S4.8.1 of TKCLKLEIA	A2	Proper watering of exposed spoil should be undertaken throughout the construction phase: • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones. • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an		

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; • All unpaved roads/exposed area shall be watered which results in dust suppression by forming moist cohesive films among the discrete grains of road surface material. • No burning of debris or other materials on the works areas is allowed; • Water spray shall be used during the handling of fill material at the site and at active cuts, excavation and fill sites where dust is likely to be created; • Open dropping heights for excavated materials shall be controlled to a maximum height of 2m to minimise the fugitive dust arising from unloading; • During transportation by truck, materials shall not be loaded to a level higher than the side and tail boards, and shall be dampened or covered before transport. Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin. The tarpaulin shall be properly secured and shall extend at least 300mm over the edges of the side and tail boards; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the		

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		construction site or part of the construction site where the exposed earth lies.		
S5.5.6.3 of HKBCFEIA and S4.8.1 of TKCLKLEIA	A3	The Contractor should undertake proper watering on all exposed spoil and associated work areas (with at least 8 times per day) throughout the construction phase.	All construction sites	V
S5.5.6.4 of HKBCFEIA and S4.11 of TKCLKLEIA	A4	Implement regular dust monitoring under EM&A programme during the construction stage.	Selected representative dust monitoring station	V
S5.5.7.1 of HKBCFEIA	A5	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant: • Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system; • All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; • Vents for all silos and cement/ pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system; • The materials which may generate airborne dusty emissions should be wetted by water spray system; • All receiving hoppers should be enclosed on three sides up to 3m above unloading	All construction sites	N/A

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		point; • All conveyor transfer points should be totally enclosed; • All access and route roads within the premises should be paved and wetted; and • Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body.		
S5.5.2.7 of HKBCFEIA	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point: • All road surface within the barging facilities will be paved; • Dust enclosures will be provided for the loading ramp; • Vehicles will be required to pass through designated wheels wash facilities; and • Continuous water spray at the loading points.	All construction sites	N/A (Construction in process)
Construction Noise (Air borne)				
S6.4.10 of HKBCFEIA	N1	Use of good site practices to limit noise emissions by considering the following: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; • material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.		
S6.4.11 of HKBCFEIA	N2	Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	All construction sites	V
S6.4.12 of HKBCFEIA	N3	Install movable noise barriers (typically density @14kg/m^2), acoustic mat or full enclosure close to noisy plants including air compressor, generators, saw.	For plant items listed in Appendix 6D of the EIA report at all construction sites	N/A
S6.4.13 of HKBCFEIA	N4	Select “Quiet plants” which comply with the BS 5228 Part 1 or TM standards.	For plant items listed in Appendix 6D of the EIA report at all construction sites	V
S6.4.14 of HKBCFEIA	N5	Sequencing operation of construction plants where practicable.	All construction sites where practicable	V
S5.1 of TMCLKLEIA	N6	Implement a noise monitoring under EM&A programme.	Selected representative noise	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
			monitoring station	
Waste Management (Construction Waste)				
S12.6 of TMCLKLEIA	WM1	The Contractor shall identify a coordinator for the management of waste.	All construction sites	V
S12.6 of TMCLKLEIA	WM2	The Contractor shall apply for and obtain the appropriate licenses for the disposal of public fill, chemical waste and effluent discharges.	All construction sites	V
S12.6 of TMCLKLEIA	WM3	EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site audit programme shall be undertaken.	All construction sites	V
S8.3.8 of HKBCFEIA and S12.6 of TMCLKLEIA	WM4	*Construction and Demolition Material* The following mitigation measures should be implemented in handling the waste: • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; • Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; • Implement a trip-ticket system for each works contract to ensure that the disposal of	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		C&D materials are properly documented and verified; • Implement an enhanced Waste Management Plan similar to ETWBTC (Works) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction; • In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation; and • The surplus surcharge should be transferred to a fill bank.		
S8.3.9-S8.3.11 of HKBCFEIA and S12.6 of TMCLKLEIA	WM5	*C&D Waste* • Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding and falsework should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage. • The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.		
S8.2.12-S8.3.15 of HKBCFEIA and S12.6 of TMCLKLEIA	WM6	*Chemical Waste* • Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. • The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated. • Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD.	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
S8.3.16 of HKBCFEIA and S12.6 of TMCLKLEIA	WM7	*Sewage* • Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state, which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.	All construction sites	V
S8.3.17 of HKBCFEIA and S12.6 of TMCLKLEIA	WM8	*General Refuse* • The site and surroundings shall be kept tidy and litter free. General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. • A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. • Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. • Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminum cans, plastic bottles etc., should be provided.	All construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes. • Sufficient dustbins shall be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By-laws. In addition, general refuse shall be cleared daily and shall be disposed of to the nearest licensed landfill or refuse transfer station. • All waste containers shall be in a secure area on hardstanding.		
Water Quality (Construction Phase)				
	W1	Mitigation during the marine works to reduce impacts to within acceptable levels have been recommended and will comprise a series of measures that restrict the method and sequencing of backfilling, as well as protection measures. Details of the measures are provided below: • Reclamation filling for the Project shall not proceed until at least 200m of leading seawall at the reclamation area formed above +2.2mPD, unless otherwise	During filling	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		agreement was obtained from EPD, except for the 300m gaps for marine access. All underwater filling works shall be carried out behind seawalls to avoid dispersion of suspended solids outside the Project limit; • Except for the filling of the cellular structures, not more than 15% public fill shall be used for reclamation filling below +2.5mPD during construction of the seawall; • After the seawall is completed except for the 300m marine access as indicated in the EPs, not more than 30% public fill shall be used for reclamation filling below +2.5mPD, unless otherwise agreement from EPD was obtained; • Upon completion of 200m leading seawall, no more than a total of 60 filling barge trips per day shall be made with a cumulative maximum daily filling rate of 60,000 m3 for HKBCF and TMCLKL southern landfall reclamation during the filling operation; and • Upon completion of the whole section of seawall except for the 300m marine access as indicated in the EPs, no more than a total of 190 filling barge trips per day shall be made with a cumulative maximum daily filling rate of 190,000 m3 for the remaining filling operations for HKBCF and TMCLKL southern landfall reclamation. • Floating type perimeter silt curtains shall be around the HKBCF site before the commencement of marine works. Staggered layers of silt curtain shall be provided to prevent sediment loss at navigation accesses. The length of each staggered layers shall be at least 200m;		

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• Single layer silt curtain to be applied around the North-east airport water intake; • The silt-curtains should be maintained in good condition to ensure the sediment plume generated from filling be confined effectively within the site boundary; • The filling works shall be scheduled to spread the works evenly over a working day; • Cellular structure shall be used for seawall construction; • A layer of geotextile shall be placed on top of the seabed before any filling activities take place inside the cellular structures to form the seawall; • The conveyor belts shall be fitted with windboards and conveyor release points shall be covered with curtain to prevent any spillage of filling materials onto the surrounding waters; and • An additional layer of silt curtain shall be installed near the active stone column installation points. A layer of geotextile with stone blanket on top shall be placed on the seabed prior to stone column installation works.		
S9.11.1.3 of HKBCFEIA and S6.10 of TMCLKLEIA	W2	<u>Land Works</u> General construction activities on land should also be governed by standard good working practice. Specific measures to be written into the works contracts should include: • wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters;	All land-based construction sites	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided; • storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks; • silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm; • temporary access roads should be surfaced with crushed stone or gravel; • rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities; • measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system; • open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms; • manholes (including any newly constructed ones) should always be adequately		

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers; • discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system; • all vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit; • wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain; • the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel; • wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects; • vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for offsite disposal; • the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately;		

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance; • all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and • surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the storm water system..		
S9.14 of HKBCFEIA and S6.10 of TMCLKLEIA	W3	Implement a water quality monitoring programme	At identified monitoring location	V
S6.10 of TMCLKLEIA	W4	All construction works shall be subject to routine audit to ensure implementation of all EIA recommendations and good working practice.	All construction site areas	V
Ecology (Construction Phase)				
S10.7 of HKBCFEIA and S8.14 of TMCLKLEIA	E1	• Install silt curtain during the construction • Limit works fronts • Construct seawall prior to reclamation filling where practicable • Good site practices • Strict enforcement of no marine dumping	Seawall, reclamation area	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		• Site runoff control • Spill response plan		
S10.7 of HKBCFEIA	E2	• Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater.	Land-based works areas	V
S10.7 of HKBCFEIA and S8.14 of TMCLKLEIA	E3	• Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time.	Land-based works areas	V
S10.7 of HKBCFEIA and S8.14 of TMCLKLEIA	E4	• Dolphin Exclusion Zone • Dolphin watching plan	Marine works	V
S10.7 of HKBCFEIA and S8.14 of TMCLKLEIA	E5	• Decouple compressors and other equipment on working vessels • Proposal on design and implementation of acoustic decoupling measures applied during reclamation works • Avoidance of percussive piling	Marine works	V
S10.7 of HKBCFEIA and S8.14 of	E6	• Control vessel speed • Skipper training • Predefined and regular routes for working vessels; avoid Brothers Islands	Marine traffic	V

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
TMCLKLEIA				
S10.10 of HKBCFEIA and S8.14 of TMCLKLEIA	E7	• Vessel based dolphin monitoring	Northeast and Northwest Lantau	V
Fisheries				
S11.7 of HKBCFEIA	F1	• Reduce re-suspension of sediments • Limit works fronts • Good site practices • Strict enforcement of no marine dumping • Spill response plan	Seawall, reclamation area	V
S11.7 of HKBCFEIA	F2	• Install silt-grease trap in the drainage system collecting surface runoff	Reclamation area	V
Landscape & Visual (Construction Phase)				
S14.3.3. 3 of HKBCFEIA and S10.9 of TMCLKLEIA	LV1	*Mitigate Landscape Impacts* G1/CM4 Grass-hydroseed or sheeting bare soil surface and stock pile areas. G9 Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt “natural-look” by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to	All construction site areas	N/A

EIA Ref.	EM&A Log Ref	Environmental Mitigation Measures	Location	Implementation Status
		enhance “natural-look” of new coastline.		
S10.9 of TMCLKLEIA	LV2	*Mitigate Landscape Impacts* CM7 Ensure no run-off into water body adjacent to the Project Area.	All construction site areas	V
S14.3.3. 3 of HKBCFEIA	LV4	*Mitigate Visual Impacts* V1 Minimize time for construction activities during construction period.	All construction site areas	V
S10.9 of TMCLKLEIA	LV5	*Mitigate Visual Impacts* CM6 Control night-time lighting and glare by hooding all lights.	All construction site areas	V
EM&A				
S15.2.2 of HKBCFEIA	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	All construction site areas	V
S15.5 - S15.6 of HKBCFEIA	EM2	• An Environmental Team needs to be employed as per the EM&A Manual. • Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. • An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	All construction site areas	V

Legend: V = implemented; x = not implemented; N/A = not applicable

Appendix D - Summary of Action and Limit Levels

Table 1 – Action and Limit Levels for 1-hour TSP

Location	Action Level	Limit Level
AMS2	374 μg/m^3	500 μg/m^3
AMS3A*	368 μg/m^3	500 μg/m^3
AMS6	360 μg/m^3	500 μg/m^3
AMS7	370 μg/m^3	500 μg/m^3

Remarks: * Action Level set out at AMS3 Ho Yu College is adopted.

Table 2 – Action and Limit Levels for 24-hour TSP

Location	Action Level	Limit Level
AMS2	176 μg/m^3	260 μg/m^3
AMS3A*	167 μg/m^3	260 μg/m^3
AMS6	173 μg/m^3	260 μg/m^3
AMS7	183 μg/m^3	260 μg/m^3

Remarks: * Action Level set out at AMS3 Ho Yu College is adopted.

Table 3 – Action and Limit Levels for Construction Noise (0700-1900 hrs of normal weekdays)

Location	Action Level	Limit Level
NMS2	When one documented complaint, related to 0700 – 1900 hours on normal weekdays, is received from any one of the sensitive receivers	75 dB(A)
NMS3A		*65 / 70 dB(A)

*Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period.

Table 4 – Action and Limit Levels for Water Quality

Parameters	**Action**	**Limit**
DO in mg L^{-1} (Surface, Middle & Bottom)	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4 .2 (except 5 mg/L for FCZ) Bottom 3.6
SS in mg L^{-1} (depth-averaged)	23.5 and 120% of upstream control station's SS at the same tide of the same day	34.4 and 130% of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes
Turbidity in NTU (depth-averaged)	27.5 and 120% of upstream control station's turbidity at the same tide of the same day	47.0 and130% of upstream control station's turbidity at the same tide of the same day

Notes:

1. "depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
3. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

Table 5(a) Action and Limit Levels for Chinese White Dolphin Monitoring - Approach to Define Action Level (AL) and Limit Level (LL):

	North Lantau Social Cluster	
	NEL	**NWL**
Action Level	(STG < 70% of baseline) & (ANI < 70% of baseline)	(STG < 70% of baseline) & (ANI < 70% of baseline)
Limit Level	[(STG < 40% of baseline) & (ANI < 40% of baseline)] AND [(STG < 40% of baseline) & (ANI < 40% of baseline)]	

For North Lantau Social Cluster, action level will be trigger if either NEL **or** NWL fall below the criteria; limit level will be triggered if both NEL **and** NWL fall below the criteria.

Table 5(b) Derived Value of Action Level (AL) and Limit Level (LL) for Chinese White Dolphin Monitoring

	North Lantau Social Cluster	
	NEL	**NWL**
Action Level	(STG < 4.2) & (ANI < 15.5)	(STG < 6.9) & (ANI < 31.3)
Limit Level	[(STG < 2.4) & (ANI <8.9)] AND [(STG < 3.9)& (ANI < 17.9)]	

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Tung Chung Development Pier (AMS2)	Operator:	Cheung Hung Wai
Cal. Date:	9-Apr-14	Next Due Date:	9-Jun-14
Equipment No.:	A-001-78T	Serial No.	3383

Ambient Condition			
Temperature, Ta (K)	293	Pressure, Pa (mmHg)	761.0

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.94727	Intercept, bc	0.02332
Last Calibration Date:	20-May-13	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-May-14	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	9.3	3.08	1.57	48.0	48.44
13	7.3	2.73	1.39	42.0	42.38
10	5.7	2.41	1.23	36.0	36.33
7	4.4	2.12	1.08	32.0	32.29
5	2.6	1.63	0.82	26.0	26.24

By Linear Regression of Y on X

Slope , mw = **30.0178** **Intercept, bw =** **0.6308**

Correlation Coefficient* = **0.9904**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $IC = (mw \times Qstd + bw) \times [(760 / Pa) \times (Ta / 298)]^{1/2}$ = **39.29**

Remarks:

QC Reviewer: Signature: Date: 11 Apr 14

D:\HVS Calibration Certificate (Existing)

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Tung Chung Development Pier (AMS2)	Operator:	Cheung Hung Wai
Cal. Date:	6-Jun-14	Next Due Date:	6-Aug-14
Equipment No.:	A-001-78T	Serial No.	3383

Ambient Condition			
Temperature, Ta (K)	301	Pressure, Pa (mmHg)	753.8

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.97518	Intercept, bc	-0.01001
Last Calibration Date:	28-May-14	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	28-May-15	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	9.0	2.97	1.51	47.0	46.57
13	7.5	2.71	1.38	44.0	43.60
10	5.8	2.39	1.21	38.0	37.66
7	4.1	2.01	1.02	31.0	30.72
5	2.8	1.66	0.84	26.0	25.76

By Linear Regression of Y on X

Slope , mw = **32.3561** **Intercept, bw =** **-1.7572**

Correlation Coefficient* = **0.9960**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $IC = (mw \times Qstd + bw) \times [(760 / Pa) \times (Ta / 298)]^{1/2} =$ **40.67**

Remarks: _____

QC Reviewer: WS CHAN Signature: _____ Date: 6/6/14

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Site Boundary of Site Office (WA2) (AMS3B)	Operator:	Leung Yiu Ting
Cal. Date:	2-Apr-14	Next Due Date:	2-Jun-14
Equipment No.:	A-001-79T	Serial No.	3384

Ambient Condition			
Temperature, Ta (K)	297	Pressure, Pa (mmHg)	763.2

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.94727	Intercept, bc	0.02332
Last Calibration Date:	20-May-13	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-May-14	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	8.3	2.89	1.47	48.0	48.21
13	6.8	2.62	1.33	43.0	43.18
10	5.2	2.29	1.16	34.0	34.15
7	4.1	2.03	1.03	28.0	28.12
5	2.5	1.59	0.80	19.0	19.08

By Linear Regression of Y on X

Slope , mw = **44.5628** **Intercept, bw =** **-17.2050**

Correlation Coefficient* = **0.9963**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $IC = (mw \times Qstd + bw) \times [(760 / Pa) \times (Ta / 298)]^{1/2}$ = **40.55**

Remarks:

QC Reviewer: Signature: Date: 3-Apr-14

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Site Boundary of Site Office (WA2) (AMS3A)	Operator:	Leung Yiu Ting
Cal. Date:	30-May-14	Next Due Date:	30-Jul-14
Equipment No.:	A-001-79T	Serial No.	3384

Ambient Condition			
Temperature, Ta (K)	302	Pressure, Pa (mmHg)	754.3

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.97518	Intercept, bc	-0.01001
Last Calibration Date:	28-May-14	**mc x Qstd + bc = [DH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	28-May-15	**Qstd = {[DH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	8.5	2.89	1.47	49.0	48.49
13	7.0	2.62	1.33	41.0	40.57
10	5.2	2.26	1.15	34.0	33.65
7	4.0	1.98	1.01	28.0	27.71
5	2.5	1.56	0.80	19.0	18.80

By Linear Regression of Y on X

Slope , mw = 43.3753 **Intercept, bw =** -16.0231

Correlation Coefficient* = 0.9958

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = IC x [(Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]$^{1/2}$= **40.79**

Remarks:

QC Reviewer: WS CHAN Signature: Date: 30/5/14

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Hong Kong SkyCity Marriott Hotel (AMS7)	Operator:	Cheung Hung Wai
Cal. Date:	9-Apr-14	Next Due Date:	9-Jun-14
Equipment No.:	A-001-80T	Serial No.	3385

Ambient Condition			
Temperature, Ta (K)	293	Pressure, Pa (mmHg)	761.0

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.94727	Intercept, bc	0.02332
Last Calibration Date:	20-May-13	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-May-14	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	7.8	2.82	1.44	46.0	46.42
13	6.6	2.59	1.32	40.0	40.37
10	5.2	2.30	1.17	32.0	32.29
7	4.1	2.04	1.04	26.0	26.24
5	3.0	1.75	0.89	20.0	20.18

By Linear Regression of Y on X

Slope , mw = 48.1386 **Intercept, bw =** -23.1991

Correlation Coefficient* = 0.9960

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]$^{1/2}$= **39.02**

Remarks: _____

QC Reviewer: _____ Signature: _____ Date: _____

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Hong Kong SkyCity Marriott Hotel (AMS7)	Operator:	Cheung Hung Wai
Cal. Date:	6-Jun-14	Next Due Date:	6-Aug-14
Equipment No.:	A-001-80T	Serial No.	3385

Ambient Condition			
Temperature, Ta (K)	301	Pressure, Pa (mmHg)	753.8

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.97518	Intercept, bc	-0.01001
Last Calibration Date:	28-May-14	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	28-May-15	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	7.7	2.75	1.40	47.0	46.57
13	6.5	2.53	1.28	42.0	41.62
10	5.1	2.24	1.14	33.0	32.70
7	4.0	1.98	1.01	27.0	26.76
5	3.1	1.74	0.89	22.0	21.80

By Linear Regression of Y on X

Slope , mw = 49.9069 **Intercept, bw =** -23.1661

Correlation Coefficient* = 0.9954

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $IC = (mw \times Qstd + bw) \times [(760 / Pa) \times (Ta / 298)]^{1/2}$ = **42.09**

Remarks: _____

QC Reviewer: WS CHAN Signature: _____ Date: 6/6/14

TISCH Environmental

TISCH ENVIRONMENTAL, INC.
145 SOUTH MIAMI AVE
VILLAGE OF CLEVES, OH
45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 28, 2014 Rootsmeter S/N 0438320 Ta (K) - 296
Operator Tisch Orifice I.D. - 0988 Pa (mm) - 751.84

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3790	3.2	2.00
2	NA	NA	1.00	0.9720	6.4	4.00
3	NA	NA	1.00	0.8690	7.9	5.00
4	NA	NA	1.00	0.8260	8.8	5.50
5	NA	NA	1.00	0.6830	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9917	0.7191	1.4113		0.9957	0.7221	0.8874
0.9875	1.0159	1.9959		0.9915	1.0201	1.2549
0.9854	1.1339	2.2315		0.9894	1.1385	1.4030
0.9843	1.1916	2.3405		0.9883	1.1965	1.4715
0.9790	1.4333	2.8227		0.9829	1.4392	1.7747
Qstd slope (m) =		1.97518		Qa slope (m) =		1.23683
intercept (b) =		-0.01001		intercept (b) =		-0.00630
coefficient (r) =		0.99998		coefficient (r) =		0.99998
y axis = SQRT[H2O(Pa/760)(298/Ta)]				y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3***
Equipment No.:	***A.005.07a***
Sensitivity Adjustment Scale Setting:	***557 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*		
Venue:	*Cyberport (Pui Ying Secondary School)*		
Model No.:	*Series 1400AB*		
Serial No:	Control: *140AB219899803*		
	Sensor: *1200C143659803*	K_o: *12500*	
Last Calibration Date*:	*10 May 2014*		

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *557* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *557* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*11-05-14*	*09:30 - 10:30*	*26.7*	*75*	*0.04434*	*1775*	*29.58*
2	*11-05-14*	*10:30 - 11:30*	*26.7*	*75*	*0.04716*	*1880*	*31.33*
3	*11-05-14*	*11:30 - 12:30*	*26.8*	*76*	*0.04927*	*1964*	*32.73*
4	*11-05-14*	*12:30 - 13:30*	*26.8*	*75*	*0.05035*	*2015*	*33.58*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9982*

Validity of Calibration Record: *11 May 2015*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 12 May 2014

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3***
Equipment No.:	***A.005.08a***
Sensitivity Adjustment Scale Setting:	***702 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*		
Venue:	*Cyberport (Pui Ying Secondary School)*		
Model No.:	*Series 1400AB*		
Serial No:	Control: *140AB219899803*		
	Sensor: *1200C143659803*	K_o: *12500*	
Last Calibration Date*:	*10 May 2014*		

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *702* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *702* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*11-05-14*	*09:45 - 10:45*	*26.7*	*75*	*0.04568*	*1713*	*28.50*
2	*11-05-14*	*10:45 - 11:45*	*26.7*	*75*	*0.04857*	*1819*	*30.32*
3	*11-05-14*	*11:45 - 12:45*	*26.8*	*76*	*0.05063*	*1903*	*31.72*
4	*11-05-14*	*12:45 - 13:45*	*26.8*	*75*	*0.05116*	*1922*	*32.03*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0016*
Correlation coefficient: *0.9984*

Validity of Calibration Record: *11 May 2015*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 12 May 2014

EQUIPMENT CALIBRATION RECORD

Type: ***Laser Dust Monitor***
Manufacturer/Brand: ***SIBATA***
Model No.: ***LD-3***
Equipment No.: ***A.005.09a***
Sensitivity Adjustment Scale Setting: ***797 CPM***

Operator: *Mike Shek (MSKM)*

Standard Equipment

Equipment: *Rupprecht & Patashnick TEOM®*
Venue: *Cyberport (Pui Ying Secondary School)*
Model No.: *Series 1400AB*
Serial No: Control: *140AB219899803*
Sensor: *1200C143659803* K_o: *12500*
Last Calibration Date*: *10 May 2014*

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *797* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *797* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*11-05-14*	*13:30 - 14:30*	*26.8*	*75*	*0.05034*	*2017*	*33.62*
2	*11-05-14*	*14:30 - 15:30*	*26.9*	*76*	*0.05211*	*2084*	*34.73*
3	*11-05-14*	*15:30 - 16:30*	*26.9*	*76*	*0.05163*	*2066*	*34.43*
4	*11-05-14*	*16:30 - 17:30*	*26.9*	*76*	*0.05272*	*2113*	*35.22*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9965*

Validity of Calibration Record: *11 May 2015*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 12 May 2014

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3***
Equipment No.:	***A.005.10a***
Sensitivity Adjustment Scale Setting:	***753 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*		
Venue:	*Cyberport (Pui Ying Secondary School)*		
Model No.:	*Series 1400AB*		
Serial No:	Control: *140AB219899803*		
	Sensor: *1200C143659803*	K_o: *12500*	
Last Calibration Date*:	*10 May 2014*		

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *753* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *753* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*11-05-14*	*13:45 - 14:45*	*26.8*	*75*	*0.04984*	*1996*	*33.27*
2	*11-05-14*	*14:45 - 15:45*	*26.9*	*76*	*0.05196*	*2077*	*34.62*
3	*11-05-14*	*15:45 - 16:45*	*26.9*	*76*	*0.05141*	*2055*	*34.25*
4	*11-05-14*	*16:45 - 17:45*	*26.9*	*76*	*0.05263*	*2109*	*35.15*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9969*

Validity of Calibration Record: *11 May 2015*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 12 May 2014

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3***
Equipment No.:	***A.005.11a***
Sensitivity Adjustment Scale Setting:	***799 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*		
Venue:	*Cyberport (Pui Ying Secondary School)*		
Model No.:	*Series 1400AB*		
Serial No:	Control: *140AB219899803*		
	Sensor: *1200C143659803*	K_o: *12500*	
Last Calibration Date*:	*10 May 2014*		

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *799* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *799* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*18-05-14*	*09:00 - 10:00*	*28.3*	*77*	*0.04527*	*1815*	*30.25*
2	*18-05-14*	*10:00 - 11:00*	*28.3*	*77*	*0.04811*	*1923*	*32.05*
3	*18-05-14*	*11:00 - 12:00*	*28.3*	*77*	*0.05103*	*2041*	*34.02*
4	*18-05-14*	*12:00 - 13:00*	*28.4*	*77*	*0.05366*	*2157*	*35.95*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9987*

Validity of Calibration Record: *18 May 2015*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 19 May 2014

EQUIPMENT CALIBRATION RECORD

Type: ***Laser Dust Monitor***
Manufacturer/Brand: ***SIBATA***
Model No.: ***LD-3B***
Equipment No.: ***A.005.13a***
Sensitivity Adjustment Scale Setting: ***643 CPM***

Operator: *Mike Shek (MSKM)*

Standard Equipment

Equipment: *Rupprecht & Patashnick TEOM®*
Venue: *Cyberport (Pui Ying Secondary School)*
Model No.: *Series 1400AB*
Serial No: Control: *140AB219899803*
Sensor: *1200C143659803* K_o: *12500*
Last Calibration Date*: *10 May 2014*

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *643* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *643* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*18-05-14*	*09:30 - 10:30*	*28.3*	*77*	*0.04614*	*1846*	*30.77*
2	*18-05-14*	*10:30 - 11:30*	*28.3*	*77*	*0.04823*	*1934*	*32.23*
3	*18-05-14*	*11:30 - 12:30*	*28.3*	*77*	*0.05152*	*2053*	*34.22*
4	*18-05-14*	*12:30 - 13:30*	*28.4*	*77*	*0.05391*	*2162*	*36.03*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9981*

Validity of Calibration Record: *18 May 2015*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 19 May 2014

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3B***
Equipment No.:	***A.005.14a***
Sensitivity Adjustment Scale Setting:	***786 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*
Venue:	*Cyberport (Pui Ying Secondary School)*
Model No.:	*Series 1400AB*
Serial No:	Control: *140AB219899803*
	Sensor: *1200C143659803* K_o: *12500*
Last Calibration Date*:	*10 May 2014*

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *786* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *786* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*18-05-14*	*12:45 - 13:45*	*28.4*	*77*	*0.05027*	*2158*	*35.97*
2	*18-05-14*	*13:45 - 14:45*	*28.5*	*76*	*0.05161*	*2211*	*36.85*
3	*18-05-14*	*14:45 - 15:45*	*28.5*	*76*	*0.05235*	*2247*	*37.45*
4	*18-05-14*	*15:45 - 16:45*	*28.4*	*77*	*0.05203*	*2233*	*37.22*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0014*
Correlation coefficient: *0.9969*

Validity of Calibration Record: *18 May 2015*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 19 May 2014

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
G/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong.
香港黃竹坑道37號利達中心地下，9樓，12樓，13樓及20樓
E-mail: smec@cigismec.com Website: www.cigismec.com
Tel : (852) 2873 6860
Fax : (852) 2555 7533
HOKLAS 028

CERTIFICATE OF CALIBRATION

Certificate No.: 13CA1107 01-02 **Page:** 1 **of** 2

Item tested

Description:	Acoustical Calibrator (Class 1)
Manufacturer:	Rion Co., Ltd.
Type/Model No.:	NC-73
Serial/Equipment No.:	10307223 / N.004.08
Adaptors used:	-

Item submitted by

Curstomer:	AECOM ASIA CO., LTD.
Address of Customer:	-
Request No.:	-
Date of receipt:	07-Nov-2013

Date of test: 08-Nov-2013

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	17-Apr-2014	SCL
Preamplifier	B&K 2673	2239857	16-Apr-2014	CEPREI
Measuring amplifier	B&K 2610	2346941	24-Apr-2014	CEPREI
Signal generator	DS 360	61227	15-Apr-2014	CEPREI
Digital multi-meter	34401A	US36087050	10-Dec-2013	CEPREI
Audio analyzer	8903B	GB41300350	15-Apr-2014	CEPREI
Universal counter	53132A	MY40003662	15-Apr-2014	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	60 ± 10 %
Air pressure:	1000 ± 10 hPa

Test specifications

1, The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.

2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.

3, The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on **page 2** of this certificate.

SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 11-Nov-2013 **Company Chop:**

Comments: The results reported in this certificate refer to the conditon of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
G/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong.
香港黃竹坑道37號利達中心地下，9樓，12樓，13樓及20樓
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Tel : (852) 2873 6860
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HOKLAS 028

CERTIFICATE OF CALIBRATION

Certificate No.: 13CA1107 01-01 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	Rion Co., Ltd.	,	Rion Co., Ltd.
Type/Model No.:	NL-31	,	UC-53A
Serial/Equipment No.:	00320528 / N.007.03A	,	90565
Adaptors used:	-	,	-

Item submitted by

Customer Name:	AECOM ASIA CO., LTD.
Address of Customer:	-
Request No.:	-
Date of receipt:	07-Nov-2013

Date of test: 08-Nov-2013

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	22-Jun-2014	CIGISMEC
Signal generator	DS 360	33873	15-Apr-2014	CEPREI
Signal generator	DS 360	61227	15-Apr-2014	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	60 ± 10 %
Air pressure:	1000 ± 10 hPa

Test specifications

1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.

2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.

3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 11-Nov-2013 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
G/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong.
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E-mail: smec@cigismec.com Website: www.cigismec.com
Tel : (852) 2873 6860
Fax : (852) 2555 7533
HOKLAS 028

CERTIFICATE OF CALIBRATION

Certificate No.: 14CA0305 06-01 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	B & K	,	B & K
Type/Model No.:	2238	,	4188
Serial/Equipment No.:	2285692 N.009.04	,	2250420
Adaptors used:	-	,	-

Item submitted by

Customer Name:	AECOM ASIA CO. LTD.
Address of Customer:	-
Request No.:	-
Date of receipt:	05-Mar-2014

Date of test: 07-Mar-2014

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	22-Jun-2014	CIGISMEC
Signal generator	DS 360	33873	15-Apr-2014	CEPREI
Signal generator	DS 360	61227	15-Apr-2014	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	60 ± 10 %
Air pressure:	1000 ± 10 hPa

Test specifications

1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.

2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.

3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 12-Mar-2014 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1414461
Date of Issue: 19/05/2014
Client: AECOM ASIA COMPANY LIMITED

Description: Sonde
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12D100972
Equipment No.: W.026.36
Date of Calibration: 13 May, 2014 Date of next Calibration: 13 August, 2014

Parameters:

Conductivity **Method Ref: APHA (20th edition), 2510B**

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
146.9	145.8	-0.7
6667	6640	-0.4
12890	12750	-1.1
58670	58200	-0.8
	Tolerance Limit (%)	±10.0

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.66	3.69	+0.03
5.85	5.81	-0.04
7.65	7.60	-0.05
	Tolerance Limit (mg/L)	±0.20

pH Value **Method Ref: APHA (21st edition), 4500H:B**

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.03	+0.03
7.0	7.05	+0.05
10.0	10.03	+0.03
	Tolerance Limit (pH Unit)	±0.20

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr Fung Lim Chee, Richard
General Manager
Greater China & Hong Kong

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1414461
Date of Issue: 19/05/2014
Client: AECOM ASIA COMPANY LIMITED

Description: Sonde
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12D100972
Equipment No.: W.026.36
Date of Calibration: 13 May, 2014 Date of next Calibration: 13 August, 2014

Parameters:

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

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
0	0.02	--
10	9.94	-0.6
20	19.56	-2.2
30	29.76	-0.8
	Tolerance Limit (%)	±10.0

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

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
13.5	13.37	-0.1
25.5	25.53	+0.0
38.0	38.06	+0.1
	Tolerance Limit (°C)	±2.0

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	3.9	-2.5
10	9.8	-2.0
20	20.4	+2.0
50	50.5	+1.0
100	101.2	+1.2
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr Fung Lim Chee, Richard
General Manager -
Greater China & Hong Kong

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1414464
Date of Issue: 19/05/2014
Client: AECOM ASIA COMPANY LIMITED

Description: Sonde
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12A101545
Equipment No.: W.026.35
Date of Calibration: 13 May, 2014 Date of next Calibration: 13 August, 2014

Parameters:

Conductivity **Method Ref: APHA (20th edition), 2510B**

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
146.9	147.2	+0.2
6667	6710	+0.6
12890	12710	-1.4
58670	58520	-0.3
	Tolerance Limit (%)	±10.0

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.66	3.70	+0.04
5.85	5.89	+0.04
7.65	7.70	+0.05
	Tolerance Limit (mg/L)	±0.20

pH Value **Method Ref: APHA (21st edition), 4500H:B**

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.01	+0.01
7.0	7.05	+0.05
10.0	9.94	-0.06
	Tolerance Limit (pH Unit)	±0.20

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr Fung Lim Chee, Richard
General Manager -
Greater China & Hong Kong

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1414464
Date of Issue: 19/05/2014
Client: AECOM ASIA COMPANY LIMITED

Description: Sonde
Brand Name: YSI
Model No.: 6820 V2
Serial No.: 12A101545
Equipment No.: W.026.35
Date of Calibration: 13 May, 2014 Date of next Calibration: 13 August, 2014

Parameters:

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

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
0	0.00	--
10	9.68	-3.2
20	19.86	-0.7
30	29.72	-0.9
	Tolerance Limit (%)	±10.0

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

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
13.5	13.42	-0.1
25.5	24.40	-1.1
38.0	37.66	-0.3
	Tolerance Limit (°C)	±2.0

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.1	+2.5
10	10.0	0.0
20	19.8	-1.0
50	49.5	-1.0
100	99.6	-0.4
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr Fung Lim Chee, Richard
General Manager -
Greater China & Hong Kong

Hong Kong Boundary Crossing Facilities – Reclamation Works
Impact Monitoring Schedule for June 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun
	Mid-Flood 8:46 Mid-Ebb 15:51	Dolphin Monitoring	Mid-Flood 10:04 Mid-Ebb 17:07 24-hour TSP 1-hour TSP Noise	Dolphin Monitoring	Mid-Flood 12:31 Mid-Ebb 18:55	
8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun
	Mid-Ebb 10:18 Mid-Flood 16:44 24-hour TSP 1-hour TSP Noise		Mid-Ebb 11:38 Mid-Flood 18:31		Mid-Ebb 13:02 Mid-Flood 20:11	24-hour TSP 1-hour TSP
15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun
	Mid-Flood 8:28 Mid-Ebb 15:20 Dolphin Monitoring	Dolphin Monitoring	Mid-Flood 10:19 Mid-Ebb 17:02		Mid-Flood 12:56 Mid-Ebb 19:05 24-hour TSP 1-hour TSP Noise	
22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun
	Mid-Ebb 10:29 Mid-Flood 16:59		Mid-Ebb 11:54 Mid-Flood 18:51	24-hour TSP 1-hour TSP Noise	Mid-Ebb 13:10 Mid-Flood 20:10	
29-Jun	30-Jun					
	Mid-Flood 7:56 Mid-Ebb 14:55					

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Hong Kong Boundary Crossing Facilities – Reclamation Works
Tentative Impact Monitoring Schedule for July 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Jul	2-Jul	3-Jul	4-Jul	5-Jul
			Mid-Flood 9:10 Mid-Ebb 15:59 24-hour TSP 1-hour TSP Noise		Mid-Flood 10:41 Mid-Ebb 17:13	
6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul
	Mid-Ebb 8:35 Mid-Flood 14:57 24-hour TSP 1-hour TSP Noise		Mid-Ebb 10:28 Mid-Flood 17:32		Mid-Ebb 12:02 Mid-Flood 19:13	24-hour TSP 1-hour TSP
13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul
	Mid-Flood 7:32 Mid-Ebb 14:21 Dolphin Monitoring	Dolphin Monitoring	Mid-Flood 9:17 Mid-Ebb 15:54	24-hour TSP 1-hour TSP Noise Dolphin Monitoring	Mid-Flood 11:21 Mid-Ebb 17:31	
20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul
	Mid-Ebb 9:07 Mid-Flood 15:42		Mid-Ebb 10:57 Mid-Flood 18:04 24-hour TSP 1-hour TSP Noise		Mid-Ebb 12:16 Mid-Flood 19:16	
27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	1-Aug	2-Aug
	Mid-Flood 7:07 Mid-Ebb 14:00 Dolphin Monitoring	24-hour TSP 1-hour TSP Noise	Mid-Flood 8:21 Mid-Ebb 15:01			

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Appendix G Impact Air Quality Monitoring Results

1-hour TSP Monitoring Results at Station AMS2 - Tung Chung Development Pier

Date	Session	Weather Condition	averaged Wind Speed (m/s)*	Time (hh:mm)	Conc. ($\mu g/m^3$)	Actino Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
4-Jun-14	1st Hour	Sunny	0.4	10:05	76	374	500
4-Jun-14	2nd Hour	Sunny	0.9	11:05	77	374	500
4-Jun-14	3rd Hour	Sunny	1.2	12:05	82	374	500
9-Jun-14	1st Hour	Sunny	1.0	10:05	73	374	500
9-Jun-14	2nd Hour	Sunny	0.3	11:05	74	374	500
9-Jun-14	3rd Hour	Sunny	0.4	12:05	76	374	500
14-Jun-14	1st Hour	Sunny	1.2	11:38	82	374	500
14-Jun-14	2nd Hour	Sunny	0.7	12:38	83	374	500
14-Jun-14	3rd Hour	Sunny	1.6	13:38	82	374	500
20-Jun-14	1st Hour	Cloudy	0.4	10:39	78	374	500
20-Jun-14	2nd Hour	Cloudy	0.0	11:39	77	374	500
20-Jun-14	3rd Hour	Cloudy	0.1	12:39	81	374	500
26-Jun-14	1st Hour	Sunny	2.1	10:15	75	374	500
26-Jun-14	2nd Hour	Sunny	0.0	11:15	77	374	500
26-Jun-14	3rd Hour	Sunny	0.2	12:15	78	374	500
				Average	78		
				Min	73		
				Max	83		

1-hour TSP Monitoring Results at Station AMS3B - Site Boundary of Site Office (WA2)

Date	Session	Weather Condition	averaged Wind Speed (m/s)*	Time (hh:mm)	Conc. ($\mu g/m^3$)	Actino Level ($\mu g/m^3$) ^	Limit Level ($\mu g/m^3$)
4-Jun-14	1st Hour	Sunny	0.4	10:15	79	368	500
4-Jun-14	2nd Hour	Sunny	0.9	11:15	79	368	500
4-Jun-14	3rd Hour	Sunny	1.2	12:15	83	368	500
9-Jun-14	1st Hour	Sunny	1.0	10:15	75	368	500
9-Jun-14	2nd Hour	Sunny	0.3	11:15	77	368	500
9-Jun-14	3rd Hour	Sunny	0.4	12:15	78	368	500
14-Jun-14	1st Hour	Sunny	1.2	11;50	82	368	500
14-Jun-14	2nd Hour	Sunny	0.7	12:50	81	368	500
14-Jun-14	3rd Hour	Sunny	1.6	13:50	83	368	500
20-Jun-14	1st Hour	Cloudy	0.4	10:21	82	368	500
20-Jun-14	2nd Hour	Cloudy	0.0	11:21	79	368	500
20-Jun-14	3rd Hour	Cloudy	0.1	13:21	78	368	500
26-Jun-14	1st Hour	Sunny	2.1	10:25	77	368	500
26-Jun-14	2nd Hour	Sunny	0.0	11:25	78	368	500
26-Jun-14	3rd Hour	Sunny	0.2	12:25	79	368	500
				Average	79		
				Min	75		
				Max	83		

Remarks:
^ Action Level set out at AMS3 Ho Yu College is adopted.

1-hour TSP Monitoring Results at Station AMS7 - Hong Kong SkyCity Marriott Hotel

Date	Session	Weather Condition	averaged Wind Speed (m/s)*	Time (hh:mm)	Conc. ($\mu g/m^3$)	Actino Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
4-Jun-14	1st Hour	Sunny	0.4	9:50	79	370	500
4-Jun-14	2nd Hour	Sunny	0.9	10:50	82	370	500
4-Jun-14	3rd Hour	Sunny	1.2	11:50	83	370	500
9-Jun-14	1st Hour	Sunny	1.0	9:50	78	370	500
9-Jun-14	2nd Hour	Sunny	0.3	10:50	76	370	500
9-Jun-14	3rd Hour	Sunny	0.4	11:50	79	370	500
14-Jun-14	1st Hour	Sunny	1.2	11:21	82	370	500
14-Jun-14	2nd Hour	Sunny	0.7	12:21	81	370	500
14-Jun-14	3rd Hour	Sunny	1.6	13:21	82	370	500
20-Jun-14	1st Hour	Cloudy	0.4	10:09	76	370	500
20-Jun-14	2nd Hour	Cloudy	0.0	11:09	79	370	500
20-Jun-14	3rd Hour	Cloudy	0.1	12:09	76	370	500
26-Jun-14	1st Hour	Sunny	2.1	10:00	79	370	500
26-Jun-14	2nd Hour	Sunny	0.0	11:00	81	370	500
26-Jun-14	3rd Hour	Sunny	0.2	12:00	78	370	500
				Average	79		
				Min	76		
				Max	83		

Appendix G Impact Air Quality Monitoring Results

24-hour TSP Monitoring Results at Station AMS2 - Tung Chung Development Pier

Start Date	Start Time	End Date	End Time	Weather Condition	Air Temp. (^oC)	Atmospheric Pressure(hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. (μg/m^3)	Actino Level (μg/m^3)	Limit Level (μg/m^3)
3-Jun-14	16:00	4-Jun-14	16:00	Sunny	30.2	1004.3	1.33	1.33	1.33	1912.3	2.6811	2.7186	0.0375	3485.84	3509.84	24.00	20	176	260
9-Jun-14	9:00	10-Jun-14	9:00	Sunny	27.8	1001.8	1.33	1.33	1.33	1912.3	2.7597	2.8220	0.0623	3509.84	3533.84	24.00	33	176	260
13-Jun-14	16:00	14-Jun-14	16:00	Sunny	29.8	1003.1	1.33	1.33	1.33	1912.3	2.6620	2.8115	0.1495	3533.84	3557.84	24.00	78	176	260
19-Jun-14	16:00	20-Jun-14	16:00	Fine	29.2	1002.7	1.33	1.33	1.33	1912.3	2.6281	2.6784	0.0503	3557.84	3581.84	24.00	26	176	260
25-Jun-14	16:00	26-Jun-14	16:00	Sunny	27.5	1006.5	1.33	1.33	1.33	1912.3	2.6381	2.7025	0.0644	3581.84	3605.84	24.00	34	176	260
																Average	38		
																Min	20		
																Max	78		

24-hour TSP Monitoring Results at Station AMS3B - Site Boundary of Site Office (WA2)

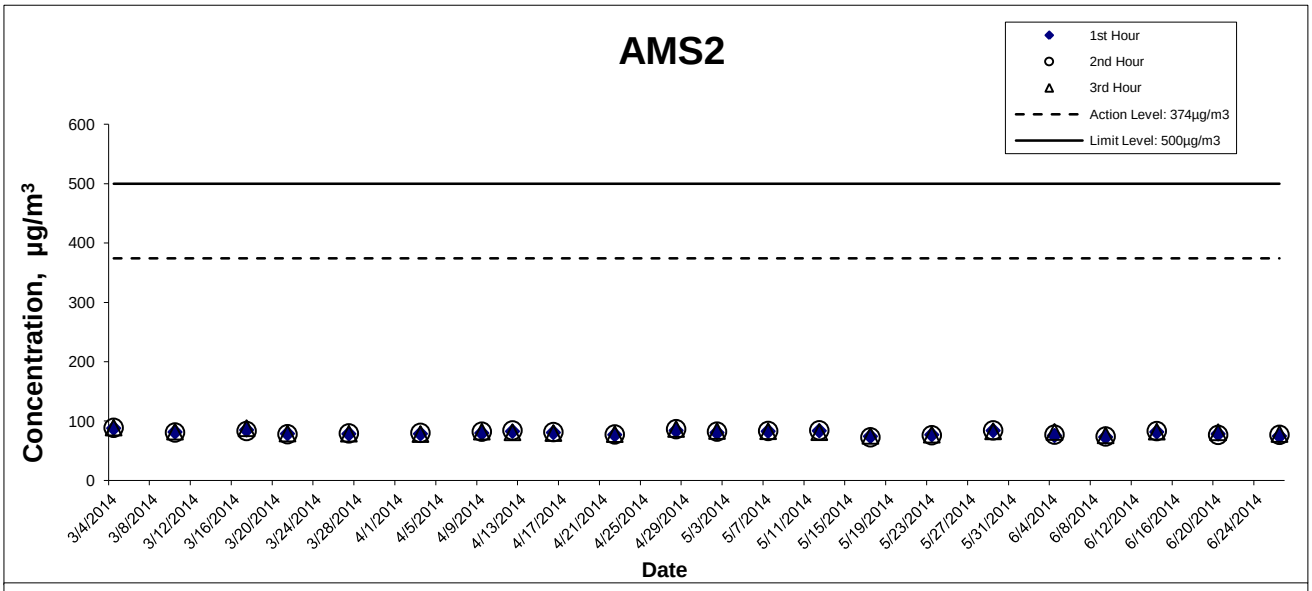
Start Date	Start Time	End Date	End Time	Weather Condition	Air Temp. (^oC)	Atmospheric Pressure(hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. (μg/m^3)	Actino Level (μg/m^3)	Limit Level (μg/m^3)
3-Jun-14	16:00	4-Jun-14	16:00	Sunny	30.2	1004.3	1.33	1.33	1.33	1912.3	2.6681	2.7087	0.0406	3421.80	3445.80	24.00	21	167	260
9-Jun-14	9:00	10-Jun-14	9:00	Sunny	27.8	1001.8	1.33	1.33	1.33	1912.3	2.7518	2.9587	0.2069	3445.80	3469.80	24.00	108	167	260
13-Jun-14	16:00	14-Jun-14	16:00	Sunny	29.8	1003.1	1.33	1.33	1.33	1912.3	2.6641	2.9001	0.2360	3469.80	3493.80	24.00	123	167	260
19-Jun-14	16:00	20-Jun-14	16:00	Fine	29.2	1002.7	1.33	1.33	1.33	1912.3	2.6183	2.6661	0.0478	3493.80	3517.80	24.00	25	167	260
25-Jun-14	16:00	26-Jun-14	16:00	Sunny	27.5	1006.5	1.33	1.33	1.33	1912.3	2.6356	2.6915	0.0559	3517.80	3541.80	24.00	29	167	260
																Average	61		
																Min	21		
																Max	123		

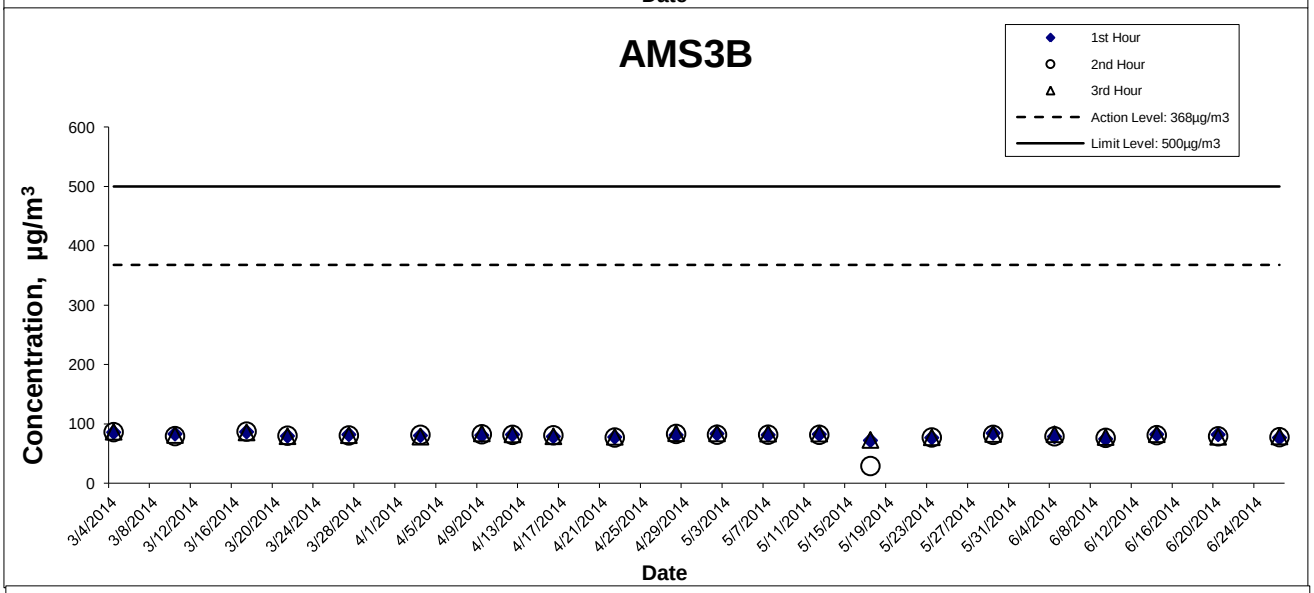
Remarks:
^ Action Level set out at AMS3 Ho Yu College is adopted.

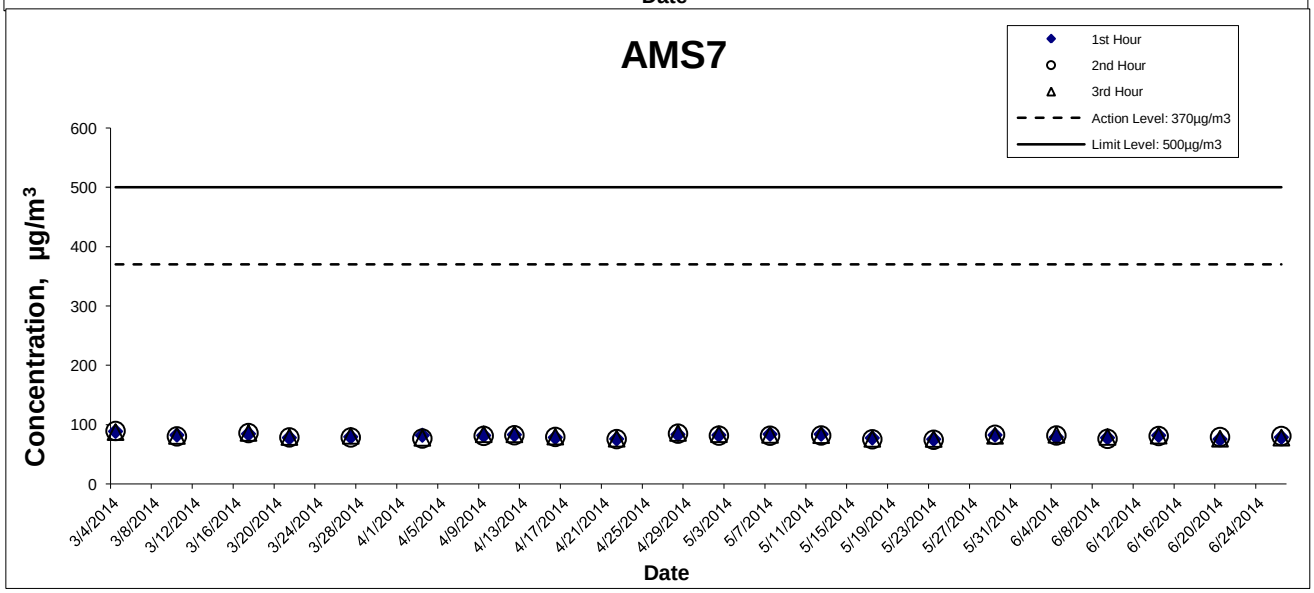
24-hour TSP Monitoring Results at Station AMS7 - Hong Kong SkyCity Marriott Hotel

Start Date	Start Time	End Date	End Time	Weather Condition	Air Temp. (^oC)	Atmospheric Pressure(hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. (μg/m^3)	Actino Level (μg/m^3)	Limit Level (μg/m^3)
3-Jun-14	16:00	4-Jun-14	16:00	Sunny	30.2	1004.3	1.33	1.33	1.33	1916.6	2.6712	2.7371	0.0659	3443.98	3467.98	24.00	34	183	260
9-Jun-14	9:00	10-Jun-14	9:00	Sunny	27.8	1001.8	1.34	1.34	1.34	1925.3	2.7610	2.8320	0.0710	3467.98	3491.98	24.00	37	183	260
13-Jun-14	16:00	14-Jun-14	16:00	Sunny	29.8	1003.1	1.34	1.34	1.34	1925.3	2.6391	2.7839	0.1448	3491.98	3515.98	24.00	75	183	260
19-Jun-14	16:00	20-Jun-14	16:00	Fine	29.2	1002.7	1.34	1.34	1.34	1925.3	2.6156	2.6694	0.0538	3515.98	3539.98	24.00	28	183	260
25-Jun-14	16:00	26-Jun-14	16:00	Sunny	27.5	1006.5	1.34	1.34	1.34	1925.3	2.6448	2.7090	0.0642	3539.98	3563.98	24.00	33	183	260
																Average	43		
																Min	28		
																Max	75		

Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.







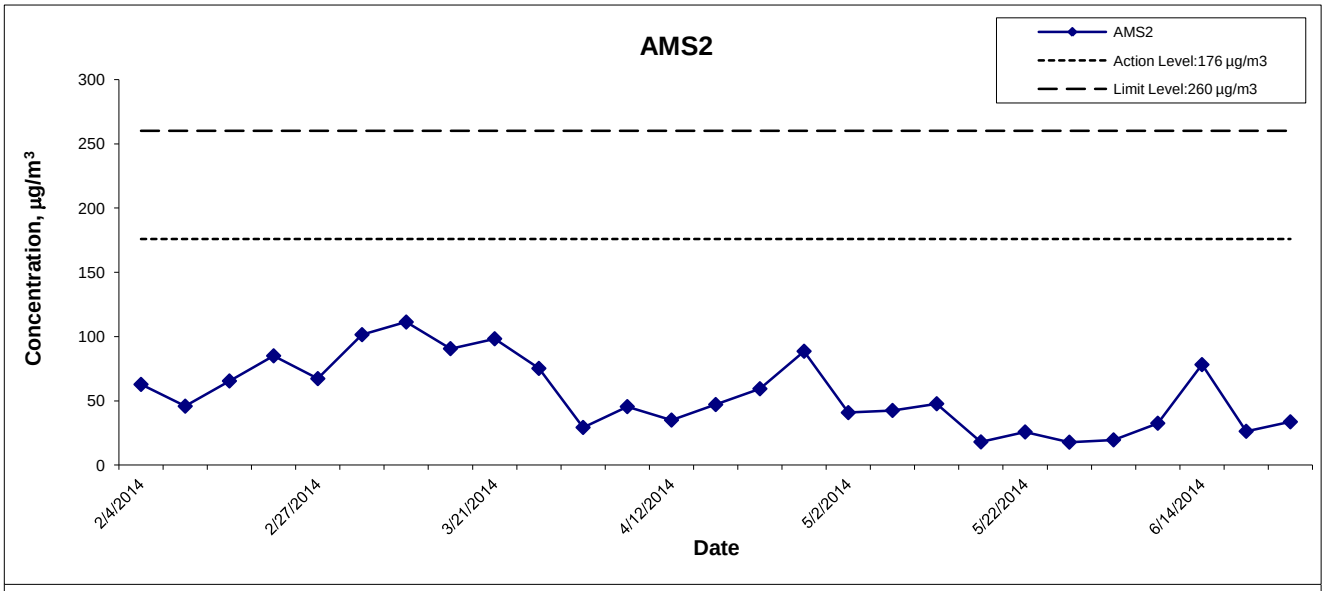
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

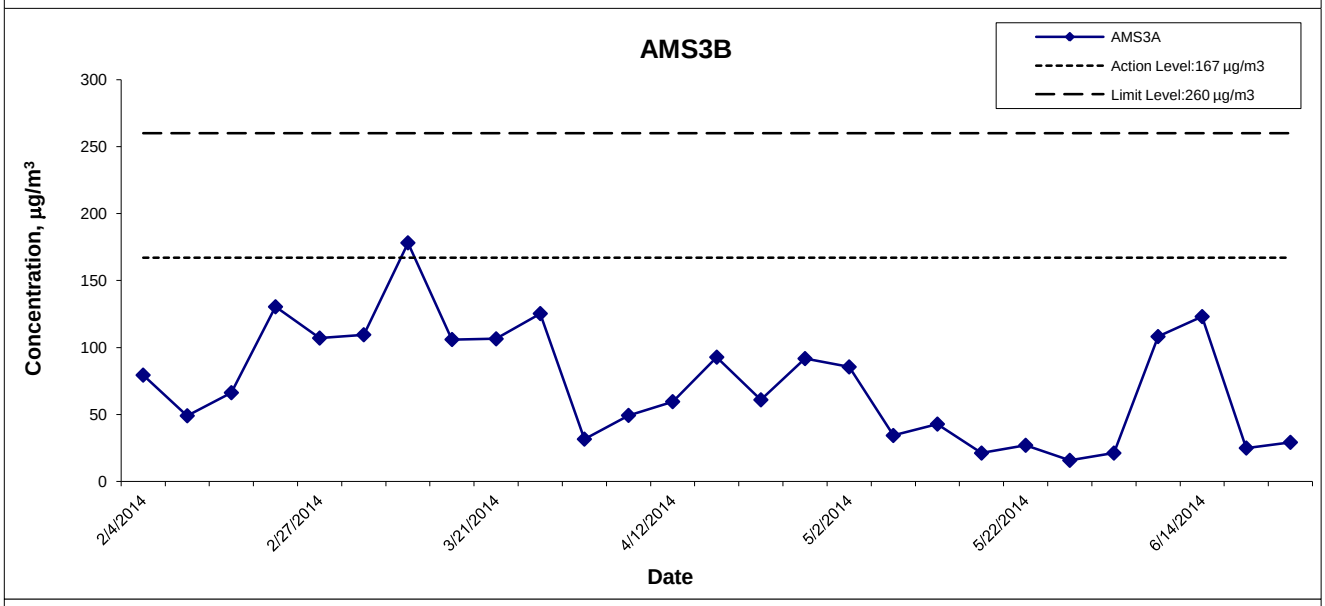
AECOM

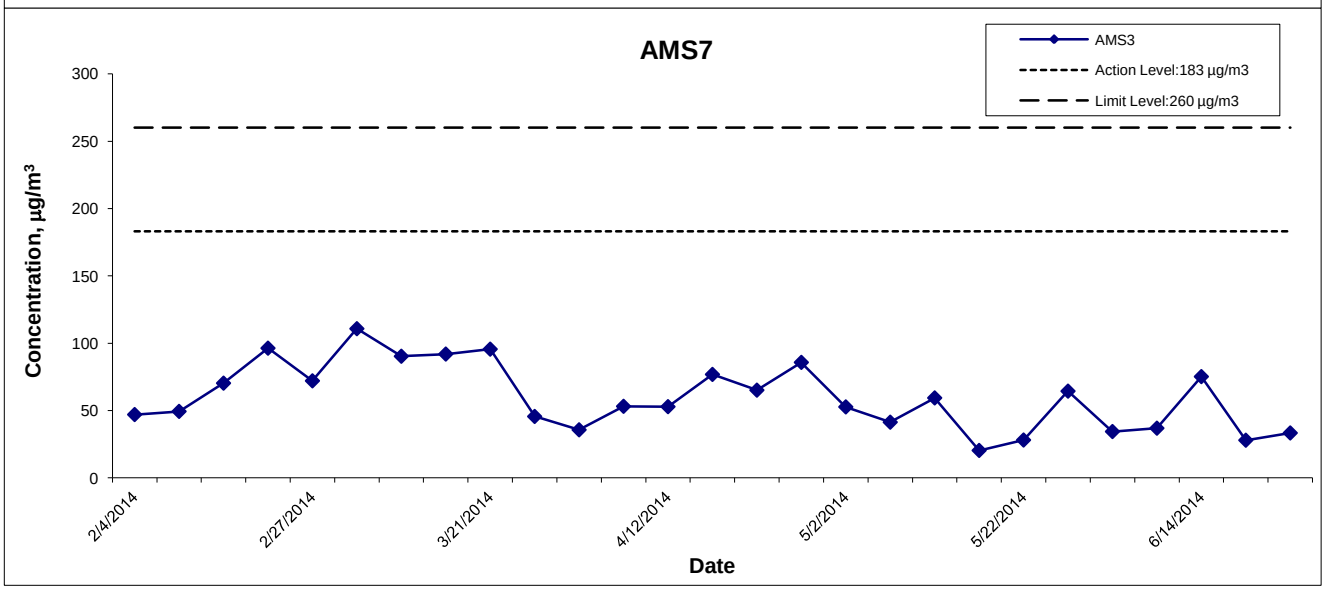
Graphical Presentation of Impact 1-hour TSP Monitoring Results

Project No.: 60249820 **Date: July 2014**

Appendix G







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

AECOM

Graphical Presentation of Impact 24-hour TSP Monitoring Results

Project No.: 60249820 **Date: July 2014**

Appendix G

APPENDIX H Meteorological Data for Monitoring Periods on Monitoring Dates in June 2014

WIND DATA

Date	Time	Averaged Wind Speed (m/s)	Averaged Wind Direction (degrees)
06/03/14	16:18:24	1.44	313
06/03/14	17:18:24	0.34	304
06/03/14	18:18:24	0.87	278
06/03/14	19:18:24	0.85	213
06/03/14	20:18:24	0.34	148
06/03/14	21:18:24	0.32	34
06/03/14	22:18:24	0.29	106
06/03/14	23:18:24	2.00	281
06/04/14	00:18:24	0.21	328
06/04/14	01:18:24	0.20	308
06/04/14	02:18:24	0.11	83
06/04/14	03:18:24	0.11	139
06/04/14	04:18:24	0.13	309
06/04/14	05:18:24	0.13	121
06/04/14	06:18:24	0.17	99
06/04/14	07:18:24	0.00	119
06/04/14	08:18:24	0.95	123
06/04/14	09:18:24	1.93	119
06/04/14	10:18:24	0.41	272
06/04/14	11:18:24	0.88	273
06/04/14	12:18:24	1.20	301
06/04/14	13:18:24	4.88	328
06/04/14	14:18:24	2.48	285
06/04/14	14:24:29	2.84	297
06/04/14	15:24:29	2.83	288
06/04/14	16:24:29	1.04	299
06/09/14	11:38:19	0.97	116
06/09/14	11:39:17	0.34	144
06/09/14	12:39:17	0.35	357
06/09/14	13:39:17	0.55	346
06/09/14	14:39:17	0.73	61
06/09/14	15:39:17	1.19	108
06/09/14	16:39:17	0.00	82
06/09/14	17:39:17	0.00	101
06/09/14	18:39:17	0.00	167
06/09/14	19:39:17	1.52	107
06/09/14	20:39:17	1.82	140
06/09/14	21:39:17	0.17	110
06/09/14	22:39:17	0.00	100
06/09/14	23:39:17	0.00	187
06/10/14	00:39:17	0.00	99
06/10/14	01:39:17	1.20	195
06/10/14	02:39:17	0.43	133
06/10/14	03:39:17	0.00	146
06/10/14	04:39:17	4.29	142
06/10/14	05:39:17	2.15	133
06/10/14	06:39:17	1.40	134
06/10/14	07:39:17	1.40	138
06/10/14	08:39:17	3.79	137
06/10/14	09:39:17	0.77	116
06/13/14	16:00:12	1.65	155
06/13/14	17:00:12	1.83	134
06/13/14	18:00:12	1.38	135
06/13/14	19:00:12	0.85	128
06/13/14	20:00:12	0.59	336
06/13/14	21:00:12	0.08	267
06/13/14	22:00:12	0.22	10
06/13/14	23:00:12	0.70	326
06/14/14	00:00:12	0.76	114
06/14/14	01:00:12	0.06	96
06/14/14	02:00:12	0.83	119
06/14/14	03:00:12	0.00	148
06/14/14	04:00:12	0.00	30
06/14/14	05:00:12	0.00	166
06/14/14	06:00:12	0.03	274
06/14/14	07:00:12	0.39	276
06/14/14	08:00:12	0.00	-53
06/14/14	09:00:12	0.00	56
06/14/14	10:00:12	0.50	59
06/14/14	11:00:12	1.48	45
06/14/14	12:00:12	1.16	13
06/14/14	13:00:12	0.69	16
06/14/14	14:00:12	1.55	346
06/14/14	15:00:12	1.66	349
06/14/14	16:00:12	1.38	334
06/19/14	16:00:12	2.45	257
06/19/14	17:00:12	0.17	270
06/19/14	18:00:12	0.18	47
06/19/14	19:00:12	0.07	73
06/19/14	20:00:12	0.10	277
06/19/14	21:00:12	1.59	107
06/19/14	22:00:12	0.08	154
06/19/14	23:00:12	0.10	158
06/20/14	00:00:12	0.17	207
06/20/14	01:00:12	0.06	271
06/20/14	02:00:12	1.09	321
06/20/14	03:00:12	0.60	326
06/20/14	04:00:12	0.15	57
06/20/14	05:00:12	0.15	333

APPENDIX H Meteorological Data for Monitoring Periods on Monitoring Dates in June 2014

WIND DATA

Date	Time	Averaged Wind Speed (m/s)	Averaged Wind Direction (degrees)
06/20/14	06:00:12	0.27	53
06/20/14	07:00:12	0.24	284
06/20/14	08:00:12	3.97	269
06/20/14	09:00:12	0.27	116
06/20/14	10:00:12	0.64	127
06/20/14	11:00:12	0.39	18
06/20/14	12:00:12	0.04	349
06/20/14	13:00:12	0.14	10
06/20/14	14:00:12	1.19	334
06/20/14	15:00:12	0.04	188
06/20/14	16:00:12	0.29	16
06/25/14	16:00:12	0.11	131
06/25/14	17:00:12	2.70	322
06/25/14	18:00:12	0.00	36
06/25/14	19:00:12	1.45	317
06/25/14	20:00:12	0.00	59
06/25/14	21:00:12	0.00	61
06/25/14	22:00:12	0.00	261
06/25/14	23:00:12	0.00	58
06/26/14	00:00:12	0.00	298
06/26/14	01:00:12	0.00	316
06/26/14	02:00:12	0.77	332
06/26/14	03:00:12	0.00	158
06/26/14	04:00:12	0.17	85
06/26/14	05:00:12	0.87	312
06/26/14	06:00:12	0.15	354
06/26/14	07:00:12	0.04	19
06/26/14	08:00:12	0.00	346
06/26/14	09:00:12	0.00	140
06/26/14	10:00:12	1.90	320
06/26/14	11:00:12	2.08	129
06/26/14	12:00:12	0.00	116
06/26/14	13:00:12	0.15	92
06/26/14	14:00:12	0.03	24
06/26/14	15:00:12	0.00	264
06/26/14	16:00:12	0.04	126

Appendix I Impact Daytime Construction Noise Monitoring Results

Daytime Noise Monitoring Results at Station NMS2 - Seaview Crescent Tower 1

Date	Weather Condition	Noise Level for 30-min, dB(A)#				Averaged Wind Speed (m/s)	Baseline Noise Level, dB(A)	Limit Level, dB(A)	Exceedance (Y/N)
		Time	L90	L10	Leq				
4-Jun-14	Sunny	10:35	64	69	67	<5m/s	62.9	75	N
9-Jun-14	Sunny	10:40	65	70	68	<5m/s	62.9	75	N
20-Jun-14	Cloudy	14:40	65	69	67	<5m/s	62.9	75	N
26-Jun-14	Sunny	10:30	64	67	68	<5m/s	62.9	75	N
		Min	64	67	67				
		Max	65	70	68				
		Average	--	--	68				

Daytime Noise Monitoring Results at Station NMS3B - Site Boundary of Site Office (WA2)

Date	Weather Condition	Noise Level for 30-min, dB(A)#				Averaged Wind Speed (m/s)	Baseline Noise Level, dB(A) ^	Limit Level, dB(A)**	Exceedance (Y/N)
		Time	L90	L10	Leq				
4-Jun-14	Sunny	11:25	58	64	61	<5m/s	66.3	70	N
9-Jun-14	Sunny	11:20	58	64	63	<5m/s	66.3	70	N
20-Jun-14	Cloudy	13:09	59	66	65	<5m/s	66.3	70	N
26-Jun-14	Sunny	11:15	60	63	64	<5m/s	66.3	70	N
		Min	58	63	61				
		Max	60	66	65				
		Average	--	--	63				

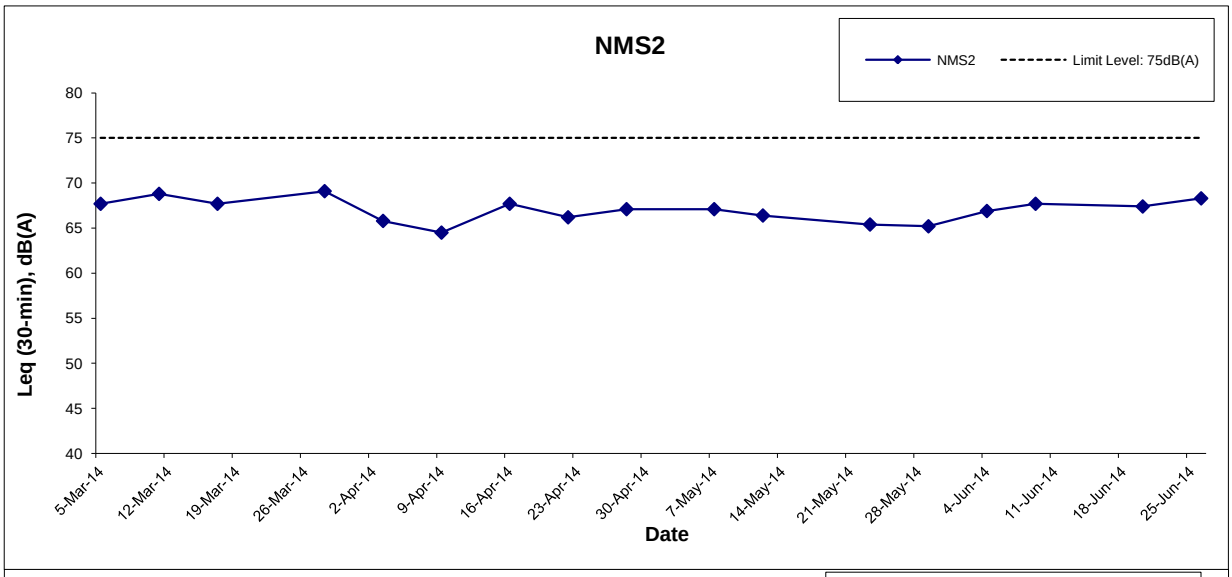
Remark:

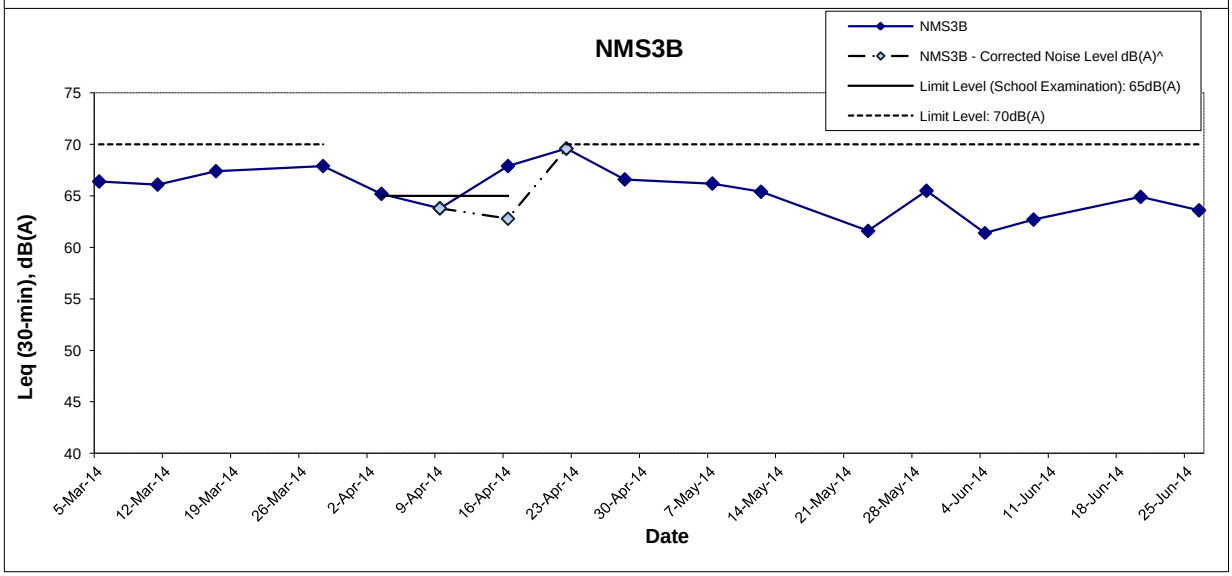
A correction of +3dB(A) was made to the free field measurement.

* Façade measurement.

^ Averaged baseline noise level recorded at NMS3 Ho Yu College is adopted.

** Limit Level of 70dB(A) applies to education institutes while 65dB(A) applies during school examination period.





Remarks: Effective from July 2012, the Limit Level at NMS3A was revised to 70dB(A). Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period.

