MTR Corporation Limited

Shatin to Central Link –
Hung Hom to Admiralty Section

Contract 11227 – Advance Works for NSL Cross Harbour Tunnels

Final Environmental Monitoring and Audit Review Report

(February 2015)

Verified by: Fredrick Leong

Position: Independent Environmental Checker

Date: 11 February 2015

Concentric – Hong Kong River Joint Venture

Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels

Final Environmental Monitoring and Audit Review Report

(version 2.0)

Certified By

Dr. Priscilla Choy
(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

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EXECUTIVE SUMMARY

Introduction

1. This is the Final Environmental Monitoring and Audit (EM&A) Review Report prepared by Cinotech Consultants Limited for **MTR Shatin to Central Link (SCL) Works Contract 11227 – Advance Works for NSL Cross Harbour Tunnels.** This report documents the findings of EM&A Works of the Project.

2. The major construction works for Contract 11227 commenced on 1 August 2014 for Shek O Casting Basin. The major construction works in Victoria Harbour for Contract 11227 commenced on 11 September 2014.

3. The construction works for Contract 11227 was completed on 15 and 20 December 2014 for Victoria Harbour and Shek O Casting Basin respectively.

Summary of Construction Works undertaken in the Construction Period

4. The major site activities undertaken in the construction period include:

Shek O Casting Basin

- Seabed levelling works at channel exit; and
- Rock filling works in Casting Basin.

Victoria Harbour

- Dredging of trial trench in Victoria Harbour.

Environmental Monitoring and Audit Works

5. A summary of the monitoring activities is listed below:

Water Quality Monitoring

6. The baseline, impact and post-project water quality monitoring periods are summarized in the table below.

Activity	**Temporary Works at Shek O Casting Basin**	**Trial Trench for Victoria Harbour**
Baseline Monitoring	10 May – 5 June 2014	13 March – 8 April 2014
Impact Monitoring	1 August – 19 December 2014	12 September – 15 December 2014
Post-project Monitoring	22 December 2014 – 16 January 2015	17 December 2014 – 12 January 2015

Waste Management

7. Wastes generated from this Project include marine sediments. Details of waste management data is presented in Section 5 and **Appendix H**.

Landscape and Visual

8. Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted throughout the construction period. Most of the necessary mitigation measures have been implemented and recommended follow-up actions have been discharged by the Contractor.

Environmental Site Inspection

9. Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET throughout the construction period. The representative of the IEC joined the site inspections once per month.

Environmental Exceedance/Non-conformance/Complaint/Summons and Successful Prosecution

10. No exceedance of the Action and Limit Levels of water quality monitoring was recorded during the post-project monitoring period as well as the whole construction period.

11. No non-compliance event was recorded during the construction period.

12. No Project related environmental complaint and notification of summons/successful prosecutions were received in this construction period.

Conclusion

13. The EM&A programme were found to be effective in monitoring impacts arising from the Project. The findings of the environmental monitoring program suggest that no adverse impacts on sensitive receivers at the designated monitoring locations were brought about by the Project.

14. In conclusion the Project was environmentally acceptable in terms of water quality.

1 INTRODUCTION

1.1 Cinotech Consultants Limited (Cinotech) was appointed by Concentric – Hong Kong River Joint Venture (CCL-HKRJV) as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the MTR Shatin to Central Link (SCL) Works Contract 11227 – Advance Works for NSL Cross Harbour Tunnels (hereafter referred to as the Project).

Purpose of the Report

1.2 This is the Final Environmental Monitoring and Audit (EM&A) Review Report prepared by Cinotech Consultants Limited for **MTR Shatin to Central Link (SCL) Works Contract 11227 – Advance Works for NSL Cross Harbour Tunnels.** This report documents the findings of EM&A Works of the Project.

Structure of the Report

1.3 The structure of the report is as follows:

Section 1: **Introduction -** details the scope and structure of the report.

Section 2: **Project Information** - summarises background and scope of the project, site description, project organization and contact details, construction programme, the construction works undertaken during the construction period.

Section 3: **Environmental Monitoring Requirement -** summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, Event / Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

Section 4: **Implementation Status on Environmental Mitigation Measures -**summarises the implementation of environmental protection measures during the construction period.

Section 5: **Summary of EM&A Works** - summarises the EM&A works and results obtained in the construction period.

Section 6: **Environmental Non-conformance -** summarises any monitoring exceedance, environmental complaints and environmental summons within the construction period.

Section 7: **Comments, Conclusions and Recommendations**

2 PROJECT INFORMATION

Background

2.1 The Shatin to Central Link – Hung Hom to Admiralty Section (hereafter referred to as SCL (HUH-ADM)) is an approximately 6km extension of the East Rail Line including a rail harbor crossing from Hung Hom across the harbor to Admiralty on Hong Kong Island. It is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO).

2.2 The Environmental Impact Assessment (EIA) Report for SCL – Hung Hom to Admiralty Section [SCL (HUH-ADM)] (Register No.: AEIAR-166/2012) was approved on 17 February 2012 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Report, Environmental Permits (EP) (EP No: EP-436/2012) was granted on 22 March 2012 for their construction and operation.

2.3 An "Environmental Review Report – Design Changes of North Ventilation Building and Shek O Casting Basin" (ERR) was submitted to the EPD in February 2014 to identify and assess the likely environmental issues pertinent to the proposed design changes at North Ventilation (NOV) Building and Shek O Casting Basin, and to identify any additional environmental mitigation measures that may be required for compliance with environmental standards. Variations of environmental permit (VEP) was subsequently applied for EP-436/2012 and the latest Environmental Permit (EP No: EP-436/2012/A) was issued by Director of Environmental Protection (DEP) on 30 April 2014.

2.4 The construction of the SCL (HUH-ADM) has been divided into a series of civil construction Works Contracts and this Works Contract 11227 comprises of the seabed levelling and rock filling works in Shek O, and dredging of trial trench in Victoria Harbour. The major construction works for Contract 11227 commenced on 1 August and 11 September 2014 for Shek O Casting Basin and Victoria Harbour respectively.

2.5 The construction works for Contract 11227 was completed on 15 and 20 December 2014 for Victoria Harbour and Shek O Casting Basin respectively.

General Site Description

2.6 The alignment and works area for the Works Contract 11227 are shown in **Figure 1a-1c**.

Construction Programme and Activities

2.7 A summary of the major construction activities undertaken in the construction period is shown as follows.

Shek O Casting Basin

- Seabed levelling works at channel exit; and
- Rock filling works in Casting Basin.

Victoria Harbour

- Dredging of trial trench in Victoria Harbour.

Project Organisation

2.8 The project organizational chart and contact details are shown in **Figure 4.**

Summary of EM&A Requirements

2.9 The EM&A programme under Works Contract 11227 require regular water quality monitoring as well as environmental site audits. The EM&A requirements are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event / Action Plans;
- Environmental mitigation measures, as recommended in the Project EIA study final report; and
- Environmental requirements in contract documents.

2.10 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely marine water quality monitoring as well as audit works for the Project in the construction period.

3 ENVIRONMENTAL MONITORING REQUIREMENTS

Water Quality Monitoring

3.1 In accordance with the EM&A Manual and the ERR, marine water quality monitoring should be carried out during the period of seabed levelling work in Shek O Casting Basin and trenching work in Victoria Harbour. The water quality monitoring stations and control stations of Project are shown in **Figure 2** and **Figure 3**. The co-ordinates of the proposed monitoring stations are listed in **Table 3.1**. As shown in **Table 3.1**, the proposed locations are classified as Impact Station and Control Station according to their functions.

3.2 Baseline water quality monitoring for Trial Trenching Works and Temporary Works at Shek O Casting Basin was conducted by AECOM between March and June 2014 respectively under consultancy agreement no. C11033B.

3.3 According to the Water Quality Monitoring Plan for Trial Trenching Works (WQMP) and the Baseline Water Quality Monitoring Report for Trial Trenching Works, water quality monitoring in Victoria Harbour was carried out in two impact monitoring stations (namely A and WSD9) in dry season and four impact monitoring stations (namely A, WSD9, 14 and WSD17) in wet season.

3.4 Impact Water Quality Monitoring was completed on 15 and 19 December 2014 for Victoria Harbour and Shek O Casting Basin respectively as the construction works for this Project was completed.

3.5 The diving inspections for silt curtains at Shek O Casting Basin were carried out on 4 August, 5 & 19 September, 17 October and 23 December 2014. The silt curtains at Shek O Casting Basin were removed on 23 December 2014. For the silt curtains in Victoria Harbour, diving inspections were carried out on 19 September and 3 October 2014 and the silt curtain was removed on 15 December 2014.

3.6 Following the completion of all marine activities, a post project monitoring exercise on water quality was carried out for four weeks in the same manner as the impact monitoring. The post project water quality monitoring schedule is shown in **Appendix A**.

Table 3.1 Water Quality Monitoring Stations

Station	Description	East	North	Parameters to be measured
Shek O Casting Basin				
GB3	Turtle Cove Beach	841120	810280	DO, Turbidity, SS
C3	Control Station for ebb tide	841200	806210	DO, Turbidity, SS
C4	Control Station for flood tide	843330	807320	DO, Turbidity, SS
Victoria Harbour [3]				
A	Wan Chai WSD Flushing Water Intake (Reprovisioned)	836268[1]	816045[1]	DO, Turbidity, SS
WSD9	Tai Wan WSD Flushing Water Intake	837930[2]	818357[2]	DO, Turbidity, SS
14	Flushing Water Intake for	834477	817891	DO, Turbidity, SS

Station	Description	East	North	Parameters to be measured
Shek O Casting Basin				
	Kowloon Station			
WSD17	Quarry Bay WSD Flushing Water Intake	839863	817077	DO, Turbidity, SS
C1	Control Station 1	833977	817442	DO, Turbidity, SS
C2	Control Station 2	841088	817223	DO, Turbidity, SS

Note:
(1) According to the Baseline Water Quality Monitoring Report for Trial Trenching Works, the original coordinates of monitoring location A (Easting: 836286, Northing: 816024) is the exact location taken from the design of re-provisioned Wan Chai Salt Water Pumping Station and Salt Water Intake Culvert. Based on actual site condition for taking water sampling, minor adjustment was made on monitoring location.
(2) According to the Baseline Water Quality Monitoring Report for Trial Trenching Works, the original coordinates of monitoring location WSD9 (Easting: 838133, Northing: 817790) as proposed in WQMP were minor moved closer to sensitive receiver according to the actual site condition.
(3) Accoring to the Water Quality Monitoring Plan for Trial Trenching Works (WQMP) and the Baseline Water Quality Monitoring Report for Trial Trenching Works, water quality monitoring in Victoria Harbour will be carried out in two impact monitoring stations (namely A and WSD9) in dry season and four impact monitoring stations (namely A, WSD9, 14 and WSD17) in wet season.

Monitoring Parameter, Frequency and Programme

3.7 Water quality monitoring was conducted in accordance with the requirements stipulated in the approved SCL(HUH-ADM) EM&A Manual and the ERR. **Table 3.2** summarized the monitoring frequency and water quality parameters for the water quality monitoring programme.

Table 3.2 Water Quality Monitoring Programme

	Baseline Monitoring	Impact Monitoring	Post-Project Monitoring
Monitoring Period	Four weeks prior to the commencement of dredging works or any major marine works	During seabed levelling work in Shek O Casting Basin and trenching work in Victoria Harbour	Four weeks upon completion of all marine activities
Monitoring Frequency	3 Days in a Week, at mid-flood and mid-ebb tides		
Monitoring Locations	GB3, C3, C4, A, WSD9, C1, C2	Dry Season GB3, C3, C4, A, WSD9, C1, C2 Wet Season GB3, C3, C4, A, WSD9, 14, WSD17, C1, C2	GB3, C3, C4, A, WSD9, 14, WSD17, C1, C2
Monitoring Parameters	DO, temperature, turbidity, pH, salinity and SS		
Intervals between 2 Sets of Monitoring	Not less than 36 hours		
Tide Range	Individual flood and ebb tides not less than 0.5m		

Monitoring Equipment and Methodology

3.8 The monitoring equipments and methodologies for post-project monitoring exercise are presented below. The post-project monitoring exercise was carried out in the same manner as the impact monitoring.

pH Measurement Instrument

3.9 The instrument should consist of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It should be readable to 0.1pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 should be used for calibration of the instrument before and after use.

Dissolved Oxygen and Temperature Measuring Equipment

3.10 The Dissolved Oxygen (DO) measuring equipment should be portable and weatherproof. It should complete with cable and senor, and a DC power source. The equipment should be capable of measuring:

- a DO level in the range of 0 - 20 $mg \cdot L^{-1}$ and 0 - 200% saturation; and
- a temperature of 0 - 45 degree Celsius (°C).

3.11 It should have a membrane electrode with automatic temperature compensation complete with a cable.

3.12 Should salinity compensation not be built-in to the DO equipment, in-situ salinity should be measured to calibrate the DO measuring equipment prior to each DO measurement.

Turbidity Measurement Instrument

3.13 The turbidity measuring instrument should be a portable and weatherproof using a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0 - 1000 NTU (for example, Hach model 2100P or an approved similar instrument).

Sampler

3.14 A water sampler is required for SS monitoring. It should comprise a transparent PVC cylinder, with a capacity of not less than 2 litres, which can be effectively sealed with latex cups at both ends. The sampler should have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth (for example, Kahlsico Water Sampler or an approved similar instrument).

Water Depth Detector

3.15 A portable, battery-operated echo sounder should be used for the determination of water depth at each monitoring station. This unit can either be hand-held or affixed to the bottom of the work boat, if the same vessel is to be used throughout the monitoring programme.

Salinity

3.16 A portable salinometer capable of measuring salinity in the range of 0 - 40 parts per thousand (ppt) should be provided for measuring salinity of the water at each monitoring station.

Sample Containers and Storage

3.17 Water samples for SS monitoring should be stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4 ^{o}C without being frozen) and delivered to the laboratory and analyzed as soon as possible after collection.

Monitoring Position Equipment

3.18 A hand-held or boat-fixed type digital Differential Global Positioning System (DGPS) with way point bearing indication and Radio Technical Commission for maritime (RTCM) Type 16 error message "screen pop-up" facilities (for real-time auto-display of error messages and DGPS corrections from the Hong Kong Hydrographic Office), or other equipment instrument of similar accuracy, should be provided and used during marine water monitoring to ensure the monitoring vessel at the correct location before taking measurements.

Calibration of In-Situ Instruments

3.19 The pH meter, DO meter and turbidimeter shall be checked and calibrated before use. DO meter and turbidimeter shall be certified by a laboratory accredited under HOKLAS or any other international accreditation scheme, and subsequently re-calibrated at 3 monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes should be checked with certified standard solutions before each use. Wet bulb calibration for a DO meter shall be carried out before measurement at each monitoring location.

3.20 **Table 3.3** summarizes the equipment used in the post-project water quality monitoring program. The calibration certificates for the in-situ instruments are presented in **Appendix E**.

Table 3.3 Water Quality Monitoring Equipment

Equipment	Model and Make	Qty.
Water Sampler	Kahlsico Water-Bottle Model 135DW 150	3
Multi-parameter Water Quality System	YSI 6820-C-M	2
	Aquaread AP-2000-D	1
Monitoring Position Equipment	"Magellan" Handheld GPS Model GPS-320	3
Water Depth Detector	Fishfinder 140	3

Laboratory Measurement / Analysis for Marine Water

3.21 Sufficient stocks of spare parts shall be maintained for replacements when necessary. Backup monitoring equipment shall also be made available so that monitoring can proceed uninterrupted even when some equipment are under maintenance, calibration, etc.

3.22 Duplicate samples from each independent sampling event are required by EPD for all parameters. Analysis of suspended solids shall be carried out in a HOKLAS or other international accredited laboratory. Sufficient water samples shall be collected at the monitoring stations for carrying out the laboratory SS determinations, with detection

limit shown in **Table 3.4**. The SS determination work shall start within 24 hours after collection of the water samples. The analyses shall follow the standard methods according to Table 3.3 and as described in "American Public Health Association (APHA) Standard Methods for the Examination of Water and Wastewater", 19th edition, unless otherwise specified.

Table 3.4 Analytical Methods to be applied to Marine Water Quality Samples

Determinant	Standard Method	Detection Limit
Suspended Solids (mg/L)	APHA 2540 D	0.1 mg/L

3.23 Quality Control Reports as attached in **Appendix F** are available for the SS analyzed in the HOKLAS-accredited laboratory, WELLAB Ltd.

Action and Limit Levels

3.24 The action and limit levels for water quality monitoring are presented in **Appendix B**.

Event and Action Plan

3.25 Should non-compliance of the criteria occur, action in accordance with the Event and Action Plan in **Appendix C** was carried out.

Landscape and Visual

3.26 In accordance with the EM&A Manual, the landscape and visual mitigation measures was implemented and a site inspection was conducted once every two weeks throughout the construction period.

4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

4.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit, EM&A Manual and the ERR. The implementation status of the environmental mitigation measures of the construction period is summarized in **Appendix G**. Status of required submissions under the Environmental Permit (EP) of this Project is presented in **Table 4.1**.

Table 4.1 Status of Required Submissions under EP

EP Condition	Submission	Submission Date
Condition 2.1	Employment of Environmental Team	22nd July 2014
Condition 2.2	Employment of Independent Environmental Checker	14th September 2012
	Replacement of Independent Environmental Checker	21st May 2013
Condition 2.5	Management Organization of Main Construction Companies	22nd July 2014
Condition 2.6	Construction Programme and EP Submission Schedule	8th July 2014
Condition 2.10	Silt Curtain Deployment Plan for Trial Trenching in Victoria Harbour	11th July 2014
Condition 2.11	Silt Screen Deployment Plan	11th July 2014
Condition 2.23.1	Silt Curtain Deployment Plan for Shek O	1st Submission: 30th June 2014
		2nd Submission: 23rd July 2014
Condition 3.3	Baseline Water Quality Monitoring Report for Temporary Marine Works at Shek O Casting Basin	1st Submission: 8th July 2014
		2nd Submission: 11th August 2014
Condition 3.4	Monthly EM&A Report (August 2014)	12th September 2014
	Monthly EM&A Report (September 2014)	14th October 2014
	Monthly EM&A Report (October 2014)	14th November 2014
	Monthly EM&A Report (November 2014)	12th December 2014
	Monthly EM&A Report (December 2014)	14th January 2015

5 SUMMARY OF EM&A WORKS

Water Quality Monitoring

5.1 The baseline, impact and post-project water quality monitoring periods are summarized in the **Table 5.1** below.

Table 5.1 Baseline, Impact and Post-Project Water Quality Monitoring Periods

Activity	Temporary Works at Shek O Casting Basin	Trial Trench for Victoria Harbour
Baseline Monitoring	10 May – 5 June 2014	13 March – 8 April 2014
Impact Monitoring	1 August – 19 December 2014	12 September – 15 December 2014
Post-project Monitoring	22 December 2014 – 16 January 2015	17 December 2014 – 12 January 2015

5.2 Action and Limit Levels for water quality monitoring in Shek O Casting Basin and in Victoria Harbour have been established in the baseline water quality monitoring conducted. Action and Limit Levels for water quality is summarised in **Appendix B**.

5.3 The monitoring results for Post-project monitoring together with graphical presentations and statistical analysis of the trends of monitoring parameter over the course of the Project are shown in **Appendix D**.

5.4 With reference to the trends of monitoring parameters shown in **Appendix D**, the trends at the impact monitoring stations (namely GB3, 14, A, WSD17 and WSD9) are in line with those at their respective control stations (namely C3, C4 for GB3, and namely C1, C2 for 14, A, WSD17 and WSD9). The monitoring parameters were mainly influenced by seasonal fluctuations of the ambient seawater during impact and post-project monitoring period. Therefore, it is considered that no adverse environmental impact was brought to the water quality monitoring stations by this Project.

5.5 No exceedance of the Action and Limit Levels of water quality monitoring was recorded during the post-project monitoring period and the whole construction period.

Waste Management

5.6 Waste generated from this Project includes mainly marine sediments. Details of waste management data is presented in **Appendix H**.

5.7 With reference to relevant handling records of this Project, Type 1 (Category L) sediments, contaminated materials - Type 1 (dedicated sites) and Type 2 - Confined Marine Disposal (Category M) were generated from construction activities during the construction period. Such materials would be collected and disposed at Mud Pits CMP1 or CMP2 of the exhausted Confined Marine Disposal Facility at South of The Brothers (or East of Sha Chau). The quantity of disposed marine sediments is presented in **Table 5.2** below.

Table 5.2 Summary of Quantity of Disposed Marine Sediments

Reporting Month	Type 1 (Category L) sediments	Type 1 contaminated materials (dedicated sites)	Type 2 contaminated materials Confined Marine Disposal (Category M)
	(m^3 in bulk volume)		
August 2014	0	0	0
September 2014	5,468	1,488	0
October 2014	1,912	0	11,910
November 2014	0	0	3,271
December 2014	0	0	0

Landscape and Visual

5.8 Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted throughout the construction period. The observations and recommendations made during the audit sessions are summarized in each of the Monthly EM&A Report.

Site Audit

5.9 Site audit was carried out by representatives of the Contractor, Engineer and Contractor's ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The representative of the IEC joined the site inspections once per month.

5.10 No non-compliance was recorded during the site inspections throughout the construction period. Observations and recommendations recorded during the site inspections were summarized in each of the Monthly EM&A Reports.

5.11 According to the EIA Study Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix G**.

5.12 The major findings and the corresponding recommendations given during the site audits are summarized in **Table 5.3**.

Table 5.3 Major Findings and Corresponding Recommendations given During Site Audits

Parameters	Observations	Corresponding Recommendations
Water Quality	Some gaps at the silt curtains in Northern and Southern Gates of Shek O Casting Basin were observed.	To provide extra fabric and repair the silt curtains properly.
	The silt curtain at grab in Victoria Harbour is under maintenance thus not useable.	To ensure the silt curtain can function properly before commencing the dredging works.
	Dusty material observed at near the side of target barge in Shek O and Victoria Harbour	To remove these dusty material to avoid washing to seawater
	Plume of silty water observed in the seawater near the end of the barge in Victoria Harbour	To locate the source of silty water and repair any equipments if necessary.
	General refuse observed deposited near the silt screen at Tai Wan	To remove the general refuse properly and regularly
	Some fabric of the silt curtain observed floating on the water at the Northern and Southern Gate of Shek O Casting Basin	To strengthen the anchorage of silt curtains or repair the silt curtain properly.
Noise	--	--
Landscape and Visual	--	--
Air Quality	--	--
Waste/Chemical Management	Chemical containers on the barges in Shek O and Victoria Harbour were observed not provided with secondary confinement.	To provide drip tray to chemical containers accordingly.
	Oily water observed on the barge in Shek O and Victoria Harbour.	To properly clear the oily water as “chemical waste” and provide absorptive material on the barge in the event of chemical leakage.
Permits/Licenses	Environmental Permit for the Project not displayed conspicuously in Shek O	To properly display Environmental Permit at the site entrance before commencement of works.

6 ENVIRONMENTAL NON-CONFORMANCE

Summary of Exceedances

6.1 No exceedance of the Action and Limit Levels of impact water quality monitoring was recorded during the construction period.

Summary of Environmental Non-Compliance

6.2 No environmental non-compliance was recorded in the construction period.

Summary of Environmental Complaint

6.3 No environmental Project-related complaint was received in the construction period.

Summary of Environmental Summon and Successful Prosecution

6.4 There was no successful environmental prosecution or notification of summons received since the Project commencement.

7 COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

Validity of EIA Predictions

7.1 It is predicted in the EIA Report that with the implementation of the recommended mitigation measures, there would be no unacceptable water quality impacts arising from the Project-related construction works. Similarly in the ERR, no adverse water quality impacts was expected from the temporary marine works for Shek O Casting Basin. The impact water quality monitoring data obtained was in-line with the predictions as no Action/Limit Level exceedance was considered caused by the Project.

Comments on Overall EM&A Programme

7.2 The mitigation measures detailed in the Environmental Permit, the Manual, the ERR and in the EIA report were implemented throughout the whole project period. With the environmental monitoring and site inspection to directly ensure the timely implementation of mitigation measures during the Project, the environmental performance of the Project was acceptable. Analysis of all EM&A data collected throughout the construction periods also demonstrated the environmental acceptability of the Project.

7.3 The overall performance of the monitoring methodology adopted and environmental management system in this Project was effective.

Overall EM&A Data

7.4 Baseline, impact and post-project water quality monitoring for temporary works in Shek O Casting Basin and Trial trenching works in Victoria Harbour were carried out according to the requirements in the EM&A Manual.

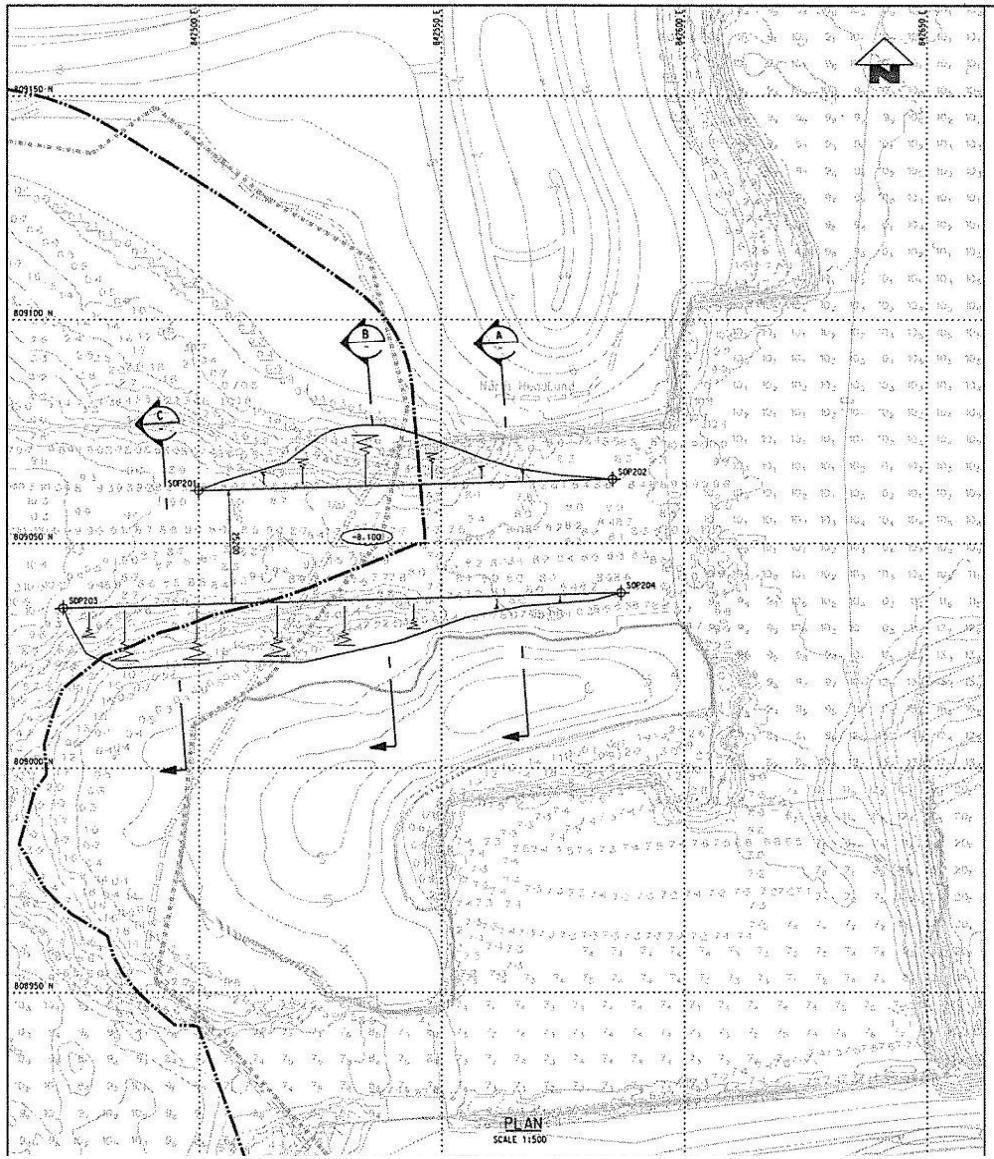
7.5 No exceedance of the Action and Limit Levels of water quality monitoring was recorded at the designated monitoring stations during the post-project monitoring period as well as the whole construction period.

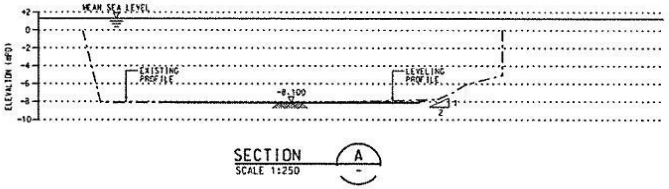
Recommendations and Conclusions

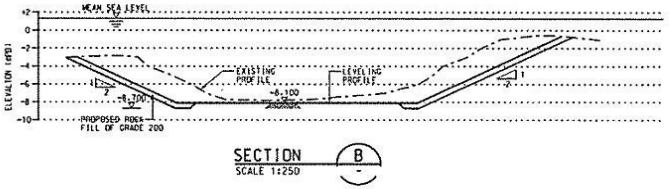
7.6 The EM&A programme was found to be effective in monitoring impacts arising from the Project. The findings of the environmental monitoring program suggest that no adverse impacts on sensitive receivers were brought about by the Project. In conclusion the Project was environmentally acceptable in terms of water quality.

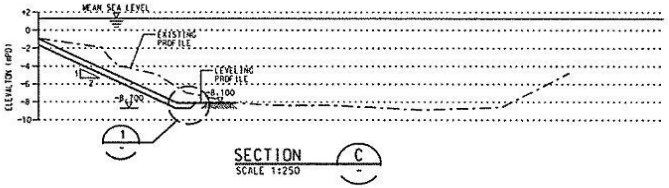
7.7 With the success of the overall EM&A programme, the deterioration of the environment caused by the Project was cost-effectively identified and necessary prompt effective mitigation measures were implemented to avoid any unacceptable impacts.

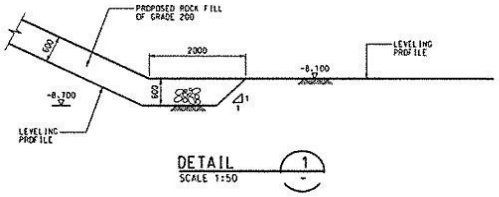
FIGURES

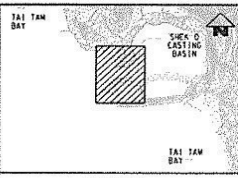












KEY PLAN

NOTES:

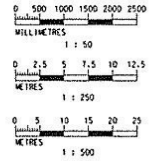
1. UNLESS NOTED OTHERWISE, LEVELS ARE SHOWN IN METRES RELATIVE TO HONG KONG PRINCIPAL DATUM (mPD).
2. TOPOGRAPHIC INFORMATION AND HYDROGRAPHIC SURVEY RESULTS SHOWN ON THE DRAWING ARE INDICATIVE ONLY.
3. BASED ON THE AVAILABLE G.I. INFORMATION SILTATION ON SEABED IS ANTICIPATED. HYDROGRAPHIC SURVEY RESULT IS SHOWN ON THE DRAWING FOR INFORMATION.

LEGEND:

- WORKS BOUNDARY
- HYDROGRAPHIC SURVEY RECORD
- TOPOGRAPHICAL SURVEY RECORD (mPD)
- LEVELING SIDE SLOPE
- -8.100 FINISHED LEVEL
- SOP201 SETTING OUT POINT

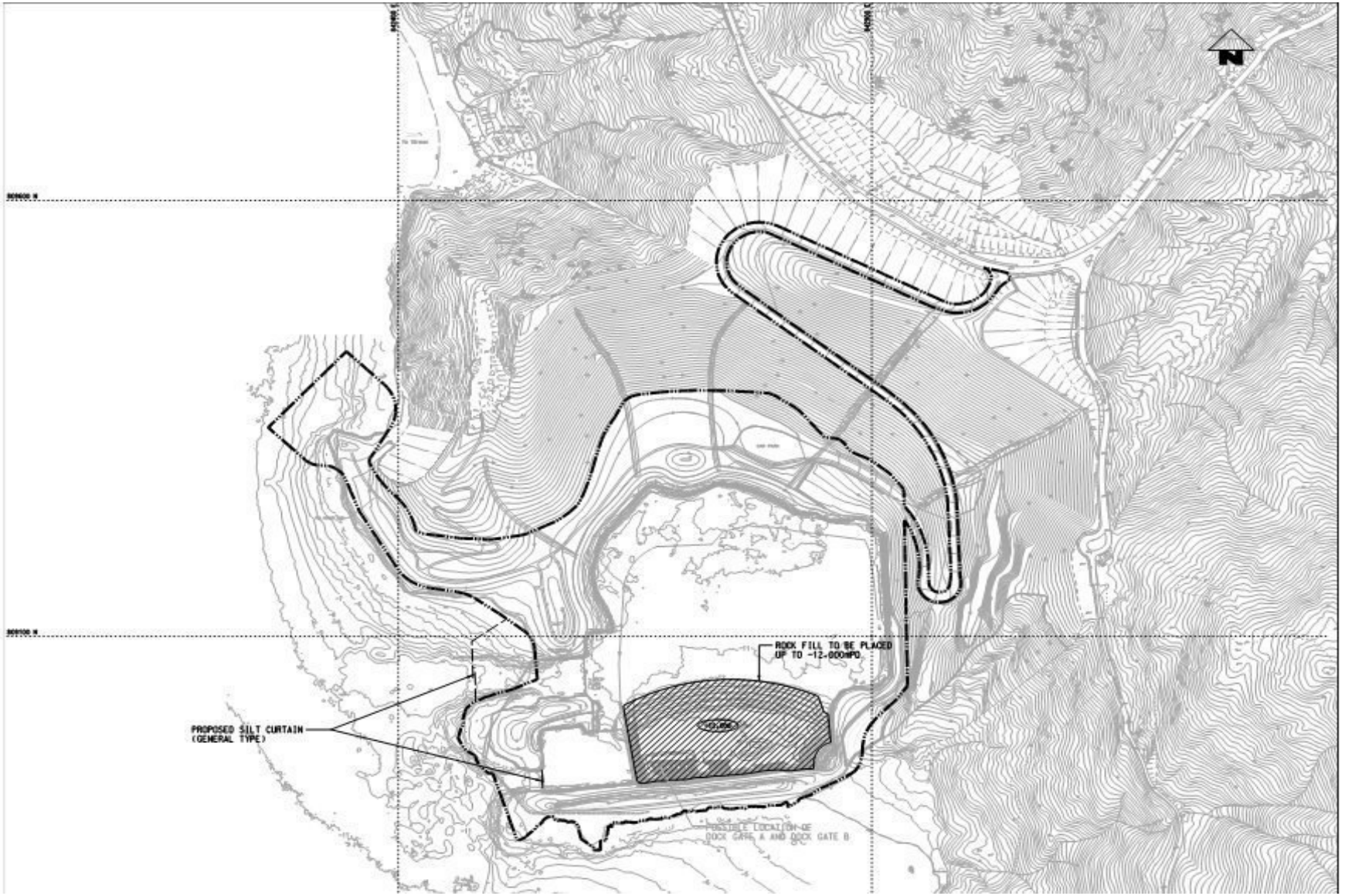
SETTING OUT POINT

SETTING OUT POINT	COORDINATES	
	EASTING	NORTHING
SOP201	842499.934	809061.679
SOP202	842585.299	809064.190
SOP203	842472.124	809035.647
SOP204	842587.026	809039.030



Title	Contract 11227 Advance Works for NSL Cross Harbour Tunnels The Alignment and Works Area for Works Contract 11227	Scale: N.T.S	Project No.: MA14028
		Date: Aug-14	Figure: 1a

CINOTECH



Title

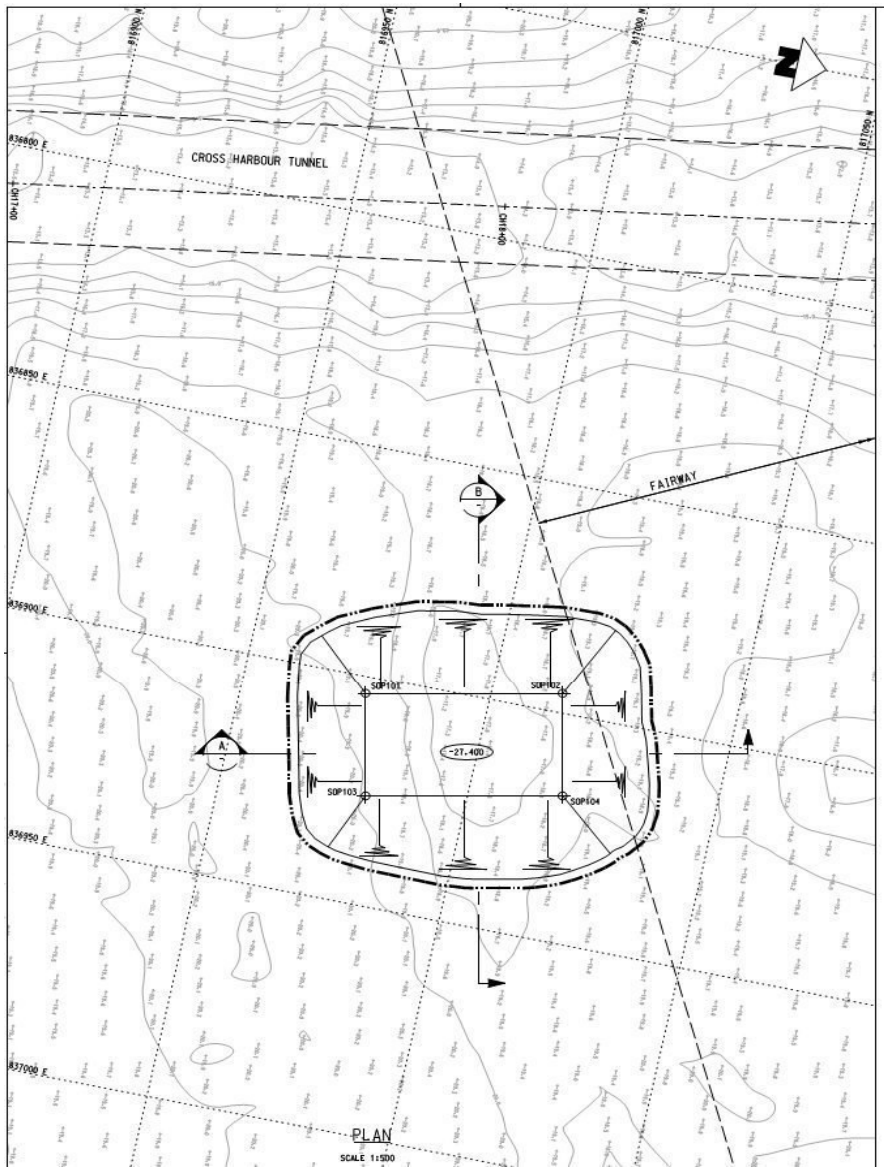
Contract 11227

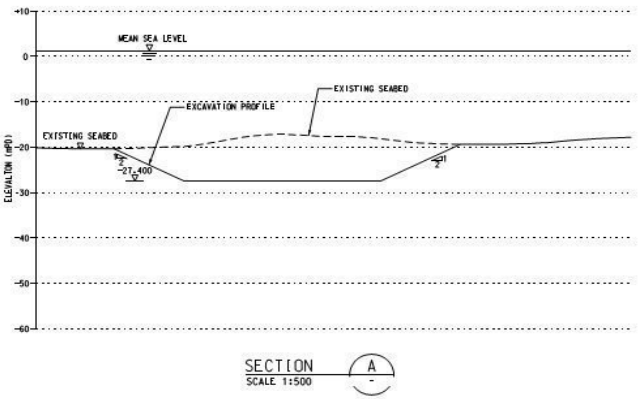
Advance Works for NSL Cross Harbour Tunnels

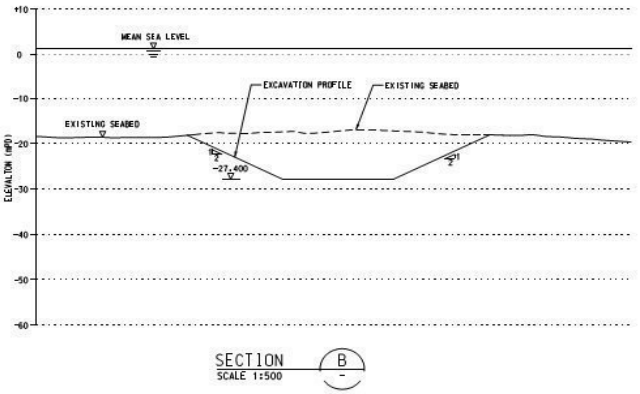
The Alignment and Works Area for Works Contract 11227

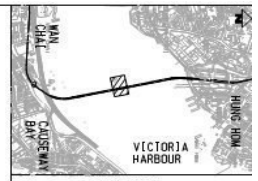
Scale	Project No.
N.T.S	MA14028
Date	Figure
Aug-14	1b

CINOTECH









NOTES:

1. UNLESS NOTED OTHERWISE, LEVELS ARE SHOWN IN METRES RELATIVE TO HONG KONG PRINCIPAL DATUM (mPD).
2. HYDROGRAPHIC SURVEY RESULTS SHOWN ON THE DRAWING ARE INDICATIVE ONLY.