^The measured noise level on 16 April 2014 exceeded the noise level of 65dB(A) during examination period on 16 April 2014 but it is lower than the baseline level. Therefore, baseline correction was carried out and the corrected noise level which solely represent the noise level of Constrcution works is 63 dB(A) which is lower than the exceedance level of 65dB(A) . As such the EAP was not triggered.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)3 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	15:18	6.5	Surface	1.0	28.4 28.2	28.3	8.2 8.2	8.2	15.1 16.3	15.7	94.8 90.8	92.8	6.8 6.5	6.6	6.3	2.1 2.3	2.2	2.3	2.7 2.4	2.6	2.9
					Middle	3.3	27.8 27.9	27.8	8.2 8.2	8.2	17.7 17.4	17.6	82.8 83.7	83.3	5.9 6.0	5.9		2.2 2.2	2.2		3.3 2.6	3.0	
					Bottom	5.5	27.3 27.3	27.3	8.1 8.1	8.1	21.5 21.3	21.4	80.1 80.7	80.4	5.6 5.7	5.7	5.7	2.3 2.4	2.4		2.8 3.5	3.2	
4-Jun-14	Sunny	Moderate	16:39	6.2	Surface	1.0	29.2 29.4	29.3	8.5 8.5	8.5	15.9 14.7	15.3	117.5 119.9	118.7	8.3 8.4	8.3	7.5	2.7 2.7	2.7	2.7	2.9 3.1	3.0	3.4
					Middle	3.1	28.2 28.3	28.2	8.3 8.3	8.3	20.0 18.9	19.4	92.6 95.5	94.1	6.5 6.7	6.6		2.6 2.6	2.6		3.4 3.3	3.4	
					Bottom	5.2	27.2 26.6	26.9	8.2 8.1	8.2	22.2 25.3	23.8	77.5 77.2	77.4	5.4 5.4	5.4	5.4	2.7 2.6	2.7		3.6 4.1	3.9	
6-Jun-14	Cloudy	Moderate	18:18	6.9	Surface	1.0	29.2 29.1	29.2	8.4 8.4	8.4	11.9 11.6	11.8	103.2 103.4	103.3	7.4 7.4	7.4	7.0	1.2 1.1	1.2	2.0	3.2 2.4	2.8	3.2
					Middle	3.5	28.9 29.0	28.9	8.3 8.3	8.3	13.5 13.0	13.3	92.1 93.5	92.8	6.6 6.7	6.6		1.9 1.7	1.8		3.4 3.2	3.3	
					Bottom	5.9	26.4 26.3	26.3	8.1 8.1	8.1	26.4 26.6	26.5	72.0 72.9	72.5	5.0 5.1	5.0	5.0	3.1 3.0	3.1		3.0 4.0	3.5	
9-Jun-14	Sunny	Moderate	10:38	6.4	Surface	1.0	27.7 27.7	27.7	8.2 8.2	8.2	20.1 20.1	20.1	88.6 87.9	88.3	6.2 6.2	6.2	6.2	2.3 2.2	2.3	2.3	4.0 4.3	4.2	3.7
					Middle	3.2	27.5 27.7	27.6	8.2 8.2	8.2	20.4 20.2	20.3	86.2 87.9	87.1	6.1 6.2	6.1		2.2 2.2	2.2		3.8 3.9	3.9	
					Bottom	5.4	27.5 27.7	27.6	8.2 8.2	8.2	21.1 20.9	21.0	84.2 88.4	86.3	5.9 6.2	6.1	6.1	2.3 2.4	2.4		2.7 3.0	2.9	
11-Jun-14	Fine	Moderate	12:01	6.1	Surface	1.0	27.6 27.6	27.6	8.1 8.1	8.1	17.3 17.3	17.3	86.4 86.7	86.6	6.2 6.2	6.2	6.0	1.9 1.8	1.9	2.6	4.5 3.8	4.2	3.8
					Middle	3.1	27.2 27.3	27.2	8.0 8.1	8.1	19.5 19.2	19.4	82.1 80.4	81.3	5.8 5.7	5.8		2.8 2.5	2.7		3.5 3.0	3.3	
					Bottom	5.1	26.9 27.1	27.0	8.0 7.9	8.0	22.4 21.4	21.9	78.1 79.7	78.9	5.5 5.7	5.6	5.6	3.4 3.1	3.3		3.8 4.1	4.0	
13-Jun-14	Sunny	Moderate	13:30	6.3	Surface	1.0	27.4 27.3	27.4	8.1 8.1	8.1	20.6 20.5	20.5	78.0 75.4	76.7	5.5 5.3	5.4	5.4	3.5 3.7	3.6	4.9	5.4 5.6	5.5	5.3
					Middle	3.2	27.2 27.2	27.2	8.1 8.1	8.1	21.3 21.8	21.5	77.9 75.0	76.5	5.5 5.3	5.4		5.1 5.4	5.3		4.6 4.6	4.6	
					Bottom	5.3	27.1 27.2	27.2	8.1 8.1	8.1	22.3 22.0	22.2	81.5 76.8	79.2	5.7 5.4	5.6	5.6	6.0 5.8	5.9		5.7 6.0	5.9	
16-Jun-14	Sunny	Moderate	14:39	6.3	Surface	1.0	28.3 28.2	28.3	8.1 8.1	8.1	20.0 20.1	20.0	80.5 79.2	79.9	5.6 5.5	5.6	5.6	2.8 3.0	2.9	3.4	3.6 4.0	3.8	3.5
					Middle	3.2	28.1 28.0	28.0	8.1 8.1	8.1	20.1 20.3	20.2	78.9 78.6	78.8	5.5 5.5	5.5		3.2 3.2	3.2		3.6 3.4	3.5	
					Bottom	5.3	28.0 27.9	27.9	8.1 8.1	8.1	22.5 22.4	22.4	79.3 79.1	79.2	5.5 5.5	5.5	5.5	4.3 4.1	4.2		2.4 3.9	3.2	
18-Jun-14	Sunny	Moderate	16:30	6.4	Surface	1.0	29.2 29.2	29.2	8.1 8.1	8.1	16.5 16.4	16.5	87.2 90.4	88.8	6.1 6.3	6.2	6.1	3.9 3.9	3.9	4.2	3.4 2.6	3.0	3.7
					Middle	3.2	29.0 28.9	29.0	8.1 8.1	8.1	16.6 16.7	16.7	87.1 82.5	84.8	6.1 5.8	6.0		4.4 4.3	4.4		3.3 3.6	3.5	
					Bottom	5.4	28.4 28.9	28.7	8.1 8.1	8.1	20.3 19.2	19.7	82.4 87.9	85.2	5.7 6.1	5.9	5.9	4.4 4.1	4.3		4.5 4.8	4.7	
20-Jun-14	Fine	Moderate	18:31	6.6	Surface	1.0	29.3 29.3	29.3	8.2 8.2	8.2	12.5 12.5	12.5	93.5 94.7	94.1	6.7 6.8	6.7	6.4	3.4 3.7	3.6	5.3	2.5 2.3	2.4	2.8
					Middle	3.3	29.1 29.1	29.1	8.1 8.1	8.1	14.5 16.3	15.4	82.5 86.8	84.7	5.9 6.1	6.0		3.7 3.5	3.6		3.3 2.8	3.1	
					Bottom	5.6	28.8 29.0	28.9	8.0 8.1	8.1	20.9 19.6	20.2	82.3 82.5	82.4	5.7 5.7	5.7	5.7	9.0 8.6	8.8		2.2 3.7	3.0	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)3 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	10:48	6.9	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	14.5 14.3	14.4	90.8 90.5	90.7	6.4 6.4	6.4	6.1	3.3 3.3	3.3	4.6	2.7 2.8	2.8	2.8
					Middle	3.5	28.8 28.8	28.8	8.1 8.1	8.1	16.8 17.3	17.1	82.2 81.8	82.0	5.8 5.7	5.8		4.8 4.7	4.8		2.5 3.0	2.8	
					Bottom	5.9	27.9 27.7	27.8	8.0 8.0	8.0	22.9 22.9	22.9	74.1 74.4	74.3	5.1 5.2	5.1	5.1	5.4 5.7	5.6		2.9 2.9	2.9	
25-Jun-14	Cloudy	Moderate	12:17	6.2	Surface	1.0	28.8 28.7	28.7	7.9 7.9	7.9	12.7 12.7	12.7	75.6 78.1	76.9	5.4 5.6	5.5	5.3	3.4 3.6	3.5	4.1	2.6 2.5	2.6	3.0
					Middle	3.1	28.7 28.7	28.7	7.8 7.9	7.9	14.9 12.9	13.9	70.7 71.2	71.0	5.0 5.1	5.1		4.2 4.3	4.3		3.0 3.0	3.0	
					Bottom	5.2	28.6 28.6	28.6	7.9 7.9	7.9	19.5 19.2	19.4	74.4 73.7	74.1	5.2 5.1	5.2	5.2	4.4 4.4	4.4		3.2 3.3	3.3	
27-Jun-14	Sunny	Moderate	13:35	6.3	Surface	1.0	29.2 29.3	29.2	8.0 8.0	8.0	16.0 15.6	15.8	88.4 86.9	87.7	6.3 6.2	6.2	5.9	4.4 4.2	4.3	6.0	3.4 3.6	3.5	3.1
					Middle	3.2	28.8 28.7	28.8	8.0 8.0	8.0	18.2 18.4	18.3	79.4 77.2	78.3	5.6 5.4	5.5		6.5 6.2	6.4		3.1 2.8	3.0	
					Bottom	5.3	28.6 28.6	28.6	8.0 8.0	8.0	20.5 20.6	20.5	76.5 76.9	76.7	5.3 5.4	5.4	5.4	7.0 7.5	7.3		3.1 2.5	2.8	
30-Jun-14	Sunny	Moderate	14:17	6.8	Surface	1.0	29.3 29.2	29.2	8.1 8.1	8.1	18.2 18.4	18.3	79.5 78.9	79.2	5.5 5.5	5.5	5.3	4.8 5.1	5.0	8.4	4.5 4.2	4.4	4.1
					Middle	3.4	28.6 28.6	28.6	8.1 8.1	8.1	22.5 22.5	22.5	74.1 73.4	73.8	5.1 5.1	5.1		8.5 8.5	8.5		3.7 4.6	4.2	
					Bottom	5.8	28.5 28.5	28.5	8.1 8.1	8.1	23.3 23.3	23.3	72.6 70.0	71.3	5.0 4.8	4.9	4.9	11.8 11.6	11.7		3.9 3.6	3.8	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)3 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:13	6.7	Surface	1.0	28.0 28.0	28.0	8.1 8.1	8.1	12.5 12.9	12.7	82.4 81.3	81.9	6.0 5.9	6.0	5.7	2.7 2.8	2.8	4.6	3.1 3.9	3.5	4.1
					Middle	3.4	27.7 27.7	27.7	8.0 8.1	8.1	17.8 17.7	17.7	75.1 75.5	75.3	5.4 5.4	5.4		3.8 4.0	3.9		4.1 4.2	4.2	
					Bottom	5.7	27.0 27.1	27.1	8.0 8.0	8.0	22.6 22.0	22.3	71.6 74.1	72.9	5.0 5.2	5.1	5.1	7.1 6.8	7.0		4.9 4.4	4.7	
4-Jun-14	Sunny	Moderate	10:13	6.6	Surface	1.0	28.4 28.3	28.3	8.2 8.2	8.2	14.6 14.9	14.7	87.1 86.4	86.8	6.3 6.2	6.2	5.8	2.6 2.6	2.6	3.0	2.2 2.5	2.4	2.8
					Middle	3.3	27.7 26.9	27.3	8.2 8.1	8.1	18.3 20.6	19.4	78.0 77.5	77.8	5.4 5.4	5.4		2.8 2.7	2.8		2.7 2.9	2.8	
					Bottom	5.6	26.5 26.3	26.4	8.1 8.1	8.1	26.2 26.3	26.3	75.5 73.0	74.3	5.4 5.2	5.3	5.3	3.6 3.7	3.7		3.3 3.1	3.2	
6-Jun-14	Cloudy	Moderate	12:45	6.9	Surface	1.0	28.9 28.9	28.9	8.3 8.3	8.3	14.3 14.0	14.2	98.1 99.2	98.7	7.0 7.1	7.0	6.6	1.2 1.1	1.2	1.5	2.7 2.2	2.5	3.5
					Middle	3.5	28.7 28.7	28.7	8.2 8.2	8.2	15.0 16.0	15.5	87.0 88.3	87.7	6.2 6.3	6.2		1.6 1.5	1.6		3.7 4.3	4.0	
					Bottom	5.9	27.1 26.8	27.0	8.1 8.1	8.1	23.8 24.1	23.9	71.8 70.7	71.3	5.0 4.9	5.0	5.0	1.7 1.8	1.8		4.2 3.6	3.9	
9-Jun-14	Sunny	Moderate	16:28	6.2	Surface	1.0	28.2 27.9	28.1	8.2 8.2	8.2	15.8 17.4	16.6	86.5 85.4	86.0	6.2 6.1	6.1	5.6	3.2 3.2	3.2	3.3	2.9 3.1	3.0	3.6
					Middle	3.1	27.1 27.3	27.2	8.1 8.1	8.1	21.9 21.8	21.8	71.6 72.6	72.1	5.0 5.1	5.1		3.3 3.3	3.3		5.0 3.6	4.3	
					Bottom	5.2	26.0 26.2	26.1	8.0 8.1	8.1	27.5 26.6	27.0	75.1 71.1	73.1	5.2 4.9	5.1	5.1	3.3 3.4	3.4		2.4 4.4	3.4	
11-Jun-14	Fine	Moderate	17:48	6.3	Surface	1.0	27.7 27.7	27.7	8.2 8.2	8.2	16.6 16.7	16.7	92.1 94.6	93.4	6.6 6.8	6.7	6.4	1.8 1.6	1.7	2.0	2.8 2.6	2.7	2.8
					Middle	3.2	27.6 27.4	27.5	8.2 8.1	8.1	16.9 18.3	17.6	84.2 83.9	84.1	6.0 6.0	6.0		1.8 2.0	1.9		3.1 2.5	2.8	
					Bottom	5.3	26.9 27.4	27.2	8.1 8.1	8.1	21.8 18.9	20.4	83.8 88.8	86.3	5.9 6.3	6.1	6.1	2.3 2.2	2.3		3.5 2.1	2.8	
13-Jun-14	Sunny	Moderate	19:41	6.4	Surface	1.0	27.8 27.8	27.8	8.0 8.0	8.0	17.1 16.7	16.9	73.1 71.8	72.5	5.2 5.1	5.2	5.2	4.5 4.5	4.5	5.9	4.2 4.2	4.2	4.7
					Middle	3.2	27.8 27.5	27.6	8.0 8.0	8.0	17.9 18.3	18.1	72.6 70.1	71.4	5.2 5.0	5.1		5.8 5.7	5.8		4.9 4.0	4.5	
					Bottom	5.4	27.6 27.3	27.5	8.0 8.0	8.0	21.3 21.5	21.4	72.6 71.6	72.1	5.1 5.0	5.1	5.1	7.2 7.8	7.5		5.3 5.4	5.4	
16-Jun-14	Sunny	Moderate	08:34	6.5	Surface	1.0	27.7 27.7	27.7	8.1 8.1	8.1	18.2 17.7	18.0	72.2 73.4	72.8	5.2 5.3	5.3	5.3	9.5 9.3	9.4	9.5	2.9 3.8	3.4	3.2
					Middle	3.3	27.6 27.6	27.6	8.0 8.0	8.0	21.8 21.4	21.6	71.9 73.2	72.6	5.1 5.2	5.2		9.4 9.6	9.5		3.4 2.8	3.1	
					Bottom	5.5	27.6 27.6	27.6	8.0 8.0	8.0	22.0 22.0	22.0	74.3 72.6	73.5	5.3 5.2	5.2	5.2	9.6 9.5	9.6		3.1 3.0	3.1	
18-Jun-14	Sunny	Moderate	10:31	6.3	Surface	1.0	28.9 29.0	29.0	8.0 8.0	8.0	13.5 13.5	13.5	83.8 85.3	84.6	6.0 6.1	6.0	6.0	2.6 2.6	2.6	2.6	1.7 2.0	1.9	3.2
					Middle	3.2	28.9 28.8	28.9	8.0 8.0	8.0	13.7 13.7	13.7	82.3 82.1	82.2	5.9 5.9	5.9		2.6 2.6	2.6		2.8 3.4	3.1	
					Bottom	5.3	28.7 28.7	28.7	8.0 8.0	8.0	15.4 16.2	15.8	81.0 82.4	81.7	5.8 5.8	5.8	5.8	2.6 2.7	2.7		4.6 4.7	4.7	
20-Jun-14	Rainy	Moderate	13:09	6.7	Surface	1.0	29.2 29.2	29.2	8.1 8.1	8.1	14.7 14.5	14.6	83.6 81.9	82.8	5.9 5.8	5.9	5.6	3.5 3.6	3.6	5.7	2.8 2.4	2.6	2.6
					Middle	3.4	28.9 28.8	28.9	8.1 8.1	8.1	18.7 18.7	18.7	77.5 75.3	76.4	5.4 5.2	5.3		6.1 6.0	6.1		2.6 2.5	2.6	
					Bottom	5.7	28.7 28.7	28.7	8.1 8.0	8.1	21.8 22.0	21.9	78.1 76.5	77.3	5.4 5.2	5.3	5.3	7.7 7.1	7.4		2.8 2.6	2.7	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)3 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	16:19	6.9	Surface	1.0	29.2 29.2	29.2	8.2 8.2	8.2	12.2 12.0	12.1	98.9 98.4	98.7	7.1 7.1	7.1	6.7	3.4 3.2	3.3	4.6	3.7 3.7	3.7	4.3
					Middle	3.5	29.0 29.0	29.0	8.1 8.1	8.1	14.0 14.7	14.3	87.3 90.1	88.7	6.2 6.4	6.3		3.8 3.6	3.7		4.3 4.1	4.2	
					Bottom	5.9	27.7 27.5	27.6	8.0 8.0	8.0	23.0 23.8	23.4	77.2 77.6	77.4	5.3 5.4	5.3	5.3	6.8 7.0	6.9		5.0 5.1	5.1	
25-Jun-14	Cloudy	Moderate	18:29	6.4	Surface	1.0	28.8 28.8	28.8	7.7 7.7	7.7	10.1 10.1	10.1	76.3 76.1	76.2	5.6 5.6	5.6	5.6	6.0 5.9	6.0	6.0	5.3 5.8	5.6	5.5
					Middle	3.2	28.8 28.8	28.8	7.7 7.7	7.7	10.3 10.2	10.3	76.1 76.0	76.1	5.6 5.5	5.5		5.9 5.8	5.9		5.6 5.5	5.6	
					Bottom	5.4	28.8 28.8	28.8	7.7 7.7	7.7	10.4 11.0	10.7	76.1 76.1	76.1	5.5 5.5	5.5	5.5	5.9 6.0	6.0		5.9 4.6	5.3	
27-Jun-14	Sunny	Moderate	19:31	6.5	Surface	1.0	30.2 30.1	30.2	8.0 8.0	8.0	10.2 10.4	10.3	78.9 78.0	78.5	5.6 5.6	5.6	5.6	7.9 8.0	8.0	8.4	3.3 3.3	3.3	4.3
					Middle	3.3	30.1 30.1	30.1	8.0 8.0	8.0	10.9 11.2	11.1	78.1 77.6	77.9	5.6 5.5	5.5		8.6 8.8	8.7		4.5 5.5	5.0	
					Bottom	5.5	30.0 30.1	30.1	8.0 8.0	8.0	11.3 11.0	11.2	77.6 78.0	77.8	5.5 5.5	5.5	5.5	8.7 8.5	8.6		4.4 4.5	4.5	
30-Jun-14	Sunny	Moderate	08:39	6.6	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	17.9 18.0	18.0	78.9 78.1	78.5	5.5 5.4	5.5	5.4	5.0 5.1	5.1	6.9	3.5 4.1	3.8	4.0
					Middle	3.3	28.7 28.7	28.7	8.1 8.1	8.1	22.2 22.2	22.2	75.8 75.5	75.7	5.3 5.2	5.2		7.4 7.0	7.2		3.7 4.7	4.2	
					Bottom	5.6	28.4 28.4	28.4	8.1 8.0	8.0	23.7 23.7	23.7	72.4 72.1	72.3	5.0 4.9	5.0	5.0	8.2 8.4	8.3		3.6 4.4	4.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS4 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	14:59	16.4	Surface	1.0	28.2 28.5	28.4	8.2 8.2	8.2	15.9 14.5	15.2	91.1 96.4	93.8	6.5 6.9	6.7	6.0	2.6 2.3	2.5	4.2	3.0 2.2	2.6	2.9
					Middle	8.2	27.2 27.2	27.2	8.1 8.1	8.1	22.2 22.0	22.1	75.7 76.8	76.3	5.3 5.4	5.3		4.3 4.4	4.4		2.6 3.1	2.9	
					Bottom	15.4	27.1 27.1	27.1	8.1 8.1	8.1	22.7 22.8	22.8	75.4 73.3	74.4	5.3 5.2	5.2	5.2	5.3 5.8	5.6		3.3 2.8	3.1	
4-Jun-14	Sunny	Moderate	16:12	16.9	Surface	1.0	29.4 29.4	29.4	8.5 8.5	8.5	14.7 14.8	14.7	118.4 121.5	120.0	8.3 8.6	8.5	6.9	4.2 4.1	4.2	4.3	2.4 2.3	2.4	2.6
					Middle	8.5	26.8 26.8	26.8	8.1 8.1	8.1	24.5 24.8	24.7	76.2 75.8	76.0	5.3 5.3	5.3		4.2 4.1	4.2		2.5 2.6	2.6	
					Bottom	15.9	26.4 26.4	26.4	8.1 8.1	8.1	26.2 26.1	26.2	69.4 70.1	69.8	4.8 4.9	4.9	4.9	4.3 4.4	4.4		2.9 2.9	2.9	
6-Jun-14	Cloudy	Moderate	18:01	18.3	Surface	1.0	29.1 29.1	29.1	8.4 8.4	8.4	11.6 12.1	11.8	101.5 100.8	101.2	7.3 7.2	7.3	6.9	1.4 1.5	1.5	1.8	3.8 4.1	4.0	4.0
					Middle	9.2	28.3 29.0	28.7	8.2 8.3	8.3	17.8 17.2	17.5	89.5 90.2	89.9	6.3 6.5	6.4		1.8 1.7	1.8		4.2 3.7	4.0	
					Bottom	17.3	26.8 26.8	26.8	8.1 8.1	8.1	24.5 25.0	24.7	79.9 79.1	79.5	5.6 5.5	5.5	5.5	2.0 2.1	2.1		3.9 4.3	4.1	
9-Jun-14	Sunny	Moderate	11:01	16.6	Surface	1.0	27.7 27.7	27.7	8.2 8.2	8.2	20.2 20.2	20.2	81.7 83.7	82.7	5.8 5.9	5.8	5.6	2.3 2.4	2.4	3.1	4.1 2.9	3.5	3.9
					Middle	8.3	27.2 27.3	27.3	8.1 8.1	8.1	20.4 21.6	21.0	73.9 77.2	75.6	5.2 5.3	5.3		3.3 3.4	3.4		5.0 4.3	4.7	
					Bottom	15.6	26.5 25.6	26.0	8.1 8.1	8.1	29.5 29.5	29.5	73.0 72.5	72.8	5.1 5.1	5.1	5.1	3.5 3.5	3.5		3.4 3.8	3.6	
11-Jun-14	Fine	Moderate	12:22	16.3	Surface	1.0	27.6 27.6	27.6	8.2 8.2	8.2	17.3 17.3	17.3	85.4 84.0	84.7	6.1 6.0	6.1	5.7	2.6 2.4	2.5	4.9	4.4 3.4	3.9	3.7
					Middle	8.2	27.1 27.0	27.1	8.1 8.1	8.1	21.4 22.1	21.7	74.6 74.4	74.5	5.3 5.2	5.3		4.5 4.7	4.6		2.9 3.1	3.0	
					Bottom	15.3	26.9 26.9	26.9	8.1 8.1	8.1	22.9 23.0	22.9	75.9 78.9	77.4	5.3 5.5	5.4	5.4	7.4 7.6	7.5		4.5 4.0	4.3	
13-Jun-14	Sunny	Moderate	13:58	16.8	Surface	1.0	27.3 27.4	27.3	8.1 8.1	8.1	20.7 20.6	20.7	73.0 74.3	73.7	5.2 5.2	5.2	5.2	3.5 3.7	3.6	4.3	10.4 10.1	10.3	12.0
					Middle	8.4	27.2 27.2	27.2	8.1 8.1	8.1	21.9 21.9	21.9	72.1 72.9	72.5	5.1 5.1	5.1		4.6 4.8	4.7		12.5 12.1	12.3	
					Bottom	15.8	27.2 27.2	27.2	8.0 8.1	8.1	22.4 22.1	22.3	75.7 73.9	74.8	5.3 5.2	5.2	5.2	4.5 4.5	4.5		13.3 13.6	13.5	
16-Jun-14	Sunny	Moderate	14:19	17.1	Surface	1.0	28.3 28.3	28.3	8.1 8.1	8.1	20.0 20.0	20.0	80.1 79.2	79.7	5.6 5.5	5.6	5.5	3.1 3.2	3.2	3.4	3.4 3.4	3.4	3.5
					Middle	8.6	27.9 27.9	27.9	8.1 8.1	8.1	22.1 21.4	21.8	77.9 78.3	78.1	5.4 5.5	5.4		3.5 3.3	3.4		3.5 3.2	3.4	
					Bottom	16.1	27.9 28.1	28.0	8.1 8.1	8.1	22.6 23.3	22.9	79.9 80.3	80.1	5.5 5.5	5.5	5.5	3.5 3.4	3.5		3.4 3.9	3.7	
18-Jun-14	Sunny	Moderate	16:06	16.3	Surface	1.0	29.2 29.2	29.2	8.2 8.2	8.2	16.5 16.5	16.5	84.8 85.9	85.4	5.9 6.0	6.0	5.8	4.4 4.5	4.5	5.2	2.1 2.3	2.2	2.6
					Middle	8.2	28.4 28.4	28.4	8.1 8.1	8.1	20.7 20.6	20.7	78.5 79.3	78.9	5.4 5.5	5.5		5.6 5.4	5.5		2.5 2.3	2.4	
					Bottom	15.3	28.5 28.6	28.5	8.1 8.1	8.1	20.8 20.8	20.8	82.6 82.9	82.8	5.7 5.7	5.7	5.7	5.5 5.7	5.6		2.8 3.5	3.2	
20-Jun-14	Fine	Moderate	18:14	16.7	Surface	1.0	29.3 29.3	29.3	8.1 8.1	8.1	12.8 12.6	12.7	92.3 92.9	92.6	6.6 6.6	6.6	6.3	3.1 2.9	3.0	4.5	2.9 2.5	2.7	2.5
					Middle	8.4	29.1 29.0	29.1	8.1 8.1	8.1	15.3 16.3	15.8	84.5 84.4	84.5	6.0 5.9	5.9		3.7 3.9	3.8		2.7 2.2	2.5	
					Bottom	15.7	28.9 28.9	28.9	8.0 8.1	8.0	20.5 18.3	19.4	87.6 84.0	85.8	6.0 5.9	5.9	5.9	6.3 6.9	6.6		2.0 2.8	2.4	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS4 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	11:05	18.4	Surface	1.0	29.0 29.1	29.1	8.1 8.1	8.1	14.6 14.7	14.6	90.3 90.5	90.4	6.4 6.4	6.4	6.1	3.1 3.3	3.2	4.5	2.8 2.8	2.8	3.6
					Middle	9.2	28.7 28.7	28.7	8.1 8.1	8.1	18.5 18.5	18.5	82.3 83.0	82.7	5.7 5.8	5.8		4.7 5.0	4.9		3.6 3.0	3.3	
					Bottom	17.4	27.8 27.6	27.7	8.0 8.0	8.0	23.5 23.7	23.6	73.8 73.2	73.5	5.1 5.1	5.1	5.1	5.6 5.4	5.5		4.8 4.6	4.7	
25-Jun-14	Cloudy	Moderate	12:44	16.1	Surface	1.0	28.8 28.7	28.8	8.0 8.0	8.0	12.6 12.6	12.6	73.0 71.4	72.2	5.3 5.1	5.2	5.1	4.8 5.0	4.9	6.0	2.3 2.3	2.3	2.9
					Middle	8.1	28.6 28.5	28.6	7.9 7.9	7.9	20.3 18.3	19.3	70.7 71.2	71.0	5.1 5.0	5.0		6.4 6.4	6.4		3.4 3.2	3.3	
					Bottom	15.1	28.5 28.5	28.5	7.9 7.8	7.8	21.8 21.4	21.6	70.3 69.7	70.0	4.8 4.9	4.9	4.9	6.5 6.6	6.6		2.9 3.2	3.1	
27-Jun-14	Sunny	Moderate	13:54	16.3	Surface	1.0	29.4 29.8	29.6	8.0 8.0	8.0	15.3 13.9	14.6	87.1 84.7	85.9	6.1 6.0	6.1	6.1	4.1 4.3	4.2	7.3	2.2 2.7	2.5	2.4
					Middle	8.2	28.5 28.5	28.5	8.0 8.0	8.0	21.1 21.4	21.2	86.8 85.0	85.9	6.2 6.0	6.1		7.6 7.3	7.5		2.6 2.4	2.5	
					Bottom	15.3	28.5 28.4	28.5	8.0 8.0	8.0	22.3 22.6	22.5	86.5 85.8	86.2	6.1 6.0	6.1	6.1	10.0 10.6	10.3		2.5 2.0	2.3	
30-Jun-14	Sunny	Moderate	13:59	16.5	Surface	1.0	29.3 29.3	29.3	8.1 8.1	8.1	18.1 18.1	18.1	82.8 82.1	82.5	5.7 5.7	5.7	5.5	7.8 7.5	7.7	8.9	4.7 3.7	4.2	4.3
					Middle	8.3	28.5 28.5	28.5	8.0 8.1	8.1	23.4 23.4	23.4	76.0 75.3	75.7	5.3 5.3	5.3		8.8 8.9	8.9		4.0 4.6	4.3	
					Bottom	15.5	28.5 28.5	28.5	8.0 8.1	8.1	23.4 19.0	21.2	70.7 71.6	71.2	4.8 5.0	4.9	4.9	9.7 10.2	10.0		4.5 4.2	4.4	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS4 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:33	16.2	Surface	1.0	28.1 28.0	28.1	8.1 8.1	8.1	12.6 13.1	12.8	71.3 71.9	71.6	5.3 5.4	5.4	5.3	3.2 3.2	3.2	7.7	5.3 5.5	5.4	5.8
					Middle	8.1	27.0 26.9	26.9	8.1 8.1	8.1	22.7 23.1	22.9	71.5 71.0	71.3	5.2 5.1	5.1		8.6 9.0	8.8		6.2 6.2	6.2	
					Bottom	15.2	26.8 26.8	26.8	8.0 8.0	8.0	24.0 24.0	24.0	70.5 70.6	70.6	5.0 5.1	5.0	5.0	10.7 11.7	11.2		5.7 5.9	5.8	
4-Jun-14	Sunny	Moderate	10:40	17.2	Surface	1.0	28.4 28.3	28.4	8.2 8.2	8.2	14.7 14.9	14.8	83.6 83.7	83.7	6.0 6.0	6.0	5.7	2.6 2.6	2.6	3.3	3.3 3.1	3.2	3.3
					Middle	8.6	26.7 26.9	26.8	8.1 8.1	8.1	25.5 26.4	26.0	76.1 74.0	75.1	5.3 5.3	5.3		3.7 3.4	3.6		3.0 3.5	3.3	
					Bottom	16.2	26.4 26.2	26.3	8.1 8.1	8.1	26.5 26.9	26.7	68.4 67.8	68.1	4.8 4.7	4.7	4.7	3.6 3.5	3.6		3.3 3.3	3.3	
6-Jun-14	Cloudy	Moderate	13:01	18.4	Surface	1.0	28.8 28.9	28.9	8.3 8.3	8.3	14.9 15.0	14.9	98.4 98.9	98.7	7.0 7.0	7.0	6.7	1.0 1.1	1.1	1.4	2.1 3.0	2.6	3.3
					Middle	9.2	28.7 28.7	28.7	8.2 8.2	8.2	15.9 16.0	15.9	87.8 89.1	88.5	6.2 6.3	6.3		1.2 1.3	1.3		3.4 2.8	3.1	
					Bottom	17.4	26.9 26.6	26.8	8.1 8.1	8.1	25.2 25.4	25.3	74.1 73.6	73.9	5.1 5.1	5.1	5.1	1.8 1.9	1.9		4.2 3.9	4.1	
9-Jun-14	Sunny	Moderate	15:51	17.2	Surface	1.0	27.8 28.3	28.1	8.2 8.2	8.2	17.9 15.9	16.9	89.6 85.9	87.8	6.4 6.1	6.3	5.8	2.7 2.6	2.7	3.8	3.9 4.8	4.4	4.3
					Middle	8.6	26.2 26.1	26.2	8.0 8.0	8.0	26.5 27.0	26.8	71.2 74.1	72.7	5.1 5.3	5.2		4.2 4.3	4.3		3.6 5.5	4.6	
					Bottom	16.2	25.8 25.8	25.8	8.0 8.1	8.1	28.5 28.5	28.5	71.9 73.6	72.8	5.0 5.1	5.0	5.0	4.3 4.3	4.3		5.1 2.8	4.0	
11-Jun-14	Fine	Moderate	17:29	16.5	Surface	1.0	27.6 27.6	27.6	8.2 8.2	8.2	16.8 16.7	16.7	85.9 84.9	85.4	6.2 6.1	6.1	5.7	3.5 3.3	3.4	6.3	2.8 3.1	3.0	2.8
					Middle	8.3	26.5 26.7	26.6	8.0 8.0	8.0	24.3 22.7	23.5	74.5 75.0	74.8	5.3 5.3	5.3		7.3 7.3	7.3		2.9 2.5	2.7	
					Bottom	15.5	26.5 26.4	26.4	8.0 8.0	8.0	24.6 24.8	24.7	71.0 71.5	71.3	5.0 5.0	5.0	5.0	8.0 8.4	8.2		2.8 2.8	2.8	
13-Jun-14	Sunny	Moderate	19:16	16.7	Surface	1.0	27.8 27.8	27.8	8.1 8.0	8.1	17.5 17.4	17.5	71.1 71.7	71.4	5.1 5.1	5.1	5.1	7.2 7.3	7.3	10.0	3.1 4.0	3.6	3.8
					Middle	8.4	27.2 27.2	27.2	8.0 8.0	8.0	21.6 21.6	21.6	71.2 70.8	71.0	5.0 5.0	5.0		11.2 12.1	11.7		3.4 3.6	3.5	
					Bottom	15.7	27.1 27.3	27.2	8.0 8.0	8.0	21.8 21.7	21.8	68.7 67.4	68.1	4.8 4.7	4.8	4.8	11.1 11.1	11.1		4.2 4.1	4.2	
16-Jun-14	Sunny	Moderate	09:00	17.0	Surface	1.0	27.7 27.7	27.7	8.0 8.0	8.0	19.6 18.3	18.9	71.4 71.6	71.5	5.1 5.2	5.2	5.1	7.7 7.8	7.8	8.1	3.2 4.2	3.7	3.6
					Middle	8.5	27.6 27.6	27.6	8.0 8.0	8.0	22.0 22.0	22.0	70.8 70.7	70.8	5.0 5.0	5.0		8.2 8.2	8.2		4.2 2.7	3.5	
					Bottom	16.0	27.6 27.6	27.6	8.0 8.0	8.0	22.0 21.9	22.0	72.1 71.7	71.9	5.1 5.1	5.1	5.1	8.2 8.3	8.3		3.2 4.1	3.7	
18-Jun-14	Sunny	Moderate	10:58	16.6	Surface	1.0	28.9 28.9	28.9	8.0 8.0	8.0	13.7 13.7	13.7	80.8 81.8	81.3	5.8 5.8	5.8	5.6	5.1 5.2	5.2	5.4	1.1 1.2	1.2	2.2
					Middle	8.3	28.5 28.5	28.5	8.0 8.0	8.0	16.5 17.3	16.9	77.0 75.5	76.3	5.5 5.3	5.4		5.3 5.4	5.4		2.0 2.5	2.3	
					Bottom	15.6	28.3 28.3	28.3	8.0 7.9	8.0	20.3 20.2	20.3	76.7 79.0	77.9	5.3 5.5	5.4	5.4	5.5 5.5	5.5		3.3 2.9	3.1	
20-Jun-14	Rainy	Moderate	13:29	16.8	Surface	1.0	29.3 29.3	29.3	8.1 8.1	8.1	14.4 14.3	14.3	82.2 82.3	82.3	5.8 5.8	5.8	5.6	3.5 3.3	3.4	5.7	2.6 2.7	2.7	2.6
					Middle	8.4	28.7 28.7	28.7	8.1 8.1	8.1	21.1 21.1	21.1	76.9 77.0	77.0	5.3 5.3	5.3		6.2 6.7	6.5		2.7 2.0	2.4	
					Bottom	15.8	28.7 28.6	28.7	8.0 8.1	8.1	21.9 22.0	22.0	73.6 72.9	73.3	5.1 5.0	5.0	5.0	7.4 7.0	7.2		2.7 2.4	2.6	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS4 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	16:04	18.3	Surface	1.0	29.2 29.2	29.2	8.2 8.1	8.2	12.2 12.4	12.3	96.9 96.8	96.9	7.0 6.9	6.9	6.6	3.2 3.2	3.2	4.1	4.0 3.9	4.0	4.5
					Middle	9.2	28.7 29.0	28.9	8.1 8.1	8.1	16.5 14.7	15.6	87.0 87.3	87.2	6.1 6.2	6.2		3.7 3.8	3.8		4.4 4.3	4.4	
					Bottom	17.3	27.9 27.9	27.9	8.0 8.0	8.0	22.5 21.6	22.1	83.7 81.5	82.6	5.8 5.7	5.7	5.7	5.1 5.5	5.3		5.2 5.1	5.2	
25-Jun-14	Cloudy	Moderate	18:02	16.8	Surface	1.0	28.8 28.8	28.8	8.0 8.0	8.0	10.1 10.1	10.1	76.1 75.9	76.0	5.6 5.5	5.5	5.5	5.9 6.0	6.0	6.1	4.0 3.0	3.5	4.1
					Middle	8.4	28.8 28.8	28.8	8.0 8.0	8.0	10.5 10.5	10.5	75.2 75.6	75.4	5.5 5.5	5.5		6.3 6.2	6.3		4.0 3.6	3.8	
					Bottom	15.8	28.8 28.8	28.8	8.0 8.0	8.0	11.7 11.2	11.5	74.6 75.6	75.1	5.4 5.5	5.4	5.4	6.0 5.9	6.0		4.9 5.1	5.0	
27-Jun-14	Sunny	Moderate	19:11	16.4	Surface	1.0	30.2 30.2	30.2	8.0 8.0	8.0	10.1 10.5	10.3	79.3 78.2	78.8	5.7 5.6	5.6	5.6	6.3 6.7	6.5	9.1	5.4 5.1	5.3	4.8
					Middle	8.2	30.1 30.0	30.0	8.0 8.0	8.0	11.3 11.4	11.4	77.6 77.3	77.5	5.5 5.5	5.5		9.6 9.9	9.8		5.2 4.6	4.9	
					Bottom	15.4	30.0 30.0	30.0	8.0 8.0	8.0	11.6 11.4	11.5	77.7 77.6	77.7	5.5 5.5	5.5	5.5	10.8 10.9	10.9		4.4 4.0	4.2	
30-Jun-14	Sunny	Moderate	08:57	16.8	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	17.9 17.8	17.8	76.6 77.9	77.3	5.3 5.4	5.4	5.3	4.9 5.0	5.0	7.9	3.8 4.6	4.2	4.1
					Middle	8.4	28.4 28.5	28.5	8.0 8.0	8.0	23.5 22.9	23.2	74.0 77.0	75.5	5.0 5.4	5.2		8.2 8.9	8.6		4.5 3.9	4.2	
					Bottom	15.8	28.4 28.4	28.4	8.0 8.0	8.0	23.4 23.6	23.5	73.0 72.9	73.0	5.0 5.0	5.0	5.0	10.6 9.7	10.2		3.9 3.8	3.9	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)5 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	15:57	12.6	Surface	1.0	28.2 28.2	28.2	8.2 8.2	8.2	16.7 16.8	16.8	98.5 95.9	97.2	7.0 6.8	6.9	6.1	2.7 2.6	2.7	2.7	2.9 2.6	2.8	2.8
					Middle	6.3	27.6 27.8	27.7	8.1 8.1	8.1	21.6 22.6	22.1	72.6 80.6	76.6	5.1 5.6	5.3		2.7 2.6	2.7		3.3 2.0	2.7	
					Bottom	11.6	26.4 26.3	26.3	8.0 8.0	8.0	27.0 27.5	27.3	76.9 73.0	75.0	5.3 5.1	5.2	5.2	2.7 2.7	2.7		3.2 2.5	2.9	
4-Jun-14	Sunny	Moderate	16:47	12.6	Surface	1.0	28.7 28.9	28.8	8.3 8.3	8.3	18.3 17.5	17.9	92.5 94.8	93.7	6.5 6.6	6.5	6.4	1.9 1.8	1.9	2.0	2.7 2.8	2.8	2.9
					Middle	6.3	27.1 26.9	27.0	8.1 8.1	8.1	23.3 24.8	24.0	92.6 86.4	89.5	6.5 6.0	6.3		1.9 2.0	2.0		3.0 2.9	3.0	
					Bottom	11.6	25.7 25.4	25.6	8.1 8.0	8.0	29.5 30.1	29.8	88.5 81.3	84.9	6.2 5.7	5.9	5.9	2.1 2.2	2.2		2.9 2.8	2.9	
6-Jun-14	Cloudy	Moderate	19:00	12.1	Surface	1.0	28.7 28.6	28.6	8.5 8.5	8.5	16.3 16.3	16.3	95.8 88.9	92.4	6.8 6.3	6.5	5.9	2.2 2.3	2.3	2.3	1.3 1.3	1.3	1.7
					Middle	6.1	26.7 27.4	27.1	8.3 8.3	8.3	25.1 24.6	24.8	72.2 77.1	74.7	5.0 5.3	5.2		2.3 2.2	2.3		1.5 1.4	1.5	
					Bottom	11.1	24.6 24.8	24.7	8.1 8.2	8.1	32.1 31.6	31.9	68.4 74.6	71.5	4.8 5.2	5.0	5.0	2.3 2.3	2.3		2.2 2.3	2.3	
9-Jun-14	Sunny	Moderate	09:45	13.3	Surface	1.0	27.2 27.3	27.2	8.2 8.2	8.2	21.9 21.6	21.8	79.2 89.5	84.4	5.6 6.3	5.9	5.5	1.9 1.8	1.9	2.0	6.6 3.9	5.3	5.2
					Middle	6.7	24.8 25.0	24.9	8.1 8.0	8.1	30.0 29.7	29.9	73.0 72.4	72.7	5.1 5.1	5.1		2.1 1.9	2.0		4.6 2.6	3.6	
					Bottom	12.3	24.8 24.8	24.8	8.1 7.8	8.0	30.4 30.4	30.4	73.1 70.7	71.9	5.1 5.0	5.0	5.0	2.0 2.1	2.1		6.2 7.1	6.7	
11-Jun-14	Fine	Moderate	11:21	13.5	Surface	1.0	27.1 27.3	27.2	8.2 8.3	8.3	19.8 18.4	19.1	72.6 77.7	75.2	5.2 5.4	5.3	5.2	2.3 2.4	2.4	3.9	2.9 2.6	2.8	3.3
					Middle	6.8	25.9 25.9	25.9	8.1 8.2	8.2	26.6 26.5	26.6	76.9 71.4	74.2	5.1 5.1	5.1		4.5 4.3	4.4		2.8 4.0	3.4	
					Bottom	12.5	25.3 25.2	25.3	8.1 8.1	8.1	29.3 29.5	29.4	69.6 75.5	72.6	4.8 5.0	4.9	4.9	4.9 4.9	4.9		4.2 3.2	3.7	
13-Jun-14	Sunny	Moderate	12:32	13.6	Surface	1.0	27.5 27.5	27.5	7.8 7.8	7.8	21.9 21.8	21.8	82.4 81.4	81.9	5.8 5.7	5.7	5.4	3.2 3.3	3.3	5.4	4.0 3.3	3.7	4.5
					Middle	6.8	26.6 26.7	26.6	7.8 7.7	7.7	24.8 24.7	24.7	73.5 73.3	73.4	5.2 5.1	5.1		6.1 6.2	6.2		4.8 4.4	4.6	
					Bottom	12.6	26.6 26.7	26.7	7.7 7.6	7.7	25.0 24.8	24.9	74.5 76.7	75.6	5.2 5.3	5.3	5.3	6.8 6.6	6.7		4.8 5.3	5.1	
16-Jun-14	Sunny	Moderate	15:12	13.6	Surface	1.0	28.3 28.4	28.4	8.1 8.1	8.1	20.9 20.7	20.8	79.7 81.6	80.7	5.5 5.7	5.6	5.4	4.4 4.3	4.4	6.8	4.4 3.8	4.1	4.3
					Middle	6.8	27.6 27.5	27.5	8.1 8.1	8.1	23.5 23.6	23.5	74.2 72.3	73.3	5.1 5.0	5.1		7.9 8.1	8.0		4.4 4.1	4.3	
					Bottom	12.6	27.5 27.6	27.6	8.1 8.1	8.1	23.7 23.5	23.6	69.5 70.6	70.1	4.8 4.9	4.9	4.9	8.1 8.0	8.1		4.1 4.8	4.5	
18-Jun-14	Sunny	Moderate	16:55	13.2	Surface	1.0	29.2 29.2	29.2	8.2 8.2	8.2	17.5 17.5	17.5	90.4 92.0	91.2	6.3 6.4	6.3	6.0	4.3 4.2	4.3	4.4	2.5 2.9	2.7	4.0
					Middle	6.6	28.5 28.5	28.5	8.1 8.2	8.2	21.6 21.2	21.4	83.9 86.4	85.2	5.6 5.8	5.7		4.4 4.4	4.4		3.8 3.7	3.8	
					Bottom	12.2	28.4 28.5	28.4	8.2 8.2	8.2	26.6 26.6	26.6	76.9 78.1	77.5	5.3 5.4	5.3	5.3	4.6 4.5	4.6		5.1 5.6	5.4	
20-Jun-14	Fine	Moderate	19:04	11.8	Surface	1.0	29.3 29.3	29.3	8.3 8.3	8.3	17.0 16.5	16.7	86.7 84.9	85.8	6.0 5.9	6.0	5.5	3.2 3.4	3.3	3.8	2.4 2.8	2.6	2.6
					Middle	5.9	28.6 28.6	28.6	8.3 8.3	8.3	23.4 23.5	23.5	73.9 74.2	74.1	5.0 5.0	5.0		3.4 3.5	3.5		2.7 2.4	2.6	
					Bottom	10.8	28.4 28.4	28.4	8.3 8.3	8.3	26.7 26.5	26.6	76.4 75.9	76.2	5.1 5.1	5.1	5.1	4.4 4.5	4.5		2.5 2.5	2.5	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)5 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	10:31	12.3	Surface	1.0	28.7 28.7	28.7	8.3 8.3	8.3	17.4 17.6	17.5	74.6 74.1	74.4	5.2 5.2	5.2	5.2	5.1 5.2	5.2	5.3	3.8 3.6	3.7	4.1
					Middle	6.2	28.4 28.4	28.4	8.3 8.3	8.3	21.2 21.5	21.3	73.8 73.6	73.7	5.2 5.1	5.1		5.4 5.0	5.2		3.9 3.8	3.9	
					Bottom	11.3	28.0 28.2	28.1	8.3 8.3	8.3	27.2 27.0	27.1	70.3 71.2	70.8	4.7 4.8	4.8	4.8	5.5 5.3	5.4		4.4 4.7	4.6	
25-Jun-14	Cloudy	Moderate	11:57	12.9	Surface	1.0	28.7 28.7	28.7	8.2 8.2	8.2	16.0 16.1	16.1	87.1 84.1	85.6	6.1 5.9	6.0	5.7	4.8 4.8	4.8	4.9	2.6 2.8	2.7	3.4
					Middle	6.5	28.3 28.3	28.3	8.2 8.2	8.2	22.3 21.4	21.9	74.3 82.1	78.2	5.1 5.5	5.3		4.9 4.8	4.9		3.0 2.6	2.8	
					Bottom	11.9	27.7 27.8	27.8	8.2 8.2	8.2	27.8 27.6	27.7	72.3 74.2	73.3	5.0 5.0	5.0	5.0	5.0 5.1	5.1		5.1 4.4	4.8	
27-Jun-14	Sunny	Moderate	12:27	13.6	Surface	1.0	29.3 29.3	29.3	8.1 8.1	8.1	15.3 15.4	15.3	73.5 73.4	73.5	5.2 5.2	5.2	5.1	6.5 6.5	6.5	6.8	6.1 5.4	5.8	5.5
					Middle	6.8	29.3 29.2	29.2	8.1 8.1	8.1	16.3 17.2	16.7	71.7 71.7	71.7	5.0 5.0	5.0		6.7 6.8	6.8		5.0 4.9	5.0	
					Bottom	12.6	29.1 29.0	29.1	8.1 8.1	8.1	21.9 20.5	21.2	71.2 72.1	71.7	4.8 5.0	4.9	4.9	7.0 6.9	7.0		5.7 5.8	5.8	
30-Jun-14	Sunny	Moderate	14:59	12.4	Surface	1.0	28.8 29.1	29.0	7.9 8.0	8.0	22.2 20.6	21.4	74.5 73.5	74.0	5.1 5.1	5.1	5.1	8.4 8.6	8.5	8.9	4.6 4.6	4.6	5.1
					Middle	6.2	28.4 28.2	28.3	8.0 7.9	7.9	24.1 24.8	24.5	72.6 73.2	72.9	5.0 5.1	5.0		9.2 8.8	9.0		5.3 5.0	5.2	
					Bottom	11.4	27.7 28.1	27.9	7.8 7.9	7.9	27.4 27.1	27.3	71.6 71.7	71.7	4.9 4.9	4.9	4.9	8.9 9.7	9.3		5.6 5.4	5.5	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)5 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	08:40	12.8	Surface	1.0	28.2 28.2	28.2	8.1 8.1	8.1	15.2 15.3	15.3	82.1 81.0	81.6	5.9 5.8	5.8	5.5	2.1 2.0	2.1	2.4	2.9 3.8	3.4	3.5
					Middle	6.4	26.6 26.8	26.7	8.1 8.1	8.1	25.9 25.9	25.9	76.1 76.4	76.3	5.2 5.2	5.2		2.5 2.6	2.6		3.9 3.8	3.9	
					Bottom	11.8	25.7 25.9	25.8	8.0 8.0	8.0	30.2 30.0	30.1	72.5 69.9	71.2	5.0 4.9	4.9	4.9	2.5 2.7	2.6		2.6 4.0	3.3	
4-Jun-14	Sunny	Moderate	09:27	13.2	Surface	1.0	27.7 28.0	27.9	8.2 8.2	8.2	17.8 17.6	17.7	83.2 90.9	87.1	5.8 6.4	6.1	6.0	1.0 0.9	1.0	1.1	1.2 1.5	1.4	2.1
					Middle	6.6	25.1 25.0	25.0	8.1 8.1	8.1	28.7 29.5	29.1	84.5 82.4	83.5	5.9 5.8	5.8		1.0 1.0	1.0		2.2 2.1	2.2	
					Bottom	12.2	25.0 24.9	25.0	8.0 8.1	8.1	31.8 31.8	31.8	80.3 80.8	80.6	5.6 5.7	5.6	5.6	1.2 1.1	1.2		2.9 2.7	2.8	
6-Jun-14	Cloudy	Moderate	11:53	12.6	Surface	1.0	28.2 28.2	28.2	8.3 8.3	8.3	18.5 18.0	18.3	89.4 85.3	87.4	6.3 6.0	6.2	5.7	2.2 2.2	2.2	2.4	2.4 2.6	2.5	2.5
					Middle	6.3	26.6 26.4	26.5	8.2 8.2	8.2	25.7 26.3	26.0	72.2 72.3	72.3	5.0 5.2	5.1		2.1 2.2	2.2		2.5 2.5	2.5	
					Bottom	11.6	25.3 25.0	25.1	8.0 8.1	8.1	30.7 31.1	30.9	72.9 69.2	71.1	5.0 4.8	4.9	4.9	2.9 2.7	2.8		2.7 2.4	2.6	
9-Jun-14	Sunny	Moderate	16:48	13.0	Surface	1.0	27.2 26.7	26.9	8.4 8.3	8.3	24.6 25.3	24.9	96.3 96.3	96.3	7.1 7.1	7.1	7.1	1.7 1.8	1.8	2.1	4.8 4.3	4.6	4.8
					Middle	6.5	25.2 25.2	25.2	8.1 8.0	8.1	30.1 30.2	30.2	95.6 95.9	95.8	7.1 7.1	7.1		2.1 2.3	2.2		3.6 3.5	3.6	
					Bottom	12.0	24.9 24.8	24.8	8.1 7.9	8.0	30.9 31.2	31.1	96.0 96.1	96.1	7.1 7.1	7.1	7.1	2.2 2.4	2.3		6.5 5.9	6.2	
11-Jun-14	Fine	Moderate	18:46	13.6	Surface	1.0	26.2 26.0	26.1	8.2 8.2	8.2	24.9 24.6	24.8	74.1 73.5	73.8	5.5 5.5	5.5	5.4	4.4 4.6	4.5	4.8	5.0 4.2	4.6	3.8
					Middle	6.8	25.5 25.4	25.5	8.2 8.2	8.2	28.4 28.8	28.6	70.8 69.4	70.1	5.2 5.1	5.2		4.5 5.0	4.8		4.2 3.8	4.0	
					Bottom	12.6	25.3 25.4	25.4	8.2 8.2	8.2	29.4 29.2	29.3	69.1 73.8	71.5	5.0 5.4	5.2	5.2	5.1 5.2	5.2		2.5 3.3	2.9	
13-Jun-14	Sunny	Moderate	20:13	13.8	Surface	1.0	27.1 27.0	27.0	8.0 8.0	8.0	23.2 23.4	23.3	79.5 82.0	80.8	5.6 5.7	5.6	5.4	4.7 5.1	4.9	5.4	3.8 3.9	3.9	3.8
					Middle	6.9	26.4 26.4	26.4	8.0 7.9	8.0	25.8 25.9	25.8	73.0 76.4	74.7	5.1 5.3	5.2		5.7 5.6	5.7		3.8 3.6	3.7	
					Bottom	12.8	26.5 26.4	26.4	8.0 7.9	7.9	25.9 26.2	26.0	76.6 81.8	79.2	5.3 5.7	5.5	5.5	5.7 5.3	5.5		4.0 3.7	3.9	
16-Jun-14	Sunny	Moderate	07:48	13.4	Surface	1.0	27.7 27.6	27.6	8.1 8.2	8.2	21.5 21.7	21.6	81.9 79.6	80.8	5.7 5.6	5.6	5.6	3.6 3.3	3.5	5.1	4.4 3.9	4.2	4.0
					Middle	6.7	27.1 27.1	27.1	8.2 8.2	8.2	26.3 26.2	26.3	82.2 77.9	80.1	5.6 5.4	5.5		6.0 6.5	6.3		4.1 4.3	4.2	
					Bottom	12.4	27.1 27.2	27.2	8.1 8.2	8.2	26.6 26.5	26.5	80.8 79.5	80.2	5.6 5.4	5.5	5.5	5.6 5.5	5.6		3.3 3.6	3.5	
18-Jun-14	Sunny	Moderate	10:01	13.3	Surface	1.0	28.7 28.6	28.6	8.1 8.1	8.1	17.2 17.2	17.2	74.6 85.2	79.9	5.3 5.3	5.3	5.3	2.4 2.3	2.4	2.5	3.3 3.6	3.5	3.6
					Middle	6.7	27.9 27.9	27.9	8.2 8.2	8.2	23.8 24.3	24.1	81.4 83.2	82.3	5.1 5.2	5.2		2.5 2.4	2.5		3.2 2.4	2.8	
					Bottom	12.3	27.9 27.9	27.9	8.2 8.2	8.2	26.9 26.9	26.9	74.3 81.4	77.9	5.2 5.0	5.1	5.1	2.6 2.7	2.7		4.8 4.0	4.4	
20-Jun-14	Rainy	Moderate	12:30	12.8	Surface	1.0	29.0 29.1	29.0	8.3 8.2	8.3	17.8 17.6	17.7	74.6 78.0	76.3	5.2 5.4	5.3	5.2	4.9 4.7	4.8	5.4	2.3 2.2	2.3	2.7
					Middle	6.4	28.5 28.5	28.5	8.3 8.2	8.3	23.1 22.2	22.7	75.1 75.1	75.1	5.0 5.0	5.0		5.5 5.5	5.5		3.2 2.8	3.0	
					Bottom	11.8	28.3 28.5	28.4	8.2 8.3	8.2	26.9 26.7	26.8	71.0 70.5	70.8	4.9 4.8	4.8	4.8	5.6 5.9	5.8		2.8 2.6	2.7	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS(Mf)5 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	17:01	12.6	Surface	1.0	29.0 29.0	29.0	8.4 8.4	8.4	16.6 16.4	16.5	78.1 76.9	77.5	5.5 5.4	5.5	5.4	4.1 4.3	4.2	5.1	3.3 3.1	3.2	3.8
					Middle	6.3	28.1 28.2	28.1	8.4 8.3	8.3	26.5 26.1	26.3	76.6 74.4	75.5	5.4 5.1	5.3		5.4 5.5	5.5		3.7 3.7	3.7	
					Bottom	11.6	28.2 28.0	28.1	8.3 8.2	8.3	28.7 28.7	28.7	71.5 72.4	72.0	4.8 4.8	4.8	4.8	5.6 5.7	5.7		4.3 4.4	4.4	
25-Jun-14	Cloudy	Moderate	18:43	13.1	Surface	1.0	28.7 28.7	28.7	8.1 8.1	8.1	17.0 16.2	16.6	81.0 81.6	81.3	5.5 5.7	5.6	5.5	4.8 5.0	4.9	5.0	3.0 2.5	2.8	4.4
					Middle	6.6	28.2 28.2	28.2	8.1 8.2	8.2	22.8 24.0	23.4	79.0 74.1	76.6	5.3 5.2	5.3		5.0 5.0	5.0		5.2 5.3	5.3	
					Bottom	12.1	28.2 28.0	28.1	8.1 8.1	8.1	26.6 26.5	26.5	74.2 73.8	74.0	5.1 5.1	5.1	5.1	5.2 5.0	5.1		4.8 5.5	5.2	
27-Jun-14	Sunny	Moderate	20:13	13.6	Surface	1.0	29.7 29.8	29.8	8.1 8.1	8.1	15.3 15.2	15.2	76.1 75.8	76.0	5.3 5.3	5.3	5.2	4.7 4.8	4.8	5.1	4.1 2.3	3.2	3.3
					Middle	6.8	29.7 29.6	29.7	8.1 8.1	8.1	15.5 15.6	15.5	73.1 72.6	72.9	5.1 5.1	5.1		4.8 4.8	4.8		3.1 2.8	3.0	
					Bottom	12.6	29.2 28.9	29.1	8.1 8.1	8.1	18.4 19.8	19.1	71.3 71.7	71.5	4.9 5.0	4.9	4.9	5.6 5.8	5.7		3.4 3.8	3.6	
30-Jun-14	Sunny	Moderate	07:34	12.7	Surface	1.0	29.0 29.0	29.0	8.0 8.0	8.0	19.1 19.1	19.1	72.5 72.6	72.6	5.0 5.0	5.0	5.0	3.0 3.0	3.0	4.5	2.4 3.6	3.0	2.9
					Middle	6.4	27.6 27.6	27.6	8.0 8.0	8.0	26.8 26.9	26.9	72.1 72.0	72.1	5.0 5.0	5.0		5.3 5.2	5.3		2.6 2.1	2.4	
					Bottom	11.7	27.4 27.2	27.3	8.0 7.9	8.0	28.7 29.2	29.0	70.3 70.7	70.5	4.9 4.9	4.9	4.9	5.1 5.5	5.3		3.7 3.0	3.4	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	16:36	10.0	Surface	1.0	28.2 28.4	28.3	8.2 8.3	8.3	14.7 14.4	14.5	96.2 98.2	97.2	6.9 7.0	7.0	6.7	1.9 1.9	1.9	2.0	3.4 3.0	3.2	3.7
					Middle	5.0	27.5 27.6	27.5	8.2 8.2	8.2	19.6 19.4	19.5	89.3 89.0	89.2	6.3 6.3	6.3		2.0 2.0	2.0		3.7 3.9	3.8	
					Bottom	9.0	27.4 27.5	27.4	8.2 8.1	8.2	21.1 21.6	21.4	89.8 94.0	91.9	6.3 6.6	6.5	6.5	2.2 2.0	2.1		4.3 3.7	4.0	
4-Jun-14	Sunny	Moderate	17:56	10.1	Surface	1.0	28.9 28.6	28.7	8.4 8.3	8.4	16.9 17.5	17.2	102.9 101.8	102.4	7.2 7.2	7.2	6.3	2.1 2.1	2.1	2.2	1.9 2.2	2.1	2.4
					Middle	5.1	27.2 26.6	26.9	8.2 8.2	8.2	21.6 23.2	22.4	77.7 71.9	74.8	5.5 5.1	5.3		2.2 2.1	2.2		2.1 2.3	2.2	
					Bottom	9.1	26.3 25.7	26.0	8.2 8.2	8.2	26.0 26.0	26.0	76.9 74.7	75.8	5.4 5.2	5.3	5.3	2.3 2.2	2.3		2.8 2.8	2.8	
6-Jun-14	Cloudy	Moderate	19:21	10.1	Surface	1.0	28.5 28.5	28.5	8.3 8.3	8.3	15.9 15.8	15.8	99.4 99.1	99.3	7.1 7.1	7.1	6.6	1.1 1.1	1.1	1.1	2.7 3.3	3.0	3.7
					Middle	5.1	28.0 27.9	28.0	8.2 8.2	8.2	18.8 19.2	19.0	86.3 85.6	86.0	6.1 6.0	6.1		1.1 1.1	1.1		3.1 3.0	3.1	
					Bottom	9.1	26.1 25.8	26.0	8.1 8.1	8.1	27.2 27.9	27.6	71.9 70.6	71.3	5.0 4.9	5.0	5.0	1.2 1.2	1.2		5.5 4.7	5.1	
9-Jun-14	Sunny	Moderate	09:26	9.8	Surface	1.0	27.2 27.2	27.2	8.2 8.2	8.2	21.5 21.5	21.5	82.8 81.9	82.4	5.8 5.8	5.8	5.5	1.6 1.5	1.6	1.7	4.0 3.3	3.7	3.1
					Middle	4.9	25.5 25.5	25.5	8.1 8.1	8.1	27.7 27.5	27.6	72.3 72.3	72.3	5.1 5.1	5.1		1.7 1.7	1.7		2.9 3.5	3.2	
					Bottom	8.8	24.4 24.6	24.5	8.1 8.1	8.1	31.4 31.1	31.3	70.1 72.2	71.2	4.9 5.0	5.0	5.0	1.8 1.7	1.8		2.6 2.4	2.5	
11-Jun-14	Fine	Moderate	10:45	10.4	Surface	1.0	27.3 27.4	27.4	8.2 8.2	8.2	19.9 19.4	19.6	87.9 91.1	89.5	6.2 6.5	6.4	6.1	1.3 1.2	1.3	1.5	4.5 3.9	4.2	4.4
					Middle	5.2	26.6 26.6	26.6	8.2 8.1	8.2	24.3 24.3	24.3	82.0 80.2	81.1	5.8 5.6	5.7		1.3 1.4	1.4		4.7 4.6	4.7	
					Bottom	9.4	26.3 26.5	26.4	8.1 8.1	8.1	24.7 24.4	24.6	78.8 82.6	80.7	5.5 5.8	5.7	5.7	1.8 1.7	1.8		3.4 5.1	4.3	
13-Jun-14	Sunny	Moderate	12:11	10.1	Surface	1.0	27.3 27.3	27.3	8.1 8.1	8.1	21.7 21.7	21.7	79.9 80.7	80.3	5.6 5.7	5.6	5.4	2.1 2.2	2.2	2.2	5.6 6.1	5.9	6.4
					Middle	5.1	26.6 26.5	26.5	8.1 8.1	8.1	23.9 24.4	24.2	72.4 72.3	72.4	5.1 5.1	5.1		2.3 2.2	2.3		6.3 5.8	6.1	
					Bottom	9.1	26.3 26.2	26.2	8.1 8.1	8.1	25.4 26.0	25.7	72.8 74.5	73.7	5.1 5.2	5.1	5.1	2.2 2.2	2.2		6.8 7.5	7.2	
16-Jun-14	Sunny	Moderate	16:02	10.0	Surface	1.0	28.2 28.2	28.2	8.1 8.1	8.1	19.3 19.3	19.3	73.8 73.8	73.8	5.2 5.2	5.2	5.1	4.4 4.6	4.5	4.5	2.7 2.6	2.7	2.8
					Middle	5.0	27.4 27.3	27.4	8.1 8.1	8.1	23.2 23.0	23.1	71.7 72.7	72.2	5.0 5.0	5.0		4.5 4.5	4.5		2.6 2.3	2.5	
					Bottom	9.0	27.2 27.2	27.2	8.1 8.1	8.1	26.1 25.8	26.0	70.9 70.6	70.8	4.9 4.9	4.9	4.9	4.6 4.6	4.6		3.8 2.6	3.2	
18-Jun-14	Sunny	Moderate	17:53	10.1	Surface	1.0	29.0 29.0	29.0	8.2 8.2	8.2	17.7 17.8	17.8	86.1 86.5	86.3	6.0 6.0	6.0	5.9	2.6 2.5	2.6	3.1	2.4 2.2	2.3	2.4
					Middle	5.1	28.8 28.8	28.8	8.2 8.2	8.2	20.3 20.2	20.2	82.0 83.0	82.5	5.7 5.7	5.7		3.3 3.4	3.4		2.0 2.1	2.1	
					Bottom	9.1	28.6 28.6	28.6	8.1 8.1	8.1	22.0 21.8	21.9	80.2 82.3	81.3	5.5 5.7	5.6	5.6	3.3 3.5	3.4		2.9 2.5	2.7	
20-Jun-14	Fine	Moderate	19:47	9.7	Surface	1.0	29.3 29.4	29.4	8.2 8.1	8.2	18.0 18.1	18.0	87.8 89.3	88.6	6.1 6.2	6.1	6.0	2.0 2.0	2.0	2.4	2.7 2.8	2.8	2.7
					Middle	4.9	29.0 29.0	29.0	8.1 8.1	8.1	19.2 19.3	19.3	85.3 85.5	85.4	5.9 5.9	5.9		2.6 2.6	2.6		2.7 2.1	2.4	
					Bottom	8.7	29.0 29.0	29.0	8.1 8.1	8.1	19.4 19.3	19.4	86.2 87.3	86.8	6.0 6.0	6.0	6.0	2.7 2.7	2.7		2.8 2.8	2.8	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	09:34	10.1	Surface	1.0	28.9 28.8	28.9	8.1 8.1	8.1	16.1 16.3	16.2	87.5 87.3	87.4	6.2 6.2	6.2	5.8	2.7 2.6	2.7	2.7	3.1 3.1	3.1	3.7
					Middle	5.1	27.9 28.0	28.0	8.0 8.0	8.0	22.3 20.6	21.5	76.2 77.1	76.7	5.3 5.4	5.3		2.6 2.7	2.7		3.2 3.4	3.3	
					Bottom	9.1	27.3 27.5	27.4	8.0 8.0	8.0	24.6 24.5	24.5	74.1 74.4	74.3	5.1 5.1	5.1	5.1	2.8 2.8	2.8		4.6 5.0	4.8	
25-Jun-14	Cloudy	Moderate	11:00	10.0	Surface	1.0	28.6 28.7	28.6	8.1 8.0	8.1	15.5 15.5	15.5	71.8 73.5	72.7	5.1 5.2	5.2	5.1	3.0 3.1	3.1	3.2	3.1 2.5	2.8	2.9
					Middle	5.0	28.4 28.3	28.4	8.0 8.0	8.0	20.0 20.1	20.1	72.5 72.7	72.6	5.0 5.0	5.0		3.3 3.2	3.3		2.8 3.1	3.0	
					Bottom	9.0	28.2 28.4	28.3	8.0 8.0	8.0	21.9 21.6	21.7	70.9 70.9	70.9	4.9 4.9	4.9	4.9	3.3 3.3	3.3		3.0 2.8	2.9	
27-Jun-14	Sunny	Moderate	12:11	9.7	Surface	1.0	29.1 28.9	29.0	8.0 8.0	8.0	17.4 18.9	18.2	77.3 76.2	76.8	5.5 5.4	5.4	5.3	6.3 6.6	6.5	7.9	3.6 3.2	3.4	3.4
					Middle	4.9	28.5 28.4	28.4	8.0 8.0	8.0	21.1 22.1	21.6	73.0 74.0	73.5	5.1 5.2	5.1		8.3 8.4	8.4		3.7 2.6	3.2	
					Bottom	8.7	28.3 28.2	28.3	8.0 8.0	8.0	22.1 24.0	23.1	68.9 69.2	69.1	4.8 4.8	4.8	4.8	8.9 8.8	8.9		3.5 3.5	3.5	
30-Jun-14	Sunny	Moderate	15:34	10.7	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	20.1 20.1	20.1	78.9 80.1	79.5	5.4 5.5	5.5	5.3	3.1 3.3	3.2	4.7	3.6 4.2	3.9	4.0
					Middle	5.4	28.4 28.4	28.4	8.1 8.1	8.1	23.1 23.5	23.3	74.7 75.0	74.9	5.1 5.2	5.1		5.1 5.2	5.2		4.4 4.2	4.3	
					Bottom	9.7	28.4 28.3	28.4	8.1 8.1	8.1	23.5 23.7	23.6	73.0 72.2	72.6	5.0 4.9	4.9	4.9	5.3 5.9	5.6		3.8 3.7	3.8	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	07:55	10.2	Surface	1.0	28.0 28.0	28.0	8.2 8.2	8.2	16.4 16.2	16.3	83.5 83.3	83.4	6.0 6.0	6.0	5.7	1.7 1.5	1.6	1.3	5.5 4.7	5.1	5.5
					Middle	5.1	27.0 27.2	27.1	8.2 8.2	8.2	23.5 23.1	23.3	75.2 76.2	75.7	5.3 5.3	5.3		1.1 1.1	1.1		5.3 4.9	5.1	
					Bottom	9.2	26.4 26.5	26.4	8.1 8.1	8.1	25.7 27.4	26.6	74.7 75.3	75.0	5.2 5.2	5.2	5.2	1.1 1.2	1.2		6.3 6.3	6.3	
4-Jun-14	Sunny	Moderate	09:11	10.5	Surface	1.0	27.8 27.8	27.8	8.2 8.2	8.2	18.3 18.8	18.5	81.1 82.2	81.7	5.8 5.8	5.8	5.5	1.3 1.4	1.4	1.4	2.4 2.4	2.4	2.9
					Middle	5.3	27.4 27.4	27.4	8.2 8.2	8.2	20.7 20.9	20.8	72.6 73.1	72.9	5.1 5.2	5.1		1.4 1.4	1.4		3.2 3.1	3.2	
					Bottom	9.5	25.4 25.4	25.4	8.1 8.1	8.1	29.8 29.7	29.8	73.4 73.0	73.2	5.1 5.1	5.1	5.1	1.5 1.5	1.5		3.1 3.0	3.1	
6-Jun-14	Cloudy	Moderate	11:36	10.1	Surface	1.0	28.6 28.6	28.6	8.3 8.3	8.3	15.6 15.9	15.7	92.7 92.7	92.7	6.6 6.6	6.6	6.0	1.2 1.2	1.2	1.3	2.8 3.4	3.1	3.8
					Middle	5.1	26.9 27.1	27.0	8.2 8.2	8.2	24.0 21.5	22.8	77.1 77.5	77.3	5.4 5.5	5.4		1.2 1.2	1.2		4.0 3.7	3.9	
					Bottom	9.1	25.9 26.1	26.0	8.1 8.1	8.1	27.6 26.9	27.2	72.8 72.8	72.8	5.1 5.1	5.1	5.1	1.4 1.4	1.4		4.4 4.1	4.3	
9-Jun-14	Sunny	Moderate	17:45	10.5	Surface	1.0	26.8 26.8	26.8	8.3 8.3	8.3	24.9 24.9	24.9	89.0 86.5	87.8	6.2 6.0	6.1	5.7	2.2 2.2	2.2	2.3	4.0 6.2	5.1	3.2
					Middle	5.3	26.3 26.2	26.2	8.2 8.2	8.2	25.8 26.2	26.0	74.4 73.4	73.9	5.2 5.1	5.2		2.2 2.2	2.2		2.1 2.2	2.2	
					Bottom	9.5	24.3 24.3	24.3	8.2 8.1	8.2	31.5 31.5	31.5	69.5 71.6	70.6	4.9 5.0	4.9	4.9	2.4 2.5	2.5		2.3 2.4	2.4	
11-Jun-14	Fine	Moderate	19:05	10.1	Surface	1.0	26.8 26.9	26.9	8.2 8.2	8.2	23.0 22.6	22.8	85.4 84.1	84.8	6.0 5.9	6.0	5.7	1.5 1.6	1.6	1.9	3.1 3.5	3.3	3.1
					Middle	5.1	26.3 26.0	26.1	8.1 8.1	8.1	25.1 26.5	25.8	74.6 75.4	75.0	5.2 5.3	5.3		1.9 2.0	2.0		2.9 3.1	3.0	
					Bottom	9.1	26.1 25.9	26.0	8.1 8.1	8.1	26.1 26.8	26.4	75.9 78.5	77.2	5.3 5.5	5.4	5.4	2.2 2.0	2.1		3.0 3.2	3.1	
13-Jun-14	Sunny	Moderate	20:56	10.5	Surface	1.0	27.0 27.0	27.0	8.2 8.1	8.1	22.9 23.0	22.9	74.0 73.5	73.8	5.2 5.1	5.2	5.1	2.5 2.3	2.4	2.5	2.1 1.9	2.0	2.6
					Middle	5.3	26.4 26.3	26.4	8.1 8.1	8.1	25.5 25.7	25.6	71.9 72.0	72.0	5.0 5.1	5.0		2.4 2.4	2.4		2.3 2.7	2.5	
					Bottom	9.5	26.1 26.4	26.3	8.2 8.1	8.1	26.7 25.9	26.3	69.9 72.1	71.0	4.9 5.0	4.9	4.9	2.7 2.8	2.8		3.3 3.5	3.4	
16-Jun-14	Sunny	Moderate	07:35	10.1	Surface	1.0	27.5 27.6	27.6	8.1 8.1	8.1	20.3 20.2	20.2	72.0 72.0	72.0	5.2 5.2	5.2	5.2	2.1 2.1	2.1	2.2	3.9 4.0	4.0	3.9
					Middle	5.1	27.4 27.4	27.4	8.1 8.1	8.1	22.4 22.3	22.4	71.3 71.1	71.2	5.1 5.1	5.1		2.2 2.2	2.2		4.3 3.7	4.0	
					Bottom	9.1	27.3 27.3	27.3	8.0 8.0	8.0	25.6 25.2	25.4	71.5 72.0	71.8	5.0 5.1	5.0	5.0	2.2 2.3	2.3		3.3 3.8	3.6	
18-Jun-14	Sunny	Moderate	09:29	9.9	Surface	1.0	28.7 28.7	28.7	8.1 8.1	8.1	16.6 16.0	16.3	76.6 77.1	76.9	5.4 5.5	5.4	5.3	2.2 2.2	2.2	2.4	2.1 2.0	2.1	2.3
					Middle	5.0	28.4 28.4	28.4	8.1 8.1	8.1	19.2 19.3	19.3	75.0 73.8	74.4	5.2 5.2	5.2		2.4 2.5	2.5		2.0 2.1	2.1	
					Bottom	8.9	28.1 28.4	28.2	8.0 8.0	8.0	23.8 23.7	23.7	74.3 76.4	75.4	5.1 5.2	5.2	5.2	2.6 2.6	2.6		2.5 2.7	2.6	
20-Jun-14	Rainy	Moderate	11:54	10.1	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	16.7 16.7	16.7	81.9 82.3	82.1	5.7 5.8	5.7	5.5	2.1 2.2	2.2	2.2	2.8 3.8	3.3	2.7
					Middle	5.1	29.0 28.9	29.0	8.1 8.1	8.1	19.7 20.6	20.2	76.8 75.3	76.1	5.3 5.2	5.2		2.3 2.1	2.2		2.2 2.1	2.2	
					Bottom	9.1	28.7 28.8	28.8	8.1 8.1	8.1	21.7 22.0	21.8	75.4 76.0	75.7	5.2 5.2	5.2	5.2	2.2 2.2	2.2		2.6 2.4	2.5	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CS6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	17:31	10.1	Surface	1.0	28.9 28.9	28.9	8.1 8.1	8.1	17.0 16.9	16.9	94.3 93.4	93.9	6.6 6.6	6.6	6.3	2.5 2.5	2.5	2.7	1.3 1.8	1.6	2.5
					Middle	5.1	28.5 28.5	28.5	8.1 8.1	8.1	19.0 19.2	19.1	85.8 85.5	85.7	6.0 6.0	6.0		2.8 2.8	2.8		2.8 2.6	2.7	
					Bottom	9.1	27.6 27.4	27.5	8.0 8.0	8.0	23.3 23.6	23.5	79.0 78.9	79.0	5.5 5.5	5.5	5.5	2.9 2.9	2.9		3.3 3.2	3.3	
25-Jun-14	Cloudy	Moderate	19:47	10.2	Surface	1.0	28.7 28.7	28.7	8.0 8.1	8.1	15.1 15.1	15.1	78.1 76.7	77.4	5.6 5.5	5.5	5.3	3.8 3.9	3.9	4.5	3.3 3.5	3.4	3.1
					Middle	5.1	28.6 28.6	28.6	8.1 8.1	8.1	16.0 15.3	15.7	74.8 72.6	73.7	5.1 5.2	5.1		4.8 4.8	4.8		3.3 3.0	3.2	
					Bottom	9.2	28.5 28.3	28.4	8.0 7.9	8.0	23.5 25.7	24.6	74.3 69.7	72.0	5.1 4.9	5.0	5.0	4.8 4.7	4.8		2.8 2.5	2.7	
27-Jun-14	Sunny	Moderate	20:48	10.0	Surface	1.0	29.5 29.5	29.5	8.0 8.0	8.0	15.9 16.1	16.0	81.0 81.3	81.2	5.6 5.6	5.6	5.5	4.0 3.8	3.9	5.6	3.5 3.1	3.3	3.4
					Middle	5.0	28.6 28.6	28.6	8.0 8.0	8.0	21.0 20.8	20.9	75.5 78.1	76.8	5.3 5.4	5.3		6.2 6.7	6.5		3.9 2.6	3.3	
					Bottom	9.0	28.6 28.5	28.6	8.0 8.0	8.0	21.5 21.4	21.4	74.5 74.3	74.4	5.2 5.1	5.2	5.2	6.2 6.3	6.3		3.7 3.2	3.5	
30-Jun-14	Sunny	Moderate	07:26	10.6	Surface	1.0	29.0 29.0	29.0	8.1 8.1	8.1	18.7 18.7	18.7	86.0 84.8	85.4	6.0 5.9	5.9	5.7	1.8 1.8	1.8	1.6	3.8 3.8	3.8	3.8
					Middle	5.3	28.9 28.9	28.9	8.0 8.0	8.0	20.7 20.6	20.7	80.3 80.2	80.3	5.5 5.5	5.5		1.5 1.5	1.5		3.5 4.3	3.9	
					Bottom	9.6	28.8 28.8	28.8	8.0 8.0	8.0	21.1 21.4	21.3	81.7 80.6	81.2	5.6 5.5	5.6	5.6	1.5 1.5	1.5		3.6 4.0	3.8	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CSA - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	16:53	34.5	Surface	1.0	28.5 28.2	28.3	8.3 8.2	8.3	14.1 14.6	14.4	97.1 94.4	95.8	7.0 6.8	6.9	6.7	1.9 1.8	1.9	2.0	4.8 4.8	4.8	5.6
					Middle	17.3	27.4 27.6	27.5	8.2 8.2	8.2	20.4 20.0	20.2	91.8 89.6	90.7	6.5 6.3	6.4		2.0 2.2	2.1		5.4 5.0	5.2	
					Bottom	33.5	27.2 27.4	27.3	8.2 8.2	8.2	21.7 20.9	21.3	85.6 87.8	86.7	6.0 6.2	6.1	6.1	2.1 2.0	2.1		6.6 6.7	6.7	
4-Jun-14	Sunny	Moderate	18:07	34.8	Surface	1.0	28.6 28.5	28.6	8.3 8.3	8.3	17.6 17.8	17.7	102.3 101.4	101.9	7.2 7.1	7.2	6.3	1.6 1.6	1.6	1.7	1.4 1.4	1.4	2.7
					Middle	17.4	26.2 26.5	26.3	8.1 8.1	8.1	26.0 25.1	25.5	77.6 78.5	78.1	5.3 5.4	5.4		1.6 1.6	1.6		3.0 2.8	2.9	
					Bottom	33.8	25.2 25.6	25.4	8.1 8.1	8.1	30.6 30.4	30.5	71.3 70.1	70.7	5.0 4.9	4.9	4.9	1.8 1.7	1.8		4.1 3.4	3.8	
6-Jun-14	Cloudy	Moderate	19:35	36.5	Surface	1.0	28.4 28.5	28.4	8.3 8.3	8.3	16.1 16.0	16.0	99.7 99.4	99.6	7.1 7.1	7.1	6.4	1.1 1.1	1.1	1.2	4.0 3.9	4.0	4.0
					Middle	18.3	27.5 27.6	27.6	8.2 8.2	8.2	21.4 20.8	21.1	81.4 82.1	81.8	5.7 5.8	5.7		1.1 1.2	1.2		4.0 3.9	4.0	
					Bottom	35.5	24.5 25.0	24.8	8.1 8.1	8.1	31.9 30.5	31.2	71.9 71.4	71.7	5.0 5.0	5.0	5.0	1.2 1.2	1.2		3.7 4.3	4.0	
9-Jun-14	Sunny	Moderate	09:16	34.0	Surface	1.0	27.1 27.1	27.1	8.2 8.2	8.2	21.7 21.6	21.6	83.1 83.3	83.2	5.9 5.9	5.9	5.5	1.8 1.8	1.8	1.8	2.0 3.0	2.5	2.7
					Middle	17.0	25.1 25.0	25.0	8.1 8.0	8.1	29.3 29.4	29.3	72.7 72.4	72.6	5.1 5.1	5.1		1.8 1.8	1.8		2.8 3.0	2.9	
					Bottom	33.0	24.8 24.6	24.7	8.0 8.1	8.0	30.9 31.4	31.2	68.8 68.8	68.8	4.8 4.8	4.8	4.8	1.9 1.9	1.9		2.7 2.7	2.7	
11-Jun-14	Fine	Moderate	10:28	34.6	Surface	1.0	27.4 27.4	27.4	8.1 8.2	8.2	19.5 19.7	19.6	89.6 88.6	89.1	6.4 6.3	6.3	5.9	1.2 1.3	1.3	1.8	4.1 3.2	3.7	4.3
					Middle	17.3	26.1 26.1	26.1	8.1 8.1	8.1	27.0 26.1	26.6	76.0 77.8	76.9	5.3 5.4	5.4		1.7 1.7	1.7		5.4 4.4	4.9	
					Bottom	33.6	25.7 25.9	25.8	8.1 8.1	8.1	27.6 26.9	27.3	72.8 72.5	72.7	5.1 5.1	5.1	5.1	2.5 2.3	2.4		5.1 3.6	4.4	
13-Jun-14	Sunny	Moderate	12:01	34.5	Surface	1.0	27.3 27.3	27.3	8.1 8.1	8.1	21.8 21.8	21.8	81.4 81.0	81.2	5.7 5.7	5.7	5.5	1.6 1.7	1.7	1.8	5.6 6.0	5.8	6.4
					Middle	17.3	26.2 26.2	26.2	8.1 8.1	8.1	25.9 25.7	25.8	72.9 74.8	73.9	5.1 5.2	5.2		1.8 1.9	1.9		5.7 5.9	5.8	
					Bottom	33.5	26.1 26.1	26.1	8.1 8.1	8.1	26.1 26.1	26.1	72.6 70.5	71.6	5.1 4.9	5.0	5.0	1.8 1.8	1.8		7.7 7.7	7.7	
16-Jun-14	Sunny	Moderate	16:12	34.0	Surface	1.0	28.2 28.0	28.1	8.1 8.1	8.1	19.3 19.4	19.3	73.7 73.5	73.6	5.2 5.2	5.2	5.1	4.1 4.1	4.1	4.3	2.5 2.7	2.6	2.8
					Middle	17.0	27.2 27.2	27.2	8.1 8.1	8.1	25.8 25.5	25.7	71.3 71.6	71.5	5.0 5.0	5.0		4.4 4.2	4.3		2.9 2.2	2.6	
					Bottom	33.0	27.1 27.2	27.2	8.1 8.1	8.1	27.0 26.3	26.7	69.9 69.0	69.5	4.8 4.7	4.8	4.8	4.3 4.5	4.4		2.7 3.8	3.3	
18-Jun-14	Sunny	Moderate	18:01	34.4	Surface	1.0	29.0 29.0	29.0	8.1 8.2	8.2	17.6 18.2	17.9	86.8 86.3	86.6	6.1 6.0	6.0	5.7	2.3 2.4	2.4	3.0	2.7 2.8	2.8	2.8
					Middle	17.2	28.6 28.6	28.6	8.2 8.2	8.2	21.7 21.7	21.7	79.3 78.1	78.7	5.4 5.4	5.4		3.2 3.3	3.3		2.8 2.8	2.8	
					Bottom	33.4	28.4 28.3	28.4	8.1 8.1	8.1	23.7 23.9	23.8	81.0 78.7	79.9	5.5 5.4	5.4	5.4	3.3 3.3	3.3		2.7 2.8	2.8	
20-Jun-14	Fine	Moderate	20:00	34.6	Surface	1.0	29.4 29.4	29.4	8.2 8.2	8.2	17.8 17.8	17.8	85.8 89.9	87.9	5.9 6.2	6.1	5.7	1.9 1.8	1.9	2.1	2.8 3.0	2.9	2.7
					Middle	17.3	28.7 28.7	28.7	8.2 8.2	8.2	22.5 22.5	22.5	77.2 77.4	77.3	5.3 5.3	5.3		2.2 2.2	2.2		2.6 2.3	2.5	
					Bottom	33.6	28.5 28.4	28.5	8.1 8.1	8.1	24.2 26.4	25.3	78.4 78.3	78.4	5.3 5.3	5.3	5.3	2.3 2.3	2.3		2.9 2.7	2.8	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CSA - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	09:17	36.6	Surface	1.0	28.9 28.8	28.9	8.1 8.1	8.1	16.1 16.3	16.2	90.3 89.9	90.1	6.4 6.3	6.4	6.0	2.6 2.7	2.7	2.8	2.3 2.3	2.3	2.9
					Middle	18.3	28.2 28.2	28.2	8.1 8.0	8.1	22.3 22.3	22.3	79.7 79.8	79.8	5.5 5.5	5.5		2.8 2.7	2.8		2.9 2.8	2.9	
					Bottom	35.6	27.4 27.4	27.4	8.0 8.0	8.0	25.7 25.6	25.6	72.7 72.4	72.6	5.0 5.0	5.0	5.0	2.8 2.8	2.8		3.7 3.1	3.4	
25-Jun-14	Cloudy	Moderate	10:53	34.9	Surface	1.0	28.7 28.7	28.7	8.0 8.1	8.0	15.5 15.2	15.4	74.3 73.8	74.1	5.3 5.2	5.2	5.1	3.1 3.0	3.1	3.3	2.7 2.6	2.7	3.3
					Middle	17.5	28.2 28.2	28.2	8.0 7.9	7.9	21.9 22.3	22.1	72.6 73.7	73.2	5.0 5.1	5.0		3.4 3.4	3.4		2.4 2.8	2.6	
					Bottom	33.9	28.2 28.0	28.1	8.0 7.9	7.9	22.3 23.3	22.8	69.4 70.4	69.9	4.8 4.9	4.8	4.8	3.5 3.5	3.5		4.6 4.3	4.5	
27-Jun-14	Sunny	Moderate	11:57	33.8	Surface	1.0	29.9 29.3	29.6	8.0 8.0	8.0	16.8 17.9	17.3	80.6 79.1	79.9	5.6 5.5	5.5	5.4	2.9 3.0	3.0	4.5	4.6 3.8	4.2	4.0
					Middle	16.9	27.8 27.9	27.8	8.0 8.0	8.0	26.1 25.7	25.9	73.4 74.9	74.2	5.2 5.3	5.3		5.3 5.1	5.2		4.2 5.0	4.6	
					Bottom	32.8	27.8 27.7	27.8	8.0 8.0	8.0	25.9 26.6	26.3	70.4 70.4	70.4	4.8 4.8	4.8	4.8	5.1 5.5	5.3		2.5 3.9	3.2	
30-Jun-14	Sunny	Moderate	15:58	35.5	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	20.0 20.1	20.1	78.4 77.3	77.9	5.4 5.3	5.4	5.3	3.4 3.3	3.4	4.6	3.6 3.7	3.7	3.6
					Middle	17.8	28.3 28.3	28.3	8.1 8.1	8.1	23.9 23.9	23.9	75.2 75.9	75.6	5.2 5.3	5.2		5.5 5.6	5.6		3.6 3.7	3.7	
					Bottom	34.5	28.2 28.1	28.1	8.1 8.1	8.1	24.3 24.7	24.5	73.3 73.4	73.4	5.0 5.0	5.0	5.0	5.0 4.8	4.9		3.4 3.6	3.5	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CSA - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	07:40	35.1	Surface	1.0	28.0 28.0	28.0	8.2 8.2	8.2	15.9 16.0	15.9	85.9 87.2	86.6	6.2 6.3	6.2	5.8	1.9 1.8	1.9	1.5	4.8 5.4	5.1	4.9
					Middle	17.6	25.7 25.7	25.7	8.1 8.2	8.2	29.3 29.4	29.3	75.0 75.5	75.3	5.2 5.3	5.3		1.3 1.3	1.3		5.2 4.1	4.7	
					Bottom	34.1	25.7 25.7	25.7	8.1 8.1	8.1	29.3 29.5	29.4	73.8 73.8	73.8	5.1 5.1	5.1	5.1	1.3 1.2	1.3		4.7 5.2	5.0	
4-Jun-14	Sunny	Moderate	09:02	35.6	Surface	1.0	27.8 27.7	27.7	8.2 8.2	8.2	18.8 19.2	19.0	82.1 82.8	82.5	5.8 5.9	5.8	5.5	1.2 1.2	1.2	1.2	2.1 2.3	2.2	2.5
					Middle	17.8	25.2 25.3	25.3	8.1 8.1	8.1	30.5 30.0	30.3	71.7 72.7	72.2	5.1 5.2	5.1		1.2 1.2	1.2		2.5 2.5	2.5	
					Bottom	34.6	25.1 25.1	25.1	8.1 8.1	8.1	31.0 30.8	30.9	70.7 68.8	69.8	4.9 4.8	4.8	4.8	1.2 1.2	1.2		2.9 2.7	2.8	
6-Jun-14	Cloudy	Moderate	11:18	36.6	Surface	1.0	28.6 28.6	28.6	8.2 8.3	8.3	15.0 15.6	15.3	98.1 98.7	98.4	7.0 7.0	7.0	6.4	1.1 1.1	1.1	1.2	3.6 3.7	3.7	3.9
					Middle	18.3	28.0 28.0	28.0	8.2 8.2	8.2	19.7 19.3	19.5	82.9 82.7	82.8	5.8 5.8	5.8		1.2 1.2	1.2		3.9 4.3	4.1	
					Bottom	35.6	26.4 26.3	26.4	8.1 8.1	8.1	25.7 26.3	26.0	71.0 72.3	71.7	5.0 5.0	5.0	5.0	1.3 1.2	1.3		4.0 3.6	3.8	
9-Jun-14	Sunny	Moderate	17:58	35.2	Surface	1.0	26.8 26.8	26.8	8.3 8.3	8.3	24.6 24.8	24.7	86.8 85.5	86.2	6.1 6.0	6.0	5.6	2.4 2.5	2.5	2.4	5.9 5.9	5.9	5.2
					Middle	17.6	24.2 24.2	24.2	8.1 8.1	8.1	31.8 31.8	31.8	75.1 73.5	74.3	5.2 5.1	5.2		2.4 2.4	2.4		4.7 6.9	5.8	
					Bottom	34.2	24.2 24.2	24.2	8.1 8.1	8.1	31.9 31.9	31.9	72.4 68.7	70.6	5.1 4.8	4.9	4.9	2.4 2.3	2.4		4.8 3.1	4.0	
11-Jun-14	Fine	Moderate	19:23	35.0	Surface	1.0	27.0 26.9	27.0	8.3 8.2	8.2	22.2 22.4	22.3	93.8 91.4	92.6	6.6 6.4	6.5	5.9	1.3 1.4	1.4	1.6	4.4 3.2	3.8	4.4
					Middle	17.5	26.3 26.4	26.3	8.2 8.2	8.2	25.2 25.0	25.1	75.7 76.9	76.3	5.3 5.4	5.3		1.6 1.6	1.6		5.2 5.1	5.2	
					Bottom	34.0	26.1 26.2	26.1	8.1 8.1	8.1	25.9 25.7	25.8	75.3 74.7	75.0	5.3 5.2	5.3	5.3	1.7 1.8	1.8		4.7 3.7	4.2	
13-Jun-14	Sunny	Moderate	21:07	35.3	Surface	1.0	27.0 27.0	27.0	8.1 8.1	8.1	22.7 23.2	23.0	74.2 73.6	73.9	5.2 5.2	5.2	5.1	2.7 2.5	2.6	3.4	3.3 3.5	3.4	3.9
					Middle	17.7	26.1 26.1	26.1	8.1 8.1	8.1	26.6 26.7	26.7	71.9 71.9	71.9	5.0 5.0	5.0		3.6 3.7	3.7		3.3 3.0	3.2	
					Bottom	34.3	26.2 26.2	26.2	8.1 8.1	8.1	26.7 26.6	26.6	68.1 68.4	68.3	4.8 4.8	4.8	4.8	4.0 3.8	3.9		5.0 5.3	5.2	
16-Jun-14	Sunny	Moderate	07:26	34.8	Surface	1.0	27.6 27.6	27.6	8.0 8.0	8.0	20.3 20.3	20.3	73.9 73.2	73.6	5.3 5.3	5.3	5.2	2.3 2.2	2.3	2.3	4.3 3.5	3.9	3.7
					Middle	17.4	27.0 27.2	27.1	8.1 8.1	8.1	26.3 24.7	25.5	71.9 72.4	72.2	5.0 5.1	5.1		2.3 2.3	2.3		3.2 4.2	3.7	
					Bottom	33.8	27.1 27.2	27.2	8.0 8.1	8.0	25.9 25.3	25.6	70.4 74.2	72.3	4.9 5.2	5.1	5.1	2.3 2.3	2.3		2.9 3.8	3.4	
18-Jun-14	Sunny	Moderate	09:22	34.9	Surface	1.0	28.7 28.8	28.7	8.1 8.1	8.1	17.2 16.3	16.8	77.2 78.1	77.7	5.4 5.5	5.5	5.3	1.9 1.9	1.9	1.9	1.3 1.6	1.5	2.4
					Middle	17.5	28.0 28.0	28.0	8.1 8.2	8.1	23.8 24.4	24.1	74.7 75.5	75.1	5.1 5.2	5.1		1.9 1.8	1.9		2.8 2.8	2.8	
					Bottom	33.9	28.0 28.0	28.0	8.1 8.1	8.1	24.9 25.1	25.0	73.1 72.0	72.6	5.0 4.9	5.0	5.0	1.9 1.9	1.9		2.8 3.1	3.0	
20-Jun-14	Rainy	Moderate	11:43	35.3	Surface	1.0	29.1 29.1	29.1	8.2 8.1	8.2	17.1 17.2	17.1	81.1 82.5	81.8	5.7 5.8	5.7	5.5	2.3 2.2	2.3	2.4	2.4 2.5	2.5	2.9
					Middle	17.7	28.4 28.4	28.4	8.1 8.1	8.1	25.3 25.0	25.1	77.0 76.5	76.8	5.2 5.2	5.2		2.3 2.4	2.4		3.9 3.8	3.9	
					Bottom	34.3	28.4 28.4	28.4	8.1 8.1	8.1	25.6 25.0	25.3	74.5 72.5	73.5	5.0 4.9	5.0	5.0	2.4 2.4	2.4		2.1 2.5	2.3	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at CSA - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	17:48	36.5	Surface	1.0	28.9 28.9	28.9	8.1 8.2	8.2	16.9 16.9	16.9	94.8 92.6	93.7	6.7 6.5	6.6	6.1	2.4 2.5	2.5		2.7 3.0	2.9	
					Middle	18.3	28.1 28.2	28.1	8.1 8.1	8.1	21.9 21.7	21.8	79.4 79.6	79.5	5.5 5.5	5.5		2.6 2.7	2.7	2.6	3.1 3.3	3.2	3.4
					Bottom	35.5	26.5 26.7	26.6	8.0 8.0	8.0	29.1 27.3	28.2	75.1 74.9	75.0	5.1 5.1	5.1	5.1	2.7 2.7	2.7		4.2 4.1	4.2	
25-Jun-14	Cloudy	Moderate	19:59	34.9	Surface	1.0	28.7 28.7	28.7	8.1 8.1	8.1	15.2 15.1	15.1	73.4 73.4	73.4	5.2 5.2	5.2	5.2	3.8 3.9	3.9		3.2 3.0	3.1	
					Middle	17.5	28.3 28.4	28.3	8.0 8.0	8.0	21.4 21.3	21.3	72.8 72.2	72.5	5.2 5.1	5.2		6.6 6.4	6.5	5.6	2.8 3.2	3.0	2.9
					Bottom	33.9	28.4 28.2	28.3	8.0 8.0	8.0	25.1 26.9	26.0	71.0 70.7	70.9	4.8 4.8	4.8	4.8	6.5 6.5	6.5		2.9 2.4	2.7	
27-Jun-14	Sunny	Moderate	21:02	33.6	Surface	1.0	29.4 29.4	29.4	8.0 8.0	8.0	16.4 16.3	16.4	83.3 84.4	83.9	5.8 5.9	5.9	5.6	4.1 4.2	4.2		3.9 2.4	3.2	
					Middle	16.8	28.2 28.3	28.3	8.0 8.0	8.0	23.1 22.7	22.9	74.3 74.8	74.6	5.2 5.3	5.2		6.6 6.2	6.4	5.8	3.7 4.0	3.9	3.4
					Bottom	32.6	28.2 28.3	28.2	8.0 8.0	8.0	23.8 23.2	23.5	69.4 70.3	69.9	4.9 4.9	4.9	4.9	6.7 6.9	6.8		2.4 3.9	3.2	
30-Jun-14	Sunny	Moderate	07:13	35.4	Surface	1.0	28.9 29.0	29.0	8.0 8.1	8.1	18.7 18.7	18.7	88.0 85.8	86.9	6.1 6.0	6.0	5.6	3.0 3.1	3.1		3.9 4.8	4.4	
					Middle	17.7	28.3 28.3	28.3	8.1 8.0	8.1	23.5 23.4	23.5	75.8 76.8	76.3	5.2 5.2	5.2		2.6 2.3	2.5	2.5	3.6 3.2	3.4	4.0
					Bottom	34.4	28.2 28.3	28.3	8.1 8.0	8.0	24.0 23.5	23.8	73.4 74.0	73.7	5.0 5.1	5.0	5.0	2.0 1.8	1.9		4.6 3.5	4.1	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	14:47	3.1	Surface	1.0	28.9 28.9	28.9	8.5 8.5	8.5	18.7 18.6	18.6	139.3 136.6	138.0	9.7 9.5	9.6	9.6	2.8 2.8	2.8	2.9	5.8 6.1	6.0	6.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	28.6 28.8	28.7	8.4 8.5	8.4	19.4 19.0	19.2	131.3 138.0	134.7	9.1 9.6	9.4	9.4	2.9 2.8	2.9		6.2 5.7	6.0	
4-Jun-14	Sunny	Moderate	15:37	3.4	Surface	1.0	28.6 29.1	28.9	8.3 8.4	8.3	18.3 17.7	18.0	108.1 114.7	111.4	7.5 8.0	7.8	7.8	3.4 3.4	3.4	3.5	2.9 3.3	3.1	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	28.9 28.6	28.7	8.3 8.3	8.3	19.2 19.4	19.3	104.2 106.7	105.5	7.3 7.5	7.4	7.4	3.5 3.6	3.6		2.7 3.1	2.9	
6-Jun-14	Cloudy	Moderate	17:55	3.1	Surface	1.0	29.2 29.2	29.2	8.7 8.7	8.7	17.0 17.2	17.1	133.9 133.2	133.6	9.4 9.3	9.3	9.3	4.7 4.6	4.7	4.6	2.8 3.0	2.9	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	29.1 29.2	29.1	8.6 8.6	8.6	17.9 18.3	18.1	133.9 135.5	134.7	9.3 9.4	9.4	9.4	4.5 4.5	4.5		3.2 2.9	3.1	
9-Jun-14	Sunny	Moderate	10:59	3.2	Surface	1.0	28.4 28.7	28.5	8.4 8.6	8.5	18.1 17.5	17.8	106.0 117.5	111.8	7.5 8.3	7.9	7.9	4.8 5.0	4.9	5.4	4.1 3.7	3.9	4.2
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	2.2	27.8 28.0	27.9	8.3 8.3	8.3	22.0 18.7	20.4	101.9 97.4	99.7	7.1 6.9	7.0	7.0	6.0 5.7	5.9		4.2 4.7	4.5	
11-Jun-14	Fine	Moderate	12:36	3.2	Surface	1.0	28.0 27.9	27.9	8.7 8.6	8.6	21.7 22.0	21.8	124.2 121.6	122.9	8.6 8.4	8.5	8.5	5.6 5.4	5.5	5.7	5.6 6.0	5.8	5.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	27.8 27.7	27.7	8.6 8.4	8.5	22.2 22.4	22.3	125.6 111.6	118.6	8.7 7.8	8.2	8.2	5.3 6.3	5.8		6.3 5.5	5.9	
13-Jun-14	Sunny	Moderate	13:52	3.2	Surface	1.0	27.6 27.8	27.7	7.9 7.9	7.9	23.1 22.7	22.9	100.3 103.7	102.0	7.0 7.2	7.1	7.1	5.2 5.6	5.4	6.5	6.0 6.0	6.0	6.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	27.6 27.7	27.6	7.7 7.8	7.8	22.7 22.9	22.8	97.0 101.3	99.2	6.8 7.0	6.9	6.9	7.3 7.8	7.6		6.8 7.1	7.0	
16-Jun-14	Sunny	Moderate	14:02	3.1	Surface	1.0	28.4 28.2	28.3	8.1 8.1	8.1	20.3 20.5	20.4	85.8 85.6	85.7	6.0 6.0	6.0	6.0	2.8 2.8	2.8	2.9	3.1 2.1	2.6	2.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	28.2 28.1	28.1	8.1 8.1	8.1	20.6 20.6	20.6	85.9 87.0	86.5	6.0 6.1	6.0	6.0	2.9 2.9	2.9		3.4 2.1	2.8	
18-Jun-14	Sunny	Moderate	16:05	3.5	Surface	1.0	29.5 29.8	29.6	8.2 8.2	8.2	17.3 17.2	17.2	105.8 106.0	105.9	7.3 7.3	7.3	7.3	3.7 3.8	3.8	3.9	2.4 2.3	2.4	3.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	28.9 29.5	29.2	8.2 8.2	8.2	19.2 19.0	19.1	101.5 102.0	101.8	7.0 7.1	7.1	7.1	4.0 4.0	4.0		3.9 3.7	3.8	
20-Jun-14	Fine	Moderate	17:59	3.2	Surface	1.0	29.6 29.6	29.6	8.4 8.4	8.4	18.2 18.4	18.3	101.7 109.8	105.8	7.0 7.6	7.3	7.3	8.9 8.6	8.8	8.7	3.4 3.5	3.5	3.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	29.5 29.5	29.5	8.3 8.2	8.3	19.2 19.1	19.1	101.5 95.8	98.7	7.0 6.6	6.8	6.8	8.5 8.6	8.6		2.0 3.1	2.6	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	11:43	3.0	Surface	1.0	28.7 28.8	28.8	8.3 8.3	8.3	16.5 16.7	16.6	79.7 81.4	80.6	5.6 5.7	5.7	5.7	14.1 14.5	14.3	14.5	6.4 6.7	6.6	7.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.0	28.8 28.7	28.7	8.3 8.2	8.3	17.3 18.6	18.0	80.3 79.1	79.7	5.6 5.5	5.6	5.6	14.6 14.5	14.6		7.9 8.7	8.3	
25-Jun-14	Cloudy	Moderate	13:12	3.2	Surface	1.0	28.7 28.6	28.7	8.1 8.2	8.2	17.3 17.0	17.2	79.6 73.1	76.4	5.6 5.2	5.4	5.4	7.2 7.1	7.2	7.3	4.5 4.6	4.6	5.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.7 28.5	28.6	8.1 8.1	8.1	19.0 20.0	19.5	73.5 74.3	73.9	5.1 5.2	5.2	5.2	7.4 7.4	7.4		5.7 5.7	5.7	
27-Jun-14	Sunny	Moderate	13:47	3.5	Surface	1.0	30.3 30.8	30.5	8.1 8.1	8.1	16.7 16.0	16.4	86.1 87.5	86.8	5.9 6.0	5.9	5.9	9.8 9.6	9.7	10.3	3.6 3.7	3.7	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	30.1 30.1	30.1	8.1 8.1	8.1	17.1 17.8	17.5	84.4 84.5	84.5	5.8 5.8	5.8	5.8	10.7 10.9	10.8		2.1 2.5	2.3	
30-Jun-14	Sunny	Moderate	13:39	3.2	Surface	1.0	30.0 30.0	30.0	8.2 8.1	8.2	18.4 18.6	18.5	106.3 98.5	102.4	7.3 6.7	7.0	7.0	4.5 4.6	4.6	4.9	3.0 3.5	3.3	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	29.7 29.6	29.6	8.0 8.0	8.0	20.0 20.6	20.3	98.0 89.9	94.0	6.7 6.1	6.4	6.4	5.1 5.2	5.2		4.8 4.1	4.5	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:42	3.2	Surface	1.0	28.5 28.4	28.4	8.4 8.4	8.4	17.8 17.7	17.7	125.3 125.7	125.5	8.8 8.9	8.8	8.8	1.6 1.5	1.6	1.6	2.8 3.3	3.1	3.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.6 28.7	28.7	8.4 8.5	8.4	18.7 18.7	18.7	128.2 130.4	129.3	9.0 9.1	9.0	9.0	1.5 1.5	1.5		3.4 5.1	4.3	
4-Jun-14	Sunny	Moderate	10:36	3.4	Surface	1.0	29.5 29.6	29.6	8.4 8.4	8.4	16.2 16.2	16.2	112.9 112.2	112.6	7.9 7.8	7.9	7.9	1.6 1.6	1.6	1.7	2.4 2.4	2.4	2.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	29.5 29.3	29.4	8.4 8.4	8.4	16.2 16.3	16.2	112.1 111.2	111.7	7.8 7.8	7.8	7.8	1.7 1.8	1.8		2.5 2.5	2.5	
6-Jun-14	Cloudy	Moderate	12:59	3.1	Surface	1.0	29.3 29.3	29.3	8.6 8.6	8.6	16.1 16.1	16.1	129.4 132.5	131.0	9.1 9.3	9.2	9.2	2.8 2.9	2.9	3.1	1.6 1.6	1.6	1.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	29.3 29.3	29.3	8.6 8.6	8.6	17.1 17.4	17.2	130.4 126.7	128.6	9.1 8.8	8.9	8.9	3.2 3.2	3.2		1.7 1.5	1.6	
9-Jun-14	Sunny	Moderate	15:31	3.1	Surface	1.0	29.2 29.3	29.3	8.7 8.7	8.7	19.5 19.4	19.5	94.9 95.3	95.1	7.1 7.1	7.1	7.1	11.2 11.4	11.3	11.8	4.1 4.2	4.2	4.7
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	2.1	29.3 29.2	29.2	8.7 8.6	8.6	20.3 20.1	20.2	94.7 95.8	95.3	7.1 7.2	7.1	7.1	12.5 12.1	12.3		5.5 4.6	5.1	
11-Jun-14	Fine	Moderate	17:35	3.1	Surface	1.0	28.0 27.9	27.9	8.7 8.7	8.7	22.5 22.5	22.5	146.9 142.2	144.6	10.2 9.8	10.0	10.0	9.4 9.5	9.5	9.7	4.9 5.3	5.1	5.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	27.9 27.9	27.9	8.7 8.7	8.7	22.5 22.5	22.5	144.7 145.2	145.0	10.0 10.1	10.0	10.0	10.1 9.5	9.8		5.2 4.7	5.0	
13-Jun-14	Sunny	Moderate	18:57	3.1	Surface	1.0	27.8 27.9	27.9	8.4 8.3	8.3	21.9 22.0	21.9	96.6 108.5	102.6	6.7 7.5	7.1	7.1	6.1 5.9	6.0	6.9	10.8 11.5	11.2	11.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	27.6 27.5	27.6	8.1 8.1	8.1	22.9 23.0	23.0	92.7 93.0	92.9	6.4 6.4	6.4	6.4	8.0 7.3	7.7		10.8 10.9	10.9	
16-Jun-14	Sunny	Moderate	08:58	3.2	Surface	1.0	27.9 27.9	27.9	8.1 8.1	8.1	20.1 19.7	19.9	80.1 82.7	81.4	5.6 5.8	5.7	5.7	3.4 3.5	3.5	3.5	5.3 5.7	5.5	5.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	27.9 27.9	27.9	8.1 8.1	8.1	20.5 20.4	20.4	79.9 80.5	80.2	5.6 5.6	5.6	5.6	3.2 3.5	3.4		5.4 5.8	5.6	
18-Jun-14	Sunny	Moderate	11:25	3.4	Surface	1.0	29.2 29.2	29.2	8.1 8.1	8.1	16.3 16.3	16.3	89.7 90.2	90.0	6.3 6.3	6.3	6.3	3.5 3.5	3.5	3.6	3.2 3.2	3.2	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	29.2 29.1	29.1	8.1 8.1	8.1	16.4 16.6	16.5	89.5 90.1	89.8	6.3 6.3	6.3	6.3	3.7 3.5	3.6		3.8 3.7	3.8	
20-Jun-14	Rainy	Moderate	13:30	3.2	Surface	1.0	29.7 29.7	29.7	8.6 8.6	8.6	17.9 18.0	18.0	133.2 135.6	134.4	9.2 9.3	9.2	9.2	4.6 4.6	4.6	4.6	3.8 4.2	4.0	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	29.7 29.5	29.6	8.6 8.4	8.5	18.3 18.9	18.6	124.5 120.9	122.7	8.6 8.3	8.4	8.4	4.5 4.6	4.6		2.5 3.8	3.2	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	15:41	3.0	Surface	1.0	29.0 29.1	29.0	8.4 8.4	8.4	16.7 16.4	16.6	91.1 92.1	91.6	6.4 6.4	6.4	6.4	18.5 18.4	18.5	18.6	3.3 3.9	3.6	4.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.0	29.0 29.0	29.0	8.3 8.3	8.3	17.3 18.5	17.9	92.4 93.0	92.7	6.5 6.5	6.5	6.5	18.8 18.6	18.7		5.2 5.8	5.5	
25-Jun-14	Cloudy	Moderate	17:30	3.1	Surface	1.0	28.9 28.9	28.9	8.1 8.2	8.2	17.1 17.3	17.2	83.9 80.5	82.2	5.8 5.6	5.7	5.7	8.4 8.6	8.5	8.6	5.2 5.9	5.6	5.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	28.8 28.7	28.8	8.1 8.2	8.1	19.0 19.2	19.1	77.0 75.1	76.1	5.4 5.3	5.4	5.4	8.6 8.7	8.7		5.4 5.2	5.3	
27-Jun-14	Sunny	Moderate	18:55	3.4	Surface	1.0	30.3 30.6	30.5	8.1 8.1	8.1	16.9 16.6	16.7	87.7 88.3	88.0	6.0 6.0	6.0	6.0	18.6 18.9	18.8	19.4	4.3 5.6	5.0	4.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	29.7 29.7	29.7	8.1 8.1	8.1	18.1 17.8	18.0	75.2 74.9	75.1	5.2 5.2	5.2	5.2	19.8 20.0	19.9		3.5 3.9	3.7	
30-Jun-14	Sunny	Moderate	08:34	3.1	Surface	1.0	29.5 29.5	29.5	8.1 8.1	8.1	17.9 18.1	18.0	92.5 90.7	91.6	6.4 6.3	6.3	6.3	4.0 3.9	4.0	4.0	6.9 6.2	6.6	6.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	29.5 29.5	29.5	8.1 8.1	8.1	18.3 18.5	18.4	91.5 91.9	91.7	6.3 6.3	6.3	6.3	4.0 3.9	4.0		6.7 5.5	6.1	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)9 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	15:00	3.8	Surface	1.0	28.9 29.0	29.0	8.4 8.4	8.4	17.8 17.8	17.8	140.8 145.5	143.2	9.8 10.1	10.0	10.0	3.4 3.5	3.5	3.6	5.9 6.0	6.0	5.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	29.0 29.0	29.0	8.4 8.4	8.4	18.0 18.5	18.2	142.7 134.9	138.8	9.9 9.4	9.7	9.7	3.5 3.6	3.6		5.3 5.0	5.2	
4-Jun-14	Sunny	Moderate	16:03	3.5	Surface	1.0	29.7 29.6	29.7	8.4 8.5	8.5	16.6 16.8	16.7	112.2 120.5	116.4	7.8 8.4	8.1	8.1	2.8 2.8	2.8	2.9	3.3 3.0	3.2	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	29.5 28.0	28.7	8.5 8.3	8.4	17.7 20.0	18.8	116.3 107.4	111.9	8.1 7.5	7.8	7.8	2.9 2.9	2.9		4.9 4.4	4.7	
6-Jun-14	Cloudy	Moderate	18:09	3.7	Surface	1.0	29.0 29.0	29.0	8.5 8.6	8.5	17.8 17.6	17.7	115.5 119.8	117.7	8.1 8.4	8.2	8.2	6.3 6.1	6.2	6.4	3.3 2.9	3.1	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.9 28.9	28.9	8.4 8.5	8.4	19.6 19.6	19.6	116.9 118.4	117.7	8.1 8.2	8.1	8.1	6.5 6.5	6.5		3.2 3.5	3.4	
9-Jun-14	Sunny	Moderate	10:44	3.5	Surface	1.0	28.2 28.1	28.2	8.3 8.3	8.3	20.4 19.8	20.1	80.5 82.2	81.4	5.6 5.8	5.7	5.7	3.5 3.2	3.4	3.0	4.9 5.8	5.4	5.6
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	2.5	26.4 26.3	26.3	8.0 8.2	8.1	25.7 26.0	25.9	76.6 77.5	77.1	5.3 5.4	5.4	5.4	2.4 2.7	2.6		5.7 5.8	5.8	
11-Jun-14	Fine	Moderate	12:21	3.4	Surface	1.0	27.7 27.8	27.7	8.5 8.5	8.5	22.2 22.1	22.1	102.0 112.4	107.2	7.1 7.8	7.5	7.5	5.3 4.4	4.9	5.2	5.0 5.6	5.3	5.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	27.7 27.7	27.7	8.5 8.4	8.4	22.2 22.3	22.3	106.1 102.2	104.2	7.4 7.1	7.2	7.2	5.2 5.5	5.4		5.6 6.1	5.9	
13-Jun-14	Sunny	Moderate	13:38	3.5	Surface	1.0	28.0 27.8	27.9	8.1 8.1	8.1	21.4 21.6	21.5	132.1 124.2	128.2	9.2 8.7	8.9	8.9	4.7 5.0	4.9	6.0	3.1 3.6	3.4	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	27.6 27.6	27.6	8.0 8.0	8.0	22.6 22.4	22.5	117.7 122.2	120.0	8.2 8.5	8.3	8.3	7.0 7.2	7.1		4.5 5.6	5.1	
16-Jun-14	Sunny	Moderate	14:23	3.3	Surface	1.0	28.8 28.7	28.8	8.2 8.2	8.2	19.7 19.9	19.8	88.5 88.9	88.7	6.1 6.2	6.1	6.1	4.4 4.4	4.4	5.3	4.5 4.1	4.3	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.5 28.6	28.5	8.1 8.2	8.1	22.0 21.8	21.9	88.7 87.9	88.3	6.1 6.0	6.1	6.1	6.1 6.0	6.1		3.8 2.9	3.4	
18-Jun-14	Sunny	Moderate	15:52	3.4	Surface	1.0	29.9 29.9	29.9	8.2 8.2	8.2	16.7 16.4	16.6	106.4 104.6	105.5	7.4 7.2	7.3	7.3	4.4 4.4	4.4	4.5	3.0 2.9	3.0	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	29.9 29.5	29.7	8.2 8.2	8.2	17.1 17.8	17.4	105.6 99.2	102.4	7.3 6.9	7.1	7.1	4.6 4.4	4.5		2.8 3.1	3.0	
20-Jun-14	Fine	Moderate	18:14	3.8	Surface	1.0	29.6 29.6	29.6	8.5 8.5	8.5	18.6 18.6	18.6	111.5 108.2	109.9	7.7 7.4	7.6	7.6	16.8 16.9	16.9	17.0	4.7 4.2	4.5	4.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	29.4 29.5	29.5	8.3 8.4	8.4	19.1 19.0	19.1	108.0 112.0	110.0	7.4 7.7	7.6	7.6	16.8 17.2	17.0		4.2 5.2	4.7	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)9 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	11:26	3.6	Surface	1.0	28.7 28.7	28.7	8.3 8.3	8.3	16.7 16.2	16.5	83.5 83.1	83.3	5.9 5.9	5.9	5.9	13.1 13.2	13.2	13.3	3.5 4.3	3.9	4.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	28.7 28.7	28.7	8.3 8.1	8.2	18.0 21.1	19.5	83.6 83.2	83.4	5.9 5.8	5.8	5.8	13.4 13.2	13.3		4.9 5.0	5.0	
25-Jun-14	Cloudy	Moderate	12:58	3.3	Surface	1.0	28.7 28.7	28.7	8.1 8.1	8.1	17.1 16.8	16.9	89.0 85.4	87.2	6.3 6.0	6.1	6.1	6.0 5.8	5.9	6.0	4.6 4.6	4.6	4.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.7 28.7	28.7	8.1 8.1	8.1	17.5 17.8	17.6	80.1 80.3	80.2	5.6 5.7	5.6	5.6	6.0 6.0	6.0		5.1 4.9	5.0	
27-Jun-14	Sunny	Moderate	13:34	3.5	Surface	1.0	30.0 30.0	30.0	8.1 8.1	8.1	16.4 16.2	16.3	85.5 85.7	85.6	5.9 5.9	5.9	5.9	9.4 9.3	9.4	9.8	6.1 6.3	6.2	6.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	29.8 29.7	29.8	8.1 8.1	8.1	16.8 17.1	16.9	84.8 83.6	84.2	5.9 5.8	5.8	5.8	10.2 10.0	10.1		6.0 5.8	5.9	
30-Jun-14	Sunny	Moderate	13:59	4.4	Surface	1.0	29.8 29.8	29.8	8.2 8.1	8.1	18.8 18.8	18.8	86.8 94.3	90.6	5.9 6.5	6.2	6.2	9.6 9.2	9.4	9.4	5.7 5.3	5.5	5.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.4	29.5 29.5	29.5	7.9 8.0	7.9	19.7 19.7	19.7	82.6 85.8	84.2	5.7 5.9	5.8	5.8	9.4 9.4	9.4		4.7 5.2	5.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)9 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:30	3.5	Surface	1.0	28.4 28.4	28.4	8.3 8.3	8.3	17.1 17.0	17.0	120.1 117.2	118.7	8.5 8.3	8.4	8.4	2.2 2.2	2.2	2.2	3.3 2.5	2.9	3.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	28.4 28.5	28.5	8.4 8.4	8.4	18.2 18.0	18.1	117.6 120.3	119.0	8.3 8.5	8.4	8.4	2.1 2.2	2.2		3.9 2.8	3.4	
4-Jun-14	Sunny	Moderate	10:19	3.5	Surface	1.0	28.6 28.6	28.6	8.3 8.3	8.3	17.2 17.0	17.1	105.5 106.5	106.0	7.4 7.5	7.4	7.4	4.7 4.8	4.8	4.9	3.6 4.0	3.8	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	28.6 28.5	28.5	8.3 8.3	8.3	17.1 17.6	17.3	106.2 104.3	105.3	7.5 7.3	7.4	7.4	5.0 5.0	5.0		4.6 4.9	4.8	
6-Jun-14	Cloudy	Moderate	12:46	3.6	Surface	1.0	29.1 29.1	29.1	8.6 8.6	8.6	17.0 16.6	16.8	129.6 128.3	129.0	9.1 9.0	9.0	9.0	2.5 2.5	2.5	2.6	4.8 5.2	5.0	5.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	29.1 29.0	29.1	8.6 8.5	8.6	17.8 18.0	17.9	130.0 126.5	128.3	9.1 8.8	8.9	8.9	2.7 2.5	2.6		5.2 4.8	5.0	
9-Jun-14	Sunny	Moderate	15:49	3.3	Surface	1.0	29.1 29.3	29.2	8.7 8.6	8.7	19.5 19.5	19.5	95.5 96.1	95.8	7.2 7.2	7.2	7.2	4.1 4.3	4.2	4.6	5.0 4.3	4.7	6.0
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	2.3	28.8 27.7	28.2	8.5 8.2	8.4	21.9 24.0	23.0	95.3 96.6	96.0	7.2 7.2	7.2	7.2	4.9 5.0	5.0		7.4 7.2	7.3	
11-Jun-14	Fine	Moderate	17:49	3.8	Surface	1.0	27.7 27.7	27.7	8.5 8.5	8.5	21.9 22.0	22.0	119.3 122.4	120.9	8.3 8.5	8.4	8.4	11.8 12.7	12.3	13.2	5.7 6.3	6.0	6.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.7 27.6	27.7	8.5 8.3	8.4	22.2 22.5	22.4	125.4 117.6	121.5	8.7 8.2	8.4	8.4	14.4 13.6	14.0		6.3 6.3	6.3	
13-Jun-14	Sunny	Moderate	19:12	3.6	Surface	1.0	27.7 27.7	27.7	8.3 8.4	8.3	22.5 22.4	22.5	97.3 102.7	100.0	6.8 7.1	6.9	6.9	9.2 9.5	9.4	10.1	16.0 15.4	15.7	15.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	27.6 27.5	27.6	8.3 8.1	8.2	22.8 23.1	22.9	99.3 93.5	96.4	6.9 6.6	6.7	6.7	11.0 10.4	10.7		16.0 15.7	15.9	
16-Jun-14	Sunny	Moderate	08:44	3.7	Surface	1.0	27.9 27.9	27.9	8.1 8.1	8.1	19.5 19.6	19.6	89.8 91.8	90.8	6.3 6.5	6.4	6.4	4.2 4.1	4.2	4.2	3.6 3.3	3.5	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.9 27.9	27.9	8.2 8.1	8.1	20.9 20.6	20.8	90.7 96.6	93.7	6.3 6.8	6.5	6.5	4.0 4.3	4.2		4.0 5.0	4.5	
18-Jun-14	Sunny	Moderate	11:12	3.5	Surface	1.0	28.9 28.9	28.9	8.2 8.2	8.2	17.3 17.4	17.4	93.9 97.0	95.5	6.6 6.8	6.7	6.7	3.5 3.5	3.5	3.6	3.8 3.4	3.6	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	28.8 28.9	28.9	8.2 8.2	8.2	18.2 18.5	18.4	94.9 93.7	94.3	6.6 6.5	6.6	6.6	3.7 3.6	3.7		4.8 5.1	5.0	
20-Jun-14	Rainy	Moderate	13:18	3.7	Surface	1.0	29.3 29.3	29.3	8.3 8.3	8.3	18.1 18.2	18.2	96.5 96.4	96.5	6.7 6.7	6.7	6.7	7.5 7.6	7.6	7.6	3.7 3.2	3.5	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	29.3 29.3	29.3	8.3 8.3	8.3	18.9 19.2	19.0	96.4 96.9	96.7	6.7 6.7	6.7	6.7	7.5 7.5	7.5		4.0 4.7	4.4	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)9 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	15:57	3.6	Surface	1.0	28.9 28.9	28.9	8.4 8.4	8.4	17.1 17.1	17.1	85.9 87.5	86.7	6.0 6.1	6.1	6.1	11.6 10.9	11.3	11.2	5.5 5.4	5.5	6.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	28.8 28.7	28.8	8.3 8.2	8.3	17.5 18.0	17.8	80.6 80.9	80.8	5.7 5.7	5.7	5.7	11.1 11.1	11.1		7.4 7.3	7.4	
25-Jun-14	Cloudy	Moderate	17:50	3.2	Surface	1.0	28.8 28.8	28.8	8.2 8.2	8.2	17.1 17.1	17.1	87.7 87.0	87.4	6.2 6.1	6.1	6.1	6.7 6.7	6.7	6.9	4.2 4.7	4.5	4.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.8 28.8	28.8	8.2 8.2	8.2	17.8 18.0	17.9	87.4 85.0	86.2	6.1 6.0	6.0	6.0	7.0 7.0	7.0		5.1 4.8	5.0	
27-Jun-14	Sunny	Moderate	19:13	3.5	Surface	1.0	30.4 30.4	30.4	8.1 8.1	8.1	16.6 16.6	16.6	90.5 90.6	90.6	6.2 6.2	6.2	6.2	8.7 8.9	8.8	9.3	5.9 5.4	5.7	5.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	30.2 30.3	30.3	8.1 8.1	8.1	17.0 17.0	17.0	89.2 88.7	89.0	6.1 6.1	6.1	6.1	9.8 9.7	9.8		6.2 6.0	6.1	
30-Jun-14	Sunny	Moderate	08:23	3.6	Surface	1.0	29.3 29.3	29.3	8.0 8.0	8.0	18.2 18.2	18.2	78.4 78.8	78.6	5.4 5.5	5.4	5.4	4.0 3.9	4.0	4.0	6.7 5.0	5.9	5.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	29.3 29.3	29.3	8.0 8.0	8.0	18.6 18.4	18.5	79.4 78.7	79.1	5.5 5.4	5.5	5.5	4.1 3.9	4.0		5.4 5.9	5.7	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS10 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	15:43	10.3	Surface	1.0	28.4 28.3	28.3	8.3 8.2	8.2	15.0 15.4	15.2	92.9 90.5	91.7	6.7 6.5	6.6	6.3	2.1 2.1	2.1	2.3	1.8 1.7	1.8	2.7
					Middle	5.2	27.5 27.6	27.6	8.2 8.2	8.2	19.7 19.6	19.6	82.0 84.8	83.4	5.8 6.0	5.9		2.5 2.4	2.5		2.4 3.2	2.8	
					Bottom	9.3	27.3 27.5	27.4	8.1 8.2	8.1	21.6 20.8	21.2	83.8 88.0	85.9	5.9 6.2	6.0	6.0	2.5 2.3	2.4		3.7 3.3	3.5	
4-Jun-14	Sunny	Moderate	16:59	10.4	Surface	1.0	28.8 29.1	28.9	8.4 8.4	8.4	16.6 15.8	16.2	110.6 117.1	113.9	7.8 8.3	8.0	6.7	4.3 4.2	4.3	4.4	2.2 1.6	1.9	2.0
					Middle	5.2	26.5 26.7	26.6	8.1 8.1	8.1	23.3 22.9	23.1	77.8 77.8	77.8	5.4 5.4	5.4		4.2 4.4	4.3		2.4 2.2	2.3	
					Bottom	9.4	26.3 26.0	26.1	8.1 8.1	8.1	27.5 27.5	27.5	71.7 72.3	72.0	5.1 5.1	5.1	5.1	4.6 4.7	4.7		2.4 1.2	1.8	
6-Jun-14	Cloudy	Moderate	18:40	11.3	Surface	1.0	29.0 29.0	29.0	8.3 8.3	8.3	12.7 13.0	12.8	99.7 99.7	99.7	7.2 7.1	7.1	6.6	1.3 1.2	1.3	1.8	3.3 3.2	3.3	3.5
					Middle	5.7	28.4 28.2	28.3	8.2 8.2	8.2	17.8 18.6	18.2	86.7 87.5	87.1	6.1 6.2	6.1		1.7 1.6	1.7		3.2 3.5	3.4	
					Bottom	10.3	26.3 26.4	26.4	8.1 8.1	8.1	26.5 26.3	26.4	72.7 73.5	73.1	5.1 5.1	5.1	5.1	2.4 2.5	2.5		3.7 3.6	3.7	
9-Jun-14	Sunny	Moderate	10:17	10.8	Surface	1.0	27.4 27.5	27.4	8.2 8.2	8.2	20.5 20.4	20.4	84.3 84.9	84.6	6.0 6.0	6.0	5.6	4.3 4.4	4.4	4.6	4.8 5.8	5.3	5.1
					Middle	5.4	26.0 25.9	26.0	8.0 8.0	8.0	27.6 27.8	27.7	72.7 72.4	72.6	5.1 5.1	5.1		4.5 4.5	4.5		3.7 6.4	5.1	
					Bottom	9.8	26.1 25.8	25.9	8.1 8.0	8.1	28.6 28.9	28.8	69.3 68.3	68.8	4.8 4.7	4.8	4.8	4.7 4.8	4.8		3.8 5.8	4.8	
11-Jun-14	Fine	Moderate	11:37	10.0	Surface	1.0	27.4 27.3	27.3	8.1 8.1	8.1	18.9 19.4	19.2	80.3 79.1	79.7	5.8 5.6	5.7	5.5	5.6 5.9	5.8	7.1	3.6 3.3	3.5	3.6
					Middle	5.0	26.5 26.6	26.5	8.0 8.0	8.0	24.9 24.7	24.8	73.0 72.3	72.7	5.2 5.1	5.2		7.0 7.1	7.1		3.3 3.3	3.3	
					Bottom	9.0	26.5 26.5	26.5	7.9 8.0	8.0	25.1 25.3	25.2	70.5 71.7	71.1	4.9 5.1	5.0	5.0	8.8 8.2	8.5		4.0 3.7	3.9	
13-Jun-14	Sunny	Moderate	13:10	10.7	Surface	1.0	27.9 28.0	28.0	8.1 8.1	8.1	19.3 19.1	19.2	79.0 81.2	80.1	5.6 5.7	5.6	5.6	2.2 2.1	2.2	3.2	1.9 1.4	1.7	2.5
					Middle	5.4	27.8 27.6	27.7	8.1 8.1	8.1	19.7 20.1	19.9	79.7 77.3	78.5	5.6 5.5	5.5		3.7 3.6	3.7		2.1 2.1	2.1	
					Bottom	9.7	27.4 27.3	27.4	8.1 8.1	8.1	21.8 22.0	21.9	78.7 79.4	79.1	5.5 5.6	5.5	5.5	3.5 3.6	3.6		3.6 4.0	3.8	
16-Jun-14	Sunny	Moderate	15:00	10.7	Surface	1.0	28.4 28.5	28.5	8.1 8.1	8.1	19.8 19.8	19.8	78.8 79.9	79.4	5.5 5.6	5.5	5.4	5.5 5.9	5.7	5.7	2.4 2.3	2.4	2.7
					Middle	5.4	28.0 28.0	28.0	8.1 8.1	8.1	21.1 21.5	21.3	75.6 76.1	75.9	5.3 5.3	5.3		5.6 5.5	5.6		2.8 3.1	3.0	
					Bottom	9.7	27.9 28.0	27.9	8.1 8.1	8.1	22.3 22.0	22.1	78.5 78.7	78.6	5.4 5.5	5.4	5.4	5.8 5.8	5.8		2.5 2.9	2.7	
18-Jun-14	Sunny	Moderate	16:52	10.6	Surface	1.0	28.8 28.9	28.8	8.1 8.1	8.1	17.3 17.3	17.3	77.0 79.3	78.2	5.4 5.6	5.5	5.4	5.8 5.7	5.8	5.6	2.6 2.5	2.6	3.5
					Middle	5.3	28.3 28.3	28.3	8.1 8.1	8.1	19.8 19.9	19.9	74.5 77.4	76.0	5.1 5.3	5.2		5.4 5.6	5.5		3.6 4.2	3.9	
					Bottom	9.6	28.3 28.1	28.2	8.0 8.0	8.0	22.4 22.2	22.3	73.9 72.6	73.3	5.2 5.1	5.1	5.1	5.6 5.6	5.6		3.9 4.3	4.1	
20-Jun-14	Fine	Moderate	18:55	10.1	Surface	1.0	29.5 29.5	29.5	8.2 8.2	8.2	12.5 12.5	12.5	90.8 93.3	92.1	6.5 6.7	6.6	6.3	2.6 2.5	2.6	3.2	2.2 2.1	2.2	2.6
					Middle	5.1	29.0 28.8	28.9	8.1 8.1	8.1	17.6 20.1	18.8	87.8 83.4	85.6	6.1 5.7	5.9		3.4 3.6	3.5		2.4 2.7	2.6	
					Bottom	9.1	28.9 28.8	28.8	8.1 8.1	8.1	20.4 21.3	20.9	83.3 80.3	81.8	5.8 5.6	5.7	5.7	3.5 3.6	3.6		3.2 2.5	2.9	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS10 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	10:22	11.6	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	15.4 15.4	15.4	93.2 94.3	93.8	6.6 6.7	6.6	6.2	3.7 3.0	3.4	5.0	2.0 2.1	2.1	2.6
					Middle	5.8	28.8 28.8	28.8	8.1 8.1	8.1	17.6 17.9	17.8	80.4 86.0	83.2	5.6 6.0	5.8		5.9 5.7	5.8		2.8 2.3	2.6	
					Bottom	10.6	27.8 28.1	27.9	8.0 8.0	8.0	22.8 21.8	22.3	76.6 81.7	79.2	5.3 5.7	5.5	5.5	5.8 5.6	5.7		3.1 3.0	3.1	
25-Jun-14	Cloudy	Moderate	11:56	10.4	Surface	1.0	28.7 28.7	28.7	8.0 8.0	8.0	13.1 13.8	13.5	73.3 71.1	72.2	5.3 5.1	5.2	5.2	5.0 4.9	5.0	7.3	1.4 1.1	1.3	2.7
					Middle	5.2	28.5 28.6	28.6	8.0 8.0	8.0	18.9 17.1	18.0	73.0 70.8	71.9	5.3 5.1	5.2		8.5 8.3	8.4		2.9 2.8	2.9	
					Bottom	9.4	28.5 28.4	28.5	8.0 8.0	8.0	21.2 21.0	21.1	69.5 71.4	70.5	4.8 4.9	4.9	4.9	8.5 8.6	8.6		3.6 4.1	3.9	
27-Jun-14	Sunny	Moderate	13:09	9.8	Surface	1.0	29.5 29.6	29.6	8.0 8.0	8.0	13.4 13.3	13.3	78.7 81.4	80.1	5.5 5.7	5.6	5.5	3.7 3.5	3.6	6.4	2.4 2.2	2.3	2.6
					Middle	4.9	29.1 29.1	29.1	8.0 8.0	8.0	16.3 16.0	16.1	76.7 75.6	76.2	5.4 5.4	5.4		6.0 6.3	6.2		2.3 2.0	2.2	
					Bottom	8.8	28.9 28.7	28.8	8.0 8.0	8.0	18.6 18.5	18.6	70.8 72.3	71.6	4.9 5.1	5.0	5.0	9.2 9.4	9.3		2.4 4.3	3.4	
30-Jun-14	Sunny	Moderate	14:43	10.2	Surface	1.0	29.4 29.4	29.4	8.1 8.1	8.1	18.5 18.5	18.5	81.3 81.5	81.4	5.6 5.6	5.6	5.5	4.6 4.2	4.4	6.5	3.7 3.8	3.8	4.3
					Middle	5.1	28.8 28.8	28.8	8.1 8.1	8.1	20.9 20.9	20.9	77.6 77.2	77.4	5.3 5.3	5.3		7.6 7.3	7.5		3.0 3.7	3.4	
					Bottom	9.2	28.8 28.7	28.7	8.1 8.1	8.1	21.9 21.9	21.9	70.7 71.3	71.0	4.9 4.9	4.9	4.9	7.6 7.7	7.7		5.4 5.8	5.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS10 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	08:48	10.1	Surface	1.0	28.1 28.1	28.1	8.2 8.2	8.2	16.1 16.2	16.2	86.8 88.0	87.4	6.2 6.3	6.3	6.0	2.6 2.6	2.6	3.6	4.0 4.0	4.0	4.2
					Middle	5.1	27.6 27.5	27.6	8.1 8.2	8.2	19.7 20.4	20.1	79.7 78.1	78.9	5.6 5.5	5.6		3.3 3.4	3.4		3.7 3.6	3.7	
					Bottom	9.1	27.3 27.3	27.3	8.1 8.1	8.1	22.3 21.7	22.0	78.1 76.9	77.5	5.5 5.4	5.4	5.4	5.0 4.8	4.9		5.2 4.5	4.9	
4-Jun-14	Sunny	Moderate	09:50	10.7	Surface	1.0	28.2 28.3	28.2	8.2 8.2	8.2	16.4 15.9	16.2	84.2 83.1	83.7	6.0 5.9	6.0	5.6	4.1 4.2	4.2	4.5	2.4 2.0	2.2	3.0
					Middle	5.4	26.6 26.7	26.7	8.1 8.1	8.1	24.2 24.4	24.3	74.9 74.2	74.6	5.2 5.1	5.2		4.0 4.1	4.1		3.1 2.8	3.0	
					Bottom	9.7	25.9 26.0	26.0	8.1 8.1	8.1	27.8 28.1	28.0	69.5 68.2	68.9	4.9 4.8	4.8	4.8	5.4 5.2	5.3		3.9 3.5	3.7	
6-Jun-14	Cloudy	Moderate	12:19	11.6	Surface	1.0	29.1 29.0	29.0	8.3 8.3	8.3	14.7 14.8	14.7	100.2 100.3	100.3	7.1 7.1	7.1	6.6	1.1 1.1	1.1	1.3	1.3 1.9	1.6	3.3
					Middle	5.8	28.7 28.7	28.7	8.2 8.3	8.2	15.6 16.0	15.8	79.3 92.8	86.1	5.6 6.6	6.1		1.3 1.2	1.3		3.7 4.1	3.9	
					Bottom	10.6	26.9 27.4	27.1	8.1 8.1	8.1	24.3 22.3	23.3	70.5 84.6	77.6	4.9 5.9	5.4	5.4	1.7 1.5	1.6		4.6 4.3	4.5	
9-Jun-14	Sunny	Moderate	16:49	10.6	Surface	1.0	27.8 27.5	27.6	8.3 8.2	8.2	22.7 22.7	22.7	86.0 83.7	84.9	6.1 5.8	5.9	5.5	3.6 3.8	3.7	4.9	3.9 4.6	4.3	5.7
					Middle	5.3	25.4 25.5	25.4	8.1 8.1	8.1	28.5 28.3	28.4	72.6 73.1	72.9	5.1 5.1	5.1		5.5 5.3	5.4		5.6 7.3	6.5	
					Bottom	9.6	25.3 25.3	25.3	8.1 8.1	8.1	28.9 28.8	28.9	73.1 71.2	72.2	5.1 5.0	5.0	5.0	5.4 5.6	5.5		6.4 6.1	6.3	
11-Jun-14	Fine	Moderate	18:12	9.8	Surface	1.0	27.1 27.1	27.1	8.2 8.1	8.1	21.0 20.4	20.7	83.3 82.2	82.8	5.9 5.8	5.8	5.6	4.7 4.5	4.6	7.4	2.8 3.0	2.9	3.2
					Middle	4.9	26.6 26.8	26.7	8.1 8.1	8.1	23.6 23.2	23.4	73.6 76.8	75.2	5.2 5.4	5.3		8.9 8.4	8.7		3.3 2.8	3.1	
					Bottom	8.8	26.6 26.3	26.4	8.1 8.1	8.1	24.1 25.4	24.7	74.6 70.5	72.6	5.2 5.0	5.1	5.1	8.7 9.2	9.0		3.6 3.3	3.5	
13-Jun-14	Sunny	Moderate	20:03	10.5	Surface	1.0	27.8 27.8	27.8	8.2 8.2	8.2	17.5 17.4	17.5	88.6 88.1	88.4	6.3 6.3	6.3	6.3	3.1 3.1	3.1	3.4	4.0 3.6	3.8	3.7
					Middle	5.3	27.5 27.5	27.5	8.2 8.2	8.2	21.0 21.1	21.1	88.9 89.4	89.2	6.2 6.3	6.3		3.5 3.5	3.5		3.8 3.7	3.8	
					Bottom	9.5	27.4 27.2	27.3	8.1 8.2	8.2	22.2 22.4	22.3	86.0 85.3	85.7	6.0 6.0	6.0	6.0	3.6 3.5	3.6		3.8 3.4	3.6	
16-Jun-14	Sunny	Moderate	08:13	10.5	Surface	1.0	27.6 27.5	27.5	8.1 8.1	8.1	19.8 22.0	20.9	73.2 73.4	73.3	5.3 5.2	5.2	5.2	9.6 9.5	9.6	10.3	5.3 5.2	5.3	5.9
					Middle	5.3	27.4 27.5	27.5	8.1 8.1	8.1	22.3 22.2	22.3	74.0 72.4	73.2	5.3 5.2	5.2		10.7 10.4	10.6		5.5 5.3	5.4	
					Bottom	9.5	27.4 27.5	27.5	8.1 8.0	8.1	22.4 22.3	22.3	75.4 72.8	74.1	5.4 5.2	5.3	5.3	10.8 10.8	10.8		7.4 6.7	7.1	
18-Jun-14	Sunny	Moderate	10:08	10.7	Surface	1.0	28.6 28.6	28.6	8.0 8.1	8.1	15.7 15.6	15.6	79.3 80.0	79.7	5.6 5.7	5.7	5.6	5.2 5.1	5.2	5.5	3.1 3.0	3.1	3.4
					Middle	5.4	28.4 28.4	28.4	8.1 8.0	8.1	18.4 18.5	18.5	78.5 78.1	78.3	5.5 5.5	5.5		5.4 5.7	5.6		3.4 3.0	3.2	
					Bottom	9.7	28.5 28.3	28.4	8.0 8.0	8.0	21.1 20.8	20.9	79.4 79.8	79.6	5.5 5.5	5.5	5.5	5.5 5.6	5.6		3.6 3.9	3.8	
20-Jun-14	Rainy	Moderate	12:45	10.3	Surface	1.0	29.1 29.2	29.1	8.2 8.1	8.1	16.1 16.0	16.1	86.2 88.3	87.3	6.1 6.2	6.1	5.9	4.4 4.3	4.4	6.9	2.8 2.1	2.5	2.5
					Middle	5.2	28.9 28.9	28.9	8.1 8.1	8.1	19.8 19.7	19.8	79.2 81.6	80.4	5.5 5.6	5.6		8.3 8.6	8.5		2.5 2.4	2.5	
					Bottom	9.3	28.7 28.7	28.7	8.1 8.1	8.1	21.3 21.3	21.3	78.9 82.7	80.8	5.4 5.7	5.6	5.6	7.7 7.9	7.8		2.7 2.4	2.6	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS10 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	16:43	11.3	Surface	1.0	29.2 29.2	29.2	8.2 8.2	8.2	12.6 12.7	12.7	96.5 95.2	95.9	6.9 6.8	6.9	6.5	2.9 2.9	2.9	3.5	2.9 3.0	3.0	3.1
					Middle	5.7	28.7 28.5	28.6	8.1 8.1	8.1	17.7 19.4	18.5	87.2 85.4	86.3	6.1 5.9	6.0		3.5 3.6	3.6		3.0 3.1	3.1	
					Bottom	10.3	27.6 27.6	27.6	8.0 8.0	8.0	23.5 23.8	23.6	78.0 76.9	77.5	5.4 5.3	5.4	5.4	3.9 4.0	4.0		3.0 3.2	3.1	
25-Jun-14	Cloudy	Moderate	18:49	10.6	Surface	1.0	28.7 28.8	28.7	8.0 8.0	8.0	10.7 10.6	10.7	73.9 73.9	73.9	5.2 5.4	5.3	5.3	7.7 7.6	7.7	7.7	2.8 3.5	3.2	3.9
					Middle	5.3	28.6 28.6	28.6	7.9 7.9	7.9	16.0 16.8	16.4	73.3 73.2	73.3	5.4 5.1	5.2		7.6 7.7	7.7		4.0 3.1	3.6	
					Bottom	9.6	28.5 28.5	28.5	7.8 7.8	7.8	21.4 21.2	21.3	72.7 70.2	71.5	5.0 4.9	4.9	4.9	7.8 7.8	7.8		5.4 4.4	4.9	
27-Jun-14	Sunny	Moderate	19:56	9.7	Surface	1.0	30.2 30.1	30.2	8.0 8.0	8.0	11.1 11.3	11.2	78.7 78.0	78.4	5.6 5.5	5.6	5.5	6.2 6.7	6.5	7.0	4.3 5.4	4.9	4.8
					Middle	4.9	29.8 29.7	29.8	8.0 8.0	8.0	13.8 13.8	13.8	75.4 75.1	75.3	5.3 5.3	5.3		7.0 7.2	7.1		5.5 4.8	5.2	
					Bottom	8.7	29.6 29.7	29.7	8.0 8.0	8.0	15.1 15.4	15.2	74.9 77.3	76.1	5.3 5.4	5.3	5.3	7.4 7.1	7.3		4.5 4.1	4.3	
30-Jun-14	Sunny	Moderate	08:14	10.5	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	19.0 19.2	19.1	82.6 83.8	83.2	5.7 5.8	5.7	5.5	6.0 6.1	6.1	8.0	4.8 4.3	4.6	4.8
					Middle	5.3	28.5 28.6	28.5	8.1 8.1	8.1	22.8 20.9	21.9	79.0 75.1	77.1	5.4 5.2	5.3		7.8 8.1	8.0		5.3 4.8	5.1	
					Bottom	9.5	28.2 28.2	28.2	8.0 8.1	8.1	24.2 24.2	24.2	74.6 76.1	75.4	5.1 5.2	5.2	5.2	9.9 9.6	9.8		4.5 4.8	4.7	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)11 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	15:53	10.2	Surface	1.0	28.9 28.9	28.9	8.3 8.3	8.3	13.1 13.5	13.3	101.6 103.3	102.5	7.3 7.4	7.3	6.8	2.3 2.2	2.3	2.7	2.8 2.6	2.7	2.9
					Middle	5.1	27.8 27.7	27.8	8.1 8.2	8.2	18.3 18.5	18.4	88.1 85.5	86.8	6.3 6.1	6.2		2.6 2.6	2.6		2.6 3.0	2.8	
					Bottom	9.2	27.3 27.4	27.3	8.0 8.2	8.1	19.6 19.4	19.5	88.0 81.2	84.6	6.3 5.8	6.0	6.0	3.3 3.1	3.2		3.4 3.2	3.3	
4-Jun-14	Sunny	Moderate	17:09	10.2	Surface	1.0	28.8 28.8	28.8	8.4 8.4	8.4	16.5 16.7	16.6	106.9 105.3	106.1	7.5 7.4	7.5	6.5	2.8 2.8	2.8	3.1	2.3 2.1	2.2	2.4
					Middle	5.1	26.7 26.8	26.7	8.1 8.1	8.1	23.7 23.5	23.6	78.0 78.0	78.0	5.4 5.4	5.4		2.9 2.9	2.9		2.2 2.0	2.1	
					Bottom	9.2	26.2 26.2	26.2	8.1 8.1	8.1	26.7 26.6	26.6	72.9 72.6	72.8	5.1 5.1	5.1	5.1	3.4 3.5	3.5		3.0 3.0	3.0	
6-Jun-14	Cloudy	Moderate	18:49	11.3	Surface	1.0	28.8 28.8	28.8	8.3 8.3	8.3	14.2 13.7	14.0	99.9 100.2	100.1	7.1 7.2	7.1	6.8	1.3 1.2	1.3	2.0	3.0 2.7	2.9	3.3
					Middle	5.7	28.6 28.4	28.5	8.3 8.3	8.3	16.1 16.8	16.5	90.8 88.9	89.9	6.4 6.3	6.4		2.1 2.2	2.2		3.2 3.0	3.1	
					Bottom	10.3	26.6 26.8	26.7	8.1 8.1	8.1	24.2 24.5	24.4	76.0 76.4	76.2	5.3 5.3	5.3	5.3	2.5 2.4	2.5		3.6 3.9	3.8	
9-Jun-14	Sunny	Moderate	10:07	10.6	Surface	1.0	27.5 27.5	27.5	8.2 8.2	8.2	20.5 20.5	20.5	86.2 87.1	86.7	6.1 6.1	6.1	5.6	2.5 2.3	2.4	2.5	5.6 3.4	4.5	4.4
					Middle	5.3	25.7 25.7	25.7	8.0 8.1	8.1	27.7 27.7	27.7	72.8 71.9	72.4	5.1 5.1	5.1		2.5 2.5	2.5		3.0 6.2	4.6	
					Bottom	9.6	25.7 25.7	25.7	8.1 8.1	8.1	28.5 27.6	28.0	71.6 70.1	70.9	5.1 4.9	5.0	5.0	2.7 2.6	2.7		4.3 4.0	4.2	
11-Jun-14	Fine	Moderate	11:29	10.2	Surface	1.0	27.2 27.1	27.2	8.2 8.2	8.2	20.5 21.6	21.1	83.6 84.2	83.9	5.9 6.0	6.0	5.6	4.0 3.8	3.9	5.2	3.6 2.7	3.2	4.0
					Middle	5.1	26.2 26.6	26.4	8.1 8.1	8.1	27.5 27.5	27.5	77.5 73.1	75.3	5.5 5.0	5.2		4.2 4.7	4.5		4.0 4.0	4.0	
					Bottom	9.2	26.3 25.4	25.8	8.1 8.1	8.1	28.7 29.5	29.1	71.1 73.3	72.2	4.9 5.1	5.0	5.0	7.3 7.2	7.3		4.8 4.5	4.7	
13-Jun-14	Sunny	Moderate	12:59	10.6	Surface	1.0	27.6 27.6	27.6	8.1 8.1	8.1	19.7 19.8	19.7	80.5 76.5	78.5	5.7 5.4	5.5	5.4	2.7 2.7	2.7	3.0	2.9 3.5	3.2	3.6
					Middle	5.3	27.1 27.1	27.1	8.1 8.1	8.1	21.7 22.1	21.9	72.9 78.5	75.7	5.0 5.4	5.2		2.7 2.9	2.8		3.7 3.8	3.8	
					Bottom	9.6	26.9 26.9	26.9	8.0 8.1	8.0	25.3 25.6	25.4	73.4 70.0	71.7	5.2 4.9	5.0	5.0	3.3 3.4	3.4		3.7 4.0	3.9	
16-Jun-14	Sunny	Moderate	15:09	10.2	Surface	1.0	28.4 28.4	28.4	8.1 8.1	8.1	19.9 19.4	19.6	77.4 76.4	76.9	5.3 5.3	5.3	5.4	5.5 5.4	5.5	5.5	2.6 3.2	2.9	3.3
					Middle	5.1	27.8 27.6	27.7	8.1 8.1	8.1	21.8 22.5	22.2	79.2 74.3	76.8	5.5 5.2	5.4		5.4 5.5	5.5		4.4 2.5	3.5	
					Bottom	9.2	27.5 27.8	27.6	8.1 8.1	8.1	23.9 23.5	23.7	73.0 73.4	73.2	5.1 5.1	5.1	5.1	5.6 5.5	5.6		3.0 4.1	3.6	
18-Jun-14	Sunny	Moderate	17:04	10.1	Surface	1.0	28.9 29.3	29.1	8.1 8.2	8.1	16.5 16.3	16.4	79.2 87.8	83.5	5.6 6.1	5.9	5.6	3.7 3.8	3.8	4.2	3.5 3.2	3.4	3.3
					Middle	5.1	28.2 28.4	28.3	8.1 8.1	8.1	20.3 20.0	20.2	75.5 74.2	74.9	5.3 5.2	5.2		4.3 4.5	4.4		3.0 2.9	3.0	
					Bottom	9.1	28.1 28.2	28.1	8.1 8.1	8.1	22.5 22.1	22.3	76.3 79.8	78.1	5.3 5.5	5.4	5.4	4.4 4.3	4.4		3.2 3.6	3.4	
20-Jun-14	Fine	Moderate	19:05	9.9	Surface	1.0	29.3 29.3	29.3	8.2 8.2	8.2	12.7 12.8	12.7	94.2 94.6	94.4	6.7 6.8	6.7	6.5	2.3 2.3	2.3	2.5	2.4 2.8	2.6	2.7
					Middle	5.0	29.3 29.3	29.3	8.1 8.1	8.1	17.3 17.7	17.5	89.8 90.0	89.9	6.3 6.3	6.3		2.4 2.3	2.4		3.0 2.9	3.0	
					Bottom	8.9	29.1 29.1	29.1	8.1 8.1	8.1	18.4 18.6	18.5	87.9 88.9	88.4	6.1 6.2	6.1	6.1	2.7 2.6	2.7		2.6 2.3	2.5	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)11 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	10:09	11.4	Surface	1.0	29.0 28.9	28.9	8.1 8.1	8.1	17.0 17.2	17.1	90.3 90.7	90.5	6.3 6.4	6.3	5.9	3.3 3.4	3.4	4.0	2.1 2.0	2.1	2.9
					Middle	5.7	28.4 27.9	28.1	8.1 8.0	8.1	21.4 22.9	22.2	80.5 77.0	78.8	5.6 5.4	5.5		4.1 4.0	4.1		3.4 3.2	3.3	
					Bottom	10.4	27.5 27.6	27.5	8.0 8.0	8.0	25.0 24.6	24.8	72.4 73.2	72.8	5.0 5.0	5.0	5.0	4.3 4.5	4.4		3.0 3.8	3.4	
25-Jun-14	Cloudy	Moderate	11:44	10.2	Surface	1.0	28.6 28.6	28.6	8.0 8.0	8.0	14.6 13.5	14.1	72.8 73.3	73.1	5.1 5.1	5.1	5.1	6.6 6.5	6.6	6.6	2.3 2.2	2.3	3.4
					Middle	5.1	28.4 28.4	28.4	8.0 7.9	8.0	21.1 20.7	20.9	72.0 72.8	72.4	5.0 5.0	5.0		6.6 6.4	6.5		2.8 2.9	2.9	
					Bottom	9.2	28.3 28.4	28.4	7.9 8.0	7.9	22.3 22.0	22.1	68.4 68.6	68.5	4.9 4.9	4.9	4.9	6.6 6.7	6.7		4.9 4.8	4.9	
27-Jun-14	Sunny	Moderate	12:57	10.1	Surface	1.0	30.2 30.2	30.2	8.0 8.0	8.0	12.2 12.3	12.3	80.8 77.1	79.0	5.6 5.4	5.5	5.4	4.7 4.4	4.6	8.6	3.5 3.7	3.6	3.2
					Middle	5.1	28.7 28.6	28.7	8.0 8.0	8.0	18.5 19.6	19.1	73.0 77.0	75.0	5.2 5.3	5.2		11.0 10.9	11.0		3.0 2.9	3.0	
					Bottom	9.1	28.5 28.5	28.5	8.0 8.0	8.0	20.8 20.8	20.8	76.2 73.0	74.6	5.3 5.1	5.2	5.2	10.7 9.8	10.3		3.0 3.0	3.0	
30-Jun-14	Sunny	Moderate	14:52	10.4	Surface	1.0	29.2 29.3	29.2	8.1 8.1	8.1	18.7 18.5	18.6	77.1 80.5	78.8	5.3 5.6	5.5	5.4	4.3 4.3	4.3	7.1	4.5 4.6	4.6	4.6
					Middle	5.2	28.6 28.6	28.6	8.1 8.1	8.1	22.0 22.1	22.0	75.0 76.0	75.5	5.1 5.2	5.2		7.7 7.6	7.7		4.8 4.0	4.4	
					Bottom	9.4	28.6 28.5	28.6	8.1 8.1	8.1	22.6 22.5	22.5	72.0 71.2	71.6	4.9 4.9	4.9	4.9	8.9 9.6	9.3		4.4 4.9	4.7	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)11 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	08:40	10.2	Surface	1.0	27.9 27.9	27.9	8.1 8.1	8.1	15.6 15.6	15.6	81.9 82.7	82.3	5.9 6.0	5.9	5.6	4.2 4.1	4.2	7.6	5.6 3.3	4.5	4.2
					Middle	5.1	26.8 26.4	26.6	8.1 8.1	8.1	25.0 25.9	25.5	74.7 75.4	75.1	5.2 5.2	5.2		9.9 9.6	9.8		4.5 3.3	3.9	
					Bottom	9.2	26.4 26.6	26.5	8.0 8.0	8.0	26.0 26.1	26.1	71.3 69.8	70.6	5.0 4.9	4.9	4.9	8.8 8.6	8.7		4.8 3.5	4.2	
4-Jun-14	Sunny	Moderate	09:41	10.6	Surface	1.0	28.0 28.1	28.1	8.3 8.2	8.3	17.5 17.5	17.5	88.5 85.1	86.8	6.3 6.0	6.2	6.0	4.5 4.5	4.5	5.2	2.3 2.3	2.3	2.7
					Middle	5.3	26.7 26.8	26.8	8.2 8.2	8.2	21.9 22.4	22.1	80.7 84.7	82.7	5.6 5.9	5.8		5.1 5.4	5.3		2.4 2.2	2.3	
					Bottom	9.6	26.3 26.2	26.3	8.1 8.1	8.1	26.8 26.7	26.8	74.6 76.1	75.4	5.3 5.4	5.3	5.3	5.8 5.7	5.8		3.8 3.2	3.5	
6-Jun-14	Cloudy	Moderate	12:11	11.4	Surface	1.0	28.9 28.8	28.9	8.3 8.3	8.3	15.4 15.7	15.5	99.3 99.5	99.4	7.0 7.0	7.0	6.3	1.2 1.3	1.3	2.0	3.5 3.6	3.6	3.8
					Middle	5.7	28.3 27.4	27.8	8.2 8.1	8.2	18.8 21.9	20.3	81.1 75.1	78.1	5.7 5.3	5.5		2.3 2.2	2.3		3.7 4.0	3.9	
					Bottom	10.4	26.5 26.6	26.6	8.1 8.1	8.1	26.0 25.3	25.7	72.4 72.4	72.4	5.0 5.0	5.0	5.0	2.3 2.5	2.4		3.8 3.8	3.8	
9-Jun-14	Sunny	Moderate	16:58	10.4	Surface	1.0	27.6 27.8	27.7	8.3 8.3	8.3	23.1 22.7	22.9	87.4 92.0	89.7	6.1 6.4	6.2	5.7	2.9 2.8	2.9	4.7	5.6 6.5	6.1	6.2
					Middle	5.2	26.2 25.6	25.9	8.2 8.1	8.1	26.2 26.5	26.3	73.6 72.7	73.2	5.1 5.1	5.1		5.6 5.5	5.6		5.0 7.7	6.4	
					Bottom	9.4	25.1 25.1	25.1	8.1 8.1	8.1	29.3 29.4	29.4	69.9 66.7	68.3	4.9 4.7	4.8	4.8	5.4 5.6	5.5		7.0 5.3	6.2	
11-Jun-14	Fine	Moderate	18:22	10.1	Surface	1.0	27.0 27.0	27.0	8.2 8.1	8.2	22.1 21.8	22.0	83.6 87.3	85.5	5.9 6.2	6.0	5.8	4.7 4.1	4.4	7.5	4.0 3.6	3.8	4.1
					Middle	5.1	26.5 26.5	26.5	8.1 8.0	8.1	24.4 24.5	24.5	77.0 79.1	78.1	5.4 5.5	5.5		6.5 7.1	6.8		4.0 4.1	4.1	
					Bottom	9.1	26.1 26.1	26.1	8.0 8.1	8.0	25.9 25.8	25.8	79.8 74.8	77.3	5.6 5.2	5.4	5.4	11.7 10.7	11.2		3.9 4.8	4.4	
13-Jun-14	Sunny	Moderate	20:16	10.4	Surface	1.0	27.6 27.5	27.5	8.3 8.2	8.2	21.8 21.9	21.9	96.7 91.4	94.1	6.8 6.4	6.6	6.4	3.7 3.8	3.8	4.4	5.4 5.6	5.5	6.7
					Middle	5.2	27.1 27.1	27.1	8.2 8.2	8.2	23.2 23.2	23.2	85.5 88.3	86.9	6.0 6.2	6.1		4.7 4.7	4.7		6.9 7.2	7.1	
					Bottom	9.4	27.0 27.2	27.1	8.2 8.2	8.2	23.4 23.3	23.4	85.5 94.6	90.1	6.0 6.6	6.3	6.3	4.5 4.7	4.6		7.8 7.4	7.6	
16-Jun-14	Sunny	Moderate	08:03	10.4	Surface	1.0	27.7 27.7	27.7	8.0 8.0	8.0	20.1 20.1	20.1	73.9 74.2	74.1	5.3 5.3	5.3	5.3	3.4 3.4	3.4	3.7	4.5 3.8	4.2	3.9
					Middle	5.2	27.5 27.4	27.5	8.0 8.0	8.0	21.4 22.0	21.7	72.5 73.5	73.0	5.2 5.2	5.2		3.8 3.6	3.7		3.4 3.2	3.3	
					Bottom	9.4	27.6 27.4	27.5	8.0 8.0	8.0	22.4 22.6	22.5	74.1 71.5	72.8	5.3 5.1	5.2	5.2	3.8 3.9	3.9		4.1 4.3	4.2	
18-Jun-14	Sunny	Moderate	10:00	10.2	Surface	1.0	28.6 28.3	28.5	8.1 8.1	8.1	17.6 18.1	17.8	73.8 73.6	73.7	5.2 5.2	5.2	5.1	10.7 10.7	10.7	10.7	10.8 9.6	10.2	11.1
					Middle	5.1	28.1 28.1	28.1	8.0 8.1	8.1	21.9 21.8	21.9	72.8 71.2	72.0	5.0 5.0	5.0		10.8 10.5	10.7		11.1 11.4	11.3	
					Bottom	9.2	28.2 28.1	28.2	8.0 8.1	8.0	22.0 21.9	22.0	71.1 71.0	71.1	4.9 4.9	4.9	4.9	10.5 10.6	10.6		11.1 12.2	11.7	
20-Jun-14	Rainy	Moderate	12:37	10.3	Surface	1.0	29.0 29.0	29.0	8.1 8.2	8.2	18.6 18.7	18.7	82.0 81.3	81.7	5.7 5.6	5.7	5.6	3.6 3.5	3.6	4.0	2.7 2.3	2.5	2.6
					Middle	5.2	28.5 28.5	28.5	8.1 8.1	8.1	24.0 24.0	24.0	79.0 79.9	79.5	5.5 5.6	5.5		3.9 4.0	4.0		2.4 2.9	2.7	
					Bottom	9.3	28.5 28.5	28.5	8.1 8.1	8.1	24.0 24.0	24.0	74.1 72.4	73.3	5.0 4.9	5.0	5.0	4.6 4.4	4.5		2.5 2.4	2.5	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)11 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	16:53	11.3	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	13.4 13.2	13.3	97.0 97.4	97.2	6.9 7.0	6.9	6.6	2.8 2.7	2.8	3.2	2.4 2.3	2.4	2.4
					Middle	5.7	29.0 28.9	28.9	8.1 8.1	8.1	16.9 17.0	17.0	90.4 89.3	89.9	6.3 6.3	6.3		3.2 3.3	3.3		2.3 2.2	2.3	
					Bottom	10.3	27.9 27.9	27.9	8.0 8.0	8.0	21.4 21.5	21.4	82.4 82.1	82.3	5.7 5.7	5.7	5.7	3.5 3.5	3.5		2.2 2.9	2.6	
25-Jun-14	Cloudy	Moderate	18:58	10.7	Surface	1.0	28.8 28.7	28.8	8.0 8.0	8.0	11.4 11.5	11.5	78.5 78.1	78.3	5.7 5.7	5.7	5.5	6.5 6.7	6.6	6.7	3.5 3.3	3.4	3.6
					Middle	5.4	28.6 28.6	28.6	8.0 8.0	8.0	17.0 15.3	16.2	75.1 73.8	74.5	5.3 5.3	5.3		6.7 6.6	6.7		2.9 4.2	3.6	
					Bottom	9.7	28.5 28.4	28.5	7.9 7.9	7.9	19.7 19.8	19.8	77.5 76.3	76.9	5.4 5.3	5.4	5.4	6.8 6.8	6.8		4.4 3.4	3.9	
27-Jun-14	Sunny	Moderate	20:06	10.2	Surface	1.0	30.4 30.4	30.4	8.0 8.0	8.0	11.4 11.7	11.5	82.3 80.4	81.4	5.8 5.7	5.7	5.5	5.0 5.4	5.2	6.9	3.7 3.0	3.4	4.4
					Middle	5.1	29.4 29.4	29.4	8.0 8.0	8.0	16.9 15.2	16.1	73.9 74.4	74.2	5.2 5.2	5.2		7.2 7.4	7.3		5.0 4.5	4.8	
					Bottom	9.2	28.7 28.8	28.8	8.0 8.0	8.0	19.6 19.4	19.5	71.5 71.7	71.6	5.0 5.0	5.0	5.0	8.4 8.0	8.2		4.0 5.7	4.9	
30-Jun-14	Sunny	Moderate	08:05	10.0	Surface	1.0	28.7 28.7	28.7	8.0 8.0	8.0	19.8 19.8	19.8	78.1 77.3	77.7	5.4 5.4	5.4	5.2	7.6 7.5	7.6	7.4	4.7 3.8	4.3	4.0
					Middle	5.0	28.6 28.5	28.5	8.0 8.0	8.0	21.4 21.8	21.6	73.0 73.3	73.2	5.0 5.1	5.0		6.9 7.1	7.0		3.2 4.0	3.6	
					Bottom	9.0	28.4 28.5	28.5	8.0 8.0	8.0	22.4 21.9	22.2	71.8 72.4	72.1	4.9 5.0	5.0	5.0	7.4 7.6	7.5		4.0 3.9	4.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)16 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	15:23	6.3	Surface	1.0	29.2 28.9	29.1	8.5 8.5	8.5	19.4 19.5	19.4	123.7 121.8	122.8	8.5 8.4	8.5	7.7	2.7 2.6	2.7	2.7	4.4 5.7	5.1	5.5
					Middle	3.2	28.3 28.0	28.2	8.3 8.3	8.3	20.0 20.3	20.2	102.0 93.4	97.7	7.1 6.5	6.8		2.8 2.7	2.8		6.1 5.4	5.8	
					Bottom	5.3	27.5 27.4	27.5	8.1 8.1	8.1	22.4 22.5	22.5	90.2 85.2	87.7	6.3 5.9	6.1	6.1	2.7 2.7	2.7		6.1 5.3	5.7	
4-Jun-14	Sunny	Moderate	16:24	7.2	Surface	1.0	28.9 28.7	28.8	8.3 8.3	8.3	18.8 19.1	19.0	100.8 102.7	101.8	7.0 7.2	7.1	6.9	3.7 3.9	3.8	4.0	5.9 6.2	6.1	6.1
					Middle	3.6	27.5 26.7	27.1	8.1 8.0	8.1	20.7 22.5	21.6	93.3 95.8	94.6	6.5 6.7	6.6		4.1 4.0	4.1		6.0 6.2	6.1	
					Bottom	6.2	26.5 26.4	26.4	8.1 8.0	8.1	27.0 26.2	26.6	90.6 88.6	89.6	6.4 6.2	6.3	6.3	4.0 4.2	4.1		5.9 6.3	6.1	
6-Jun-14	Cloudy	Moderate	18:33	6.4	Surface	1.0	28.8 28.8	28.8	8.6 8.6	8.6	16.0 16.0	16.0	104.8 109.5	107.2	7.4 7.7	7.6	6.8	6.5 6.3	6.4	6.5	2.4 3.0	2.7	3.5
					Middle	3.2	28.7 28.5	28.6	8.4 8.4	8.4	17.4 17.4	17.4	87.8 82.2	85.0	6.2 5.8	6.0		6.4 6.4	6.4		3.3 3.3	3.3	
					Bottom	5.4	27.1 26.9	27.0	8.2 8.2	8.2	23.7 24.6	24.2	81.7 80.6	81.2	5.7 5.6	5.7	5.7	6.7 6.6	6.7		4.3 4.5	4.4	
9-Jun-14	Sunny	Moderate	10:15	6.2	Surface	1.0	28.6 28.6	28.6	8.5 8.5	8.5	18.7 18.4	18.6	88.6 87.4	88.0	6.2 6.1	6.2	5.8	2.2 2.1	2.2	2.1	3.8 3.4	3.6	3.8
					Middle	3.1	26.1 26.2	26.2	8.2 8.2	8.2	25.3 24.4	24.8	74.0 73.0	73.5	5.4 5.3	5.3		2.0 1.9	2.0		3.9 3.4	3.7	
					Bottom	5.2	25.1 25.0	25.1	8.2 8.0	8.1	29.3 29.3	29.3	72.0 70.5	71.3	5.0 4.9	5.0	5.0	2.0 2.1	2.1		4.1 3.9	4.0	
11-Jun-14	Fine	Moderate	11:56	6.3	Surface	1.0	27.6 27.6	27.6	8.5 8.5	8.5	22.1 22.1	22.1	108.4 114.0	111.2	7.1 8.0	7.5	7.2	2.2 2.4	2.3	2.8	3.8 3.4	3.6	3.8
					Middle	3.2	27.5 27.5	27.5	8.5 8.5	8.5	22.3 22.3	22.3	98.8 95.8	97.3	6.9 6.7	6.8		2.7 2.5	2.6		3.5 3.1	3.3	
					Bottom	5.3	26.5 26.5	26.5	8.3 8.2	8.2	25.2 25.2	25.2	89.9 85.8	87.9	6.3 6.0	6.1	6.1	3.6 3.6	3.6		4.1 4.8	4.5	
13-Jun-14	Sunny	Moderate	13:07	6.6	Surface	1.0	27.9 27.8	27.9	8.1 8.1	8.1	22.3 22.4	22.4	104.0 102.0	103.0	7.2 7.1	7.1	6.4	4.0 4.5	4.3	6.0	2.5 2.7	2.6	4.9
					Middle	3.3	27.1 26.9	27.0	7.9 7.8	7.9	23.3 23.7	23.5	83.4 79.6	81.5	5.8 5.6	5.7		5.7 5.5	5.6		6.1 6.1	6.1	
					Bottom	5.6	26.3 26.2	26.3	7.7 7.7	7.7	26.1 26.3	26.2	72.4 71.0	71.7	5.1 5.0	5.0	5.0	7.8 8.4	8.1		6.2 6.0	6.1	
16-Jun-14	Sunny	Moderate	14:50	6.5	Surface	1.0	28.5 28.5	28.5	8.2 8.2	8.2	21.1 21.1	21.1	81.7 82.7	82.2	5.6 5.7	5.7	5.4	6.6 6.7	6.7	7.4	4.0 4.4	4.2	4.6
					Middle	3.3	27.9 27.7	27.8	8.1 8.1	8.1	22.8 22.8	22.8	74.3 73.4	73.9	5.1 5.1	5.1		8.0 8.1	8.1		4.6 4.9	4.8	
					Bottom	5.5	27.6 27.4	27.5	8.1 8.0	8.1	24.9 25.1	25.0	77.2 76.8	77.0	5.3 5.3	5.3	5.3	7.6 7.4	7.5		4.5 4.8	4.7	
18-Jun-14	Sunny	Moderate	15:31	6.8	Surface	1.0	29.3 29.6	29.5	8.2 8.2	8.2	17.6 17.2	17.4	86.4 90.0	88.2	6.0 6.1	6.1	6.0	3.9 4.0	4.0	4.0	4.5 4.6	4.6	5.2
					Middle	3.4	28.7 28.4	28.5	8.1 8.1	8.1	19.8 21.6	20.7	88.8 83.3	86.1	6.1 5.7	5.9		4.0 3.9	4.0		5.0 4.8	4.9	
					Bottom	5.8	28.3 28.4	28.3	8.1 8.1	8.1	24.0 23.4	23.7	90.7 82.7	86.7	6.3 5.7	6.0	6.0	4.0 4.2	4.1		6.0 6.0	6.0	
20-Jun-14	Fine	Moderate	18:36	6.3	Surface	1.0	29.3 29.3	29.3	8.3 8.3	8.3	18.4 18.3	18.3	84.1 87.1	85.6	5.8 6.0	5.9	5.9	6.5 6.5	6.5	7.0	4.0 3.0	3.5	3.3
					Middle	3.2	29.0 29.1	29.1	8.3 8.3	8.3	19.9 19.5	19.7	87.8 79.7	83.8	6.0 5.5	5.8		6.6 6.8	6.7		3.9 2.5	3.2	
					Bottom	5.3	28.9 29.2	29.0	8.2 8.3	8.2	20.7 20.3	20.5	79.8 83.4	81.6	5.5 5.7	5.6	5.6	7.6 7.7	7.7		3.0 3.3	3.2	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)16 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	11:03	6.3	Surface	1.0	28.7 28.7	28.7	8.3 8.3	8.3	16.9 17.9	17.4	78.8 75.0	76.9	5.6 5.3	5.4	5.2	5.3 5.3	5.3	5.3	4.1 3.7	3.9	4.8
					Middle	3.2	28.6 28.6	28.6	8.2 8.3	8.3	20.1 19.7	19.9	72.4 72.4	72.4	5.0 5.0	5.0		5.3 5.2	5.3		5.1 4.9	5.0	
					Bottom	5.3	28.4 28.6	28.5	8.2 8.2	8.2	24.1 24.2	24.2	74.9 75.9	75.4	5.1 5.2	5.1	5.1	5.1 5.2	5.2		5.2 5.5	5.4	
25-Jun-14	Cloudy	Moderate	12:31	6.4	Surface	1.0	28.8 28.8	28.8	8.2 8.2	8.2	18.1 18.1	18.1	83.4 77.8	80.6	5.8 5.4	5.6	5.5	11.9 12.0	12.0	12.1	4.4 3.0	3.7	4.5
					Middle	3.2	28.7 28.5	28.6	8.2 8.2	8.2	18.5 18.8	18.6	76.5 77.8	77.2	5.3 5.4	5.4		12.2 12.0	12.1		3.6 4.2	3.9	
					Bottom	5.4	28.7 28.4	28.6	8.2 8.1	8.2	20.6 23.6	22.1	74.0 74.6	74.3	5.2 5.1	5.1	5.1	12.4 12.2	12.3		6.4 5.3	5.9	
27-Jun-14	Sunny	Moderate	12:57	6.8	Surface	1.0	29.6 29.7	29.7	8.1 8.1	8.1	17.7 17.6	17.7	74.2 74.9	74.6	5.1 5.2	5.2	5.1	10.2 10.0	10.1	11.4	4.5 5.1	4.8	4.9
					Middle	3.4	29.3 29.4	29.3	8.1 8.1	8.1	18.4 18.1	18.2	70.8 71.7	71.3	4.9 5.0	4.9		11.2 11.4	11.3		5.3 4.5	4.9	
					Bottom	5.8	28.9 28.8	28.9	8.1 8.1	8.1	21.9 20.9	21.4	70.6 70.4	70.5	4.8 4.9	4.8	4.8	12.9 12.9	12.9		5.8 4.4	5.1	
30-Jun-14	Sunny	Moderate	14:27	6.5	Surface	1.0	29.6 29.6	29.6	8.0 8.1	8.0	19.3 19.3	19.3	82.4 81.7	82.1	5.6 5.6	5.6	5.6	6.5 6.3	6.4	6.5	3.8 3.6	3.7	4.4
					Middle	3.3	28.8 28.7	28.7	7.9 7.9	7.9	22.1 22.6	22.4	80.6 79.8	80.2	5.6 5.5	5.5		6.7 6.4	6.6		4.2 4.8	4.5	
					Bottom	5.5	28.5 28.1	28.3	7.9 7.9	7.9	24.4 25.2	24.8	74.4 75.5	75.0	5.0 5.1	5.1	5.1	6.7 6.4	6.6		5.2 4.7	5.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)16 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:05	6.3	Surface	1.0	28.0 27.9	28.0	8.1 8.1	8.1	18.8 18.4	18.6	87.6 84.2	85.9	6.2 6.0	6.1	6.0	4.0 3.9	4.0	4.5	4.5 4.0	4.3	3.9
					Middle	3.2	27.6 27.8	27.7	8.1 8.1	8.1	19.7 17.8	18.8	80.5 82.3	81.4	5.7 5.9	5.8		4.6 4.8	4.7		2.5 3.9	3.2	
					Bottom	5.3	27.6 27.5	27.5	8.1 8.0	8.0	21.4 21.1	21.2	83.5 83.2	83.4	5.9 5.8	5.8	5.8	4.8 4.9	4.9		3.7 4.9	4.3	
4-Jun-14	Sunny	Moderate	09:51	6.7	Surface	1.0	28.1 28.1	28.1	8.2 8.2	8.2	17.4 17.5	17.5	93.6 94.6	94.1	6.6 6.7	6.6	6.6	3.2 3.3	3.3	3.4	3.0 2.7	2.9	3.7
					Middle	3.4	27.6 27.6	27.6	8.1 8.1	8.1	19.8 20.0	19.9	92.4 94.3	93.4	6.5 6.6	6.5		3.4 3.3	3.4		3.9 3.7	3.8	
					Bottom	5.7	27.1 27.6	27.4	8.1 8.1	8.1	21.5 22.2	21.9	91.1 91.9	91.5	6.4 6.5	6.4	6.4	3.6 3.6	3.6		4.5 4.3	4.4	
6-Jun-14	Cloudy	Moderate	12:21	6.4	Surface	1.0	28.9 29.0	28.9	8.5 8.5	8.5	15.9 15.9	15.9	93.6 98.6	96.1	6.6 7.0	6.8	6.1	4.3 4.5	4.4	4.4	2.6 2.8	2.7	3.0
					Middle	3.2	28.6 28.3	28.5	8.3 8.3	8.3	18.4 20.4	19.4	78.4 76.2	77.3	5.5 5.3	5.4		4.4 4.4	4.4		3.1 2.5	2.8	
					Bottom	5.4	26.7 26.7	26.7	8.1 8.1	8.1	25.5 25.5	25.5	76.3 76.5	76.4	5.3 5.3	5.3	5.3	4.5 4.5	4.5		3.2 3.5	3.4	
9-Jun-14	Sunny	Moderate	16:20	6.1	Surface	1.0	29.3 29.2	29.3	8.7 8.7	8.7	19.5 19.6	19.6	114.2 117.8	116.0	7.9 8.1	8.0	7.1	3.1 3.0	3.1	3.2	5.2 5.3	5.3	5.7
					Middle	3.1	27.0 27.0	27.0	8.3 8.3	8.3	24.2 24.5	24.4	89.8 89.9	89.9	6.2 6.2	6.2		2.9 3.0	3.0		6.0 5.9	6.0	
					Bottom	5.1	26.1 26.0	26.1	8.3 8.1	8.2	27.5 27.7	27.6	87.4 85.0	86.2	6.1 5.9	6.0	6.0	3.3 3.5	3.4		5.1 6.4	5.8	
11-Jun-14	Fine	Moderate	18:17	6.7	Surface	1.0	27.5 27.5	27.5	8.5 8.5	8.5	21.1 21.0	21.1	115.0 109.4	112.2	8.1 7.7	7.9	7.3	5.7 6.4	6.1	7.8	4.0 3.1	3.6	4.4
					Middle	3.4	27.5 27.5	27.5	8.5 8.5	8.5	21.1 21.4	21.3	82.7 84.5	83.6	6.5 7.0	6.7		8.5 7.8	8.2		4.8 3.7	4.3	
					Bottom	5.7	27.0 27.5	27.3	8.3 8.5	8.4	23.9 21.2	22.5	77.0 85.3	81.2	6.4 7.0	6.7	6.7	8.5 9.5	9.0		4.4 5.9	5.2	
13-Jun-14	Sunny	Moderate	19:43	6.6	Surface	1.0	27.4 27.3	27.4	8.0 8.0	8.0	21.9 21.9	21.9	82.7 82.1	82.4	5.8 5.8	5.8	5.8	7.5 6.8	7.2	8.3	5.8 5.9	5.9	6.4
					Middle	3.3	27.3 27.3	27.3	8.0 8.0	8.0	22.2 22.3	22.2	81.8 80.1	81.0	5.7 5.6	5.7		7.9 8.7	8.3		6.2 6.1	6.2	
					Bottom	5.6	26.8 27.3	27.0	7.9 8.0	7.9	24.8 23.3	24.1	81.2 82.2	81.7	5.7 5.7	5.7	5.7	9.0 9.5	9.3		6.7 7.4	7.1	
16-Jun-14	Sunny	Moderate	08:14	6.3	Surface	1.0	27.8 27.8	27.8	8.1 8.1	8.1	19.6 19.4	19.5	83.4 82.8	83.1	5.9 5.8	5.9	5.9	4.4 4.0	4.2	5.2	3.2 2.8	3.0	2.7
					Middle	3.2	27.8 27.8	27.8	8.2 8.1	8.2	20.2 20.1	20.1	82.7 84.5	83.6	5.8 5.9	5.9		5.5 5.4	5.5		2.6 2.1	2.4	
					Bottom	5.3	27.8 27.8	27.8	8.2 8.2	8.2	21.2 21.2	21.2	87.6 83.0	85.3	6.1 5.8	6.0	6.0	6.0 5.8	5.9		3.1 2.3	2.7	
18-Jun-14	Sunny	Moderate	10:44	6.7	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	16.1 16.1	16.1	84.9 84.4	84.7	6.0 5.9	5.9	5.8	3.4 3.5	3.5	3.7	2.7 2.7	2.7	3.4
					Middle	3.4	28.7 28.7	28.7	8.1 8.1	8.1	17.3 17.3	17.3	81.9 82.6	82.3	5.7 5.7	5.7		3.7 3.5	3.6		3.6 3.4	3.5	
					Bottom	5.7	28.6 28.7	28.7	8.1 8.1	8.1	19.8 20.2	20.0	81.8 80.5	81.2	5.7 5.7	5.7	5.7	3.9 3.8	3.9		3.8 4.2	4.0	
20-Jun-14	Rainy	Moderate	12:53	6.3	Surface	1.0	29.2 29.3	29.2	8.3 8.3	8.3	17.9 17.8	17.9	82.7 85.7	84.2	5.8 6.0	5.9	5.7	6.2 6.3	6.3	6.4	2.4 2.4	2.4	2.7
					Middle	3.2	28.9 29.1	29.0	8.2 8.3	8.3	18.5 18.2	18.4	76.9 81.9	79.4	5.3 5.7	5.5		6.4 6.6	6.5		3.1 2.8	3.0	
					Bottom	5.3	29.0 28.9	28.9	8.2 8.2	8.2	20.2 20.3	20.2	83.3 77.9	80.6	5.7 5.4	5.6	5.6	6.5 6.5	6.5		2.6 2.7	2.7	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS(Mf)16 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	16:24	6.3	Surface	1.0	28.9 29.0	29.0	8.3 8.3	8.3	16.7 16.5	16.6	80.1 81.2	80.7	5.6 5.7	5.7	5.4	11.9 11.4	11.7	11.6	4.7 4.6	4.7	5.1
					Middle	3.2	28.8 28.7	28.8	8.3 8.3	8.3	17.2 17.2	17.2	73.5 72.5	73.0	5.2 5.1	5.1		11.6 11.6	11.6		4.9 4.8	4.9	
					Bottom	5.3	28.6 28.6	28.6	8.2 8.3	8.2	23.5 23.4	23.4	75.3 76.5	75.9	5.1 5.2	5.2	5.2	11.7 11.5	11.6		5.7 5.8	5.8	
25-Jun-14	Cloudy	Moderate	18:16	6.2	Surface	1.0	28.8 28.8	28.8	8.1 8.1	8.1	15.2 15.5	15.4	81.5 78.7	80.1	5.8 5.5	5.6	5.6	6.7 6.7	6.7	6.8	5.0 4.7	4.9	4.6
					Middle	3.1	28.7 28.7	28.7	8.1 8.1	8.1	16.2 16.2	16.2	81.1 78.0	79.6	5.6 5.4	5.5		6.7 6.7	6.7		3.8 5.3	4.6	
					Bottom	5.2	28.7 28.6	28.6	8.1 8.1	8.1	21.4 22.2	21.8	73.7 73.2	73.5	5.2 5.2	5.2	5.2	6.9 7.0	7.0		4.5 4.0	4.3	
27-Jun-14	Sunny	Moderate	19:49	6.8	Surface	1.0	30.2 30.2	30.2	8.1 8.1	8.1	16.1 16.1	16.1	90.0 90.0	90.0	6.2 6.2	6.2	6.0	8.0 8.2	8.1	8.9	4.8 4.7	4.8	4.3
					Middle	3.4	30.1 30.1	30.1	8.1 8.1	8.1	16.2 16.2	16.2	83.9 84.2	84.1	5.8 5.8	5.8		8.6 8.3	8.5		4.6 3.7	4.2	
					Bottom	5.8	29.0 29.2	29.1	8.1 8.1	8.1	21.0 20.1	20.6	76.3 74.9	75.6	5.2 5.1	5.2	5.2	10.0 9.9	10.0		4.3 3.6	4.0	
30-Jun-14	Sunny	Moderate	07:58	6.5	Surface	1.0	29.2 29.2	29.2	8.0 8.0	8.0	18.7 18.7	18.7	73.2 74.0	73.6	5.1 5.1	5.1	5.1	4.7 4.6	4.7	5.4	2.4 2.6	2.5	3.7
					Middle	3.3	29.1 29.1	29.1	7.9 8.0	7.9	20.5 19.4	20.0	72.8 73.1	73.0	5.0 5.1	5.0		5.7 5.4	5.6		4.3 2.7	3.5	
					Bottom	5.5	28.7 29.0	28.9	7.9 7.9	7.9	22.5 22.3	22.4	69.3 72.6	71.0	4.7 4.9	4.8	4.8	5.8 5.9	5.9		5.8 4.1	5.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS5 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	14:39	8.8	Surface	1.0	29.0 29.0	29.0	8.4 8.4	8.4	17.4 16.2	16.8	124.9 123.8	124.4	8.7 8.7	8.7	7.0	4.1 4.0	4.1	4.2	4.4 3.8	4.1	4.5
					Middle	4.4	27.1 27.3	27.2	8.1 8.1	8.1	23.6 24.1	23.8	74.7 76.4	75.6	5.2 5.3	5.3		4.3 4.3	4.3		3.7 5.6	4.7	
					Bottom	7.8	26.7 26.8	26.7	8.0 8.0	8.0	26.1 25.8	26.0	76.8 78.7	77.8	5.3 5.5	5.4	5.4	4.2 4.2	4.2		4.2 4.9	4.6	
4-Jun-14	Sunny	Moderate	15:50	9.1	Surface	1.0	29.0 28.8	28.9	8.3 8.2	8.3	18.1 18.3	18.2	100.9 95.0	98.0	7.1 6.6	6.8	6.5	3.2 3.3	3.3	3.5	3.0 3.3	3.2	3.5
					Middle	4.6	26.2 26.1	26.2	7.9 7.9	7.9	26.5 27.7	27.1	91.5 87.1	89.3	6.4 6.1	6.2		3.4 3.5	3.5		3.4 3.3	3.4	
					Bottom	8.1	26.2 26.2	26.2	8.0 7.9	8.0	28.0 27.9	27.9	86.9 83.9	85.4	6.1 5.9	6.0	6.0	3.6 3.7	3.7		4.1 3.9	4.0	
6-Jun-14	Cloudy	Moderate	17:50	8.5	Surface	1.0	29.1 29.1	29.1	8.6 8.6	8.6	16.6 16.6	16.6	102.6 103.3	103.0	7.2 7.2	7.2	6.2	3.5 3.5	3.5	4.3	3.2 3.3	3.3	4.2
					Middle	4.3	28.5 27.9	28.2	8.3 8.3	8.3	20.7 22.3	21.5	76.7 72.5	74.6	5.3 5.0	5.2		4.8 4.6	4.7		4.6 4.1	4.4	
					Bottom	7.5	26.4 26.5	26.5	8.1 8.1	8.1	27.4 27.3	27.3	71.3 73.8	72.6	4.9 5.1	5.0	5.0	4.5 4.6	4.6		5.1 4.6	4.9	
9-Jun-14	Sunny	Moderate	11:11	8.3	Surface	1.0	28.7 28.2	28.5	8.5 8.4	8.4	19.6 20.2	19.9	89.7 89.4	89.6	6.5 6.5	6.5	6.0	3.8 3.8	3.8	5.3	6.4 5.6	6.0	5.2
					Middle	4.2	25.7 25.7	25.7	8.1 8.0	8.0	29.3 29.2	29.2	77.2 75.0	76.1	5.5 5.4	5.4		6.5 6.5	6.5		5.0 5.1	5.1	
					Bottom	7.3	25.6 25.6	25.6	8.1 7.9	8.0	29.9 29.7	29.8	68.2 73.8	71.0	4.9 5.2	5.0	5.0	5.7 5.5	5.6		3.4 5.3	4.4	
11-Jun-14	Fine	Moderate	12:45	8.4	Surface	1.0	27.6 27.7	27.7	8.4 8.4	8.4	22.1 22.3	22.2	82.9 81.8	82.4	5.8 5.7	5.7	5.5	4.8 4.7	4.8	6.8	5.7 6.5	6.1	6.5
					Middle	4.2	26.6 26.6	26.6	8.2 8.2	8.2	25.8 25.9	25.8	75.2 80.9	78.1	5.1 5.2	5.2		7.4 7.9	7.7		6.7 7.2	7.0	
					Bottom	7.4	26.4 26.4	26.4	8.2 8.2	8.2	26.9 27.0	27.0	70.2 83.5	76.9	4.9 5.4	5.1	5.1	7.3 8.7	8.0		6.3 6.5	6.4	
13-Jun-14	Sunny	Moderate	14:05	8.6	Surface	1.0	27.6 27.6	27.6	7.9 7.9	7.9	23.5 23.6	23.6	88.0 87.1	87.6	6.1 6.0	6.1	5.7	7.7 8.2	8.0	11.1	4.2 4.6	4.4	5.7
					Middle	4.3	27.3 27.2	27.3	7.8 7.7	7.8	26.2 26.5	26.4	77.5 74.1	75.8	5.3 5.1	5.2		11.5 11.9	11.7		6.2 6.0	6.1	
					Bottom	7.6	26.9 26.9	26.9	7.7 7.7	7.7	27.1 27.2	27.1	72.7 75.0	73.9	5.0 5.1	5.1	5.1	13.8 13.6	13.7		6.3 6.7	6.5	
16-Jun-14	Sunny	Moderate	13:51	8.5	Surface	1.0	28.2 28.2	28.2	8.1 8.1	8.1	21.7 21.7	21.7	79.2 79.8	79.5	5.5 5.5	5.5	5.5	6.5 6.8	6.7	7.0	5.8 5.2	5.5	5.6
					Middle	4.3	28.1 28.1	28.1	8.1 8.1	8.1	22.0 21.9	22.0	78.3 79.5	78.9	5.4 5.5	5.5		7.2 7.1	7.2		5.0 5.7	5.4	
					Bottom	7.5	28.1 28.1	28.1	8.1 8.1	8.1	22.0 21.9	22.0	79.3 80.1	79.7	5.5 5.5	5.5	5.5	6.9 7.2	7.1		5.6 5.9	5.8	
18-Jun-14	Sunny	Moderate	16:13	9.1	Surface	1.0	29.1 29.3	29.2	8.2 8.2	8.2	19.3 18.8	19.0	86.8 93.9	90.4	6.0 6.5	6.2	6.1	4.7 4.8	4.8	4.9	6.8 7.0	6.9	7.9
					Middle	4.6	28.8 29.0	28.9	8.1 8.2	8.2	20.5 19.7	20.1	85.8 87.9	86.9	5.9 6.1	6.0		4.9 5.0	5.0		8.4 8.5	8.5	
					Bottom	8.1	28.7 28.8	28.8	8.1 8.1	8.1	20.9 20.8	20.8	83.6 85.4	84.5	5.8 5.9	5.8	5.8	4.9 5.1	5.0		8.0 8.6	8.3	
20-Jun-14	Fine	Moderate	17:52	8.6	Surface	1.0	29.6 29.6	29.6	8.5 8.4	8.4	16.1 17.3	16.7	94.9 89.9	92.4	6.6 6.2	6.4	5.9	9.7 9.5	9.6	12.1	4.1 4.0	4.1	4.7
					Middle	4.3	29.1 29.3	29.2	8.3 8.3	8.3	20.4 19.9	20.1	78.6 80.0	79.3	5.4 5.5	5.4		12.6 13.4	13.0		4.9 4.4	4.7	
					Bottom	7.6	29.0 29.0	29.0	8.3 8.3	8.3	22.2 22.4	22.3	78.9 80.8	79.9	5.4 5.5	5.4	5.4	13.3 14.3	13.8		4.9 5.8	5.4	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS5 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	11:49	8.4	Surface	1.0	28.5 28.5	28.5	8.3 8.4	8.3	16.9 15.8	16.3	76.0 74.4	75.2	5.4 5.3	5.3	5.3	11.2 11.2	11.2	11.4	4.6 4.4	4.5	5.2
					Middle	4.2	28.3 28.4	28.4	8.3 8.3	8.3	26.9 26.5	26.7	75.5 74.0	74.8	5.3 5.3	5.3		11.4 11.6	11.5		4.8 4.8	4.8	
					Bottom	7.4	28.3 28.4	28.4	8.2 8.3	8.3	27.4 27.4	27.4	72.1 73.0	72.6	4.8 4.9	4.8	4.8	11.5 11.4	11.5		6.1 6.6	6.4	
25-Jun-14	Cloudy	Moderate	13:22	9.0	Surface	1.0	28.6 28.6	28.6	8.2 8.2	8.2	17.5 17.2	17.3	90.3 99.5	94.9	6.3 6.9	6.6	6.3	5.0 5.0	5.0	5.1	4.2 5.3	4.8	4.4
					Middle	4.5	28.1 28.3	28.2	8.2 8.2	8.2	24.4 24.3	24.4	90.3 85.5	87.9	6.1 5.8	5.9		5.1 5.1	5.1		5.3 4.0	4.7	
					Bottom	8.0	28.2 28.1	28.1	8.2 8.2	8.2	26.8 26.8	26.8	82.8 81.3	82.1	5.6 5.5	5.6	5.6	5.2 5.3	5.3		4.2 3.4	3.8	
27-Jun-14	Sunny	Moderate	14:01	9.4	Surface	1.0	29.8 29.9	29.9	8.1 8.1	8.1	17.7 17.6	17.7	75.3 75.7	75.5	5.2 5.2	5.2	5.1	7.7 7.5	7.6	10.5	3.8 2.9	3.4	3.5
					Middle	4.7	28.5 28.6	28.6	8.1 8.1	8.1	22.8 23.0	22.9	72.8 73.0	72.9	5.0 5.0	5.0		11.7 11.9	11.8		3.9 2.6	3.3	
					Bottom	8.4	28.3 28.3	28.3	8.1 8.1	8.1	26.6 26.0	26.3	71.2 71.0	71.1	4.8 4.8	4.8	4.8	12.0 11.9	12.0		3.6 4.0	3.8	
30-Jun-14	Sunny	Moderate	13:32	8.5	Surface	1.0	29.4 29.4	29.4	8.0 8.0	8.0	21.0 21.1	21.0	76.1 78.2	77.2	5.2 5.3	5.2	5.2	7.2 7.4	7.3	7.5	4.2 4.7	4.5	4.6
					Middle	4.3	29.2 29.0	29.1	8.0 7.9	7.9	21.9 22.1	22.0	77.7 75.0	76.4	5.3 5.1	5.2		7.5 7.4	7.5		3.9 3.5	3.7	
					Bottom	7.5	29.0 28.8	28.9	7.9 7.9	7.9	23.9 24.2	24.1	73.5 71.9	72.7	5.0 4.9	4.9	4.9	7.5 7.6	7.6		5.7 5.5	5.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS5 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:51	8.9	Surface	1.0	28.5 28.5	28.5	8.4 8.4	8.4	19.0 19.0	19.0	115.2 105.4	110.3	8.1 7.4	7.7	6.5	2.1 2.2	2.2	2.8	4.2 3.6	3.9	4.4
					Middle	4.5	27.6 27.7	27.7	8.1 8.1	8.1	22.2 22.0	22.1	75.4 74.6	75.0	5.3 5.2	5.2		2.7 2.9	2.8		3.8 5.0	4.4	
					Bottom	7.9	26.9 27.0	26.9	8.0 7.9	8.0	24.7 24.3	24.5	71.9 68.6	70.3	5.0 4.8	4.9	4.9	3.2 3.3	3.3		4.8 5.1	5.0	
4-Jun-14	Sunny	Moderate	10:44	9.1	Surface	1.0	28.7 29.0	28.9	8.3 8.3	8.3	17.0 16.8	16.9	93.1 93.7	93.4	6.5 6.6	6.6	6.2	1.5 1.5	1.5	1.6	3.2 3.1	3.2	3.5
					Middle	4.6	27.0 26.3	26.6	8.0 7.9	8.0	23.2 24.6	23.9	80.9 84.8	82.9	5.6 5.9	5.8		1.6 1.6	1.6		3.4 3.3	3.4	
					Bottom	8.1	26.2 26.1	26.2	7.9 7.9	7.9	27.7 27.9	27.8	80.6 79.0	79.8	5.7 5.5	5.6	5.6	1.7 1.7	1.7		3.6 4.1	3.9	
6-Jun-14	Cloudy	Moderate	13:07	8.8	Surface	1.0	29.1 29.0	29.1	8.5 8.5	8.5	18.0 17.9	18.0	82.6 90.6	86.6	5.7 6.3	6.0	5.6	4.2 4.3	4.3	4.9	2.0 1.9	2.0	3.8
					Middle	4.4	28.0 26.5	27.2	8.2 8.0	8.1	21.6 21.5	21.6	75.6 76.2	75.9	5.2 5.3	5.2		5.3 5.1	5.2		4.3 4.1	4.2	
					Bottom	7.8	26.3 26.3	26.3	8.0 8.1	8.1	27.8 27.8	27.8	73.2 74.2	73.7	5.1 5.1	5.1	5.1	5.3 5.3	5.3		5.0 5.4	5.2	
9-Jun-14	Sunny	Moderate	15:19	8.0	Surface	1.0	28.4 28.7	28.5	8.4 8.5	8.4	21.2 20.3	20.7	78.7 77.3	78.0	5.9 5.8	5.9	5.6	4.8 4.5	4.7	4.8	5.6 7.2	6.4	6.7
					Middle	4.0	25.7 25.7	25.7	8.0 8.0	8.0	30.0 30.0	30.0	75.1 74.0	74.6	5.3 5.2	5.2		4.9 4.6	4.8		6.9 6.4	6.7	
					Bottom	7.0	25.7 25.7	25.7	8.0 8.0	8.0	30.2 30.3	30.3	74.6 77.3	76.0	5.3 5.5	5.4	5.4	4.5 5.0	4.8		7.2 6.9	7.1	
11-Jun-14	Fine	Moderate	17:29	8.5	Surface	1.0	28.0 27.9	28.0	8.7 8.7	8.7	22.3 22.5	22.4	137.6 130.0	133.8	9.5 9.0	9.3	8.8	5.3 5.1	5.2	5.4	8.9 9.4	9.2	8.5
					Middle	4.3	27.8 27.6	27.7	8.6 8.5	8.6	22.8 22.8	22.8	122.8 116.1	119.5	8.5 8.1	8.3		6.3 6.0	6.2		8.1 7.5	7.8	
					Bottom	7.5	27.5 27.6	27.6	8.5 8.5	8.5	23.7 23.8	23.7	128.5 130.0	129.3	8.9 9.0	8.9	8.9	5.2 4.4	4.8		8.0 8.7	8.4	
13-Jun-14	Sunny	Moderate	18:47	8.8	Surface	1.0	28.0 28.0	28.0	8.4 8.5	8.5	22.1 22.0	22.0	108.0 115.5	111.8	7.5 8.0	7.7	7.3	8.9 9.9	9.4	10.2	11.0 11.5	11.3	11.7
					Middle	4.4	27.8 27.9	27.8	8.3 8.4	8.3	22.9 22.6	22.7	94.4 100.9	97.7	6.5 7.0	6.8		10.2 10.0	10.1		11.7 11.6	11.7	
					Bottom	7.8	27.7 27.7	27.7	8.3 8.3	8.3	23.1 23.0	23.1	91.8 93.1	92.5	6.4 6.5	6.4	6.4	11.2 11.2	11.2		11.6 12.3	12.0	
16-Jun-14	Sunny	Moderate	09:11	8.5	Surface	1.0	28.0 28.0	28.0	8.2 8.1	8.2	20.9 20.7	20.8	80.8 81.4	81.1	5.6 5.7	5.7	5.7	4.2 4.6	4.4	5.2	4.2 3.5	3.9	3.8
					Middle	4.3	28.0 28.0	28.0	8.2 8.1	8.2	21.0 21.0	21.0	80.3 82.1	81.2	5.6 5.7	5.7		5.5 5.7	5.6		3.7 2.6	3.2	
					Bottom	7.5	28.0 28.0	28.0	8.1 8.2	8.1	21.1 21.2	21.2	83.6 80.4	82.0	5.8 5.6	5.7	5.7	5.7 5.3	5.5		3.2 5.2	4.2	
18-Jun-14	Sunny	Moderate	11:32	9.2	Surface	1.0	28.8 28.9	28.9	8.1 8.1	8.1	18.0 18.3	18.1	85.2 87.8	86.5	6.0 6.1	6.0	6.0	3.7 3.6	3.7	3.9	3.7 3.8	3.8	3.8
					Middle	4.6	28.8 28.8	28.8	8.1 8.1	8.1	19.1 19.3	19.2	86.3 83.8	85.1	6.0 5.8	5.9		3.8 3.9	3.9		3.6 3.8	3.7	
					Bottom	8.2	28.8 28.8	28.8	8.1 8.1	8.1	19.5 19.4	19.5	83.3 85.0	84.2	5.8 5.9	5.8	5.8	4.0 3.9	4.0		3.9 4.1	4.0	
20-Jun-14	Rainy	Moderate	13:38	8.5	Surface	1.0	29.5 29.5	29.5	8.4 8.4	8.4	18.9 19.0	19.0	87.2 89.4	88.3	6.0 6.1	6.1	5.8	7.2 7.2	7.2	8.6	3.6 3.1	3.4	4.0
					Middle	4.3	29.2 29.2	29.2	8.3 8.3	8.3	20.6 20.5	20.5	79.2 77.1	78.2	5.4 5.3	5.4		9.2 9.1	9.2		3.3 3.7	3.5	
					Bottom	7.5	28.8 28.9	28.8	8.2 8.3	8.3	22.9 22.9	22.9	76.2 80.8	78.5	5.2 5.5	5.3	5.3	9.4 9.5	9.5		5.5 4.4	5.0	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS5 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	15:31	8.6	Surface	1.0	28.9 28.9	28.9	8.3 8.3	8.3	17.2 17.1	17.2	77.9 79.7	78.8	5.5 5.6	5.5	5.3	11.6 11.5	11.6	11.5	3.0 3.4	3.2	4.2
					Middle	4.3	28.8 28.7	28.8	8.2 8.3	8.3	19.2 20.1	19.7	72.3 74.8	73.6	5.0 5.1	5.1		11.5 11.5	11.5		4.5 4.4	4.5	
					Bottom	7.6	28.7 28.6	28.6	8.2 8.1	8.2	23.2 23.5	23.4	69.5 74.8	72.2	4.8 5.1	5.0	5.0	11.3 11.6	11.5		4.6 5.0	4.8	
25-Jun-14	Cloudy	Moderate	17:20	9.2	Surface	1.0	28.8 28.8	28.8	8.2 8.2	8.2	17.3 17.4	17.4	87.2 89.8	88.5	6.1 6.3	6.2	6.1	5.7 6.0	5.9	6.0	4.4 5.4	4.9	5.4
					Middle	4.6	28.5 28.6	28.6	8.1 8.1	8.1	18.0 19.2	18.6	88.5 86.1	87.3	6.0 5.9	6.0		6.0 5.8	5.9		5.2 4.6	4.9	
					Bottom	8.2	28.6 28.5	28.5	8.1 8.0	8.1	22.5 22.6	22.6	81.9 78.9	80.4	5.7 5.5	5.6	5.6	6.1 6.0	6.1		6.4 6.3	6.4	
27-Jun-14	Sunny	Moderate	18:41	9.4	Surface	1.0	30.4 30.4	30.4	8.1 8.1	8.1	17.5 17.4	17.4	86.2 87.3	86.8	5.9 6.0	5.9	5.5	8.4 8.2	8.3	8.9	4.3 4.2	4.3	4.5
					Middle	4.7	29.8 30.0	29.9	8.1 8.1	8.1	18.7 18.1	18.4	74.5 74.9	74.7	5.1 5.1	5.1		9.1 8.9	9.0		4.8 4.2	4.5	
					Bottom	8.4	28.8 29.2	29.0	8.1 8.1	8.1	22.7 21.4	22.1	72.7 72.5	72.6	5.0 4.9	4.9	4.9	9.3 9.5	9.4		5.2 4.0	4.6	
30-Jun-14	Sunny	Moderate	08:42	8.7	Surface	1.0	29.4 29.4	29.4	8.0 8.0	8.0	19.0 19.2	19.1	75.8 77.9	76.9	5.2 5.4	5.3	5.2	5.6 5.5	5.6	5.5	5.3 4.7	5.0	5.1
					Middle	4.4	28.9 29.1	29.0	8.0 8.0	8.0	21.8 21.8	21.8	74.2 75.5	74.9	5.1 5.1	5.1		5.4 5.5	5.5		5.0 4.9	5.0	
					Bottom	7.7	28.9 28.6	28.7	8.0 7.9	7.9	24.0 24.1	24.0	71.0 72.5	71.8	4.8 4.9	4.8	4.8	5.3 5.4	5.4		5.1 5.6	5.4	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS7 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	14:53	3.2	Surface	1.0	29.1 29.1	29.1	8.6 8.6	8.6	18.3 18.3	18.3	155.1 156.3	155.7	10.8 10.9	10.8	10.8	1.7 1.7	1.7	1.8	4.3 4.5	4.4	4.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.7 29.1	28.9	8.5 8.6	8.6	18.7 18.3	18.5	154.2 154.8	154.5	10.7 10.7	10.7	10.7	1.8 1.8	1.8		4.8 4.4	4.6	
4-Jun-14	Sunny	Moderate	15:31	3.6	Surface	1.0	29.3 29.2	29.3	8.4 8.4	8.4	16.7 16.8	16.7	111.7 106.6	109.2	7.8 7.5	7.6	7.6	4.4 4.3	4.4	4.5	2.1 2.4	2.3	2.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	29.3 29.0	29.2	8.4 8.3	8.4	18.0 18.7	18.3	109.6 106.5	108.1	7.6 7.4	7.5	7.5	4.5 4.4	4.5		2.5 2.5	2.5	
6-Jun-14	Cloudy	Moderate	18:03	3.2	Surface	1.0	29.2 29.2	29.2	8.7 8.6	8.6	16.4 16.6	16.5	132.4 133.2	132.8	9.3 9.3	9.3	9.3	5.3 5.2	5.3	5.3	2.6 2.5	2.6	3.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	29.2 29.0	29.1	8.6 8.4	8.5	17.8 18.9	18.4	131.1 133.0	132.1	9.2 9.3	9.3	9.3	5.3 5.3	5.3		3.6 3.9	3.8	
9-Jun-14	Sunny	Moderate	10:53	3.3	Surface	1.0	28.7 28.8	28.7	8.6 8.6	8.6	17.5 17.4	17.5	104.2 101.3	102.8	7.3 7.3	7.3	7.3	7.3 7.6	7.5	8.1	4.0 3.6	3.8	3.8
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	2.3	28.3 28.0	28.1	8.4 8.2	8.3	18.8 22.2	20.5	96.9 90.1	93.5	6.8 6.2	6.5	6.5	8.2 9.0	8.6		3.7 3.9	3.8	
11-Jun-14	Fine	Moderate	12:29	3.2	Surface	1.0	28.1 28.0	28.0	8.7 8.7	8.7	21.5 21.5	21.5	138.9 127.6	133.3	9.6 8.9	9.3	9.3	4.0 4.1	4.1	4.5	6.5 6.6	6.6	6.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.0 28.0	28.0	8.7 8.5	8.6	21.5 21.7	21.6	132.3 128.0	130.2	9.2 8.9	9.0	9.0	4.3 5.3	4.8		6.7 6.7	6.7	
13-Jun-14	Sunny	Moderate	13:45	3.4	Surface	1.0	27.7 27.6	27.7	8.0 7.9	7.9	21.3 21.4	21.3	114.8 107.0	110.9	8.0 7.5	7.8	7.8	8.8 9.0	8.9	8.6	3.4 3.1	3.3	3.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	27.5 27.5	27.5	7.8 7.8	7.8	23.2 23.0	23.1	110.7 108.3	109.5	7.7 7.5	7.6	7.6	8.0 8.3	8.2		3.7 4.6	4.2	
16-Jun-14	Sunny	Moderate	14:10	3.2	Surface	1.0	28.9 28.7	28.8	8.2 8.2	8.2	19.7 20.0	19.9	89.6 87.7	88.7	6.2 6.1	6.1	6.1	4.3 4.0	4.2	5.0	3.1 2.6	2.9	2.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.2 28.5	28.3	8.2 8.2	8.2	21.0 20.9	20.9	90.2 87.8	89.0	6.3 6.1	6.2	6.2	5.7 5.6	5.7		2.8 2.7	2.8	
18-Jun-14	Sunny	Moderate	15:58	3.4	Surface	1.0	29.9 29.8	29.9	8.2 8.2	8.2	16.6 16.6	16.6	104.1 103.4	103.8	7.2 7.2	7.2	7.2	4.0 3.9	4.0	4.1	2.8 2.8	2.8	3.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	29.4 29.5	29.5	8.2 8.2	8.2	17.0 16.9	17.0	102.2 101.5	101.9	7.1 7.1	7.1	7.1	4.1 4.0	4.1		3.9 3.9	3.9	
20-Jun-14	Fine	Moderate	18:06	3.1	Surface	1.0	29.7 29.7	29.7	8.4 8.4	8.4	17.8 17.8	17.8	114.1 114.3	114.2	7.9 7.9	7.9	7.9	3.9 4.0	4.0	4.0	3.7 4.2	4.0	3.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	29.6 29.7	29.6	8.3 8.4	8.4	17.9 17.8	17.9	112.3 113.8	113.1	7.8 7.8	7.8	7.8	4.1 3.9	4.0		3.9 3.2	3.6	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS7 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	11:35	3.1	Surface	1.0	28.7 28.7	28.7	8.3 8.2	8.2	16.6 16.5	16.6	77.9 78.8	78.4	5.5 5.6	5.5	5.5	15.1 15.3	15.2	15.2	3.1 3.2	3.2	3.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	28.8 28.8	28.8	8.2 8.1	8.2	18.2 18.5	18.3	77.4 76.6	77.0	5.4 5.3	5.4	5.4	15.2 15.2	15.2		3.6 3.5	3.6	
25-Jun-14	Cloudy	Moderate	13:04	3.3	Surface	1.0	28.7 28.7	28.7	8.1 8.1	8.1	16.8 16.9	16.9	83.4 73.2	78.3	5.8 5.2	5.5	5.5	7.7 8.0	7.9	8.0	5.5 4.1	4.8	4.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.7 28.7	28.7	8.1 7.9	8.0	16.8 17.7	17.3	71.1 74.1	72.6	5.0 5.2	5.1	5.1	8.0 8.0	8.0		4.3 5.0	4.7	
27-Jun-14	Sunny	Moderate	13:40	3.4	Surface	1.0	29.8 29.6	29.7	8.1 8.1	8.1	16.1 16.0	16.1	83.9 83.7	83.8	5.8 5.8	5.8	5.8	7.5 7.6	7.6	8.8	5.2 4.1	4.7	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	29.6 29.6	29.6	8.1 8.1	8.1	17.2 17.4	17.3	82.2 82.1	82.2	5.7 5.7	5.7	5.7	9.8 10.0	9.9		3.4 4.3	3.9	
30-Jun-14	Sunny	Moderate	13:45	3.3	Surface	1.0	29.9 29.9	29.9	8.2 8.2	8.2	18.3 18.3	18.3	112.6 114.5	113.6	7.7 7.8	7.8	7.8	3.5 3.5	3.5	3.5	4.2 5.1	4.7	4.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	29.8 29.8	29.8	8.1 8.0	8.1	19.1 19.0	19.0	110.6 105.9	108.3	7.6 7.2	7.4	7.4	3.5 3.3	3.4		3.7 4.3	4.0	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS7 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:36	3.2	Surface	1.0	28.8 28.8	28.8	8.5 8.5	8.5	18.5 18.5	18.5	133.2 127.5	130.4	9.3 8.9	9.1	9.1	1.8 1.8	1.8	1.8	2.3 2.7	2.5	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.2	28.5 28.8	28.6	8.4 8.5	8.4	18.7 18.5	18.6	121.5 129.7	125.6	8.5 9.0	8.8	8.8	1.8 1.7	1.8		2.6 4.1	3.4	
4-Jun-14	Sunny	Moderate	10:27	3.5	Surface	1.0	29.0 28.9	28.9	8.4 8.4	8.4	16.2 16.3	16.3	112.8 113.0	112.9	7.9 7.9	7.9	7.9	2.2 2.3	2.3	2.4	3.0 3.4	3.2	3.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	28.7 28.9	28.8	8.3 8.4	8.3	18.2 17.5	17.8	103.1 111.0	107.1	7.2 7.8	7.5	7.5	2.3 2.4	2.4		3.3 3.7	3.5	
6-Jun-14	Cloudy	Moderate	12:52	3.1	Surface	1.0	29.3 29.2	29.3	8.6 8.6	8.6	15.6 17.2	16.4	135.2 135.9	135.6	9.5 9.5	9.5	9.5	2.5 2.5	2.5	2.6	1.8 1.8	1.8	2.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	29.2 29.2	29.2	8.6 8.6	8.6	18.4 18.1	18.2	137.0 135.3	136.2	9.5 9.4	9.4	9.4	2.6 2.6	2.6		2.5 2.1	2.3	
9-Jun-14	Sunny	Moderate	15:39	3.1	Surface	1.0	28.9 29.2	29.0	8.5 8.6	8.6	18.9 18.5	18.7	96.2 95.8	96.0	7.2 7.2	7.2	7.2	9.0 8.1	8.6	9.4	3.3 4.3	3.8	4.6
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	2.1	28.9 27.9	28.4	8.4 8.3	8.4	20.7 24.5	22.6	96.9 95.9	96.4	7.3 7.2	7.2	7.2	9.9 10.3	10.1		4.9 5.6	5.3	
11-Jun-14	Fine	Moderate	17:42	3.4	Surface	1.0	27.9 27.9	27.9	8.6 8.6	8.6	23.0 22.9	23.0	134.7 134.3	134.5	9.3 9.3	9.3	9.3	7.7 8.9	8.3	8.7	6.0 4.0	5.0	5.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	27.9 27.9	27.9	8.4 8.6	8.5	23.0 23.0	23.0	134.0 132.8	133.4	9.3 9.2	9.2	9.2	9.8 8.1	9.0		5.5 4.8	5.2	
13-Jun-14	Sunny	Moderate	19:05	3.0	Surface	1.0	27.8 27.9	27.9	8.3 8.3	8.3	22.2 22.2	22.2	117.1 117.4	117.3	8.1 8.1	8.1	8.1	7.8 7.3	7.6	8.3	7.0 6.8	6.9	6.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.0	27.8 27.8	27.8	8.3 8.3	8.3	22.2 22.2	22.2	116.6 117.2	116.9	8.1 8.1	8.1	8.1	8.9 9.0	9.0		6.7 6.5	6.6	
16-Jun-14	Sunny	Moderate	08:51	3.3	Surface	1.0	27.9 27.9	27.9	8.2 8.2	8.2	20.6 20.5	20.5	83.4 85.5	84.5	5.8 6.0	5.9	5.9	4.0 4.2	4.1	4.4	3.6 3.4	3.5	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	27.9 28.0	28.0	8.2 8.2	8.2	20.9 21.1	21.0	89.1 83.9	86.5	6.2 5.9	6.0	6.0	4.5 4.6	4.6		3.9 2.9	3.4	
18-Jun-14	Sunny	Moderate	11:18	3.5	Surface	1.0	29.0 29.0	29.0	8.2 8.2	8.2	17.2 17.0	17.1	96.0 98.8	97.4	6.7 6.9	6.8	6.8	3.4 3.3	3.4	3.6	2.9 2.9	2.9	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	29.0 28.9	28.9	8.2 8.2	8.2	18.3 18.7	18.5	95.5 96.6	96.1	6.7 6.8	6.7	6.7	3.6 3.7	3.7		2.5 2.6	2.6	
20-Jun-14	Rainy	Moderate	13:24	3.3	Surface	1.0	29.6 29.5	29.5	8.5 8.5	8.5	18.2 18.3	18.2	123.4 120.1	121.8	8.5 8.3	8.4	8.4	4.4 4.6	4.5	4.5	2.3 3.8	3.1	3.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	29.5 29.5	29.5	8.4 8.4	8.4	18.5 18.5	18.5	125.8 119.5	122.7	8.7 8.2	8.5	8.5	4.4 4.6	4.5		3.0 3.5	3.3	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS7 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	15:48	3.0	Surface	1.0	28.9 29.0	28.9	8.3 8.4	8.4	17.1 16.8	16.9	89.7 92.1	90.9	6.3 6.5	6.4	6.4	17.5 17.4	17.5	17.7	4.2 5.0	4.6	5.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.0	28.9 28.9	28.9	8.4 8.3	8.3	17.1 17.7	17.4	90.6 86.5	88.6	6.4 6.0	6.2	6.2	17.8 17.8	17.8		5.4 5.6	5.5	
25-Jun-14	Cloudy	Moderate	17:37	3.1	Surface	1.0	28.9 28.8	28.8	8.1 8.1	8.1	17.1 17.2	17.1	88.8 80.2	84.5	6.2 5.6	5.9	5.9	9.0 8.9	9.0	9.2	5.3 6.1	5.7	6.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.1	28.9 28.7	28.8	8.1 8.0	8.1	18.7 18.9	18.8	76.7 79.3	78.0	5.4 5.6	5.5	5.5	9.2 9.3	9.3		6.6 5.7	6.2	
27-Jun-14	Sunny	Moderate	19:05	3.5	Surface	1.0	30.6 30.6	30.6	8.1 8.1	8.1	16.6 16.5	16.5	93.2 92.7	93.0	6.4 6.3	6.4	6.4	18.4 18.6	18.5	18.7	3.7 3.4	3.6	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	30.1 30.0	30.0	8.1 8.1	8.1	17.2 17.4	17.3	85.7 86.7	86.2	5.9 6.0	5.9	5.9	19.0 18.5	18.8		3.4 3.8	3.6	
30-Jun-14	Sunny	Moderate	08:28	3.4	Surface	1.0	29.6 29.6	29.6	8.1 8.1	8.1	17.7 17.6	17.7	95.3 92.4	93.9	6.6 6.4	6.5	6.5	4.2 4.0	4.1	4.1	5.6 5.9	5.8	6.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	29.6 29.6	29.6	8.1 8.1	8.1	18.5 17.8	18.1	91.3 94.3	92.8	6.3 6.5	6.4	6.4	4.2 4.0	4.1		6.4 6.7	6.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS8 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	15:16	3.9	Surface	1.0	29.1 28.8	28.9	8.5 8.4	8.4	18.1 18.2	18.1	135.5 129.7	132.6	9.4 9.1	9.2	9.2	2.4 2.3	2.4	2.4	5.3 5.4	5.4	5.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	28.1 28.4	28.3	8.2 8.3	8.3	19.5 19.5	19.5	132.6 133.4	133.0	9.3 9.3	9.3	9.3	2.4 2.4	2.4		5.6 4.5	5.1	
4-Jun-14	Sunny	Moderate	16:17	3.4	Surface	1.0	28.9 28.8	28.9	8.4 8.4	8.4	17.5 17.3	17.4	109.1 111.0	110.1	7.6 7.7	7.7	7.7	4.9 4.7	4.8	5.0	3.8 3.5	3.7	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	28.2 28.6	28.4	8.2 8.3	8.3	18.3 19.4	18.9	105.3 110.2	107.8	7.4 7.7	7.6	7.6	5.1 5.0	5.1		4.9 4.8	4.9	
6-Jun-14	Cloudy	Moderate	18:25	3.9	Surface	1.0	28.7 28.9	28.8	8.5 8.6	8.5	18.1 17.2	17.7	115.2 121.9	118.6	8.1 8.5	8.3	8.3	6.5 6.4	6.5	6.6	4.2 4.4	4.3	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	28.5 28.9	28.7	8.4 8.5	8.5	18.9 18.5	18.7	114.6 119.7	117.2	8.0 8.3	8.2	8.2	6.6 6.6	6.6		4.0 4.4	4.2	
9-Jun-14	Sunny	Moderate	10:25	3.7	Surface	1.0	28.0 27.5	27.8	8.3 8.3	8.3	21.0 21.9	21.4	80.3 74.8	77.6	5.6 5.2	5.4	5.4	6.5 6.4	6.5	7.9	4.4 4.1	4.3	4.6
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	2.7	26.6 26.5	26.6	7.9 8.1	8.0	25.0 25.3	25.1	70.4 72.9	71.7	4.9 5.1	5.0	5.0	9.4 9.0	9.2		4.9 4.9	4.9	
11-Jun-14	Fine	Moderate	12:03	3.8	Surface	1.0	27.5 27.5	27.5	8.4 8.5	8.4	22.5 22.4	22.5	91.5 95.5	93.5	6.4 6.7	6.5	6.5	10.6 11.2	10.9	10.4	5.1 4.2	4.7	4.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.3 27.4	27.3	8.2 8.3	8.3	23.7 23.5	23.6	89.3 91.7	90.5	6.2 6.4	6.3	6.3	10.5 9.2	9.9		4.0 4.1	4.1	
13-Jun-14	Sunny	Moderate	13:19	3.7	Surface	1.0	27.9 27.9	27.9	8.0 8.0	8.0	21.5 21.6	21.6	110.2 102.3	106.3	7.7 7.1	7.4	7.4	6.4 6.0	6.2	7.4	3.4 2.9	3.2	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.6 27.4	27.5	7.9 7.8	7.8	23.4 23.5	23.5	108.9 101.2	105.1	7.5 7.0	7.3	7.3	8.6 8.6	8.6		3.9 4.1	4.0	
16-Jun-14	Sunny	Moderate	14:43	3.9	Surface	1.0	28.2 28.2	28.2	8.1 8.1	8.1	20.9 20.8	20.8	83.5 83.8	83.7	5.8 5.8	5.8	5.8	7.9 7.7	7.8	8.6	3.8 3.1	3.5	3.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	28.2 28.1	28.1	8.1 8.1	8.1	21.7 21.7	21.7	83.9 84.1	84.0	5.8 5.8	5.8	5.8	9.0 9.7	9.4		3.7 3.9	3.8	
18-Jun-14	Sunny	Moderate	15:39	3.6	Surface	1.0	29.4 28.8	29.1	8.2 8.1	8.1	17.2 17.7	17.5	93.8 83.4	88.6	6.5 5.8	6.2	6.2	7.7 7.6	7.7	7.8	3.5 3.5	3.5	3.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	28.7 29.1	28.9	8.1 8.1	8.1	19.4 18.9	19.2	83.0 87.7	85.4	5.8 6.1	5.9	5.9	7.7 7.9	7.8		3.9 3.8	3.9	
20-Jun-14	Fine	Moderate	18:30	4.0	Surface	1.0	29.4 29.4	29.4	8.4 8.4	8.4	18.2 18.2	18.2	91.5 94.7	93.1	6.3 6.5	6.4	6.4	9.5 9.3	9.4	10.1	3.4 2.4	2.9	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	29.1 29.3	29.2	8.2 8.3	8.2	19.9 19.7	19.8	86.8 94.5	90.7	6.0 6.5	6.2	6.2	10.4 10.9	10.7		2.5 2.7	2.6	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS8 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	11:10	4.1	Surface	1.0	28.8 28.8	28.8	8.3 8.3	8.3	16.9 17.4	17.1	75.7 74.7	75.2	5.3 5.2	5.3	5.3	9.4 9.6	9.5	9.4	4.4 3.4	3.9	4.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.7 28.7	28.7	8.1 8.2	8.2	19.8 20.8	20.3	71.4 73.6	72.5	5.0 5.1	5.0	5.0	9.4 9.2	9.3		4.9 5.2	5.1	
25-Jun-14	Cloudy	Moderate	12:39	3.6	Surface	1.0	28.7 28.7	28.7	8.2 8.2	8.2	18.0 17.3	17.6	82.8 80.9	81.9	5.8 5.6	5.7	5.7	6.0 6.0	6.0	6.2	3.6 3.5	3.6	4.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	28.7 28.6	28.6	8.2 8.1	8.2	18.9 19.4	19.1	79.4 79.8	79.6	5.6 5.6	5.6	5.6	6.5 6.2	6.4		5.2 5.1	5.2	
27-Jun-14	Sunny	Moderate	13:05	3.6	Surface	1.0	30.1 30.1	30.1	8.1 8.1	8.1	16.3 16.3	16.3	89.5 88.1	88.8	6.2 6.1	6.1	6.1	4.5 4.3	4.4	4.5	5.4 5.9	5.7	5.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	30.1 30.0	30.0	8.1 8.1	8.1	17.7 16.5	17.1	88.8 89.7	89.3	6.1 6.2	6.1	6.1	4.6 4.6	4.6		5.1 5.3	5.2	
30-Jun-14	Sunny	Moderate	14:17	4.2	Surface	1.0	29.6 29.6	29.6	8.0 8.0	8.0	19.1 19.1	19.1	84.8 86.8	85.8	5.8 6.0	5.9	5.9	5.7 5.4	5.6	5.7	4.2 3.9	4.1	4.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	29.2 28.9	29.0	7.9 7.8	7.8	21.8 22.7	22.2	78.8 75.1	77.0	5.4 5.1	5.2	5.2	5.6 5.7	5.7		3.4 4.9	4.2	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS8 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:14	4.3	Surface	1.0	28.0 28.1	28.1	8.1 8.2	8.1	17.2 17.2	17.2	85.8 88.0	86.9	6.1 6.3	6.2	6.2	3.3 3.5	3.4	3.6	2.7 2.2	2.5	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	27.8 27.8	27.8	8.1 8.1	8.1	19.2 19.0	19.1	83.5 81.2	82.4	5.9 5.7	5.8	5.8	3.7 3.6	3.7		4.2 3.7	4.0	
4-Jun-14	Sunny	Moderate	09:59	3.4	Surface	1.0	28.4 28.4	28.4	8.2 8.2	8.2	16.5 16.6	16.6	100.8 100.0	100.4	7.1 7.1	7.1	7.1	1.8 1.8	1.8	1.9	4.6 4.1	4.4	5.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	27.8 28.1	28.0	8.2 8.2	8.2	17.7 17.7	17.7	98.7 100.4	99.6	7.0 7.1	7.0	7.0	1.9 1.9	1.9		5.6 5.7	5.7	
6-Jun-14	Cloudy	Moderate	12:28	3.9	Surface	1.0	29.0 28.9	29.0	8.5 8.5	8.5	15.4 15.8	15.6	116.5 117.3	116.9	8.2 8.3	8.3	8.3	3.7 3.5	3.6	3.6	3.0 2.9	3.0	3.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	28.8 28.8	28.8	8.5 8.5	8.5	17.4 17.6	17.5	115.5 116.5	116.0	8.1 8.2	8.1	8.1	3.6 3.5	3.6		3.3 4.0	3.7	
9-Jun-14	Sunny	Moderate	16:08	3.5	Surface	1.0	27.8 27.7	27.7	8.4 8.4	8.4	23.0 23.6	23.3	102.8 94.8	98.8	7.1 6.5	6.8	6.8	11.7 11.2	11.5	12.3	7.0 8.8	7.9	7.6
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	2.5	26.2 26.8	26.5	8.2 8.3	8.3	26.4 24.7	25.5	90.8 92.3	91.6	6.3 6.4	6.4	6.4	12.5 13.6	13.1		8.1 6.4	7.3	
11-Jun-14	Fine	Moderate	18:08	3.8	Surface	1.0	27.5 27.5	27.5	8.4 8.4	8.4	20.6 20.7	20.6	107.2 101.4	104.3	7.6 7.2	7.4	7.4	6.4 7.2	6.8	7.6	3.0 2.1	2.6	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.5 27.4	27.4	8.4 8.3	8.4	22.0 22.5	22.3	104.6 106.1	105.4	7.3 7.4	7.4	7.4	8.1 8.6	8.4		4.2 2.6	3.4	
13-Jun-14	Sunny	Moderate	19:34	3.6	Surface	1.0	27.5 27.5	27.5	8.1 8.1	8.1	21.7 21.6	21.6	96.5 95.0	95.8	6.8 6.7	6.7	6.7	9.6 9.1	9.4	10.7	11.8 11.4	11.6	12.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	27.5 27.5	27.5	8.1 8.1	8.1	23.1 22.8	22.9	97.0 100.1	98.6	6.7 7.0	6.9	6.9	12.0 11.7	11.9		11.5 13.0	12.3	
16-Jun-14	Sunny	Moderate	08:21	3.9	Surface	1.0	27.8 27.8	27.8	8.1 8.1	8.1	18.7 18.8	18.8	83.8 85.4	84.6	5.9 6.1	6.0	6.0	5.0 4.9	5.0	5.4	3.0 2.2	2.6	2.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.8 27.8	27.8	8.1 8.1	8.1	19.0 19.1	19.1	88.0 84.3	86.2	6.2 6.0	6.1	6.1	5.8 5.6	5.7		2.4 2.4	2.4	
18-Jun-14	Sunny	Moderate	10:54	4.1	Surface	1.0	28.9 28.9	28.9	8.1 8.1	8.1	15.8 15.8	15.8	81.3 87.0	84.2	5.7 6.1	5.9	5.9	2.8 2.6	2.7	2.8	3.1 2.8	3.0	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.7 28.7	28.7	8.1 8.1	8.1	17.6 17.9	17.7	80.7 84.4	82.6	5.7 6.0	5.8	5.8	2.9 2.8	2.9		4.0 3.9	4.0	
20-Jun-14	Rainy	Moderate	13:00	4.1	Surface	1.0	29.2 29.1	29.2	8.3 8.3	8.3	17.8 18.1	17.9	84.4 83.3	83.9	5.9 5.8	5.8	5.8	6.6 6.9	6.8	6.8	2.9 2.9	2.9	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	29.1 29.1	29.1	8.3 8.2	8.2	18.3 18.5	18.4	84.1 82.1	83.1	5.8 5.7	5.8	5.8	7.1 6.5	6.8		3.1 2.9	3.0	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS8 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	16:15	4.1	Surface	1.0	28.9 28.9	28.9	8.3 8.3	8.3	17.1 16.9	17.0	78.3 74.4	76.4	5.5 5.2	5.4	5.4	10.4 10.5	10.5	10.6	3.3 3.2	3.3	5.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.8 28.8	28.8	8.2 8.2	8.2	20.8 18.4	19.6	74.9 77.6	76.3	5.2 5.4	5.3	5.3	10.7 10.4	10.6		6.7 7.0	6.9	
25-Jun-14	Cloudy	Moderate	18:07	3.3	Surface	1.0	28.8 28.8	28.8	8.1 8.1	8.1	15.0 14.9	14.9	80.5 80.9	80.7	5.7 5.7	5.7	5.7	8.0 7.9	8.0	8.2	3.8 2.3	3.1	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.8 28.8	28.8	8.1 8.1	8.1	16.7 17.4	17.0	78.2 80.7	79.5	5.5 5.7	5.6	5.6	8.4 8.3	8.4		3.2 4.8	4.0	
27-Jun-14	Sunny	Moderate	19:40	3.5	Surface	1.0	30.4 30.4	30.4	8.1 8.1	8.1	16.5 16.4	16.5	92.0 92.2	92.1	6.3 6.3	6.3	6.3	19.5 19.4	19.5	19.9	4.9 4.5	4.7	4.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	29.9 30.0	30.0	8.1 8.1	8.1	17.7 17.4	17.5	85.3 86.3	85.8	5.9 5.9	5.9	5.9	20.3 20.1	20.2		4.6 4.2	4.4	
30-Jun-14	Sunny	Moderate	08:06	4.1	Surface	1.0	29.2 29.2	29.2	7.9 7.9	7.9	18.8 18.9	18.9	72.6 72.8	72.7	5.0 5.0	5.0	5.0	4.7 4.8	4.8	4.8	5.2 5.7	5.5	5.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	29.1 29.1	29.1	7.9 7.9	7.9	19.7 19.6	19.7	72.0 74.4	73.2	5.0 5.1	5.0	5.0	4.6 4.7	4.7		5.8 5.7	5.8	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS17/IS17(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	15:38	10.4	Surface	1.0	28.5 28.7	28.6	8.2 8.2	8.2	15.8 15.2	15.5	101.3 103.9	102.6	7.2 7.4	7.3	6.2	2.8 2.9	2.9	3.8	2.9 2.5	2.7	2.5
					Middle	5.2	27.1 27.1	27.1	8.0 8.0	8.0	23.2 23.0	23.1	72.4 74.2	73.3	5.1 5.2	5.1		4.2 4.2	4.2		2.5 2.2	2.4	
					Bottom	9.4	26.4 26.1	26.3	8.0 8.0	8.0	27.0 27.2	27.1	77.9 75.3	76.6	5.4 5.2	5.3	5.3	4.3 4.5	4.4		2.5 2.4	2.5	
4-Jun-14	Sunny	Moderate	16:31	11.1	Surface	1.0	28.5 28.9	28.7	8.2 8.2	8.2	19.1 18.0	18.5	91.8 87.8	89.8	6.4 6.1	6.3	6.1	3.2 3.3	3.3	3.5	4.1 4.1	4.1	4.0
					Middle	5.6	26.0 26.3	26.1	8.0 8.0	8.0	26.8 26.6	26.7	83.3 86.7	85.0	5.8 6.0	5.9		3.4 3.4	3.4		3.7 4.5	4.1	
					Bottom	10.1	25.6 25.6	25.6	8.0 8.0	8.0	29.7 29.7	29.7	81.1 82.5	81.8	5.7 5.8	5.7	5.7	3.5 3.8	3.7		3.9 3.7	3.8	
6-Jun-14	Cloudy	Moderate	18:40	10.0	Surface	1.0	29.0 29.0	29.0	8.5 8.5	8.5	13.3 13.7	13.5	100.5 101.9	101.2	7.2 7.3	7.2	6.1	2.6 2.6	2.6	2.7	3.0 2.8	2.9	3.3
					Middle	5.0	27.3 27.2	27.2	8.2 8.2	8.2	22.5 23.2	22.9	71.8 71.8	71.8	5.0 5.0	5.0		2.5 2.4	2.5		2.9 3.2	3.1	
					Bottom	9.0	26.3 25.6	26.0	8.2 8.2	8.2	27.3 29.3	28.3	70.8 72.1	71.5	4.9 5.0	4.9	4.9	2.9 2.9	2.9		3.9 3.7	3.8	
9-Jun-14	Sunny	Moderate	10:08	10.6	Surface	1.0	27.8 27.5	27.6	8.3 8.3	8.3	21.2 21.6	21.4	89.1 83.3	86.2	6.5 6.1	6.3	5.9	2.8 3.0	2.9	3.4	5.2 7.3	6.3	5.6
					Middle	5.3	25.5 25.6	25.5	8.1 8.0	8.0	28.2 27.9	28.1	74.4 76.4	75.4	5.4 5.6	5.5		3.5 3.4	3.5		5.9 3.7	4.8	
					Bottom	9.6	25.3 25.2	25.2	7.8 8.1	8.0	28.8 29.1	28.9	76.4 71.6	74.0	5.5 5.2	5.3	5.3	3.9 3.8	3.9		4.8 6.5	5.7	
11-Jun-14	Fine	Moderate	11:49	10.8	Surface	1.0	27.5 27.4	27.4	8.3 8.3	8.3	19.0 20.1	19.5	89.1 92.3	90.7	6.3 6.5	6.4	6.0	3.3 3.3	3.3	3.6	2.7 3.7	3.2	3.1
					Middle	5.4	26.6 26.6	26.6	8.3 8.2	8.2	24.2 24.6	24.4	72.9 69.6	71.3	5.1 5.9	5.5		4.3 3.9	4.1		2.8 2.6	2.7	