LEGEND:

- WORKS BOUNDARY
- CH18+00 — CROSS HARBOUR TUNNEL CHAINAGE
- TRIAL TRENCHING SIDE SLOPE
- -1.000 — EXCAVATION LEVEL
- SOP102 — SETTING OUT POINT
- HYDROGRAPHIC SURVEY RECORD (mPD)

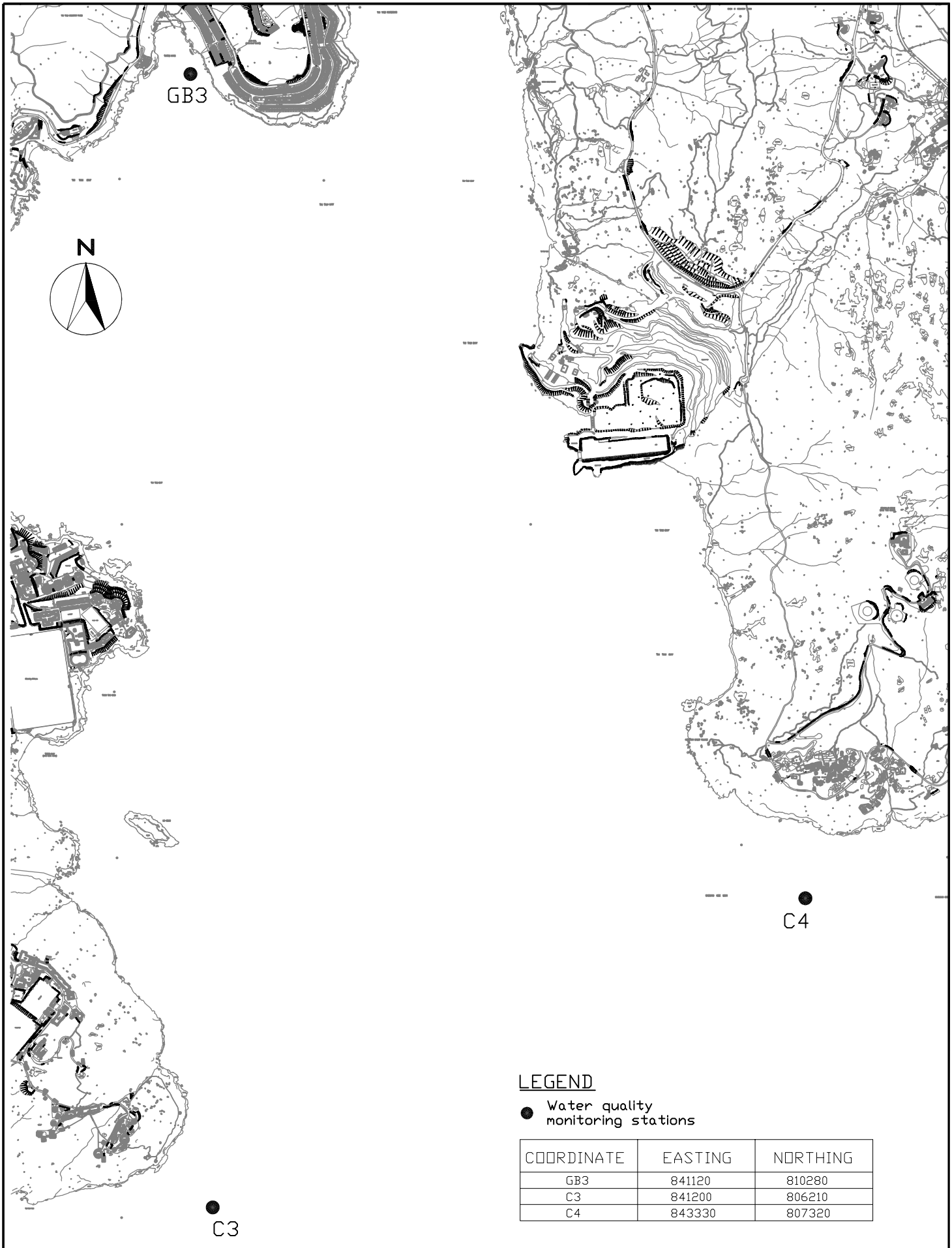
SETTING OUT POINT

SETTING OUT POINT	COORDINATES	
	EASTING	NORTHING
SOP101	836903.922	816975.092
SOP102	836895.669	817014.231
SOP103	836926.072	816979.763
SOP104	836917.819	817018.902

0 5 10 15 20 25
METRES
1 : 500

Title	Contract 11227 Advance Works for NSL Cross Harbour Tunnels The Alignment and Works Area for Works Contract 11227	Scale: N.T.S	Project No.: MA14028
		Date: Aug-14	Appendix: 1c

CINOTECH



LEGEND

● Water quality monitoring stations

COORDINATE	EASTING	NORTHING
GB3	841120	810280
C3	841200	806210
C4	843330	807320

CINOTECH
Cinotech Consultants Limited

SHATIN TO CENTRAL LINK – CONTRACT NO. 11227
ADVANCE WORKS FOR NSL CROSS HARBOUR TUNNELS

Locations of the Water Quality Monitoring station in Shek O

SCALE	1:450	DATE	AUG 2014
CHECK	JF	DRAWN	VW
JOB No.	MA14028	FIGURE NO. 2	REV –

COORDINATE	EASTING	NORTHING
A	836268	816045
14	834477	817891
WSD9	837930	818357
WSD17	839863	817077
C1	833977	817442
C2	841088	817223

LEGEND

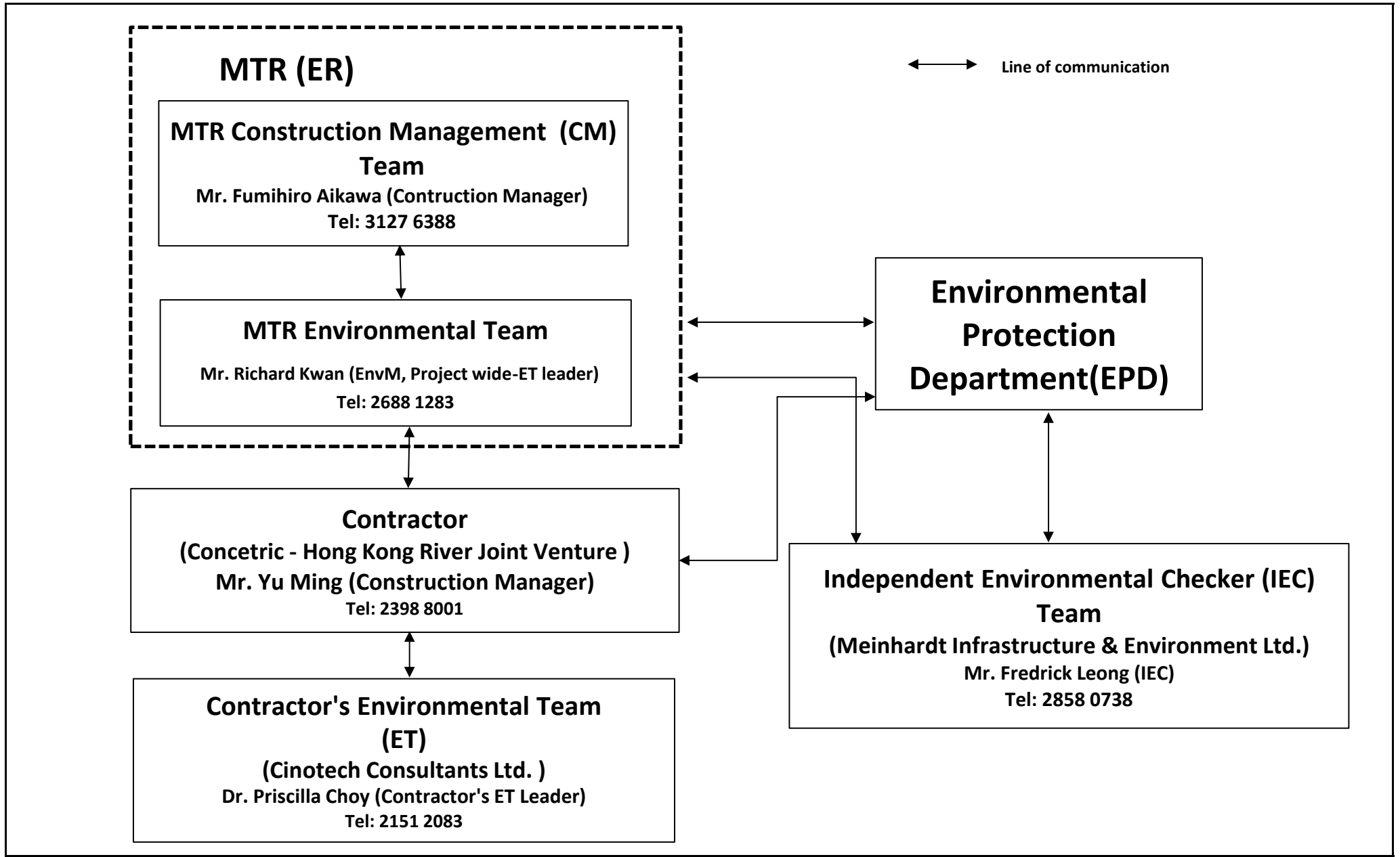
● Water Quality Monitoring Station

CINOTECH
Cinotech Consultants Limited

SHATIN TO CENTRAL LINK – CONTRACT NO. 11227
ADVANCE WORKS FOR NSL CROSS HARBOUR TUNNELS

Locations of the Water Quality Monitoring station in Victoria Harbour

SCALE	1:30	DATE	AUG 2014
CHECK	JF	DRAWN	VW
JOB No.	MA14028	FIGURE NO. 3	REV –



Title	Scale	Project
SCL Contract 11227 The Shatin to Central Link - Advance Works for NSL Cross Harbour Tunnels Project Organisation for Environmental Works	N.T.S	No. MA14028
	Date: Jan-15	Figure: 4

CINOTECH

APPENDIX A
POST-PROJECT WATER QUALITY MONITORING SCHEDULE

Shatin to Central Link - Contract No. 11227
Advance Works for NSL Cross Harbour Tunnels
Post-Project Water Quality Monitoring Schedule (Shek O) (December 2014)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Dec	2-Dec	3-Dec	4-Dec	5-Dec	6-Dec
7-Dec	8-Dec	9-Dec	10-Dec	11-Dec	12-Dec	13-Dec
14-Dec	15-Dec	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
21-Dec	22-Dec	23-Dec	24-Dec	**25-Dec**	**26-Dec**	27-Dec
	*Mid-Ebb 12:27 Mid-Flood 17:43		Mid-Flood 8:29 *Mid-Ebb 13:54			Mid-Flood 10:50 *Mid-Ebb 16:38
28-Dec	29-Dec	30-Dec	31-Dec			
	Mid-Flood 12:34 Mid-Ebb 19:02		*Mid-Ebb 8:00 Mid-Flood 14:17			

Water Quality Monitoring Stations

C3, C4, GB3

* indicates that the tidal range of individual flood or ebb tide is less than 0.5m

Remark: 1) Reference was made to the tidal information of Hong Kong Observatory (Tai Miu Wan Station)

2) The reasons for choosing the monitoring day (i.e. 22, 24, 27 and 31 December 2014) in which the tidal ranges are less than 0.5m include:

a) The tidal range of less than 0.5m occurs for 2 or more consecutive days

b) In compliance with the requirement of (i) three days per week at mid-ebb and mid-flood tide and (ii) the interval between two sets of monitoring not less than 36 hours

Shatin to Central Link - Contract No. 11227
Advance Works for NSL Cross Harbour Tunnels
Post-Project Water Quality Monitoring Schedule (Shek O) (January 2015)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Jan	2-Jan	3-Jan
					*Mid-Ebb 10:15 Mid-Flood 15:52	
4-Jan	5-Jan	6-Jan	7-Jan	8-Jan	9-Jan	10-Jan
	*Mid-Ebb 12:27 Mid-Flood 17:50		Mid-Flood 8:18 *Mid-Ebb 13:35		Mid-Flood 9:22 *Mid-Ebb 14:46	
11-Jan	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan	17-Jan
	Mid-Flood 11:10 *Mid-Ebb 17:06		Mid-Flood 12:34 Mid-Ebb 19:27		*Mid-Ebb 8:39 Mid-Flood 14:08	
18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan
25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan

Water Quality Monitoring Stations

C3, C4, GB3

* indicates that the tidal range of individual flood or ebb tide is less than 0.5m

Remark: 1) Reference was made to the tidal information of Hong Kong Observatory (Tai Miu Wan Station)

2) The reasons for choosing the monitoring day (i.e. 2, 5, 7, 9, 12, 16 January 2015) in which the tidal ranges are less than 0.5m include:

a) The tidal range of less than 0.5m occurs for 2 or more consecutive days

b) In compliance with the requirement of (i) three days per week at mid-ebb and mid-flood tide and (ii) the interval between two sets of monitoring not less than 36 hours

Shatin to Central Link - Contract No. 11227
Advance Works for NSL Cross Harbour Tunnels
Post-Project Water Quality Monitoring Schedule (Victoria Harbour) (December 2014)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Dec	2-Dec	3-Dec	4-Dec	5-Dec	6-Dec
7-Dec	8-Dec	9-Dec	10-Dec	11-Dec	12-Dec	13-Dec
14-Dec	15-Dec	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
			*Mid-Ebb 8:14 Mid-Flood 14:32		*Mid-Ebb 10:19 Mid-Flood 15:47	
21-Dec	22-Dec	23-Dec	24-Dec	**25-Dec**	**26-Dec**	27-Dec
	*Mid-Ebb 12:35 Mid-Flood 17:51		Mid-Flood 8:35 *Mid-Ebb 14:08			Mid-Flood 10:58 *Mid-Ebb 16:48
28-Dec	29-Dec	30-Dec	31-Dec			
	Mid-Flood 12:40 Mid-Ebb 19:11		*Mid-Ebb 8:08 Mid-Flood 14:25			

Water Quality Monitoring Stations

14, A, C1, C2, WSD17, WSD9

* indicates that the tidal range of individual flood or ebb tide is less than 0.5m

Remark: 1) Reference was made to the tidal information of Hong Kong Observatory (Quarry Bay Station)

2) The reasons for choosing the monitoring day (i.e. 17, 19, 22, 24, 27 and 31 December 2014) in which the tidal ranges are less than 0.5m include:

a) The tidal range of less than 0.5m occurs for 2 or more consecutive days

b) In compliance with the requirement of (i) three days per week at mid-ebb and mid-flood tide and (ii) the interval between two sets of monitoring not less than 36 hours

Shatin to Central Link - Contract No. 11227
Advance Works for NSL Cross Harbour Tunnels
Post-Project Water Quality Monitoring Schedule (Victoria Harbour) (January 2015)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Dec	2-Dec	3-Dec	**1-Jan**	2-Jan	3-Jan
					*Mid-Ebb 10:26 Mid-Flood 16:00	
4-Jan	5-Jan	6-Jan	7-Jan	8-Jan	9-Jan	10-Jan
	*Mid-Ebb 12:39 Mid-Flood 17:57		Mid-Flood 8:25 *Mid-Ebb 13:46		Mid-Flood 9:23 *Mid-Ebb 14:51	
11-Jan	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan	17-Jan
	Mid-Flood 11:15 *Mid-Ebb 17:11					
18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan
25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan

Water Quality Monitoring Stations

14, A, C1, C2, WSD17, WSD9

* indicates that the tidal range of individual flood or ebb tide is less than 0.5m

Remark: 1) Reference was made to the tidal information of Hong Kong Observatory (Quarry Bay Station)

2) The reasons for choosing the monitoring day (i.e. 2, 5, 7, 9, 12 January 2015) in which the tidal ranges are less than 0.5m include:

a) The tidal range of less than 0.5m occurs for 2 or more consecutive days

b) In compliance with the requirement of (i) three days per week at mid-ebb and mid-flood tide and (ii) the interval between two sets of monitoring not less than 36 hours

APPENDIX B
ACTION AND LIMIT LEVELS

APPENDIX B – Action and Limit Levels

Derived Action and Limit Levels for Water Quality at Intakes A and WSD9 (Dry Season)

Parameters	Action Level	Limit Level
DO in mg/L	<2.1	<2
SS in mg/L	5.0	5.5
Turbidity in NTU	5.3	5.6

Derived Action and Limit Levels for Water Quality at Intakes A, WSD9, 14 and WSD17 (Wet Season)

Parameters	Action Level	Limit Level
DO in mg/L	<2.1	<2
SS in mg/L	4.4	4.8
Turbidity in NTU	5.3	5.6

Derived Action and Limit Levels for Water Quality at GB3 (Dry Season)

Parameters	Action Level	Limit Level
DO in mg/L	6.8	6.5
SS in mg/L	9.3	9.3
Turbidity in NTU	5.0	5.6

Derived Action and Limit Levels for Water Quality at GB3 (Wet Season)

Parameters	Action Level	Limit Level
DO in mg/L	5.5	5.3
SS in mg/L	4.5	4.5
Turbidity in NTU	2.1	2.4

APPENDIX C
EVENT AND ACTION PLANS

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action level being exceeded by one sampling day	1. Inform the Contractor, IEC and ER; 2. Check monitoring data, all plant, equipment and the Contractor's working methods; and 3. Discuss remedial measures with the IEC and Contractor.	1. Discuss with the ET, ER and Contractor on the implemented mitigation measures; 2. Review proposals on remedial measures submitted by the Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER the effectiveness of the implemented mitigation measures.	1. Discuss with the ET, IEC and Contractor on the implemented mitigation measures; 2. Make agreement on the remedial measures to be implemented; and 3. Supervise the implementation of agreed remedial measures.	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment; 5. Consider changes of working methods; 6. Discuss with the ET, IEC and ER and propose remedial measures to IEC and ER; and 7. Implement the agreed remedial measures.
Action level being exceeded by more than one consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Inform the Contractor, IEC and ER; 3. Check monitoring data, all plant, equipment and	1. Discuss with the ET, ER and Contractor on the implemented mitigation measures; 2. Review proposals on remedial measures submitted by the	1. Discuss with the ET, IEC and Contractor on the implemented mitigation measures; 2. Make agreement on the remedial measures to be implemented; and	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	the Contractor's working methods; 4. Discuss remedial measures with the IEC and Contractor; and 5. Ensure remedial measures are implemented.	Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER the effectiveness of the implemented remedial measures.	3. Discuss with the ET and IEC on the effectiveness of the implemented remedial measures.	practice; 4. Check all plant and equipment; 5. Consider changes of working methods; 6. Discuss with the ET, IEC and ER and propose remedial measures to IEC and ER within 3 working days of notification; and 7. Implement the agreed remedial measures.

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Limit level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Inform the Contractor, IEC, EPD and ER; 3. Rectify unacceptable practice; 4. Check monitoring data, all plant, equipment and the Contractor's working methods; 5. Discuss with the ET and IEC and propose remedial measures to the IEC, EPD and ER; and 6. Ensure the agreed remedial measures are implemented.	1. Discuss with the ET, ER and Contractor on the implemented mitigation measures; 2. Review proposals on remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER the effectiveness of the implemented remedial measures.	1. Discuss with the ET, IEC and Contractor on the implemented mitigation measures; 2. Request the Contractor to critically review the working methods; 3. Make agreement on the remedial measures to be implemented; and 4. Assess the effectiveness of the implemented remedial measures.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET , IEC and ER and propose remedial measures to IEC and ER within 3 working days of notification; and 6. Implement the agreed remedial measures.
Limit level being exceeded by more than one consecutive sampling days	1. Inform the Contractor, IEC, EPD and ER; 2. Check monitoring data, all plant, equipment and the Contractor's working methods;	1. Discuss with the ET, ER and Contractor on the implemented measures; 2. Review proposals on remedial measures submitted by the	1. Discuss with the ET, IEC and Contractor on the implemented mitigation measures; 2. Request the Contractor to critically review the	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	3. Discuss remedial measures with the the IEC, EPD, ER and Contractor; 4. Ensure remedial measures are implemented; and 5. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER the effectiveness of the implemented remedial measures.	working methods; 3. Make agreement on the remedial measures to be implemented; 4. Discuss with the the ET, IEC and Contractor on the effectiveness of the implemented remedial measures; and 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level.	practice; 4. Check all plant and equipment; 5. Consider changes of working methods; 6. Discuss with the ET, IEC and ER and propose remedial measures to IEC and ER within 3 working days of notification; 7. Implement the agreed remedial measures; and 8. As directed by the ER, to slow down or to stop all or part of the marine works or construction activities.

APPENDIX D
POST - PROJECT WATER QUALITY MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Water Quality Monitoring Results at C3 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
22-Dec-14	Cloudy	Moderate	13:52	Surface	1	17.3 20.1	18.7	7.1 7.9	7.5	31.9 31.0	31.5	95.4 101.3	98.4	7.6 7.7	7.7	7.6	3.3 3.5	3.4	4.6	4 4	4.0	6.0
				Middle	11	17.9 20.1	19.0	7.7 7.5	7.6	31.4 31.6	31.5	95.1 98.1	96.6	7.5 7.4	7.5		4.1 4.1	4.1		11 11	11.0	
				Bottom	21	18.2 19.6	18.9	7.2 7.1	7.2	32.2 32.5	32.4	91.0 92.3	91.7	7.1 7.0	7.1	7.1	6.2 6.2	6.2		3 3	3.0	
24-Dec-14	Cloudy	Moderate	14:28	Surface	1	18.4 18.3	18.4	8.1 8.1	8.1	27.9 26.4	27.2	108.8 108.0	108.4	8.7 8.7	8.7	8.7	3.4 3.9	3.7	4.4	8 8	8.0	6.0
				Middle	11	18.4 18.3	18.4	8.1 8.1	8.1	28.0 28.3	28.2	108.2 108.3	108.3	8.6 8.6	8.6		4.8 4.8	4.8		6 6	6.0	
				Bottom	21	18.3 18.3	18.3	8.1 8.1	8.1	28.2 28.3	28.3	105.3 106.6	106.0	8.4 8.5	8.5	8.5	4.7 4.6	4.7		4 4	4.0	
27-Dec-14	Fine	Moderate	16:05	Surface	1	16.3 17.5	16.9	8.3 8.3	8.3	26.5 27.0	26.8	83.8 85.5	84.7	7.5 7.4	7.5	7.3	4.6 4.2	4.4	4.8	8 8	8.0	5.8
				Middle	11	16.7 17.6	17.2	8.3 8.3	8.3	25.9 27.2	26.6	79.0 80.0	79.5	7.0 7.0	7.0		4.0 3.9	4.0		4 5	4.5	
				Bottom	21	17.0 17.7	17.4	8.3 8.3	8.3	23.1 27.2	25.2	73.9 78.7	76.3	7.0 7.0	7.0	7.0	6.4 5.3	5.9		5 5	5.0	
29-Dec-14	Fine	Moderate	18:26	Surface	1	14.4 17.1	15.8	8.0 8.1	8.1	27.7 27.2	27.5	93.7 92.8	93.3	8.0 7.9	8.0	7.9	4.9 4.5	4.7	4.9	4 4	4.0	3.7
				Middle	11	15.2 17.3	16.3	8.1 8.1	8.1	26.3 27.1	26.7	89.6 90.8	90.2	7.7 7.8	7.8		4.1 4.2	4.2		4 4	4.0	
				Bottom	21	16.0 17.5	16.8	8.1 8.1	8.1	27.4 27.1	27.3	83.7 82.4	83.1	7.3 7.2	7.3	7.3	5.6 5.7	5.7		3 3	3.0	
31-Dec-14	Fine	Moderate	08:26	Surface	1	17.0 17.1	17.1	8.2 8.2	8.2	27.0 27.4	27.2	96.6 96.4	96.5	7.9 7.9	7.9	7.8	0.5 0.6	0.6	2.5	14 14	14.0	9.0
				Middle	11	17.6 17.7	17.7	8.2 8.2	8.2	27.9 27.8	27.9	95.1 94.8	95.0	7.7 7.6	7.7		2.5 2.4	2.5		6 6	6.0	
				Bottom	21	17.8 17.8	17.8	8.2 8.2	8.2	27.9 27.9	27.9	94.4 94.4	94.4	7.6 7.6	7.6	7.6	4.3 4.2	4.3		7 7	7.0	
2-Jan-15	Sunny	Moderate	09:51	Surface	1	14.3 17.4	15.9	8.0 8.1	8.1	27.2 27.0	27.1	86.6 92.9	89.8	7.5 7.6	7.6	7.4	3.6 3.5	3.6	4.6	4 4	4.0	6.5
				Middle	11.5	15.4 17.5	16.5	8.1 8.1	8.1	28.7 28.9	28.8	87.4 86.9	87.2	7.3 7.0	7.2		4.5 4.5	4.5		8 8	8.0	
				Bottom	22	16.4 17.6	17.0	8.1 8.1	8.1	28.9 28.9	28.9	86.2 82.9	84.6	7.1 6.7	6.9	6.9	5.7 5.7	5.7		8 7	7.5	
5-Jan-15	Sunny	Moderate	13:10	Surface	1	17.6 17.6	17.6	8.3 8.3	8.3	31.5 31.5	31.5	99.7 99.9	99.8	7.9 7.9	7.9	7.9	1.2 1.2	1.2	1.7	6 6	6.0	7.2
				Middle	11	17.6 17.6	17.6	8.3 8.3	8.3	32.3 30.8	31.6	100.6 99.5	100.1	7.9 7.9	7.9		1.7 1.7	1.7		9 8	8.5	
				Bottom	21	17.6 17.6	17.6	8.3 8.3	8.3	32.8 30.6	31.7	100.8 99.2	100.0	7.9 7.9	7.9	7.9	2.3 2.2	2.3		7 7	7.0	
7-Jan-15	Sunny	Moderate	14:33	Surface	1	17.5 17.5	17.5	6.2 6.2	6.2	28.9 28.2	28.6	106.9 106.0	106.5	8.6 8.6	8.6	8.5	3.9 3.8	3.9	4.2	<2.5 <2.5	<2.5	3.8
				Middle	11	17.6 17.6	17.6	6.2 6.3	6.3	29.7 28.0	28.9	103.7 101.2	102.5	8.3 8.2	8.3		3.7 3.8	3.8		3 3	3.0	
				Bottom	21	17.7 17.7	17.7	6.2 6.2	6.2	30.0 30.2	30.1	99.3 99.3	99.3	7.9 7.9	7.9	7.9	5.0 5.0	5.0		6 6	6.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C3 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
9-Jan-15	Sunny	Moderate	15:45	Surface	1	17.5 17.5	17.5	8.1 8.1	8.1	29.8 29.9	29.9	109.1 109.2	109.2	8.7 8.7	8.7	8.7	2.4 2.2	2.3	1.9	6 6	6.0	4.7
				Middle	11	17.5 17.5	17.5	8.1 8.1	8.1	29.8 29.9	29.9	109.1 109.1	109.1	8.7 8.7	8.7		1.6 1.4	1.5		5 5	5.0	
				Bottom	21	17.5 17.5	17.5	8.1 8.1	8.1	29.8 29.8	29.8	109.2 109.1	109.2	8.7 8.7	8.7	8.7	1.8 2.1	2.0		3 3	3.0	
12-Jan-15	Sunny	Moderate	16:09	Surface	1	13.9 17.0	15.5	8.1 8.2	8.2	32.7 30.8	31.8	86.3 91.2	88.8	7.3 7.3	7.3	7.2	1.7 1.8	1.8	3.3	9 9	9.0	7.8
				Middle	11	16.1 17.2	16.7	8.2 8.2	8.2	31.9 30.7	31.3	87.6 88.7	88.2	7.1 7.1	7.1		3.0 3.0	3.0		8 8	8.0	
				Bottom	21	16.5 17.2	16.9	8.2 8.2	8.2	32.7 32.6	32.7	88.3 90.1	89.2	7.1 7.1	7.1	7.1	5.1 5.2	5.2		7 6	6.5	
14-Jan-15	Sunny	Moderate	19:39	Surface	1	16.5 16.5	16.5	8.2 8.2	8.2	29.7 29.8	29.8	107.8 107.6	107.7	8.8 8.8	8.8	8.8	1.5 1.6	1.6	2.1	7 7	7.0	7.5
				Middle	11	16.5 16.5	16.5	8.2 8.2	8.2	29.7 29.8	29.8	107.6 107.6	107.6	8.8 8.8	8.8		2.2 2.1	2.2		9 8	8.5	
				Bottom	21	16.6 16.8	16.7	8.2 8.2	8.2	29.8 29.8	29.8	107.9 108.2	108.1	8.8 8.8	8.8	8.8	2.4 2.4	2.4		7 7	7.0	
16-Jan-15	Sunny	Moderate	08:41	Surface	1	20.2 20.3	20.3	8.2 8.2	8.2	32.1 32.2	32.2	99.8 99.7	99.8	7.5 7.5	7.5	7.5	3.4 3.3	3.4	4.0	9 9	9.0	8.7
				Middle	11	20.4 20.4	20.4	8.2 8.2	8.2	32.3 32.3	32.3	99.2 98.5	98.9	7.4 7.4	7.4		3.9 3.9	3.9		8 8	8.0	
				Bottom	21	20.4 20.4	20.4	8.2 8.2	8.2	32.6 32.6	32.6	97.6 96.9	97.3	7.3 7.2	7.3	7.3	4.7 4.5	4.6		9 9	9.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C3 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
22-Dec-14	Cloudy	Moderate	17:30	Surface	1	18.6 20.4	19.5	7.6 7.5	7.6	30.9 29.6	30.3	105.6 107.4	106.5	8.2 8.1	8.2	8.0	3.8 3.9	3.9	4.2	7 6	6.5	4.8
				Middle	11.5	18.7 20.3	19.5	7.7 7.7	7.7	30.2 30.0	30.1	97.0 101.4	99.2	7.6 7.7	7.7		3.3 3.3	3.3		3 3	3.0	
				Bottom	22	19.2 20.1	19.7	7.5 7.3	7.4	30.9 31.1	31.0	93.3 92.1	92.7	7.2 7.0	7.1	7.1	5.4 5.3	5.4		5 5	5.0	
24-Dec-14	Cloudy	Moderate	09:20	Surface	1	18.2 18.2	18.2	8.3 8.3	8.3	32.0 32.2	32.1	104.5 104.6	104.6	8.1 8.1	8.1	8.1	3.9 3.8	3.9	4.4	9 9	9.0	7.7
				Middle	11	18.2 18.2	18.2	8.3 8.3	8.3	32.0 32.2	32.1	104.4 104.5	104.5	8.1 8.1	8.1		5.2 5.1	5.2		6 6	6.0	
				Bottom	21	18.2 18.2	18.2	8.3 8.3	8.3	32.1 32.2	32.2	104.6 104.7	104.7	8.1 8.1	8.1	8.1	4.3 4.1	4.2		8 8	8.0	
27-Dec-14	Fine	Moderate	11:55	Surface	1	17.8 17.9	17.9	8.3 8.3	8.3	27.4 27.4	27.4	84.3 84.1	84.2	7.3 7.2	7.3	7.3	3.5 3.6	3.6	4.8	7 8	7.5	7.8
				Middle	11.5	17.8 17.9	17.9	8.3 8.3	8.3	27.4 27.4	27.4	84.2 84.1	84.2	7.3 7.2	7.3		4.8 4.5	4.7		8 8	8.0	
				Bottom	22	17.9 17.9	17.9	8.3 8.2	8.3	27.4 27.5	27.5	84.0 84.0	84.0	7.2 7.2	7.2	7.2	6.2 6.2	6.2		8 8	8.0	
29-Dec-14	Fine	Moderate	13:40	Surface	1	17.7 17.9	17.8	8.1 8.1	8.1	27.1 25.2	26.2	81.4 81.3	81.4	7.1 7.1	7.1	7.1	3.9 3.9	3.9	4.7	10 10	10.0	6.7
				Middle	11.5	17.8 17.9	17.9	8.1 8.1	8.1	27.1 25.2	26.2	80.8 81.2	81.0	7.1 7.1	7.1		4.8 4.7	4.8		6 6	6.0	
				Bottom	22	17.9 17.9	17.9	8.1 8.1	8.1	27.1 27.2	27.2	80.1 80.1	80.1	7.0 7.0	7.0	7.0	5.6 5.4	5.5		4 4	4.0	
31-Dec-14	Fine	Moderate	14:49	Surface	1	17.1 17.2	17.2	8.2 8.3	8.3	28.2 27.0	27.6	96.4 93.8	95.1	7.8 7.7	7.8	7.6	1.6 1.5	1.6	2.5	6 6	6.0	4.7
				Middle	11	17.6 17.7	17.7	8.3 8.3	8.3	27.1 27.3	27.2	90.5 90.4	90.5	7.3 7.3	7.3		3.2 3.9	3.6		6 5	5.5	
				Bottom	21	17.9 17.9	17.9	8.3 8.3	8.3	27.5 27.5	27.5	89.5 89.3	89.4	7.2 7.2	7.2	7.2	2.6 2.2	2.4		<2.5 <2.5	<2.5	
2-Jan-15	Sunny	Moderate	16:15	Surface	1	15.4 17.3	16.4	6.9 7.1	7.0	30.6 31.1	30.9	92.1 93.0	92.6	7.6 7.4	7.5	7.4	2.9 3.0	3.0	4.5	3 3	3.0	3.0
				Middle	11.5	16.2 17.4	16.8	7.0 7.1	7.1	31.1 31.0	31.1	87.8 90.3	89.1	7.2 7.2	7.2		4.1 4.8	4.5		3 3	3.0	
				Bottom	22	16.8 17.5	17.2	7.0 7.1	7.1	31.2 30.9	31.1	88.2 88.9	88.6	7.1 7.1	7.1	7.1	5.9 5.9	5.9		3 3	3.0	
5-Jan-15	Sunny	Moderate	17:52	Surface	1	17.7 17.7	17.7	8.3 8.3	8.3	30.8 30.0	30.4	99.1 99.4	99.3	7.9 7.9	7.9	7.9	1.1 1.2	1.2	1.4	4 4	4.0	3.2
				Middle	11	17.7 17.7	17.7	8.3 8.3	8.3	32.4 33.3	32.9	100.1 101.0	100.6	7.9 7.9	7.9		1.4 1.5	1.5		<2.5 <2.5	<2.5	
				Bottom	21	17.7 17.7	17.7	8.3 8.3	8.3	30.0 32.0	31.0	98.9 100.1	99.5	7.9 7.9	7.9	7.9	1.6 1.6	1.6		3 3	3.0	
7-Jan-15	Sunny	Moderate	08:27	Surface	1	17.8 17.8	17.8	7.0 7.0	7.0	30.5 30.8	30.7	100.7 100.9	100.8	8.0 8.0	8.0	8.0	3.8 3.9	3.9	4.0	4 4	4.0	3.5
				Middle	11	17.8 17.8	17.8	6.9 6.8	6.9	31.3 31.4	31.4	99.5 99.7	99.6	7.8 7.9	7.9		3.8 3.9	3.9		3 3	3.0	
				Bottom	21	17.8 17.8	17.8	6.8 6.7	6.8	31.7 31.7	31.7	100.4 100.5	100.5	7.9 7.9	7.9	7.9	4.4 4.2	4.3		3 4	3.5	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C3 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
9-Jan-15	Sunny	Moderate	09:59	Surface	1	17.5 17.5	17.5	8.1 8.1	8.1	29.5 29.7	29.6	109.3 109.2	109.3	8.8 8.7	8.8	8.8	2.2 2.7	2.5	2.2	5 5	5.0	4.3
				Middle	11	17.5 17.5	17.5	8.1 8.1	8.1	29.5 29.7	29.6	109.2 109.3	109.3	8.8 8.8	8.8		2.4 2.5	2.5		4 4	4.0	
				Bottom	21	17.5 17.5	17.5	8.1 8.1	8.1	29.6 29.7	29.7	109.3 109.2	109.3	8.8 8.7	8.8	8.8	1.6 1.5	1.6		4 4	4.0	
12-Jan-15	Sunny	Moderate	11:46	Surface	1	14.6 17.2	15.9	8.1 8.2	8.2	30.7 30.4	30.6	89.7 94.2	92.0	7.6 7.6	7.6	7.4	1.5 1.5	1.5	2.4	5 4	4.5	4.3
				Middle	11	16.2 17.3	16.8	8.1 8.2	8.2	31.1 31.4	31.3	87.5 89.9	88.7	7.1 7.2	7.2		2.1 2.2	2.2		4 5	4.5	
				Bottom	21	16.6 17.3	17.0	8.1 8.2	8.2	32.1 33.0	32.6	87.9 88.5	88.2	7.1 7.0	7.1	7.1	3.4 3.5	3.5		4 4	4.0	
14-Jan-15	Sunny	Moderate	12:38	Surface	1	17.0 17.0	17.0	8.3 8.3	8.3	29.6 29.8	29.7	108.7 108.8	108.8	8.8 8.8	8.8	8.8	1.6 1.8	1.7	2.0	3 3	3.0	3.2
				Middle	11	17.0 17.0	17.0	8.3 8.3	8.3	29.6 29.8	29.7	108.6 108.8	108.7	8.8 8.8	8.8		1.8 2.0	1.9		3 3	3.0	
				Bottom	21	17.0 17.0	17.0	8.3 8.3	8.3	29.7 29.8	29.8	108.7 108.7	108.7	8.8 8.8	8.8	8.8	2.4 2.4	2.4		3 4	3.5	
16-Jan-15	Sunny	Moderate	13:14	Surface	1	20.3 20.3	20.3	8.0 8.1	8.1	32.4 32.4	32.4	100.1 99.5	99.8	7.5 7.4	7.5	7.5	4.8 4.9	4.9	4.5	4 4	4.0	4.8
				Middle	10.5	20.4 20.4	20.4	8.1 8.1	8.1	32.6 32.6	32.6	98.9 98.9	98.9	7.4 7.4	7.4		3.8 3.8	3.8		6 6	6.0	
				Bottom	20	20.4 20.4	20.4	8.1 8.1	8.1	32.8 32.8	32.8	97.3 97.2	97.3	7.2 7.2	7.2	7.2	4.7 4.6	4.7		4 5	4.5	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C4 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
22-Dec-14	Cloudy	Moderate	13:36	Surface	1	20.0 18.6	19.3	7.9 7.7	7.8	31.2 34.0	32.6	104.6 105.0	104.8	7.9 8.0	8.0	7.6	2.6 2.5	2.6	3.3	<2.5 3	2.8	3.3
				Middle	9.5	20.3 18.4	19.4	7.6 7.0	7.3	33.0 33.9	33.5	95.5 92.2	93.9	7.1 7.1	7.1		2.6 2.6	2.6		3 3	3.0	
				Bottom	18	20.3 20.5	20.4	6.8 7.6	7.2	33.3 33.2	33.3	93.0 93.9	93.5	6.9 7.0	7.0	7.0	4.5 4.6	4.6		4 4	4.0	
24-Dec-14	Cloudy	Moderate	14:20	Surface	1	18.4 18.4	18.4	8.1 8.1	8.1	28.3 28.3	28.3	106.5 106.7	106.6	8.5 8.5	8.5	8.5	4.4 4.4	4.4	4.6	<2.5 <2.5	<2.5	4.0
				Middle	9.5	18.4 18.4	18.4	8.1 8.1	8.1	28.3 28.3	28.3	106.6 106.6	106.6	8.5 8.5	8.5		4.6 4.6	4.6		5 4	4.5	
				Bottom	18	18.4 18.4	18.4	8.1 8.1	8.1	28.3 28.4	28.4	105.8 105.5	105.7	8.4 8.4	8.4	8.4	4.8 4.7	4.8		5 5	5.0	
27-Dec-14	Fine	Moderate	15:41	Surface	1	17.2 17.8	17.5	8.3 8.3	8.3	27.3 27.3	27.3	88.0 89.6	88.8	7.6 7.7	7.7	7.8	4.3 3.6	4.0	3.9	5 5	5.0	5.3
				Middle	9.5	17.6 17.9	17.8	8.3 8.3	8.3	27.0 27.3	27.2	83.4 96.8	90.1	7.2 8.3	7.8		3.4 2.9	3.2		6 6	6.0	
				Bottom	18	17.7 17.9	17.8	8.3 8.3	8.3	27.2 27.3	27.3	81.6 82.6	82.1	7.1 7.1	7.1	7.1	4.1 5.1	4.6		5 5	5.0	
29-Dec-14	Fine	Moderate	18:12	Surface	1	15.4 17.3	16.4	8.0 8.1	8.1	26.6 26.5	26.6	97.7 99.2	98.5	8.3 8.4	8.4	8.2	3.5 3.6	3.6	3.6	5 4	4.5	3.2
				Middle	9.5	16.1 17.5	16.8	8.0 8.1	8.1	27.4 27.1	27.3	93.5 94.4	94.0	8.0 8.0	8.0		3.2 3.3	3.3		<2.5 <2.5	<2.5	
				Bottom	18	16.6 17.7	17.2	8.0 8.1	8.1	27.4 27.1	27.3	89.2 88.5	88.9	7.7 7.6	7.7	7.7	3.6 4.0	3.8		<2.5 <2.5	<2.5	
31-Dec-14	Fine	Moderate	08:14	Surface	1	17.4 17.8	17.6	8.1 8.2	8.2	27.1 27.3	27.2	96.5 95.5	96.0	7.9 7.7	7.8	7.8	1.5 1.6	1.6	2.4	9 9	9.0	8.5
				Middle	9.5	17.8 17.8	17.8	8.2 8.2	8.2	27.4 27.5	27.5	95.6 95.4	95.5	7.7 7.7	7.7		3.6 3.2	3.4		11 11	11.0	
				Bottom	18	17.8 17.9	17.9	8.1 8.2	8.2	27.6 27.5	27.6	95.4 94.8	95.1	7.7 7.6	7.7	7.7	2.2 2.0	2.1		6 5	5.5	
2-Jan-15	Sunny	Moderate	09:36	Surface	1	15.1 17.5	16.3	7.9 8.0	8.0	28.7 28.7	28.7	89.2 93.4	91.3	7.5 7.5	7.5	7.4	2.2 2.5	2.4	4.2	3 4	3.5	3.8
				Middle	9	15.8 17.7	16.8	8.0 8.0	8.0	28.9 28.6	28.8	88.2 90.0	89.1	7.3 7.2	7.3		4.5 4.8	4.7		5 5	5.0	
				Bottom	17	17.1 17.7	17.4	8.0 7.9	8.0	29.0 28.8	28.9	86.7 88.0	87.4	7.0 7.1	7.1	7.1	5.5 5.4	5.5		3 3	3.0	
5-Jan-15	Sunny	Moderate	13:01	Surface	1	17.6 17.5	17.6	8.3 8.3	8.3	32.7 33.7	33.2	99.3 100.0	99.7	7.8 7.8	7.8	7.8	1.5 1.5	1.5	1.7	3 3	3.0	4.0
				Middle	9.5	17.6 17.5	17.6	8.3 8.3	8.3	32.7 32.5	32.6	99.3 99.4	99.4	7.8 7.8	7.8		1.7 1.8	1.8		4 4	4.0	
				Bottom	18	17.6 17.5	17.6	8.3 8.3	8.3	33.4 31.3	32.4	99.7 98.7	99.2	7.8 7.8	7.8	7.8	1.9 1.9	1.9		5 5	5.0	
7-Jan-15	Sunny	Moderate	14:22	Surface	1	17.8 17.8	17.8	6.3 6.3	6.3	31.5 31.6	31.6	97.6 97.5	97.6	7.7 7.7	7.7	7.7	3.0 3.1	3.1	3.7	<2.5 <2.5	<2.5	2.8
				Middle	9.5	17.8 17.8	17.8	6.3 6.3	6.3	31.8 31.8	31.8	97.1 97.0	97.1	7.6 7.6	7.6		3.6 3.5	3.6		4 3	3.5	
				Bottom	18	17.9 17.8	17.9	6.3 6.3	6.3	31.8 31.9	31.9	96.9 96.8	96.9	7.6 7.6	7.6	7.6	4.3 4.4	4.4		<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.