					Bottom	9.8	25.8 25.8	25.8	8.2 8.1	8.2	27.5 27.5	27.5	76.9 66.2	71.6	5.4 5.6	5.5	5.5	3.4 3.1	3.3		2.8 4.1	3.5	
13-Jun-14	Sunny	Moderate	13:00	10.9	Surface	1.0	27.3 27.3	27.3	7.8 7.9	7.8	22.8 22.8	22.8	81.2 81.3	81.3	5.7 5.7	5.7	5.4	6.2 6.3	6.3	7.5	8.5 8.3	8.4	8.5
					Middle	5.5	26.2 26.2	26.2	7.8 7.7	7.7	26.5 26.5	26.5	73.2 73.0	73.1	5.1 5.1	5.1		9.0 8.0	8.5		8.9 8.1	8.5	
					Bottom	9.9	26.2 26.2	26.2	7.7 7.8	7.7	26.6 26.5	26.6	72.1 69.1	70.6	5.0 4.8	4.9	4.9	7.8 7.8	7.8		8.3 8.6	8.5	
16-Jun-14	Sunny	Moderate	14:58	10.9	Surface	1.0	29.0 28.8	28.9	8.2 8.2	8.2	20.3 20.6	20.5	80.9 82.5	81.7	5.6 5.7	5.6	5.4	5.4 5.0	5.2	7.0	4.2 4.6	4.4	4.4
					Middle	5.5	27.7 27.7	27.7	8.1 8.1	8.1	22.7 22.9	22.8	75.9 76.2	76.1	5.3 5.2	5.2		7.6 7.9	7.8		4.8 5.1	5.0	
					Bottom	9.9	27.7 27.6	27.7	8.1 8.1	8.1	24.1 23.3	23.7	71.9 73.2	72.6	5.0 5.1	5.0	5.0	8.0 7.9	8.0		3.0 4.8	3.9	
18-Jun-14	Sunny	Moderate	15:25	11.1	Surface	1.0	29.3 29.3	29.3	8.1 8.1	8.1	16.9 16.7	16.8	91.1 86.8	89.0	6.4 6.1	6.2	5.9	4.5 4.4	4.5	4.7	3.8 3.6	3.7	3.9
					Middle	5.6	28.2 28.2	28.2	8.0 8.0	8.0	22.1 22.8	22.4	77.8 84.0	80.9	5.3 5.7	5.5		4.7 4.6	4.7		4.0 4.2	4.1	
					Bottom	10.1	28.1 28.5	28.3	8.0 8.0	8.0	25.2 25.0	25.1	71.3 75.6	73.5	4.9 5.2	5.1	5.1	4.7 4.8	4.8		3.6 3.9	3.8	
20-Jun-14	Fine	Moderate	18:44	10.3	Surface	1.0	29.4 29.4	29.4	8.3 8.3	8.3	17.7 17.6	17.7	83.1 82.4	82.8	5.8 5.7	5.7	5.5	6.1 6.3	6.2	6.8	2.8 3.0	2.9	2.9
					Middle	5.2	28.5 28.6	28.5	8.3 8.3	8.3	23.9 21.8	22.9	72.8 75.7	74.3	5.1 5.3	5.2		6.7 6.6	6.7		3.2 2.5	2.9	
					Bottom	9.3	28.3 28.5	28.4	8.2 8.3	8.3	27.6 26.7	27.1	73.2 76.5	74.9	4.9 5.1	5.0	5.0	7.6 7.3	7.5		3.6 2.1	2.9	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS17/IS17(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	10:56	10.4	Surface	1.0	28.8 28.8	28.8	8.3 8.3	8.3	16.5 16.9	16.7	73.1 72.9	73.0	5.2 5.1	5.1	5.1	5.1 5.2	5.2	5.3	2.1 2.5	2.3	3.5
					Middle	5.2	28.6 28.4	28.5	8.3 8.3	8.3	19.5 23.2	21.4	72.8 72.6	72.7	5.1 5.1	5.1		5.3 5.5	5.4		4.0 4.0	4.0	
					Bottom	9.4	28.2 28.5	28.4	8.2 8.2	8.2	26.8 26.0	26.4	71.7 72.2	72.0	4.8 4.9	4.8	4.8	5.5 5.1	5.3		4.4 4.1	4.3	
25-Jun-14	Cloudy	Moderate	12:24	11.3	Surface	1.0	28.7 28.7	28.7	8.2 8.2	8.2	14.8 15.3	15.1	82.1 81.7	81.9	5.8 5.8	5.8	5.6	5.9 5.8	5.9	5.9	3.6 2.7	3.2	3.1
					Middle	5.7	28.5 28.5	28.5	8.2 8.2	8.2	20.3 20.5	20.4	81.3 78.7	80.0	5.5 5.4	5.4		6.0 5.8	5.9		2.7 2.1	2.4	
					Bottom	10.3	28.2 28.4	28.3	8.1 8.1	8.1	24.1 23.9	24.0	75.0 76.3	75.7	5.2 5.3	5.2	5.2	6.0 6.0	6.0		3.1 4.4	3.8	
27-Jun-14	Sunny	Moderate	12:51	10.9	Surface	1.0	29.5 29.5	29.5	8.1 8.1	8.1	14.2 14.3	14.3	73.2 73.8	73.5	5.2 5.2	5.2	5.1	4.1 4.3	4.2	4.9	3.6 3.4	3.5	3.6
					Middle	5.5	29.1 29.4	29.3	8.1 8.1	8.1	16.3 17.2	16.7	70.9 70.1	70.5	4.9 4.9	4.9		4.6 4.8	4.7		3.2 3.0	3.1	
					Bottom	9.9	28.8 28.9	28.9	8.1 8.1	8.1	19.3 19.8	19.6	69.2 68.8	69.0	4.9 4.8	4.8	4.8	5.9 5.7	5.8		4.3 4.1	4.2	
30-Jun-14	Sunny	Moderate	14:33	9.9	Surface	1.0	29.3 29.3	29.3	8.0 8.0	8.0	20.0 20.0	20.0	77.3 76.7	77.0	5.3 5.3	5.3	5.2	5.3 5.2	5.3	5.5	3.7 3.7	3.7	4.5
					Middle	5.0	28.4 28.4	28.4	7.9 7.9	7.9	24.2 24.1	24.1	74.2 74.6	74.4	5.1 5.1	5.1		5.5 5.5	5.5		4.8 3.5	4.2	
					Bottom	8.9	28.4 28.3	28.4	7.9 7.9	7.9	25.2 24.5	24.9	70.6 71.2	70.9	4.8 4.8	4.8	4.8	5.6 5.8	5.7		6.0 5.2	5.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
As informed by the Contractor in June 2014, the perimeter silt curtain alignment has been rearranged. In accordance with our observation on 25 June 2014, the original monitoring location of IS17 was no longer enclosed by the perimeter silt curtain. Therefore, IWQM work at the original monitoring location of IS17 has been resumed since 25 June 2014.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS17/IS17(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	08:58	10.3	Surface	1.0	28.3 28.2	28.3	8.3 8.2	8.2	17.1 17.1	17.1	90.8 90.0	90.4	6.4 6.4	6.4	5.9	2.8 2.9	2.9	4.6	3.2 3.5	3.4	4.0
					Middle	5.2	27.7 27.6	27.6	8.1 8.1	8.1	19.5 19.4	19.5	73.9 75.3	74.6	5.2 5.3	5.3		5.3 5.2	5.3		4.1 5.2	4.7	
					Bottom	9.3	26.3 26.3	26.3	8.0 8.0	8.0	27.0 27.0	27.0	78.9 77.1	78.0	5.5 5.3	5.4	5.4	5.7 5.5	5.6		4.1 3.8	4.0	
4-Jun-14	Sunny	Moderate	09:44	11.7	Surface	1.0	28.9 28.8	28.9	8.2 8.2	8.2	16.3 15.9	16.1	95.8 92.5	94.2	6.7 6.5	6.6	6.6	1.8 1.9	1.9	2.1	1.8 1.8	1.8	2.8
					Middle	5.9	26.8 27.4	27.1	8.1 8.1	8.1	22.2 21.9	22.0	93.5 92.3	92.9	6.5 6.4	6.5		2.0 2.1	2.1		2.6 2.5	2.6	
					Bottom	10.7	25.8 25.9	25.8	8.1 8.1	8.1	29.0 28.8	28.9	86.9 87.5	87.2	6.1 6.2	6.1	6.1	2.2 2.2	2.2		3.9 4.1	4.0	
6-Jun-14	Cloudy	Moderate	12:13	10.4	Surface	1.0	28.7 28.7	28.7	8.4 8.4	8.4	16.6 16.7	16.7	92.6 93.3	93.0	6.5 6.6	6.6	5.9	1.8 1.7	1.8	1.9	3.4 3.0	3.2	3.2
					Middle	5.2	27.3 27.4	27.3	8.2 8.2	8.2	22.6 22.1	22.4	73.3 72.5	72.9	5.1 5.1	5.1		1.8 1.9	1.9		3.0 2.9	3.0	
					Bottom	9.4	26.2 25.8	26.0	8.1 8.2	8.1	27.7 28.6	28.2	72.3 75.3	73.8	5.0 5.2	5.1	5.1	1.9 1.8	1.9		3.2 3.5	3.4	
9-Jun-14	Sunny	Moderate	16:28	10.4	Surface	1.0	27.4 28.7	28.1	8.4 8.5	8.4	24.1 21.3	22.7	96.2 96.4	96.3	7.1 7.2	7.1	7.1	2.7 2.8	2.8	2.9	6.5 6.5	6.5	6.2
					Middle	5.2	26.0 25.9	26.0	8.1 8.1	8.1	27.6 27.7	27.7	96.0 96.3	96.2	7.1 7.2	7.1		2.9 2.7	2.8		7.6 5.9	6.8	
					Bottom	9.4	25.7 25.8	25.8	8.1 8.2	8.1	28.7 28.4	28.6	95.8 96.1	96.0	7.1 7.1	7.1	7.1	3.3 3.0	3.2		5.9 4.9	5.4	
11-Jun-14	Fine	Moderate	18:24	11.1	Surface	1.0	27.1 27.2	27.1	8.3 8.4	8.4	22.1 21.7	21.9	79.1 74.3	76.7	5.6 5.6	5.6	5.7	3.1 3.0	3.1	5.5	2.6 3.4	3.0	3.0
					Middle	5.6	26.4 26.7	26.6	8.2 8.3	8.3	24.6 23.9	24.2	75.3 76.1	75.7	5.6 5.7	5.7		5.3 5.5	5.4		3.0 2.6	2.8	
					Bottom	10.1	25.9 26.0	26.0	8.2 8.2	8.2	27.0 27.1	27.0	75.4 72.3	73.9	5.0 5.0	5.0	5.0	7.7 8.2	8.0		3.7 2.9	3.3	
13-Jun-14	Sunny	Moderate	19:50	10.9	Surface	1.0	27.4 27.5	27.4	8.0 8.1	8.1	21.8 21.8	21.8	81.6 85.5	83.6	5.7 6.0	5.9	5.5	5.7 5.5	5.6	6.6	4.9 5.1	5.0	5.1
					Middle	5.5	26.9 26.9	26.9	8.0 7.9	8.0	23.8 24.0	23.9	72.7 74.0	73.4	5.1 5.2	5.1		6.8 7.0	6.9		5.0 4.3	4.7	
					Bottom	9.9	26.8 26.9	26.8	7.9 8.0	7.9	24.3 24.0	24.2	76.7 74.5	75.6	5.4 5.2	5.3	5.3	7.6 7.1	7.4		4.9 6.2	5.6	
16-Jun-14	Sunny	Moderate	08:06	10.6	Surface	1.0	27.8 27.8	27.8	8.1 8.1	8.1	18.0 18.3	18.1	81.9 81.0	81.5	5.8 5.7	5.8	5.6	4.2 4.1	4.2	6.7	2.8 2.3	2.6	2.7
					Middle	5.3	27.4 27.4	27.4	8.2 8.2	8.2	23.3 23.6	23.4	76.9 79.7	78.3	5.3 5.5	5.4		7.6 7.5	7.6		3.0 2.9	3.0	
					Bottom	9.6	27.3 27.4	27.3	8.1 8.2	8.2	24.6 24.3	24.5	85.0 78.9	82.0	5.9 5.5	5.7	5.7	8.7 8.0	8.4		2.6 2.6	2.6	
18-Jun-14	Sunny	Moderate	10:29	11.2	Surface	1.0	29.0 29.0	29.0	8.1 8.1	8.1	16.0 16.0	16.0	81.6 80.8	81.2	5.8 5.7	5.7	5.4	3.0 2.8	2.9	3.1	3.4 3.6	3.5	3.8
					Middle	5.6	28.4 28.2	28.3	8.2 8.2	8.2	20.3 21.2	20.8	74.4 74.2	74.3	5.1 5.1	5.1		3.0 3.1	3.1		4.0 3.9	4.0	
					Bottom	10.2	28.0 28.1	28.1	8.2 8.1	8.2	24.0 24.1	24.1	72.1 71.1	71.6	5.0 4.9	5.0	5.0	3.2 3.2	3.2		3.8 3.8	3.8	
20-Jun-14	Rainy	Moderate	12:47	10.2	Surface	1.0	29.2 29.2	29.2	8.3 8.3	8.3	17.5 17.4	17.5	82.4 82.7	82.6	5.7 5.8	5.8	5.6	4.5 4.4	4.5	4.6	2.9 2.3	2.6	2.9
					Middle	5.1	28.8 28.8	28.8	8.3 8.2	8.3	19.9 19.8	19.8	76.4 76.2	76.3	5.3 5.3	5.3		4.6 4.6	4.6		2.8 3.1	3.0	
					Bottom	9.2	28.7 28.6	28.6	8.3 8.2	8.2	24.6 24.6	24.6	79.9 79.2	79.6	5.4 5.4	5.4	5.4	4.5 4.6	4.6		3.0 2.9	3.0	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at IS17/IS17(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	16:33	10.9	Surface	1.0	28.8 28.8	28.8	8.3 8.3	8.3	18.0 19.1	18.6	74.6 73.5	74.1	5.2 5.1	5.2	5.2	6.4 6.1	6.3	7.3	3.8 3.3	3.6	5.2
					Middle	5.5	28.5 28.6	28.5	8.3 8.3	8.3	22.1 21.9	22.0	73.3 72.6	73.0	5.2 5.1	5.1		7.7 7.6	7.7		6.4 6.2	6.3	
					Bottom	9.9	28.2 28.4	28.3	8.3 8.3	8.3	25.8 25.7	25.7	72.1 71.8	72.0	5.0 5.0	5.0	5.0	7.8 7.8	7.8		5.9 5.3	5.6	
25-Jun-14	Cloudy	Moderate	18:25	11.1	Surface	1.0	28.8 28.8	28.8	8.1 8.1	8.1	14.5 14.7	14.6	83.1 79.7	81.4	5.7 5.5	5.6	5.6	5.0 5.0	5.0	5.2	4.3 4.3	4.3	3.9
					Middle	5.6	28.3 28.6	28.5	8.1 8.1	8.1	19.0 18.9	19.0	77.7 79.0	78.4	5.5 5.5	5.5		5.2 5.2	5.2		3.9 4.0	4.0	
					Bottom	10.1	28.2 28.3	28.3	8.1 8.1	8.1	23.9 23.6	23.7	76.8 76.8	76.8	5.4 5.4	5.4	5.4	5.5 5.2	5.4		3.8 3.2	3.5	
27-Jun-14	Sunny	Moderate	19:57	10.6	Surface	1.0	30.3 30.2	30.2	8.1 8.1	8.1	15.2 15.8	15.5	88.4 87.9	88.2	6.1 6.1	6.1	5.9	5.8 6.0	5.9	6.2	2.2 2.9	2.6	2.7
					Middle	5.3	29.9 29.8	29.9	8.1 8.1	8.1	16.4 16.4	16.4	82.9 82.3	82.6	5.7 5.7	5.7		6.3 6.1	6.2		3.4 2.0	2.7	
					Bottom	9.6	29.8 29.8	29.8	8.1 8.1	8.1	16.7 16.8	16.8	82.8 82.1	82.5	5.7 5.7	5.7	5.7	6.5 6.7	6.6		3.1 2.4	2.8	
30-Jun-14	Sunny	Moderate	07:51	10.6	Surface	1.0	29.1 29.1	29.1	8.0 8.0	8.0	19.0 18.9	19.0	72.9 73.0	73.0	5.1 5.1	5.1	5.1	7.3 7.7	7.5	9.5	5.8 5.0	5.4	5.5
					Middle	5.3	28.7 28.4	28.6	8.0 8.0	8.0	22.2 22.4	22.3	72.7 72.5	72.6	5.0 5.0	5.0		10.3 10.5	10.4		5.5 4.7	5.1	
					Bottom	9.6	27.9 27.8	27.8	8.0 7.9	8.0	26.6 26.8	26.7	72.0 71.5	71.8	5.0 4.9	5.0	5.0	10.8 10.5	10.7		5.7 6.0	5.9	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.
As informed by the Contractor in June 2014, the perimeter silt curtain alignment has been rearranged. In accordance with our observation on 25 June 2014, the original monitoring location of IS17 was no longer enclosed by the perimeter silt curtain. Therefore, IWQM work at the original monitoring location of IS17 has been resumed since 25 June 2014.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR3 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	14:31	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	9.2	-	-		-	-	
					Middle	0.7	29.0 29.0	29.0	8.4 8.4	8.4	16.3 16.5	16.4	131.4 129.9	130.7	9.2 9.1	9.2		3.5 3.5	3.5	3.5	2.2 3.7	3.0	3.0
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
4-Jun-14	Sunny	Moderate	15:44	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	7.5	-	-		-	-	
					Middle	0.6	29.2 29.3	29.3	8.4 8.4	8.4	17.5 17.5	17.5	105.7 109.4	107.6	7.4 7.6	7.5		3.4 3.3	3.4	3.4	3.4 3.4	3.4	3.4
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
6-Jun-14	Cloudy	Moderate	17:41	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	8.5	-	-		-	-	
					Middle	0.7	29.1 29.1	29.1	8.5 8.6	8.6	16.1 16.0	16.1	119.8 122.0	120.9	8.4 8.6	8.5		3.3 3.2	3.3	3.3	5.4 4.9	5.2	5.2
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
9-Jun-14	Sunny	Moderate	11:24	1.0	Surface	0.0	0.0 0.0	0.0	-	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0	7.0	0.0 0.0	0.0		-	-	
					Middle	0.9	28.8 28.8	28.8	8.5 8.5	8.5	19.3 19.4	19.3	105.8 96.8	101.3	7.3 6.7	7.0		2.5 2.6	2.6	2.6	5.5 5.6	5.6	5.6
					Bottom	0.0	0.0 0.0	0.0	-	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0	**0.0**	0.0 0.0	0.0		-	-	
11-Jun-14	Fine	Moderate	12:55	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	6.8	-	-		-	-	
					Middle	0.7	27.7 27.7	27.7	8.3 8.2	8.3	22.4 22.4	22.4	98.2 98.6	98.4	6.8 6.9	6.8		4.1 3.8	4.0	4.0	6.3 7.1	6.7	6.7
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
13-Jun-14	Sunny	Moderate	14:20	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	7.9	-	-		-	-	
					Middle	0.8	28.1 28.0	28.0	8.0 8.0	8.0	23.2 23.2	23.2	113.9 116.0	115.0	7.8 8.0	7.9		4.0 4.1	4.1	4.1	6.3 6.6	6.5	6.5
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
16-Jun-14	Sunny	Moderate	13:38	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	5.9	-	-		-	-	
					Middle	0.8	28.3 28.3	28.3	8.1 8.1	8.1	21.6 21.6	21.6	83.8 86.7	85.3	5.8 6.0	5.9		5.8 5.3	5.6	5.6	5.4 5.4	5.4	5.4
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
18-Jun-14	Sunny	Moderate	16:20	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	6.8	-	-		-	-	
					Middle	0.7	29.5 29.5	29.5	8.1 8.1	8.1	18.7 18.7	18.7	99.3 99.3	99.3	6.8 6.8	6.8		4.7 4.7	4.7	4.7	3.9 3.7	3.8	3.8
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
20-Jun-14	Fine	Moderate	17:46	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	7.9	-	-		-	-	
					Middle	0.8	29.7 29.7	29.7	8.5 8.4	8.4	16.3 16.5	16.4	114.8 113.6	114.2	8.0 7.9	7.9		6.9 6.8	6.9	6.9	3.3 2.9	3.1	3.1
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR3 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	11:56	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	5.6	-	-		-	-	
					Middle	0.7	28.5 28.5	28.5	8.3 8.2	8.2	16.2 16.5	16.4	79.3 78.7	79.0	5.6 5.6	5.6		8.2 8.2	8.2	8.2	6.7 7.0	6.9	6.9
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
25-Jun-14	Cloudy	Moderate	13:30	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	5.6	-	-		-	-	
					Middle	0.7	28.6 28.6	28.6	8.1 8.1	8.1	17.2 17.2	17.2	79.5 79.5	79.5	5.6 5.6	5.6		5.0 5.0	5.0	5.0	4.8 4.4	4.6	4.6
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
27-Jun-14	Sunny	Moderate	14:10	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	5.5	-	-		-	-	
					Middle	0.7	30.0 30.0	30.0	8.1 8.1	8.1	17.6 17.5	17.6	80.2 80.0	80.1	5.5 5.5	5.5		5.9 6.1	6.0	6.0	3.0 2.4	2.7	2.7
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
30-Jun-14	Sunny	Moderate	13:20	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	5.8	-	-		-	-	
					Middle	0.6	29.5 29.5	29.5	8.1 8.1	8.1	21.0 21.0	21.0	85.4 85.0	85.2	5.8 5.8	5.8		6.1 6.0	6.1	6.1	4.2 4.0	4.1	4.1
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR3 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:58	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	8.5	-	-		-	-	
					Middle	0.8	28.5 28.5	28.5	8.4 8.4	8.4	18.9 19.0	18.9	122.9 121.1	122.0	8.6 8.5	8.5		1.9 1.9	1.9	1.9	5.2 4.9	5.1	5.1
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
4-Jun-14	Sunny	Moderate	10:52	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	7.7	-	-		-	-	
					Middle	0.7	28.9 28.9	28.9	8.4 8.4	8.4	16.8 16.8	16.8	109.1 109.1	109.1	7.7 7.7	7.7		1.4 1.4	1.4	1.4	5.1 5.2	5.2	5.2
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
6-Jun-14	Cloudy	Moderate	13:15	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	8.1	-	-		-	-	
					Middle	0.7	29.1 29.1	29.1	8.6 8.6	8.6	17.9 17.8	17.9	119.9 113.5	116.7	8.3 7.9	8.1		2.2 2.2	2.2	2.2	4.0 3.9	4.0	4.0
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
9-Jun-14	Sunny	Moderate	15:06	1.0	Surface	0.0	0.0 0.0	0.0	-	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0	7.4	0.0 0.0	0.0		-	-	
					Middle	0.8	28.2 28.5	28.4	8.1 8.3	8.2	21.3 19.8	20.6	101.9 110.9	106.4	7.1 7.7	7.4		6.0 5.9	6.0	6.0	6.3 6.7	6.5	6.5
					Bottom	0.0	0.0 0.0	0.0	-	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0	**0.0**	0.0 0.0	0.0		-	-	
11-Jun-14	Fine	Moderate	17:15	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	9.6	-	-		-	-	
					Middle	0.7	28.0 28.1	28.0	8.6 8.7	8.6	22.3 22.2	22.3	133.7 143.4	138.6	9.2 9.9	9.6		4.7 4.6	4.7	4.7	9.4 10.0	9.7	9.7
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
13-Jun-14	Sunny	Moderate	18:33	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	7.2	-	-		-	-	
					Middle	0.8	28.0 27.9	27.9	8.4 8.4	8.4	22.0 22.0	22.0	109.5 98.8	104.2	7.6 6.9	7.2		9.0 8.7	8.9	8.9	11.3 11.6	11.5	11.5
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
16-Jun-14	Sunny	Moderate	09:23	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	5.6	-	-		-	-	
					Middle	0.7	28.0 28.0	28.0	8.1 8.1	8.1	20.7 20.7	20.7	79.6 79.6	79.6	5.6 5.6	5.6		5.0 5.3	5.2	5.2	4.1 4.7	4.4	4.4
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
18-Jun-14	Sunny	Moderate	11:41	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	6.4	-	-		-	-	
					Middle	0.7	29.1 29.1	29.1	8.1 8.1	8.1	17.7 17.7	17.7	91.8 91.9	91.9	6.4 6.4	6.4		2.7 2.6	2.7	2.7	4.0 4.1	4.1	4.1
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
20-Jun-14	Rainy	Moderate	13:49	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	6.9	-	-		-	-	
					Middle	0.7	29.6 29.5	29.6	8.3 8.2	8.3	19.0 19.0	19.0	101.6 100.7	101.2	7.0 6.9	6.9		5.6 5.7	5.7	5.7	4.8 4.1	4.5	4.5
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR3 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	15:20	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	6.3	-	-		-	-	
					Middle	0.6	28.9 28.9	28.9	8.2 8.3	8.3	17.5 17.4	17.4	91.7 89.4	90.6	6.4 6.3	6.3		8.5 8.1	8.3	8.3	5.6 5.0	5.3	5.3
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
25-Jun-14	Cloudy	Moderate	17:15	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	6.2	-	-		-	-	
					Middle	0.7	28.9 28.9	28.9	8.2 8.2	8.2	17.2 17.3	17.2	88.0 88.9	88.5	6.2 6.2	6.2		6.2 6.2	6.2	6.2	4.5 3.4	4.0	4.0
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
27-Jun-14	Sunny	Moderate	18:30	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-		-	-	
					Middle	0.7	30.5 30.5	30.5	8.2 8.1	8.2	17.2 17.2	17.2	97.7 97.9	97.8	6.7 6.7	6.7		6.6 6.3	6.5	6.5	6.3 6.9	6.6	6.6
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
30-Jun-14	Sunny	Moderate	08:48	#VALUE!	Surface	-	-	-	-	-	-	-	-	-	-	-	5.6	-	-		-	-	
					Middle	0.7	29.4 29.4	29.4	8.0 8.0	8.0	19.2 19.3	19.2	81.9 81.5	81.7	5.6 5.6	5.6		5.3 5.0	5.2	5.2	6.2 6.6	6.4	6.4
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR4(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	15:11	3.8	Surface	1.0	29.1 29.3	29.2	8.5 8.5	8.5	18.1 18.0	18.1	128.1 128.4	128.3	8.9 8.9	8.9	8.9	3.1 3.2	3.2	3.2	3.6 3.6	3.6	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.9 28.2	28.1	8.1 8.2	8.2	19.8 19.8	19.8	128.1 124.3	126.2	8.9 8.7	8.8	8.8	3.0 3.1	3.1		3.4 4.7	4.1	
4-Jun-14	Sunny	Moderate	16:09	3.4	Surface	1.0	27.6 27.9	27.7	8.2 8.2	8.2	18.2 18.2	18.2	97.1 99.2	98.2	6.8 7.0	6.9	6.9	5.8 5.9	5.9	6.0	3.6 3.3	3.5	4.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.4	27.3 28.4	27.8	8.1 8.3	8.2	20.8 20.3	20.5	95.0 98.0	96.5	6.7 6.8	6.8	6.8	6.1 6.0	6.1		5.9 5.7	5.8	
6-Jun-14	Cloudy	Moderate	18:19	3.7	Surface	1.0	28.9 28.9	28.9	8.5 8.6	8.5	17.8 18.2	18.0	116.0 117.3	116.7	8.1 8.2	8.1	8.1	6.3 6.4	6.4	6.4	3.7 3.2	3.5	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.5 28.5	28.5	8.4 8.4	8.4	19.5 20.0	19.7	109.7 115.5	112.6	7.6 8.0	7.8	7.8	6.4 6.3	6.4		5.4 4.5	5.0	
9-Jun-14	Sunny	Moderate	10:33	3.7	Surface	1.0	27.6 27.5	27.5	8.3 8.2	8.3	23.0 23.1	23.1	83.4 79.7	81.6	5.8 5.5	5.7	5.7	5.5 5.9	5.7	6.4	5.1 3.3	4.2	3.9
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	2.7	26.8 26.6	26.7	8.2 8.1	8.2	25.0 26.5	25.7	77.9 81.7	79.8	5.4 5.7	5.5	5.5	6.9 7.0	7.0		3.6 3.4	3.5	
11-Jun-14	Fine	Moderate	12:11	3.6	Surface	1.0	28.0 28.2	28.1	8.5 8.5	8.5	21.9 21.6	21.7	120.2 121.6	120.9	8.3 8.4	8.4	8.4	4.0 3.7	3.9	4.1	2.9 2.7	2.8	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	27.9 27.9	27.9	8.5 8.5	8.5	22.3 22.2	22.3	117.1 120.2	118.7	8.1 8.3	8.2	8.2	4.1 4.3	4.2		2.2 3.3	2.8	
13-Jun-14	Sunny	Moderate	13:28	3.5	Surface	1.0	28.1 27.8	28.0	8.0 8.0	8.0	21.4 21.5	21.5	116.2 102.1	109.2	8.1 7.1	7.6	7.6	4.2 4.0	4.1	4.7	3.2 3.6	3.4	3.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	27.9 27.4	27.6	7.9 7.8	7.9	22.9 23.4	23.2	111.7 97.9	104.8	7.7 6.8	7.3	7.3	4.9 5.5	5.2		3.9 4.0	4.0	
16-Jun-14	Sunny	Moderate	14:32	3.7	Surface	1.0	28.8 28.7	28.7	8.0 8.0	8.0	20.0 20.0	20.0	83.8 80.4	82.1	5.8 5.6	5.7	5.7	5.4 5.3	5.4	5.6	5.3 5.3	5.3	5.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	28.8 28.6	28.7	8.0 7.9	8.0	20.1 20.2	20.1	81.7 86.7	84.2	5.6 6.0	5.8	5.8	5.4 6.0	5.7		5.4 4.0	4.7	
18-Jun-14	Sunny	Moderate	15:45	3.5	Surface	1.0	29.2 29.2	29.2	8.2 8.1	8.1	17.1 17.1	17.1	94.1 89.3	91.7	6.6 6.2	6.4	6.4	5.3 5.3	5.3	5.4	3.2 3.3	3.3	3.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.5	29.4 28.6	29.0	8.1 8.0	8.1	18.7 19.1	18.9	92.4 83.5	88.0	6.4 5.8	6.1	6.1	5.5 5.3	5.4		4.6 3.5	4.1	
20-Jun-14	Fine	Moderate	18:25	3.6	Surface	1.0	29.4 29.4	29.4	8.4 8.3	8.4	18.0 18.0	18.0	96.1 96.8	96.5	6.6 6.7	6.7	6.7	7.4 7.4	7.4	7.6	2.8 3.5	3.2	3.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	29.2 29.3	29.3	8.2 8.3	8.3	19.6 19.4	19.5	96.2 92.7	94.5	6.6 6.4	6.5	6.5	7.8 7.6	7.7		3.2 2.5	2.9	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR4(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	11:16	3.6	Surface	1.0	28.5 28.5	28.5	8.3 8.3	8.3	14.7 14.7	14.7	80.0 79.1	79.6	5.7 5.7	5.7	5.7	8.9 9.0	9.0	9.4	7.1 8.4	7.8	8.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	28.7 28.5	28.6	8.2 8.2	8.2	18.6 18.5	18.5	79.7 81.3	80.5	5.6 5.7	5.6	5.6	9.9 9.5	9.7		8.0 8.8	8.4	
25-Jun-14	Cloudy	Moderate	12:45	3.6	Surface	1.0	28.7 28.7	28.7	8.2 8.1	8.2	17.1 17.1	17.1	79.1 76.4	77.8	5.6 5.4	5.5	5.5	5.2 5.0	5.1	5.3	2.8 2.6	2.7	3.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	28.6 28.7	28.6	8.0 8.2	8.1	19.1 18.6	18.9	75.8 78.2	77.0	5.3 5.5	5.4	5.4	5.4 5.6	5.5		3.5 3.4	3.5	
27-Jun-14	Sunny	Moderate	13:18	3.6	Surface	1.0	30.0 30.0	30.0	8.1 8.1	8.1	16.1 16.2	16.2	87.9 87.5	87.7	6.1 6.1	6.1	6.1	4.5 4.7	4.6	4.8	4.7 6.1	5.4	5.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	30.0 30.0	30.0	8.1 8.1	8.1	16.7 16.7	16.7	86.9 87.3	87.1	6.0 6.0	6.0	6.0	5.0 4.9	5.0		4.5 5.5	5.0	
30-Jun-14	Sunny	Moderate	14:10	4.2	Surface	1.0	30.1 30.1	30.1	7.9 7.9	7.9	17.6 17.5	17.5	90.1 86.1	88.1	6.2 5.9	6.0	6.0	5.3 5.5	5.4	5.5	4.2 3.4	3.8	4.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	29.5 29.5	29.5	7.8 7.8	7.8	19.9 20.0	20.0	83.9 81.7	82.8	5.7 5.6	5.7	5.7	5.5 5.4	5.5		5.2 5.1	5.2	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR4(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:21	3.7	Surface	1.0	28.1 28.1	28.1	8.1 8.1	8.1	16.9 16.8	16.9	85.3 85.0	85.2	6.1 6.1	6.1	6.1	2.5 2.5	2.5	2.5	3.2 3.5	3.4	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	27.9 28.0	27.9	8.0 8.1	8.1	18.1 18.9	18.5	82.5 85.2	83.9	5.9 6.0	5.9	5.9	2.5 2.5	2.5		2.3 3.8	3.1	
4-Jun-14	Sunny	Moderate	10:06	3.3	Surface	1.0	28.3 28.3	28.3	8.1 8.2	8.2	17.1 17.3	17.2	94.9 97.1	96.0	6.7 6.8	6.8	6.8	5.0 5.0	5.0	5.1	5.7 6.0	5.9	6.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.4 28.1	28.2	8.2 8.1	8.1	17.2 17.8	17.5	95.9 94.0	95.0	6.8 6.6	6.7	6.7	5.1 5.1	5.1		6.2 7.1	6.7	
6-Jun-14	Cloudy	Moderate	12:35	3.7	Surface	1.0	29.2 29.3	29.2	8.5 8.5	8.5	14.4 14.5	14.5	118.2 117.3	117.8	8.4 8.3	8.3	8.3	2.2 2.2	2.2	2.2	1.3 1.3	1.3	1.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	29.2 28.8	29.0	8.5 8.4	8.4	16.4 17.0	16.7	117.5 115.9	116.7	8.2 8.1	8.2	8.2	2.2 2.2	2.2		2.5 1.7	2.1	
9-Jun-14	Sunny	Moderate	16:00	3.5	Surface	1.0	28.5 27.9	28.2	8.5 8.5	8.5	21.3 22.5	21.9	111.7 109.0	110.4	7.7 7.5	7.6	7.6	12.9 13.5	13.2	13.1	12.5 11.5	12.0	15.6
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	2.5	27.4 27.5	27.4	8.3 8.4	8.4	24.1 25.0	24.5	104.3 109.5	106.9	7.2 7.5	7.4	7.4	12.5 13.4	13.0		21.0 17.1	19.1	
11-Jun-14	Fine	Moderate	18:03	3.9	Surface	1.0	27.5 27.5	27.5	8.5 8.4	8.5	21.1 21.2	21.2	120.1 118.2	119.2	8.4 8.3	8.4	8.4	3.5 3.3	3.4	3.5	4.8 4.3	4.6	5.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.5 27.5	27.5	8.5 8.4	8.4	21.1 21.1	21.1	119.6 115.9	117.8	8.4 8.1	8.3	8.3	3.5 3.6	3.6		5.9 6.1	6.0	
13-Jun-14	Sunny	Moderate	19:25	3.6	Surface	1.0	27.2 27.5	27.3	8.1 8.1	8.1	21.8 21.9	21.8	99.8 97.8	98.8	7.0 6.8	6.9	6.9	9.2 9.3	9.3	10.6	10.8 11.1	11.0	10.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	27.5 27.5	27.5	8.2 8.1	8.1	22.8 21.7	22.2	99.1 100.5	99.8	6.9 7.0	7.0	7.0	12.0 11.8	11.9		10.5 10.8	10.7	
16-Jun-14	Sunny	Moderate	08:32	3.8	Surface	1.0	27.8 27.8	27.8	8.1 8.1	8.1	18.8 18.8	18.8	82.2 82.0	82.1	5.8 5.8	5.8	5.8	4.4 4.5	4.5	4.8	3.3 3.4	3.4	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	27.8 27.8	27.8	8.1 8.1	8.1	19.2 19.4	19.3	82.0 81.5	81.8	5.8 5.8	5.8	5.8	5.2 5.0	5.1		2.8 3.4	3.1	
18-Jun-14	Sunny	Moderate	11:02	3.6	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	15.8 15.8	15.8	95.0 86.0	90.5	6.7 6.1	6.4	6.4	5.4 5.6	5.5	5.6	5.7 6.3	6.0	6.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	29.0 29.0	29.0	8.1 8.2	8.1	15.8 15.8	15.8	84.6 89.3	87.0	6.0 6.3	6.1	6.1	5.7 5.4	5.6		6.5 6.5	6.5	
20-Jun-14	Rainy	Moderate	13:07	3.7	Surface	1.0	29.1 29.1	29.1	8.2 8.2	8.2	18.7 18.7	18.7	81.5 80.1	80.8	5.6 5.6	5.6	5.6	15.3 15.3	15.3	15.5	3.6 3.0	3.3	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	29.1 29.1	29.1	8.2 8.2	8.2	18.7 18.9	18.8	84.3 80.7	82.5	5.8 5.6	5.7	5.7	15.5 15.8	15.7		5.0 4.3	4.7	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR4(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	16:10	3.8	Surface	1.0	28.9 28.9	28.9	8.3 8.3	8.3	17.1 16.9	17.0	81.8 81.2	81.5	5.7 5.7	5.7	5.7	11.4 11.3	11.4	11.5	3.2 3.5	3.4	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	28.9 28.9	28.9	8.2 8.3	8.3	17.9 18.6	18.3	84.0 82.8	83.4	5.9 5.8	5.8	5.8	11.5 11.7	11.6		3.3 3.8	3.6	
25-Jun-14	Cloudy	Moderate	17:59	3.3	Surface	1.0	28.9 28.9	28.9	8.1 8.1	8.1	14.2 14.4	14.3	85.7 87.9	86.8	6.0 6.3	6.1	6.1	6.6 6.6	6.6	6.8	3.6 3.4	3.5	4.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.3	28.8 28.7	28.8	8.1 8.1	8.1	17.1 16.6	16.8	83.7 84.0	83.9	6.0 6.0	6.0	6.0	6.9 6.8	6.9		5.1 4.1	4.6	
27-Jun-14	Sunny	Moderate	19:24	3.6	Surface	1.0	30.3 30.3	30.3	8.1 8.1	8.1	16.6 16.6	16.6	90.2 90.5	90.4	6.2 6.2	6.2	6.2	19.5 19.7	19.6	20.2	5.8 6.0	5.9	5.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.6	30.0 29.9	29.9	8.1 8.1	8.1	17.3 17.5	17.4	83.6 83.8	83.7	5.8 5.8	5.8	5.8	20.9 20.6	20.8		5.6 4.9	5.3	
30-Jun-14	Sunny	Moderate	08:12	3.7	Surface	1.0	29.3 29.3	29.3	7.9 7.9	7.9	19.3 19.4	19.3	74.0 73.2	73.6	5.1 5.0	5.1	5.1	5.6 5.6	5.6	5.8	4.8 4.5	4.7	5.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.7	29.3 29.3	29.3	7.9 7.9	7.9	19.3 19.4	19.4	75.6 72.2	73.9	5.2 5.0	5.1	5.1	5.8 5.9	5.9		6.7 6.0	6.4	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR5 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	15:32	4.8	Surface	1.0	28.4 28.4	28.4	8.2 8.2	8.2	15.9 15.0	15.4	98.1 97.8	98.0	7.0 7.0	7.0	7.0	2.0 2.3	2.2	2.1	2.4 2.7	2.6	2.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.8	28.0 27.9	27.9	8.2 8.2	8.2	17.7 17.8	17.7	96.3 93.1	94.7	6.8 6.6	6.7	6.7	2.0 1.9	2.0		3.1 3.0	3.1	
4-Jun-14	Sunny	Moderate	16:48	4.9	Surface	1.0	29.3 29.4	29.3	8.5 8.5	8.5	14.9 14.6	14.7	120.6 120.3	120.5	8.5 8.5	8.5	8.5	2.5 2.5	2.5	2.5	3.0 3.1	3.1	3.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.9	27.2 27.3	27.2	8.2 8.2	8.2	22.1 22.1	22.1	90.5 90.0	90.3	6.3 6.3	6.3	6.3	2.5 2.4	2.5		3.3 3.3	3.3	
6-Jun-14	Cloudy	Moderate	18:26	5.5	Surface	1.0	29.0 28.9	28.9	8.3 8.3	8.3	12.5 14.6	13.6	101.1 102.5	101.8	7.3 7.3	7.3	7.3	1.1 1.1	1.1	1.4	2.1 3.2	2.7	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	28.2 28.1	28.2	8.2 8.2	8.2	19.3 19.0	19.2	93.8 93.7	93.8	6.6 6.6	6.6	6.6	1.6 1.5	1.6		4.1 3.6	3.9	
9-Jun-14	Sunny	Moderate	10:26	4.7	Surface	1.0	27.4 27.3	27.4	8.2 8.2	8.2	20.4 20.4	20.4	81.6 81.0	81.3	5.8 5.7	5.7	5.7	2.5 2.5	2.5	2.6	4.2 4.2	4.2	4.0
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	3.7	26.6 26.8	26.7	8.1 8.1	8.1	24.6 25.2	24.9	78.8 81.2	80.0	5.5 5.6	5.6	5.6	2.6 2.5	2.6		3.4 4.0	3.7	
11-Jun-14	Fine	Moderate	11:48	4.8	Surface	1.0	27.5 27.4	27.5	8.2 8.2	8.2	17.6 18.3	17.9	83.6 78.8	81.2	6.0 5.6	5.8	5.8	3.6 3.7	3.7	5.1	4.3 4.3	4.3	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.8	26.8 26.9	26.8	8.1 8.1	8.1	24.3 22.8	23.5	74.4 76.4	75.4	5.2 5.4	5.3	5.3	6.7 6.3	6.5		3.5 3.5	3.5	
13-Jun-14	Sunny	Moderate	13:19	5.0	Surface	1.0	27.9 28.0	28.0	8.1 8.1	8.1	19.2 19.1	19.2	80.0 80.0	80.0	5.6 5.6	5.6	5.6	1.4 1.5	1.5	1.5	2.1 2.2	2.2	2.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.0	27.8 27.8	27.8	8.1 8.1	8.1	19.5 19.5	19.5	79.9 79.3	79.6	5.6 5.6	5.6	5.6	1.5 1.5	1.5		2.9 2.5	2.7	
16-Jun-14	Sunny	Moderate	14:49	4.9	Surface	1.0	28.4 28.5	28.5	8.1 8.1	8.1	19.8 19.8	19.8	84.2 84.6	84.4	5.9 5.9	5.9	5.9	2.2 2.1	2.2	2.2	2.4 2.4	2.4	3.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.9	28.4 28.4	28.4	8.1 8.1	8.1	19.9 19.8	19.9	85.2 84.2	84.7	5.9 5.9	5.9	5.9	2.2 2.1	2.2		3.0 4.6	3.8	
18-Jun-14	Sunny	Moderate	16:42	4.9	Surface	1.0	28.8 28.8	28.8	8.1 8.1	8.1	17.2 17.2	17.2	79.6 81.5	80.6	5.6 5.7	5.7	5.7	4.6 4.3	4.5	4.5	3.2 3.5	3.4	4.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.9	28.4 28.8	28.6	8.1 8.1	8.1	19.5 19.3	19.4	78.6 81.9	80.3	5.5 5.7	5.6	5.6	4.6 4.4	4.5		4.6 5.0	4.8	
20-Jun-14	Fine	Moderate	18:44	4.6	Surface	1.0	29.3 29.3	29.3	8.1 8.2	8.2	13.6 13.5	13.6	93.7 95.3	94.5	6.7 6.8	6.7	6.7	1.8 2.0	1.9	2.0	2.5 2.4	2.5	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.6	29.2 29.2	29.2	8.1 8.1	8.1	16.7 16.7	16.7	93.3 94.2	93.8	6.5 6.6	6.6	6.6	2.2 2.0	2.1		3.3 2.6	3.0	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR5 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	10:36	5.5	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	15.3 15.2	15.3	98.2 98.2	98.2	6.9 6.9	6.9	6.9	2.9 2.9	2.9	3.0	2.7 4.4	3.6	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	28.8 28.9	28.8	8.1 8.1	8.1	18.2 18.0	18.1	96.7 96.9	96.8	6.8 6.8	6.8	6.8	3.1 3.1	3.1		3.6 3.5	3.6	
25-Jun-14	Cloudy	Moderate	12:05	4.8	Surface	1.0	28.7 28.7	28.7	7.9 7.9	7.9	13.2 13.1	13.2	69.8 69.9	69.9	5.0 5.0	5.0	5.0	3.8 3.7	3.8	3.8	1.9 1.4	1.7	2.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.8	28.6 28.7	28.7	7.9 7.9	7.9	17.0 16.7	16.9	66.4 68.7	67.6	4.8 4.8	4.8	4.8	3.8 3.8	3.8		2.6 2.1	2.4	
27-Jun-14	Sunny	Moderate	13:18	4.8	Surface	1.0	29.4 29.5	29.4	8.0 8.0	8.0	13.6 13.8	13.7	70.6 71.6	71.1	5.0 5.1	5.0	5.0	3.4 3.4	3.4	3.5	2.2 2.8	2.5	3.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.8	29.2 29.2	29.2	8.0 8.0	8.0	15.6 15.6	15.6	70.5 70.8	70.7	5.0 5.0	5.0	5.0	3.5 3.5	3.5		3.8 3.3	3.6	
30-Jun-14	Sunny	Moderate	14:29	5.2	Surface	1.0	29.2 29.3	29.3	8.1 8.1	8.1	18.9 18.7	18.8	89.9 93.9	91.9	6.2 6.5	6.3	6.3	3.4 3.3	3.4	3.4	3.1 3.3	3.2	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.2	29.1 29.3	29.2	8.1 8.2	8.1	19.3 18.8	19.0	85.6 86.8	86.2	5.9 6.0	5.9	5.9	3.4 3.4	3.4		4.2 3.6	3.9	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR5 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:00	4.8	Surface	1.0	28.1 28.0	28.1	8.2 8.2	8.2	16.4 16.6	16.5	91.0 90.4	90.7	6.5 6.5	6.5	6.5	2.5 2.5	2.5	2.4	3.5 3.3	3.4	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.8	27.8 27.8	27.8	8.2 8.2	8.2	18.2 18.2	18.2	89.3 87.8	88.6	6.3 6.2	6.3	6.3	2.3 2.2	2.3		4.5 4.7	4.6	
4-Jun-14	Sunny	Moderate	10:02	4.9	Surface	1.0	28.1 28.1	28.1	8.2 8.2	8.2	16.5 16.2	16.4	83.6 82.6	83.1	6.0 5.9	5.9	5.9	2.3 2.4	2.4	2.4	2.7 2.4	2.6	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.9	27.6 26.9	27.3	8.1 8.1	8.1	20.6 21.6	21.1	82.7 79.5	81.1	5.8 5.6	5.7	5.7	2.4 2.4	2.4		3.1 3.5	3.3	
6-Jun-14	Cloudy	Moderate	12:36	5.5	Surface	1.0	29.1 29.1	29.1	8.3 8.3	8.3	14.5 14.5	14.5	108.8 108.7	108.8	7.7 7.7	7.7	7.7	1.1 1.1	1.1	1.3	3.6 3.4	3.5	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	28.6 28.7	28.6	8.3 8.3	8.3	17.5 16.9	17.2	106.5 106.2	106.4	7.5 7.5	7.5	7.5	1.3 1.4	1.4		3.5 3.8	3.7	
9-Jun-14	Sunny	Moderate	16:37	4.8	Surface	1.0	27.2 26.8	27.0	8.2 8.2	8.2	22.0 23.4	22.7	82.8 80.6	81.7	5.8 5.7	5.7	5.7	2.2 2.1	2.2	2.2	4.5 4.3	4.4	4.4
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	3.8	26.7 26.9	26.8	8.2 8.2	8.2	24.6 24.8	24.7	84.7 82.8	83.8	5.9 5.8	5.8	5.8	2.2 2.2	2.2		4.2 4.4	4.3	
11-Jun-14	Fine	Moderate	18:03	4.6	Surface	1.0	27.2 27.2	27.2	8.2 8.2	8.2	20.9 20.6	20.7	95.3 92.4	93.9	6.7 6.5	6.6	6.6	4.2 4.6	4.4	5.0	2.8 3.3	3.1	3.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.6	27.0 27.1	27.1	8.2 8.2	8.2	22.7 22.4	22.6	92.4 93.1	92.8	6.5 6.5	6.5	6.5	5.4 5.6	5.5		3.3 3.1	3.2	
13-Jun-14	Sunny	Moderate	19:53	5.0	Surface	1.0	27.8 27.8	27.8	8.1 8.1	8.1	19.0 19.1	19.1	83.3 81.2	82.3	5.9 5.7	5.8	5.8	3.3 3.4	3.4	3.4	4.1 3.7	3.9	4.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.0	27.8 27.6	27.7	8.1 8.2	8.1	19.7 20.0	19.8	81.6 87.6	84.6	5.7 6.2	6.0	6.0	3.2 3.3	3.3		4.3 4.5	4.4	
16-Jun-14	Sunny	Moderate	08:23	5.1	Surface	1.0	27.6 27.6	27.6	8.0 8.0	8.0	20.0 20.0	20.0	73.5 74.0	73.8	5.3 5.3	5.3	5.3	8.6 8.6	8.6	8.7	6.5 6.9	6.7	6.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.1	27.5 27.6	27.5	8.0 8.0	8.0	21.3 22.1	21.7	73.5 73.9	73.7	5.3 5.3	5.3	5.3	8.7 8.8	8.8		6.6 7.1	6.9	
18-Jun-14	Sunny	Moderate	10:19	5.0	Surface	1.0	28.6 28.6	28.6	8.0 8.0	8.0	16.2 16.1	16.1	79.4 79.2	79.3	5.6 5.6	5.6	5.6	2.2 2.3	2.3	2.3	2.8 3.0	2.9	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.0	28.6 28.6	28.6	8.0 8.0	8.0	16.9 16.7	16.8	78.9 78.6	78.8	5.6 5.6	5.6	5.6	2.2 2.3	2.3		3.8 3.4	3.6	
20-Jun-14	Rainy	Moderate	12:56	4.8	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	16.0 16.1	16.0	87.8 87.6	87.7	6.2 6.2	6.2	6.2	2.8 2.8	2.8	2.9	2.5 2.7	2.6	2.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.8	29.0 29.1	29.0	8.1 8.1	8.1	18.9 19.0	19.0	86.9 87.7	87.3	6.0 6.1	6.0	6.0	3.0 2.9	3.0		2.1 2.3	2.2	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR5 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	16:31	5.5	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	13.0 14.1	13.6	98.2 98.1	98.2	7.0 7.0	7.0	7.0	2.5 2.4	2.5	2.7	2.5 2.4	2.5	3.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	28.7 28.7	28.7	8.1 8.1	8.1	18.0 17.8	17.9	94.0 93.5	93.8	6.6 6.6	6.6	6.6	2.8 2.8	2.8		3.5 3.9	3.7	
25-Jun-14	Cloudy	Moderate	18:39	5.0	Surface	1.0	28.7 28.7	28.7	7.8 7.8	7.8	10.6 10.8	10.7	78.2 80.0	79.1	5.7 5.8	5.8	5.8	7.7 7.8	7.8	7.8	4.4 3.5	4.0	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.0	28.6 28.6	28.6	7.7 7.8	7.8	14.9 14.8	14.8	78.7 81.8	80.3	5.6 5.8	5.7	5.7	7.7 7.9	7.8		3.1 4.3	3.7	
27-Jun-14	Sunny	Moderate	19:45	4.7	Surface	1.0	30.2 30.2	30.2	8.0 8.0	8.0	11.3 11.3	11.3	87.4 84.2	85.8	6.2 6.0	6.1	6.1	7.0 7.2	7.1	7.7	3.9 3.7	3.8	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.7	30.1 30.1	30.1	8.0 8.0	8.0	11.7 11.7	11.7	81.4 82.7	82.1	5.8 5.9	5.8	5.8	8.0 8.3	8.2		3.7 3.1	3.4	
30-Jun-14	Sunny	Moderate	08:26	5.0	Surface	1.0	29.1 29.1	29.1	8.1 8.1	8.1	19.7 19.6	19.6	85.0 82.9	84.0	5.9 5.7	5.8	5.8	4.6 4.8	4.7	5.0	5.0 4.1	4.6	5.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.0	28.7 28.6	28.7	8.1 8.1	8.1	21.1 22.1	21.6	80.5 80.8	80.7	5.5 5.5	5.5	5.5	5.1 5.3	5.2		5.8 5.5	5.7	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	14:38	4.0	Surface	1.0	28.3 28.4	28.4	8.2 8.2	8.2	15.0 14.6	14.8	95.9 98.2	97.1	6.9 7.0	7.0	7.0	2.1 2.0	2.1	2.1	2.5 2.7	2.6	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	28.1 27.9	28.0	8.2 8.1	8.2	17.4 17.7	17.5	96.5 93.0	94.8	6.9 6.6	6.7	6.7	2.0 2.1	2.1		3.0 3.5	3.3	
4-Jun-14	Sunny	Moderate	15:51	4.2	Surface	1.0	29.1 29.3	29.2	8.5 8.5	8.5	14.8 14.8	14.8	120.0 124.2	122.1	8.5 8.8	8.6	8.6	2.4 2.4	2.4	2.5	2.7 2.8	2.8	3.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.7 28.6	28.7	8.4 8.4	8.4	18.5 18.3	18.4	121.0 124.1	122.6	8.4 8.7	8.6	8.6	2.4 2.5	2.5		3.4 3.6	3.5	
6-Jun-14	Cloudy	Moderate	17:47	5.5	Surface	1.0	29.1 29.1	29.1	8.4 8.4	8.4	12.1 11.9	12.0	101.3 100.5	100.9	7.3 7.2	7.3	7.3	1.1 1.2	1.2	1.3	3.4 3.3	3.4	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	27.8 27.5	27.7	8.2 8.2	8.2	20.1 21.7	20.9	82.6 84.6	83.6	5.8 5.9	5.9	5.9	1.3 1.3	1.3		3.4 4.2	3.8	
9-Jun-14	Sunny	Moderate	11:20	4.1	Surface	1.0	27.7 27.8	27.7	8.2 8.2	8.2	20.1 20.2	20.1	88.3 89.3	88.8	6.2 6.3	6.2	6.2	2.4 2.4	2.4	2.4	4.6 4.4	4.5	4.7
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	3.1	27.7 27.7	27.7	8.2 8.2	8.2	20.1 20.1	20.1	88.7 87.6	88.2	6.2 6.2	6.2	6.2	2.4 2.4	2.4		5.6 4.2	4.9	
11-Jun-14	Fine	Moderate	12:44	4.1	Surface	1.0	27.6 27.6	27.6	8.2 8.2	8.2	17.2 17.3	17.2	88.7 89.5	89.1	6.4 6.4	6.4	6.4	1.4 1.3	1.4	1.6	4.0 3.6	3.8	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.4 27.4	27.4	8.1 8.1	8.1	18.9 18.9	18.9	88.8 84.2	86.5	6.3 6.0	6.2	6.2	1.7 1.6	1.7		4.8 4.5	4.7	
13-Jun-14	Sunny	Moderate	14:18	4.2	Surface	1.0	27.5 27.4	27.4	8.1 8.1	8.1	20.2 20.6	20.4	77.7 75.7	76.7	5.5 5.3	5.4	5.4	3.3 3.2	3.3	3.2	6.8 6.8	6.8	6.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.4 27.3	27.4	8.1 8.1	8.1	20.3 20.8	20.6	76.7 75.4	76.1	5.4 5.3	5.4	5.4	3.0 3.1	3.1		7.1 6.8	7.0	
16-Jun-14	Sunny	Moderate	13:59	4.1	Surface	1.0	28.4 28.4	28.4	8.1 8.1	8.1	20.1 20.1	20.1	82.9 82.8	82.9	5.8 5.8	5.8	5.8	2.3 2.5	2.4	2.5	3.6 2.1	2.9	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.4 28.4	28.4	8.1 8.1	8.1	20.1 20.3	20.2	83.1 82.5	82.8	5.8 5.7	5.8	5.8	2.5 2.5	2.5		4.0 4.2	4.1	
18-Jun-14	Sunny	Moderate	15:48	4.1	Surface	1.0	29.2 29.1	29.2	8.2 8.2	8.2	16.5 16.6	16.5	90.1 86.7	88.4	6.3 6.1	6.2	6.2	3.2 3.6	3.4	3.5	2.1 2.2	2.2	2.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.8 29.2	29.0	8.2 8.2	8.2	17.0 16.5	16.8	82.1 88.4	85.3	5.8 6.2	6.0	6.0	3.6 3.5	3.6		2.4 2.8	2.6	
20-Jun-14	Fine	Moderate	17:50	4.0	Surface	1.0	29.3 29.3	29.3	8.1 8.1	8.1	12.7 12.6	12.7	92.1 93.4	92.8	6.6 6.7	6.6	6.6	4.7 4.5	4.6	5.5	2.0 2.1	2.1	2.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	29.2 29.2	29.2	8.1 8.1	8.1	14.6 13.7	14.2	93.2 88.8	91.0	6.6 6.3	6.5	6.5	6.1 6.5	6.3		3.4 2.1	2.8	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR6 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	11:17	5.5	Surface	1.0	29.1 29.2	29.2	8.1 8.1	8.1	14.1 13.2	13.7	94.2 95.8	95.0	6.7 6.8	6.8	6.8	2.6 2.8	2.7	3.0	2.1 2.1	2.1	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	28.8 28.4	28.6	8.1 8.0	8.0	16.6 18.4	17.5	91.7 92.0	91.9	6.5 6.5	6.5	6.5	3.1 3.3	3.2		5.0 4.8	4.9	
25-Jun-14	Cloudy	Moderate	13:02	4.2	Surface	1.0	28.8 28.8	28.8	7.9 7.9	7.9	12.6 12.6	12.6	76.1 75.5	75.8	5.5 5.4	5.5	5.5	3.0 3.0	3.0	3.3	2.2 2.4	2.3	3.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.8 28.8	28.8	7.9 7.9	7.9	13.8 14.2	14.0	76.3 76.6	76.5	5.5 5.5	5.5	5.5	3.5 3.4	3.5		3.8 4.1	4.0	
27-Jun-14	Sunny	Moderate	14:15	4.0	Surface	1.0	29.8 29.9	29.9	8.0 8.0	8.0	13.6 13.4	13.5	75.0 74.8	74.9	5.3 5.3	5.3	5.3	2.9 2.9	2.9	2.9	2.0 2.8	2.4	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	29.1 29.4	29.3	8.0 8.0	8.0	16.3 15.7	16.0	71.9 72.9	72.4	5.1 5.1	5.1	5.1	2.9 2.9	2.9		3.5 3.7	3.6	
30-Jun-14	Sunny	Moderate	13:38	4.1	Surface	1.0	29.3 29.2	29.2	8.2 8.2	8.2	18.1 18.2	18.2	84.4 80.7	82.6	5.8 5.6	5.7	5.7	4.6 5.0	4.8	4.9	3.6 3.5	3.6	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.7 28.8	28.7	8.1 8.1	8.1	21.4 21.3	21.3	76.8 80.6	78.7	5.3 5.5	5.4	5.4	5.1 4.7	4.9		3.8 3.2	3.5	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	09:53	4.0	Surface	1.0	28.2 28.1	28.2	8.1 8.1	8.1	12.1 13.0	12.6	86.0 83.0	84.5	6.3 6.0	6.2	6.2	2.6 2.6	2.6	2.5	4.8 5.6	5.2	5.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	28.0 28.0	28.0	8.0 8.0	8.0	16.0 15.9	15.9	82.1 81.0	81.6	5.9 5.8	5.8	5.8	2.5 2.3	2.4		5.6 4.6	5.1	
4-Jun-14	Sunny	Moderate	10:58	4.1	Surface	1.0	27.9 28.1	28.0	8.2 8.2	8.2	15.1 15.0	15.1	85.6 87.9	86.8	6.2 6.3	6.2	6.2	1.8 1.8	1.8	1.9	3.6 3.3	3.5	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.6 28.0	27.8	8.1 8.2	8.1	18.9 18.6	18.8	88.7 88.3	88.5	6.3 6.2	6.3	6.3	1.8 1.9	1.9		3.2 3.7	3.5	
6-Jun-14	Cloudy	Moderate	13:17	5.5	Surface	1.0	29.0 29.2	29.1	8.3 8.3	8.3	13.6 12.5	13.1	103.5 104.8	104.2	7.4 7.5	7.4	7.4	1.1 1.2	1.2	1.3	2.9 2.6	2.8	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	28.5 27.7	28.1	8.2 8.2	8.2	17.3 20.9	19.1	99.6 98.4	99.0	7.0 6.9	7.0	7.0	1.3 1.4	1.4		2.8 2.5	2.7	
9-Jun-14	Sunny	Moderate	15:31	4.1	Surface	1.0	27.7 27.9	27.8	8.2 8.2	8.2	17.1 18.8	18.0	84.7 82.5	83.6	6.1 5.8	5.9	5.9	2.1 2.2	2.2	2.2	4.3 3.6	4.0	4.1
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	3.1	27.3 26.8	27.0	8.2 8.1	8.2	23.7 24.0	23.8	84.1 85.4	84.8	5.8 6.0	5.9	5.9	2.1 2.2	2.2		3.8 4.5	4.2	
11-Jun-14	Fine	Moderate	17:09	3.9	Surface	1.0	27.6 27.6	27.6	8.2 8.2	8.2	16.8 16.8	16.8	96.3 95.7	96.0	6.9 6.9	6.9	6.9	1.5 1.6	1.6	1.6	2.5 3.6	3.1	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	27.6 27.5	27.6	8.2 8.1	8.1	16.8 18.0	17.4	95.6 95.2	95.4	6.9 6.8	6.8	6.8	1.6 1.6	1.6		3.0 2.7	2.9	
13-Jun-14	Sunny	Moderate	18:55	4.1	Surface	1.0	27.8 27.8	27.8	8.1 8.1	8.1	17.1 17.0	17.1	75.0 75.1	75.1	5.4 5.4	5.4	5.4	4.6 4.3	4.5	4.9	3.5 3.2	3.4	3.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.8 27.8	27.8	8.1 8.0	8.1	19.0 19.0	19.0	74.8 74.8	74.8	5.3 5.3	5.3	5.3	5.3 5.2	5.3		3.7 4.2	4.0	
16-Jun-14	Sunny	Moderate	09:19	4.3	Surface	1.0	27.7 27.7	27.7	8.0 8.0	8.0	19.1 19.0	19.0	72.0 71.6	71.8	5.2 5.2	5.2	5.2	6.9 7.1	7.0	8.0	2.9 3.9	3.4	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	27.6 27.6	27.6	8.0 8.0	8.0	21.5 21.6	21.6	71.7 71.5	71.6	5.1 5.1	5.1	5.1	8.9 8.8	8.9		3.4 3.6	3.5	
18-Jun-14	Sunny	Moderate	11:08	4.1	Surface	1.0	28.9 28.9	28.9	8.0 8.0	8.0	13.7 13.9	13.8	83.5 82.8	83.2	6.0 5.9	5.9	5.9	2.7 2.7	2.7	2.7	2.6 2.8	2.7	2.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.8 28.8	28.8	8.0 8.0	8.0	14.7 14.8	14.8	82.9 82.3	82.6	5.9 5.9	5.9	5.9	2.7 2.7	2.7		2.9 2.5	2.7	
20-Jun-14	Rainy	Moderate	13:48	3.9	Surface	1.0	29.3 29.2	29.3	8.1 8.1	8.1	13.9 14.6	14.3	86.8 85.0	85.9	6.2 6.0	6.1	6.1	2.4 2.2	2.3	2.8	2.9 3.1	3.0	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.9	29.2 29.1	29.2	8.1 8.1	8.1	15.8 15.9	15.9	85.6 83.8	84.7	6.0 5.9	6.0	6.0	3.3 3.0	3.2		2.6 2.4	2.5	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR6 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	15:47	5.5	Surface	1.0	29.2 29.2	29.2	8.1 8.1	8.1	12.4 12.3	12.3	97.3 96.3	96.8	7.0 6.9	6.9	6.9	3.8 3.9	3.9	4.4	3.4 3.0	3.2	3.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	28.5 28.3	28.4	8.0 8.0	8.0	16.9 18.2	17.5	85.7 88.9	87.3	6.1 6.3	6.2	6.2	4.9 4.7	4.8		3.0 4.0	3.5	
25-Jun-14	Cloudy	Moderate	17:41	4.2	Surface	1.0	28.8 28.8	28.8	8.0 8.0	8.0	10.1 10.1	10.1	76.5 76.4	76.5	5.6 5.6	5.6	5.6	6.1 6.2	6.2	6.3	6.1 5.0	5.6	5.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.8 28.8	28.8	8.0 8.0	8.0	10.1 10.2	10.2	76.3 76.2	76.3	5.6 5.6	5.6	5.6	6.2 6.3	6.3		4.6 4.8	4.7	
27-Jun-14	Sunny	Moderate	18:50	4.2	Surface	1.0	30.2 30.2	30.2	8.0 8.0	8.0	10.1 10.2	10.1	79.7 79.8	79.8	5.7 5.7	5.7	5.7	6.1 5.9	6.0	5.8	5.2 4.5	4.9	4.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	30.2 30.1	30.1	8.0 8.0	8.0	10.6 11.0	10.8	79.7 79.2	79.5	5.7 5.6	5.7	5.7	5.5 5.4	5.5		3.7 5.1	4.4	
30-Jun-14	Sunny	Moderate	09:18	4.2	Surface	1.0	29.1 29.1	29.1	8.0 8.0	8.0	17.8 17.8	17.8	81.1 80.4	80.8	5.6 5.6	5.6	5.6	3.4 3.4	3.4	3.5	4.1 3.3	3.7	3.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	29.1 29.1	29.1	8.0 8.0	8.0	18.7 18.2	18.5	80.2 80.3	80.3	5.6 5.6	5.6	5.6	3.6 3.6	3.6		3.4 3.8	3.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	16:01	4.0	Surface	1.0	28.7 28.7	28.7	8.3 8.3	8.3	13.7 13.6	13.6	102.7 99.0	100.9	7.4 7.1	7.2	7.2	2.0 2.0	2.0	2.0	2.4 2.8	2.6	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	28.1 28.4	28.2	8.2 8.2	8.2	15.2 15.3	15.2	92.5 99.6	96.1	6.7 7.1	6.9	6.9	1.9 1.9	1.9		3.6 4.4	4.0	
4-Jun-14	Sunny	Moderate	17:15	4.2	Surface	1.0	28.5 28.4	28.5	8.3 8.3	8.3	16.8 16.6	16.7	104.3 108.3	106.3	7.4 7.7	7.5	7.5	2.2 2.2	2.2	2.2	2.5 2.7	2.6	2.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.8 28.4	28.1	8.3 8.3	8.3	20.0 18.8	19.4	101.8 108.3	105.1	7.2 7.6	7.4	7.4	2.2 2.1	2.2		2.5 2.6	2.6	
6-Jun-14	Cloudy	Moderate	18:59	5.6	Surface	1.0	28.9 28.9	28.9	8.3 8.3	8.3	12.6 13.1	12.9	100.4 100.9	100.7	7.2 7.2	7.2	7.2	1.2 1.4	1.3	1.6	1.6 1.7	1.7	2.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.6	28.0 28.1	28.1	8.2 8.2	8.2	20.8 16.9	18.9	96.2 95.2	95.7	6.7 6.8	6.7	6.7	1.7 1.8	1.8		3.7 3.6	3.7	
9-Jun-14	Sunny	Moderate	09:55	4.2	Surface	1.0	27.4 27.5	27.5	8.2 8.2	8.2	20.5 20.5	20.5	83.9 89.2	86.6	5.9 6.3	6.1	6.1	2.2 2.2	2.2	2.3	5.5 3.7	4.6	5.1
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	3.2	26.4 26.4	26.4	8.1 8.1	8.1	25.3 25.8	25.5	71.1 70.2	70.7	5.0 4.9	4.9	4.9	2.2 2.4	2.3		5.7 5.2	5.5	
11-Jun-14	Fine	Moderate	11:21	4.0	Surface	1.0	27.2 27.3	27.2	8.1 8.1	8.1	20.8 20.7	20.8	88.6 89.5	89.1	6.3 6.3	6.3	6.3	4.0 4.3	4.2	5.0	2.5 2.9	2.7	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	26.8 26.8	26.8	8.1 7.9	8.0	23.7 23.9	23.8	83.9 88.8	86.4	5.9 6.2	6.0	6.0	5.5 5.8	5.7		3.3 2.5	2.9	
13-Jun-14	Sunny	Moderate	12:51	4.1	Surface	1.0	27.6 27.6	27.6	8.1 8.1	8.1	19.8 19.8	19.8	88.4 86.8	87.6	6.3 6.1	6.2	6.2	1.4 1.3	1.4	1.4	3.6 3.8	3.7	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	27.5 27.6	27.5	8.0 8.1	8.0	20.1 20.0	20.0	91.0 87.5	89.3	6.4 6.2	6.3	6.3	1.4 1.4	1.4		4.4 3.9	4.2	
16-Jun-14	Sunny	Moderate	15:16	4.3	Surface	1.0	28.5 28.4	28.4	8.1 8.1	8.1	19.6 19.5	19.6	81.4 81.8	81.6	5.7 5.7	5.7	5.7	2.3 2.3	2.3	2.3	3.2 2.6	2.9	2.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	28.3 28.1	28.2	8.1 8.1	8.1	20.9 20.2	20.6	81.9 80.4	81.2	5.7 5.6	5.6	5.6	2.3 2.3	2.3		3.1 2.6	2.9	
18-Jun-14	Sunny	Moderate	17:10	4.2	Surface	1.0	29.1 29.3	29.2	8.2 8.2	8.2	16.4 16.3	16.3	94.2 97.4	95.8	6.6 6.8	6.7	6.7	2.4 2.4	2.4	2.5	3.2 3.4	3.3	3.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	29.1 28.8	29.0	8.2 8.1	8.2	17.3 18.0	17.6	95.6 92.3	94.0	6.7 6.4	6.6	6.6	2.5 2.5	2.5		3.5 3.8	3.7	
20-Jun-14	Fine	Moderate	19:13	4.5	Surface	1.0	29.2 29.3	29.3	8.1 8.2	8.1	12.8 12.7	12.8	91.3 94.2	92.8	6.5 6.7	6.6	6.6	2.6 2.4	2.5	2.3	2.1 2.5	2.3	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.5	29.2 29.2	29.2	8.1 8.1	8.1	15.3 15.9	15.6	91.6 91.4	91.5	6.5 6.4	6.4	6.4	2.0 2.1	2.1		3.7 2.6	3.2	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	09:59	5.5	Surface	1.0	28.9 29.0	28.9	8.1 8.1	8.1	17.1 16.9	17.0	92.6 94.6	93.6	6.5 6.6	6.6	6.6	6.0 5.9	6.0	6.9	1.9 2.1	2.0	1.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	28.4 28.3	28.3	8.1 8.1	8.1	21.5 21.3	21.4	90.0 86.8	88.4	6.2 6.0	6.1	6.1	7.8 7.8	7.8		2.0 1.6	1.8	
25-Jun-14	Cloudy	Moderate	11:37	4.0	Surface	1.0	28.6 28.6	28.6	7.9 7.9	7.9	12.1 12.2	12.2	75.0 76.8	75.9	5.4 5.6	5.5	5.5	3.3 3.4	3.4	3.4	2.8 2.6	2.7	2.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.0	28.7 28.7	28.7	7.9 7.9	7.9	16.3 16.3	16.3	74.1 71.3	72.7	5.2 5.0	5.1	5.1	3.4 3.4	3.4		2.4 2.8	2.6	
27-Jun-14	Sunny	Moderate	12:47	3.8	Surface	1.0	29.9 30.1	30.0	8.0 8.0	8.0	12.3 12.3	12.3	82.9 81.4	82.2	5.9 5.7	5.8	5.8	3.0 2.9	3.0	3.1	4.2 3.5	3.9	3.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	2.8	29.7 29.7	29.7	8.0 8.0	8.0	14.0 13.6	13.8	80.5 84.1	82.3	5.7 5.9	5.8	5.8	3.1 3.1	3.1		3.2 3.9	3.6	
30-Jun-14	Sunny	Moderate	15:00	4.1	Surface	1.0	29.3 29.3	29.3	8.2 8.1	8.2	18.5 18.5	18.5	92.6 89.8	91.2	6.4 6.2	6.3	6.3	2.5 2.3	2.4	2.5	3.4 3.4	3.4	3.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	29.0 29.1	29.0	8.1 8.1	8.1	19.7 19.5	19.6	88.7 90.4	89.6	6.1 6.2	6.2	6.2	2.5 2.6	2.6		2.9 3.2	3.1	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	08:32	4.2	Surface	1.0	27.8 27.8	27.8	8.1 8.1	8.1	15.1 15.5	15.3	83.2 83.4	83.3	6.0 6.0	6.0	6.0	3.8 3.9	3.9	5.0	4.0 4.1	4.1	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.6 27.5	27.6	8.1 8.1	8.1	18.3 20.6	19.4	81.4 80.8	81.1	5.8 5.7	5.7	5.7	6.0 6.2	6.1		3.8 4.0	3.9	
4-Jun-14	Sunny	Moderate	09:33	4.2	Surface	1.0	28.0 28.2	28.1	8.2 8.3	8.3	17.5 17.2	17.4	96.1 97.0	96.6	6.8 6.9	6.9	6.9	2.1 2.1	2.1	2.2	2.5 2.5	2.5	2.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.9 27.8	27.8	8.3 8.2	8.2	17.8 18.1	17.9	96.6 93.3	95.0	6.9 6.6	6.7	6.7	2.2 2.1	2.2		2.8 2.6	2.7	
6-Jun-14	Cloudy	Moderate	11:59	5.5	Surface	1.0	28.9 29.0	29.0	8.3 8.3	8.3	15.3 14.9	15.1	107.5 108.4	108.0	7.6 7.7	7.6	7.6	1.3 1.3	1.3	1.4	2.8 2.5	2.7	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	28.2 28.0	28.1	8.3 8.2	8.3	19.4 19.0	19.2	99.3 96.8	98.1	7.0 6.8	6.9	6.9	1.4 1.5	1.5		3.0 2.6	2.8	
9-Jun-14	Sunny	Moderate	17:06	4.1	Surface	1.0	27.3 27.7	27.5	8.3 8.3	8.3	23.4 22.8	23.1	94.7 105.0	99.9	6.6 7.3	6.9	6.9	2.2 2.2	2.2	2.2	9.1 7.8	8.5	8.7
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	3.1	26.6 27.3	27.0	8.2 8.3	8.3	25.3 23.8	24.6	95.0 100.0	97.5	6.6 6.9	6.8	6.8	2.2 2.1	2.2		8.7 8.9	8.8	
11-Jun-14	Fine	Moderate	18:29	4.1	Surface	1.0	27.0 27.0	27.0	8.2 8.2	8.2	21.9 21.9	21.9	90.2 88.9	89.6	6.4 6.3	6.3	6.3	3.3 3.4	3.4	3.6	3.9 4.8	4.4	4.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	26.9 26.9	26.9	8.2 8.2	8.2	22.7 22.7	22.7	86.6 88.8	87.7	6.1 6.2	6.2	6.2	3.8 3.7	3.8		4.7 3.6	4.2	
13-Jun-14	Sunny	Moderate	20:20	4.2	Surface	1.0	27.6 27.6	27.6	8.3 8.3	8.3	21.9 21.8	21.8	107.4 108.1	107.8	7.5 7.5	7.5	7.5	4.2 4.4	4.3	4.4	5.3 4.9	5.1	5.3
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	27.6 27.6	27.6	8.3 8.3	8.3	22.0 21.9	22.0	107.0 107.7	107.4	7.5 7.5	7.5	7.5	4.4 4.4	4.4		5.1 5.7	5.4	
16-Jun-14	Sunny	Moderate	07:55	4.3	Surface	1.0	27.7 27.7	27.7	8.0 8.0	8.0	20.4 20.4	20.4	77.0 78.2	77.6	5.5 5.6	5.5	5.5	2.7 2.7	2.7	2.8	2.3 3.6	3.0	2.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	27.7 27.7	27.7	8.0 8.0	8.0	20.6 20.6	20.6	79.2 77.4	78.3	5.7 5.5	5.6	5.6	2.9 2.9	2.9		2.9 2.4	2.7	
18-Jun-14	Sunny	Moderate	09:50	4.1	Surface	1.0	28.6 28.5	28.6	8.1 8.1	8.1	17.3 17.4	17.3	77.0 74.4	75.7	5.4 5.2	5.3	5.3	12.8 12.4	12.6	12.6	9.3 9.7	9.5	9.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.2 28.2	28.2	8.0 8.1	8.1	21.4 21.3	21.4	74.8 76.9	75.9	5.2 5.3	5.3	5.3	12.4 12.5	12.5		9.5 9.9	9.7	
20-Jun-14	Rainy	Moderate	12:26	4.2	Surface	1.0	28.9 28.9	28.9	8.2 8.2	8.2	18.9 18.9	18.9	80.9 77.8	79.4	5.6 5.4	5.5	5.5	12.6 12.8	12.7	14.3	3.7 3.4	3.6	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.2	28.5 28.6	28.5	8.1 8.1	8.1	23.7 23.6	23.7	76.8 80.8	78.8	5.2 5.5	5.4	5.4	16.1 15.7	15.9		4.9 3.8	4.4	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR7 - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	17:01	5.6	Surface	1.0	29.1 29.0	29.1	8.1 8.1	8.1	12.6 13.0	12.8	97.3 96.1	96.7	7.0 6.9	6.9	6.9	2.8 3.0	2.9	2.9	3.4 3.2	3.3	4.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.6	28.6 28.7	28.6	8.0 8.1	8.1	18.4 16.1	17.2	93.8 93.4	93.6	6.6 6.6	6.6	6.6	2.9 2.9	2.9		4.4 4.9	4.7	
25-Jun-14	Cloudy	Moderate	19:08	4.3	Surface	1.0	28.8 28.8	28.8	8.0 8.0	8.0	10.6 10.4	10.5	79.6 80.1	79.9	5.8 5.8	5.8	5.8	4.4 4.6	4.5	4.6	4.5 4.7	4.6	4.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.3	28.7 28.7	28.7	8.0 7.9	8.0	13.1 12.8	12.9	78.7 79.9	79.3	5.7 5.8	5.7	5.7	4.6 4.7	4.7		5.0 4.9	5.0	
27-Jun-14	Sunny	Moderate	20:14	4.7	Surface	1.0	30.3 30.3	30.3	8.0 8.0	8.0	11.8 11.8	11.8	80.4 79.5	80.0	5.7 5.6	5.6	5.6	4.8 4.8	4.8	5.2	2.6 2.6	2.6	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.7	29.9 29.9	29.9	8.0 8.0	8.0	13.3 13.5	13.4	74.7 78.5	76.6	5.3 5.5	5.4	5.4	5.6 5.3	5.5		3.4 2.6	3.0	
30-Jun-14	Sunny	Moderate	07:56	4.1	Surface	1.0	28.7 28.7	28.7	8.1 8.0	8.1	20.2 19.8	20.0	80.4 83.3	81.9	5.6 5.7	5.6	5.6	9.0 9.1	9.1	8.8	5.1 5.0	5.1	5.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.1	28.5 28.5	28.5	8.0 8.1	8.1	21.4 22.0	21.7	77.2 79.2	78.2	5.3 5.5	5.4	5.4	8.3 8.6	8.5		5.3 5.1	5.2	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10A - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	16:27	6.6	Surface	1.0	29.0 28.9	28.9	8.3 8.3	8.3	15.9 16.2	16.1	120.1 119.8	120.0	8.5 8.4	8.5	8.5	2.0 2.0	2.0	2.1	3.8 3.8	3.8	5.2
					Middle	3.3	28.9 28.9	28.9	8.3 8.3	8.3	16.4 16.3	16.3	117.8 119.7	118.8	8.3 8.4	8.4		2.1 2.2	2.2		4.1 4.7	4.4	
					Bottom	5.6	28.9 28.9	28.9	8.2 8.3	8.3	16.7 16.5	16.6	115.8 119.7	117.8	8.1 8.4	8.3	8.3	2.1 2.2	2.2		7.4 7.5	7.5	
4-Jun-14	Sunny	Moderate	17:13	6.4	Surface	1.0	28.9 29.2	29.0	8.4 8.4	8.4	17.7 17.5	17.6	110.5 111.0	110.8	7.7 7.8	7.7	7.7	1.5 1.4	1.5	1.5	2.0 2.3	2.2	2.2
					Middle	3.2	28.3 28.6	28.5	8.3 8.3	8.3	18.3 18.0	18.2	110.3 108.9	109.6	7.7 7.6	7.7		1.4 1.6	1.5		2.3 1.9	2.1	
					Bottom	5.4	28.5 28.6	28.6	8.3 8.3	8.3	18.4 20.0	19.2	106.2 108.3	107.3	7.4 7.6	7.5	7.5	1.7 1.5	1.6		2.0 2.5	2.3	
6-Jun-14	Cloudy	Moderate	19:29	6.5	Surface	1.0	28.6 28.6	28.6	8.5 8.5	8.5	15.8 16.0	15.9	113.8 112.2	113.0	8.1 8.0	8.0	7.9	1.5 1.5	1.5	1.6	3.6 3.7	3.7	3.9
					Middle	3.3	28.4 28.4	28.4	8.5 8.5	8.5	16.3 16.5	16.4	109.4 106.6	108.0	7.8 7.6	7.7		1.5 1.6	1.6		4.0 4.2	4.1	
					Bottom	5.5	28.1 28.2	28.1	8.4 8.4	8.4	18.1 17.9	18.0	103.8 110.1	107.0	7.3 7.8	7.6	7.6	1.6 1.6	1.6		3.9 3.8	3.9	
9-Jun-14	Sunny	Moderate	09:06	6.6	Surface	1.0	26.3 26.4	26.4	8.1 8.2	8.1	24.7 24.8	24.8	88.8 90.2	89.5	6.2 6.3	6.3	6.1	1.8 1.7	1.8	2.0	3.9 2.8	3.4	2.4
					Middle	3.3	25.9 26.0	25.9	8.0 8.1	8.1	26.1 26.1	26.1	80.7 84.1	82.4	5.7 5.9	5.8		1.8 1.9	1.9		0.8 0.8	0.8	
					Bottom	5.6	25.7 25.2	25.5	8.1 7.9	8.0	26.8 28.8	27.8	80.4 76.9	78.7	5.6 5.4	5.5	5.5	2.3 2.4	2.4		2.6 3.6	3.1	
11-Jun-14	Fine	Moderate	10:40	6.3	Surface	1.0	26.3 26.5	26.4	8.3 8.3	8.3	25.1 24.5	24.8	83.8 86.6	85.2	5.9 6.1	6.0	5.9	1.6 1.6	1.6	1.7	5.2 4.7	5.0	5.3
					Middle	3.2	26.1 26.1	26.1	8.3 8.3	8.3	26.5 26.5	26.5	83.6 80.9	82.3	5.8 5.7	5.7		1.8 1.9	1.9		5.5 5.5	5.5	
					Bottom	5.3	25.9 26.1	26.0	8.1 8.3	8.2	27.8 26.7	27.2	89.4 86.0	87.7	6.2 6.0	6.1	6.1	1.8 1.6	1.7		4.7 6.1	5.4	
13-Jun-14	Sunny	Moderate	11:48	6.3	Surface	1.0	27.3 27.4	27.4	8.1 8.1	8.1	22.5 22.6	22.6	83.6 85.2	84.4	5.8 5.9	5.9	5.7	1.6 1.6	1.6	2.1	3.6 3.9	3.8	4.4
					Middle	3.2	26.6 26.5	26.5	8.0 8.0	8.0	25.5 25.8	25.6	79.2 75.5	77.4	5.5 5.3	5.4		2.3 2.1	2.2		4.4 4.1	4.3	
					Bottom	5.3	26.4 25.9	26.2	7.9 8.0	8.0	25.8 27.0	26.4	79.5 76.0	77.8	5.5 5.3	5.4	5.4	2.6 2.5	2.6		4.8 5.4	5.1	
16-Jun-14	Sunny	Moderate	15:38	6.5	Surface	1.0	28.9 28.8	28.8	8.1 8.1	8.1	19.4 19.9	19.6	86.3 85.4	85.9	6.0 5.9	5.9	5.8	2.3 2.1	2.2	2.8	3.5 3.1	3.3	3.2
					Middle	3.3	28.4 28.6	28.5	8.1 8.1	8.1	21.0 20.2	20.6	80.3 82.7	81.5	5.6 5.7	5.6		3.1 2.8	3.0		2.9 3.3	3.1	
					Bottom	5.5	27.8 28.0	27.9	8.1 8.1	8.1	22.5 22.1	22.3	79.9 81.6	80.8	5.5 5.7	5.6	5.6	3.2 3.0	3.1		3.5 2.7	3.1	
18-Jun-14	Sunny	Moderate	17:17	6.4	Surface	1.0	29.2 29.3	29.2	8.2 8.2	8.2	18.8 18.3	18.6	91.4 91.4	91.4	6.3 6.3	6.3	6.3	2.6 2.4	2.5	2.6	2.8 3.2	3.0	2.9
					Middle	3.2	29.2 29.1	29.1	8.2 8.2	8.2	18.9 19.4	19.2	90.9 91.2	91.1	6.3 6.3	6.3		2.7 2.5	2.6		3.0 2.6	2.8	
					Bottom	5.4	29.2 29.0	29.1	8.2 8.2	8.2	19.6 19.7	19.6	90.7 90.5	90.6	6.3 6.2	6.3	6.3	2.7 2.6	2.7		2.8 3.2	3.0	
20-Jun-14	Fine	Moderate	19:42	6.3	Surface	1.0	29.2 29.2	29.2	8.3 8.3	8.3	19.3 19.2	19.3	79.1 83.9	81.5	5.5 5.8	5.6	5.4	2.7 2.7	2.7	3.1	2.6 2.3	2.5	2.8
					Middle	3.2	28.9 28.6	28.7	8.3 8.3	8.3	22.4 25.0	23.7	75.2 75.6	75.4	5.1 5.2	5.2		3.3 3.2	3.3		2.9 2.2	2.6	
					Bottom	5.3	28.5 28.5	28.5	8.3 8.3	8.3	25.2 26.3	25.7	74.3 73.3	73.8	5.0 5.0	5.0	5.0	3.4 3.1	3.3		3.1 3.6	3.4	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10A - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	09:47	6.5	Surface	1.0	28.5 28.5	28.5	8.3 8.2	8.3	19.1 19.8	19.5	79.9 80.3	80.1	5.6 5.6	5.6	5.6	2.8 2.8	2.8	2.8	2.5 2.0	2.3	2.7
					Middle	3.3	28.5 28.5	28.5	8.2 8.3	8.2	20.3 20.3	20.3	80.5 79.8	80.2	5.6 5.5	5.6		2.8 2.8	2.8		2.4 2.2	2.3	
					Bottom	5.5	28.5 28.5	28.5	8.2 8.3	8.2	20.6 20.1	20.4	81.5 80.2	80.9	5.7 5.6	5.6	5.6	2.9 2.8	2.9		3.6 3.6	3.6	
25-Jun-14	Cloudy	Moderate	11:13	6.2	Surface	1.0	28.6 28.6	28.6	8.2 8.1	8.2	17.0 17.0	17.0	82.0 81.7	81.9	5.7 5.7	5.7	5.7	3.1 3.1	3.1	3.2	2.2 2.2	2.2	2.5
					Middle	3.1	28.5 28.5	28.5	8.1 8.1	8.1	18.5 18.5	18.5	80.5 81.3	80.9	5.7 5.7	5.7		3.2 3.1	3.2		2.3 2.8	2.6	
					Bottom	5.2	28.4 28.6	28.5	8.1 8.1	8.1	19.2 19.1	19.2	80.1 80.8	80.5	5.6 5.7	5.6	5.6	3.2 3.1	3.2		2.5 2.9	2.7	
27-Jun-14	Sunny	Moderate	11:46	6.6	Surface	1.0	29.3 29.3	29.3	8.1 8.1	8.1	18.3 17.8	18.0	78.2 78.8	78.5	5.4 5.5	5.4	5.4	3.4 3.4	3.4	3.5	4.7 4.8	4.8	4.9
					Middle	3.3	29.2 29.1	29.1	8.1 8.1	8.1	18.9 19.2	19.1	77.2 76.8	77.0	5.3 5.3	5.3		3.4 3.4	3.4		3.3 4.7	4.0	
					Bottom	5.6	29.0 29.1	29.0	8.1 8.1	8.1	19.7 19.5	19.6	77.2 77.1	77.2	5.3 5.3	5.3	5.3	3.6 3.5	3.6		6.2 5.8	6.0	
30-Jun-14	Sunny	Moderate	15:31	6.6	Surface	1.0	29.2 29.3	29.2	8.2 8.2	8.2	21.0 21.0	21.0	84.3 87.5	85.9	5.8 6.0	5.9	5.9	2.6 2.6	2.6	2.5	3.3 2.9	3.1	3.4
					Middle	3.3	29.3 28.8	29.0	8.2 8.1	8.2	21.0 22.5	21.7	86.8 83.9	85.4	5.9 5.7	5.8		2.4 2.6	2.5		3.6 3.5	3.6	
					Bottom	5.6	29.2 28.6	28.9	8.2 8.1	8.2	21.1 22.9	22.0	84.5 80.2	82.4	5.8 5.5	5.6	5.6	2.4 2.6	2.5		3.3 3.8	3.6	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10A - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	08:10	6.5	Surface	1.0	28.1 28.1	28.1	8.1 8.1	8.1	15.5 15.5	15.5	87.6 88.6	88.1	6.3 6.4	6.3	6.2	1.5 1.5	1.5	1.5	3.5 3.1	3.3	3.7
					Middle	3.3	27.7 27.8	27.7	8.1 8.1	8.1	19.4 19.4	19.4	85.7 84.2	85.0	6.1 5.9	6.0		1.4 1.5	1.5		3.8 3.5	3.7	
					Bottom	5.5	27.4 27.6	27.5	8.1 8.1	8.1	21.7 21.4	21.6	83.0 87.2	85.1	5.8 6.1	6.0	6.0	1.5 1.5	1.5		4.1 4.3	4.2	
4-Jun-14	Sunny	Moderate	08:51	6.2	Surface	1.0	27.8 27.0	27.4	8.2 8.2	8.2	17.6 18.4	18.0	92.2 90.2	91.2	6.5 6.3	6.4	6.3	0.9 0.9	0.9	1.0	2.1 1.7	1.9	2.4
					Middle	3.1	26.4 26.3	26.3	8.1 8.1	8.1	20.5 21.6	21.0	89.3 88.3	88.8	6.2 6.3	6.2		1.0 0.9	1.0		2.8 2.7	2.8	
					Bottom	5.2	26.3 25.9	26.1	8.1 8.0	8.1	26.8 27.3	27.1	87.9 87.6	87.8	6.2 6.2	6.2	6.2	1.0 1.0	1.0		2.5 2.5	2.5	
6-Jun-14	Cloudy	Moderate	11:25	6.6	Surface	1.0	28.8 28.8	28.8	8.4 8.4	8.4	14.7 15.5	15.1	94.1 97.4	95.8	6.7 6.9	6.8	6.3	1.3 1.3	1.3	1.3	2.9 3.3	3.1	3.3
					Middle	3.3	27.1 27.3	27.2	8.2 8.2	8.2	22.2 20.1	21.2	78.4 81.9	80.2	5.5 5.8	5.7		1.3 1.3	1.3		2.8 2.8	2.8	
					Bottom	5.6	26.7 26.5	26.6	8.2 8.1	8.2	24.8 25.8	25.3	82.8 79.9	81.4	5.8 5.6	5.7	5.7	1.3 1.3	1.3		3.8 4.4	4.1	
9-Jun-14	Sunny	Moderate	17:24	6.7	Surface	1.0	25.6 25.7	25.7	8.3 8.3	8.3	29.4 29.4	29.4	73.1 80.0	76.6	5.1 5.5	5.3	5.3	2.2 2.1	2.2	2.5	4.6 6.1	5.4	5.5
					Middle	3.4	25.4 25.3	25.3	8.2 8.2	8.2	29.9 30.1	30.0	73.4 77.9	75.7	5.1 5.4	5.2		2.3 2.6	2.5		5.4 6.2	5.8	
					Bottom	5.7	24.9 25.1	25.0	8.2 8.1	8.1	31.0 30.6	30.8	72.8 76.9	74.9	5.1 5.3	5.2	5.2	3.0 2.7	2.9		4.7 5.8	5.3	
11-Jun-14	Fine	Moderate	19:21	6.5	Surface	1.0	25.8 25.9	25.9	8.2 8.2	8.2	27.3 27.0	27.1	78.9 73.3	76.1	5.8 5.1	5.5	5.5	2.7 2.8	2.8	2.7	4.7 4.5	4.6	4.9
					Middle	3.3	25.9 25.7	25.8	8.2 8.2	8.2	27.2 27.7	27.5	73.5 78.2	75.9	5.1 5.9	5.5		2.6 2.8	2.7		4.8 4.9	4.9	
					Bottom	5.5	25.7 25.7	25.7	8.1 8.2	8.2	27.7 27.8	27.8	77.5 70.9	74.2	5.4 4.9	5.2	5.2	2.5 2.9	2.7		5.6 4.6	5.1	
13-Jun-14	Sunny	Moderate	20:49	6.7	Surface	1.0	26.7 26.6	26.6	8.1 8.1	8.1	24.6 24.9	24.7	82.8 79.5	81.2	5.8 5.5	5.7	5.7	4.2 4.3	4.3	6.1	5.3 6.2	5.8	5.7
					Middle	3.4	26.3 26.3	26.3	8.1 8.1	8.1	26.5 26.4	26.5	78.2 84.4	81.3	5.4 5.9	5.7		6.0 6.2	6.1		5.6 5.8	5.7	
					Bottom	5.7	26.1 26.2	26.1	8.1 8.1	8.1	27.3 27.3	27.3	80.8 79.1	80.0	5.6 5.5	5.5	5.5	7.9 8.0	8.0		5.8 5.5	5.7	
16-Jun-14	Sunny	Moderate	07:21	6.7	Surface	1.0	27.7 27.7	27.7	8.1 8.1	8.1	19.4 19.8	19.6	83.5 82.3	82.9	5.9 5.8	5.9	5.9	2.7 2.8	2.8	2.8	3.2 4.1	3.7	3.4
					Middle	3.4	27.5 27.5	27.5	8.2 8.2	8.2	22.0 21.9	22.0	83.6 81.7	82.7	5.8 5.7	5.8		2.9 2.8	2.9		3.3 4.2	3.8	
					Bottom	5.7	27.4 27.5	27.5	8.1 8.1	8.1	23.7 24.0	23.9	85.9 82.5	84.2	6.0 5.7	5.8	5.8	2.7 2.6	2.7		2.6 2.7	2.7	
18-Jun-14	Sunny	Moderate	09:30	6.3	Surface	1.0	28.6 28.6	28.6	8.0 8.0	8.0	17.9 17.9	17.9	79.7 78.8	79.3	5.6 5.5	5.6	5.6	2.5 2.3	2.4	2.5	2.5 2.6	2.6	3.2
					Middle	3.2	28.6 28.6	28.6	8.1 8.0	8.0	18.1 18.2	18.1	79.4 77.9	78.7	5.6 5.5	5.5		2.5 2.4	2.5		2.8 2.7	2.8	
					Bottom	5.3	28.6 28.5	28.5	8.0 8.0	8.0	19.0 19.3	19.2	79.2 77.7	78.5	5.5 5.4	5.5	5.5	2.5 2.4	2.5		3.9 4.4	4.2	
20-Jun-14	Rainy	Moderate	12:02	6.7	Surface	1.0	29.1 29.1	29.1	8.2 8.2	8.2	18.2 18.3	18.2	80.5 80.3	80.4	5.6 5.6	5.6	5.6	2.2 2.2	2.2	2.2	2.6 2.4	2.5	2.6
					Middle	3.4	28.9 29.0	29.0	8.2 8.2	8.2	19.8 19.3	19.6	79.5 79.2	79.4	5.5 5.5	5.5		2.3 2.2	2.3		2.4 2.3	2.4	
					Bottom	5.7	28.9 28.9	28.9	8.2 8.2	8.2	20.8 20.4	20.6	80.3 79.4	79.9	5.5 5.5	5.5	5.5	2.2 2.2	2.2		2.5 3.2	2.9	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10A - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	17:35	6.6	Surface	1.0	28.3 28.3	28.3	8.3 8.4	8.4	24.4 24.4	24.4	74.1 73.1	73.6	5.2 5.1	5.2	5.2	5.3 5.4	5.4	5.4	1.6 2.0	1.8	2.6
					Middle	3.3	28.2 28.2	28.2	8.3 8.4	8.3	25.0 25.0	25.0	75.3 73.1	74.2	5.3 5.1	5.2		5.4 5.4	5.4		2.3 2.2	2.3	
					Bottom	5.6	28.2 28.3	28.2	8.3 8.4	8.3	25.1 24.9	25.0	80.9 73.4	77.2	5.7 5.1	5.4	5.4	5.5 5.5	5.5		4.0 3.5	3.8	
25-Jun-14	Cloudy	Moderate	19:20	6.2	Surface	1.0	28.3 28.4	28.4	8.2 8.2	8.2	21.8 18.6	20.2	85.1 82.7	83.9	5.8 5.7	5.8	5.7	6.0 5.8	5.9	6.1	2.3 2.9	2.6	3.4
					Middle	3.1	28.3 28.3	28.3	8.2 8.2	8.2	21.9 22.9	22.4	77.1 84.3	80.7	5.3 5.8	5.6		6.1 6.2	6.2		3.1 3.7	3.4	
					Bottom	5.2	28.3 28.3	28.3	8.2 8.2	8.2	22.8 23.1	22.9	73.7 84.0	78.9	5.2 5.8	5.5	5.5	6.2 6.2	6.2		3.8 4.5	4.2	
27-Jun-14	Sunny	Moderate	20:48	6.5	Surface	1.0	29.6 29.6	29.6	8.1 8.1	8.1	16.6 16.5	16.6	76.1 76.2	76.2	5.3 5.3	5.3	5.2	4.0 4.1	4.1	4.5	3.1 2.2	2.7	2.6
					Middle	3.3	29.5 29.5	29.5	8.1 8.1	8.1	17.1 17.0	17.0	73.5 73.6	73.6	5.1 5.1	5.1		4.3 4.3	4.3		2.1 3.0	2.6	
					Bottom	5.5	28.8 29.1	29.0	8.2 8.1	8.2	20.7 19.3	20.0	72.3 71.8	72.1	5.0 5.0	5.0	5.0	5.3 5.1	5.2		2.7 2.3	2.5	
30-Jun-14	Sunny	Moderate	07:04	6.6	Surface	1.0	28.8 28.8	28.8	8.0 8.0	8.0	19.7 19.7	19.7	72.6 72.8	72.7	5.0 5.0	5.0	5.0	2.7 2.7	2.7	2.8	4.6 5.1	4.9	4.4
					Middle	3.3	28.8 28.9	28.9	8.0 8.0	8.0	20.6 20.5	20.5	72.4 72.1	72.3	5.0 5.0	5.0		2.7 2.8	2.8		4.0 4.6	4.3	
					Bottom	5.6	28.7 28.7	28.7	8.0 7.9	7.9	22.3 22.2	22.3	70.2 68.6	69.4	4.8 4.7	4.8	4.8	2.8 2.9	2.9		3.9 3.8	3.9	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10B(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	16:35	5.1	Surface	1.0	29.0 28.9	28.9	8.3 8.3	8.3	15.3 15.6	15.5	120.6 120.1	120.4	8.5 8.5	8.5	8.5	2.2 2.2	2.2	2.2	5.8 6.2	6.0	6.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.1	28.9 28.9	28.9	8.2 8.3	8.3	16.5 16.4	16.5	120.3 120.0	120.2	8.5 8.5	8.5	8.5	2.2 2.2	2.2		6.1 6.0	6.1	
4-Jun-14	Sunny	Moderate	17:21	5.4	Surface	1.0	29.5 29.5	29.5	8.4 8.4	8.4	17.3 17.3	17.3	115.8 115.9	115.9	8.1 8.1	8.1	8.1	1.4 1.4	1.4	1.5	2.4 2.8	2.6	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.4	29.0 28.6	28.8	8.4 8.3	8.3	17.8 18.2	18.0	114.9 113.9	114.4	8.0 8.0	8.0	8.0	1.4 1.5	1.5		3.2 3.5	3.4	
6-Jun-14	Cloudy	Moderate	19:41	4.8	Surface	1.0	28.7 28.6	28.7	8.5 8.5	8.5	15.3 15.2	15.3	118.3 118.9	118.6	8.4 8.5	8.4	8.4	1.6 1.5	1.6	1.6	3.3 2.9	3.1	3.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.8	28.6 28.7	28.6	8.5 8.5	8.5	16.1 15.8	15.9	116.3 118.6	117.5	8.2 8.4	8.3	8.3	1.5 1.5	1.5		4.0 4.6	4.3	
9-Jun-14	Sunny	Moderate	08:55	5.2	Surface	1.0	25.5 25.8	25.6	8.0 8.0	8.0	27.5 26.6	27.1	75.7 81.8	78.8	5.3 5.7	5.5	5.5	2.2 2.0	2.1	2.2	3.2 3.2	3.2	3.3
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	4.2	25.3 25.4	25.4	8.0 8.0	8.0	28.3 27.8	28.1	76.7 82.0	79.4	5.4 5.8	5.6	5.6	2.3 2.2	2.3		2.8 4.0	3.4	
11-Jun-14	Fine	Moderate	10:33	4.8	Surface	1.0	25.9 25.9	25.9	8.2 8.2	8.2	27.3 27.2	27.3	77.9 79.2	78.6	5.4 5.5	5.5	5.5	2.6 2.4	2.5	2.6	4.9 6.5	5.7	5.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.8	25.7 25.9	25.8	8.2 8.2	8.2	27.9 27.4	27.6	78.4 79.2	78.8	5.5 5.5	5.5	5.5	2.5 2.6	2.6		7.0 5.2	6.1	
13-Jun-14	Sunny	Moderate	11:34	4.9	Surface	1.0	26.6 26.6	26.6	8.0 8.0	8.0	25.4 25.2	25.3	79.1 78.7	78.9	5.5 5.5	5.5	5.5	3.0 3.0	3.0	3.1	6.8 6.9	6.9	7.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.9	26.4 26.5	26.5	8.0 8.0	8.0	26.1 25.6	25.9	80.9 78.2	79.6	5.6 5.4	5.5	5.5	3.1 3.0	3.1		7.8 7.7	7.8	
16-Jun-14	Sunny	Moderate	15:51	5.0	Surface	1.0	28.7 28.7	28.7	8.2 8.2	8.2	19.6 19.6	19.6	83.6 85.8	84.7	5.8 6.0	5.9	5.9	2.1 2.0	2.1	2.3	3.7 2.7	3.2	2.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.0	28.0 28.2	28.1	8.1 8.1	8.1	22.3 21.6	21.9	82.4 84.7	83.6	5.7 5.9	5.8	5.8	2.4 2.3	2.4		2.3 2.7	2.5	
18-Jun-14	Sunny	Moderate	17:22	5.2	Surface	1.0	29.5 29.5	29.5	8.2 8.2	8.2	17.3 17.4	17.4	96.2 95.4	95.8	6.7 6.6	6.6	6.6	2.5 2.6	2.6	2.6	2.9 2.8	2.9	3.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.2	29.5 29.2	29.4	8.2 8.1	8.2	18.4 18.9	18.6	96.3 94.9	95.6	6.6 6.6	6.6	6.6	2.5 2.6	2.6		4.3 3.5	3.9	
20-Jun-14	Fine	Moderate	19:50	4.9	Surface	1.0	29.2 29.2	29.2	8.3 8.3	8.3	19.5 19.7	19.6	86.9 86.1	86.5	6.0 5.9	6.0	6.0	2.4 2.3	2.4	2.4	2.9 3.3	3.1	2.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.9	29.2 29.2	29.2	8.3 8.3	8.3	20.2 19.9	20.1	85.8 86.5	86.2	5.9 5.9	5.9	5.9	2.3 2.4	2.4		2.7 2.6	2.7	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10B(N) - Mid-EbbTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	09:39	4.8	Surface	1.0	28.5 28.4	28.4	8.2 8.2	8.2	19.7 20.1	19.9	75.3 76.2	75.8	5.2 5.3	5.3	5.3	3.5 3.4	3.5	3.5	1.7 1.1	1.4	2.5
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.8	28.1 28.3	28.2	8.2 8.2	8.2	23.2 23.5	23.4	71.2 76.0	73.6	4.9 5.2	5.0	5.0	3.5 3.4	3.5		3.8 3.3	3.6	
25-Jun-14	Cloudy	Moderate	11:06	4.4	Surface	1.0	28.6 28.6	28.6	8.1 8.1	8.1	18.0 17.9	17.9	84.0 82.0	83.0	5.9 5.7	5.8	5.8	3.1 3.1	3.1	3.2	1.9 1.9	1.9	2.1
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.4	28.5 28.6	28.6	8.0 8.1	8.0	18.8 18.9	18.8	82.0 81.7	81.9	5.8 5.7	5.7	5.7	3.3 3.2	3.3		2.0 2.3	2.2	
27-Jun-14	Sunny	Moderate	11:32	5.6	Surface	1.0	29.4 29.3	29.4	8.1 8.1	8.1	18.4 18.4	18.4	80.3 80.1	80.2	5.6 5.5	5.5	5.5	3.1 3.2	3.2	3.3	2.0 2.9	2.5	2.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.6	29.2 29.3	29.2	8.1 8.1	8.1	19.0 18.6	18.8	79.3 80.1	79.7	5.5 5.5	5.5	5.5	3.3 3.2	3.3		4.4 2.2	3.3	
30-Jun-14	Sunny	Moderate	15:41	5.0	Surface	1.0	29.3 29.3	29.3	8.2 8.2	8.2	20.9 20.9	20.9	88.5 88.6	88.6	6.0 6.0	6.0	6.0	2.3 2.4	2.4	2.5	3.5 2.8	3.2	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.0	29.3 29.3	29.3	8.2 8.2	8.2	20.9 21.0	21.0	88.4 87.8	88.1	6.0 6.0	6.0	6.0	2.5 2.5	2.5		2.6 2.1	2.4	

Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

Water Quality Monitoring Results at SR10B(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
2-Jun-14	Sunny	Moderate	08:04	5.4	Surface	1.0	27.4 27.5	27.4	8.1 8.1	8.1	18.4 18.6	18.5	77.9 81.5	79.7	5.6 5.8	5.7	5.7	1.5 1.4	1.5	1.5	4.5 4.7	4.6	4.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.4	26.5 27.5	27.0	8.0 8.0	8.0	26.0 27.4	26.7	78.0 80.8	79.4	5.4 5.6	5.5	5.5	1.5 1.4	1.5		5.1 4.2	4.7	
4-Jun-14	Sunny	Moderate	08:46	5.3	Surface	1.0	27.7 27.5	27.6	8.2 8.2	8.2	17.7 18.3	18.0	92.6 93.9	93.3	6.5 6.6	6.6	6.6	0.8 0.9	0.9	0.9	1.9 2.3	2.1	2.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.3	27.0 27.5	27.3	8.1 8.2	8.2	20.8 20.8	20.8	88.0 93.7	90.9	6.2 6.6	6.4	6.4	0.9 0.9	0.9		2.1 2.2	2.2	
6-Jun-14	Cloudy	Moderate	11:19	4.9	Surface	1.0	28.4 28.5	28.4	8.3 8.3	8.3	16.7 16.5	16.6	82.8 88.3	85.6	5.9 6.3	6.1	6.1	1.5 1.3	1.4	1.4	3.8 2.9	3.4	4.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.9	26.5 26.5	26.5	8.1 8.2	8.1	25.3 25.6	25.4	77.8 79.5	78.7	5.4 5.5	5.5	5.5	1.4 1.3	1.4		5.7 5.0	5.4	
9-Jun-14	Sunny	Moderate	17:41	5.6	Surface	1.0	25.8 25.8	25.8	8.3 8.3	8.3	29.0 29.1	29.1	87.0 87.0	87.0	6.0 6.0	6.0	6.0	1.8 1.7	1.8	1.9	4.6 6.5	5.6	5.2
					Middle	0.0	0.0 0.0	0.0	- -	-	0.0 0.0	0.0	0.0 0.0	0.0	0.0 0.0	0.0		0.0 0.0	0.0		- -	-	
					Bottom	4.6	25.7 25.8	25.8	8.3 8.3	8.3	29.2 29.2	29.2	86.7 87.4	87.1	6.0 6.0	6.0	6.0	2.0 1.9	2.0		5.7 3.8	4.8	
11-Jun-14	Fine	Moderate	19:43	5.1	Surface	1.0	26.0 26.0	26.0	8.3 8.3	8.3	26.6 26.8	26.7	72.1 72.3	72.2	5.0 5.1	5.0	5.0	2.4 2.2	2.3	2.8	4.2 3.8	4.0	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.1	26.0 26.0	26.0	8.3 8.3	8.3	27.0 26.9	26.9	71.5 72.3	71.9	5.0 5.0	5.0	5.0	3.0 3.4	3.2		3.1 4.4	3.8	
13-Jun-14	Sunny	Moderate	21:03	5.2	Surface	1.0	26.7 26.6	26.7	8.1 8.1	8.1	24.6 24.8	24.7	79.6 78.5	79.1	5.6 5.5	5.5	5.5	4.3 4.3	4.3	4.5	3.4 4.1	3.8	4.7
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.2	26.4 26.7	26.6	8.1 8.1	8.1	26.0 24.7	25.4	78.2 79.6	78.9	5.4 5.6	5.5	5.5	4.7 4.5	4.6		5.9 5.2	5.6	
16-Jun-14	Sunny	Moderate	07:07	4.8	Surface	1.0	27.0 27.0	27.0	8.2 8.2	8.2	27.8 27.6	27.7	78.5 76.7	77.6	5.4 5.2	5.3	5.3	7.2 6.6	6.9	7.1	6.2 5.9	6.1	6.4
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.8	27.0 27.0	27.0	8.2 8.2	8.2	28.1 28.2	28.2	78.7 76.9	77.8	5.3 5.2	5.3	5.3	7.6 7.0	7.3		6.6 6.7	6.7	
18-Jun-14	Sunny	Moderate	09:23	4.9	Surface	1.0	28.7 28.6	28.6	8.0 8.0	8.0	17.5 17.6	17.5	79.9 80.4	80.2	5.6 5.6	5.6	5.6	2.3 2.4	2.4	2.5	2.8 2.3	2.6	3.0
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.9	28.6 28.5	28.6	8.0 8.0	8.0	19.2 19.2	19.2	79.7 79.9	79.8	5.6 5.6	5.6	5.6	2.6 2.6	2.6		3.3 3.2	3.3	
20-Jun-14	Rainy	Moderate	11:57	4.9	Surface	1.0	28.7 28.7	28.7	8.1 8.2	8.2	21.7 21.3	21.5	75.0 76.3	75.7	5.1 5.2	5.2	5.2	3.7 3.5	3.6	3.6	2.9 3.4	3.2	3.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	3.9	28.7 28.3	28.5	8.1 8.1	8.1	23.2 23.2	23.2	75.8 75.0	75.4	5.2 5.0	5.1	5.1	3.5 3.6	3.6		3.9 4.0	4.0	

Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

Appendix J - Marine Water Quality Monitoring Results

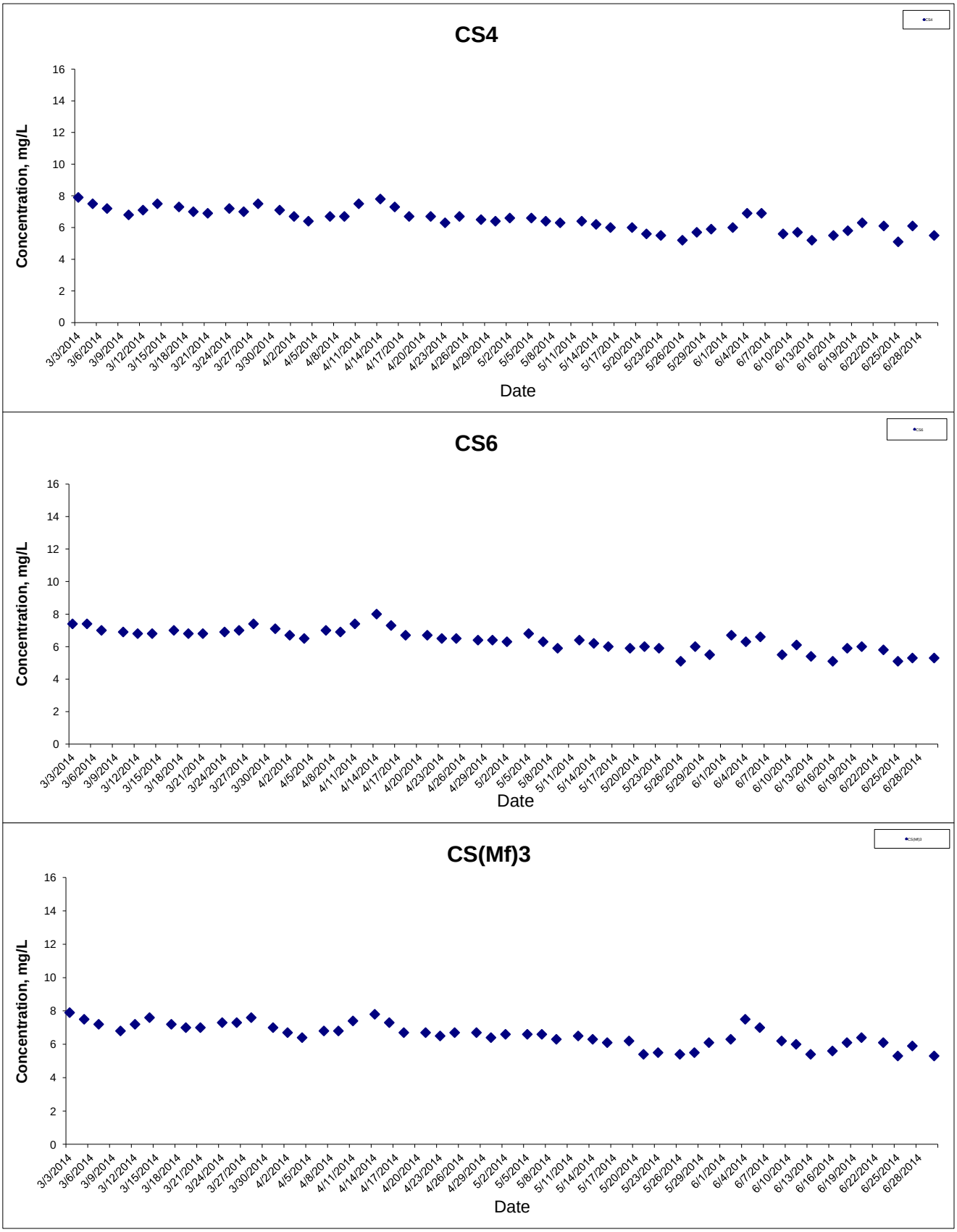
Water Quality Monitoring Results at SR10B(N) - Mid-FloodTide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
23-Jun-14	Cloudy	Moderate	17:45	5.0	Surface	1.0	28.3 28.3	28.3	8.3 8.4	8.4	24.4 24.5	24.4	72.3 72.2	72.3	5.1 5.1	5.1	5.1	5.5 5.4	5.5	5.6	3.6 4.2	3.9	3.9
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.0	28.3 28.3	28.3	8.3 8.4	8.3	24.8 24.9	24.9	72.4 72.2	72.3	5.1 5.1	5.1	5.1	5.6 5.8	5.7		4.0 3.6	3.8	
25-Jun-14	Cloudy	Moderate	19:27	5.1	Surface	1.0	28.3 28.3	28.3	8.2 8.1	8.2	21.8 21.8	21.8	81.4 82.0	81.7	5.6 5.6	5.6	5.6	5.6 5.5	5.6	5.7	4.5 4.5	4.5	4.2
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.1	28.3 28.3	28.3	8.1 8.1	8.1	22.8 22.7	22.7	81.7 81.3	81.5	5.6 5.6	5.6	5.6	5.7 5.8	5.8		4.0 3.8	3.9	
27-Jun-14	Sunny	Moderate	21:00	5.5	Surface	1.0	29.6 29.6	29.6	8.1 8.1	8.1	16.6 16.7	16.6	77.2 76.8	77.0	5.4 5.3	5.4	5.4	3.9 4.1	4.0	4.1	2.5 3.2	2.9	2.8
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.5	29.5 29.5	29.5	8.1 8.1	8.1	17.3 17.3	17.3	76.1 76.2	76.2	5.3 5.3	5.3	5.3	4.2 4.0	4.1		2.5 2.6	2.6	
30-Jun-14	Sunny	Moderate	06:58	5.0	Surface	1.0	27.8 27.9	27.8	7.9 8.0	7.9	25.7 25.3	25.5	72.8 72.5	72.7	5.0 5.0	5.0	5.0	4.7 4.6	4.7	4.7	5.2 5.3	5.3	4.6
					Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
					Bottom	4.0	27.3 27.4	27.4	7.8 7.9	7.8	27.6 27.6	27.6	74.6 70.4	72.5	5.1 4.9	5.0	5.0	4.6 4.5	4.6		3.7 4.1	3.9	

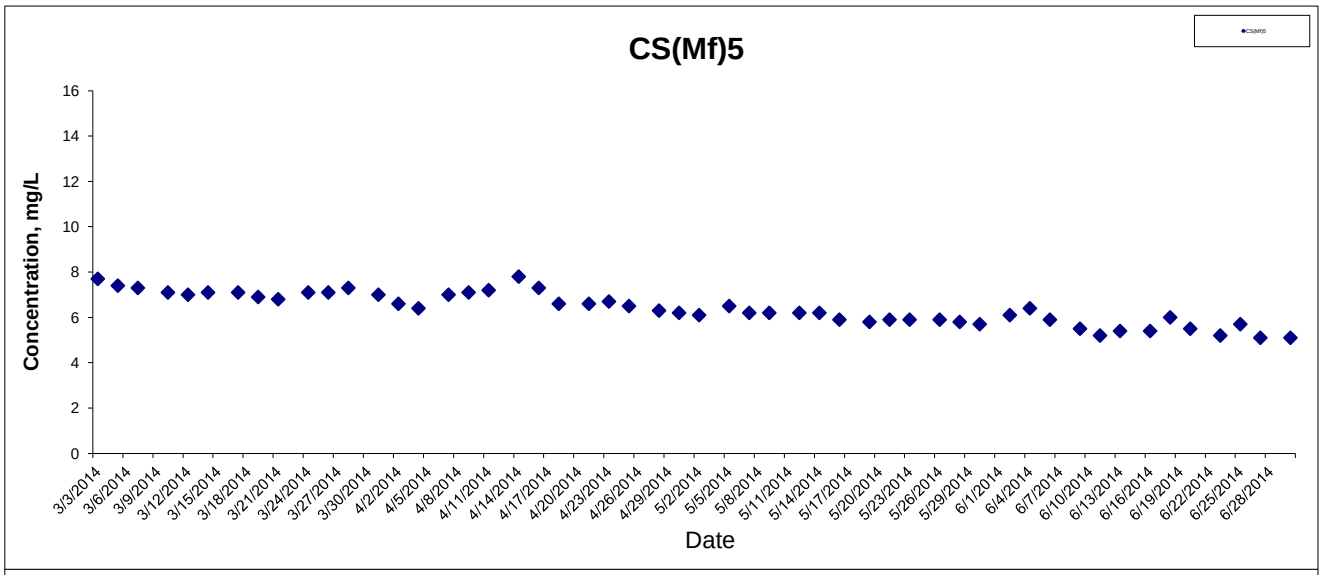
Remarks:
Bolded values means the measured values exceed the Action Level; Underlined bolded values means the measured values exceed the Limit Level.

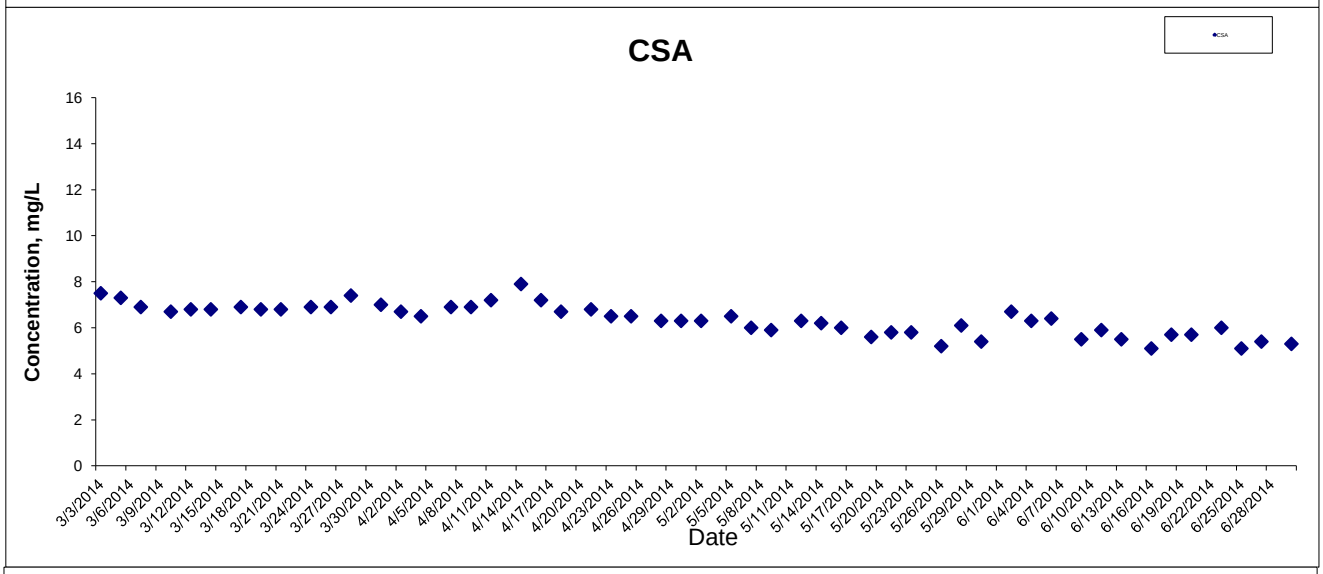
Remarks:
* DA: Depth-Averaged
** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
*** Cancelled due to Thunderstorm Warning and safety concern.

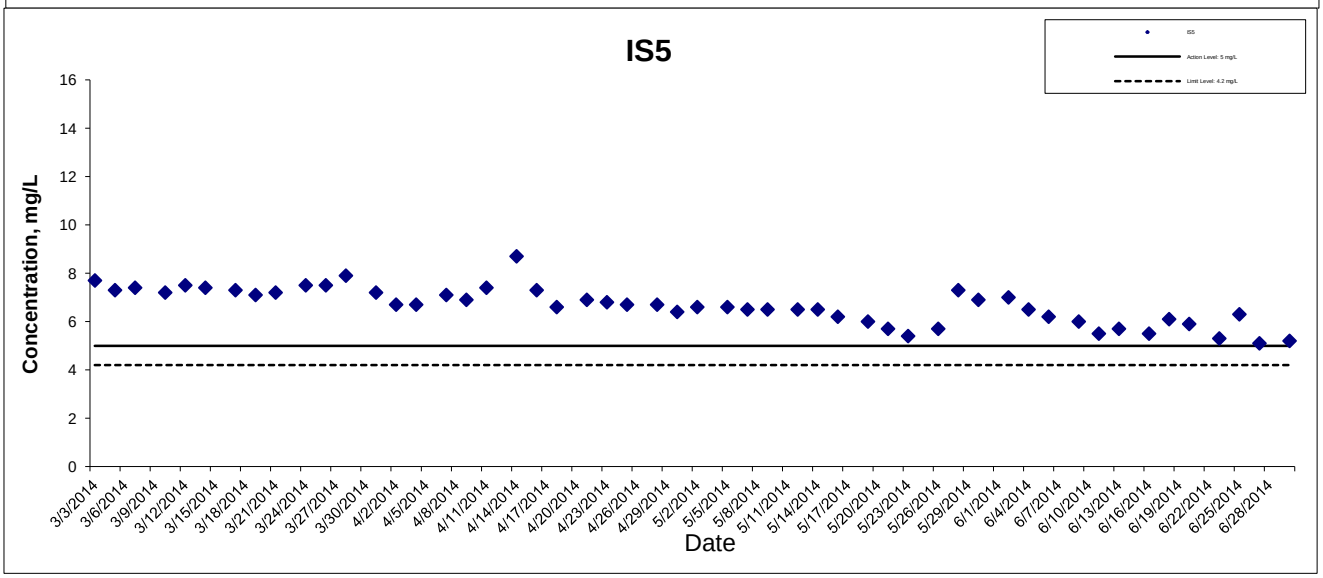
Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide



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







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

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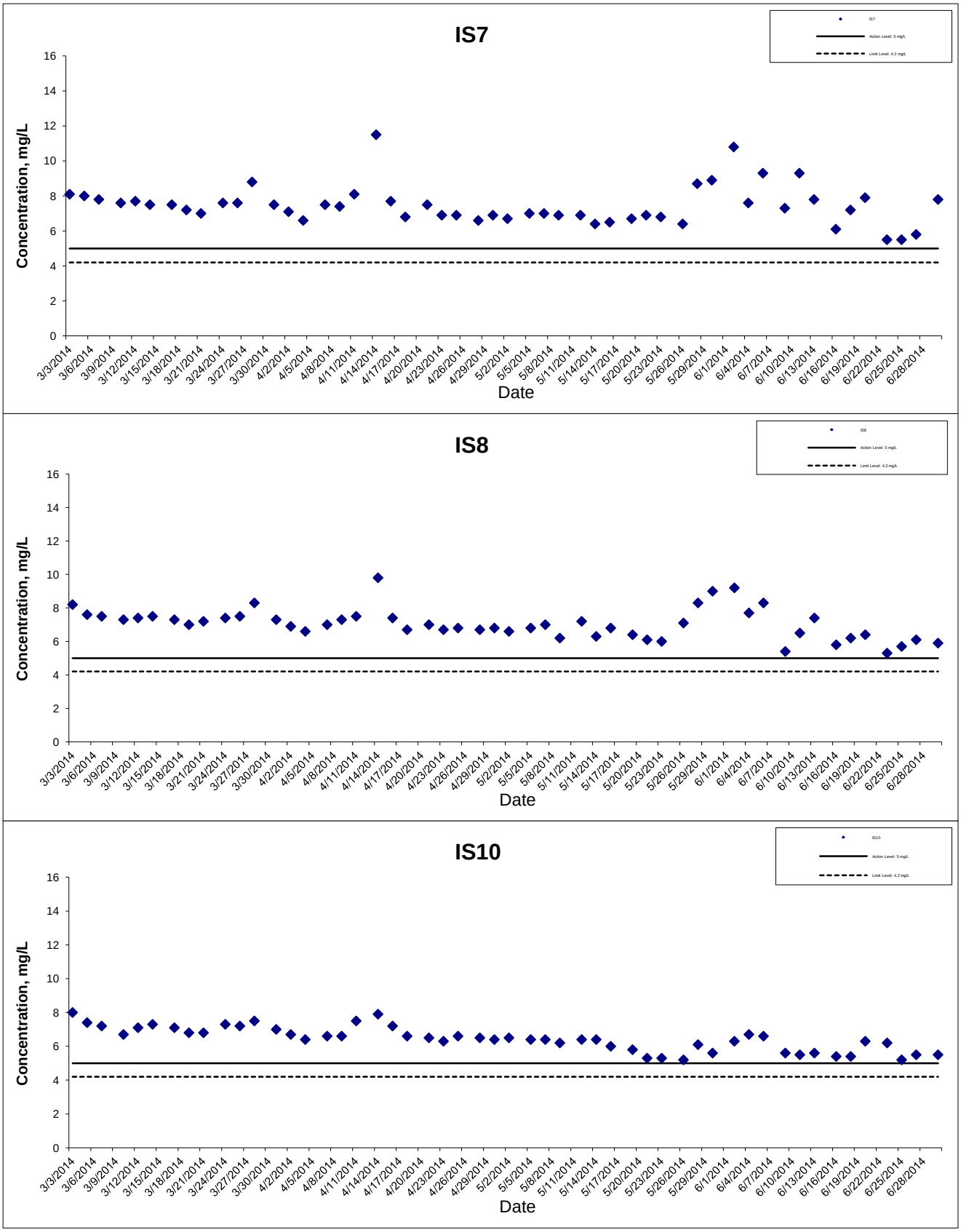
Appendix J

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



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
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Graphical Presentation of Impact Water Quality Monitoring Results

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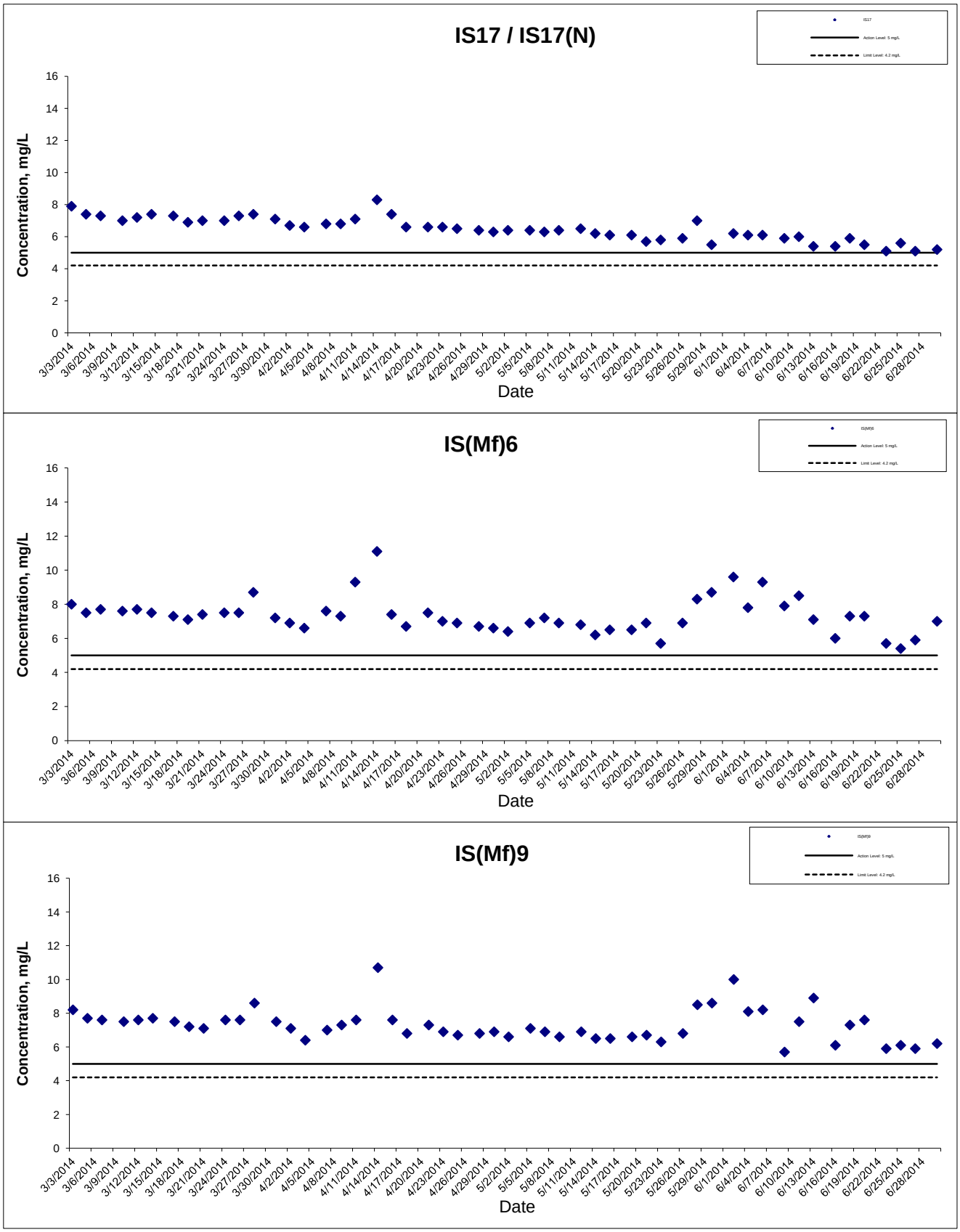
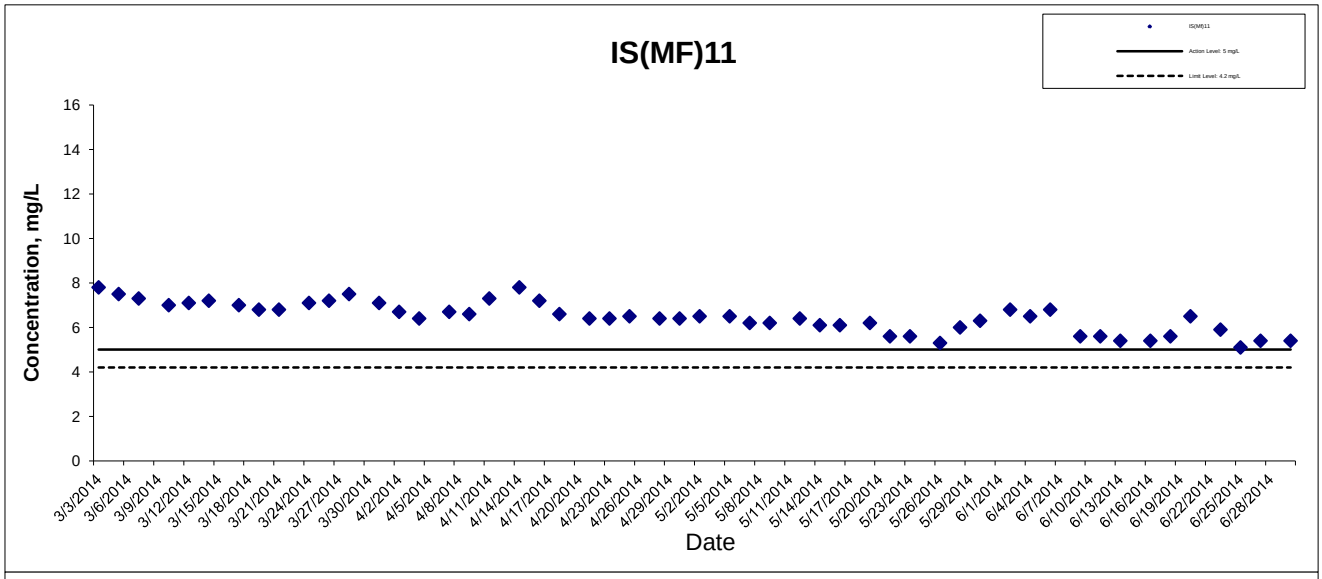
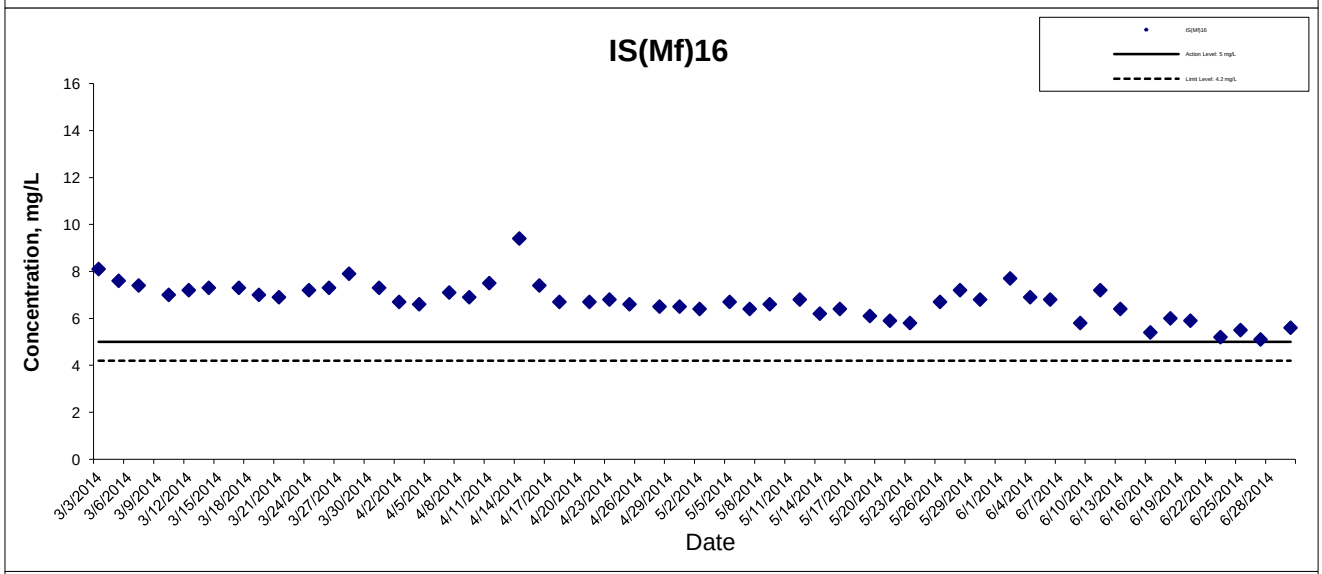
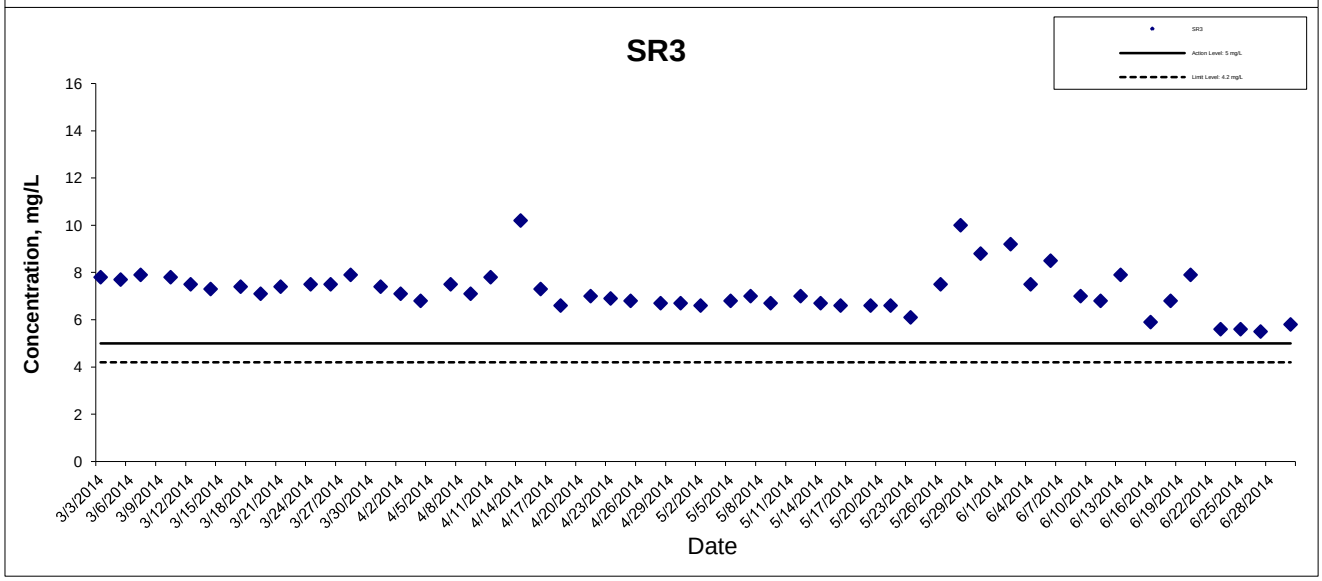
Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

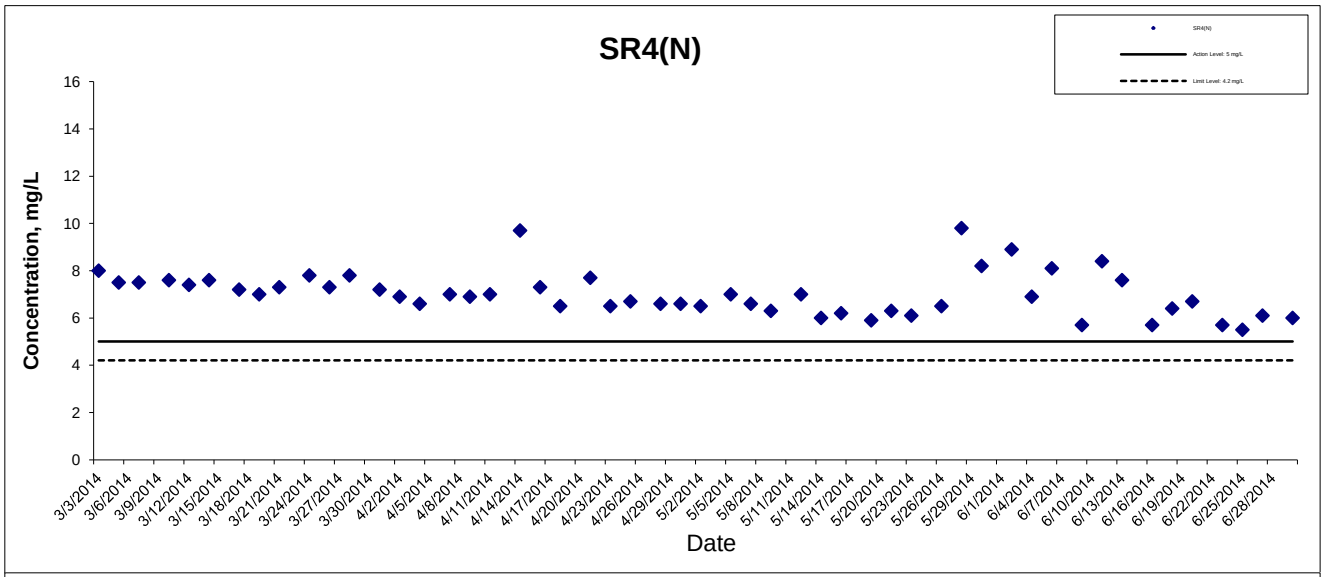


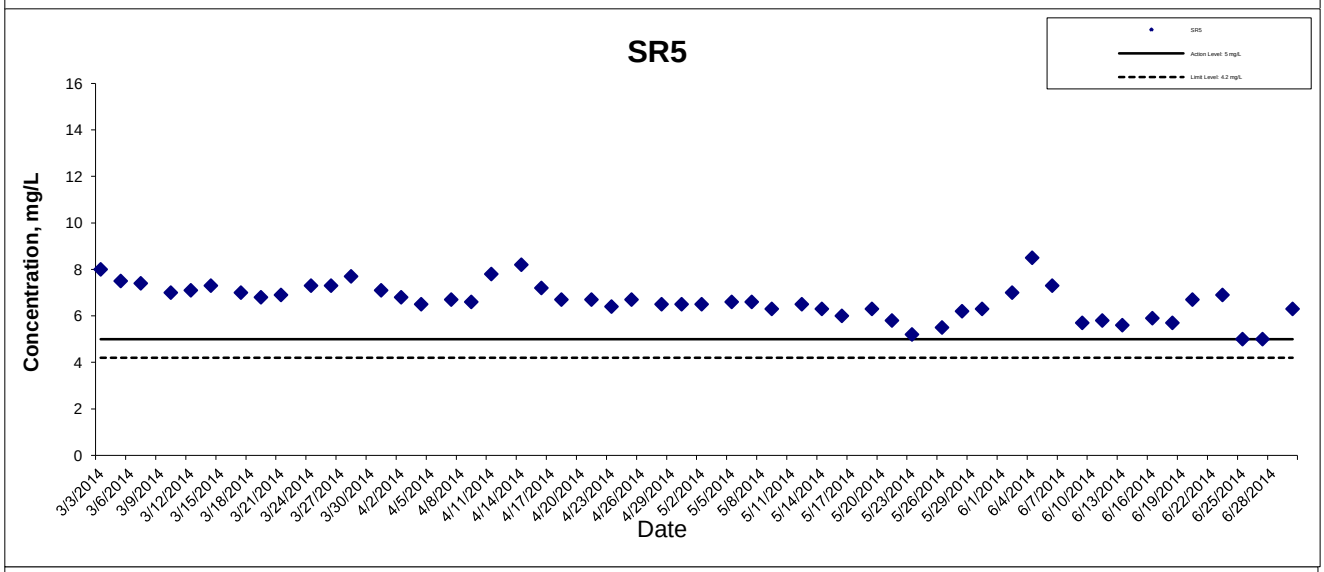
*As informed by the Contractor in June 2014, the perimeter silt curtain alignment has been rearranged. In accordance with our observation on 25 June 2014, the original monitoring location of IS17 was no longer enclosed by the perimeter silt curtain. Therefore, IWQM work at the original monitoring location of IS17 has been resumed since 25 June 2014.

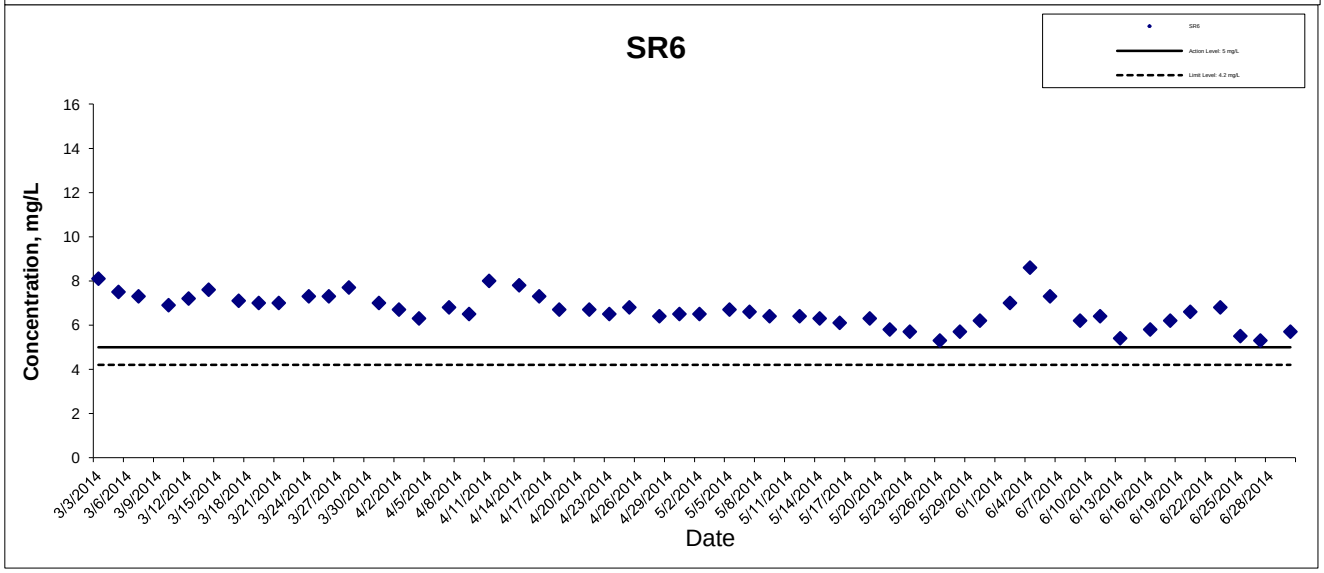












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HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

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Graphical Presentation of Impact Water Quality Monitoring Results

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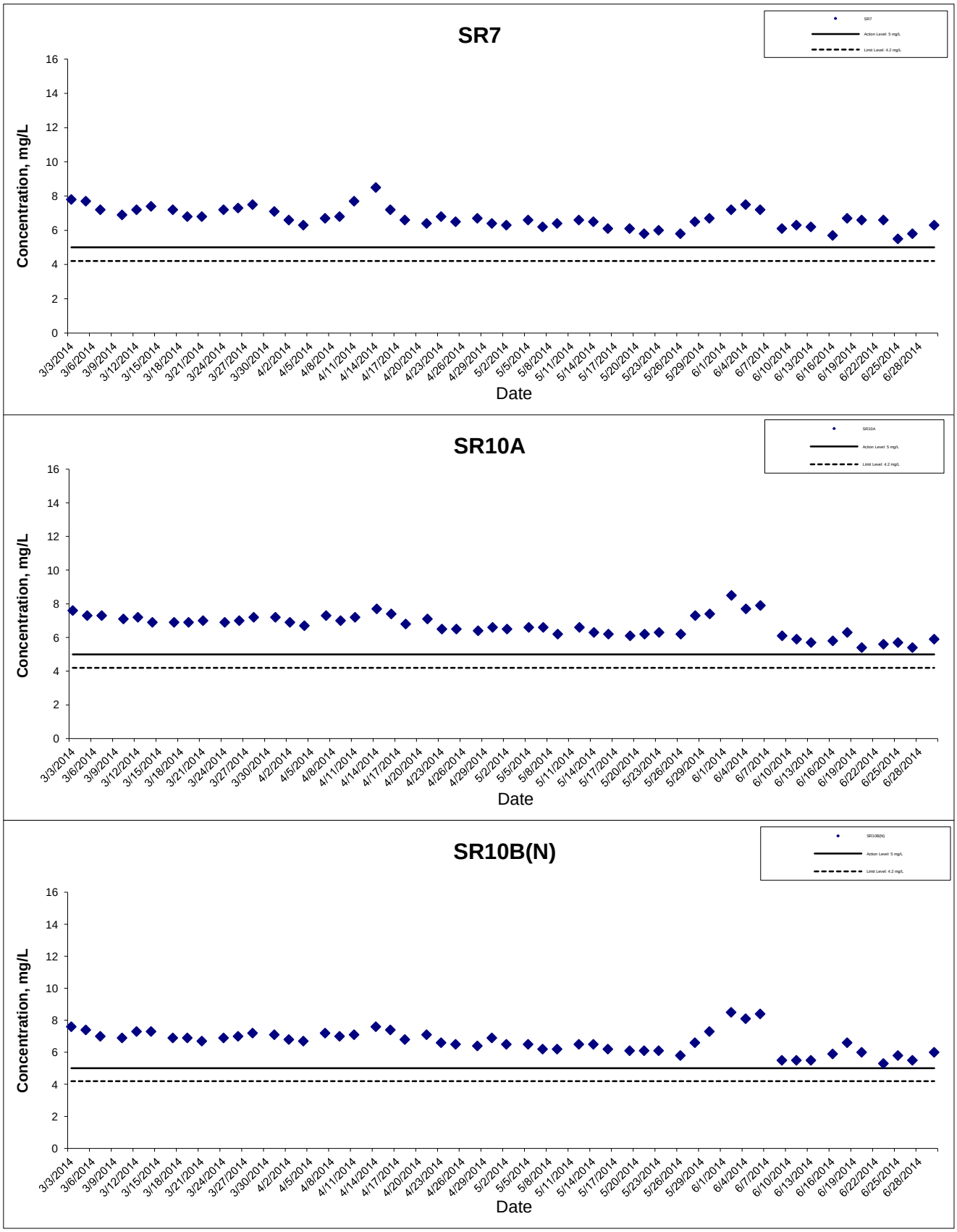

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HONG KONG BOUNDARY CROSSING FACILITIES
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Graphical Presentation of Impact Water Quality Monitoring Results

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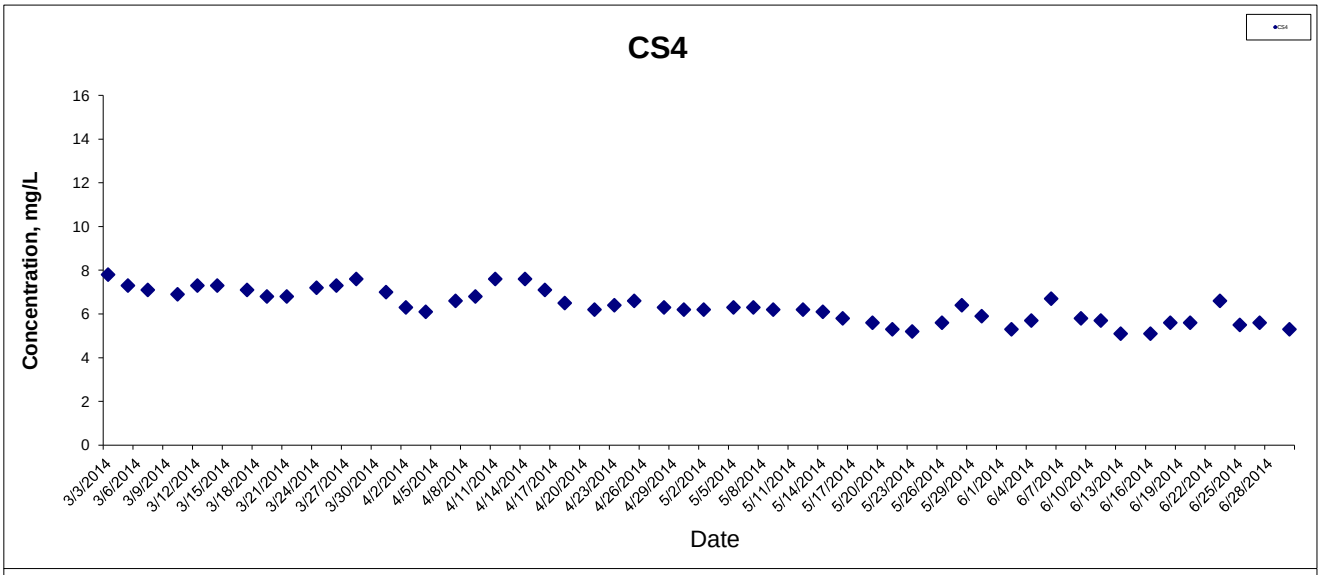
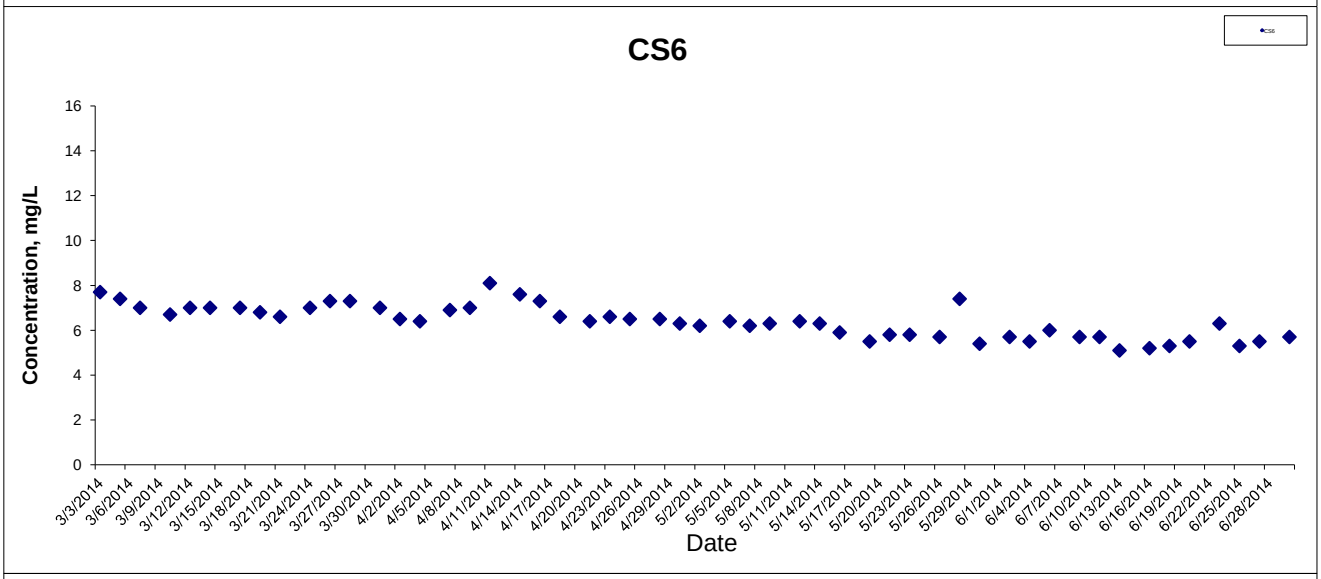
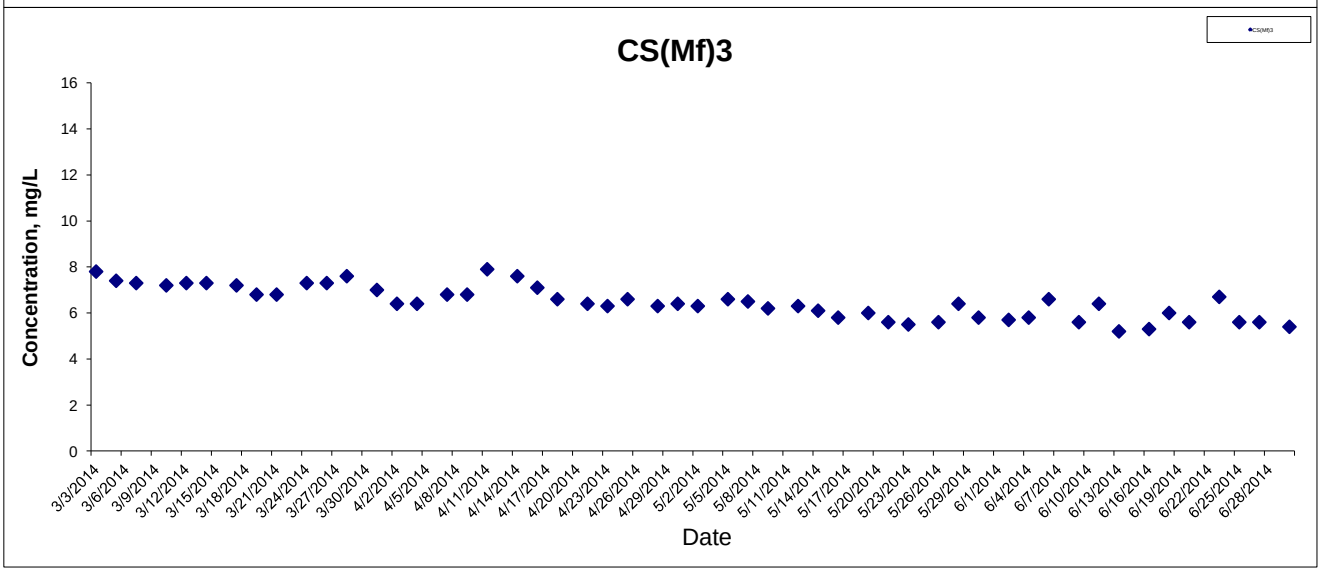
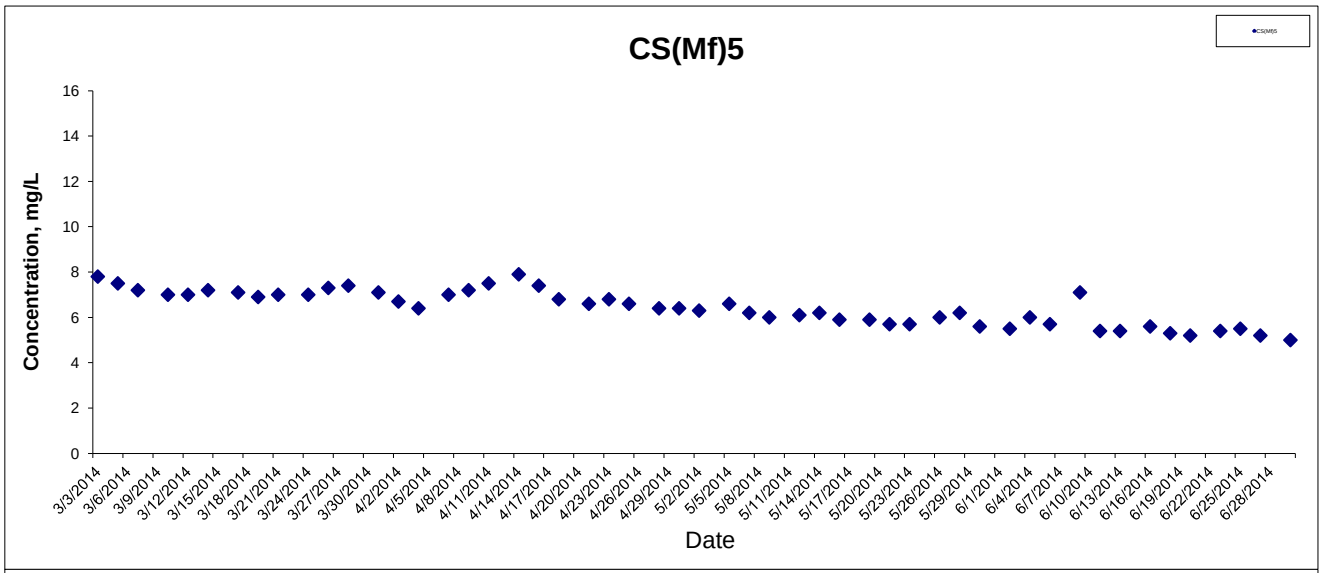
Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide

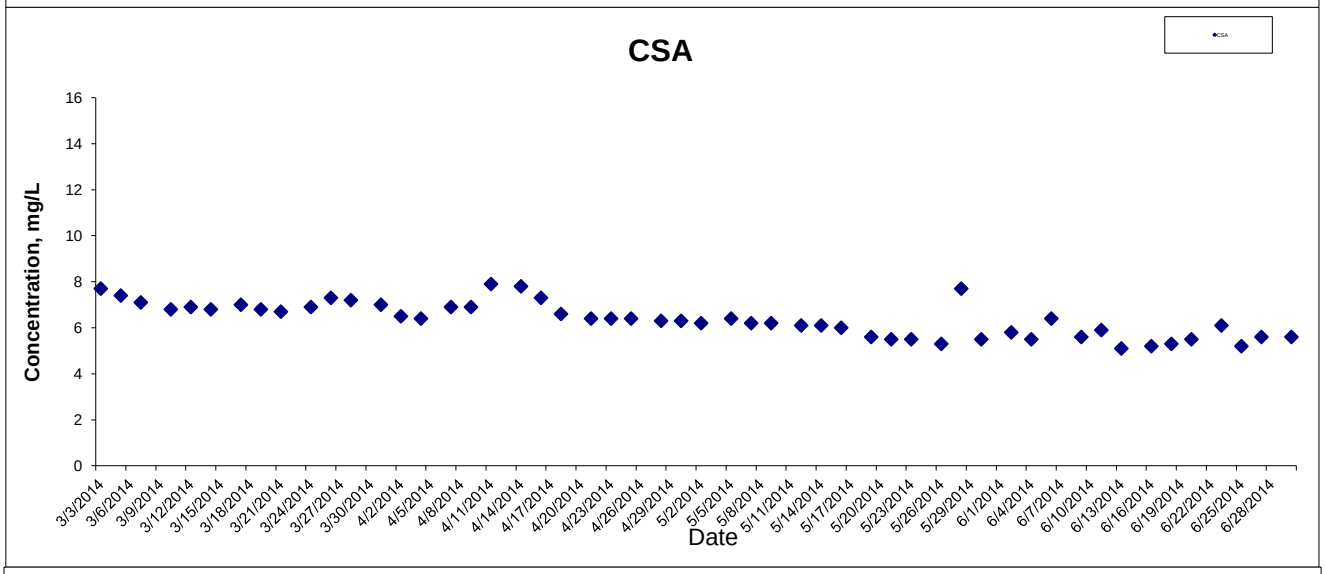


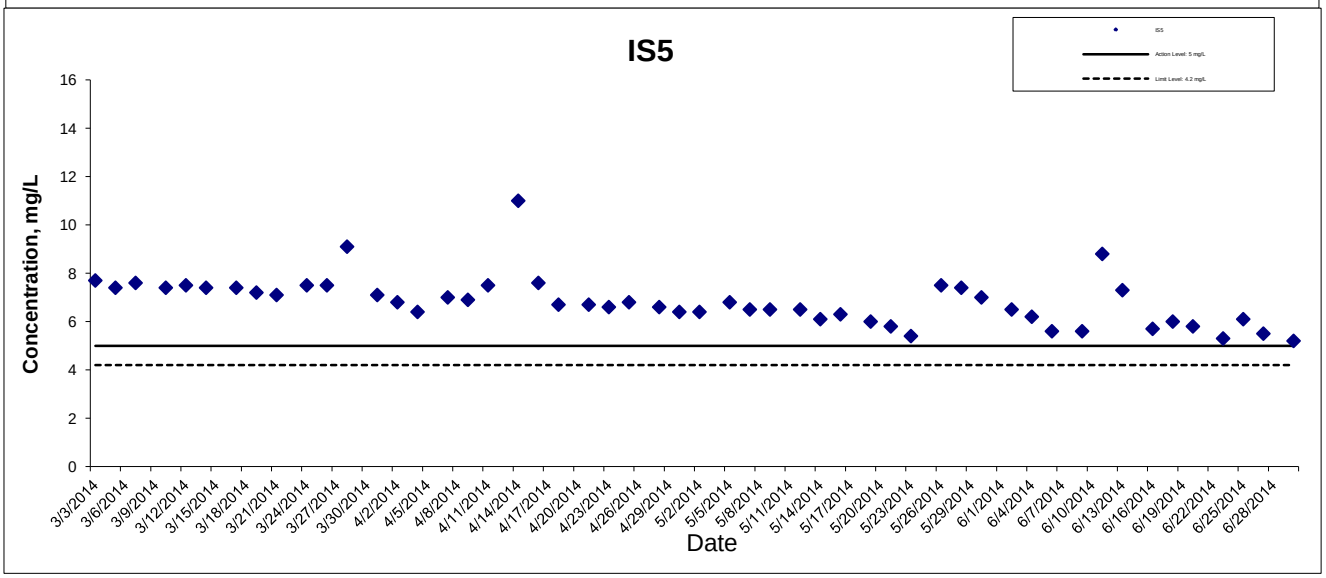




Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide







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HONG KONG BOUNDARY CROSSING FACILITIES
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Graphical Presentation of Impact Water Quality Monitoring Results

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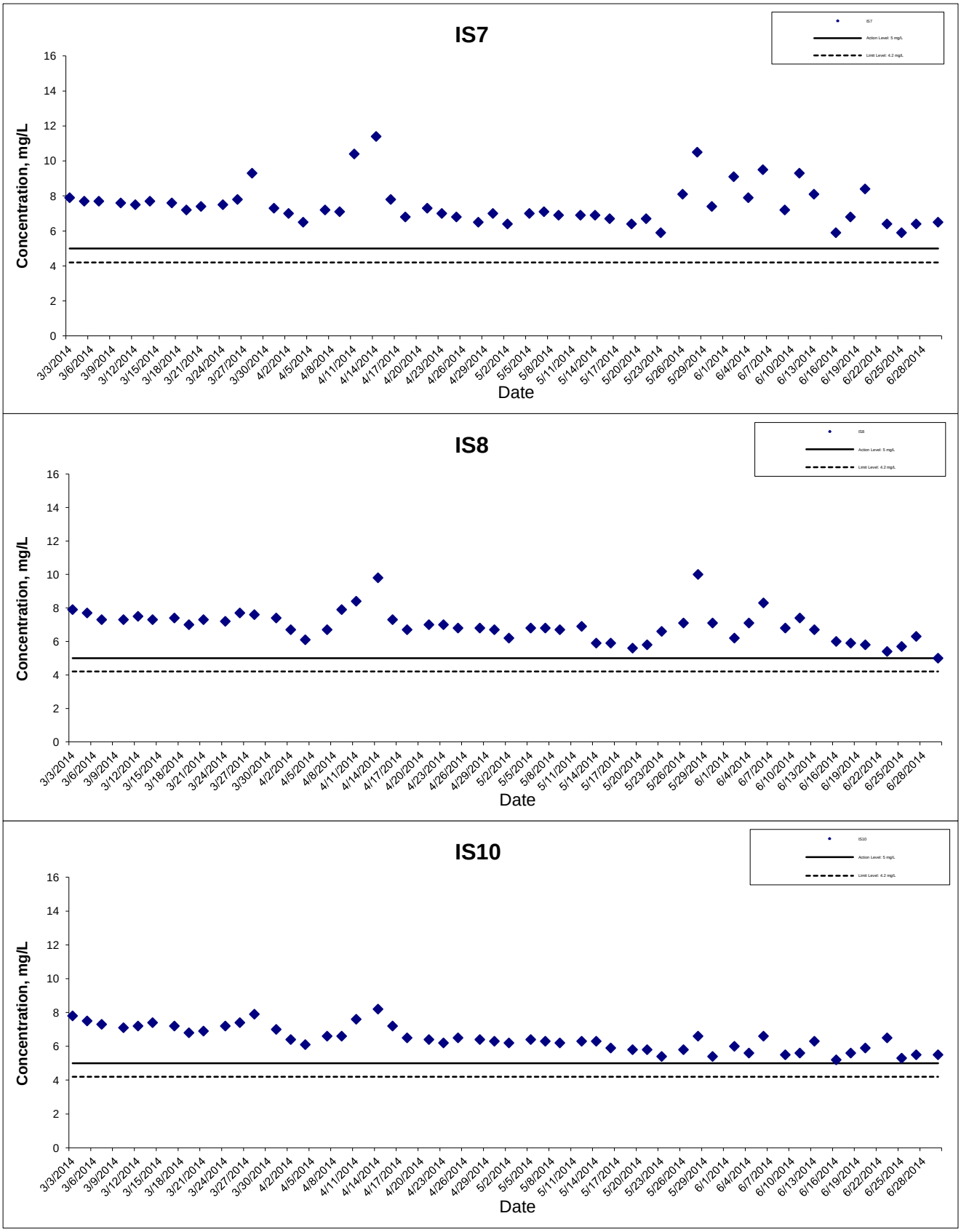
Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
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Graphical Presentation of Impact Water Quality Monitoring Results

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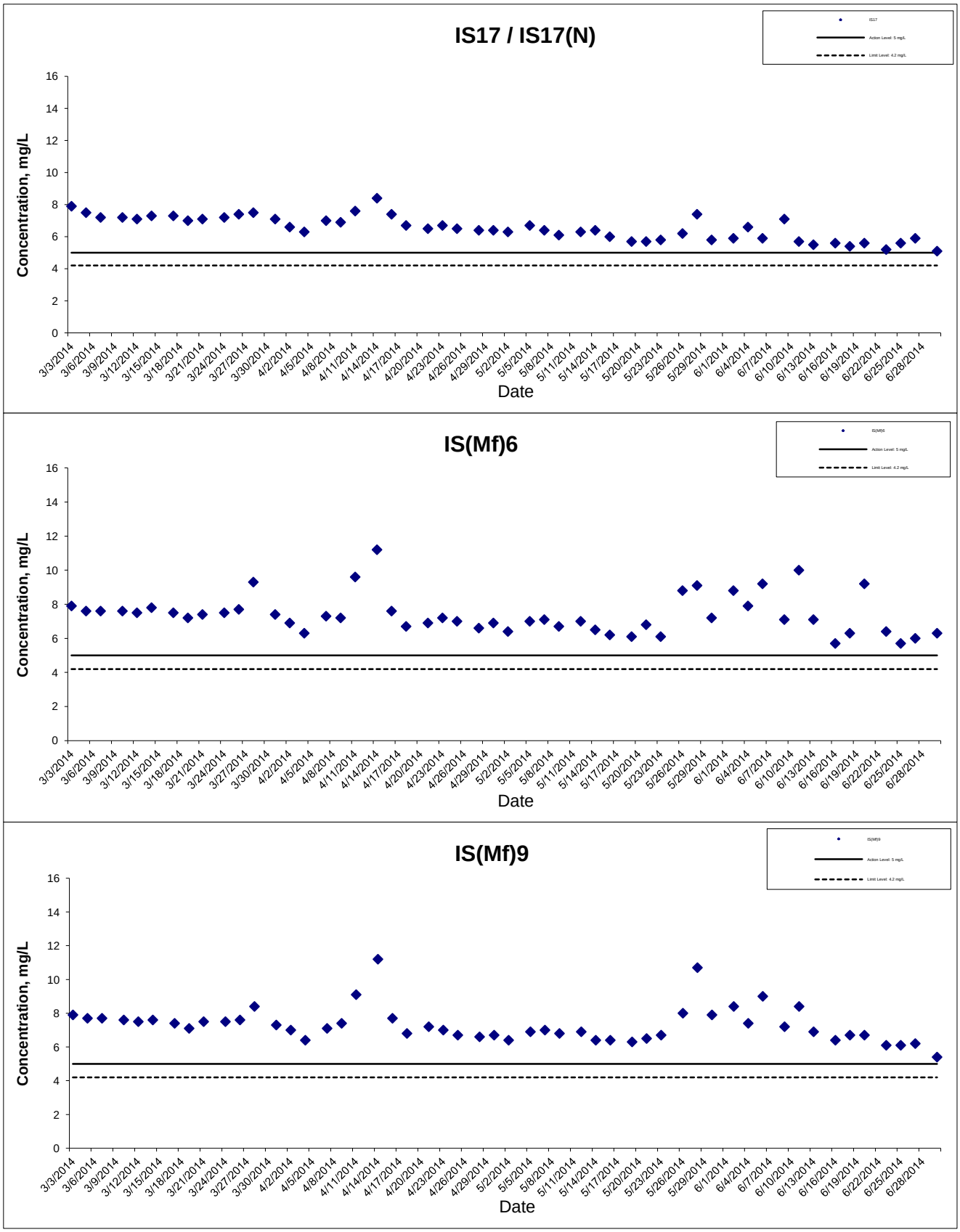
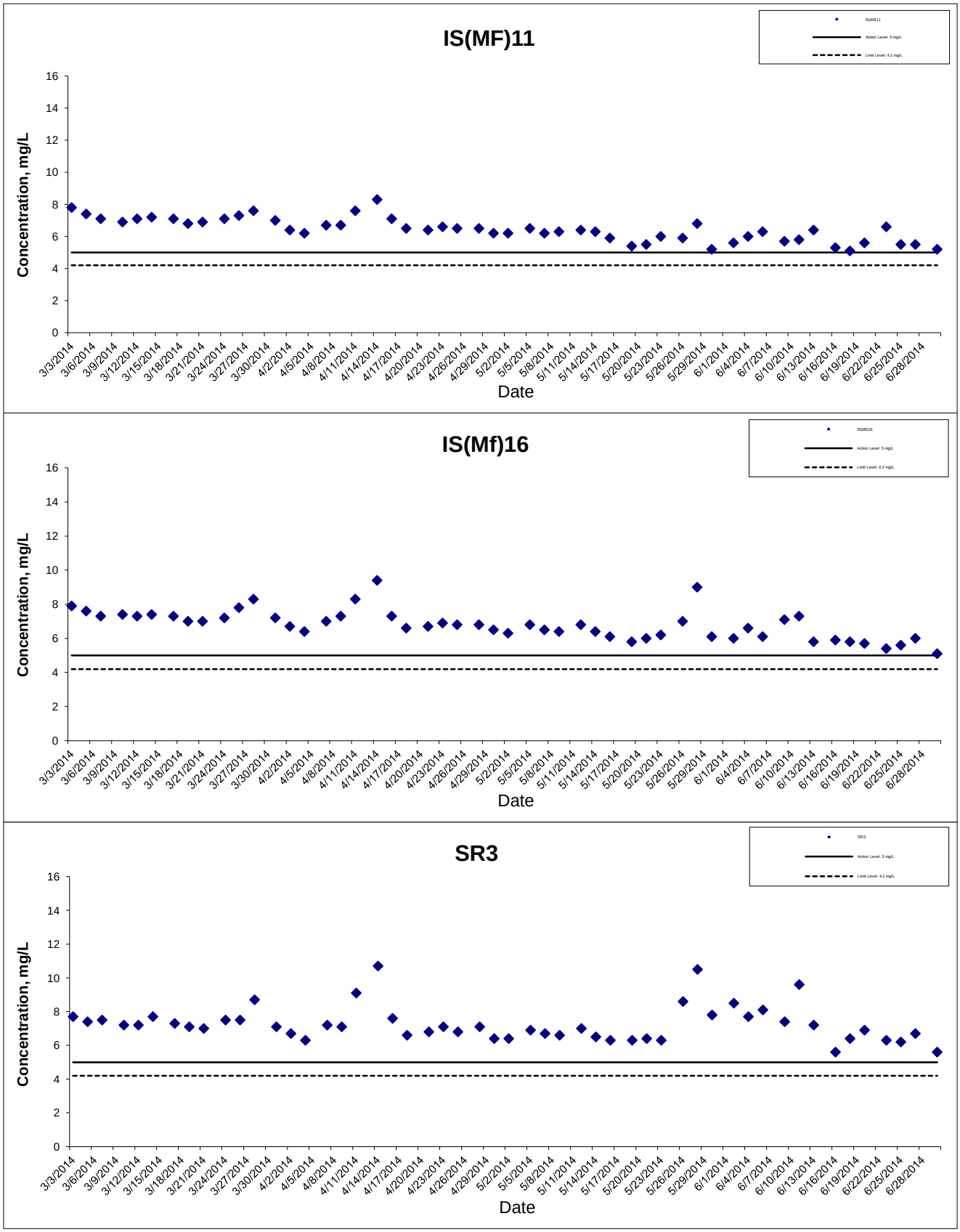
Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide



*As informed by the Contractor in June 2014, the perimeter silt curtain alignment has been rearranged. In accordance with our observation on 25 June 2014, the original monitoring location of IS17 was no longer enclosed by the perimeter silt curtain. Therefore, IWQM work at the original monitoring location of IS17 has been resumed since 25 June 2014.

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



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
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Graphical Presentation of Impact Water Quality Monitoring Results

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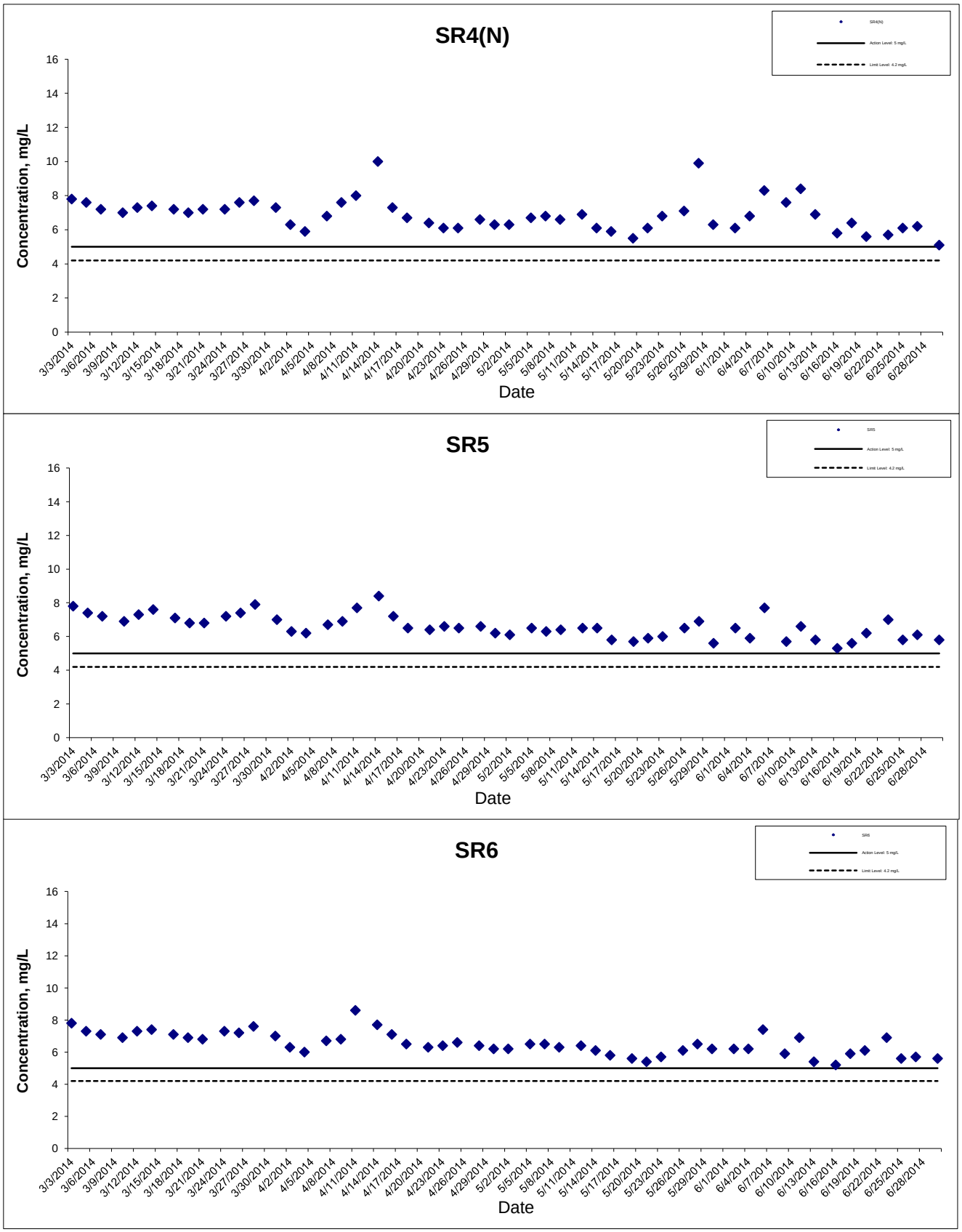
Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide



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HONG KONG BOUNDARY CROSSING FACILITIES
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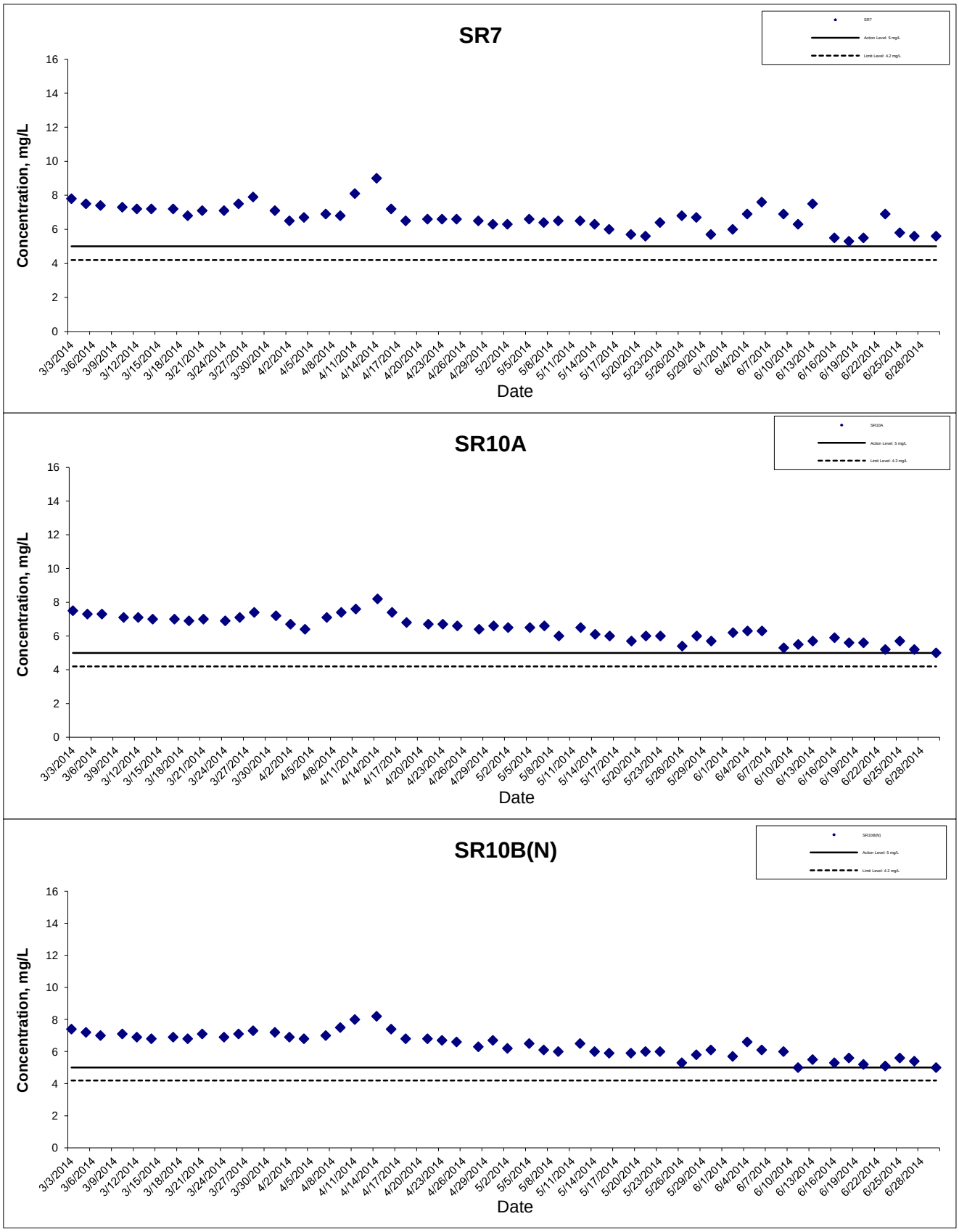
Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide



HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
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Graphical Presentation of Impact Water Quality Monitoring Results

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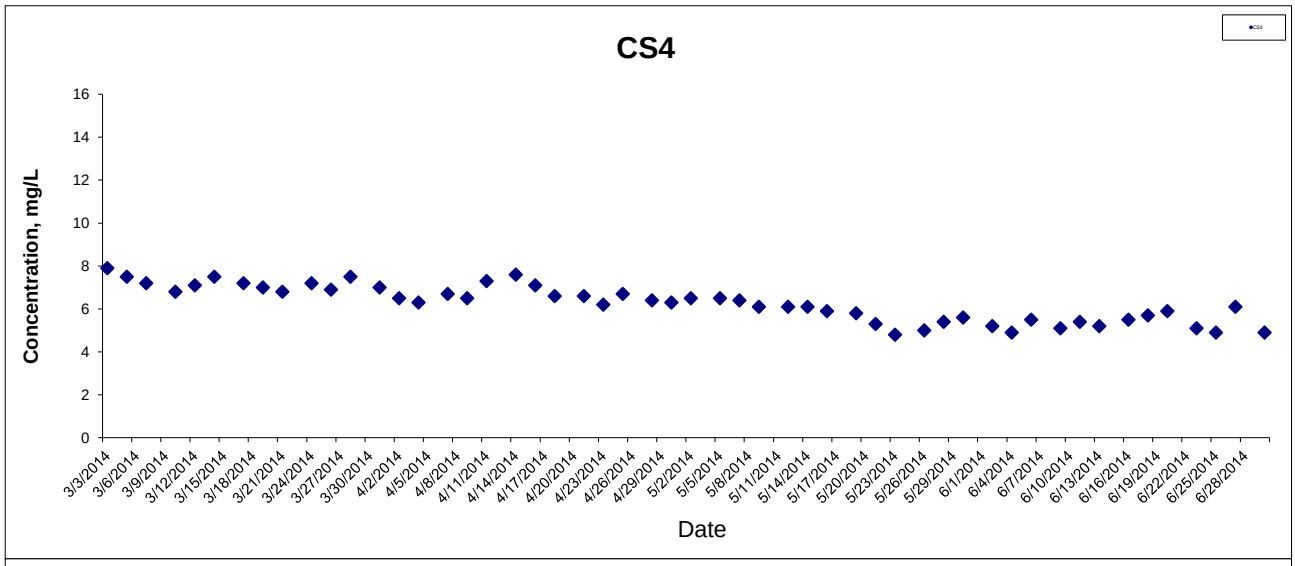
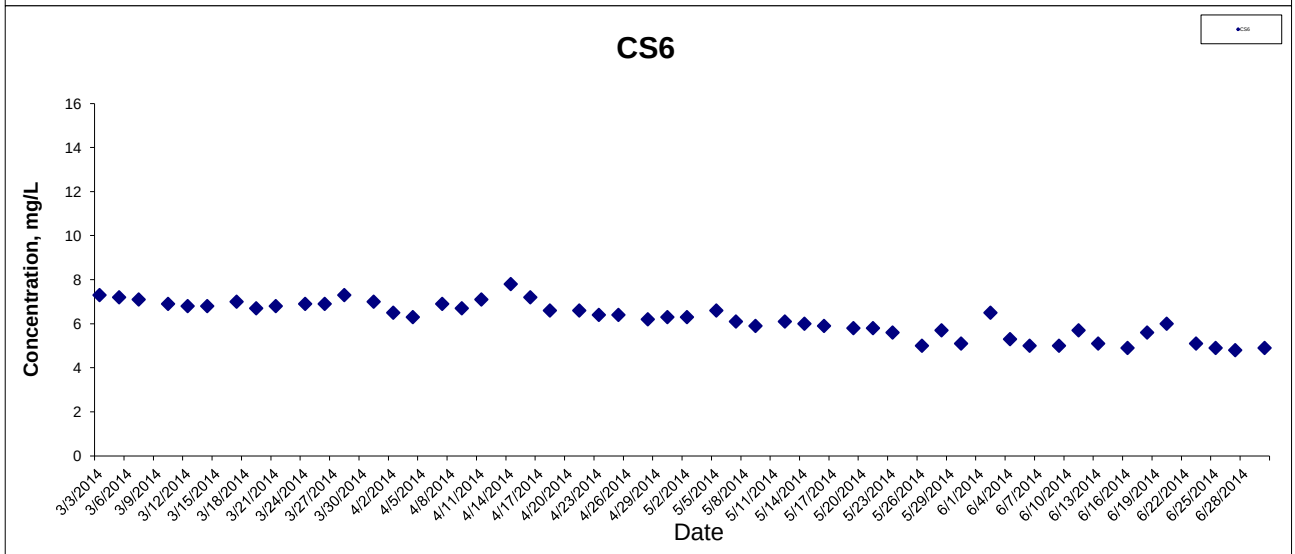
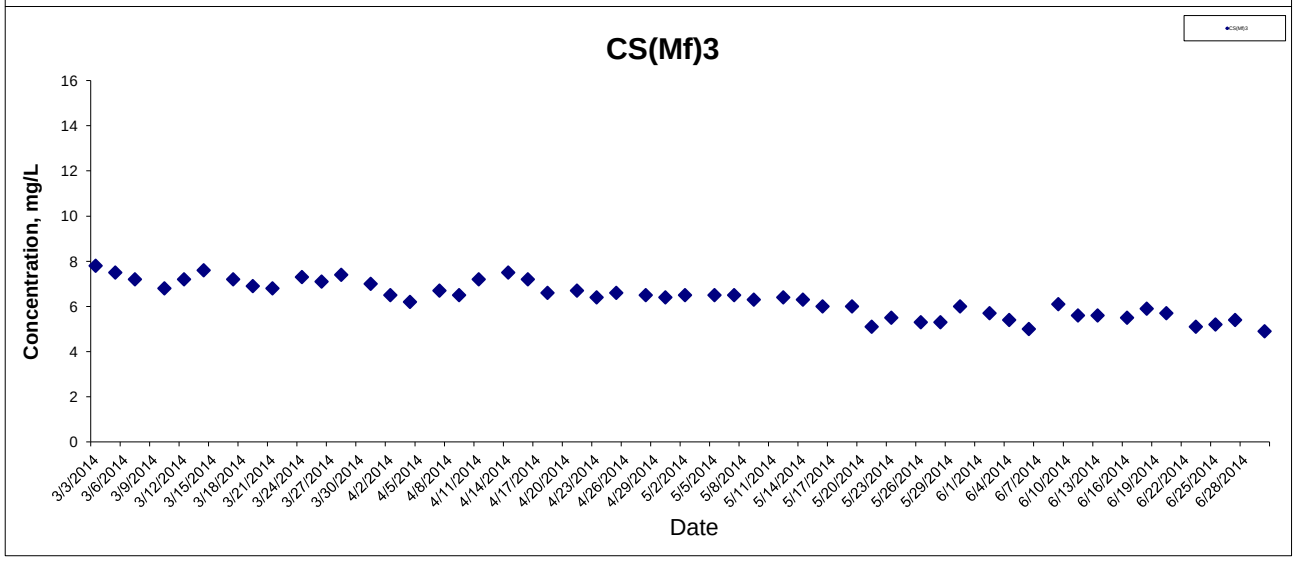
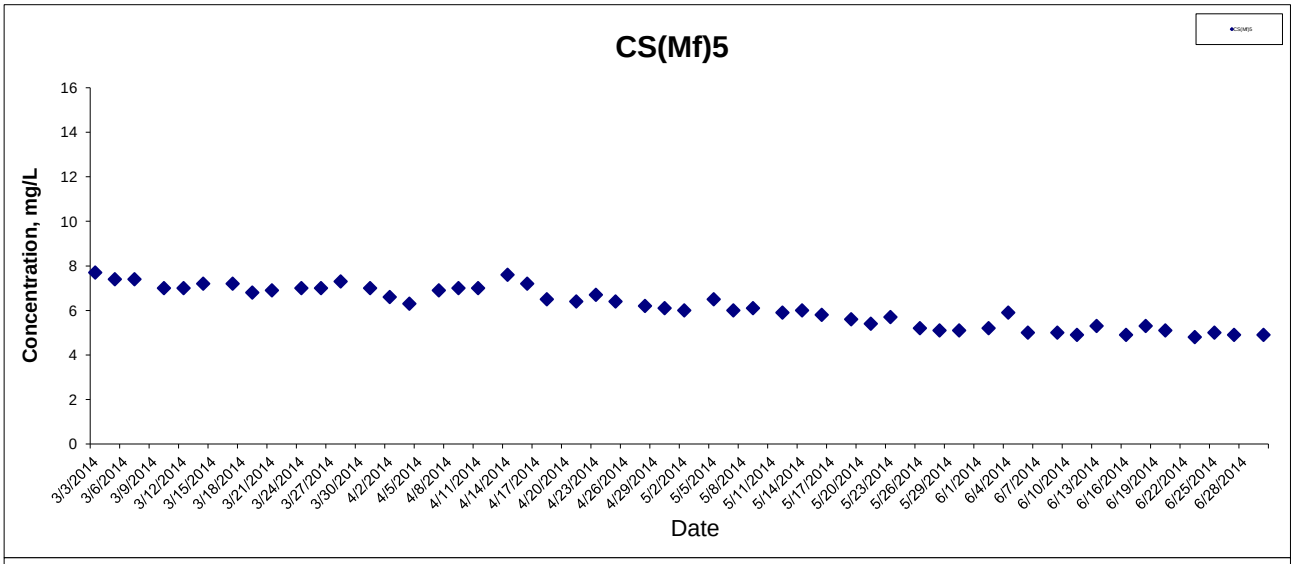
Dissolved Oxygen (Bottom) at Mid-Ebb Tide

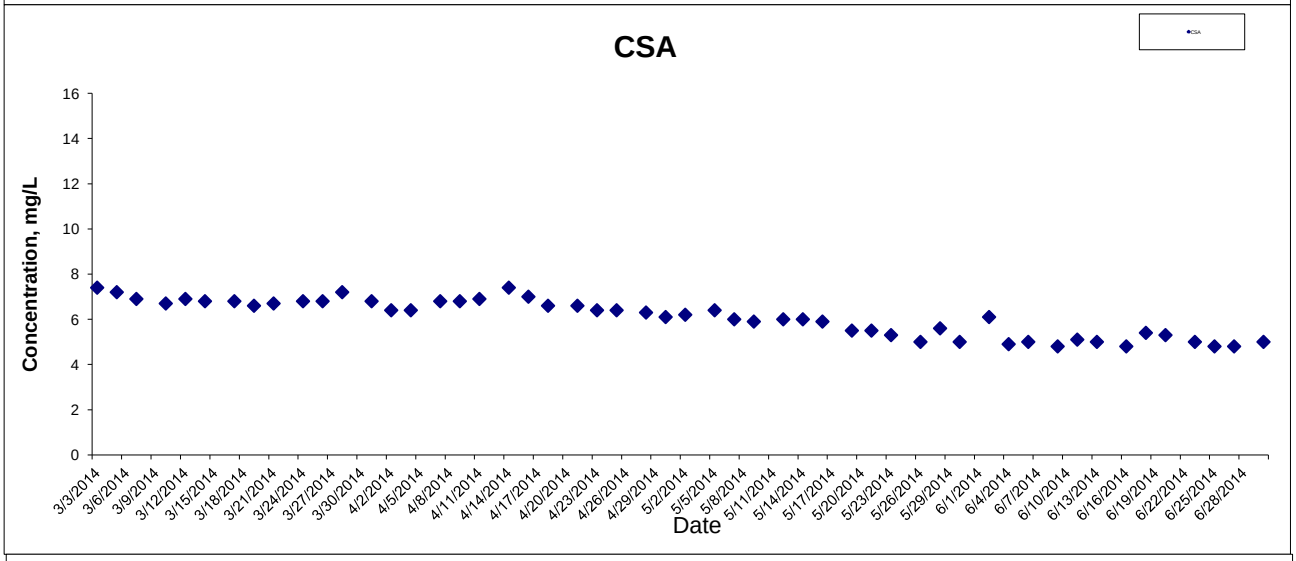


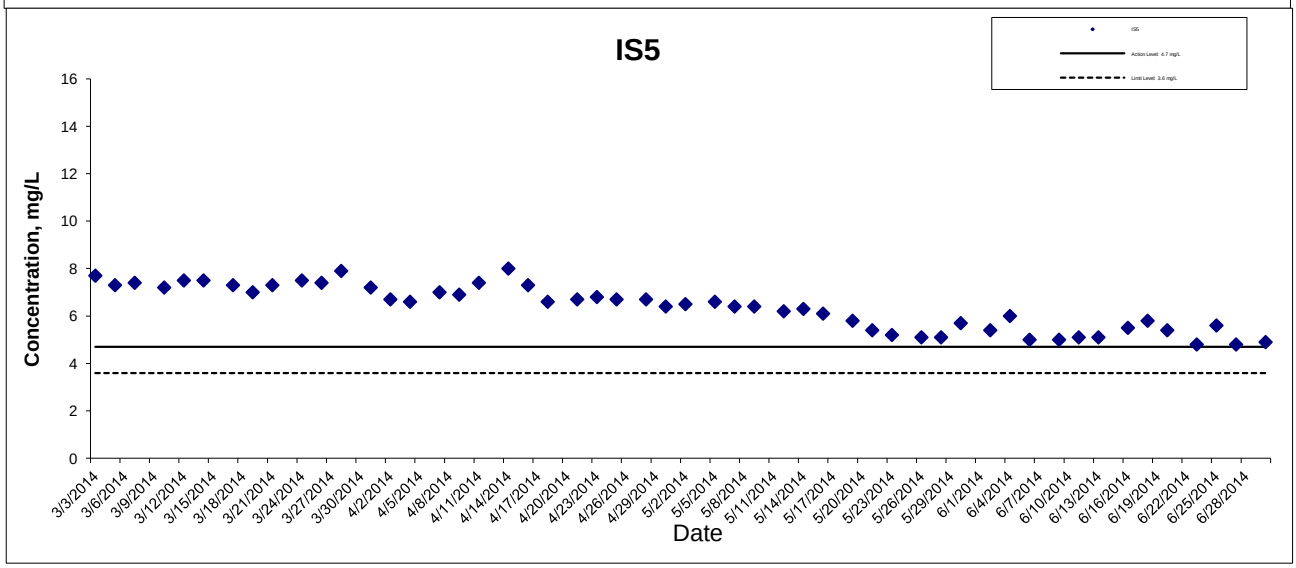




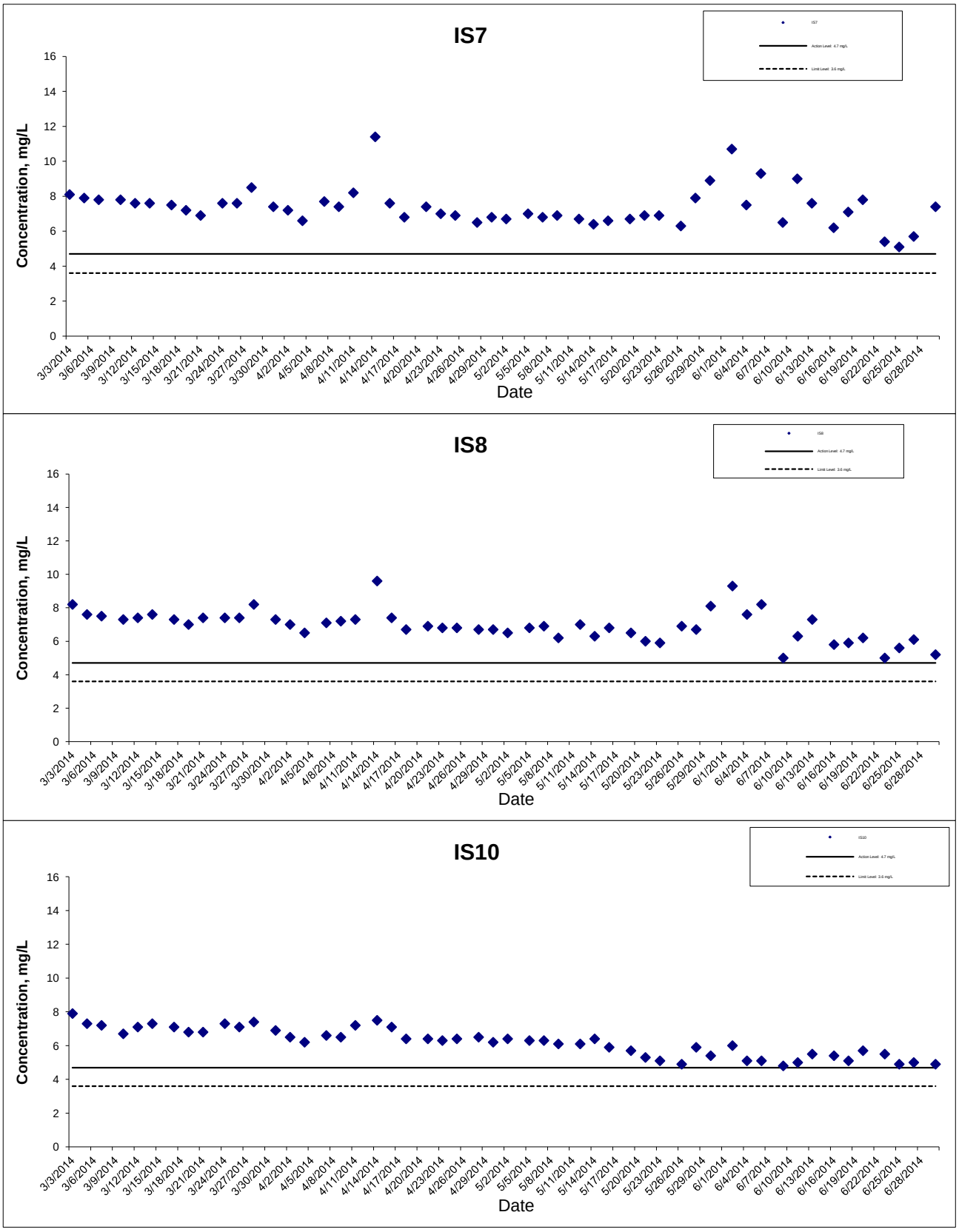
Dissolved Oxygen (Bottom) at Mid-Ebb Tide



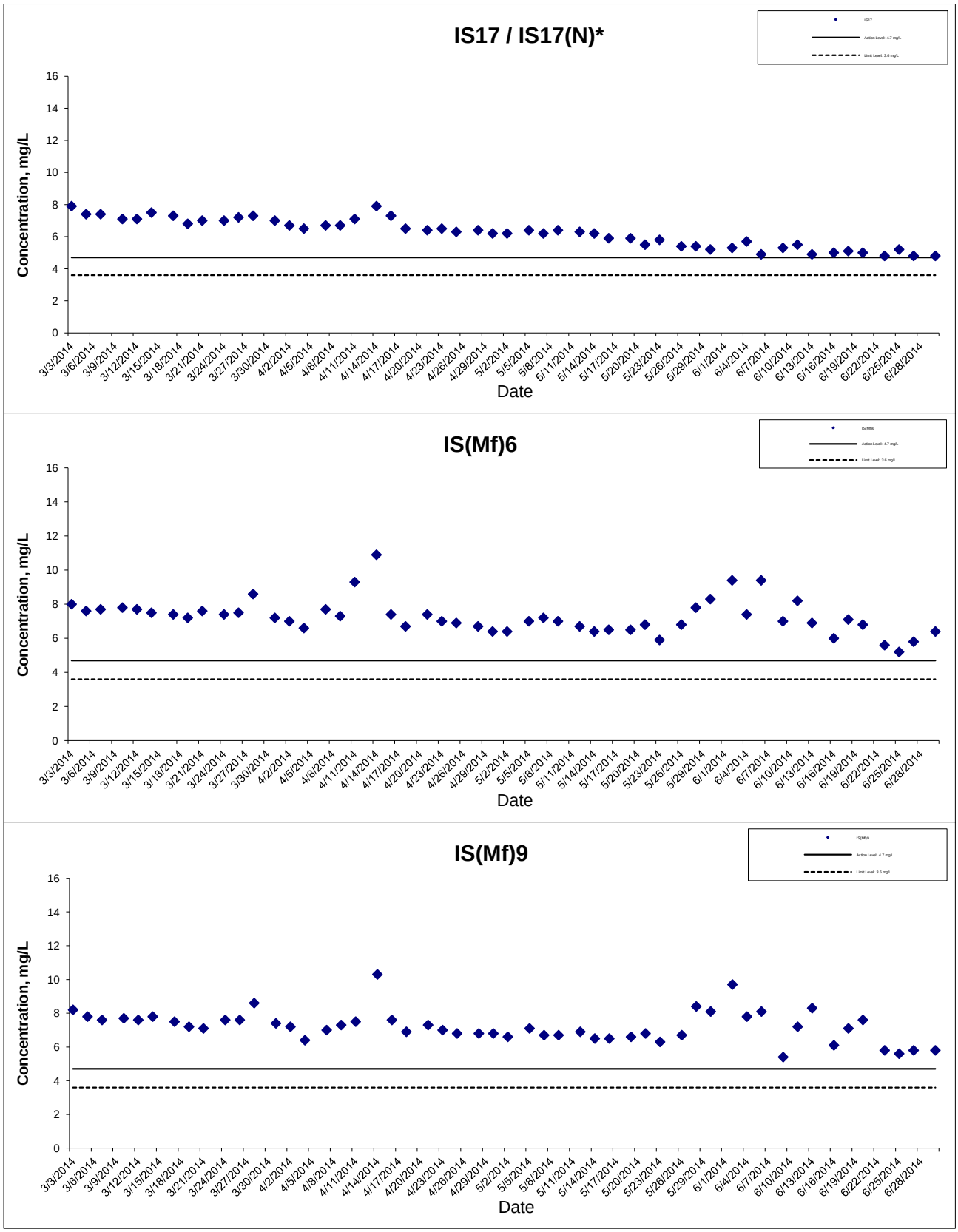




Dissolved Oxygen (Bottom) at Mid-Ebb Tide



Dissolved Oxygen (Bottom) at Mid-Ebb Tide



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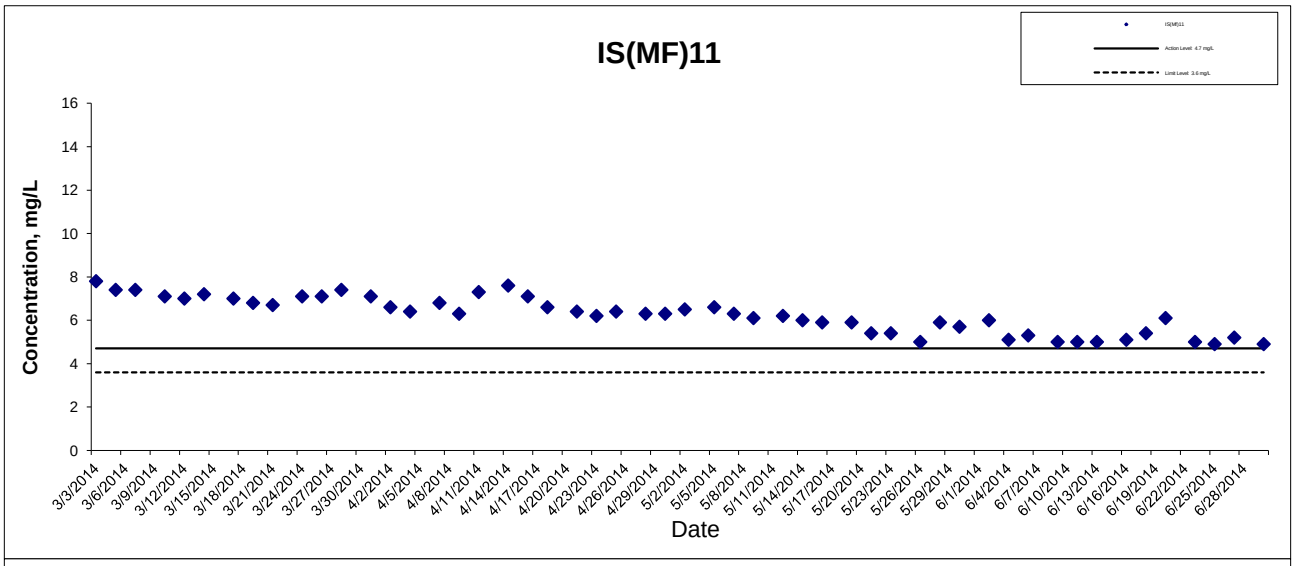

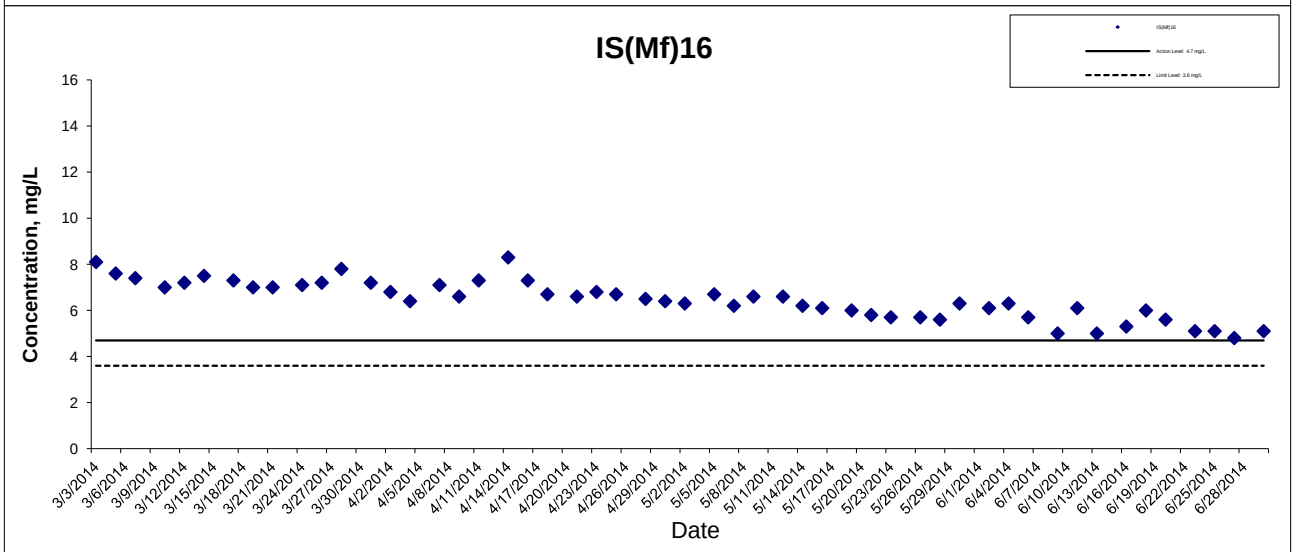

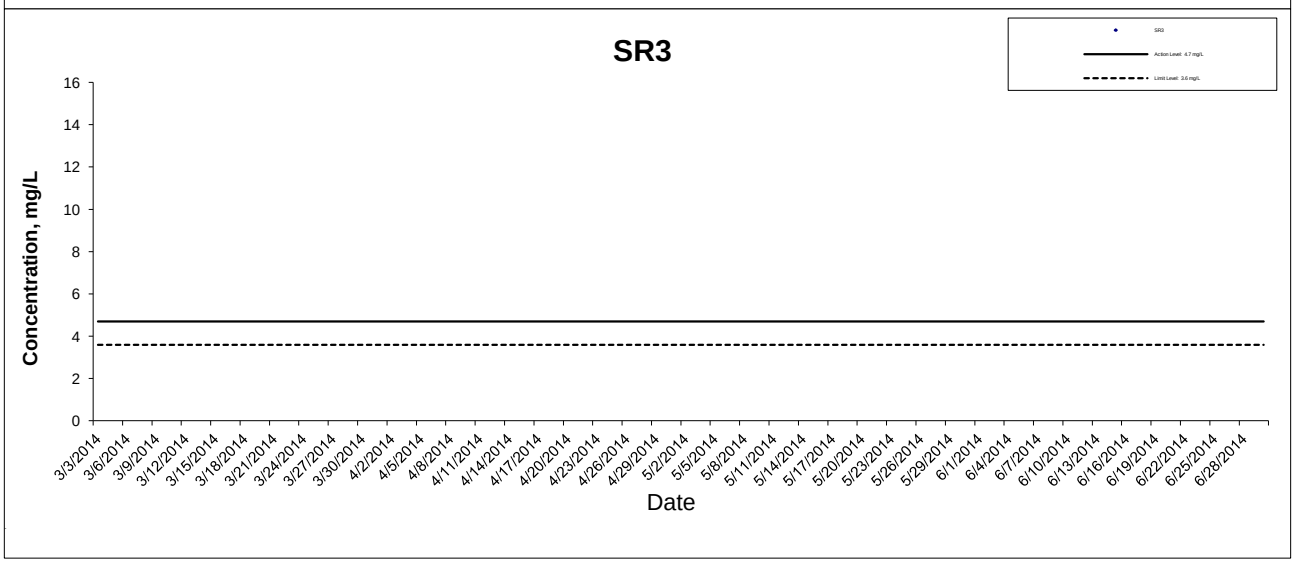

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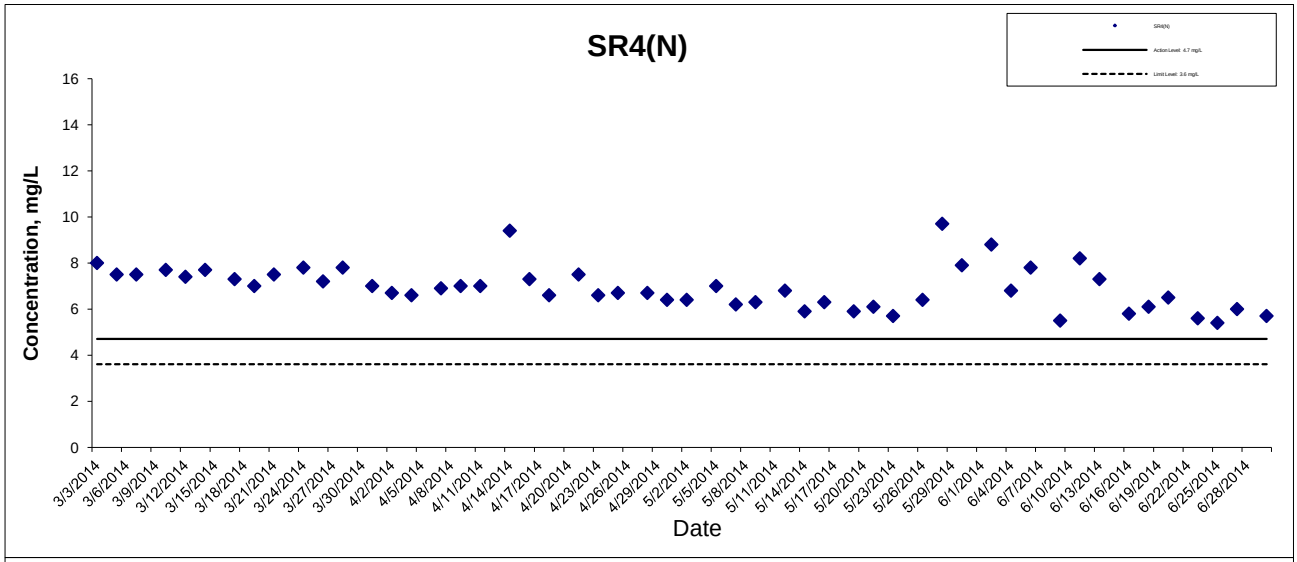
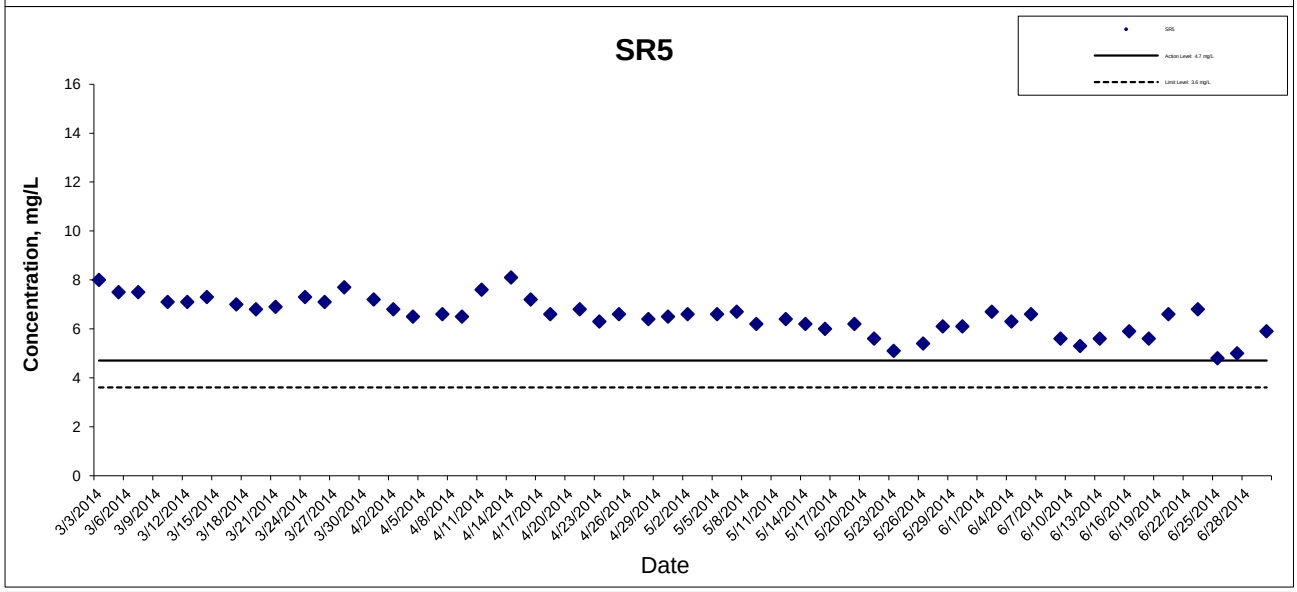
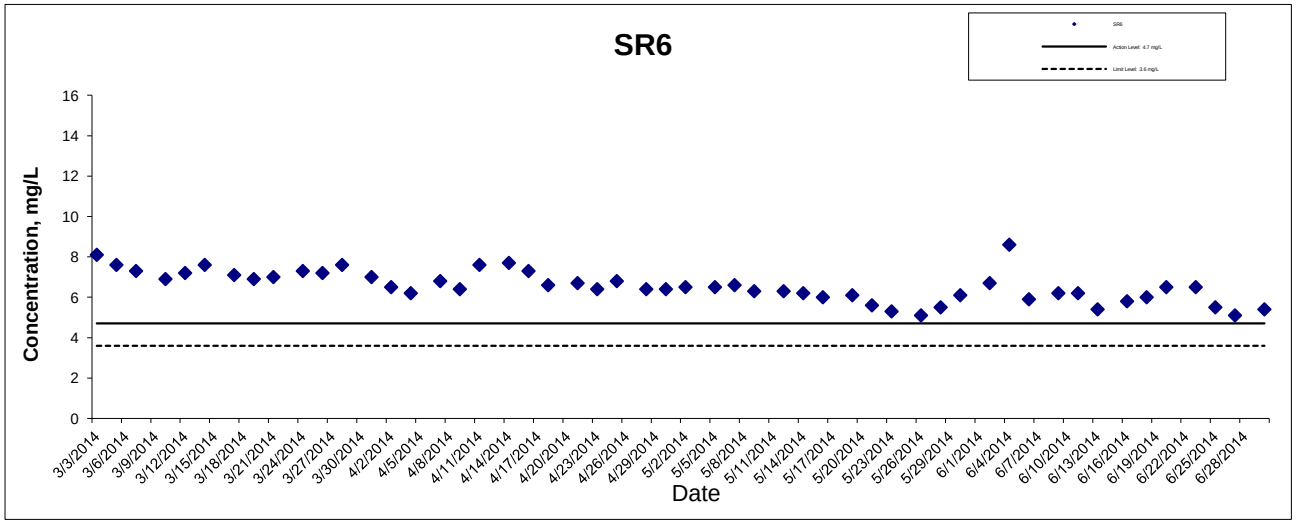
Dissolved Oxygen (Bottom) at Mid-Ebb Tide







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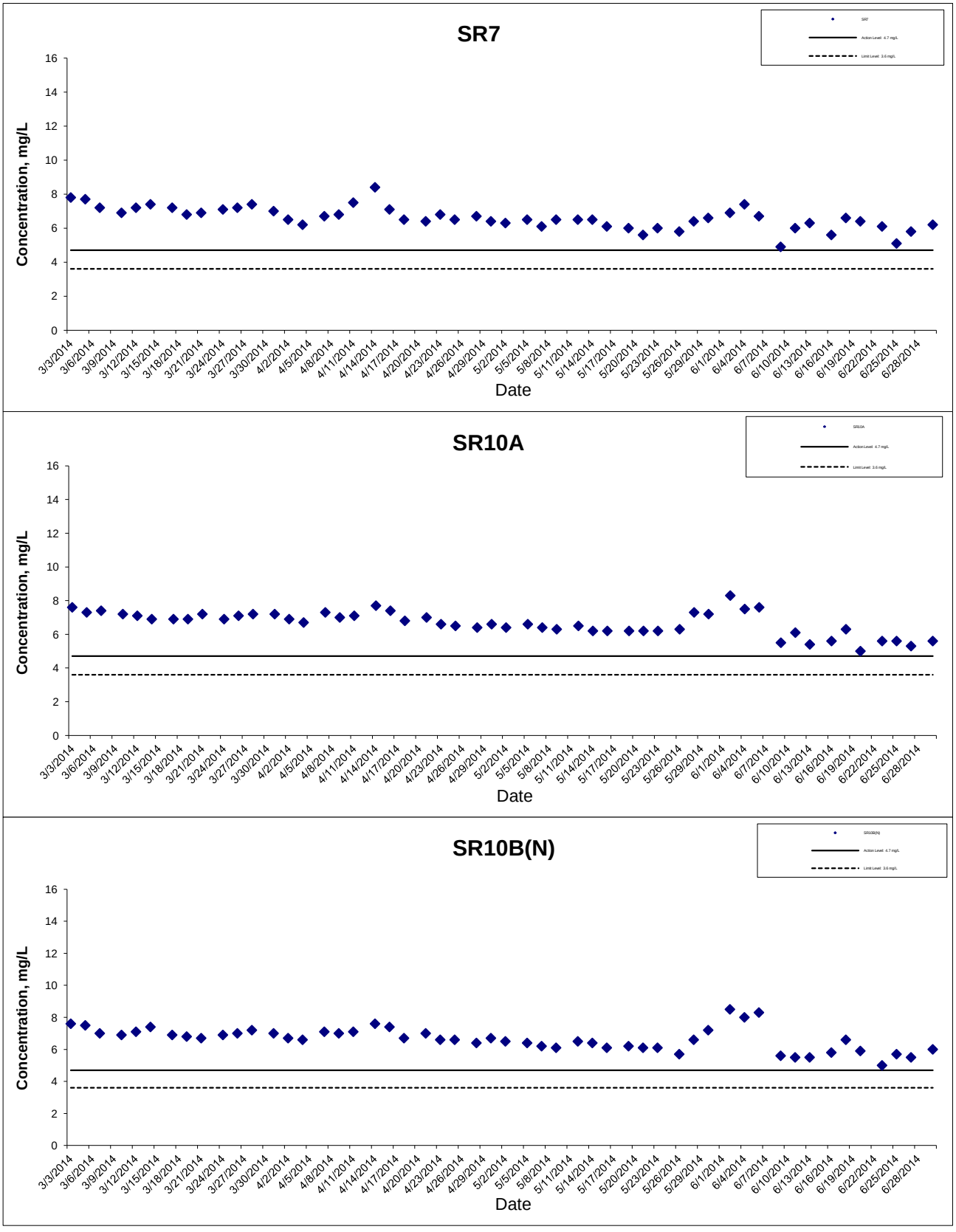

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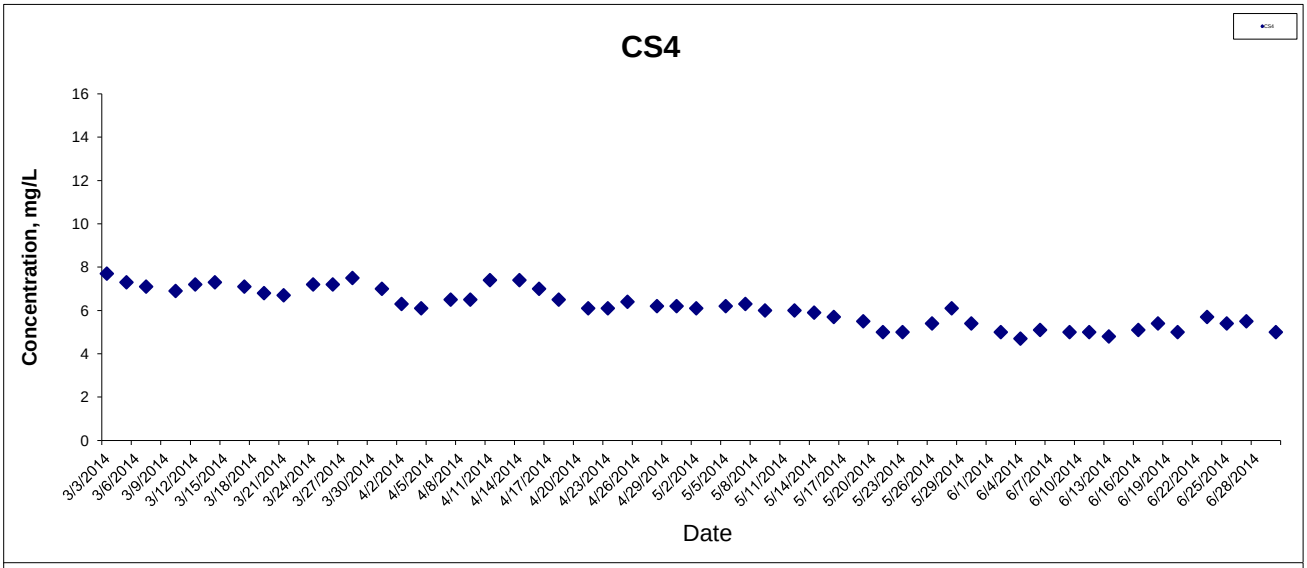
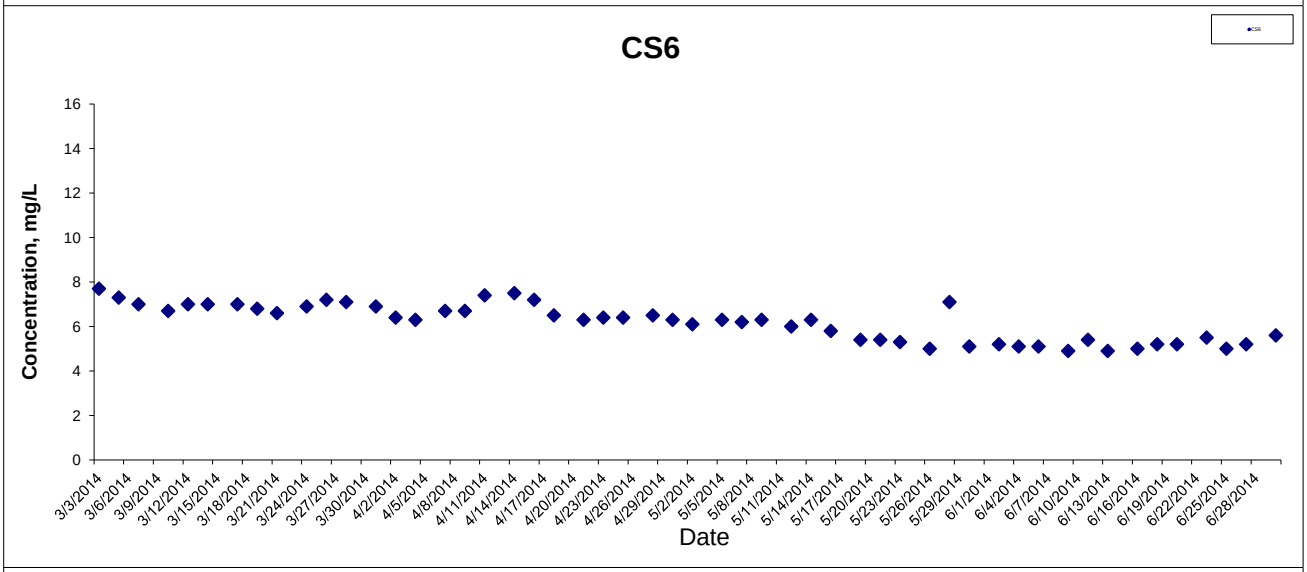
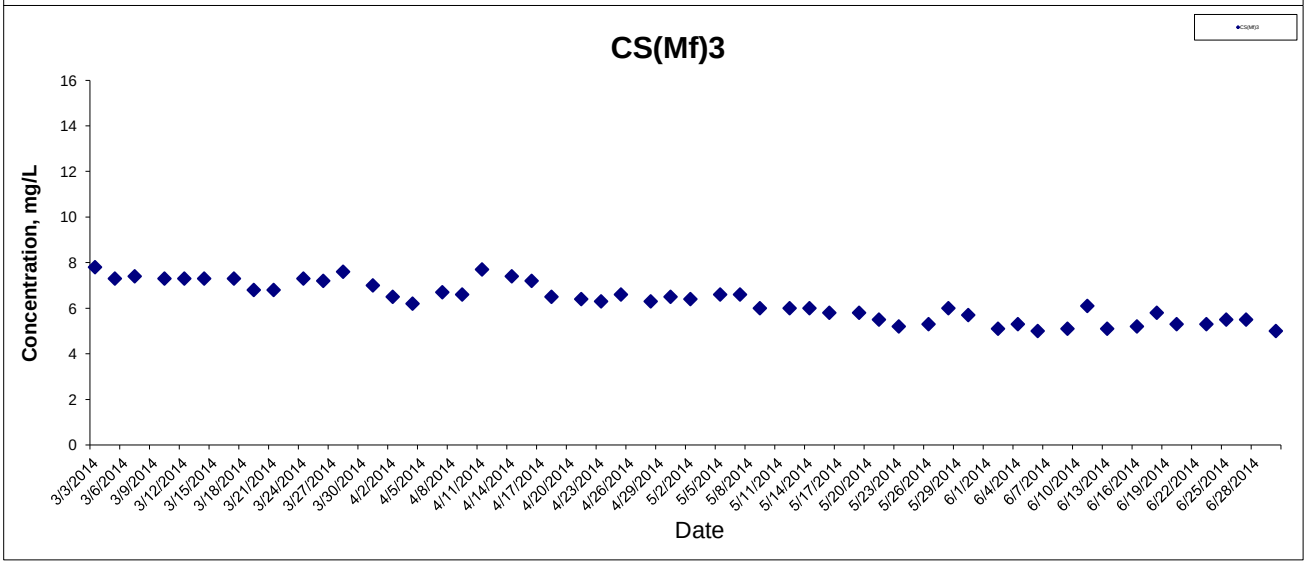
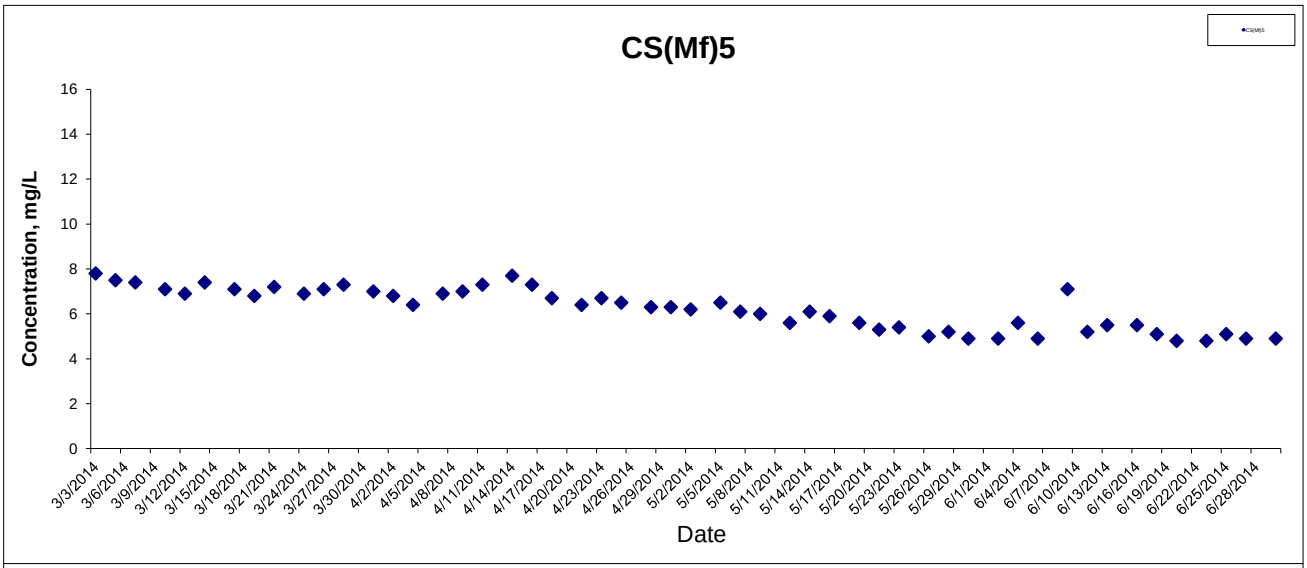
Dissolved Oxygen (Bottom) at Mid-Flood Tide

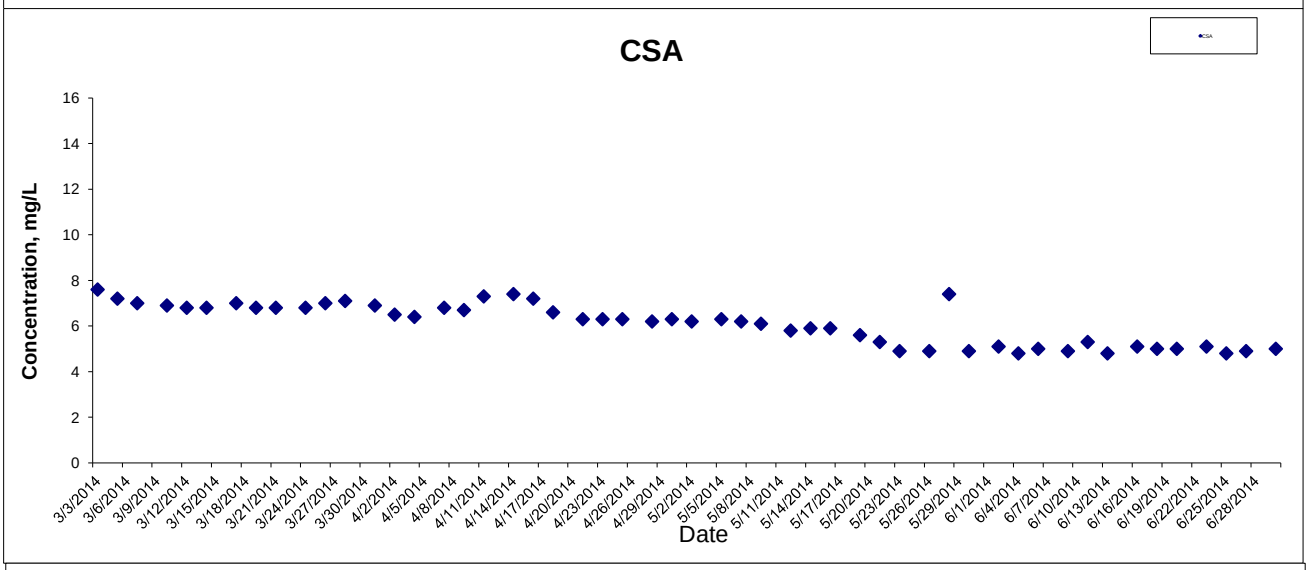


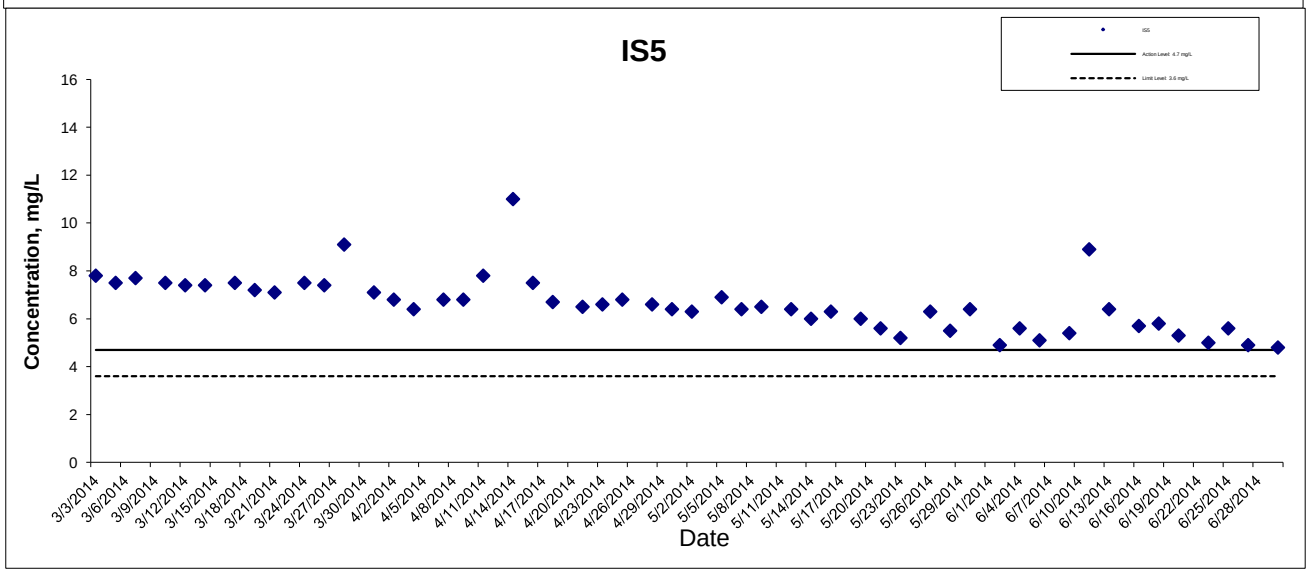




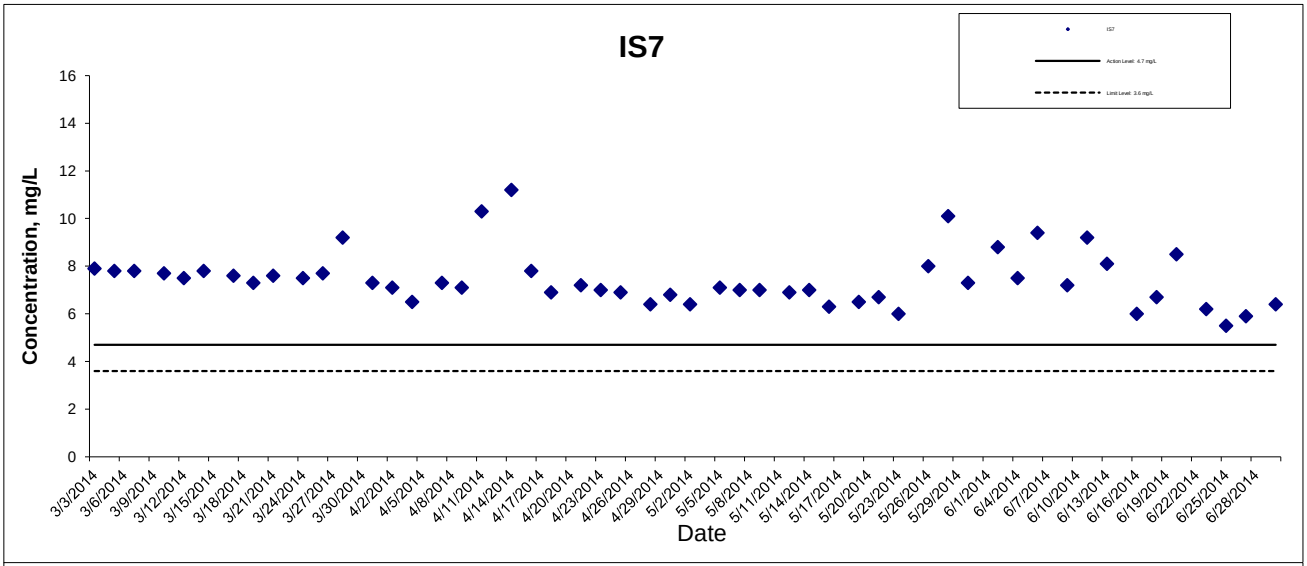
Dissolved Oxygen (Bottom) at Mid-Flood Tide

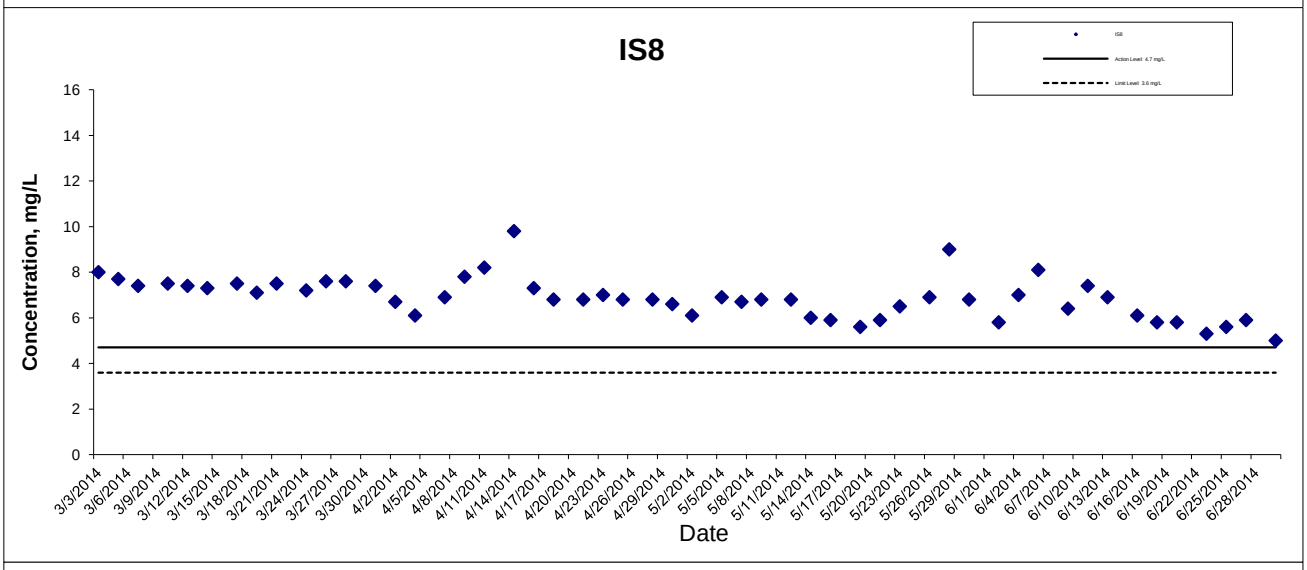


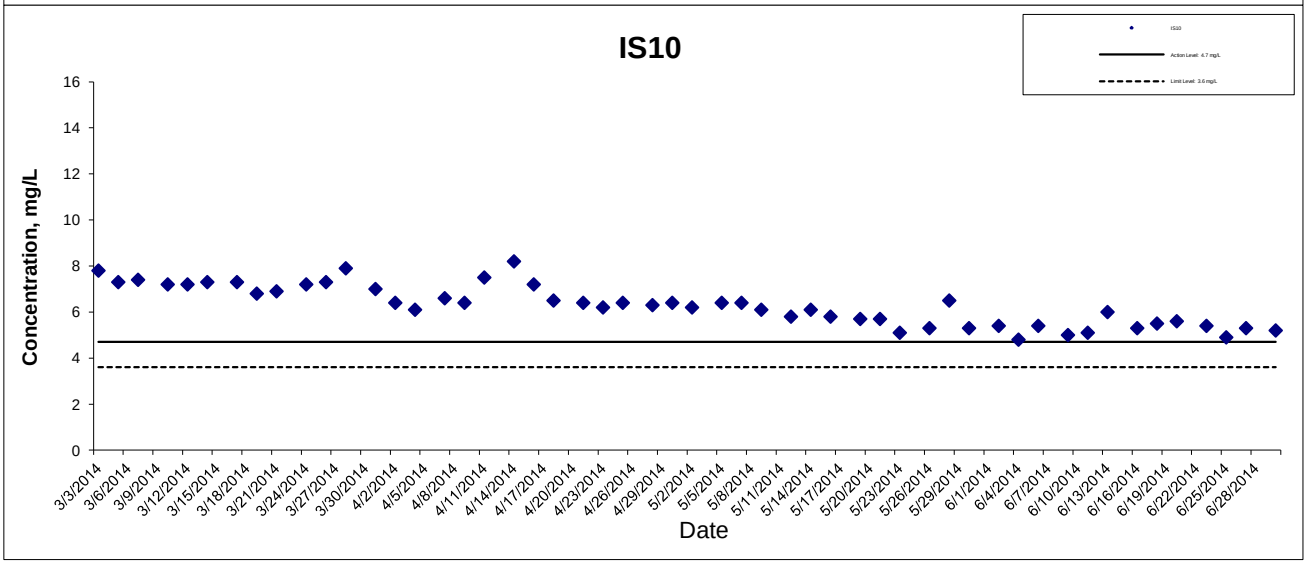




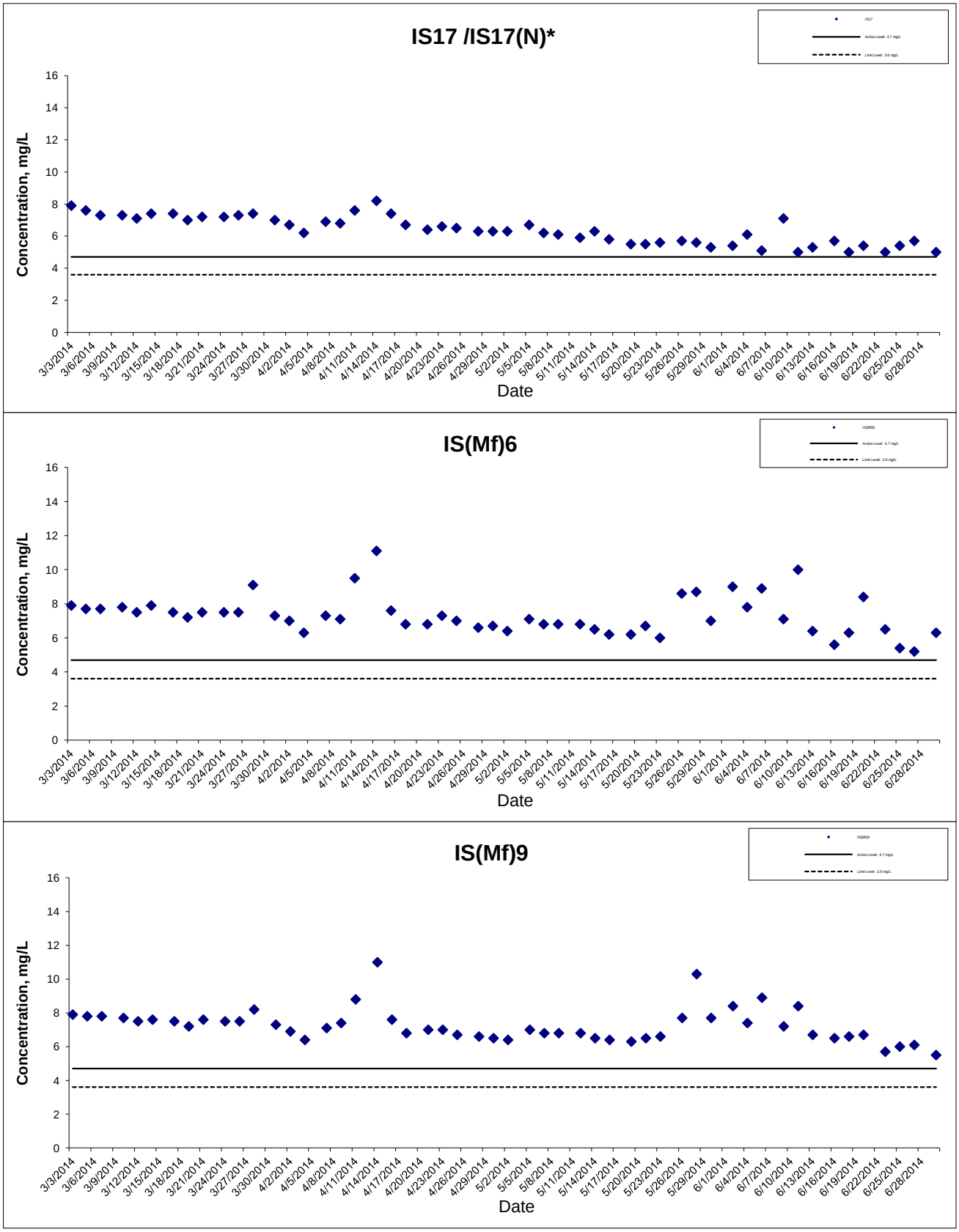
Dissolved Oxygen (Bottom) at Mid-Flood Tide







Dissolved Oxygen (Bottom) at Mid-Flood Tide



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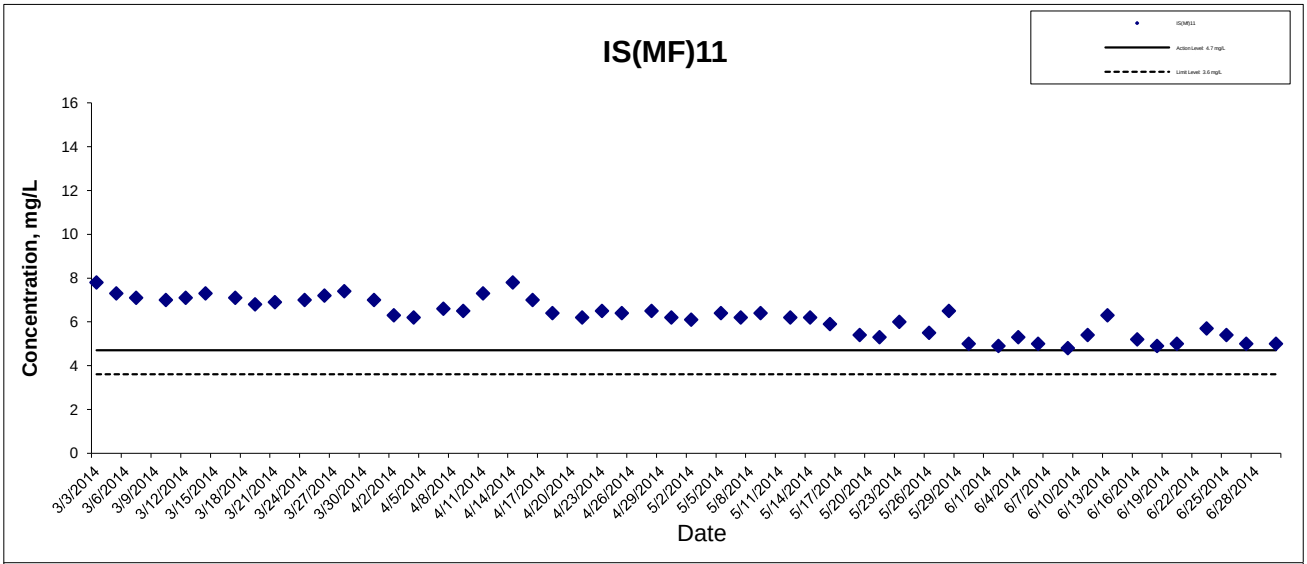
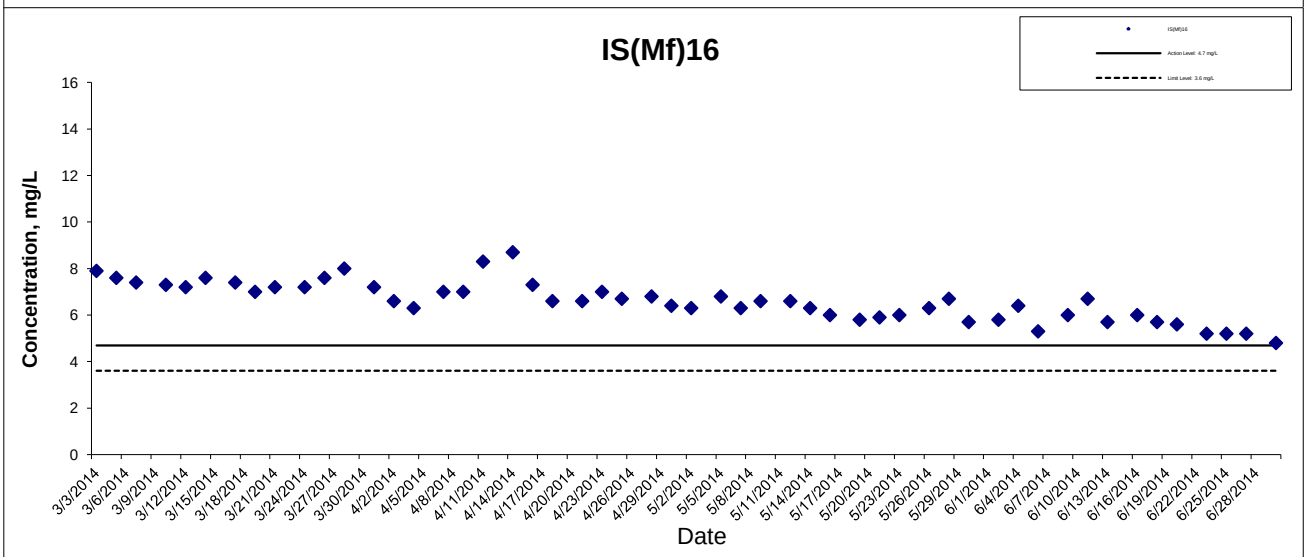
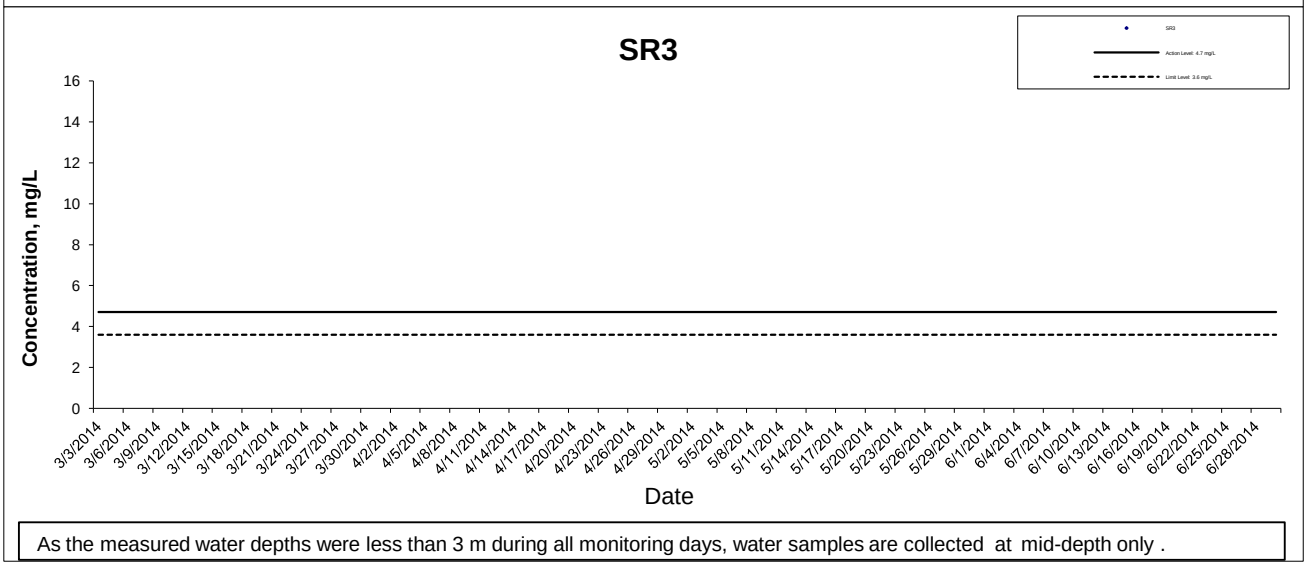
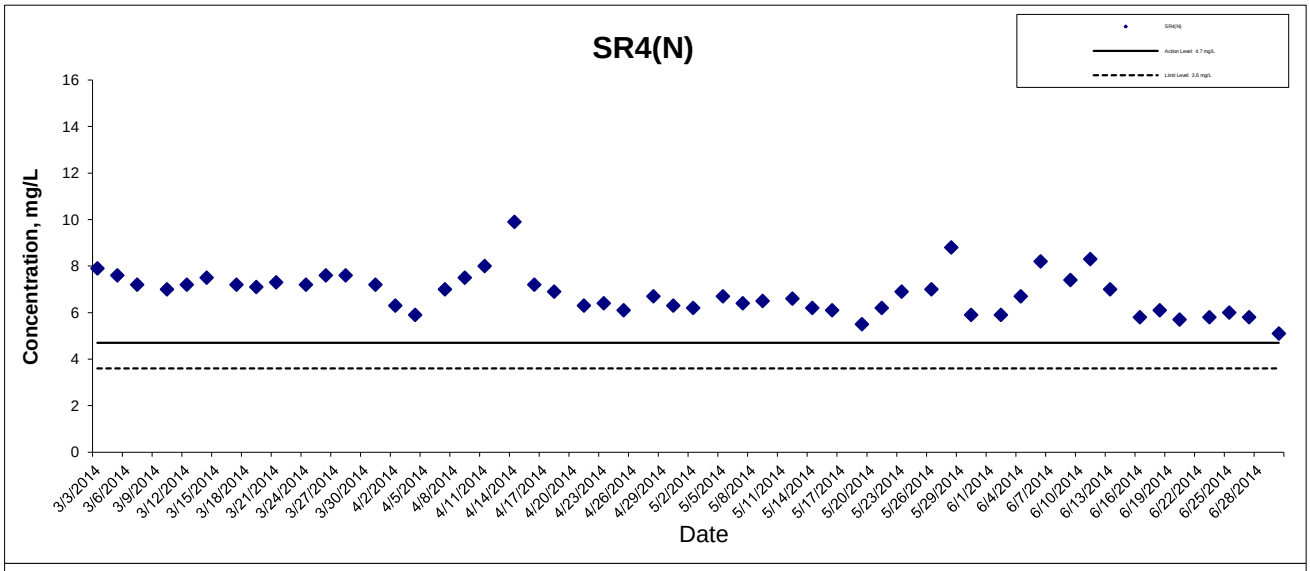


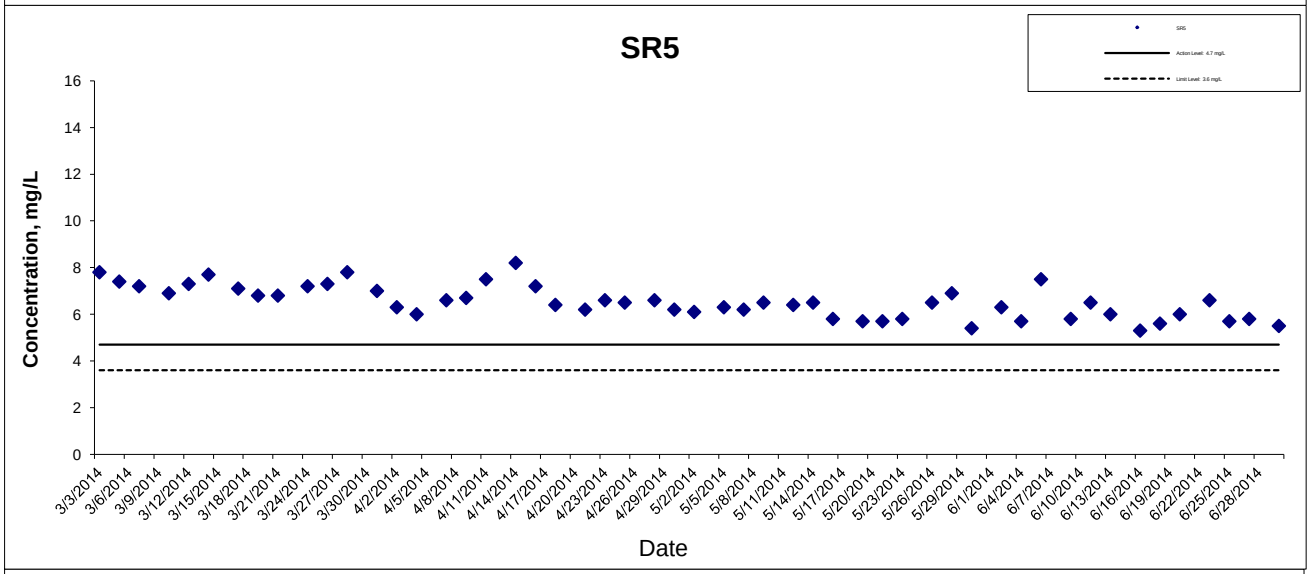


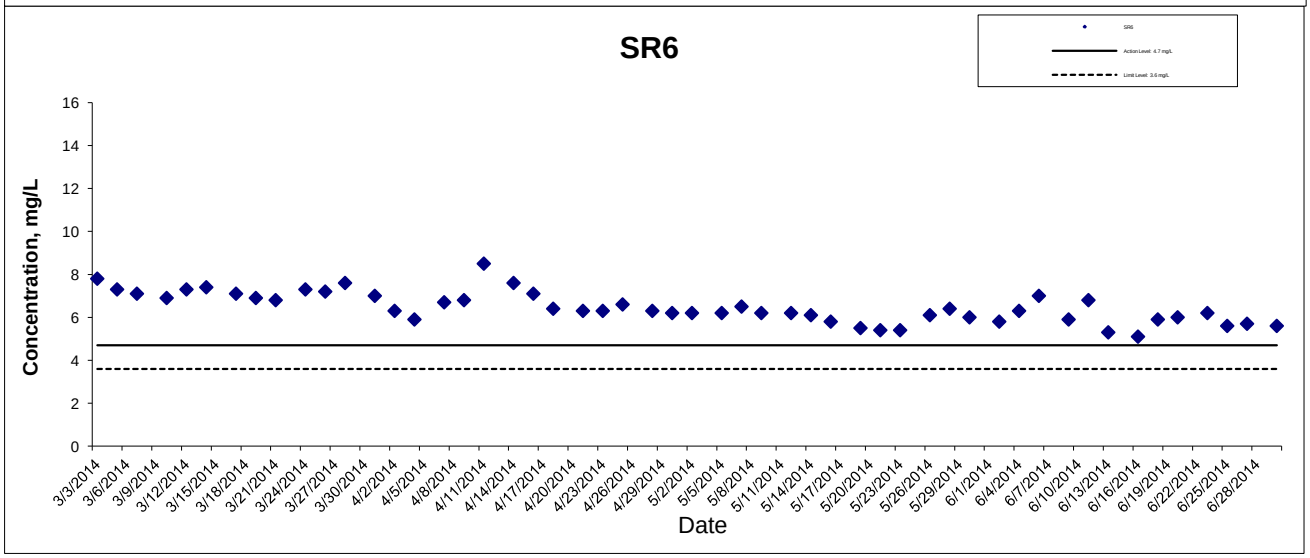


As the measured water depths were less than 3 m during all monitoring days, water samples are collected at mid-depth only .