Water Quality Monitoring Results at C4 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
9-Jan-15	Sunny	Moderate	15:29	Surface	1	17.5	17.5	8.1	8.1	29.8	29.8	109.1	109.2	8.7	8.7	8.7	2.7	2.5	1.9	7	6.5	5.3
						17.5		8.1		29.8		109.2		8.7			2.2			6		
				Middle	9.5	17.5	17.5	8.1	8.1	29.8	29.8	109.1	109.2	8.7	8.7		1.3	1.3		6	5.5	
						17.5		8.1		29.8		109.2		8.7			1.3			5		
				Bottom	18	17.5	17.5	8.1	8.1	29.8	29.8	109.2	109.2	8.7	8.7	8.7	1.8	1.9		4	4.0	
						17.5		8.1		29.8		109.1		8.7			2.0			4		
12-Jan-15	Sunny	Moderate	15:54	Surface	1	13.9	15.4	8.1	8.2	32.6	31.9	87.5	90.5	7.4	7.5	7.4	1.8	1.8	2.6	4	4.5	6.3
						16.8		8.2		31.2		93.5		7.5			1.7			5		
				Middle	9.5	14.9	15.9	8.1	8.2	32.3	31.8	87.5	88.6	7.3	7.3		2.3	2.4		8	7.5	
						16.9		8.2		31.2		89.6		7.2			2.5			7		
				Bottom	18	15.9	16.5	8.1	8.2	30.8	31.8	86.9	87.9	7.1	7.1	7.1	3.4	3.5		7	7.0	
						17.0		8.2		32.8		88.9		7.1			3.5			7		
14-Jan-15	Sunny	Moderate	19:14	Surface	1	17.0	17.0	8.3	8.3	29.7	29.8	108.8	108.8	8.8	8.8	8.8	1.1	1.1	1.9	6	5.5	5.5
						17.0		8.2		29.8		108.7		8.8			1.0			5		
				Middle	9.5	17.0	17.0	8.2	8.3	29.7	29.8	108.8	108.8	8.8	8.8		2.0	2.0		7	7.0	
						17.0		8.3		29.8		108.7		8.8			1.9			7		
				Bottom	18	17.0	17.0	8.2	8.2	29.8	29.8	108.7	108.7	8.8	8.8	8.8	2.4	2.6		4	4.0	
						17.0		8.2		29.8		108.7		8.8			2.7			4		
16-Jan-15	Sunny	Moderate	08:53	Surface	1	20.1	20.1	8.2	8.2	32.2	32.2	100.3	100.1	7.5	7.5	7.4	3.6	3.7	4.5	6	6.5	8.7
						20.1		8.2		32.2		99.8		7.5			3.8			7		
				Middle	9	20.1	20.2	8.2	8.2	32.6	32.6	97.2	97.3	7.3	7.3		4.4	4.5		10	9.5	
						20.1		8.2		32.6		97.4		7.3			4.5			9		
				Bottom	17	20.1	20.3	8.2	8.2	32.9	32.9	96.3	96.5	7.2	7.2	7.2	5.3	5.4		10	10.0	
						20.1		8.2		32.9		96.6		7.2			5.4			10		

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C4 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
22-Dec-14	Cloudy	Moderate	17:16	Surface	1	18.6 20.3	19.5	7.9 7.1	7.5	31.7 29.3	30.5	104.2 105.7	105.0	8.1 8.0	8.1	7.7	4.6 4.8	4.7	4.8	<2.5 <2.5	<2.5	8.0
				Middle	9.5	19.1 20.7	19.9	7.5 7.8	7.7	33.0 33.4	33.2	97.0 97.9	97.5	7.4 7.2	7.3		4.3 4.1	4.2		11 11	11.0	
				Bottom	18	20.0 20.9	20.5	7.2 7.4	7.3	33.6 33.7	33.7	94.8 95.0	94.9	7.1 7.0	7.1	7.1	5.4 5.6	5.5		11 10	10.5	
24-Dec-14	Cloudy	Moderate	09:11	Surface	1	18.2 18.2	18.2	8.4 8.3	8.4	32.0 31.9	32.0	104.5 104.5	104.5	8.1 8.1	8.1	8.2	4.8 4.8	4.8	4.8	16 16	16.0	8.5
				Middle	9.5	18.2 18.2	18.2	8.4 8.3	8.4	32.1 31.9	32.0	104.3 104.6	104.5	8.1 8.2	8.2		4.8 4.7	4.8		<2.5 <2.5	<2.5	
				Bottom	18	18.2 18.2	18.2	8.3 8.2	8.3	32.1 32.2	32.2	104.1 104.4	104.3	8.1 8.1	8.1	8.1	4.8 4.5	4.7		7 7	7.0	
27-Dec-14	Fine	Moderate	11:38	Surface	1	17.9 17.9	17.9	8.3 8.3	8.3	27.4 27.4	27.4	82.5 82.6	82.6	7.1 7.1	7.1	7.1	5.1 5.3	5.2	4.6	3 3	3.0	8.7
				Middle	9.5	17.9 17.9	17.9	8.3 8.3	8.3	27.4 27.4	27.4	82.6 82.6	82.6	7.1 7.1	7.1		3.3 3.6	3.5		11 11	11.0	
				Bottom	18	17.9 17.9	17.9	8.3 8.3	8.3	27.5 27.4	27.5	82.5 82.6	82.6	7.1 7.1	7.1	7.1	5.2 5.1	5.2		12 12	12.0	
29-Dec-14	Fine	Moderate	13:26	Surface	1	17.9 18.1	18.0	8.1 8.1	8.1	27.1 27.2	27.2	84.4 83.9	84.2	7.3 7.3	7.3	7.3	5.0 5.0	5.0	4.7	3 3	3.0	6.7
				Middle	9.5	17.9 18.1	18.0	8.1 8.1	8.1	27.2 27.2	27.2	83.8 83.3	83.6	7.3 7.2	7.3		3.7 3.4	3.6		10 10	10.0	
				Bottom	18	18.0 18.0	18.0	8.1 8.0	8.1	27.2 27.2	27.2	80.9 80.3	80.6	7.1 7.0	7.1	7.1	5.5 5.4	5.5		7 7	7.0	
31-Dec-14	Fine	Moderate	14:35	Surface	1	16.4 16.5	16.5	8.0 8.3	8.2	23.7 22.5	23.1	99.6 98.3	99.0	8.4 8.4	8.4	8.3	2.5 2.5	2.5	2.6	7 7	7.0	4.5
				Middle	9.5	17.0 17.1	17.1	8.3 8.3	8.3	24.2 24.7	24.5	96.7 95.6	96.2	8.1 8.0	8.1		2.6 2.6	2.6		4 4	4.0	
				Bottom	18	18.0 18.0	18.0	8.3 8.3	8.3	27.2 27.2	27.2	91.7 91.5	91.6	7.4 7.4	7.4	7.4	2.8 2.8	2.8		<2.5 <2.5	<2.5	
2-Jan-15	Sunny	Moderate	15:59	Surface	1	15.0 17.2	16.1	7.0 7.1	7.1	30.9 31.6	31.3	89.4 93.5	91.5	7.5 7.4	7.5	7.4	3.2 3.4	3.3	4.0	7 7	7.0	5.5
				Middle	9.5	15.6 17.3	16.5	7.0 7.1	7.1	31.1 31.4	31.3	88.4 89.8	89.1	7.3 7.1	7.2		4.1 4.2	4.2		3 3	3.0	
				Bottom	18	16.0 17.4	16.7	7.0 7.1	7.1	31.4 31.4	31.4	86.6 88.2	87.4	7.1 7.0	7.1	7.1	4.5 4.6	4.6		7 6	6.5	
5-Jan-15	Sunny	Moderate	17:39	Surface	1	17.6 17.6	17.6	8.3 8.3	8.3	30.3 30.4	30.4	98.9 98.8	98.9	7.9 7.9	7.9	7.9	1.5 1.5	1.5	1.7	3 3	3.0	5.0
				Middle	9.5	17.6 17.6	17.6	8.3 8.3	8.3	31.4 32.5	32.0	99.4 100.1	99.8	7.9 7.9	7.9		1.8 1.8	1.8		7 7	7.0	
				Bottom	18	17.6 17.6	17.6	8.3 8.3	8.3	30.8 33.3	32.1	98.9 100.4	99.7	7.9 7.9	7.9	7.9	1.9 1.9	1.9		5 5	5.0	
7-Jan-15	Sunny	Moderate	08:36	Surface	1	17.7 17.7	17.7	6.3 6.3	6.3	28.4 29.2	28.8	104.8 103.5	104.2	8.4 8.3	8.4	8.1	4.8 4.8	4.8	4.0	5 5	5.0	3.3
				Middle	9.5	17.8 17.8	17.8	6.4 6.4	6.4	29.4 29.4	29.4	97.2 97.1	97.2	7.8 7.7	7.8		2.9 2.7	2.8		<2.5 <2.5	<2.5	
				Bottom	18	17.8 17.8	17.8	6.4 6.3	6.4	30.8 31.1	31.0	97.4 97.7	97.6	7.7 7.7	7.7	7.7	4.3 4.5	4.4		<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.

Water Quality Monitoring Results at C4 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
9-Jan-15	Sunny	Moderate	09:47	Surface	1	17.5 17.5	17.5	8.0 8.0	8.0	29.4 29.0	29.2	109.3 109.0	109.2	8.8 8.8	8.8	8.8	2.8 2.7	2.8	2.1	6 5	5.5	4.3
				Middle	9.5	17.5 17.5	17.5	8.0 8.0	8.0	29.4 29.5	29.5	109.2 109.1	109.2	8.8 8.7	8.8		1.9 1.7	1.8		5 5	5.0	
				Bottom	18	17.5 17.5	17.5	8.0 8.0	8.0	29.5 29.6	29.6	109.2 109.2	109.2	8.8 8.7	8.8	8.8	1.6 1.6	1.6		<2.5 <2.5	<2.5	
12-Jan-15	Sunny	Moderate	11:29	Surface	1	14.6 17.2	15.9	8.0 8.1	8.1	32.2 28.9	30.6	85.9 89.3	87.6	7.2 7.2	7.2	7.2	2.2 2.3	2.3	2.8	6 6	6.0	6.5
				Middle	9.5	16.1 17.2	16.7	8.1 8.2	8.2	31.2 29.0	30.1	87.4 89.5	88.5	7.1 7.2	7.2		1.8 1.8	1.8		6 7	6.5	
				Bottom	18	16.5 17.3	16.9	8.1 8.1	8.1	31.4 32.4	31.9	85.8 87.1	86.5	6.9 6.9	6.9	6.9	4.4 4.4	4.4		7 7	7.0	
14-Jan-15	Sunny	Moderate	12:28	Surface	1	17.2 17.1	17.2	8.1 8.1	8.1	29.5 29.7	29.6	108.6 108.5	108.6	8.8 8.8	8.8	8.8	1.5 1.5	1.5	2.1	8 8	8.0	6.0
				Middle	9.5	17.2 17.1	17.2	8.2 8.2	8.2	29.5 29.7	29.6	108.3 108.6	108.5	8.7 8.8	8.8		2.1 2.0	2.1		6 6	6.0	
				Bottom	18	17.2 17.1	17.2	8.1 8.2	8.2	29.6 29.7	29.7	108.3 108.3	108.3	8.7 8.7	8.7	8.7	2.9 2.7	2.8		4 4	4.0	
16-Jan-15	Sunny	Moderate	13:27	Surface	1	20.2 20.2	20.2	8.1 8.1	8.1	32.2 32.2	32.2	99.1 98.3	98.7	7.4 7.4	7.4	7.4	4.4 4.4	4.4	4.8	7 7	7.0	8.8
				Middle	9	20.2 20.2	20.2	8.1 8.1	8.1	32.6 32.6	32.6	97.2 97.0	97.1	7.3 7.3	7.3		4.7 4.6	4.7		9 9	9.0	
				Bottom	17	20.3 20.3	20.3	8.1 8.1	8.1	32.8 32.8	32.8	96.2 96.6	96.4	7.2 7.2	7.2	7.2	5.4 5.2	5.3		10 11	10.5	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at GB3 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
22-Dec-14	Cloudy	Moderate	13:20	Surface	1	20.0 20.0	20.0	7.6 7.7	7.7	27.4 27.5	27.5	103.8 104.1	104.0	8.0 8.1	8.1	7.7	3.3 3.1	3.2	3.5	5 5	5.0	3.5
				Middle	3	20.7 20.1	20.4	7.3 7.7	7.5	31.3 30.8	31.1	97.3 96.2	96.8	7.3 7.3	7.3		2.9 3.1	3.0		3 3	3.0	
				Bottom	5	20.2 20.3	20.3	7.1 7.2	7.2	31.6 33.6	32.6	93.0 93.7	93.4	7.0 7.0	7.0	7.0	4.2 4.4	4.3		<2.5 <2.5	<2.5	
24-Dec-14	Cloudy	Moderate	14:08	Surface	1	18.3 18.0	18.2	7.9 8.0	8.0	28.1 28.4	28.3	108.5 109.6	109.1	8.6 8.8	8.7	8.7	4.3 4.1	4.2	3.8	6 6	6.0	3.7
				Middle	3	18.3 18.1	18.2	8.0 8.0	8.0	28.1 28.4	28.3	108.4 108.6	108.5	8.6 8.7	8.7		3.8 3.9	3.9		<2.5 <2.5	<2.5	
				Bottom	5	18.2 18.0	18.1	8.0 8.0	8.0	28.2 28.4	28.3	108.1 108.8	108.5	8.6 8.7	8.7	8.7	3.1 3.3	3.2		<2.5 <2.5	<2.5	
27-Dec-14	Fine	Moderate	15:22	Surface	1	17.4 17.7	17.6	8.0 8.2	8.1	26.7 24.8	25.8	86.9 86.0	86.5	7.6 7.5	7.6	7.5	3.1 3.0	3.1	3.6	6 6	6.0	5.7
				Middle	3.5	17.6 17.7	17.7	8.2 8.2	8.2	25.3 24.8	25.1	84.3 84.0	84.2	7.4 7.4	7.4		2.9 3.0	3.0		6 6	6.0	
				Bottom	6	17.7 17.7	17.7	8.2 8.2	8.2	26.4 26.7	26.6	84.1 84.3	84.2	7.3 7.3	7.3	7.3	4.5 4.6	4.6		5 5	5.0	
29-Dec-14	Fine	Moderate	17:48	Surface	1	17.8 17.8	17.8	8.0 8.0	8.0	26.4 26.5	26.5	86.0 85.9	86.0	7.4 7.4	7.4	7.4	3.1 3.0	3.1	3.6	<2.5 <2.5	<2.5	2.8
				Middle	3	17.8 17.8	17.8	8.0 8.0	8.0	26.4 26.5	26.5	85.8 85.8	85.8	7.4 7.4	7.4		3.2 2.8	3.0		<2.5 3	2.8	
				Bottom	5	17.8 17.8	17.8	8.0 8.0	8.0	26.5 26.5	26.5	85.5 85.6	85.6	7.4 7.4	7.4	7.4	4.8 4.8	4.8		3 3	3.0	
31-Dec-14	Fine	Moderate	08:02	Surface	1	17.0 17.2	17.1	8.1 8.2	8.2	27.7 27.5	27.6	101.0 100.5	100.8	8.3 8.2	8.3	8.2	1.9 2.0	2.0	2.8	6 6	6.0	6.8
				Middle	3	17.6 17.6	17.6	8.2 8.2	8.2	27.4 27.4	27.4	99.9 99.8	99.9	8.1 8.1	8.1		4.0 3.6	3.8		11 11	11.0	
				Bottom	5	17.5 17.5	17.5	8.2 8.2	8.2	27.5 27.5	27.5	100.1 100.1	100.1	8.1 8.1	8.1	8.1	2.6 2.4	2.5		3 4	3.5	
2-Jan-15	Sunny	Moderate	09:17	Surface	1	17.4 17.7	17.6	8.1 8.1	8.1	29.6 29.4	29.5	91.8 89.9	90.9	7.4 7.2	7.3	7.3	4.7 4.3	4.5	4.1	7 8	7.5	5.8
				Middle	3.5	17.6 17.7	17.7	8.1 8.2	8.2	29.8 29.4	29.6	90.9 89.8	90.4	7.3 7.2	7.3		3.5 3.5	3.5		4 4	4.0	
				Bottom	6	17.7 17.7	17.7	8.1 8.2	8.2	29.7 29.4	29.6	89.8 89.5	89.7	7.2 7.2	7.2	7.2	4.1 4.7	4.4		6 6	6.0	
5-Jan-15	Sunny	Moderate	12:48	Surface	1	17.7 17.7	17.7	8.3 8.3	8.3	32.4 29.9	31.2	99.9 98.4	99.2	7.8 7.8	7.8	7.8	1.8 1.8	1.8	1.7	<2.5 <2.5	<2.5	3.0
				Middle	3	17.7 17.7	17.7	8.3 8.3	8.3	30.6 30.9	30.8	98.7 98.8	98.8	7.8 7.8	7.8		1.3 1.3	1.3		4 3	3.5	
				Bottom	5	17.7 17.7	17.7	8.3 8.3	8.3	29.8 33.0	31.4	98.1 100.1	99.1	7.8 7.8	7.8	7.8	2.1 2.1	2.1		3 3	3.0	
7-Jan-15	Sunny	Moderate	14:45	Surface	1	17.2 17.2	17.2	6.3 6.3	6.3	30.8 30.8	30.8	90.2 87.2	88.7	7.2 7.0	7.1	7.2	3.0 2.8	2.9	3.7	4 5	4.5	4.0
				Middle	3	17.5 17.3	17.4	6.2 6.4	6.3	31.2 31.2	31.2	92.2 88.1	90.2	7.3 7.0	7.2		3.9 3.4	3.7		<2.5 <2.5	<2.5	
				Bottom	5	17.1 17.2	17.2	6.3 6.3	6.3	32.1 32.1	32.1	104.6 101.2	102.9	8.3 8.0	8.2	8.2	4.5 4.7	4.6		5 5	5.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at GB3 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
9-Jan-15	Sunny	Moderate	15:13	Surface	1	17.5 17.5	17.5	8.1 8.1	8.1	29.7 29.8	29.8	109.1 109.2	109.2	8.7 8.7	8.7	8.7	1.9 1.8	1.9	1.8	4 4	4.0	4.3
				Middle	3	17.5 17.5	17.5	8.1 8.1	8.1	29.7 29.8	29.8	109.2 109.2	109.2	8.7 8.7	8.7		1.6 1.6	1.6		4 4	4.0	
				Bottom	5	17.5 17.5	17.5	8.1 8.1	8.1	29.7 29.8	29.8	109.1 109.2	109.2	8.7 8.7	8.7	8.7	2.1 1.9	2.0		5 5	5.0	
12-Jan-15	Sunny	Moderate	15:36	Surface	1	15.0 17.2	16.1	8.1 8.2	8.2	32.9 32.6	32.8	88.2 92.3	90.3	7.3 7.3	7.3	7.3	1.0 0.9	1.0	1.8	3 3	3.0	6.2
				Middle	3	16.5 17.2	16.9	8.2 8.2	8.2	32.9 32.6	32.8	89.2 91.4	90.3	7.1 7.2	7.2		2.5 2.5	2.5		12 11	11.5	
				Bottom	5	17.0 17.2	17.1	8.2 8.2	8.2	32.7 32.6	32.7	86.5 87.6	87.1	6.9 6.9	6.9	6.9	1.9 1.9	1.9		4 4	4.0	
14-Jan-15	Sunny	Moderate	18:53	Surface	1	16.9 16.9	16.9	8.3 8.2	8.3	29.7 29.8	29.8	108.7 108.5	108.6	8.8 8.8	8.8	8.8	1.7 1.7	1.7	2.1	3 3	3.0	4.3
				Middle	3	16.9 16.9	16.9	8.2 8.2	8.2	29.7 29.8	29.8	108.6 108.5	108.6	8.8 8.8	8.8		2.1 2.0	2.1		4 4	4.0	
				Bottom	5	16.9 16.9	16.9	8.2 8.2	8.2	29.7 29.8	29.8	108.6 108.6	108.6	8.8 8.8	8.8	8.8	2.5 2.4	2.5		6 6	6.0	
16-Jan-15	Sunny	Moderate	08:27	Surface	1	20.1 20.2	20.2	8.1 8.1	8.1	31.5 31.5	31.5	100.3 99.8	100.1	7.6 7.5	7.6	7.6	3.4 3.2	3.3	3.6	10 11	10.5	8.5
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	4.6	20.3 20.3	20.3	8.1 8.1	8.1	31.7 32.7	32.2	98.8 99.0	98.9	7.4 7.4	7.4	7.4	3.9 3.7	3.8		7 6	6.5	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at GB3 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
22-Dec-14	Cloudy	Moderate	17:02	Surface	1	24.2 20.6	22.4	7.5 7.6	7.6	29.5 29.6	29.6	108.3 101.0	104.7	7.7 7.6	7.7	7.5	3.9 4.0	4.0	4.2	<2.5 <2.5	<2.5	3.3
				Middle	3	22.0 20.4	21.2	7.2 7.2	7.2	32.8 32.8	32.8	100.2 97.9	99.1	7.2 7.3	7.3		3.2 3.3	3.3		5 5	5.0	
				Bottom	5	21.2 21.0	21.1	7.3 7.2	7.3	33.6 33.9	33.8	96.5 97.0	96.8	7.0 7.1	7.1	7.1	5.3 5.3	5.3		<2.5 <2.5	<2.5	
24-Dec-14	Cloudy	Moderate	08:59	Surface	1	17.8 17.8	17.8	8.3 8.3	8.3	31.5 31.7	31.6	102.4 102.7	102.6	8.1 8.1	8.1	8.1	4.9 4.8	4.9	4.4	4 5	4.5	8.5
				Middle	3.5	17.8 17.8	17.8	8.3 8.3	8.3	31.6 31.7	31.7	102.6 102.7	102.7	8.1 8.1	8.1		4.3 4.2	4.3		17 17	17.0	
				Bottom	6	17.8 17.8	17.8	8.3 8.3	8.3	31.7 31.9	31.8	103.1 103.1	103.1	8.1 8.1	8.1	8.1	3.8 3.9	3.9		4 4	4.0	
27-Dec-14	Fine	Moderate	11:18	Surface	1	17.7 17.8	17.8	8.3 8.3	8.3	26.8 25.0	25.9	84.4 84.0	84.2	7.3 7.3	7.3	7.3	4.6 4.5	4.6	4.7	8 8	8.0	6.7
				Middle	3.5	17.7 17.7	17.7	8.3 8.3	8.3	26.8 27.0	26.9	84.5 84.2	84.4	7.3 7.3	7.3		4.3 4.3	4.3		5 5	5.0	
				Bottom	6	17.7 17.7	17.7	8.2 8.3	8.3	26.9 27.1	27.0	84.1 84.5	84.3	7.3 7.3	7.3	7.3	5.0 5.1	5.1		7 7	7.0	
29-Dec-14	Fine	Moderate	13:12	Surface	1	17.5 17.8	17.7	7.9 8.0	8.0	26.2 26.2	26.2	89.8 88.5	89.2	7.7 7.6	7.7	7.6	3.7 3.6	3.7	4.5	4 4	4.0	4.8
				Middle	3.5	17.6 17.8	17.7	7.9 8.0	8.0	26.8 26.3	26.6	85.9 85.5	85.7	7.4 7.4	7.4		4.4 4.5	4.5		5 5	5.0	
				Bottom	6	17.7 17.8	17.8	8.0 8.0	8.0	26.1 26.4	26.3	84.1 84.1	84.1	7.3 7.3	7.3	7.3	5.1 5.4	5.3		6 5	5.5	
31-Dec-14	Fine	Moderate	14:25	Surface	1	19.7 19.6	19.7	8.4 8.4	8.4	21.6 25.6	23.6	90.8 93.2	92.0	7.3 7.3	7.3	7.8	0.4 0.5	0.5	2.6	<2.5 <2.5	<2.5	4.0
				Middle	3	18.4 18.4	18.4	8.4 8.4	8.4	23.4 23.4	23.4	100.6 100.8	100.7	8.2 8.2	8.2		2.8 2.7	2.8		4 4	4.0	
				Bottom	5	18.4 18.3	18.4	8.5 8.5	8.5	25.3 27.2	26.3	101.9 103.1	102.5	8.2 8.3	8.3	8.3	4.5 4.5	4.5		6 5	5.5	
2-Jan-15	Sunny	Moderate	15:41	Surface	1	18.1 18.0	18.1	7.0 7.0	7.0	32.3 31.3	31.8	94.0 96.0	95.0	7.3 7.5	7.4	7.5	2.6 2.5	2.6	3.3	3 3	3.0	3.2
				Middle	3.5	18.1 18.0	18.1	7.0 7.0	7.0	31.9 31.3	31.6	94.9 96.2	95.6	7.4 7.6	7.5		3.0 2.7	2.9		3 3	3.0	
				Bottom	6	18.1 18.0	18.1	7.0 7.0	7.0	31.9 31.4	31.7	95.3 96.4	95.9	7.4 7.6	7.5	7.5	4.5 4.4	4.5		4 3	3.5	
5-Jan-15	Sunny	Moderate	17:24	Surface	1	17.6 17.6	17.6	8.3 8.3	8.3	30.6 29.6	30.1	99.2 98.5	98.9	7.9 7.9	7.9	7.9	1.2 1.2	1.2	1.4	4 5	4.5	3.2
				Middle	3.5	17.6 17.6	17.6	8.3 8.3	8.3	31.4 27.1	29.3	99.6 97.0	98.3	7.9 7.9	7.9		1.4 1.4	1.4		<2.5 <2.5	<2.5	
				Bottom	6	17.6 17.6	17.6	8.3 8.3	8.3	30.6 26.9	28.8	99.2 96.9	98.1	7.9 7.9	7.9	7.9	1.5 1.5	1.5		<2.5 <2.5	<2.5	
7-Jan-15	Sunny	Moderate	08:17	Surface	1	18.5 18.5	18.5	6.9 6.9	6.9	30.4 30.7	30.6	98.5 98.7	98.6	7.7 7.7	7.7	7.8	3.6 3.7	3.7	3.7	<2.5 <2.5	<2.5	<2.5
				Middle	3.5	18.4 18.4	18.4	6.8 6.8	6.8	31.1 31.1	31.1	99.4 99.4	99.4	7.8 7.8	7.8		3.1 3.3	3.2		<2.5 <2.5	<2.5	
				Bottom	6	18.3 18.3	18.3	6.7 6.7	6.7	31.4 31.5	31.5	99.5 99.4	99.5	7.8 7.8	7.8	7.8	4.2 4.4	4.3		<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.