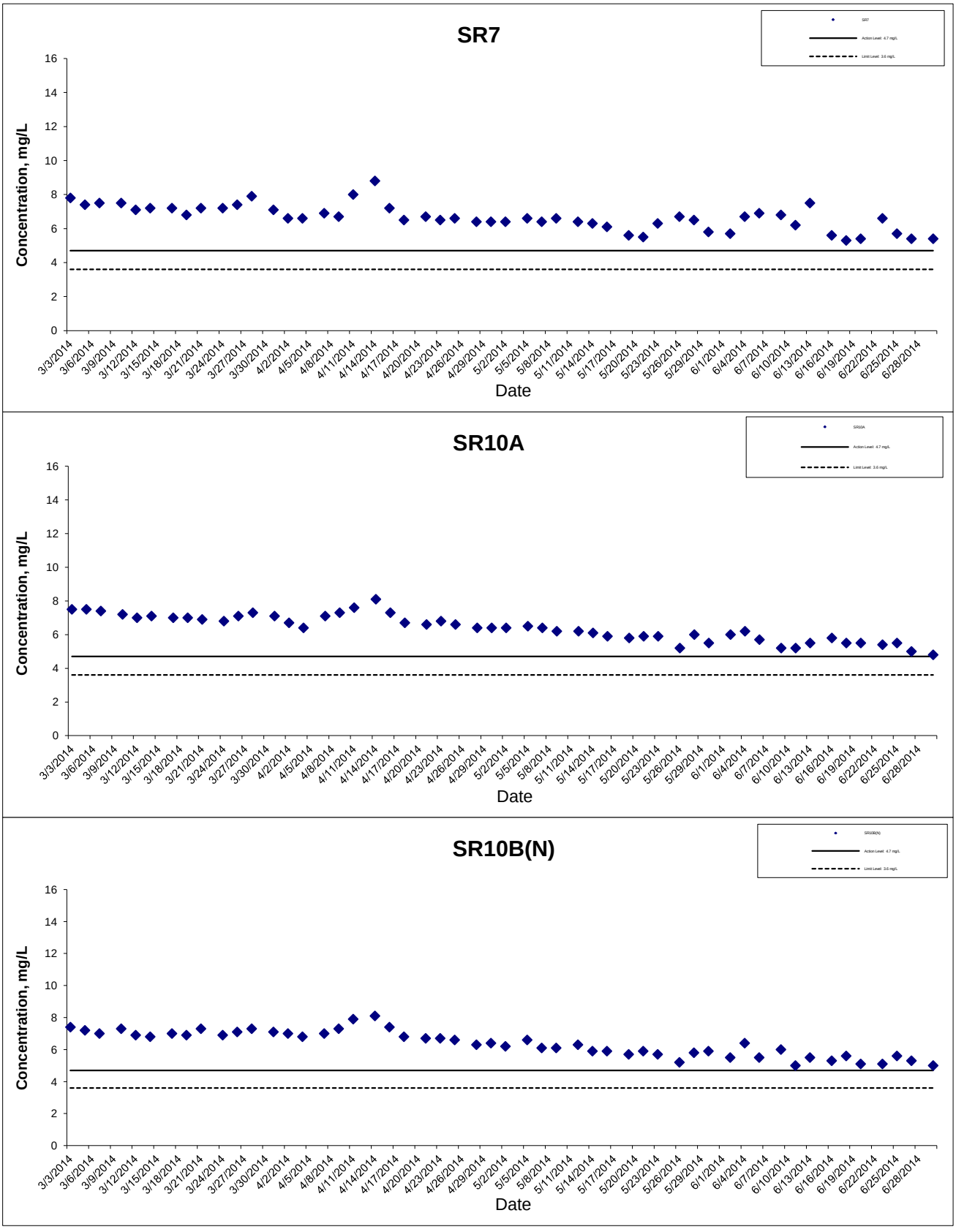
Dissolved Oxygen (Bottom) at Mid-Flood Tide



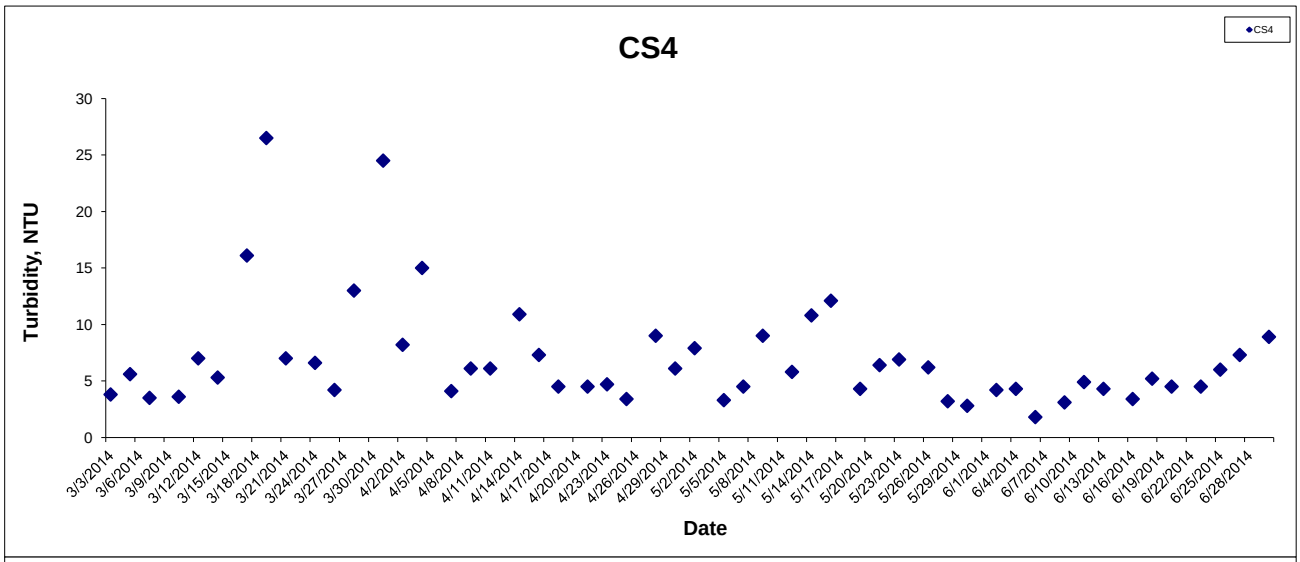


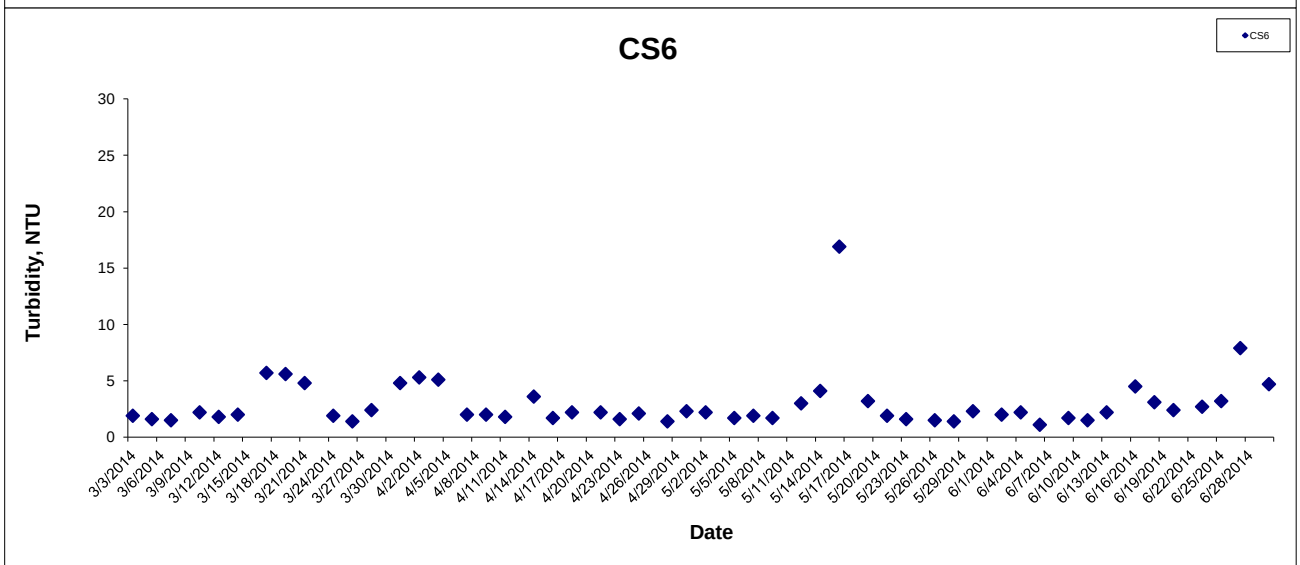


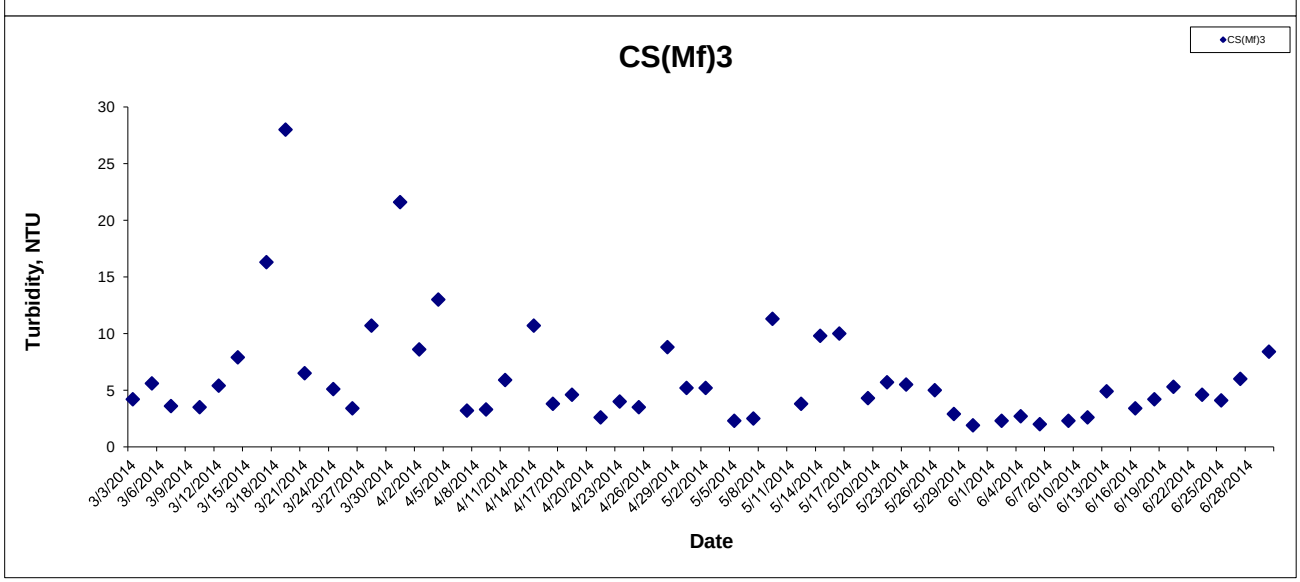
Dissolved Oxygen (Bottom) at Mid-Flood Tide



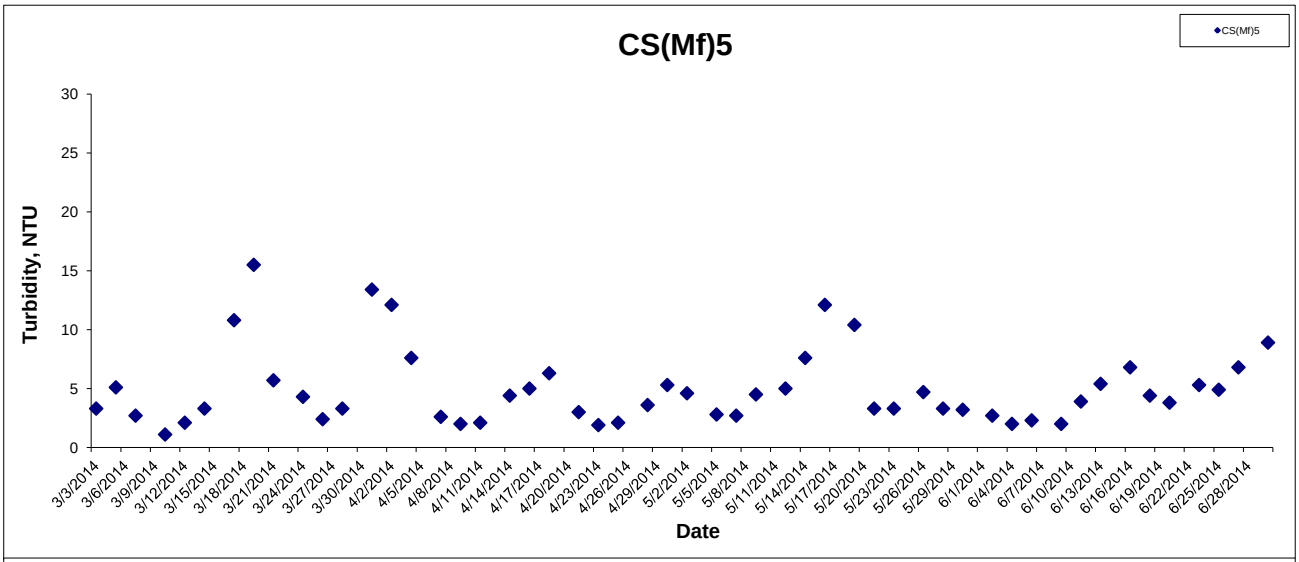
Turbidity at Mid-Ebb Tide

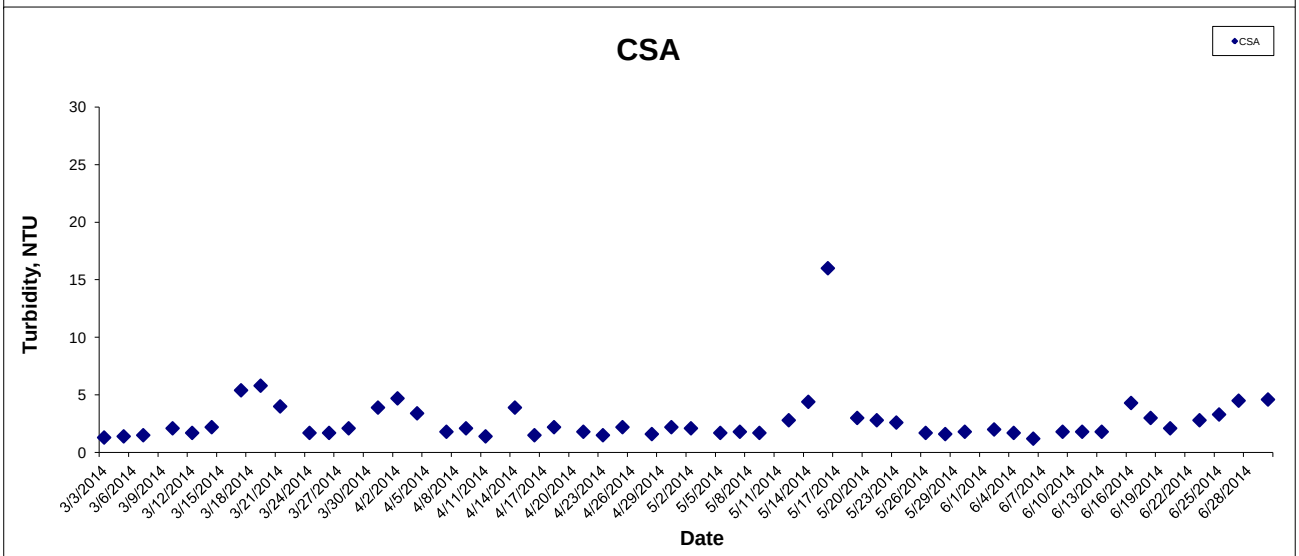


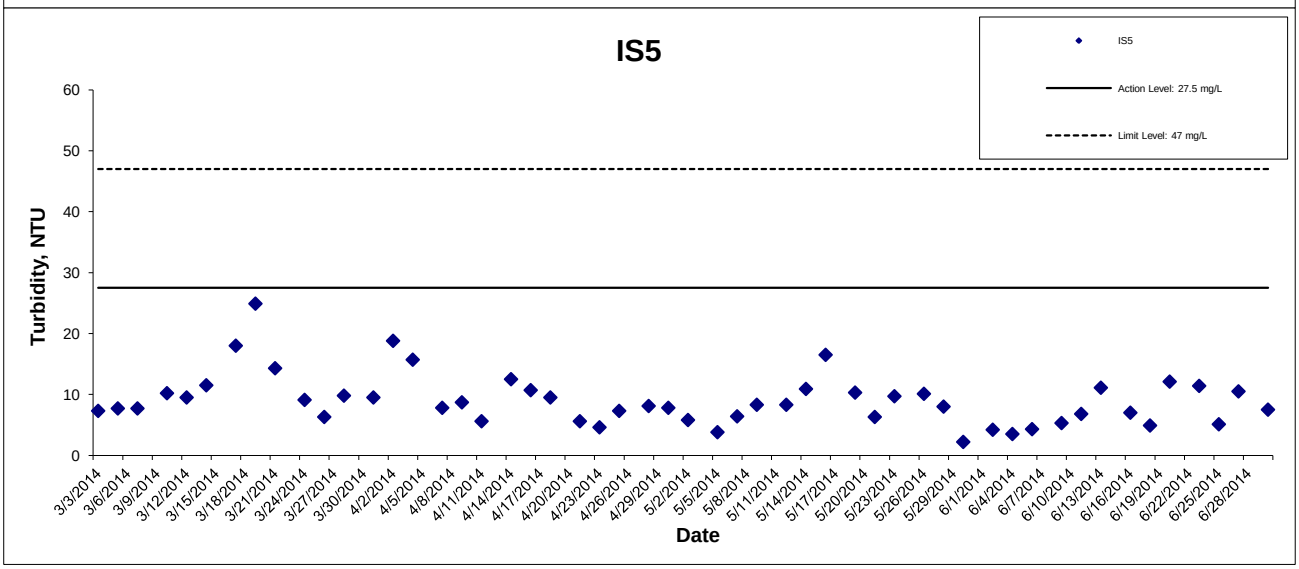




Turbidity at Mid-Ebb Tide







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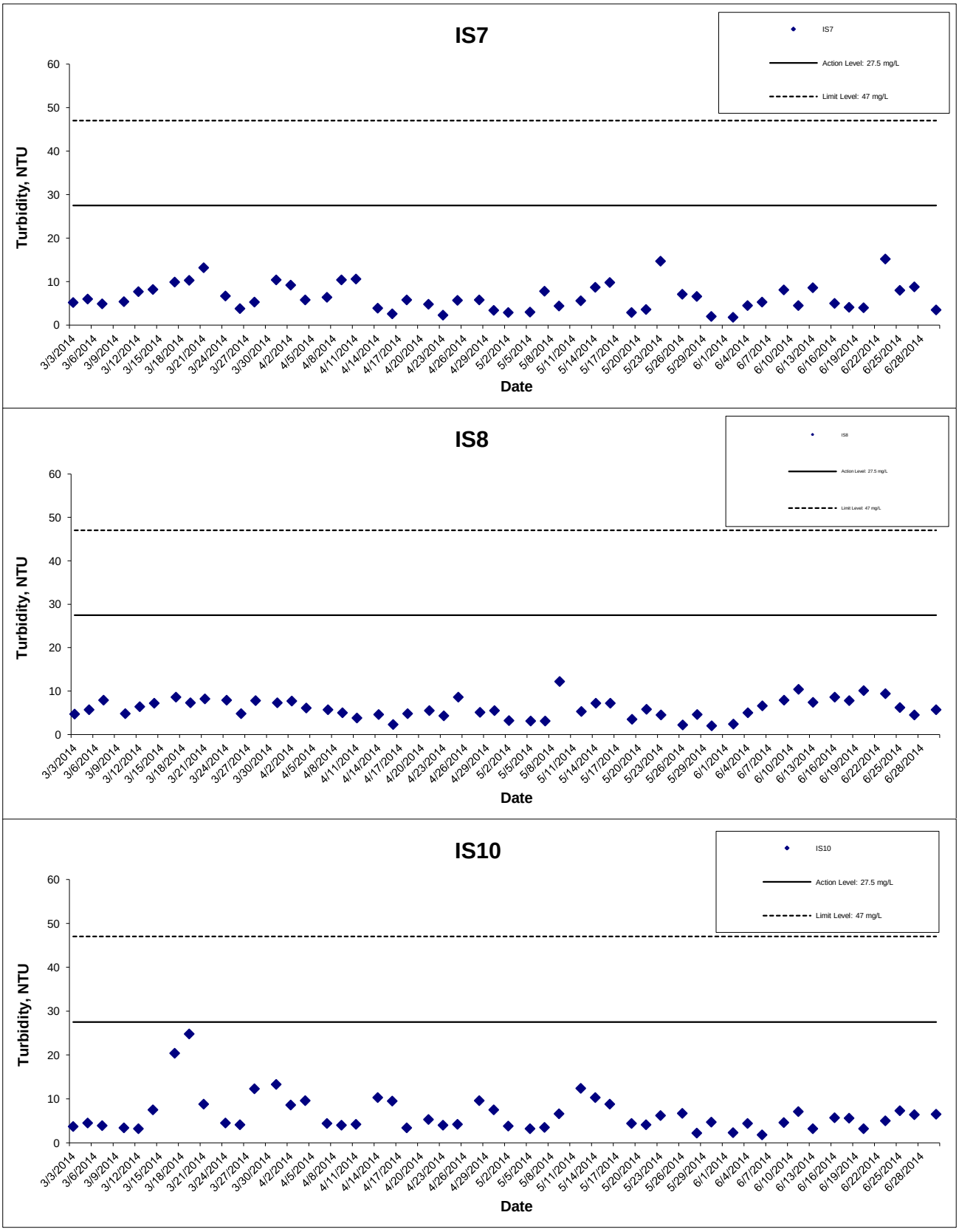

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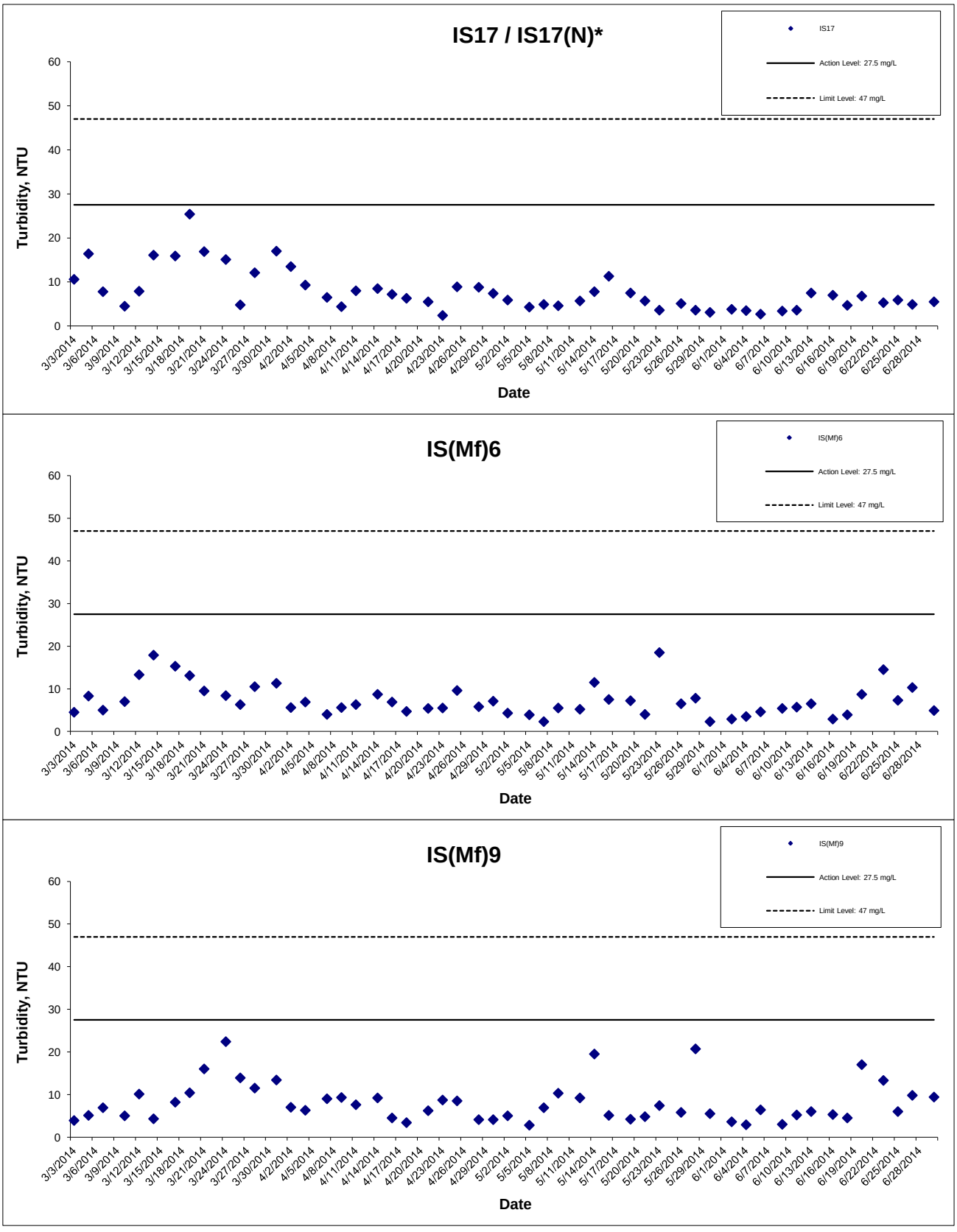
Turbidity at Mid-Ebb Tide



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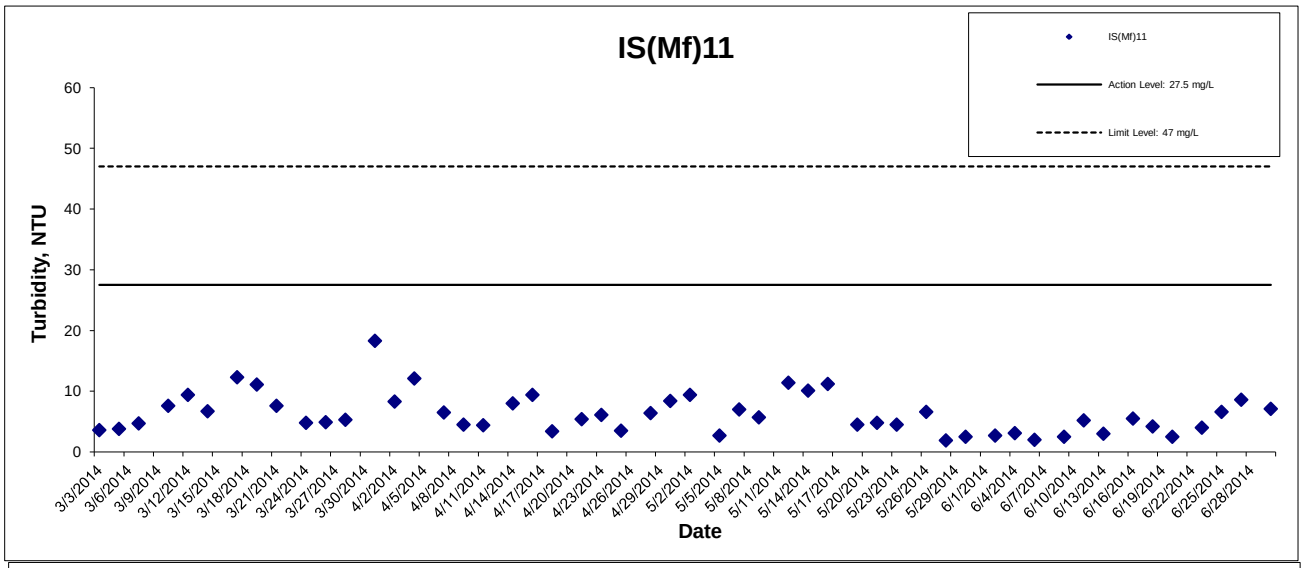

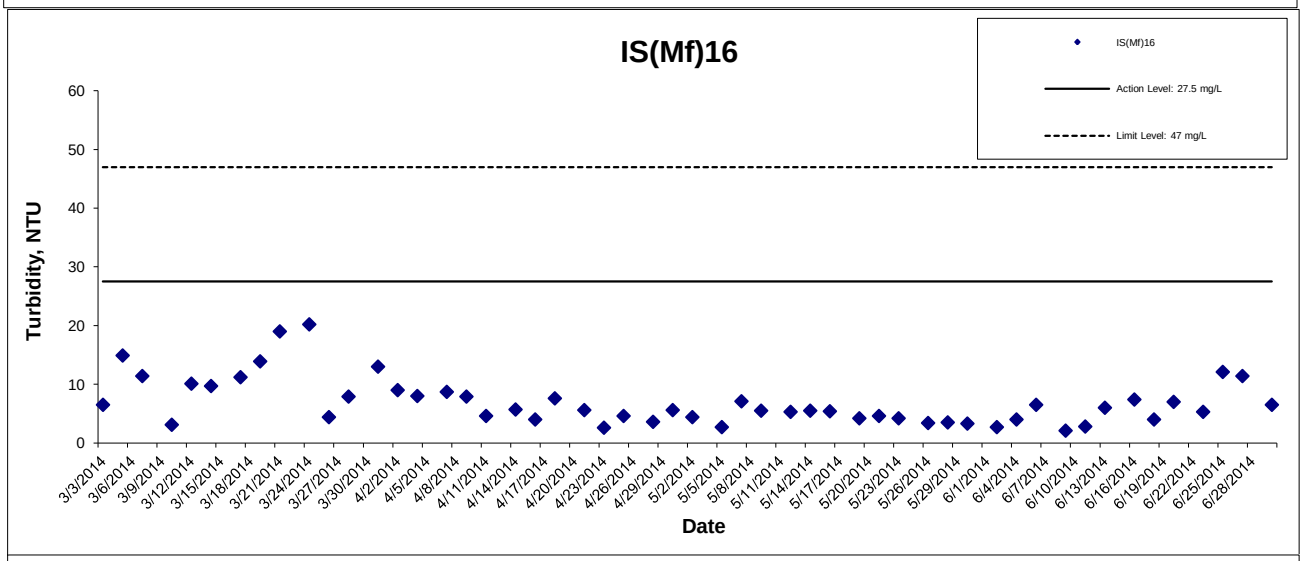

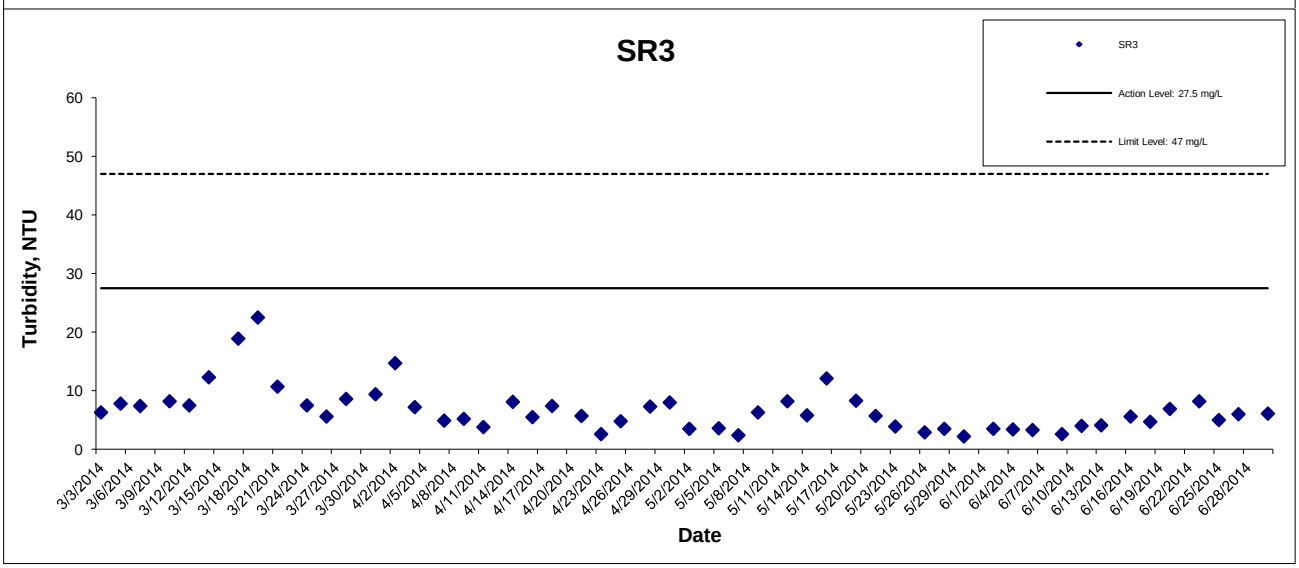

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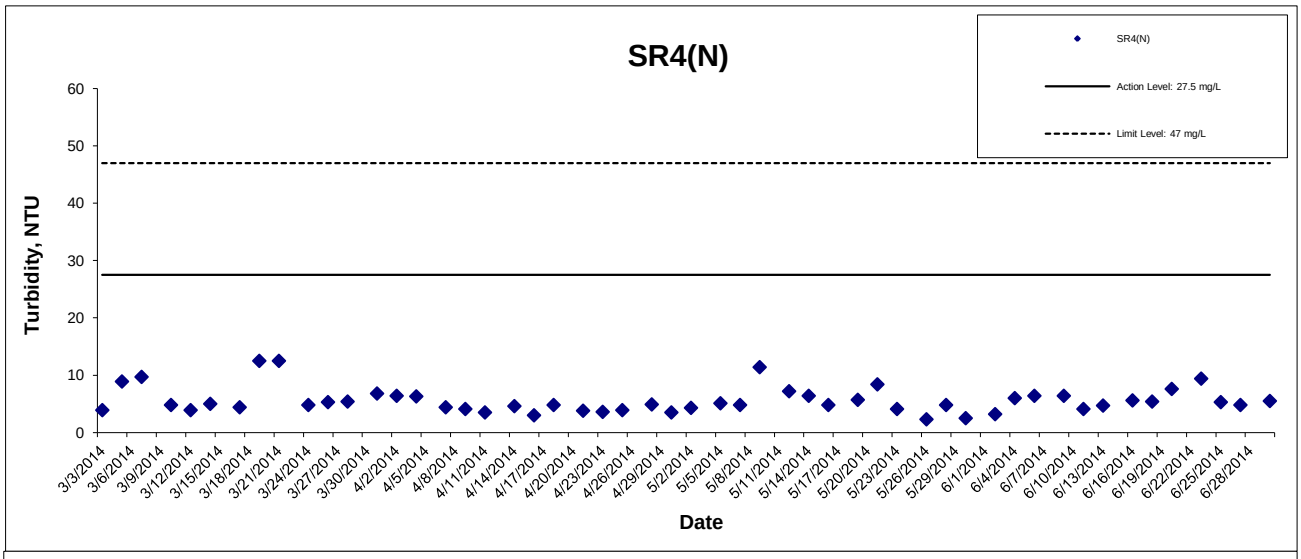

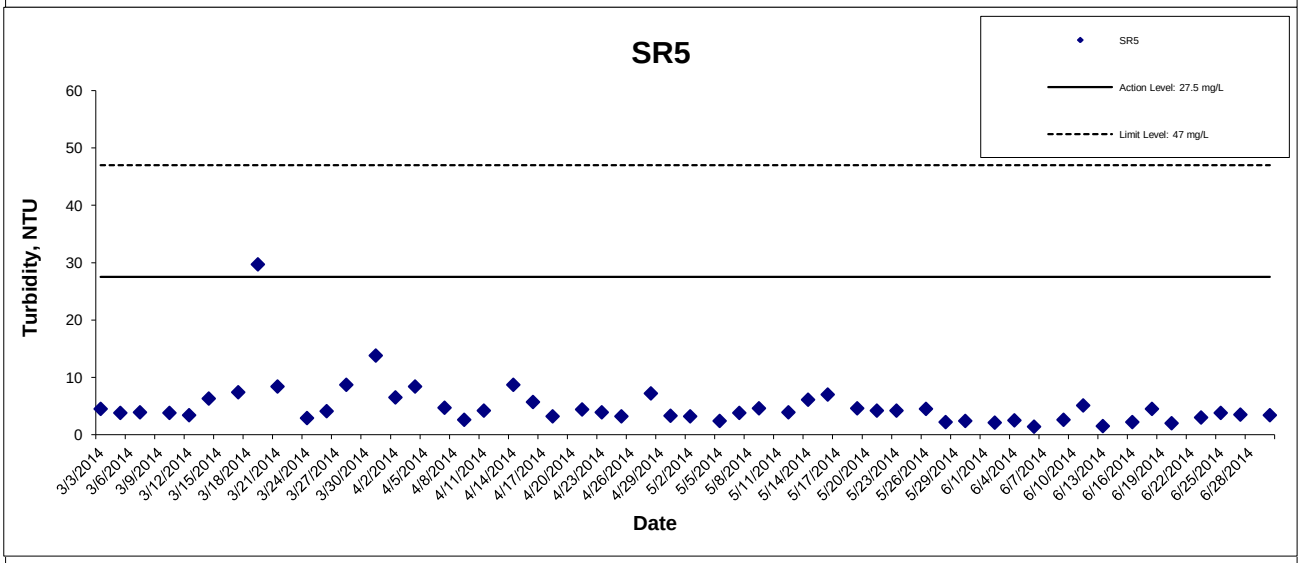

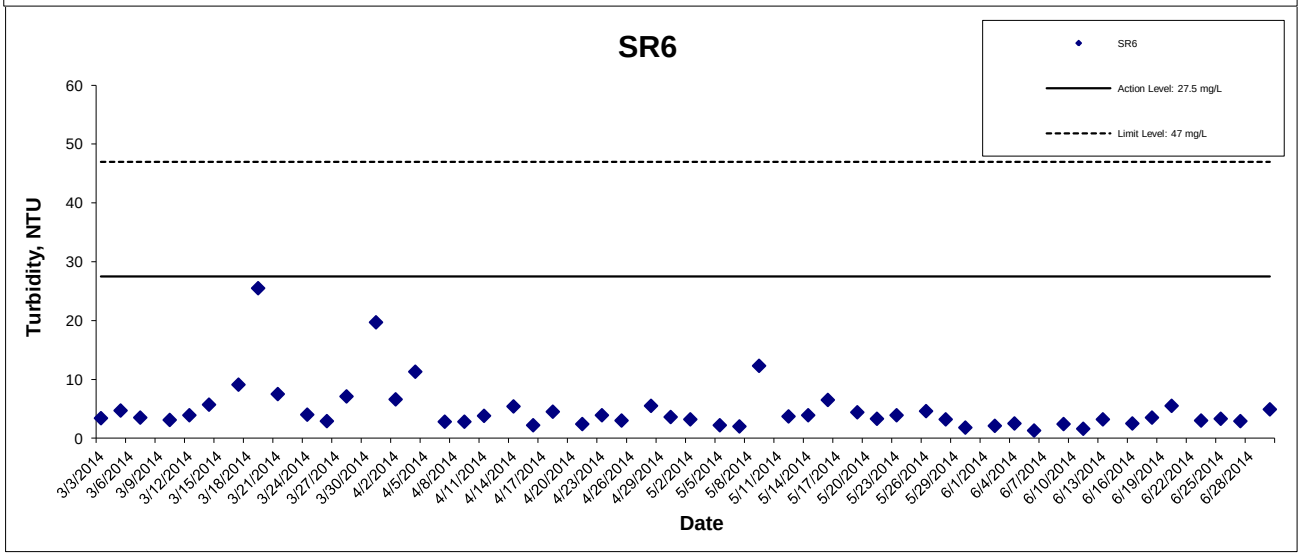

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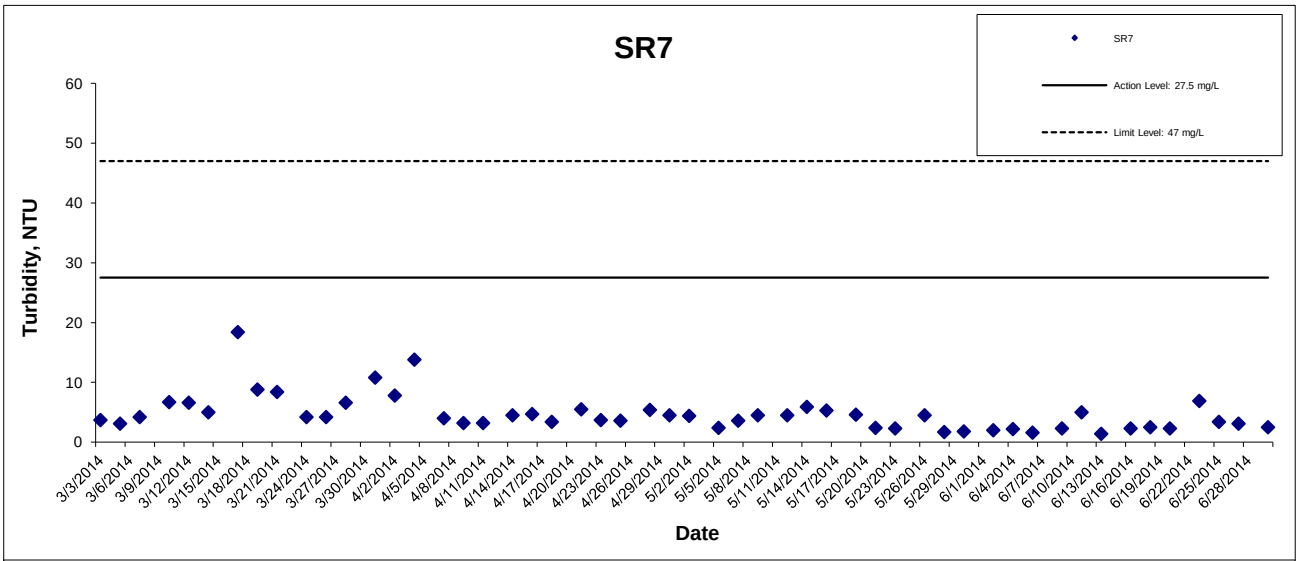
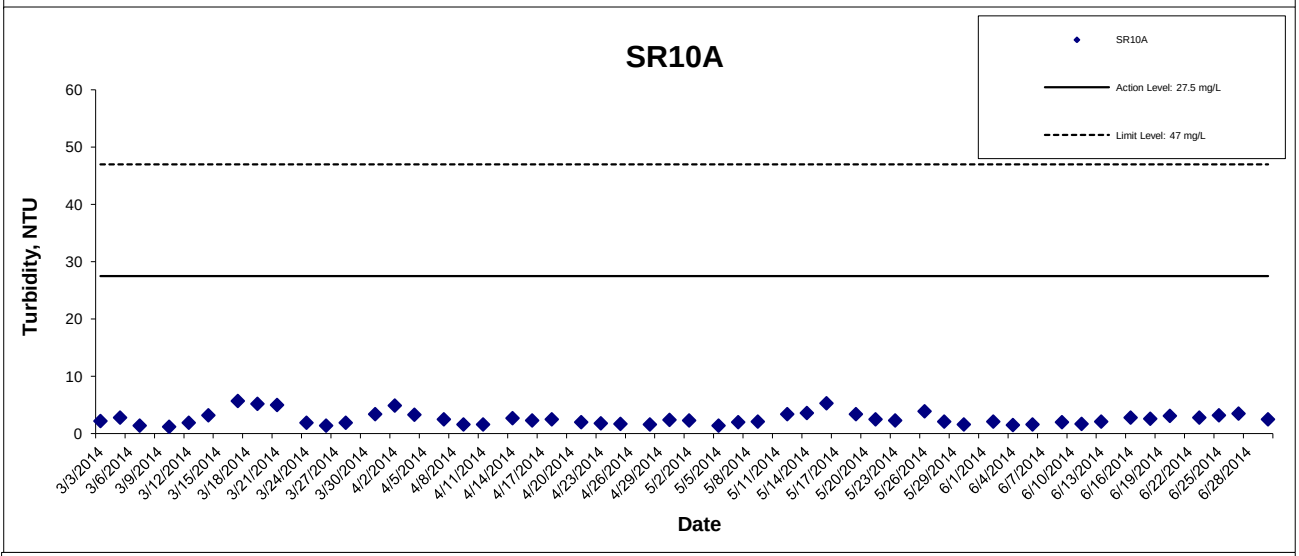
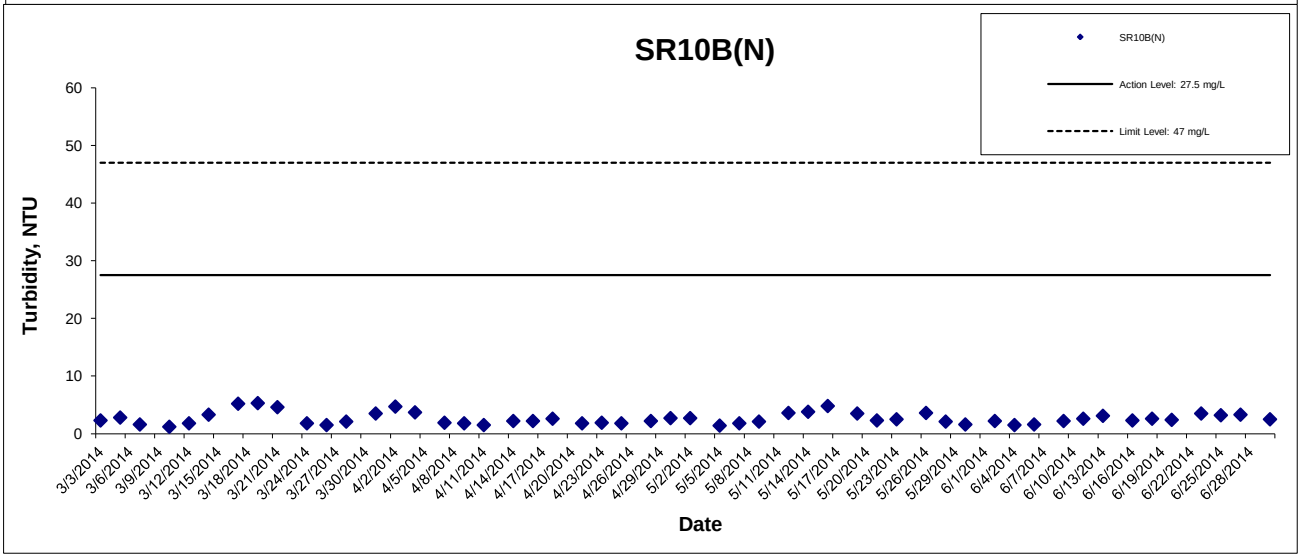
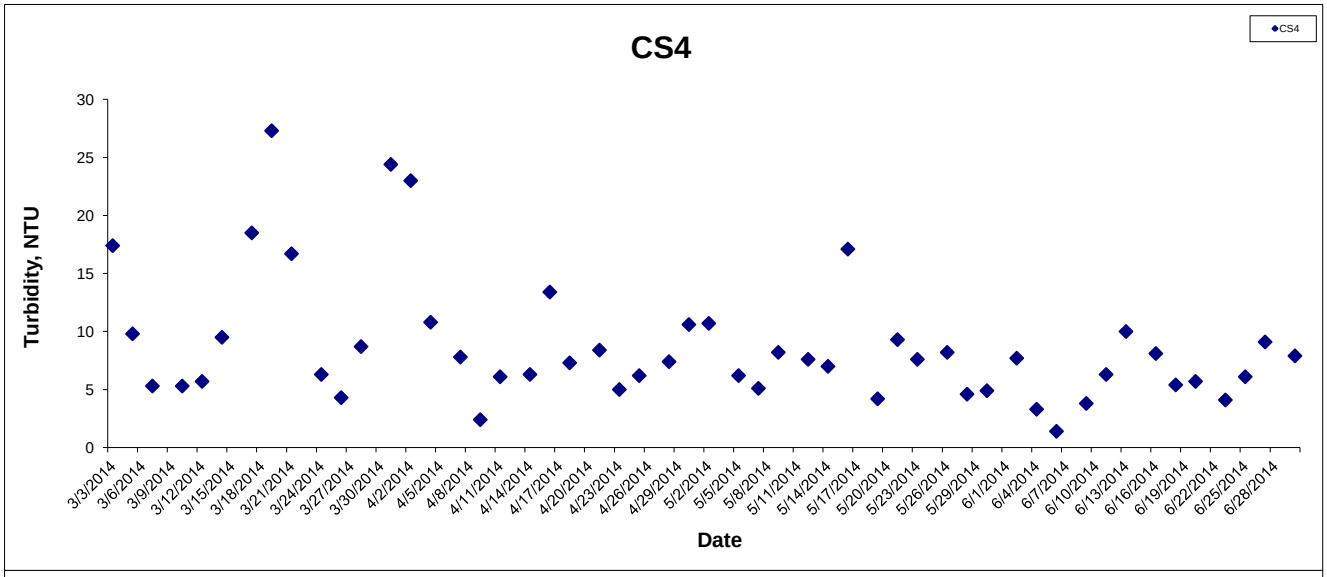
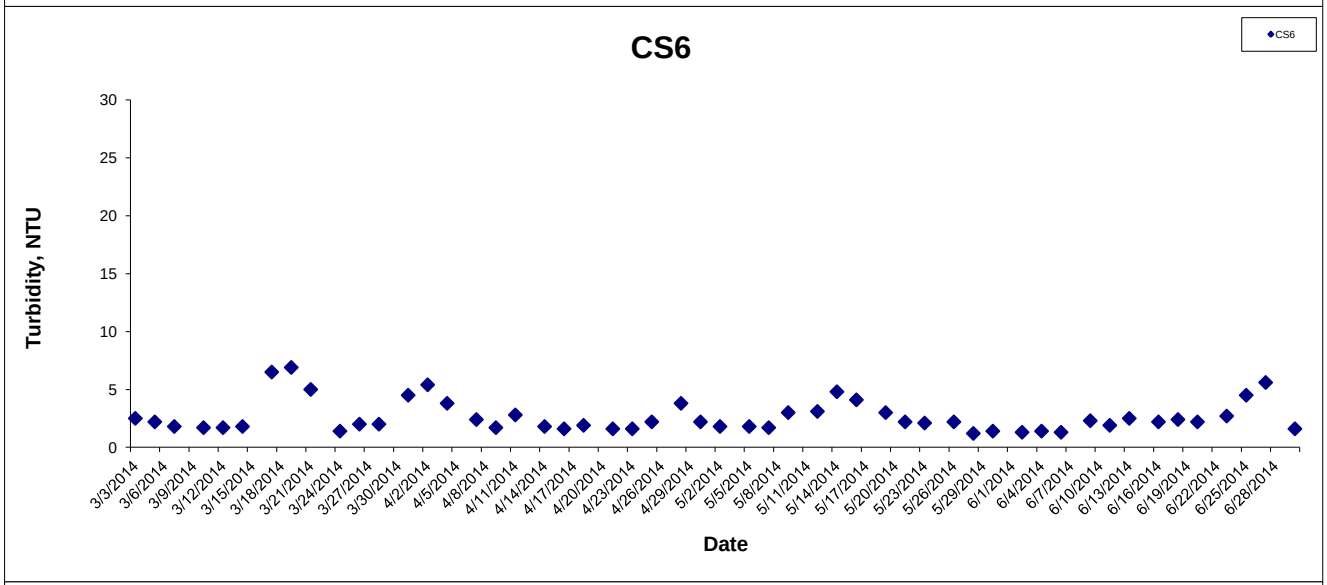


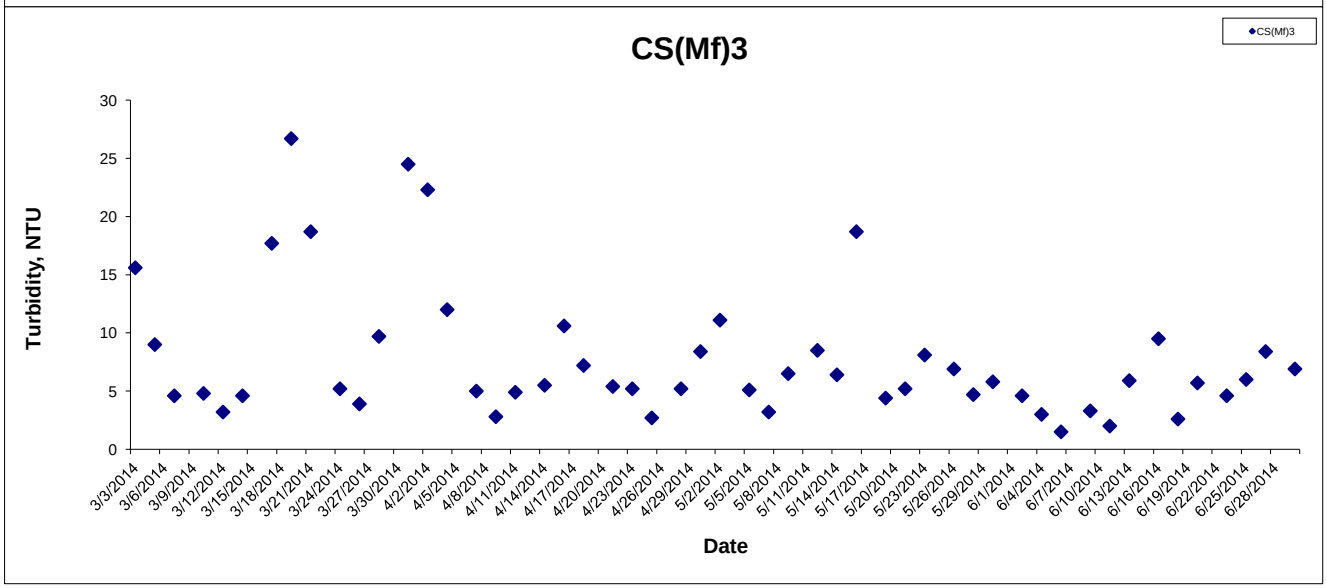




Turbidity at Mid-Flood Tide







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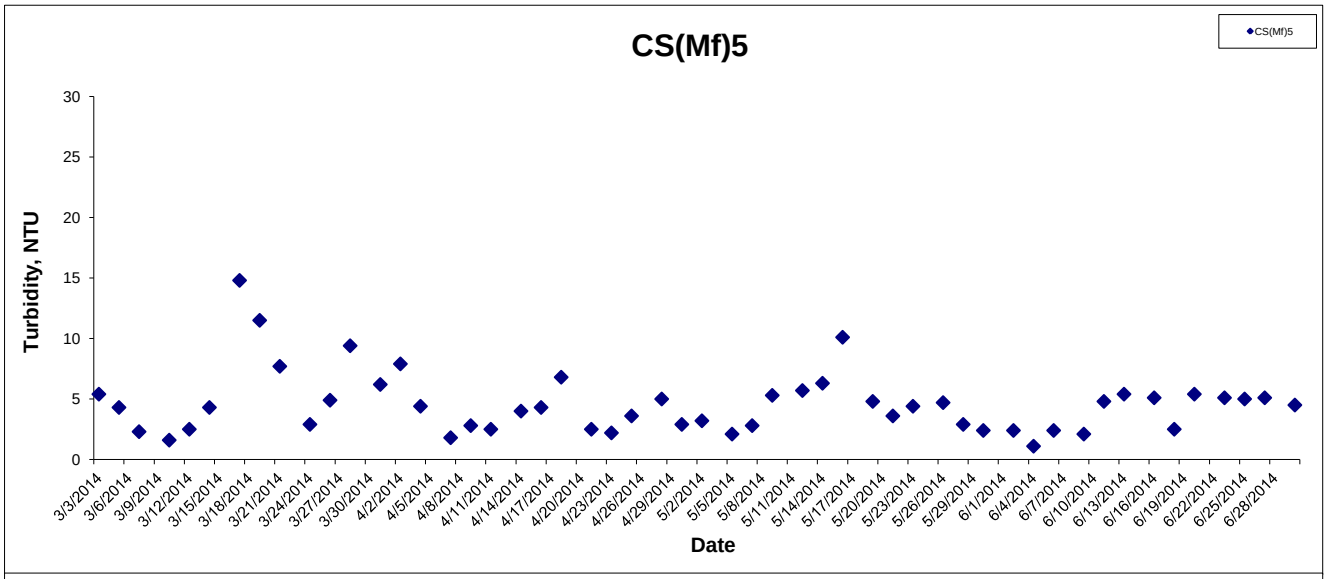

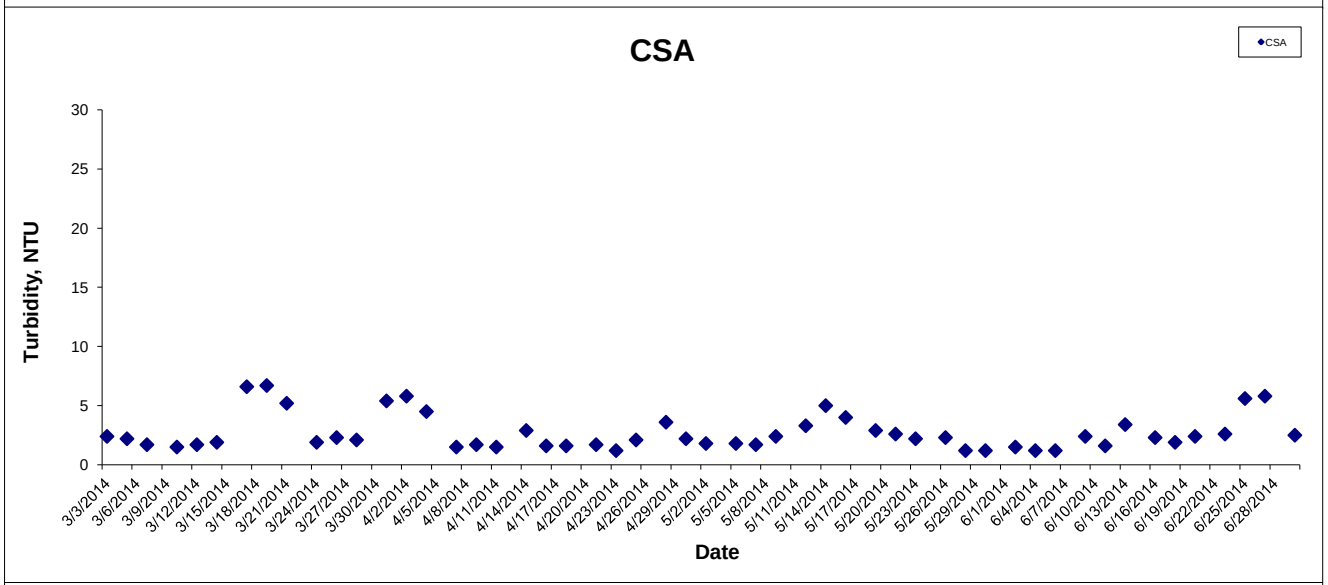

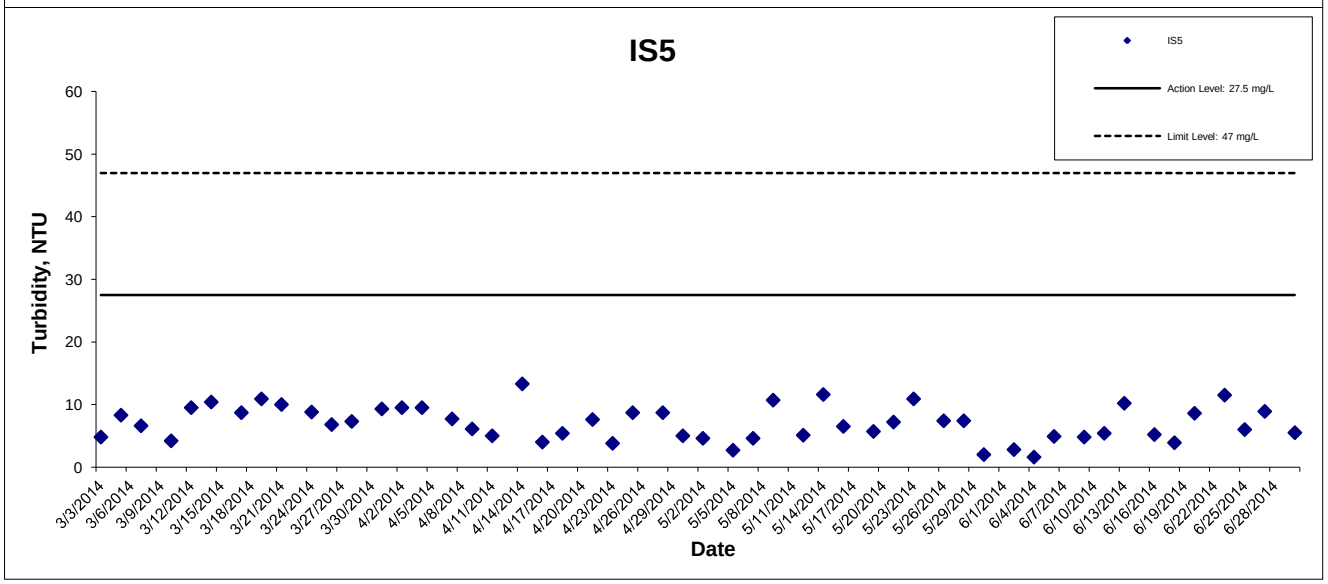

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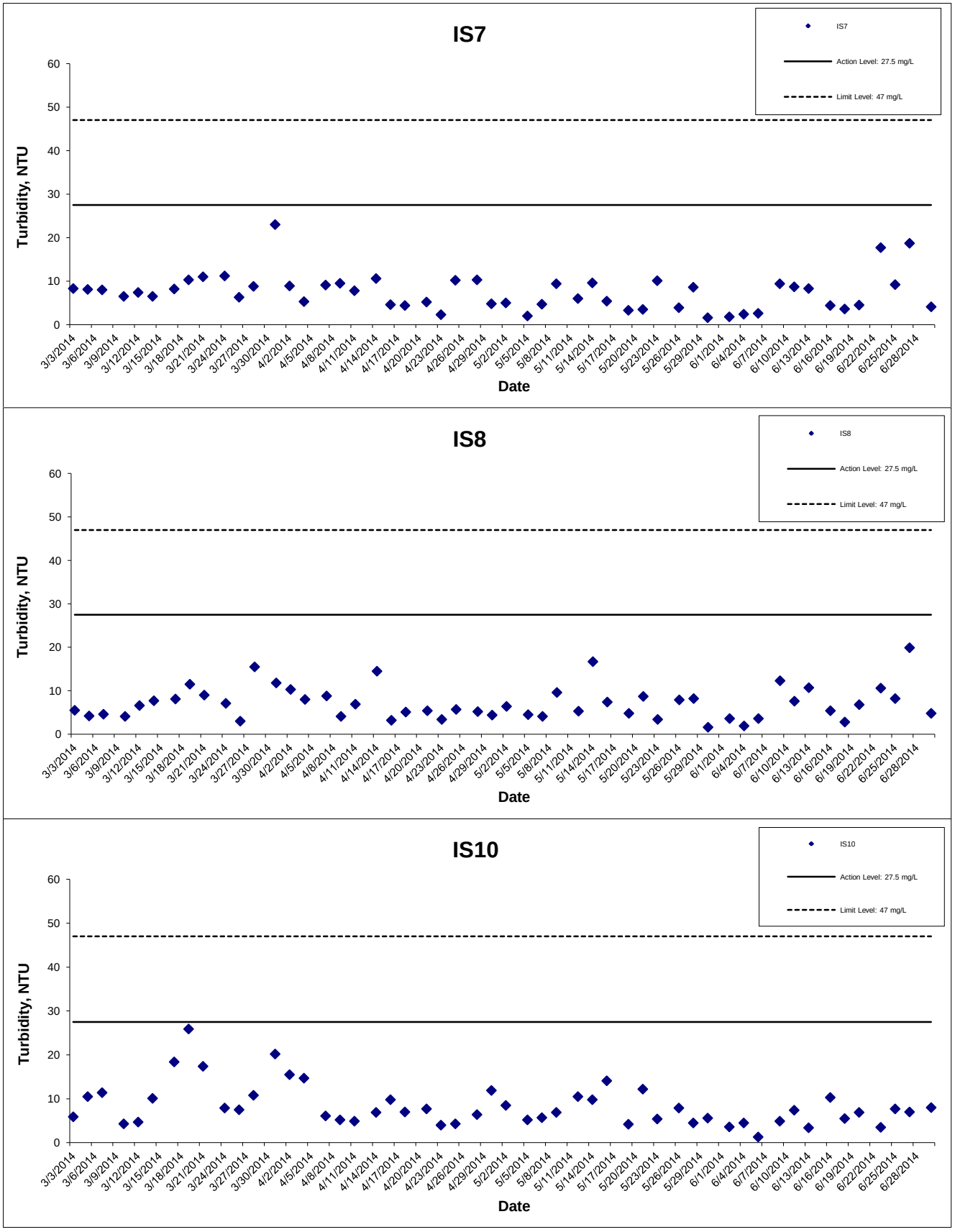

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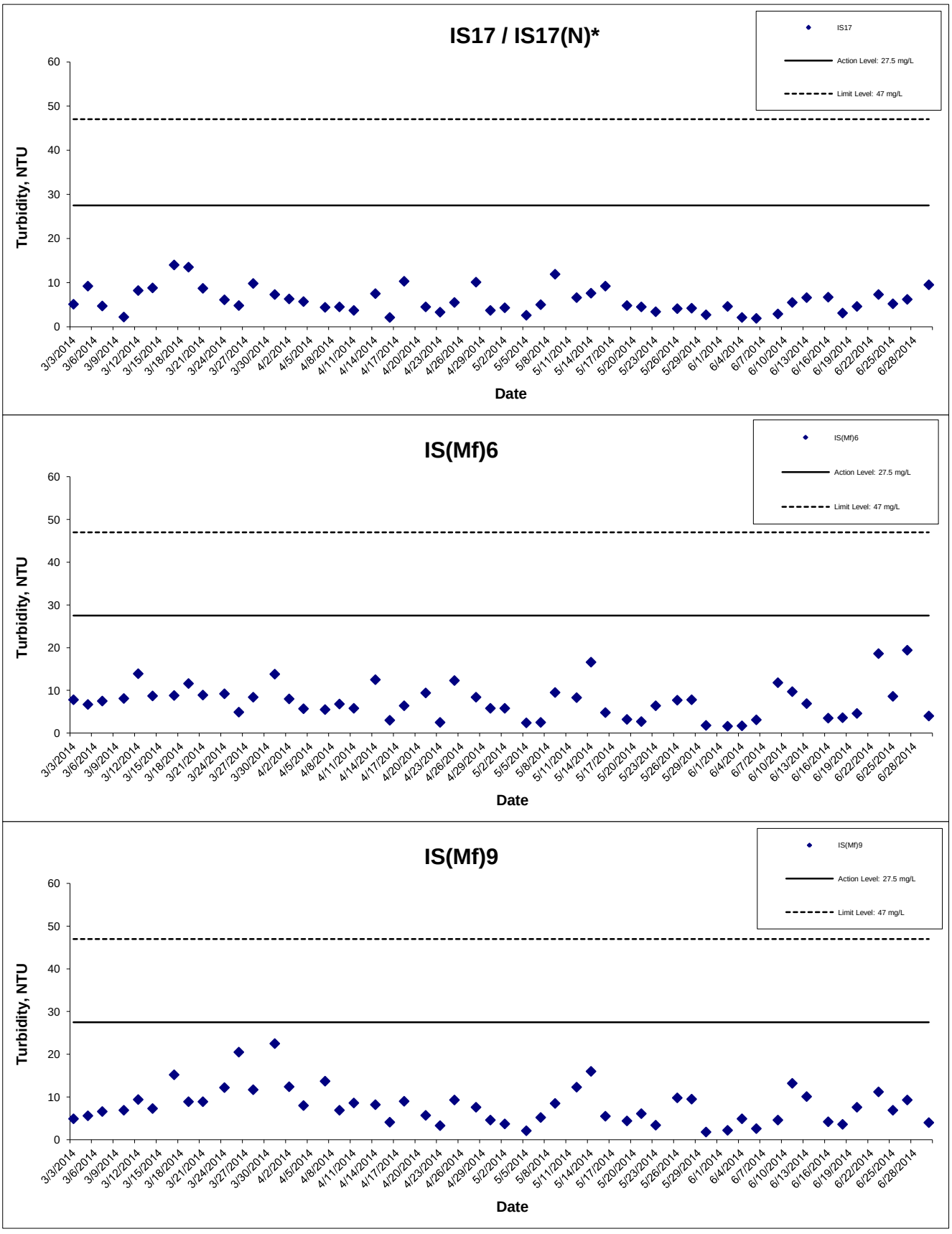
Turbidity at Mid-Flood Tide



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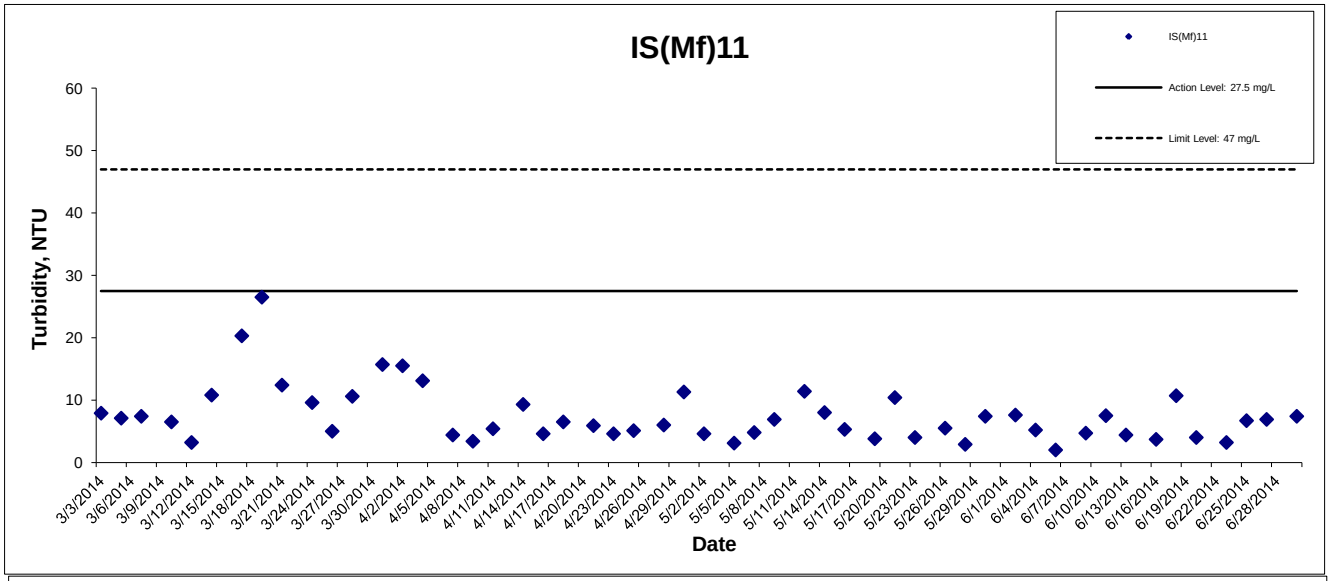
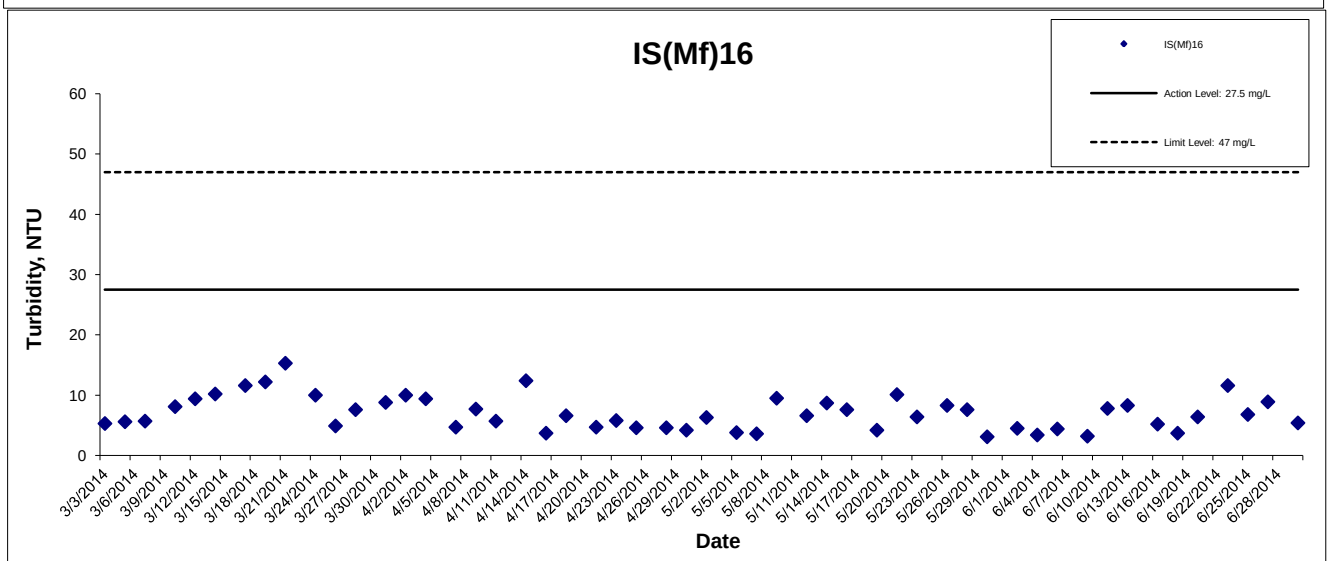
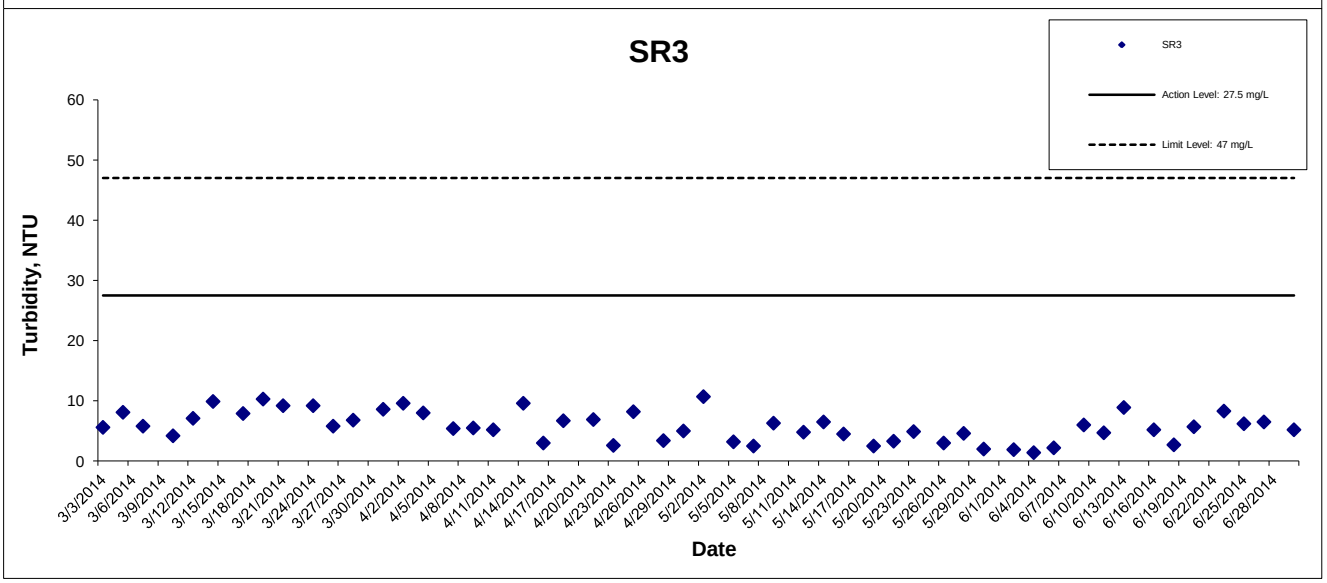
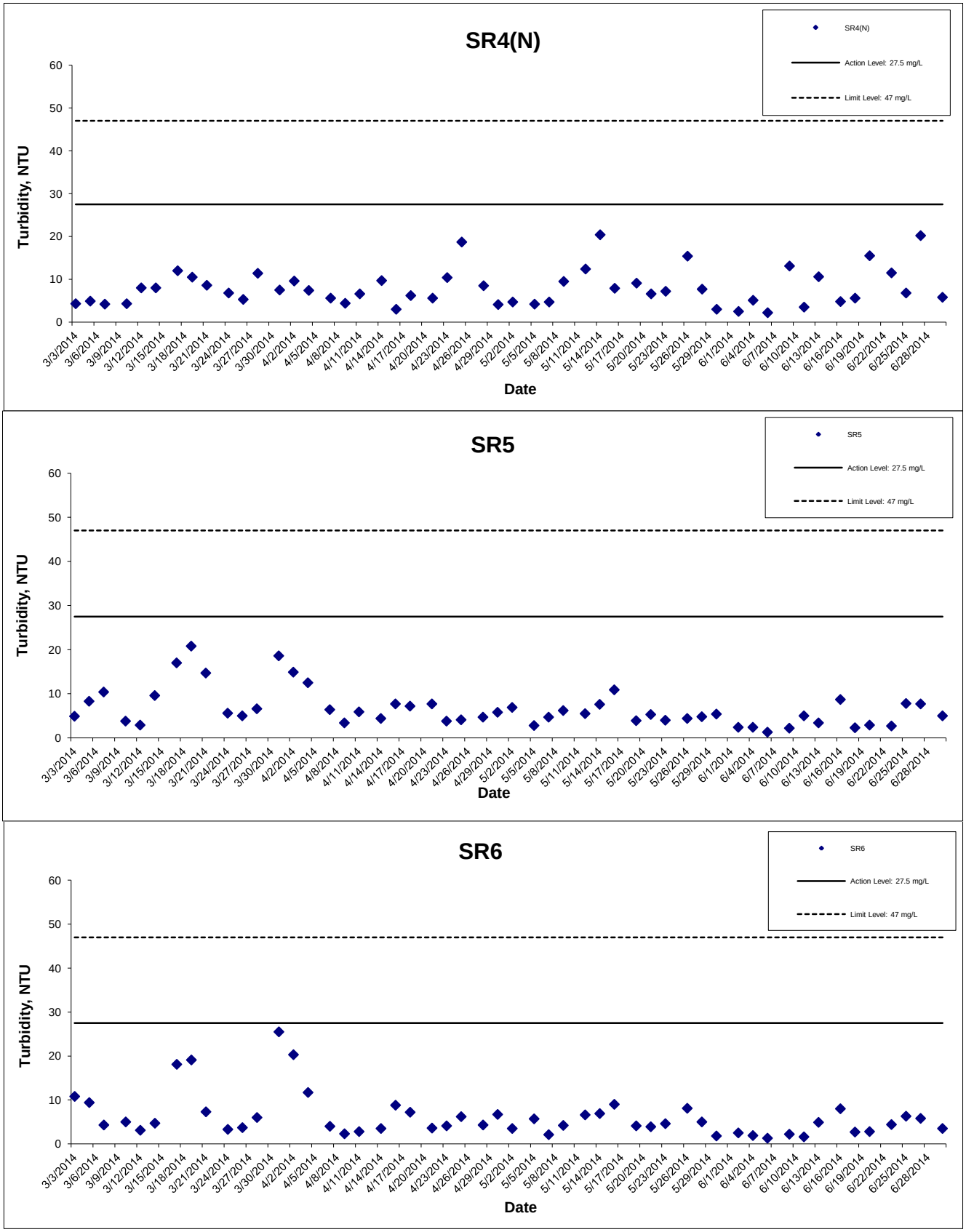


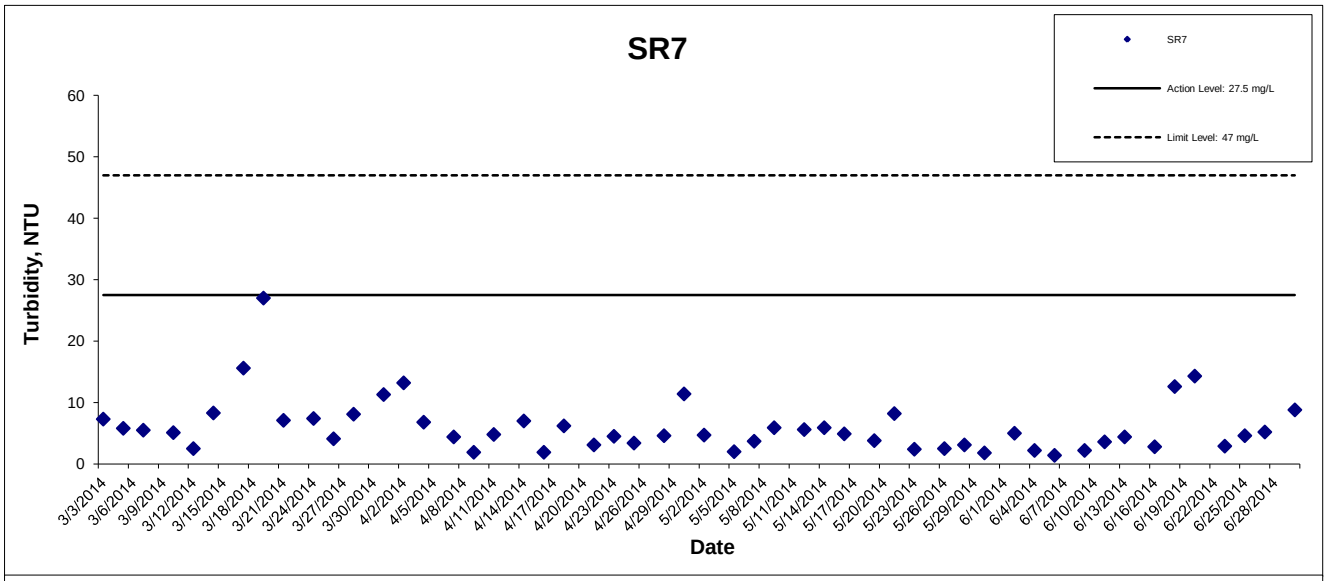


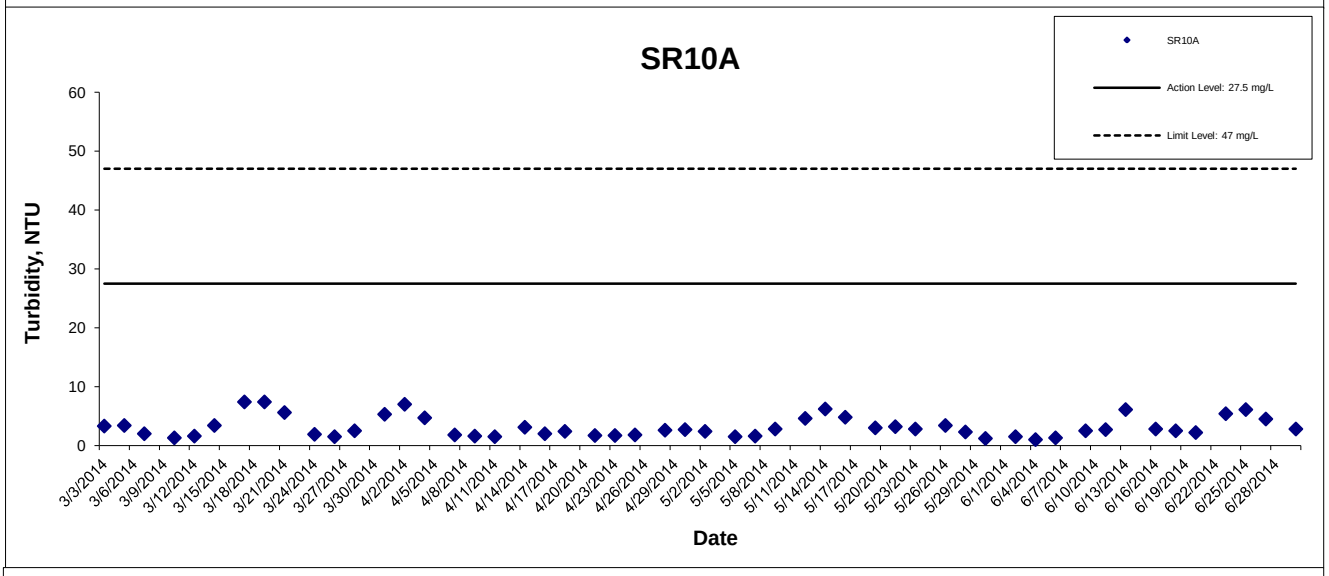


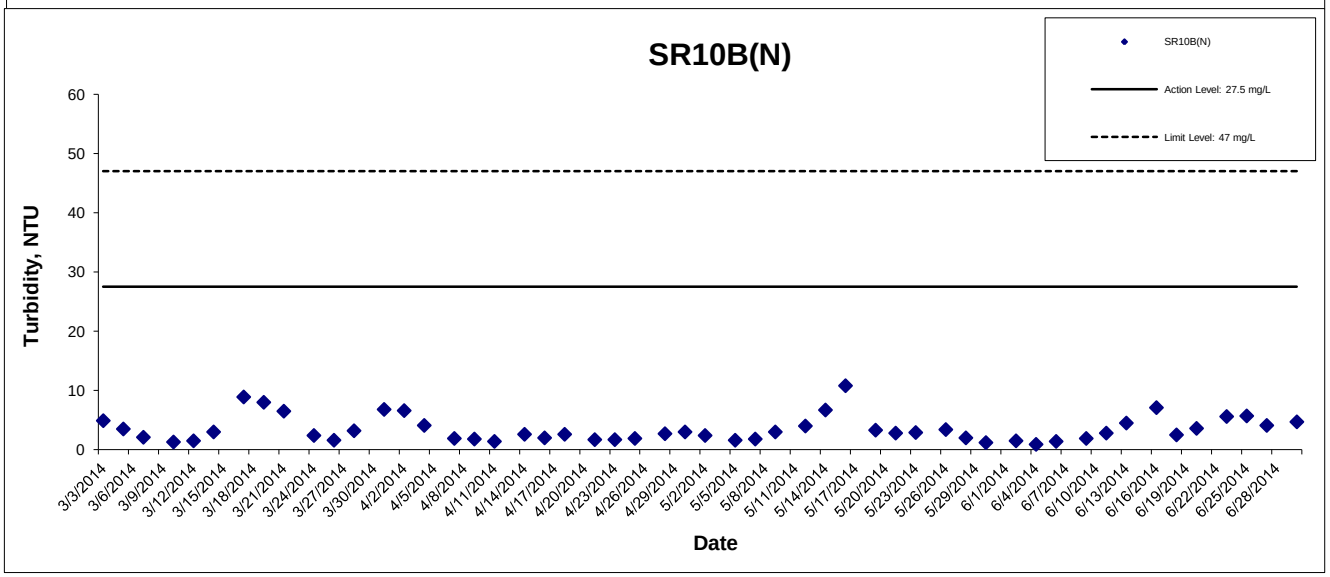
Turbidity at Mid-Flood Tide



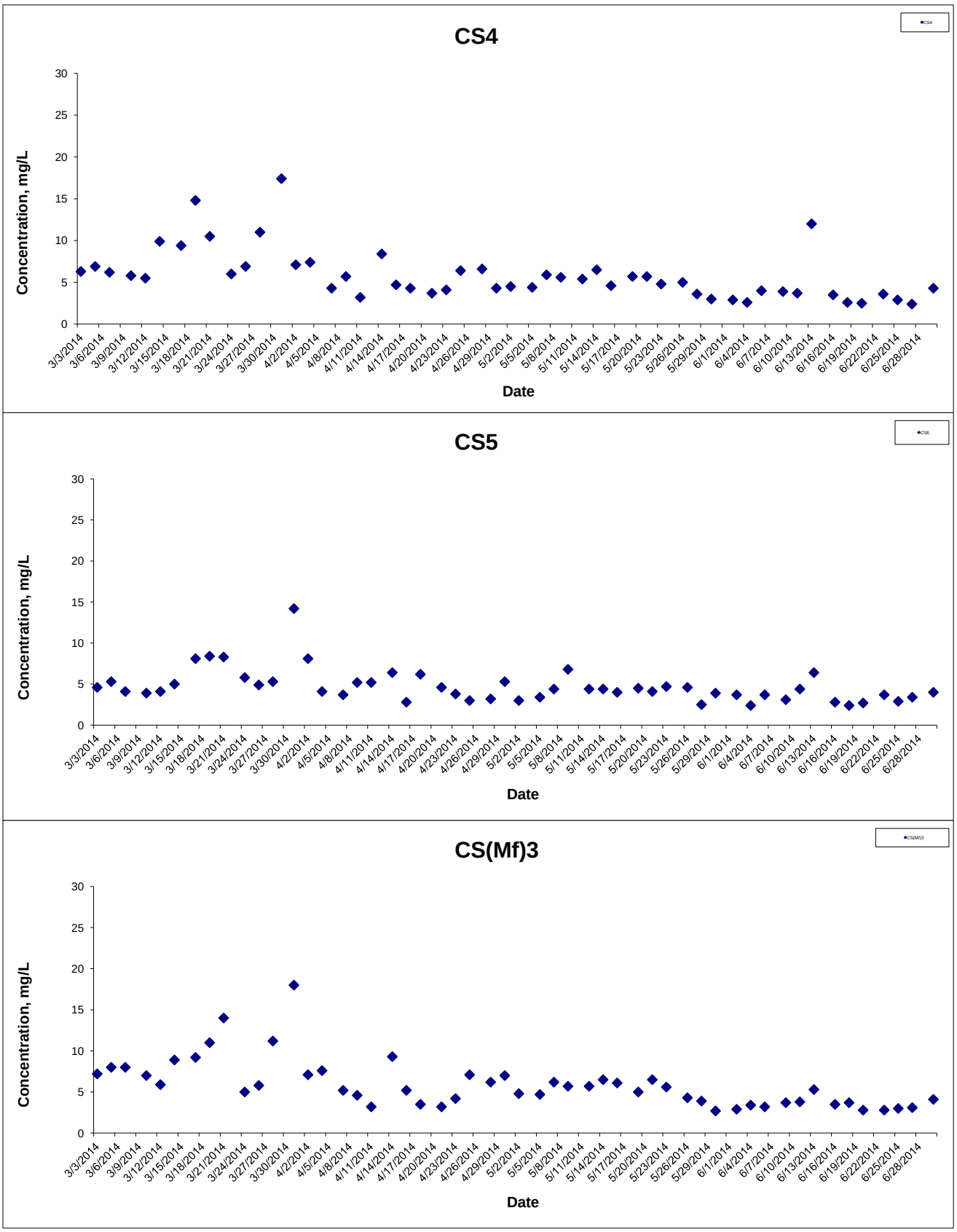
Turbidity at Mid-Flood Tide







Suspended Solids at Mid-Ebb Tide



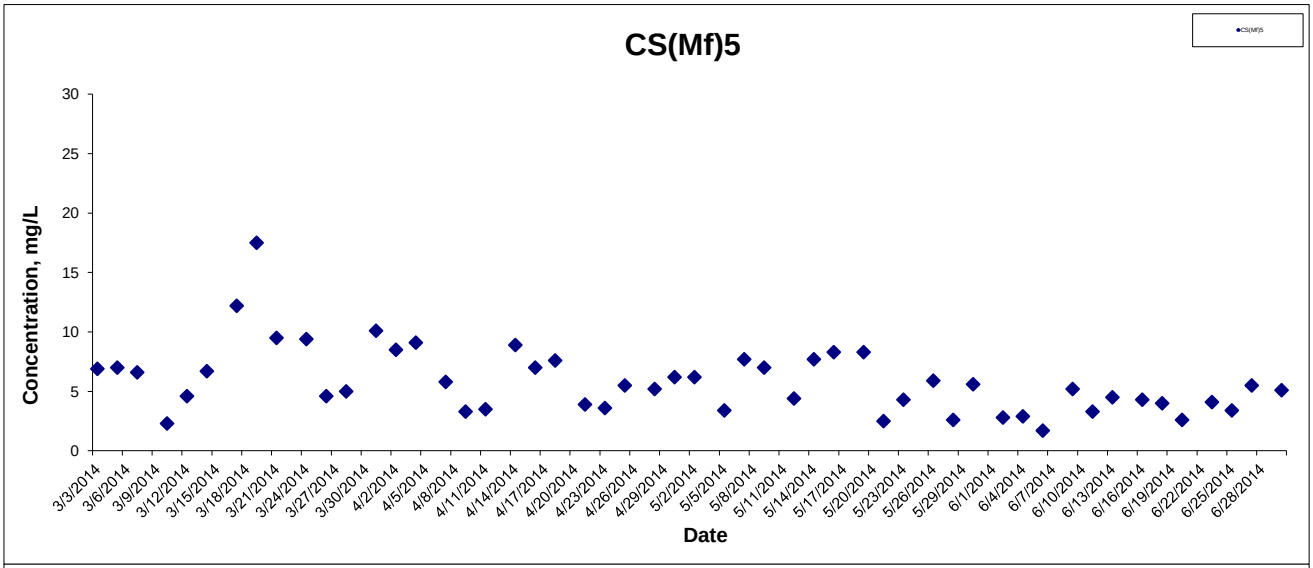
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