Water Quality Monitoring Results at GB3 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
9-Jan-15	Sunny	Moderate	09:31	Surface	1	17.7 17.7	17.7	7.9 8.0	8.0	29.1 27.8	28.5	109.3 108.9	109.1	8.7 8.8	8.8	8.8	2.6 2.6	2.6	2.3	3 3	3.0	4.3
				Middle	3	17.7 17.7	17.7	7.9 8.0	8.0	29.2 29.4	29.3	109.3 109.2	109.3	8.7 8.7	8.7		2.6 2.3	2.5		<2.5 <2.5	<2.5	
				Bottom	5	17.7 17.7	17.7	7.9 8.0	8.0	29.3 29.4	29.4	109.4 109.2	109.3	8.7 8.7	8.7	8.7	1.7 1.7	1.7		8 7	7.5	
12-Jan-15	Sunny	Moderate	11:15	Surface	1	15.6 17.1	16.4	8.3 8.4	8.4	30.1 32.1	31.1	90.6 93.1	91.9	7.5 7.4	7.5	7.4	2.1 2.1	2.1	2.5	5 5	5.0	5.5
				Middle	3	15.9 17.2	16.6	8.4 8.4	8.4	30.4 32.1	31.3	88.5 90.4	89.5	7.3 7.2	7.3		2.6 2.4	2.5		6 6	6.0	
				Bottom	5	16.7 17.2	17.0	8.4 8.4	8.4	31.4 32.1	31.8	87.0 86.6	86.8	7.0 6.9	7.0	7.0	2.9 2.9	2.9		5 6	5.5	
14-Jan-15	Sunny	Moderate	12:16	Surface	1	16.9 16.9	16.9	8.1 8.1	8.1	29.3 29.7	29.5	107.5 108.5	108.0	8.7 8.8	8.8	8.8	1.4 1.6	1.5	2.0	<2.5 <2.5	<2.5	4.5
				Middle	3.5	16.9 17.0	17.0	8.1 8.1	8.1	29.4 29.7	29.6	107.3 108.8	108.1	8.7 8.8	8.8		1.6 1.6	1.6		5 5	5.0	
				Bottom	6	16.9 17.0	17.0	8.1 8.2	8.2	29.4 29.4	29.4	107.7 107.6	107.7	8.7 8.7	8.7	8.7	2.8 2.7	2.8		6 6	6.0	
16-Jan-15	Sunny	Moderate	13:01	Surface	1	20.1 20.1	20.1	8.0 8.1	8.1	31.5 31.4	31.5	99.3 99.7	99.5	7.5 7.5	7.5	7.5	3.8 3.9	3.9	4.3	7 7	7.0	7.3
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	4.7	20.2 20.2	20.2	8.1 8.1	8.1	32.2 32.2	32.2	97.3 97.0	97.2	7.3 7.3	7.3	7.3	4.5 4.6	4.6		7 8	7.5	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C1 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	08:59	Surface	1	19.7 19.7	19.7	8.1 8.1	8.1	30.3 30.3	30.3	111.7 111.7	111.7	8.5 8.5	8.5	8.5	3.1 3.1	3.1	4.1	5 5	5.0	4.7
				Middle	8	19.7 19.7	19.7	8.1 8.1	8.1	30.3 30.3	30.3	111.7 111.7	111.7	8.5 8.5	8.5		3.5 3.5	3.5		6 6	6.0	
				Bottom	15	19.7 19.7	19.7	8.2 8.2	8.2	30.4 30.4	30.4	111.4 111.4	111.4	8.5 8.5	8.5	8.5	5.7 5.9	5.8		3 3	3.0	
19-Dec-14	Cloudy	Moderate	10:14	Surface	1	19.3 19.4	19.4	7.9 7.9	7.9	30.2 30.2	30.2	89.5 89.1	89.3	6.9 6.9	6.9	6.9	3.7 3.6	3.7	4.3	8 8	8.0	4.3
				Middle	8	19.4 19.4	19.4	8.0 8.0	8.0	30.4 30.4	30.4	90.0 88.7	89.4	6.9 6.8	6.9		4.3 4.3	4.3		<2.5 <2.5	<2.5	
				Bottom	15	19.4 19.4	19.4	8.4 8.4	8.4	30.4 30.4	30.4	91.3 89.8	90.6	7.0 6.9	7.0	7.0	4.9 4.9	4.9		<2.5 <2.5	<2.5	
22-Dec-14	Cloudy	Moderate	13:54	Surface	1	18.1 18.8	18.5	7.9 7.9	7.9	27.9 27.5	27.7	98.5 93.4	96.0	7.9 7.4	7.7	7.6	3.2 3.2	3.2	4.1	4 4	4.0	4.7
				Middle	8	18.6 18.8	18.7	8.1 8.2	8.2	27.6 27.6	27.6	94.1 93.7	93.9	7.5 7.4	7.5		4.4 4.2	4.3		5 5	5.0	
				Bottom	15	18.8 18.9	18.9	8.3 8.3	8.3	27.6 27.5	27.6	92.0 92.4	92.2	7.3 7.3	7.3	7.3	5.0 4.8	4.9		5 5	5.0	
24-Dec-14	Cloudy	Moderate	13:40	Surface	1	18.2 18.4	18.3	8.0 8.3	8.2	29.2 29.2	29.2	111.0 100.5	105.8	8.8 7.9	8.4	8.2	2.4 2.3	2.4	4.7	3 3	3.0	3.7
				Middle	8	18.0 18.4	18.2	8.2 8.3	8.3	30.2 30.5	30.4	101.4 99.8	100.6	8.0 7.8	7.9		5.1 5.1	5.1		3 3	3.0	
				Bottom	15	18.1 18.2	18.2	8.3 8.4	8.4	30.5 30.5	30.5	99.2 98.8	99.0	7.8 7.8	7.8	7.8	6.5 6.5	6.5		5 5	5.0	
27-Dec-14	Fine	Moderate	15:40	Surface	1	19.2 19.2	19.2	7.4 7.4	7.4	33.6 33.6	33.6	88.9 88.8	88.9	6.7 6.7	6.7	6.7	1.8 1.6	1.7	2.5	4 4	4.0	3.8
				Middle	8	19.2 19.2	19.2	7.4 7.4	7.4	33.6 33.5	33.6	88.5 88.7	88.6	6.7 6.7	6.7		2.8 2.8	2.8		5 4	4.5	
				Bottom	15	19.2 19.2	19.2	7.4 7.4	7.4	33.6 33.6	33.6	89.0 89.0	89.0	6.7 6.7	6.7	6.7	2.9 2.9	2.9		3 3	3.0	
29-Dec-14	Fine	Moderate	18:59	Surface	1	17.9 17.9	17.9	7.6 7.6	7.6	29.6 30.3	30.0	57.5 55.2	56.4	4.6 4.4	4.5	4.3	3.9 3.9	3.9	3.9	6 6	6.0	4.3
				Middle	8	17.9 17.9	17.9	7.6 7.6	7.6	30.7 30.7	30.7	50.3 49.9	50.1	4.0 3.9	4.0		3.8 3.6	3.7		4 4	4.0	
				Bottom	15	17.9 17.9	17.9	7.6 7.6	7.6	30.7 30.7	30.7	44.5 44.5	44.5	3.5 3.5	3.5	3.5	4.1 4.3	4.2		3 3	3.0	
31-Dec-14	Fine	Moderate	08:21	Surface	1	17.8 17.6	17.7	7.7 7.7	7.7	31.5 31.5	31.5	63.4 63.0	63.2	5.0 5.0	5.0	4.9	3.8 3.7	3.8	4.1	<2.5 <2.5	<2.5	4.8
				Middle	8	17.4 17.7	17.6	7.7 7.7	7.7	31.6 31.6	31.6	58.6 59.8	59.2	4.6 4.7	4.7		4.0 4.1	4.1		6 6	6.0	
				Bottom	15	17.6 17.4	17.5	7.7 7.7	7.7	31.8 32.0	31.9	52.3 51.3	51.8	4.1 4.1	4.1	4.1	4.3 4.4	4.4		6 6	6.0	
2-Jan-15	Sunny	Moderate	10:52	Surface	1	17.8 17.9	17.9	8.1 8.1	8.1	32.0 32.0	32.0	79.3 78.0	78.7	6.2 6.1	6.2	6.2	3.3 4.1	3.7	4.2	4 4	4.0	4.8
				Middle	8	17.8 17.8	17.8	8.1 8.1	8.1	32.0 32.1	32.1	78.6 78.3	78.5	6.2 6.1	6.2		3.9 4.0	4.0		5 4	4.5	
				Bottom	15	17.8 17.8	17.8	8.1 8.1	8.1	32.1 32.1	32.1	77.7 77.7	77.7	6.1 6.1	6.1	6.1	5.3 4.5	4.9		6 6	6.0	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C1 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	11:35	Surface	1	18.4 18.4	18.4	8.6 8.6	8.6	26.7 26.1	26.4	99.3 97.6	98.5	8.0 7.8	7.9	7.8	2.4 2.6	2.5	2.9	5 5	5.0	4.0
				Middle	8	18.4 18.4	18.4	8.7 8.7	8.7	28.1 28.1	28.1	96.3 96.1	96.2	7.7 7.6	7.7		2.8 2.8	2.8		3 3	3.0	
				Bottom	15	18.2 18.2	18.2	8.8 8.8	8.8	28.3 28.3	28.3	95.0 94.7	94.9	7.6 7.5	7.6	7.6	3.6 3.4	3.5		4 4	4.0	
7-Jan-15	Sunny	Moderate	13:15	Surface	1	18.5 18.5	18.5	8.6 8.6	8.6	28.1 28.1	28.1	84.3 84.3	84.3	6.7 6.7	6.7	6.8	2.2 2.3	2.3	2.8	4 4	4.0	4.3
				Middle	8	18.5 18.5	18.5	8.8 8.8	8.8	28.2 28.2	28.2	85.3 85.1	85.2	6.8 6.7	6.8		2.4 2.4	2.4		<2.5 <2.5	<2.5	
				Bottom	15	18.4 18.4	18.4	8.9 8.9	8.9	28.3 28.3	28.3	85.9 85.9	85.9	6.8 6.8	6.8	6.8	3.7 3.6	3.7		7 6	6.5	
9-Jan-15	Sunny	Moderate	15:05	Surface	1	17.5 17.6	17.6	8.4 8.4	8.4	21.2 24.9	23.1	89.9 89.4	89.7	7.6 7.4	7.5	7.1	3.8 3.6	3.7	3.8	3 3	3.0	3.7
				Middle	8	18.1 18.1	18.1	8.5 8.5	8.5	28.1 28.2	28.2	84.3 84.2	84.3	6.7 6.7	6.7		4.1 4.3	4.2		<2.5 <2.5	<2.5	
				Bottom	15	18.3 18.3	18.3	8.5 8.5	8.5	28.3 28.3	28.3	83.3 83.3	83.3	6.6 6.6	6.6	6.6	3.5 3.3	3.4		6 5	5.5	
12-Jan-15	Sunny	Moderate	16:04	Surface	1	21.6 21.7	21.7	8.1 8.0	8.1	30.3 30.3	30.3	106.4 106.6	106.5	7.9 7.9	7.9	7.9	3.0 3.1	3.1	5.1	3 3	3.0	3.7
				Middle	8	22.1 22.1	22.1	8.0 7.9	8.0	30.7 30.6	30.7	107.3 107.3	107.3	7.8 7.8	7.8		5.4 5.8	5.6		4 4	4.0	
				Bottom	15	20.1 20.3	20.2	7.7 7.7	7.7	32.0 31.9	32.0	104.3 104.8	104.6	7.8 7.9	7.9	7.9	6.7 6.4	6.6		4 4	4.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C1 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	13:24	Surface	1	19.8 19.8	19.8	8.0 8.0	8.0	30.5 30.5	30.5	109.1 109.4	109.3	8.3 8.3	8.3	8.3	2.1 2.1	2.1	4.1	4 4	4.0	3.5
				Middle	8	19.8 19.8	19.8	7.9 8.0	8.0	30.6 30.6	30.6	109.4 109.4	109.4	8.3 8.3	8.3		4.7 4.6	4.7		4 4	4.0	
				Bottom	15	19.7 19.7	19.7	7.8 7.8	7.8	30.4 30.4	30.4	110.8 111.1	111.0	8.5 8.5	8.5	8.5	5.5 5.7	5.6		<2.5 <2.5	<2.5	
19-Dec-14	Cloudy	Moderate	14:40	Surface	1	19.0 19.2	19.1	7.8 7.8	7.8	27.8 29.9	28.9	91.9 90.7	91.3	7.2 7.0	7.1	7.0	3.4 3.4	3.4	4.5	<2.5 <2.5	<2.5	3.3
				Middle	8	19.4 19.4	19.4	8.0 8.0	8.0	30.2 30.3	30.3	90.2 90.1	90.2	6.9 6.9	6.9		4.7 4.7	4.7		5 5	5.0	
				Bottom	15	19.4 19.4	19.4	8.4 8.5	8.5	30.3 30.4	30.4	91.0 91.4	91.2	7.0 7.0	7.0	7.0	5.3 5.3	5.3		<2.5 <2.5	<2.5	
22-Dec-14	Cloudy	Moderate	17:18	Surface	1	17.7 18.8	18.3	7.9 7.9	7.9	26.5 26.7	26.6	92.9 94.6	93.8	7.6 7.5	7.6	7.6	3.8 3.8	3.8	5.0	5 5	5.0	3.8
				Middle	8	18.5 18.8	18.7	8.2 8.2	8.2	27.4 27.6	27.5	95.6 93.3	94.5	7.6 7.4	7.5		6.2 6.0	6.1		3 3	3.0	
				Bottom	15	18.7 18.8	18.8	8.4 8.4	8.4	27.6 27.6	27.6	93.1 92.5	92.8	7.4 7.3	7.4	7.4	5.1 5.3	5.2		4 3	3.5	
24-Dec-14	Cloudy	Moderate	09:48	Surface	1	18.3 18.4	18.4	8.1 8.1	8.1	30.7 30.3	30.5	105.1 99.9	102.5	8.2 7.8	8.0	8.0	3.9 4.0	4.0	4.7	<2.5 <2.5	<2.5	4.0
				Middle	8	18.3 18.4	18.4	8.3 8.4	8.4	30.5 30.5	30.5	100.6 100.1	100.4	7.9 7.8	7.9		3.7 3.8	3.8		<2.5 <2.5	<2.5	
				Bottom	15	18.4 18.3	18.4	8.5 8.5	8.5	30.4 30.4	30.4	98.7 98.6	98.7	7.7 7.7	7.7	7.7	6.6 6.1	6.4		7 7	7.0	
27-Dec-14	Fine	Moderate	11:26	Surface	1	19.0 19.0	19.0	7.4 7.4	7.4	33.2 33.2	33.2	86.1 85.8	86.0	6.6 6.5	6.6	6.6	1.7 1.9	1.8	2.4	5 4	4.5	4.5
				Middle	8	19.0 19.0	19.0	7.4 7.4	7.4	33.2 33.2	33.2	85.3 85.3	85.3	6.5 6.5	6.5		2.5 2.5	2.5		3 3	3.0	
				Bottom	15	19.0 19.0	19.0	7.4 7.4	7.4	33.3 33.3	33.3	84.4 84.2	84.3	6.4 6.4	6.4	6.4	2.8 2.8	2.8		6 6	6.0	
29-Dec-14	Fine	Moderate	11:49	Surface	1	19.3 19.3	19.3	7.9 7.9	7.9	29.8 29.8	29.8	74.4 74.1	74.3	5.8 5.7	5.8	5.7	2.5 2.5	2.5	2.8	3 4	3.5	4.2
				Middle	8	19.3 19.3	19.3	7.9 7.9	7.9	30.4 30.4	30.4	71.3 71.3	71.3	5.5 5.5	5.5		2.8 2.7	2.8		4 4	4.0	
				Bottom	15	19.3 19.3	19.3	7.9 7.9	7.9	30.5 30.5	30.5	62.9 64.7	63.8	4.8 5.0	4.9	4.9	2.9 3.0	3.0		5 5	5.0	
31-Dec-14	Fine	Moderate	14:44	Surface	1	18.0 18.0	18.0	7.7 7.7	7.7	29.3 30.6	30.0	76.9 76.1	76.5	6.1 6.0	6.1	5.8	4.4 4.3	4.4	4.4	6 6	6.0	4.3
				Middle	8	18.0 18.1	18.1	7.7 7.7	7.7	31.3 31.2	31.3	67.8 69.4	68.6	5.3 5.4	5.4		4.1 4.3	4.2		4 4	4.0	
				Bottom	15	18.0 17.9	18.0	7.7 7.7	7.7	31.4 31.5	31.5	58.8 56.9	57.9	4.6 4.5	4.6	4.6	4.4 4.5	4.5		3 3	3.0	
2-Jan-15	Sunny	Moderate	16:02	Surface	1	18.2 18.2	18.2	8.1 8.1	8.1	32.4 32.4	32.4	91.1 90.9	91.0	7.1 7.1	7.1	7.2	3.9 4.0	4.0	5.1	<2.5 <2.5	<2.5	4.0
				Middle	8	18.0 18.0	18.0	8.1 8.1	8.1	32.4 32.4	32.4	91.7 91.4	91.6	7.2 7.1	7.2		5.2 5.1	5.2		4 4	4.0	
				Bottom	15	17.9 17.9	17.9	8.1 8.1	8.1	32.4 32.4	32.4	91.6 91.3	91.5	7.2 7.1	7.2	7.2	6.1 6.1	6.1		5 6	5.5	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C1 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	17:00	Surface	1	18.4 18.4	18.4	8.6 8.6	8.6	26.5 27.1	26.8	97.5 97.3	97.4	7.8 7.8	7.8	7.7	2.8 2.9	2.9	3.4	3 3	3.0	3.7
				Middle	8	18.4 18.4	18.4	8.7 8.7	8.7	28.1 28.1	28.1	96.0 96.0	96.0	7.6 7.6	7.6		3.3 3.2	3.3		4 4	4.0	
				Bottom	15	18.2 18.2	18.2	8.8 8.8	8.8	28.4 28.4	28.4	94.6 94.5	94.6	7.5 7.5	7.5	7.5	4.0 3.9	4.0		4 4	4.0	
7-Jan-15	Sunny	Moderate	09:36	Surface	1	17.9 17.9	17.9	8.6 8.6	8.6	28.2 28.2	28.2	87.3 86.9	87.1	7.0 7.0	7.0	7.0	2.6 2.6	2.6	3.0	5 5	5.0	4.7
				Middle	8	17.9 17.9	17.9	8.7 8.8	8.8	28.5 28.4	28.5	86.0 86.1	86.1	6.9 6.9	6.9		3.0 3.0	3.0		4 4	4.0	
				Bottom	15	17.8 17.8	17.8	8.9 8.9	8.9	28.6 28.7	28.7	86.8 86.9	86.9	7.0 7.0	7.0	7.0	3.5 3.4	3.5		5 5	5.0	
9-Jan-15	Sunny	Moderate	09:40	Surface	1	17.8 17.7	17.8	8.4 8.4	8.4	25.9 25.1	25.5	88.1 88.7	88.4	7.2 7.3	7.3	7.1	3.5 3.0	3.3	3.6	6 5	5.5	4.0
				Middle	8	18.0 18.1	18.1	8.5 8.5	8.5	28.0 28.0	28.0	84.8 84.3	84.6	6.8 6.7	6.8		3.6 3.5	3.6		4 4	4.0	
				Bottom	15	18.2 18.3	18.3	8.5 8.5	8.5	28.4 28.3	28.4	83.5 83.3	83.4	6.6 6.6	6.6	6.6	3.8 3.7	3.8		<2.5 <2.5	<2.5	
12-Jan-15	Sunny	Moderate	11:52	Surface	1	21.1 21.2	21.2	8.0 8.0	8.0	30.6 30.6	30.6	110.8 110.0	110.4	8.2 8.2	8.2	8.2	2.1 2.1	2.1	5.0	3 3	3.0	3.7
				Middle	8	21.3 21.3	21.3	8.0 7.9	8.0	30.7 30.7	30.7	109.7 109.6	109.7	8.1 8.1	8.1		4.5 4.6	4.6		3 3	3.0	
				Bottom	15	20.8 21.1	21.0	7.9 7.9	7.9	31.0 30.9	31.0	106.5 109.1	107.8	8.0 8.1	8.1	8.1	8.2 8.1	8.2		5 5	5.0	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C2 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	08:19	Surface	1	18.4 19.9	19.2	8.0 8.0	8.0	31.8 31.9	31.9	96.9 98.1	97.5	7.5 7.4	7.5	7.4	2.3 2.4	2.4	3.9	4 4	4.0	4.8
				Middle	9	19.6 20.1	19.9	8.0 8.0	8.0	31.6 31.8	31.7	95.2 96.7	96.0	7.2 7.3	7.3		4.5 4.5	4.5		3 4	3.5	
				Bottom	17	19.8 20.2	20.0	8.2 8.2	8.2	31.1 31.0	31.1	94.7 94.7	94.7	7.2 7.2	7.2	7.2	4.8 5.0	4.9		7 7	7.0	
19-Dec-14	Cloudy	Moderate	09:43	Surface	1	18.8 18.9	18.9	7.9 7.9	7.9	30.7 30.6	30.7	109.8 109.6	109.7	8.5 8.5	8.5	8.5	3.3 3.4	3.4	4.2	4 4	4.0	3.0
				Middle	9	19.0 19.0	19.0	8.0 8.0	8.0	30.5 30.4	30.5	109.8 109.7	109.8	8.5 8.5	8.5		4.2 4.3	4.3		<2.5 <2.5	<2.5	
				Bottom	17	19.1 19.1	19.1	8.1 8.1	8.1	30.4 30.5	30.5	109.5 110.2	109.9	8.5 8.5	8.5	8.5	4.8 4.9	4.9		<2.5 <2.5	<2.5	
22-Dec-14	Cloudy	Moderate	12:47	Surface	1	18.9 18.7	18.8	7.6 7.9	7.8	26.8 27.6	27.2	101.2 104.4	102.8	8.0 8.3	8.2	8.2	3.5 3.8	3.7	4.8	3 3	3.0	4.2
				Middle	9	18.7 17.8	18.3	8.0 8.0	8.0	27.2 27.5	27.4	102.8 102.2	102.5	8.2 8.2	8.2		4.5 4.3	4.4		5 4	4.5	
				Bottom	17	18.7 18.6	18.7	8.2 8.1	8.2	27.4 27.6	27.5	101.3 102.5	101.9	8.0 8.1	8.1	8.1	6.2 6.3	6.3		5 5	5.0	
24-Dec-14	Cloudy	Moderate	14:43	Surface	1	18.3 18.3	18.3	8.2 8.2	8.2	30.9 29.4	30.2	105.0 103.6	104.3	8.2 8.2	8.2	8.2	2.5 2.2	2.4	5.1	5 5	5.0	4.3
				Middle	9	18.1 17.8	18.0	8.3 8.3	8.3	29.4 30.6	30.0	101.6 102.0	101.8	8.1 8.1	8.1		4.5 4.7	4.6		5 5	5.0	
				Bottom	17	18.0 17.8	17.9	8.5 8.5	8.5	31.1 30.5	30.8	104.0 104.0	104.0	8.2 8.2	8.2	8.2	8.2 8.3	8.3		3 3	3.0	
27-Dec-14	Fine	Moderate	16:51	Surface	1	19.0 18.9	19.0	7.9 7.9	7.9	33.6 33.6	33.6	91.7 91.5	91.6	7.0 7.0	7.0	7.0	3.4 3.3	3.4	4.1	<2.5 <2.5	<2.5	2.7
				Middle	9	18.9 18.9	18.9	7.9 7.8	7.9	33.7 33.6	33.7	90.4 90.2	90.3	6.9 6.9	6.9		4.3 4.3	4.3		<2.5 <2.5	<2.5	
				Bottom	17	18.9 18.9	18.9	7.8 7.8	7.8	33.7 33.6	33.7	90.4 90.2	90.3	6.9 6.9	6.9	6.9	4.5 4.4	4.5		3 3	3.0	
29-Dec-14	Fine	Moderate	18:05	Surface	1	17.9 17.9	17.9	7.6 7.6	7.6	34.1 34.1	34.1	55.2 55.0	55.1	4.3 4.3	4.3	4.2	4.0 3.9	4.0	4.2	3 3	3.0	4.2
				Middle	9	17.9 17.9	17.9	7.3 7.6	7.5	28.2 31.6	29.9	50.8 52.1	51.5	4.1 4.1	4.1		4.2 4.1	4.2		4 5	4.5	
				Bottom	17	17.9 17.9	17.9	7.6 7.6	7.6	32.6 32.9	32.8	46.8 46.9	46.9	3.7 3.7	3.7	3.7	4.4 4.5	4.5		5 5	5.0	
31-Dec-14	Fine	Moderate	09:32	Surface	1	18.1 17.7	17.9	7.7 7.7	7.7	29.0 29.6	29.3	77.8 74.8	76.3	6.2 6.0	6.1	5.5	4.1 4.0	4.1	4.3	3 3	3.0	4.0
				Middle	9	17.4 18.0	17.7	7.7 7.7	7.7	32.6 32.4	32.5	60.8 63.9	62.4	4.8 5.0	4.9		4.2 4.0	4.1		4 4	4.0	
				Bottom	17	17.8 17.4	17.6	7.7 7.7	7.7	32.9 33.2	33.1	51.8 49.8	50.8	4.0 3.9	4.0	4.0	4.5 4.7	4.6		5 5	5.0	
2-Jan-15	Sunny	Moderate	09:37	Surface	1	17.7 17.7	17.7	8.1 8.1	8.1	32.1 32.1	32.1	79.4 79.9	79.7	6.2 6.3	6.3	6.3	4.6 4.5	4.6	4.6	3 3	3.0	4.7
				Middle	9	17.7 17.7	17.7	8.1 8.1	8.1	32.2 32.2	32.2	79.6 80.0	79.8	6.3 6.3	6.3		4.7 4.5	4.6		5 6	5.5	
				Bottom	17	17.7 17.7	17.7	8.1 8.1	8.1	32.2 32.2	32.2	79.5 80.2	79.9	6.3 6.3	6.3	6.3	4.7 4.6	4.7		5 6	5.5	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C2 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	12:06	Surface	1	18.2 18.2	18.2	8.6 8.6	8.6	27.9 28.0	28.0	98.0 97.9	98.0	7.8 7.8	7.8	7.8	3.0 2.9	3.0	3.5	3 3	3.0	3.7
				Middle	9	18.1 18.1	18.1	8.7 8.7	8.7	28.2 28.2	28.2	97.0 97.0	97.0	7.7 7.7	7.7		3.6 3.5	3.6		5 5	5.0	
				Bottom	17	18.1 18.1	18.1	8.8 8.8	8.8	28.2 28.2	28.2	96.7 96.7	96.7	7.7 7.7	7.7	7.7	3.7 3.8	3.8		3 3	3.0	
7-Jan-15	Sunny	Moderate	14:24	Surface	1	18.3 18.3	18.3	8.7 8.7	8.7	24.1 27.9	26.0	93.4 94.1	93.8	7.6 7.5	7.6	7.6	2.6 2.6	2.6	3.1	4 4	4.0	4.2
				Middle	9	18.3 18.3	18.3	8.8 8.8	8.8	28.1 28.1	28.1	93.6 93.9	93.8	7.5 7.5	7.5		3.2 3.2	3.2		4 4	4.0	
				Bottom	17	18.2 18.2	18.2	8.9 8.9	8.9	28.3 28.3	28.3	93.9 94.1	94.0	7.5 7.5	7.5	7.5	3.4 3.5	3.5		5 4	4.5	
9-Jan-15	Sunny	Moderate	14:17	Surface	1	16.6 16.8	16.7	8.5 8.6	8.6	22.3 21.9	22.1	103.6 101.3	102.5	8.8 8.6	8.7	8.3	3.9 3.9	3.9	4.2	4 4	4.0	3.3
				Middle	9	17.5 17.6	17.6	8.6 8.6	8.6	28.1 28.1	28.1	98.2 97.9	98.1	7.9 7.9	7.9		4.1 4.3	4.2		3 3	3.0	
				Bottom	17	17.9 17.9	17.9	8.7 8.7	8.7	28.5 28.5	28.5	96.4 96.5	96.5	7.7 7.7	7.7	7.7	4.5 4.4	4.5		3 3	3.0	
12-Jan-15	Sunny	Moderate	16:53	Surface	1	21.6 21.7	21.7	8.0 8.1	8.1	30.6 30.7	30.7	111.8 110.5	111.2	8.2 8.1	8.2	8.1	3.3 3.6	3.5	5.0	3 3	3.0	3.3
				Middle	9	21.9 21.8	21.9	7.9 8.0	8.0	30.8 30.8	30.8	108.4 108.2	108.3	7.9 7.9	7.9		4.2 4.5	4.4		3 3	3.0	
				Bottom	17	20.7 20.8	20.8	7.9 7.9	7.9	30.9 31.0	31.0	103.3 106.2	104.8	7.7 7.9	7.8	7.8	7.2 7.1	7.2		4 4	4.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C2 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	13:57	Surface	1	20.2 20.2	20.2	7.8 7.8	7.8	30.8 30.7	30.8	94.5 94.3	94.4	7.1 7.1	7.1	7.1	2.9 2.8	2.9	4.2	3 3	3.0	4.7
				Middle	9	20.2 20.2	20.2	7.9 7.9	7.9	30.7 30.7	30.7	93.9 94.2	94.1	7.1 7.1	7.1		4.2 4.2	4.2		4 4	4.0	
				Bottom	17	20.2 20.2	20.2	8.0 8.0	8.0	30.7 30.6	30.7	93.9 94.0	94.0	7.1 7.1	7.1	7.1	5.2 5.5	5.4		7 7	7.0	
19-Dec-14	Cloudy	Moderate	15:21	Surface	1	18.2 18.5	18.4	8.0 7.9	8.0	31.3 31.1	31.2	111.6 110.6	111.1	8.7 8.6	8.7	8.6	3.4 3.4	3.4	4.4	<2.5 <2.5	<2.5	2.8
				Middle	9	19.0 19.0	19.0	8.0 8.0	8.0	30.5 30.5	30.5	110.1 110.0	110.1	8.5 8.5	8.5		4.4 4.4	4.4		3 3	3.0	
				Bottom	17	19.0 19.0	19.0	8.1 8.1	8.1	30.5 30.5	30.5	109.7 109.7	109.7	8.5 8.5	8.5	8.5	5.2 5.3	5.3		3 3	3.0	
22-Dec-14	Cloudy	Moderate	18:31	Surface	1	18.6 18.6	18.6	7.9 7.9	7.9	28.0 26.8	27.4	115.7 98.1	106.9	9.2 7.8	8.5	8.3	2.5 2.6	2.6	4.3	5 5	5.0	4.2
				Middle	9	17.0 18.6	17.8	8.3 8.1	8.2	26.8 27.7	27.3	102.3 96.9	99.6	8.4 7.7	8.1		3.7 3.8	3.8		5 5	5.0	
				Bottom	17	18.0 18.6	18.3	8.5 8.4	8.5	28.1 27.6	27.9	100.9 99.2	100.1	8.1 7.9	8.0	8.0	6.4 6.7	6.6		<2.5 <2.5	<2.5	
24-Dec-14	Cloudy	Moderate	08:57	Surface	1	18.5 18.6	18.6	8.1 8.1	8.1	29.5 30.3	29.9	106.3 109.7	108.0	8.4 8.6	8.5	8.5	3.3 3.6	3.5	4.8	8 7	7.5	4.2
				Middle	9	18.1 18.0	18.1	8.1 8.1	8.1	30.1 30.4	30.3	107.3 108.1	107.7	8.5 8.5	8.5		4.2 4.5	4.4		<2.5 <2.5	<2.5	
				Bottom	17	18.1 17.8	18.0	8.2 8.2	8.2	30.2 30.5	30.4	106.0 106.6	106.3	8.4 8.4	8.4	8.4	6.4 6.6	6.5		<2.5 <2.5	<2.5	
27-Dec-14	Fine	Moderate	10:17	Surface	1	19.0 18.9	19.0	8.1 8.0	8.1	33.6 33.6	33.6	90.0 89.8	89.9	6.8 6.8	6.8	6.8	3.0 2.6	2.8	3.1	6 6	6.0	4.7
				Middle	9	18.9 18.9	18.9	8.0 8.0	8.0	33.7 33.6	33.7	88.6 88.5	88.6	6.7 6.7	6.7		3.3 3.3	3.3		4 4	4.0	
				Bottom	17	18.9 18.9	18.9	8.0 8.0	8.0	33.7 33.6	33.7	88.7 88.5	88.6	6.7 6.7	6.7	6.7	2.9 3.5	3.2		4 4	4.0	
29-Dec-14	Fine	Moderate	12:53	Surface	1	19.2 19.2	19.2	7.9 7.9	7.9	31.9 31.9	31.9	59.1 59.0	59.1	4.5 4.5	4.5	4.5	2.7 2.8	2.8	3.3	5 6	5.5	3.8
				Middle	9	19.2 19.2	19.2	7.9 7.9	7.9	32.0 32.0	32.0	56.9 56.9	56.9	4.4 4.4	4.4		3.3 3.4	3.4		<2.5 <2.5	<2.5	
				Bottom	17	19.2 19.2	19.2	7.9 7.9	7.9	32.2 32.2	32.2	52.3 52.2	52.3	4.0 4.0	4.0	4.0	3.6 3.8	3.7		3 4	3.5	
31-Dec-14	Fine	Moderate	13:35	Surface	1	17.8 17.6	17.7	7.7 7.7	7.7	33.2 33.2	33.2	70.8 70.5	70.7	5.5 5.5	5.5	5.3	4.3 4.2	4.3	4.5	<2.5 <2.5	<2.5	4.0
				Middle	9.5	17.5 17.8	17.7	7.7 7.7	7.7	33.3 33.3	33.3	64.4 66.1	65.3	5.0 5.2	5.1		4.4 4.5	4.5		<2.5 <2.5	<2.5	
				Bottom	18	17.6 17.5	17.6	7.7 7.7	7.7	33.3 33.3	33.3	55.8 54.2	55.0	4.4 4.2	4.3	4.3	4.6 4.7	4.7		7 7	7.0	
2-Jan-15	Sunny	Moderate	14:42	Surface	1	18.4 18.4	18.4	8.1 8.1	8.1	32.2 32.2	32.2	83.7 83.5	83.6	6.5 6.5	6.5	6.6	3.8 4.1	4.0	4.2	6 6	6.0	3.8
				Middle	9	18.2 18.2	18.2	8.1 8.1	8.1	32.2 32.2	32.2	84.1 84.1	84.1	6.6 6.5	6.6		3.9 4.2	4.1		<2.5 <2.5	<2.5	
				Bottom	17	17.9 17.9	17.9	8.1 8.1	8.1	32.2 32.2	32.2	83.3 83.6	83.5	6.5 6.5	6.5	6.5	4.4 4.7	4.6		3 3	3.0	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at C2 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	16:28	Surface	1	18.2 18.2	18.2	8.6 8.6	8.6	28.0 28.0	28.0	97.8 97.6	97.7	7.8 7.8	7.8	7.8	2.8 3.0	2.9	3.3	4 4	4.0	4.7
				Middle	9	18.1 18.2	18.2	8.7 8.7	8.7	28.2 28.1	28.2	97.1 97.1	97.1	7.8 7.7	7.8		3.1 3.1	3.1		4 4	4.0	
				Bottom	17	18.1 18.1	18.1	8.8 8.8	8.8	28.2 28.2	28.2	96.7 96.7	96.7	7.7 7.7	7.7	7.7	3.8 4.0	3.9		6 6	6.0	
7-Jan-15	Sunny	Moderate	08:36	Surface	1	17.9 17.9	17.9	8.6 8.6	8.6	27.8 27.9	27.9	95.9 95.3	95.6	7.7 7.7	7.7	7.7	2.8 2.8	2.8	3.2	5 5	5.0	4.8
				Middle	9	17.8 17.8	17.8	8.7 8.7	8.7	28.3 28.3	28.3	94.5 94.5	94.5	7.6 7.6	7.6		3.1 3.1	3.1		3 3	3.0	
				Bottom	17	17.7 17.7	17.7	8.8 8.8	8.8	28.5 28.5	28.5	94.4 94.3	94.4	7.6 7.6	7.6	7.6	3.6 3.7	3.7		7 6	6.5	