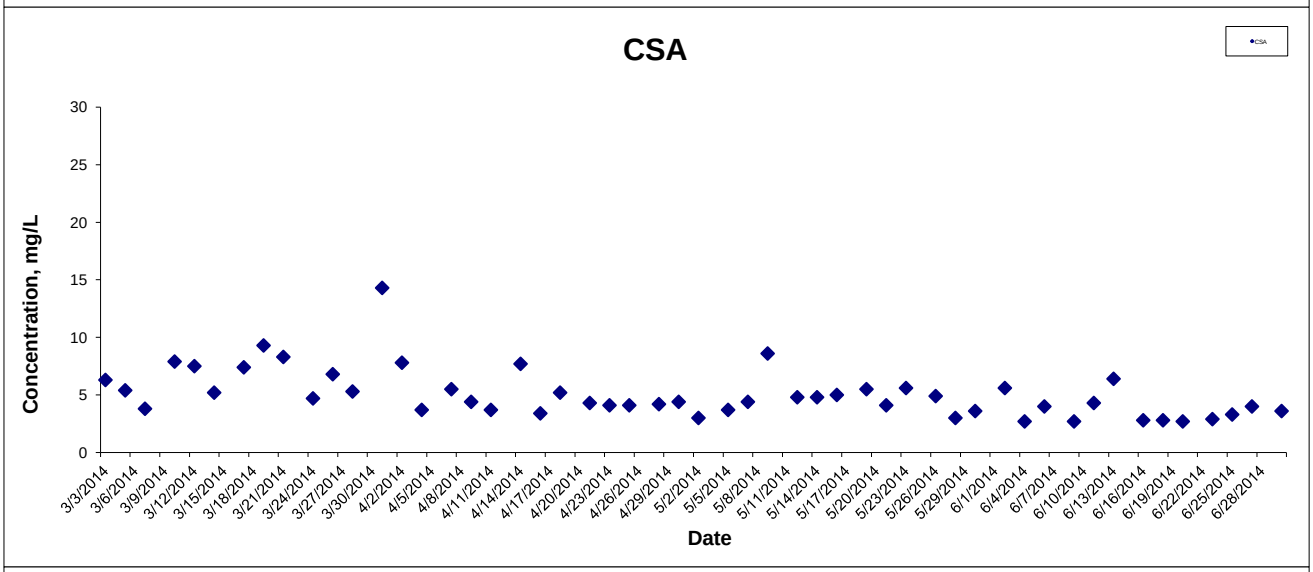
Graphical Presentation of Impact Water Quality Monitoring Results

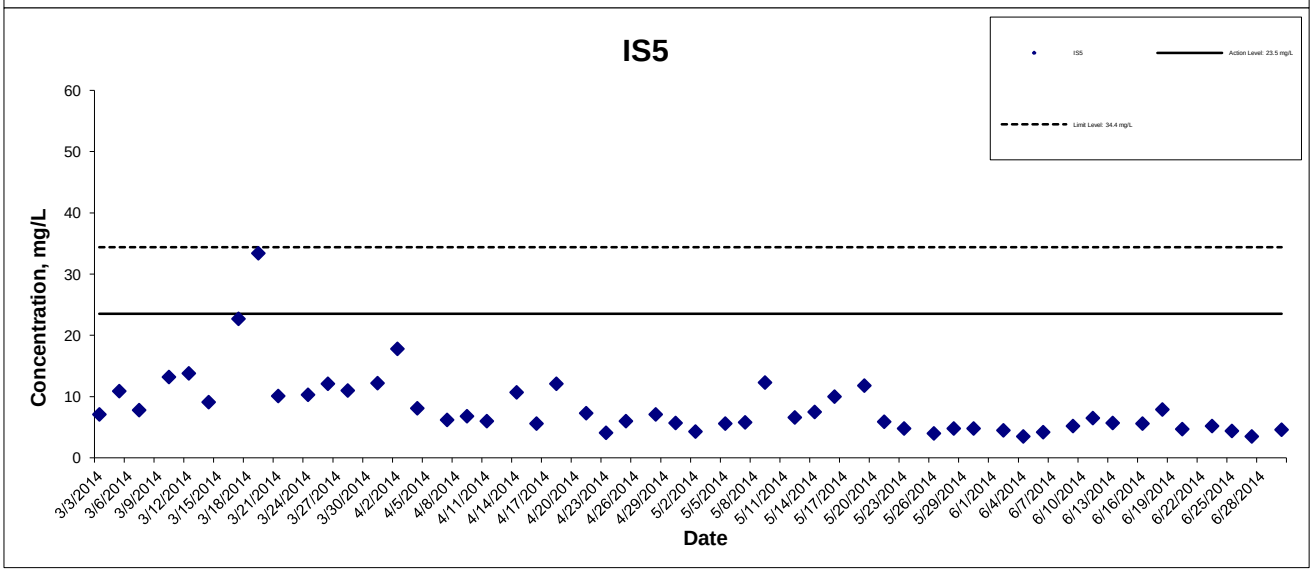
Project No.: 60249820 **Date: July 2014**

Appendix J

Suspended Solids at Mid-Ebb Tide







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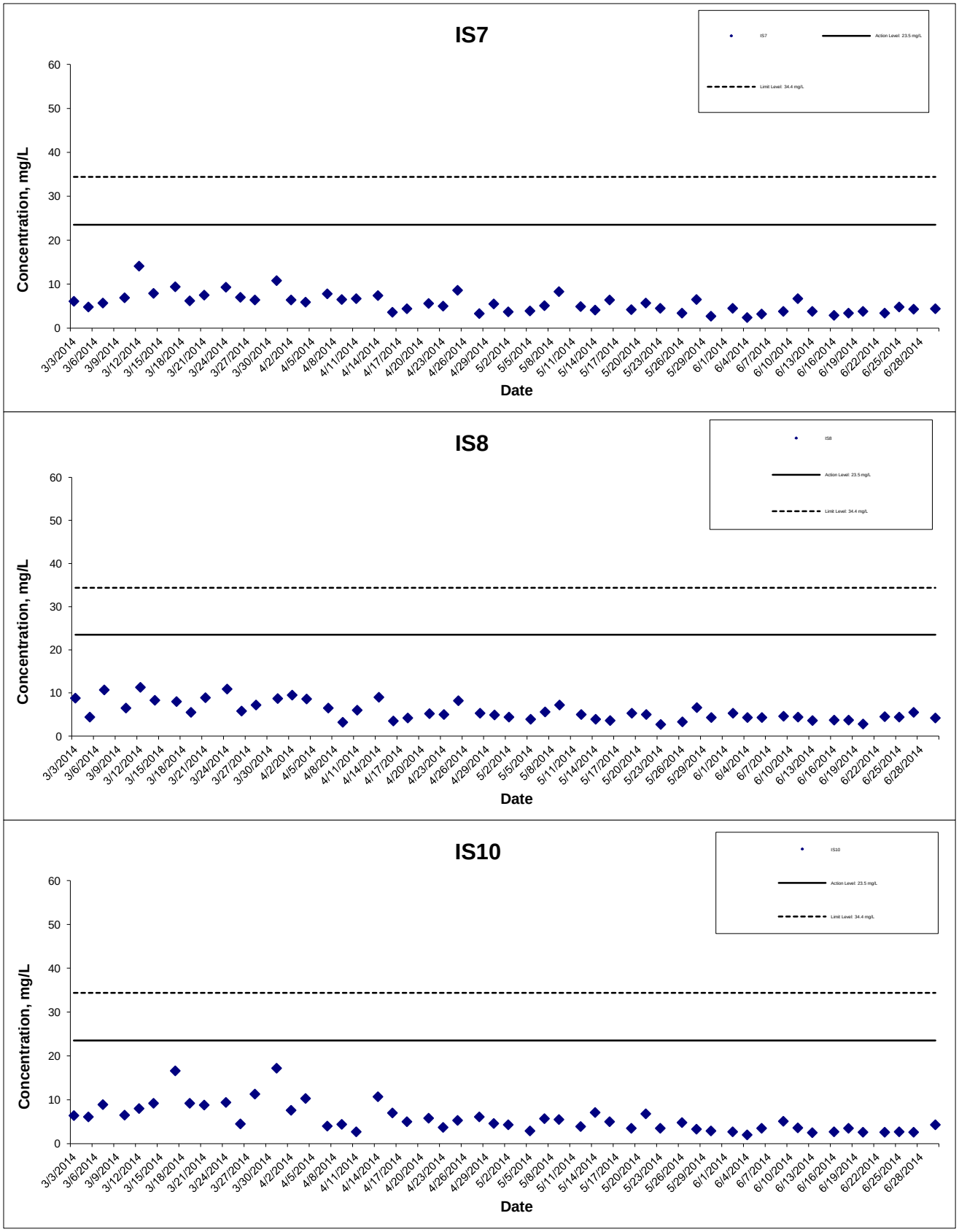

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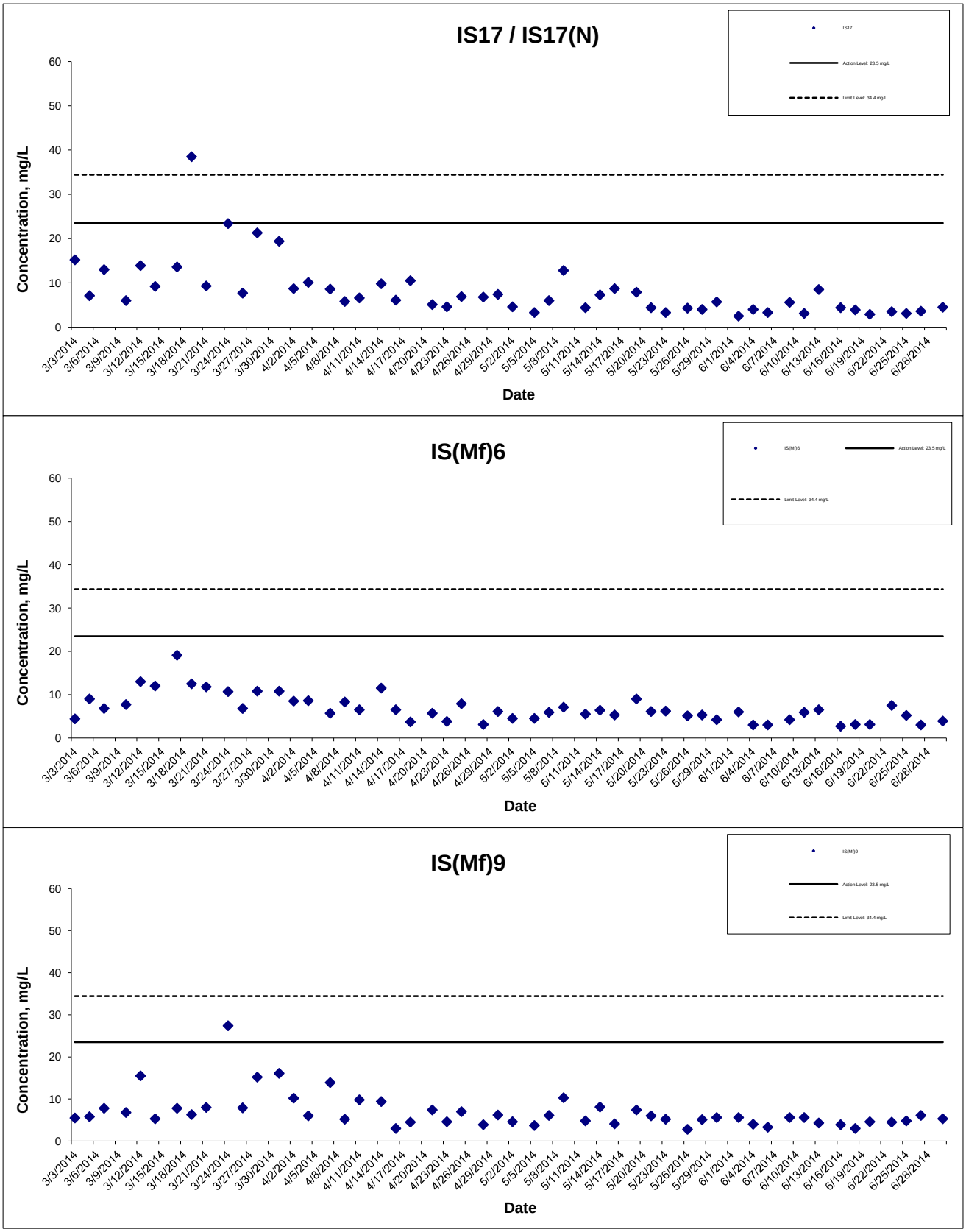

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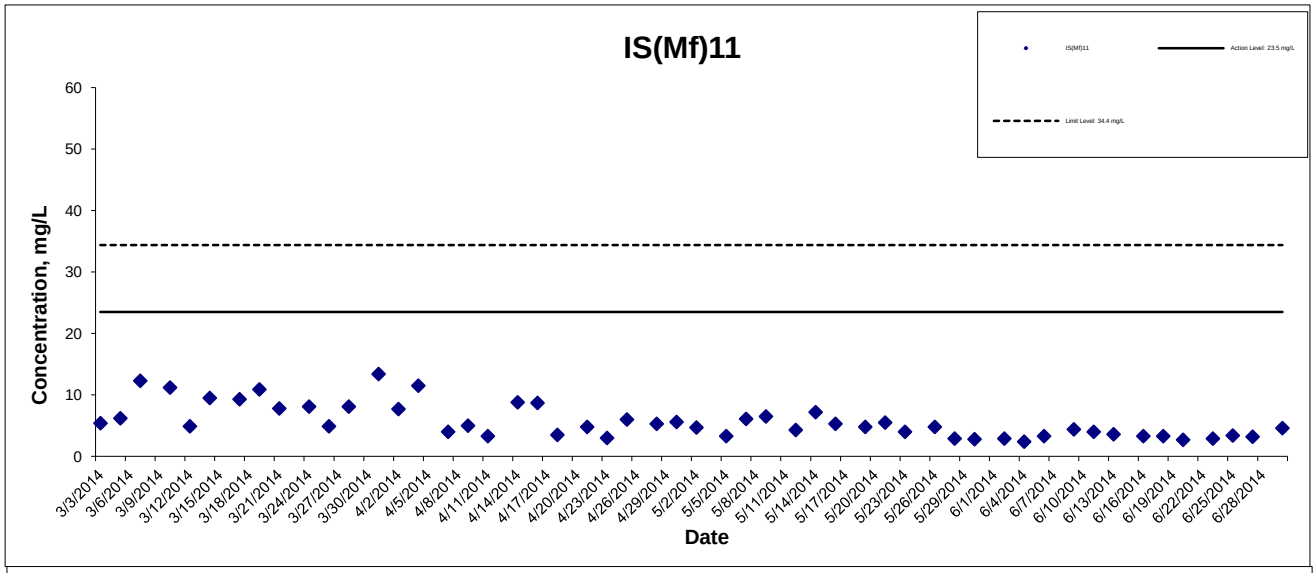

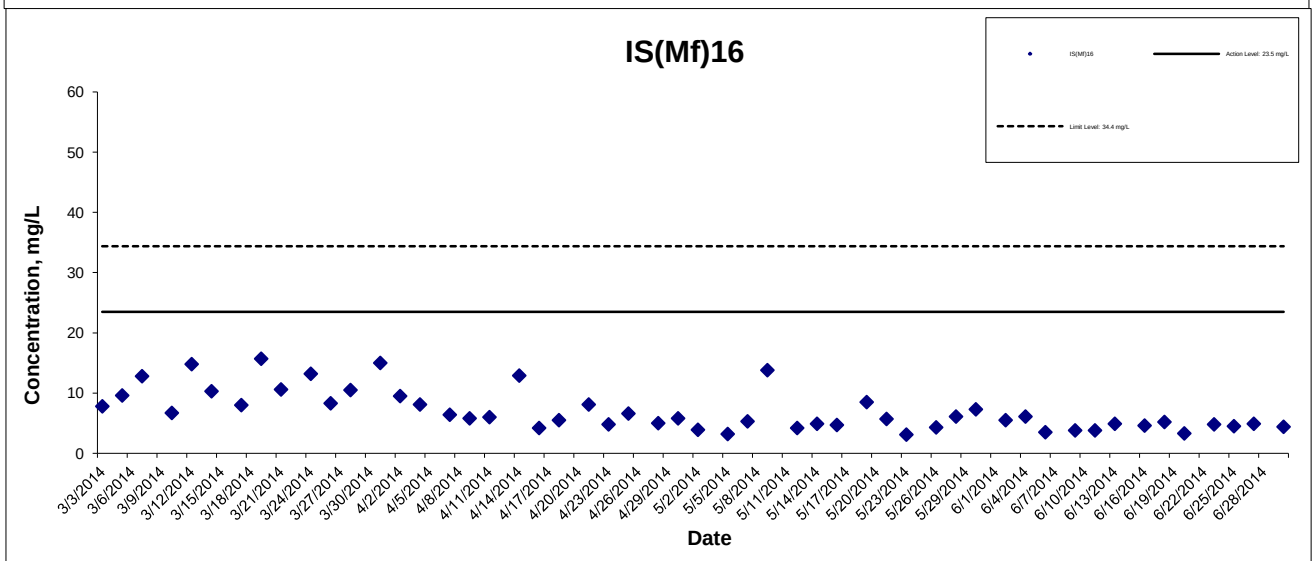

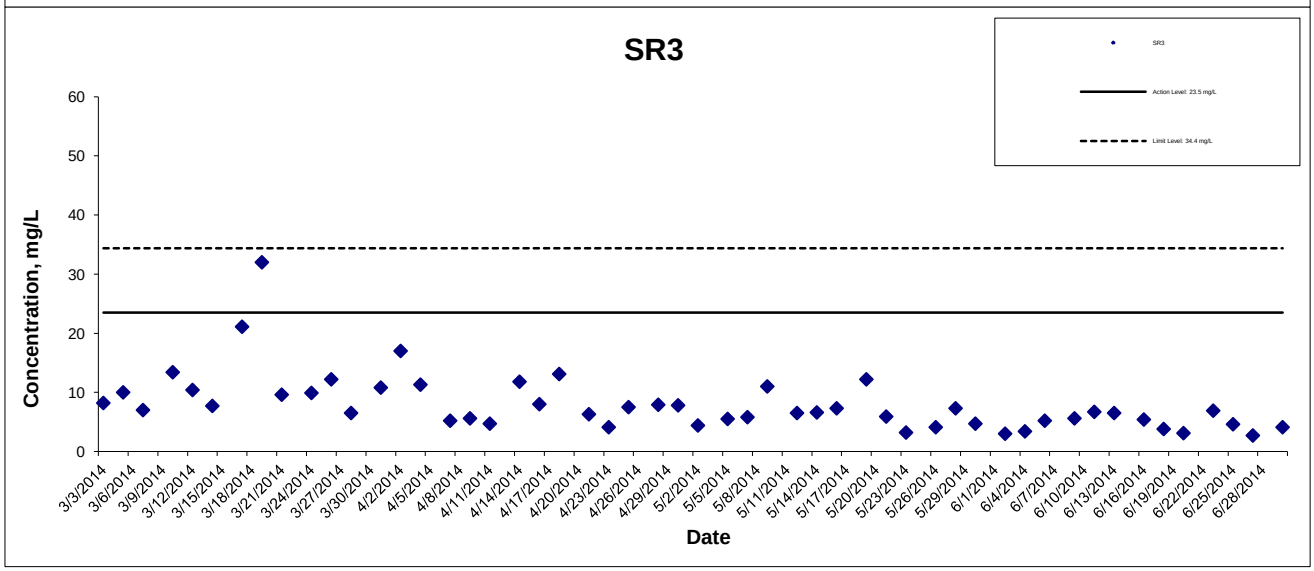

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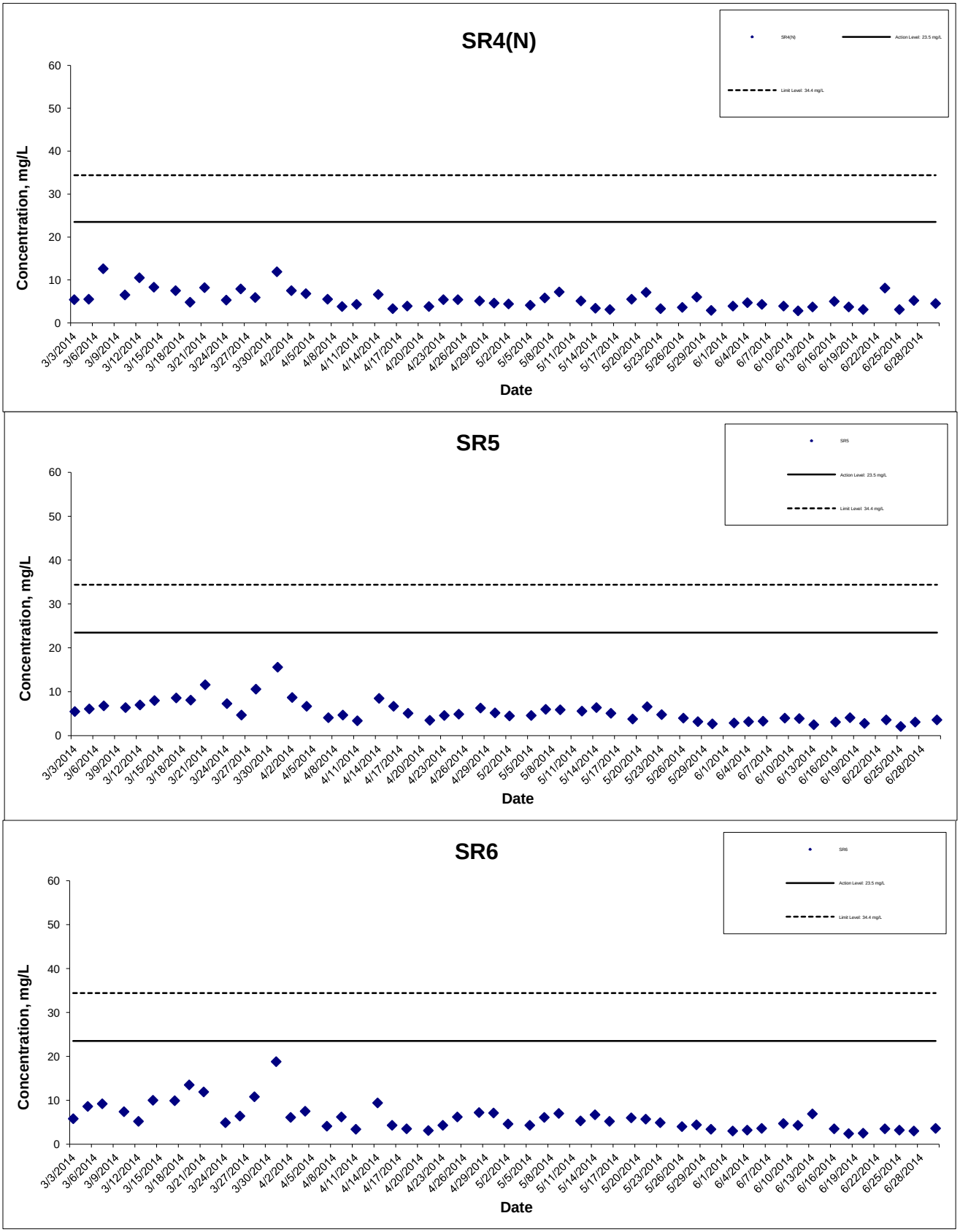

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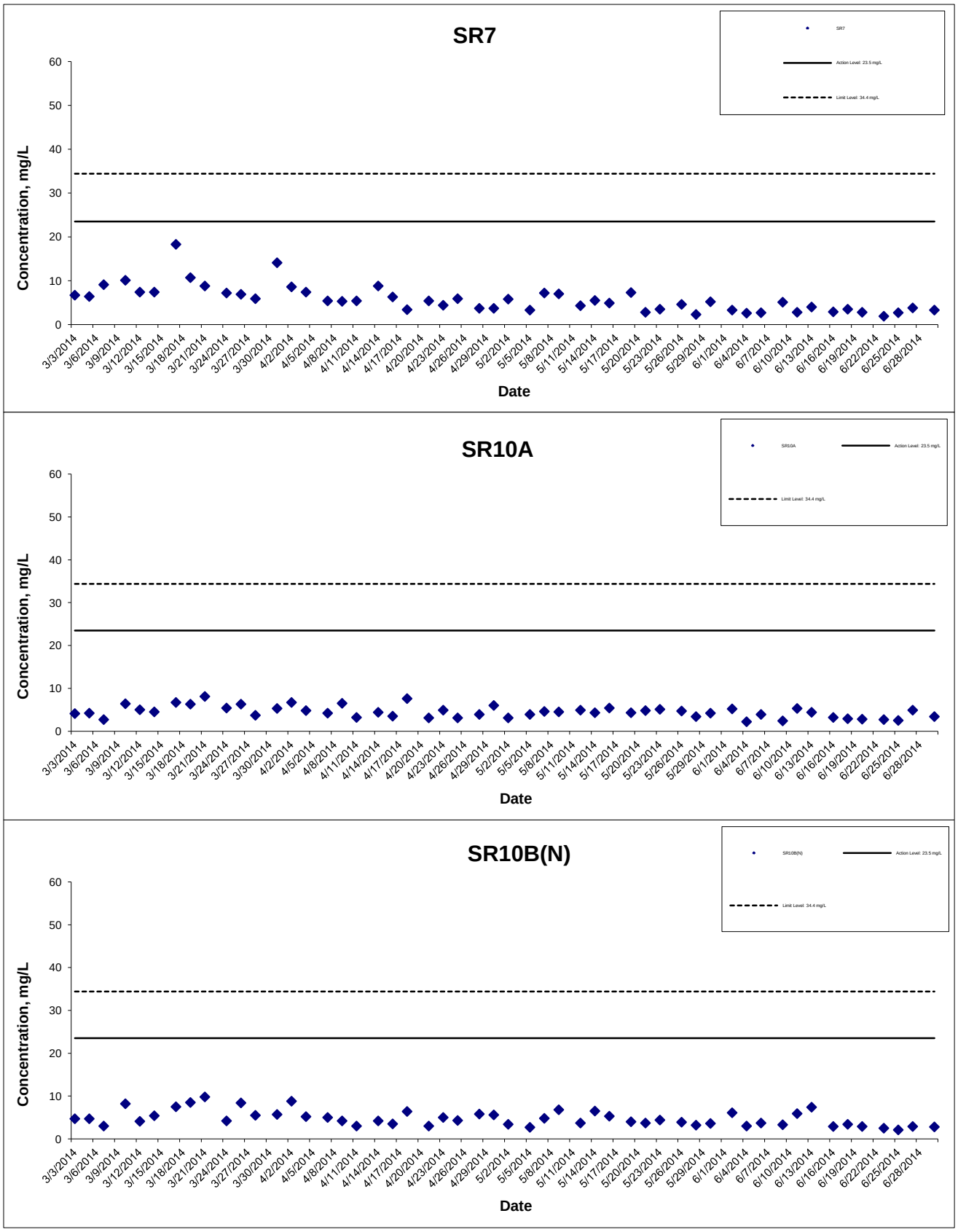

HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 **Date: July 2014**

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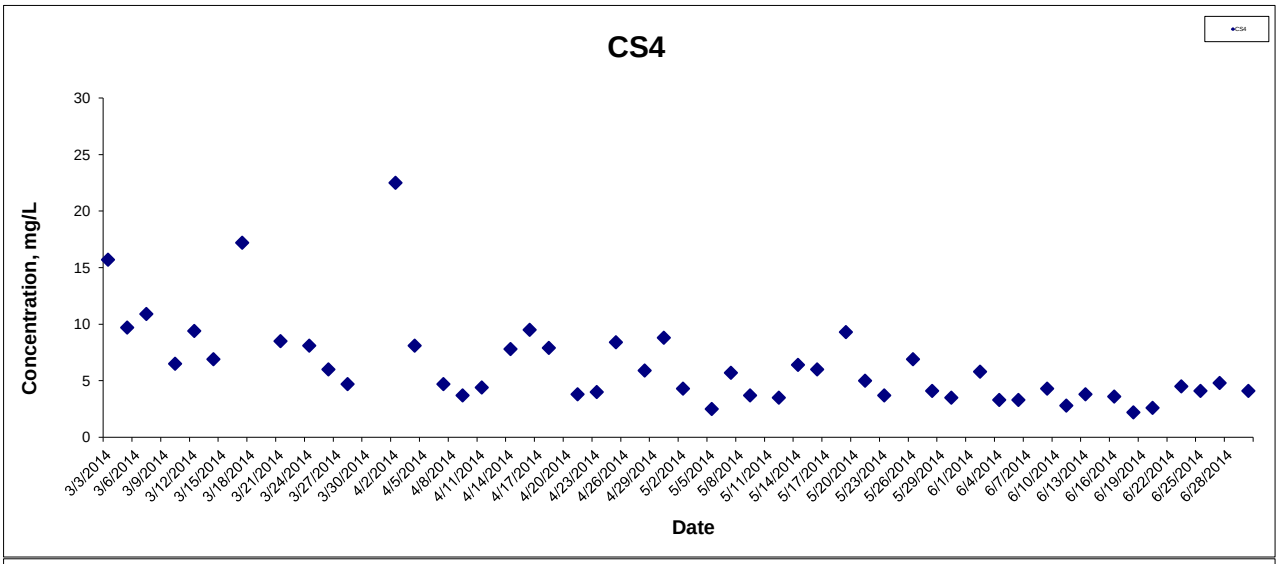
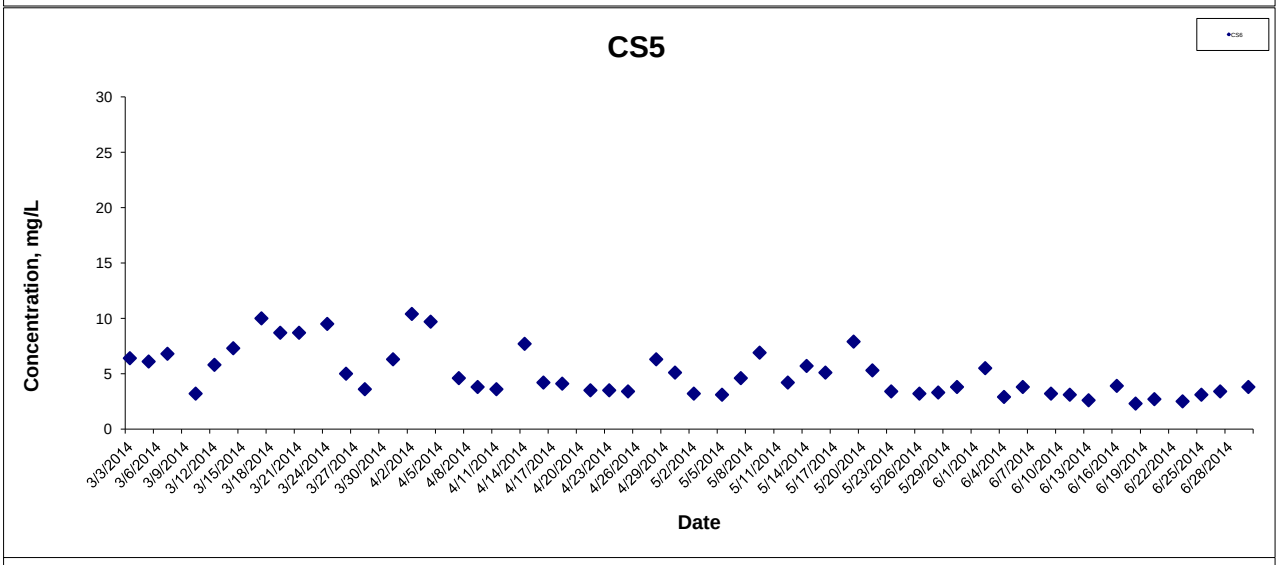
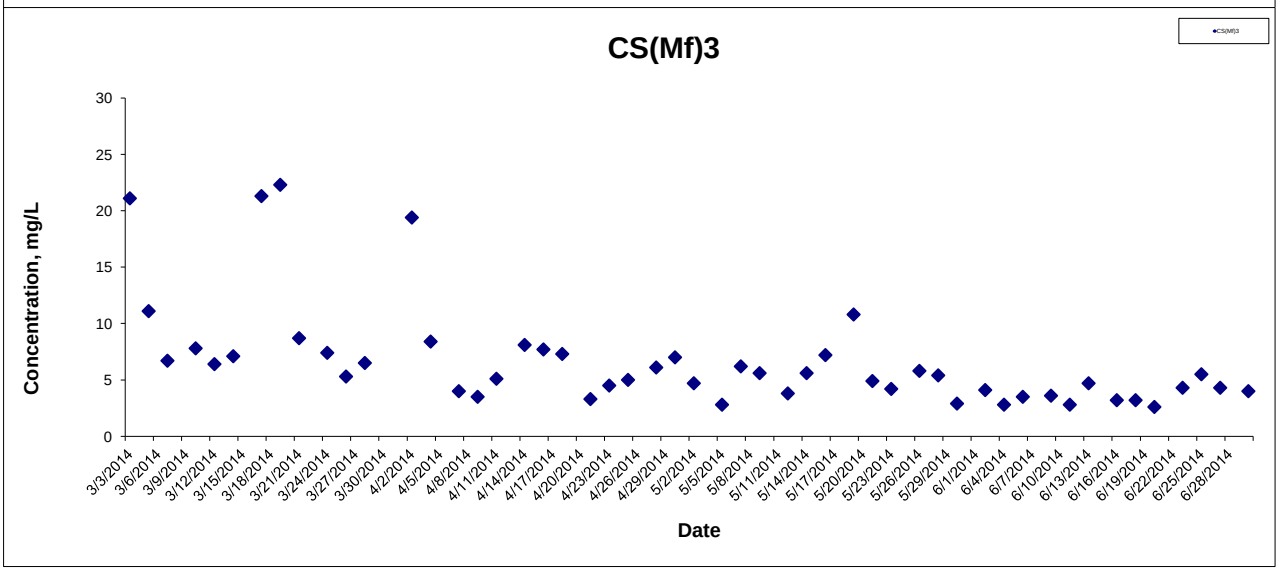
Suspended Solids at Mid-Flood Tide







HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- RECLAMATION WORKS

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Graphical Presentation of Impact Water Quality Monitoring Results

Project No.: 60249820 Date: July 2014

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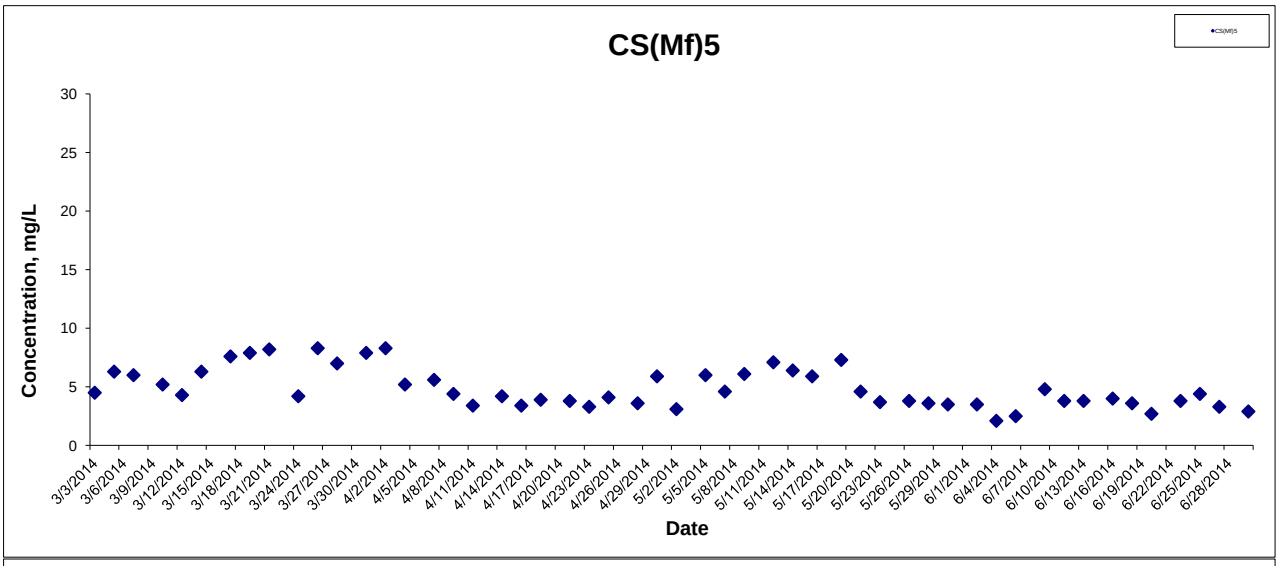
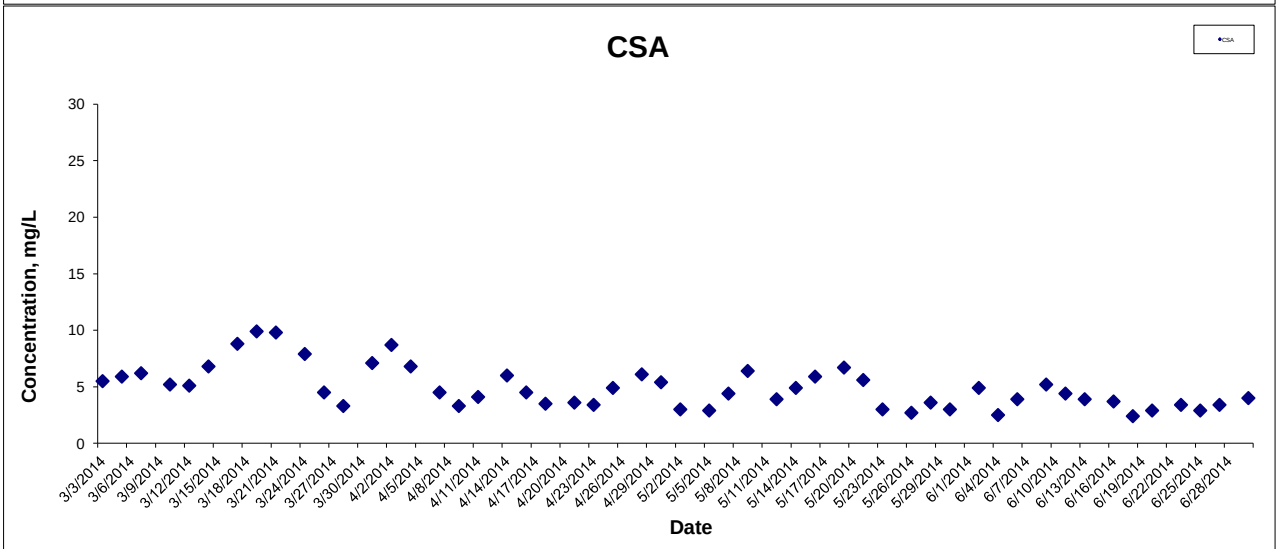
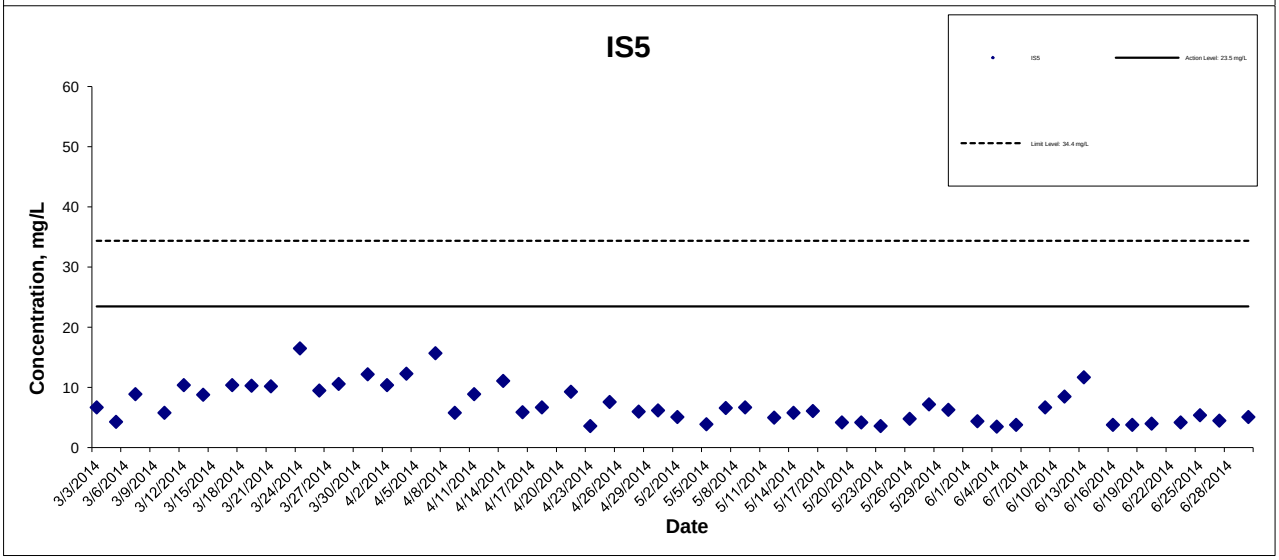
Suspended Solids at Mid-Flood Tide







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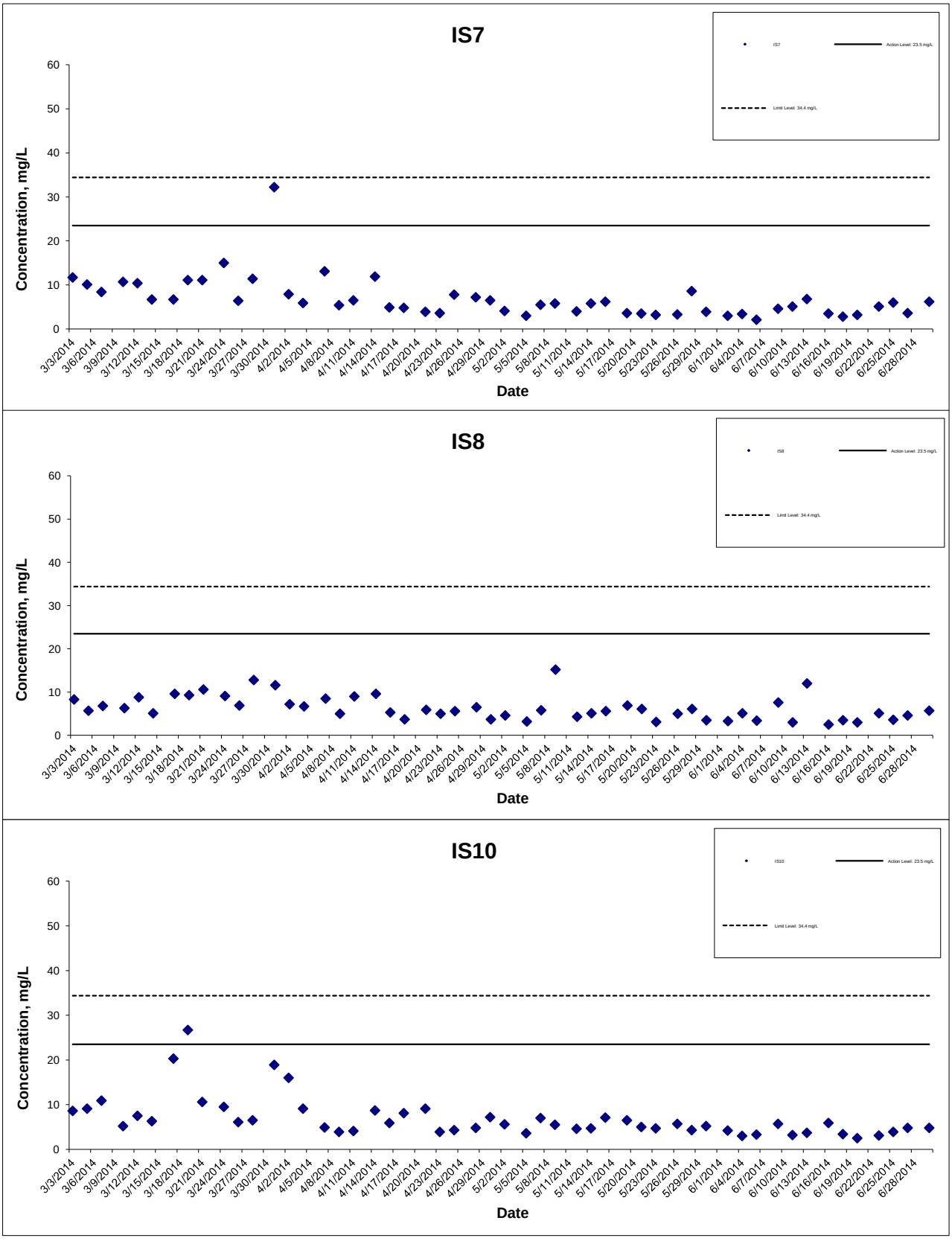

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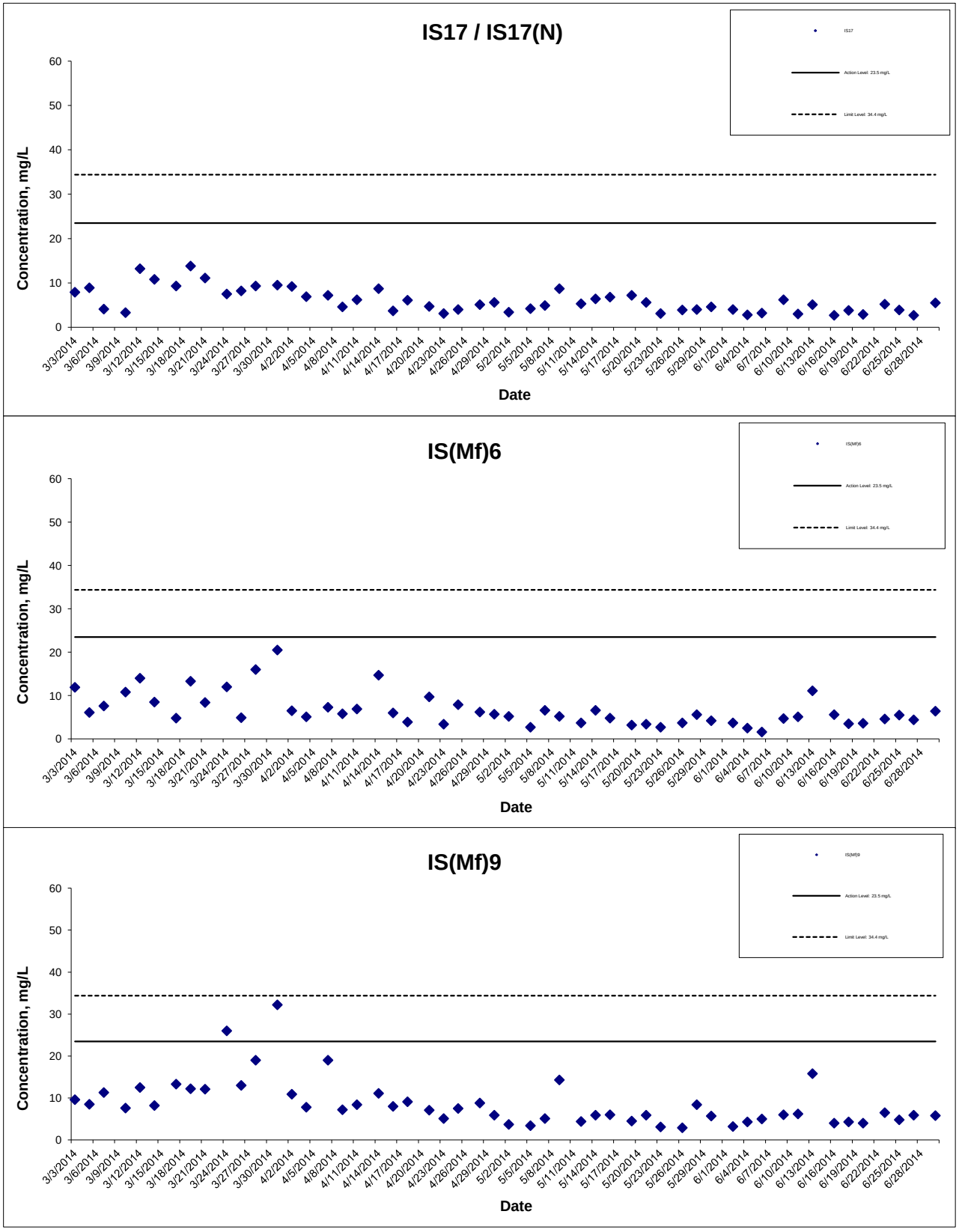

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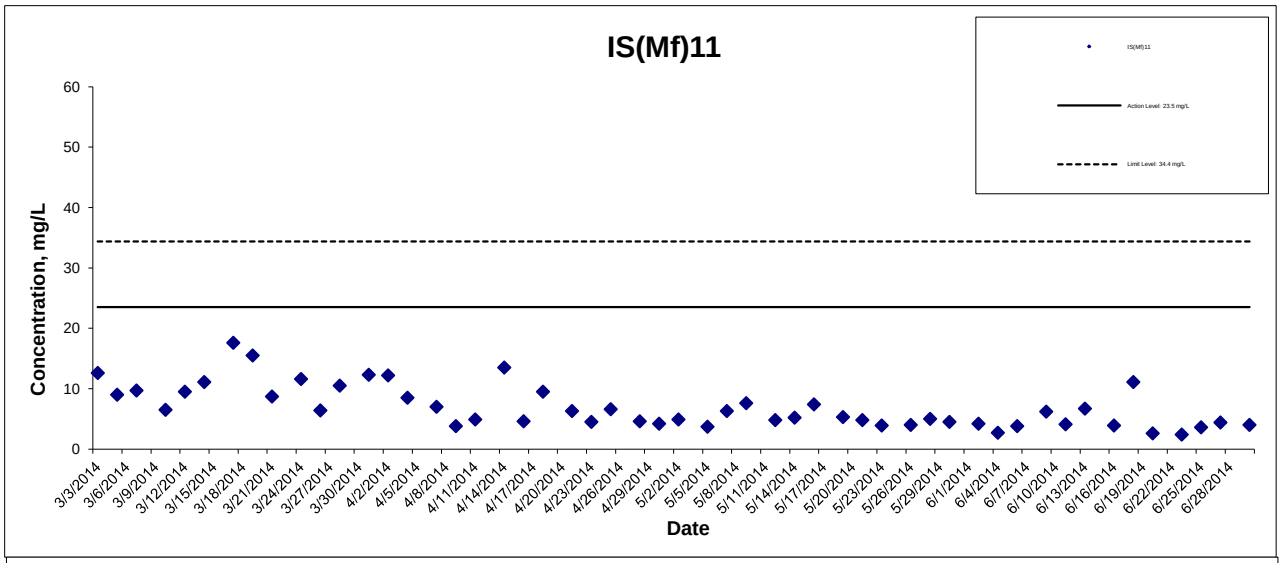

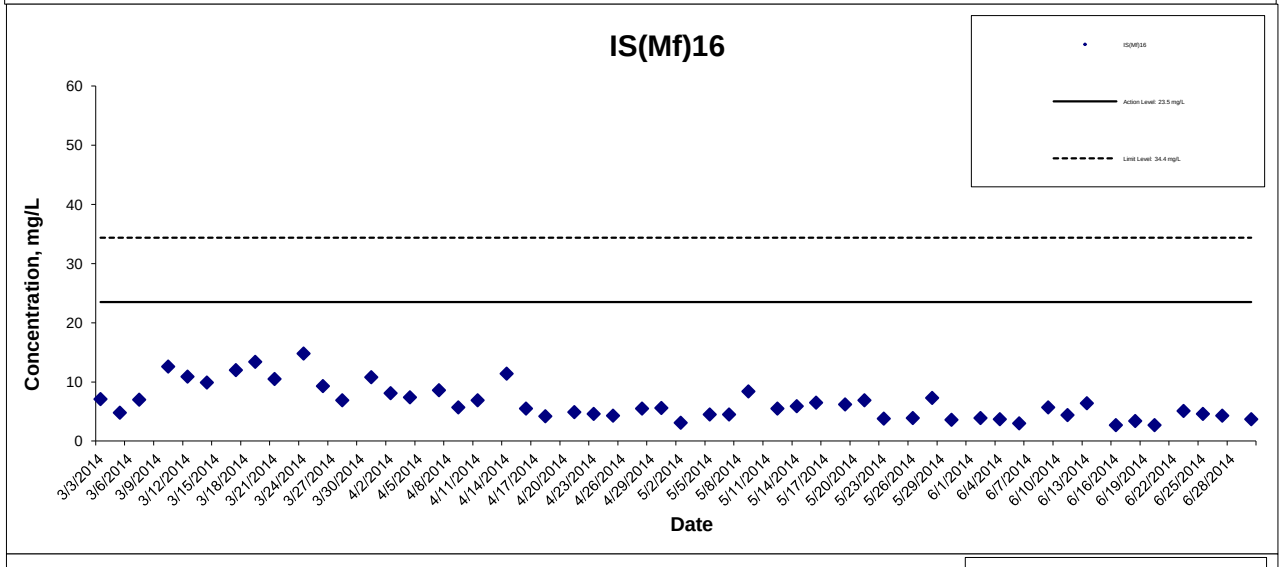

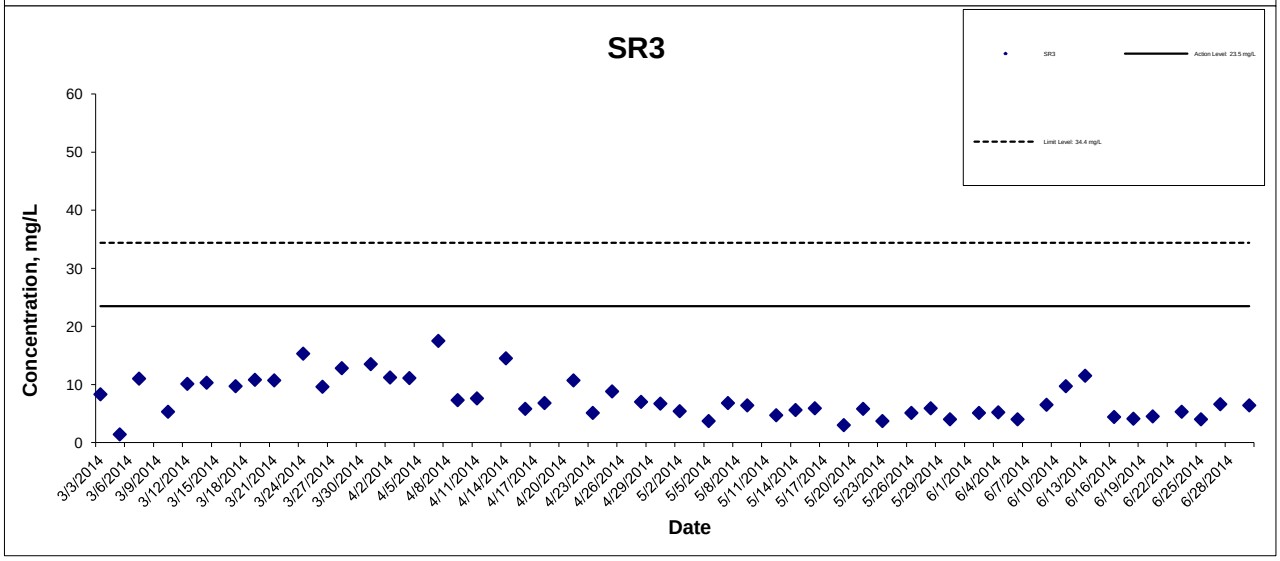

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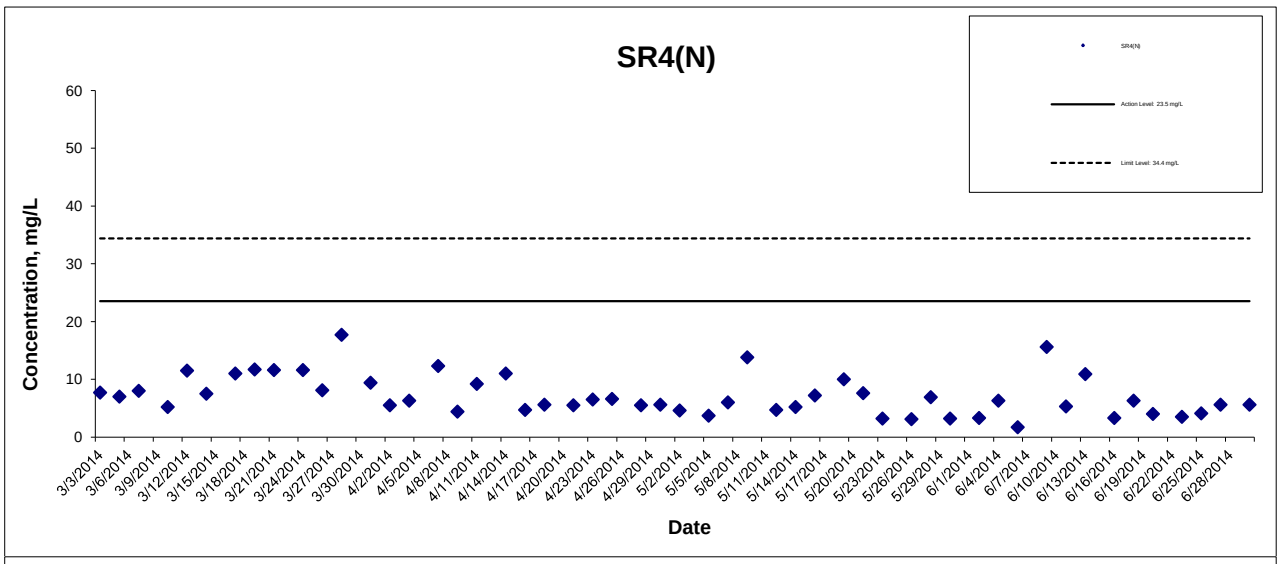

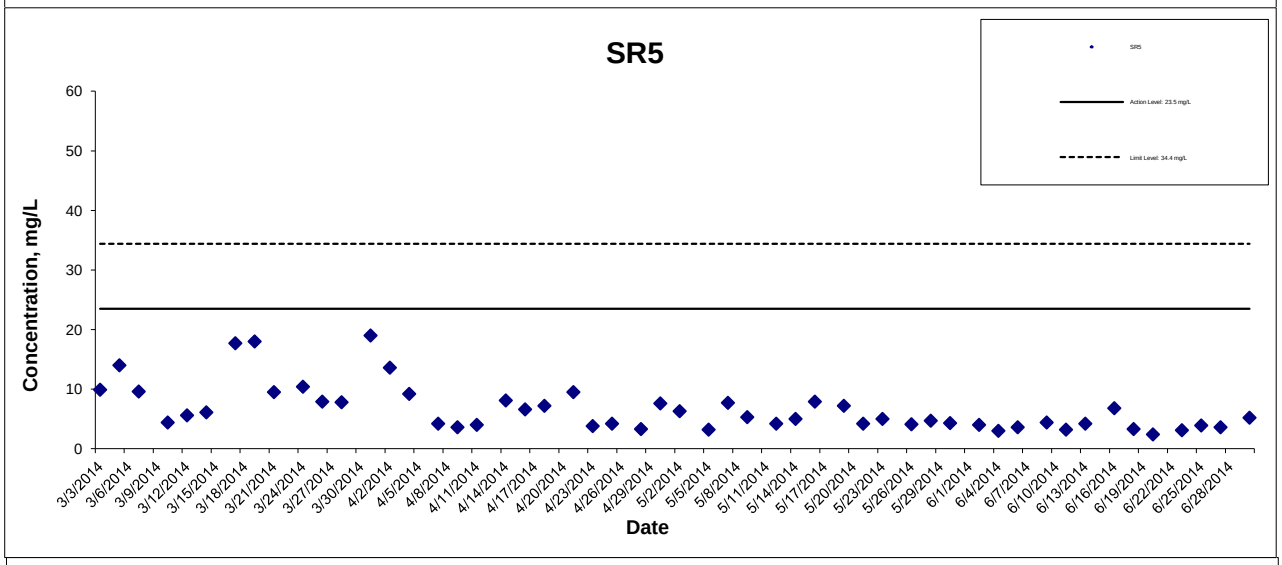

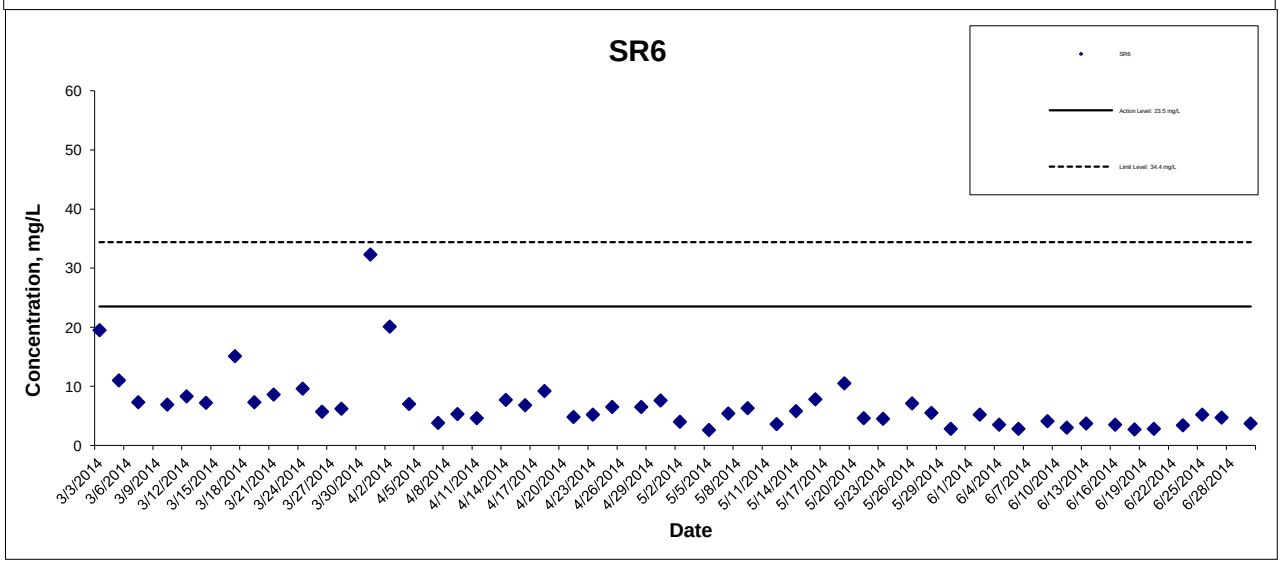

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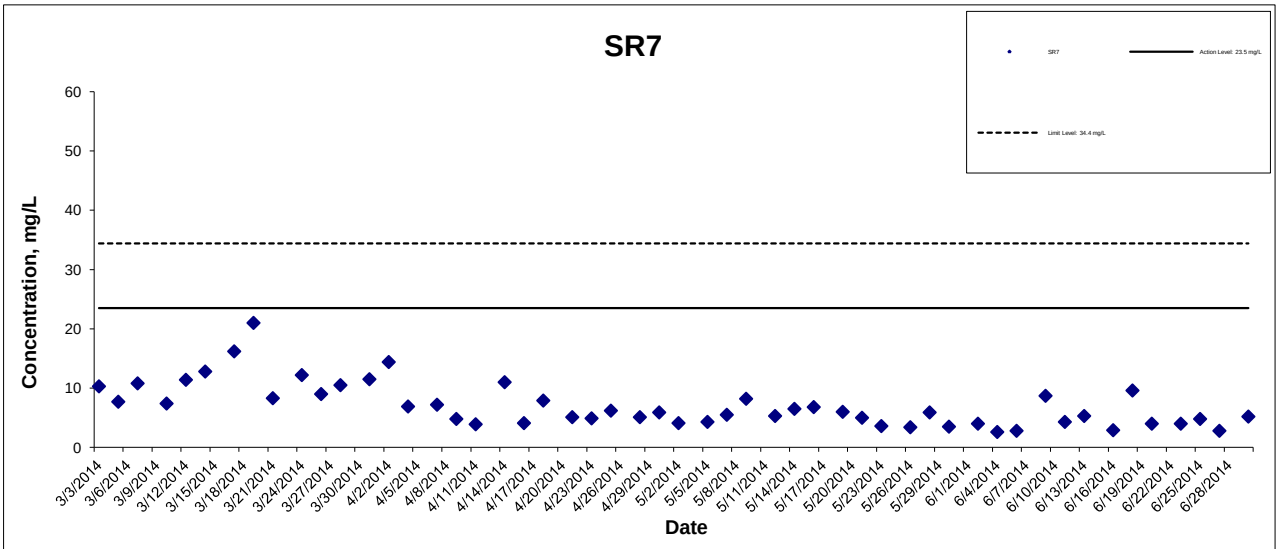
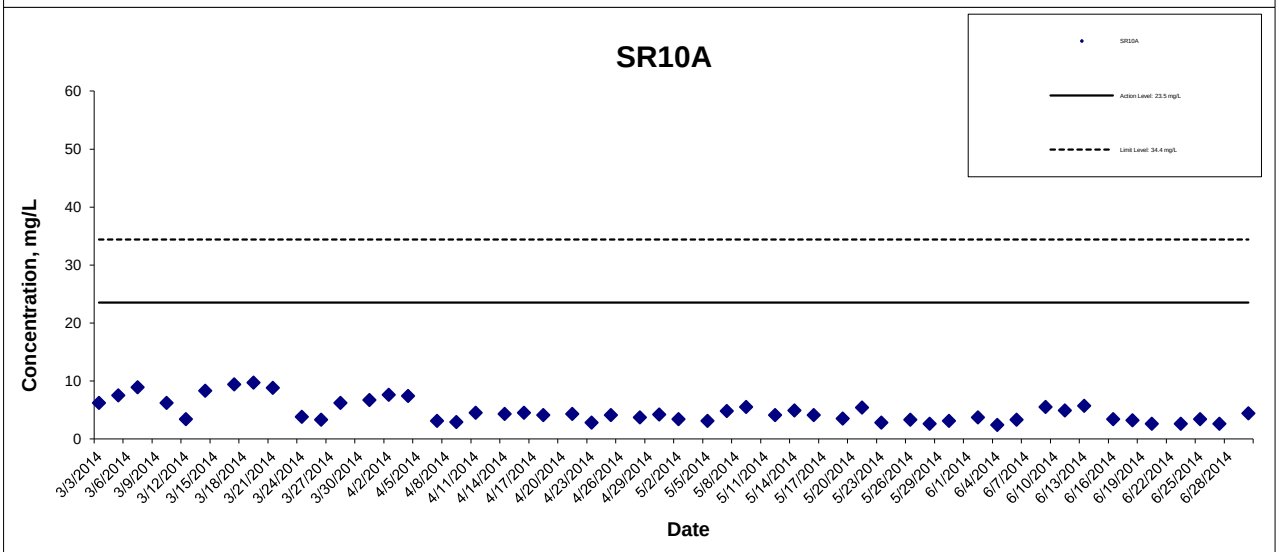
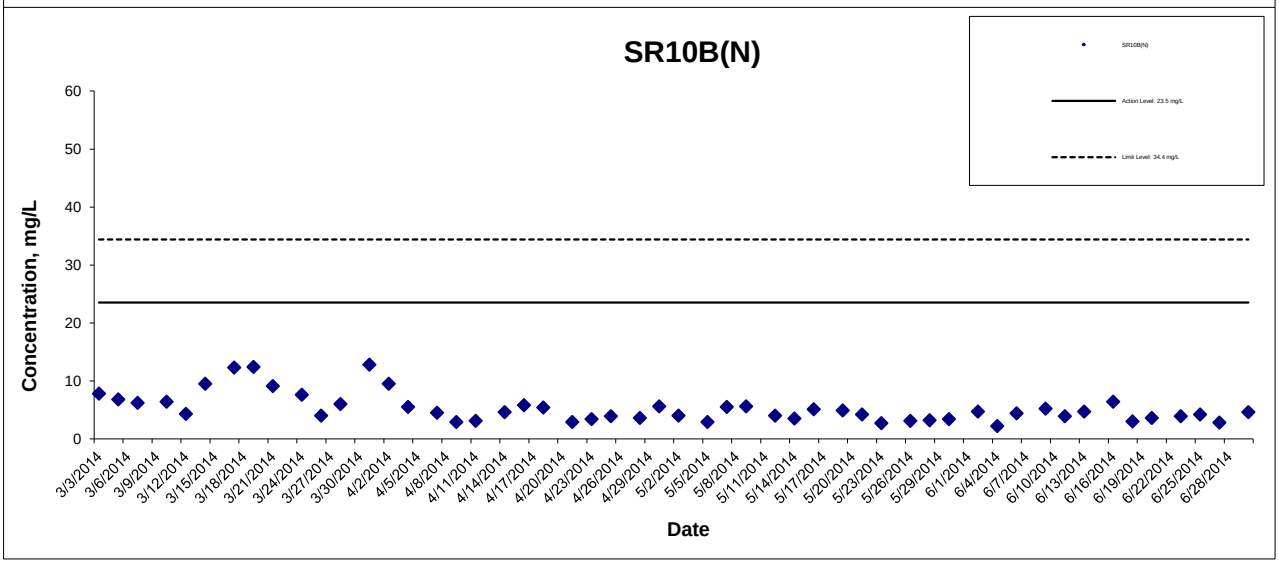






Appendix K Impact Dolphin Monitoring Survey Sighting Summary

Table 1 Impact Dolphin Monitoring Survey Sighting Table

Project	Contract	Date	Sighting No.	Time	Group Size	Area	Beaufort	PSD	Effort	Type	Northing	Easting	Season	Boat Association
HKBCF	HY/2010/02	03-Jun-14	956	9:20	3	NWL	2	N/A	Opp	Impact	813511	802957	Summer	No
HKBCF	HY/2010/02	03-Jun-14	957	9:39	5	NWL	2	N/A	Opp	Impact	813817	803381	Summer	No
HKBCF	HY/2010/02	03-Jun-14	958	10:13	6	NWL	1	200	On	Impact	814709	804588	Summer	No
HKBCF	HY/2010/02	05-Jun-14	960	13:48	1	NEL	2	150	On	Impact	821934	817501	Summer	No
HKBCF	HY/2010/02	16-Jun-14	962	14:01	1	NWL	2	225	On	Impact	823051	809488	Summer	No
HKBCF	HY/2010/02	17-Jun-14	964	11:11	3	NWL	2	834	On	Impact	826511	807527	Summer	No

KEY:

Sighting	Opp Opportunistic On On effort		
PSD	Perpendicular Sighting Distance	NEL	North East Lantau
Group Size	Represents best estimate for group encountered	NWL	North West Lantau

May 2014
Photo Identification Information

Table 2. Sightings of Individually Identified Chinese White Dolphin (*Sousa chinensis*) between March 2012 – April 2014

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 120		2014/05/31	951	NWL
HZMB 119		2014/04/19	940	NWL
HZMB 118		2014/01/06	890	NWL
HZMB 117		2014/01/06	888	NWL
HZMB 116		2013/12/26	879	NWL
HZMB 115		2013/12/26	879	NWL
HZMB 114		2013/10/24	827	NWL
HZMB 113		2013/10/24	827	NWL
HZMB 112		2013/10/15	815	NWL
HZMB111		2013/10/15	815	NWL
HZMB 110		2013/10/15	812	NWL
HZMB 108		2013/08/30	780	NEL
HZMB 107		2013/08/21	770	NWL
HZMB 106		2013/08/21	769	NWL
HZMB 105		2014/05/31	951	NWL
		2013/07/08	711	NWL
HZMB 104		2013/07/08	711	NWL
HZMB 103		2013/07/08	711	NWL
HZMB 102		2013/07/08	706	NWL
HZMB 101		2013/07/08	706	NWL
HZMB 100		2013/07/08	706	NWL
HZMB 099		2013/06/13	681	NWL
		2013/06/13	680	NWL
HZMB 098	NL104	2014/01/06	888	NWL
		2013/11/02	849	NWL
		2013/11/02	845	NWL
		2013/10/24	831	NWL
		2013/07/08	711	NWL
		2013/05/24	659	NWL
HZMB 097		2013/05/09	647	NWL
HZMB 096		2013/04/01	621	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 095		2013/08/30	780	NEL
		2013/06/25	697	NWL
		2013/06/13	682	NWL
		2013/04/01	621	NWL
HZMB 094		2014/05/31	954	NWL
		2014/02/17	910	NWL
		2013/06/26	703	NWL
		2013/06/25	698	NWL
		2013/03/18	601	NWL
HZMB 093		2013/05/24	657	NWL
		2013/02/21	587	NWL
HZMB 092		2013/02/21	589	NWL
		2013/02/15	581	NWL
HZMB 091		2013/02/15	579	NWL
HZMB 090		2013/06/25	697	NWL
		2013/06/13	682	NWL
		2013/02/15	579	NWL
HZMB 089		2013/02/15	579	NWL
HZMB 088		2013/02/15	579	NWL
HZMB 087		2013/02/15	579	NWL
HZMB 086	NL242	2013/05/09	642	NWL
		2013/02/15	579	NWL
		2011/10/10	Baseline	NWL
HZMB 085		2014/05/31	954	NWL
		2013/06/26	703	NWL
		2013/02/15	579	NWL
HZMB 084		2013/02/14	575	NWL
HZMB 083	NL136	2013/12/19	863	NWL
		2013/03/28	607	NWL
		2013/02/15	579	NWL
		2013/01/28	568	NWL
		2012/01/28	564	NWL
HZMB 082		2013/02/21	587	NWL
		2013/02/15	579	NWL
		2013/01/28	563	NWL
HZMB 081		2013/01/28	559	NWL
		2013/01/28	557	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 080		2013/01/28	556	NWL
HZMB 079		2013/01/28	556	NWL
HZMB 078		2013/02/15	579	NWL
		2013/01/08	552	NWL
HZMB 077		2013/12/26	878	NWL
		2013/07/08	706	NWL
		2012/12/11	541	NWL
HZMB 076		2013/07/08	706	NWL
		2012/12/11	541	NWL
HZMB 075		2012/12/06	525	NEL
HZMB 074		2013/05/09	647	NWL
		2013/04/01	623	NWL
		2013/04/01	621	NWL
		2013/02/21	594	NEL
		2012/12/10	529	NEL
		2012/12/06	525	NEL
HZMB 073		2013/05/09	647	NWL
		2013/04/01	623	NWL
		2013/04/01	621	NWL
		2013/02/21	594	NEL
		2012/12/10	529	NEL
		2012/12/06	525	NEL
HZMB 072		2012/10/24	476	NWL
HZMB 071		2012/10/24	475	NWL
		2012/10/12	466	NWL
HZMB 070		2012/10/24	476	NWL
HZMB 069		2013/08/21	774	NWL
		2013/07/08	711	NWL
		2012/10/24	476	NWL
HZMB 068		2013/11/01	839	NWL
		2012/10/24	476	NWL
HZMB 067		2012/10/24	475	NWL
HZMB 066	NL93	2013/01/28	559	NWL
		2012/12/11	537	NWL
		2012/10/24	475	NWL
		2012/10/12	466	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 064		2013/05/09	647	NWL
		2013/01/28	561	NWL
		2012/10/24	475	NWL
		2012/10/12	466	NWL
HZMB 063		2013/05/09	647	NWL
		2012/10/12	466	NWL
HZMB 062		2012/12/06	525	NEL
		2012/10/11	457	NWL
HZMB 060		2012/09/18	447	NWL
HZMB 059		2013/02/21	591	NWL
		2012/09/18	445	NWL
HZMB 057		2012/09/18	440	NWL
HZMB 056		2012/09/18	442	NWL
		2012/09/05	433	NEL
HZMB 055		2012/09/04	425	NWL
HZMB 054	CH34	2014/05/31	953	NWL
		2014/01/06	888	NWL
		2013/11/07	854	NWL
		2013/11/02	845	NWL
		2013/10/24	831	NWL
		2013/08/30	780	NEL
		2013/07/08	711	NWL
		2013/09/18	448	NWL
		2012/09/05	432	NEL
		2011/11/07	Baseline	NWL
		2011/11/05	Baseline	NWL
		2011/11/02	Baseline	NWL
		2011/11/01	Baseline	NEL
		2011/11/01	Baseline	NEL
		2011/10/28	Baseline	NWL
		2011/10/06	Baseline	NWL
HZMB 053		2012/09/04	425	NWL
HZMB 052		2012/09/04	423	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 051	NL213	2013/05/09	644	NWL
		2013/04/01	622	NWL
		2013/02/15	582	NWL
		2013/02/15	581	NWL
		2013/01/28	559	NWL
		2013/01/28	556	NWL
		2012/09/04	422	NWL
HZMB 050		2014/01/10	900	NWL
		2014/01/06	888	NWL
		2013/02/15	579	NWL
		2012/09/04	421	NWL
HZMB 049		2012/09/03	419	NWL
HZMB 048		2012/09/03	419	NWL
HZMB 047		2012/09/03	412	NWL
HZMB 046		2012/09/03	412	NWL
HZMB 045		2014/02/17	910	NWL
		2013/06/13	682	NWL
		2013/02/15	579	NWL
		2012/11/01	495	NWL
HZMB 044	NL98	2014/02/17	910	NWL
		2013/12/19	864	NWL
		2013/11/02	845	NWL
		2013/11/01	842	NWL
		2013/10/15	819	NWL
		2013/05/09	648	NWL
		2013/05/09	647	NWL
		2013/04/01	623	NWL
		2013/04/01	621	NWL
		2013/02/15	579	NWL
		2012/11/01	495	NWL
HZMB 043		2012/09/03	407	NWL
HZMB 042	NL260	2013/12/19	863	NWL
		2012/11/01	495	NWL
		2011/11/07	Baseline	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 041	NL24	2014/02/17	910	NWL
		2013/11/02	845	NWL
		2013/05/09	648	NWL
		2013/05/09	647	NWL
		2013/04/01	623	NWL
		2013/04/01	621	NWL
		2013/02/15	579	NWL
		2012/11/01	495	NWL
		2011/11/06	Baseline	NEL
		2011/11/05	Baseline	NWL
		2011/11/05	Baseline	NWL
		2011/10/10	Baseline	NWL
HZMB 040		2014/02/17	910	NWL
		2014/01/06	893	NWL
		2013/10/15	821	NWL
		2013/07/08	714	NWL
		2013/07/08	711	NWL
		2013/02/21	589	NWL
		2012/11/01	493	NWL
HZMB 038		2012/11/01	490	NWL
HZMB 037		2012/11/01	490	NWL
HZMB 036		2012/09/03	407	NWL
		2012/11/01	490	NWL
HZMB 035		2013/02/15	579	NWL
		2012/11/01	490	NWL
HZMB 034		2012/11/01	493	NWL
HZMB 028		2013/04/01	625	NWL
		2012/08/06	373	NWL
HZMB 027		2013/12/19	863	NWL
		2013/02/15	579	NWL
		2013/01/28	568	NWL
		2013/01/28	564	NWL
		2012/06/14	299	NWL
HZMB 026		2013/06/25	697	NWL
		2013/05/09	642	NWL
		2013/01/28	561	NWL
		2012/06/13	295	NEL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 025		2013/02/22	596	NEL
		2013/02/21	591	NWL
		2012/12/06	525	NEL
		2012/10/11	457	NWL
		2012/06/13	295	NEL
HZMB 024		2013/03/18	601	NWL
		2012/06/13	295	NEL
HZMB 023		2014/01/06	888	NWL
		2013/07/08	715	NWL
		2013/07/08	711	NWL
		2013/04/01	619	NWL
		2013/02/21	589	NWL
		2013/02/15	579	NWL
		2012/07/10	330	NWL
HZMB 022		2014/01/06	888	NWL
		2013/10/24	827	NWL
		2013/07/08	715	NWL
		2013/07/08	711	NWL
		2013/04/01	619	NWL
		2013/02/21	589	NWL
		2013/02/15	579	NWL
		2012/07/10	330	NWL
HZMB 021	NL37	2012/07/10	330	NWL
		2011/09/16	Baseline	NWL
HZMB 020		2012/07/10	330	NWL
HZMB 019		2012/07/10	330	NWL
HZMB 018		2014/02/17	910	NWL
		2013/05/09	647	NWL
		2013/02/21	594	NEL
		2012/12/10	529	NEL
		2012/07/10	330	NWL
HZMB 017		2012/07/10	330	NWL
HZMB 016		2013/07/08	706	NWL
		2012/12/11	539	NWL
		2012/09/18	446	NWL
		2012/09/04	421	NWL
		2012/07/10	330	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 015		2012/07/10	330	NEL
HZMB 014	NL176	2013/12/26	880	NWL
		2012/08/06	373	NWL
		2012/06/13	295	NEL
		2011/11/06	Baseline	NEL
		2011/11/01	Baseline	NEL
		2011/11/01	Baseline	NEL
HZMB 013		2012/05/28	281	NWL
HZMB 012		2012/05/28	281	NWL
HZMB 011	EL01	2013/02/22	597	NEL
		2013/02/21	592	NEL
		2013/02/14	572	NEL
		2012/11/06	517	NEL
		2012/09/19	452	NWL
		2012/03/31	261	NEL
		2011/11/02	Baseline	NWL
		2011/11/01	Baseline	NEL
HZMB 009		2012/05/28	281	NWL
HZMB 008		2012/05/28	281	NWL
HZMB 007	NL246	2012/12/10	529	NEL
HZMB 006		2013/02/21	594	NEL
		2012/12/11	539	NWL
		2012/11/01	495	NWL
		2012/03/29	250	NWL
HZMB 005		2013/11/09	860	NWL
		2013/11/07	858	NWL
		2013/10/15	813	NWL
		2012/12/10	532	NWL
		2012/08/06	374	NWL
		2012/05/28	287	NWL
HZMB 004		2012/09/04	421	NWL
		2012/03/31	262	NWL

Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
HZMB 003	NL179	2013/10/15	812	NWL
		2013/06/25	697	NWL
		2012/12/10	529	NEL
		2012/03/31	261	NWL
		2011/11/06	Baseline	NEL
		2011/09/16	Baseline	NWL
HZMB 002	WL111	2014/05/31	951	NWL
		2013/12/26	878	NWL
		2013/12/19	863	NWL
		2013/11/01	839	NWL
		2013/10/15	819	NWL
		2013/09/24	798	NWL
		2013/02/14	573	NWL
		2012/12/11	536	NWL
		2012/12/11	535	NWL
		2012/10/12	466	NWL
		2012/10/24	475	NWL
		2012/05/28	281	NWL
		2012/03/29	250	NWL
HZMB 001	WL46	2013/08/21	771	NWL
		2013/06/13	681	NWL
		2013/04/01	617	NWL
		2013/02/14	573	NWL
		2012/03/29	250	NWL

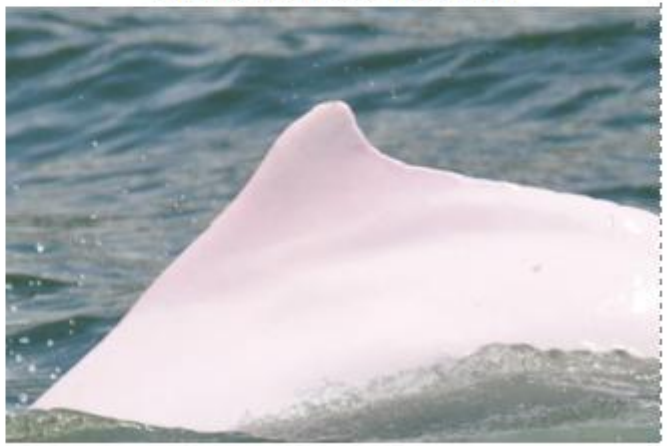
Identification Number	Baseline Identification Number	Date (YYYY-MM-DD)	Sighting Number	Area Sighted
	CH98	2011/11/02	Baseline	NWL
	NL11	2011/11/02	Baseline	NWL
		2011/11/07	Baseline	NWL
	NL12	2011/11/02	Baseline	NWL
	NL33	2011/09/23	Baseline	NWL
		2011/11/01	Baseline	NEL
		2011/11/05	Baseline	NWL
		2011/11/07	Baseline	NWL
	NL37	2011/09/16	Baseline	NWL
	NL46	2011/10/28	Baseline	NWL

HZMB 002 2014-05-31_10-06-29

HZMB 054 2014-05-31_11-25-56

HZMB 085 2014-05-31_13-38-17

HZMB 094 2014-05-31_13-38-17 _03



HZMB 105 LL 2014-05-31_09-46-56

HZMB 105 LL 2014-05-31_09-53-13 _01

HZMB 120 2014-05-31 09-50-10_02

HZMB 120 2014-05-31 09-50-27

Appendix L – Event Action Plan

Event / Action Plan for Air Quality

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action Level				
Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Limit Level				
Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Construction Noise

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action Level	1. Notify IEC and Contractor; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level	1. Inform IEC, ER, EPD and Contractor; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Water Quality

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action level being exceeded by one sampling day	1. Repeat *in situ* measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor and ER; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Repeat measurement on next day of exceedance to confirm findings.	1. Check monitoring data submitted by ET and Contractor's working methods; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of non-compliance in writing; 2. Discuss with IEC on the proposed mitigation measures; 3. Make agreement on mitigation measures to be implemented; 4. Ensure mitigation measures are properly implemented.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Discuss with ET and IEC on possible remedial actions and propose mitigation measures to IEC and ER; 5. Implement the agreed mitigation measures. 6. Amend working methods if appropriate.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action level being exceeded by two or more consecutive sampling days	1. Repeat *in situ* measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, Contractor and ER; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Action level; 8. Repeat measurement on next day of exceedance to confirm findings.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of non-compliance in writing; 2. Discuss with IEC on the proposed mitigation measures; 3. Make agreement on mitigation measures to be implemented; 4. Ensure mitigation measures are properly implemented; 5. Assess the effectiveness of the implemented mitigation measures.	1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Discuss with ET and IEC on possible remedial actions and propose mitigation measures to IEC and ER within 3 working days of notification; 5. Implement the agreed mitigation measures; 6. Amend working methods if appropriate.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Limit level being exceeded by one sampling day	1. Repeat *in-situ* measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, Contractor, ER and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of failure in writing; 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to critically review the working methods; 4. Ensure mitigation measures are properly implemented; 5. Assess the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET, IEC and ER; 5. Implement the agreed mitigation measures; 6. Amend working methods if appropriate.

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Limit level being exceeded by two or more consecutive sampling days	1. Repeat *in-situ* measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, ER and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the Contractor's mitigation measures whenever necessary to assure their effectiveness and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to critically review the working methods; 4. Make agreement on the mitigation measures to be implemented; 5. Ensure mitigation measures are properly implemented; 6. Assess the effectiveness of the implemented mitigation measures; 7. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Take immediate action to avoid further exceedance; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET, IEC and ER; 6. Implement the agreed mitigation measures; 7. Resubmit proposals of mitigation measures if problem still not under control; 8. As directed by the Engineer, to slow down or to stop all or part of the construction activities until no exceedance of Limit level.

Event / Action Plan for Dolphin Monitoring

Event	ET Leader	IEC	ER / SOR	Contractor
Action Level	1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, ER/SOR and Contractor; 5. Check monitoring data. 6. Review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary.	1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and finding with the ET and the Contractor.	1. Discuss monitoring with the IEC and any other measures proposed by the ET; 2. If ER/SOR is satisfied with the proposal of any other measures, ER/SOR to signify the agreement in writing on the measures to be implemented.	1. Inform the ER/SOR and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the ER/SOR; 3. Implement the agreed measures.
Limit Level	1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, ER/SOR and Contractor of findings; 5. Check monitoring data;	1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and findings with the ET and the Contractor; 3. Attend the meeting to discuss with ET, ER/SOR and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures. 4. Review proposals for additional monitoring and any other mitigation measures submitted	1. Attend the meeting to discuss with ET, IEC and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures. 2. If ER/SOR is satisfied with the proposals for additional dolphin monitoring and/or any other mitigation measures submitted by ET and Contractor and verified by IEC, ER/SOR to signify the agreement in writing on such proposals and any other mitigation measures.	1. Inform the ER/SOR and confirm notification of the non-compliance in writing; 2. Attend the meeting to discuss with ET, IEC and ER/SOR the necessity of additional dolphin monitoring and any other potential mitigation measures. 3. Jointly submit with ET to IEC a proposal of additional dolphin monitoring and/or any other mitigation measures when necessary. 4. Implement the agreed additional dolphin monitoring

	6. Repeat review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary. 7. If ET proves that the source of impact is caused by any of the construction activity by the works contract, ET to arrange a meeting to discuss with IEC, ER/SOR and Contractor the necessity of additional dolphin monitoring and/or any other potential mitigation measures (e.g., consider to modify the perimeter silt curtain or consider to control/temporarily stop relevant construction activity etc.) and submit to IEC a proposal of additional dolphin monitoring and/or mitigation measures where necessary.	by ET and Contractor and advise ER/SOR of the results and findings accordingly. 5. Supervise / Audit the implementation of additional monitoring and/or any other mitigation measures and advise ER/SOR the results and findings accordingly.	3. Supervise the implementation of additional monitoring and/or any other mitigation measures.	and/or any other mitigation measures.

China Harbour Engineering Company Limited

Monthly Summary Waste Flow Table for June / 2014 (year)

Project : Hong Kong – Zhuhai – Macao Bridge, Hong Kong Boundary Crossing Facilities – Reclamation Works Contract No.: HY/2010/02

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste (see Note 4)	Others, e.g. general refuse (see Note 3)
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m^3)
Jan-14	0.0000	0.0000	0.0000	0.0000	0.0000	1158.9828	0.0000	0.1680	0.0000	2.0000	0.0325
Feb-14	0.0000	0.0000	0.0000	0.0000	0.0000	1064.5957	0.0000	0.2520	0.0000	0.0000	0.0520
Mar-14	0.0000	0.0000	0.0000	0.0000	0.0000	1111.9982	0.0000	0.0000	0.0000	1.4000	0.1690
Apr-14	0.0000	0.0000	0.0000	0.0000	0.0000	1294.8080	0.0000	0.0000	0.0000	0.0000	0.0845
May-14	0.0000	0.0000	0.0000	0.0000	0.0000	1181.4168	0.0400	0.0240	0.0000	1.0000	0.2250
Jun-14	0.0000	0.0000	0.0000	0.0000	0.0000	752.7711	0.0000	0.1400	0.0000	8.8000	0.1690
Sub-total	0.0000	0.0000	0.0000	0.0000	0.0000	6564.5726	0.0400	0.5840	0.0000	13.2000	0.7320
Jul-14											
Aug-14											
Sep-14											
Oct-14											
Nov-14											
Dec-14											
Total	0.0000	0.0000	0.0000	0.0000	0.0000	6564.5726	0.0400	0.5840	0.0000	13.2000	0.7320

Notes: (1) Broken concrete for recycling into aggregates.

(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.

(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.

(4) Chemical waste refer to spent “battery” and “oil with water”.

Appendix N
Cumulative Statistics on Exceedances, Complaints, Notifications of Summons and Successful Prosecutions

Cumulative statistics on Exceedances

		Total no. recorded in this month	Total no. recorded since project commencement
1-Hour TSP	Action	-	-
	Limit	-	-
24-Hour TSP	Action	-	-
	Limit	-	-
Noise	Action	-	-
	Limit	-	-
Water Quality	Action	-	1
	Limit	-	1
Dolphin Monitoring	Action	-	-
	Limit	-	-

Remarks: Exceedances which are not project-related are not presented in this table.

Cumulative statistics on Exceedances, Complaints, Notifications of Summons and Successful Prosecutions

	Date Received	Subject	Status	Total no. received in this month	Total no. received since project commencement
Environmental complaints	-	-	-	-	20
Notification of summons	-	-	-	-	2
Successful Prosecutions	-	-	-	-	2