9-Jan-15	Sunny	Moderate	10:24	Surface	1	17.0 16.4	16.7	8.6 8.5	8.6	27.6 27.7	27.7	102.5 109.7	106.1	8.4 9.1	8.8	8.4	3.4 3.4	3.4	3.8	6 6	6.0	4.8
				Middle	9	17.5 17.6	17.6	8.6 8.6	8.6	28.0 28.2	28.1	98.8 97.8	98.3	8.0 7.9	8.0		3.8 3.9	3.9		<2.5 <2.5	<2.5	
				Bottom	17	17.8 17.8	17.8	8.7 8.7	8.7	28.5 28.5	28.5	96.7 96.8	96.8	7.8 7.8	7.8	7.8	4.1 4.0	4.1		6 6	6.0	
12-Jan-15	Sunny	Moderate	10:48	Surface	1	21.2 21.1	21.2	8.0 7.9	8.0	30.4 30.5	30.5	111.2 110.8	111.0	8.3 8.3	8.3	8.3	2.2 2.3	2.3	3.9	3 3	3.0	4.2
				Middle	9	21.1 21.1	21.1	8.0 8.1	8.1	30.9 30.8	30.9	110.1 109.8	110.0	8.2 8.2	8.2		4.2 4.1	4.2		4 4	4.0	
				Bottom	17	20.9 20.8	20.9	8.0 8.1	8.1	31.0 31.1	31.1	110.2 109.8	110.0	8.2 8.2	8.2	8.2	5.2 5.3	5.3		6 5	5.5	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at 14 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	09:14	Surface	1	20.1 20.1	20.1	8.0 8.0	8.0	30.6 30.6	30.6	89.0 88.7	88.9	6.7 6.7	6.7	6.9	2.1 2.2	2.2	3.5	5 5	5.0	4.0
				Middle	4	20.1 20.1	20.1	8.2 8.2	8.2	30.7 30.7	30.7	92.1 91.9	92.0	7.0 7.0	7.0		2.8 2.7	2.8		4 4	4.0	
				Bottom	7	20.1 20.1	20.1	8.2 8.2	8.2	30.6 30.6	30.6	92.3 92.4	92.4	7.0 7.0	7.0	7.0	5.2 5.6	5.4		3 3	3.0	
19-Dec-14	Cloudy	Moderate	10:24	Surface	1	19.5 19.5	19.5	7.8 7.8	7.8	30.0 30.1	30.1	88.8 88.7	88.8	6.8 6.8	6.8	6.9	3.0 3.1	3.1	3.8	<2.5 <2.5	<2.5	4.2
				Middle	4	19.5 19.5	19.5	7.8 7.8	7.8	30.1 30.0	30.1	89.4 89.5	89.5	6.9 6.9	6.9		3.4 3.4	3.4		6 6	6.0	
				Bottom	7	19.4 19.4	19.4	7.9 7.9	7.9	30.2 30.0	30.1	90.4 90.2	90.3	7.0 7.0	7.0	7.0	4.6 4.9	4.8		4 4	4.0	
22-Dec-14	Cloudy	Moderate	13:34	Surface	1	16.8 18.8	17.8	7.9 7.9	7.9	27.9 25.8	26.9	91.6 92.0	91.8	7.5 7.4	7.5	7.5	3.7 3.8	3.8	4.8	7 7	7.0	4.8
				Middle	4	18.5 18.9	18.7	8.1 8.0	8.1	27.9 27.7	27.8	94.0 92.1	93.1	7.5 7.3	7.4		4.4 4.4	4.4		4 4	4.0	
				Bottom	7	18.7 17.9	18.3	8.2 8.1	8.2	27.9 27.7	27.8	92.5 89.8	91.2	7.3 7.2	7.3	7.3	6.3 6.2	6.3		4 3	3.5	
24-Dec-14	Cloudy	Moderate	13:25	Surface	1	18.4 18.4	18.4	8.4 8.4	8.4	30.0 29.2	29.6	102.9 98.9	100.9	8.1 7.8	8.0	8.0	2.0 1.9	2.0	4.8	<2.5 <2.5	<2.5	3.0
				Middle	4	18.2 18.0	18.1	8.5 8.4	8.5	30.5 30.3	30.4	102.5 98.0	100.3	8.1 7.7	7.9		3.4 3.6	3.5		4 4	4.0	
				Bottom	7	18.1 18.0	18.1	8.5 8.4	8.5	30.4 30.4	30.4	99.0 97.8	98.4	7.8 7.7	7.8	7.8	8.9 9.1	9.0		<2.5 <2.5	<2.5	
27-Dec-14	Fine	Moderate	15:58	Surface	1	19.2 19.2	19.2	7.5 7.6	7.6	33.6 33.5	33.6	80.8 80.6	80.7	6.1 6.1	6.1	6.2	1.8 1.8	1.8	2.2	4 4	4.0	4.0
				Middle	4	19.2 19.2	19.2	7.6 7.6	7.6	33.6 33.6	33.6	81.2 81.2	81.2	6.2 6.2	6.2		2.2 2.1	2.2		4 4	4.0	
				Bottom	7	19.2 19.2	19.2	7.6 7.6	7.6	33.6 33.6	33.6	81.5 81.3	81.4	6.2 6.2	6.2	6.2	2.6 2.6	2.6		4 4	4.0	
29-Dec-14	Fine	Moderate	18:50	Surface	1	17.8 17.8	17.8	7.6 7.6	7.6	29.3 30.4	29.9	61.6 59.7	60.7	4.9 4.7	4.8	4.5	3.7 3.6	3.7	3.9	3 3	3.0	4.2
				Middle	4	18.0 18.0	18.0	7.6 7.6	7.6	30.6 30.6	30.6	52.1 51.9	52.0	4.1 4.1	4.1		3.9 4.0	4.0		5 4	4.5	
				Bottom	7	18.0 18.0	18.0	7.6 7.6	7.6	30.6 30.7	30.7	46.7 46.3	46.5	3.7 3.7	3.7	3.7	4.1 4.1	4.1		5 5	5.0	
31-Dec-14	Fine	Moderate	08:32	Surface	1	18.0 17.6	17.8	7.6 7.6	7.6	30.7 30.6	30.7	79.1 72.4	75.8	6.2 5.8	6.0	5.6	4.3 4.2	4.3	4.7	4 4	4.0	4.5
				Middle	4	17.5 17.9	17.7	7.6 7.6	7.6	32.5 32.7	32.6	64.6 65.8	65.2	5.1 5.1	5.1		4.6 4.6	4.6		6 6	6.0	
				Bottom	7	17.6 17.5	17.6	7.6 7.6	7.6	32.4 32.4	32.4	54.6 54.1	54.4	4.3 4.3	4.3	4.3	5.0 5.4	5.2		4 3	3.5	
2-Jan-15	Sunny	Moderate	10:41	Surface	1	17.9 17.9	17.9	8.1 8.1	8.1	31.8 31.8	31.8	84.3 84.4	84.4	6.6 6.6	6.6	6.6	4.6 4.2	4.4	4.5	4 4	4.0	4.8
				Middle	4	17.9 17.9	17.9	8.1 8.1	8.1	31.8 31.8	31.8	83.8 83.8	83.8	6.6 6.6	6.6		3.7 3.7	3.7		5 5	5.0	
				Bottom	7	17.8 17.8	17.8	8.1 8.1	8.1	31.9 31.9	31.9	82.2 81.5	81.9	6.5 6.4	6.5	6.5	5.4 5.2	5.3		5 6	5.5	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at 14 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	11:28	Surface	1	21.2 20.4	20.8	8.3 8.4	8.4	28.0 27.8	27.9	100.0 96.0	98.0	7.5 7.4	7.5	7.5	3.0 2.8	2.9	3.4	3 3	3.0	4.2
				Middle	4	18.7 18.7	18.7	8.6 8.6	8.6	28.0 28.0	28.0	93.8 93.4	93.6	7.4 7.4	7.4		3.2 3.1	3.2		5 5	5.0	
				Bottom	7	18.4 18.4	18.4	8.7 8.7	8.7	28.3 28.3	28.3	94.0 94.0	94.0	7.5 7.5	7.5		3.9 4.0	4.0		4 5	4.5	
7-Jan-15	Sunny	Moderate	13:29	Surface	1	18.4 18.4	18.4	8.7 8.7	8.7	24.4 24.4	24.4	86.5 86.4	86.5	7.0 7.0	7.0	7.0	2.6 2.5	2.6	3.1	3 3	3.0	2.8
				Middle	4	18.4 18.4	18.4	8.7 8.7	8.7	28.3 28.3	28.3	87.1 87.0	87.1	6.9 6.9	6.9		2.8 2.8	2.8		3 3	3.0	
				Bottom	7	18.4 18.4	18.4	8.8 8.8	8.8	28.3 28.3	28.3	87.4 87.5	87.5	6.9 6.9	6.9	6.9	3.8 4.0	3.9		<2.5 <2.5	<2.5	
9-Jan-15	Sunny	Moderate	15:15	Surface	1	17.2 17.4	17.3	8.3 8.3	8.3	25.2 25.7	25.5	91.8 89.5	90.7	7.6 7.4	7.5	7.2	3.0 2.9	3.0	3.0	3 3	3.0	4.0
				Middle	4	17.8 17.9	17.9	8.4 8.4	8.4	28.1 28.1	28.1	86.2 85.9	86.1	6.9 6.9	6.9		3.2 3.3	3.3		4 4	4.0	
				Bottom	7	18.2 18.1	18.2	8.5 8.5	8.5	28.4 28.5	28.5	84.3 84.5	84.4	6.7 6.7	6.7	6.7	2.7 2.7	2.7		5 5	5.0	
12-Jan-15	Sunny	Moderate	15:54	Surface	1	21.5 21.6	21.6	8.1 8.2	8.2	30.4 30.3	30.4	106.1 106.4	106.3	7.9 7.9	7.9	7.9	3.3 3.2	3.3	5.0	4 5	4.5	4.0
				Middle	4	21.1 21.4	21.3	8.1 8.2	8.2	30.6 30.4	30.5	105.7 106.1	105.9	7.9 7.9	7.9		4.6 4.6	4.6		4 3	3.5	
				Bottom	7	20.8 20.8	20.8	8.3 8.2	8.3	30.8 30.8	30.8	105.2 105.1	105.2	7.9 7.9	7.9	7.9	7.2 7.1	7.2		4 4	4.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at 14 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	13:11	Surface	1	19.4 19.6	19.5	7.7 7.7	7.7	30.7 30.6	30.7	94.4 91.9	93.2	7.2 7.0	7.1	7.0	2.0 2.1	2.1	3.5	6 6	6.0	4.0
				Middle	4	20.1 20.0	20.1	7.8 7.8	7.8	30.6 30.7	30.7	88.7 89.1	88.9	6.7 6.8	6.8		2.9 2.9	2.9		<2.5 <2.5	<2.5	
				Bottom	7	20.1 20.1	20.1	8.0 8.0	8.0	30.7 30.7	30.7	88.3 88.3	88.3	6.7 6.7	6.7	6.7	5.3 5.4	5.4		4 3	3.5	
19-Dec-14	Cloudy	Moderate	14:31	Surface	1	19.5 19.5	19.5	7.8 7.8	7.8	30.0 30.0	30.0	88.7 88.8	88.8	6.8 6.8	6.8	6.9	2.9 3.0	3.0	3.7	3 3	3.0	2.7
				Middle	4	19.5 19.5	19.5	7.8 7.8	7.8	30.0 30.0	30.0	88.8 89.1	89.0	6.8 6.9	6.9		3.5 3.5	3.5		<2.5 <2.5	<2.5	
				Bottom	7	19.4 19.4	19.4	7.9 7.9	7.9	30.0 30.1	30.1	90.1 89.0	89.6	6.9 6.9	6.9	6.9	4.5 4.4	4.5		<2.5 <2.5	<2.5	
22-Dec-14	Cloudy	Moderate	16:59	Surface	1	18.8 18.8	18.8	7.9 8.1	8.0	27.2 26.6	26.9	97.2 92.5	94.9	7.7 7.4	7.6	7.6	3.2 3.1	3.2	4.2	4 4	4.0	4.2
				Middle	4	18.3 18.9	18.6	8.0 8.2	8.1	27.7 27.5	27.6	96.1 92.3	94.2	7.7 7.3	7.5		4.5 4.5	4.5		<2.5 <2.5	<2.5	
				Bottom	7	18.7 18.9	18.8	8.2 8.3	8.3	27.5 27.5	27.5	92.9 92.0	92.5	7.4 7.3	7.4	7.4	4.8 4.8	4.8		6 6	6.0	
24-Dec-14	Cloudy	Moderate	09:34	Surface	1	18.1 18.4	18.3	8.1 8.1	8.1	30.7 28.4	29.6	100.8 98.3	99.6	7.9 7.8	7.9	7.9	2.5 2.4	2.5	4.4	<2.5 <2.5	<2.5	2.7
				Middle	4	18.0 18.0	18.0	8.3 8.1	8.2	30.8 30.6	30.7	100.1 97.9	99.0	7.9 7.7	7.8		5.1 5.1	5.1		3 3	3.0	
				Bottom	7	18.1 18.1	18.1	8.4 8.3	8.4	30.8 30.6	30.7	98.8 97.6	98.2	7.8 7.7	7.8	7.8	5.5 5.6	5.6		<2.5 <2.5	<2.5	
27-Dec-14	Fine	Moderate	11:04	Surface	1	19.0 19.0	19.0	7.5 7.5	7.5	33.2 33.2	33.2	79.8 79.5	79.7	6.1 6.1	6.1	6.1	1.3 1.5	1.4	1.8	4 4	4.0	3.8
				Middle	4	19.0 18.9	19.0	7.5 7.5	7.5	33.2 33.2	33.2	78.6 78.0	78.3	6.0 6.0	6.0		1.7 1.6	1.7		4 3	3.5	
				Bottom	7	18.9 18.9	18.9	7.5 7.5	7.5	33.2 33.2	33.2	78.2 78.0	78.1	6.0 6.0	6.0	6.0	2.2 2.3	2.3		4 4	4.0	
29-Dec-14	Fine	Moderate	11:59	Surface	1	19.4 19.4	19.4	7.9 7.9	7.9	31.2 31.1	31.2	63.4 63.4	63.4	4.9 4.9	4.9	4.8	3.1 3.0	3.1	3.3	3 3	3.0	3.3
				Middle	4	19.4 19.4	19.4	7.9 7.9	7.9	31.2 31.3	31.3	60.4 60.4	60.4	4.6 4.6	4.6		3.1 3.1	3.1		4 4	4.0	
				Bottom	7	19.3 19.3	19.3	7.9 7.9	7.9	31.9 32.0	32.0	54.8 54.8	54.8	4.2 4.2	4.2	4.2	3.4 3.7	3.6		3 3	3.0	
31-Dec-14	Fine	Moderate	14:35	Surface	1	17.8 17.6	17.7	7.7 7.7	7.7	30.2 30.4	30.3	82.3 81.0	81.7	6.5 6.4	6.5	6.2	4.0 3.9	4.0	4.2	6 6	6.0	4.7
				Middle	4	17.5 17.8	17.7	7.7 7.7	7.7	30.6 30.6	30.6	73.8 74.4	74.1	5.9 5.9	5.9		4.3 4.3	4.3		4 4	4.0	
				Bottom	7	17.6 17.5	17.6	7.7 7.7	7.7	30.8 30.9	30.9	62.9 62.7	62.8	5.0 5.0	5.0	5.0	4.3 4.4	4.4		4 4	4.0	
2-Jan-15	Sunny	Moderate	15:50	Surface	1	18.2 18.2	18.2	8.2 8.2	8.2	32.2 32.2	32.2	102.8 102.8	102.8	8.0 8.0	8.0	7.9	3.5 3.6	3.6	4.7	3 3	3.0	4.7
				Middle	4	17.8 17.8	17.8	8.2 8.2	8.2	32.4 32.4	32.4	100.1 100.0	100.1	7.8 7.8	7.8		4.3 4.3	4.3		7 7	7.0	
				Bottom	7	17.9 17.9	17.9	8.1 8.1	8.1	32.9 32.9	32.9	88.1 87.6	87.9	6.9 6.8	6.9	6.9	6.2 6.1	6.2		4 4	4.0	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at 14 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	17:12	Surface	1	21.0 20.7	20.9	8.4 8.4	8.4	28.4 28.2	28.3	98.5 97.5	98.0	7.4 7.4	7.4	7.4	2.6 2.7	2.7	3.2	3 3	3.0	4.3
				Middle	4	18.4 18.7	18.6	8.6 8.6	8.6	29.2 28.0	28.6	93.8 93.7	93.8	7.4 7.4	7.4		3.0 2.9	3.0		5 5	5.0	
				Bottom	7	18.3 18.3	18.3	8.7 8.7	8.7	28.3 28.3	28.3	94.2 94.0	94.1	7.5 7.5	7.5	7.5	4.0 4.0	4.0		5 5	5.0	
7-Jan-15	Sunny	Moderate	09:24	Surface	1	17.6 17.6	17.6	8.6 8.6	8.6	27.8 28.4	28.1	91.3 90.3	90.8	7.4 7.3	7.4	7.3	2.5 2.6	2.6	3.0	3 3	3.0	4.0
				Middle	4.5	17.7 17.7	17.7	8.7 8.7	8.7	28.6 28.6	28.6	88.5 88.6	88.6	7.1 7.1	7.1		2.7 2.7	2.7		6 6	6.0	
				Bottom	8	17.8 17.8	17.8	8.8 8.8	8.8	28.6 28.6	28.6	88.2 88.1	88.2	7.1 7.1	7.1	7.1	3.6 3.5	3.6		3 3	3.0	
9-Jan-15	Sunny	Moderate	09:30	Surface	1	17.1 17.5	17.3	8.3 8.3	8.3	21.4 26.1	23.8	91.1 89.3	90.2	7.7 7.3	7.5	7.3	2.7 2.7	2.7	3.0	5 5	5.0	4.3
				Middle	4	17.9 17.8	17.9	8.4 8.4	8.4	28.2 27.9	28.1	85.7 86.4	86.1	6.9 7.0	7.0		3.0 2.9	3.0		5 5	5.0	
				Bottom	7	18.1 18.1	18.1	8.5 8.5	8.5	28.4 28.4	28.4	84.6 84.6	84.6	6.7 6.7	6.7	6.7	3.2 3.3	3.3		3 3	3.0	
12-Jan-15	Sunny	Moderate	11:42	Surface	1	21.2 21.3	21.3	7.8 7.8	7.8	29.4 29.3	29.4	107.9 107.9	107.9	8.1 8.1	8.1	8.1	1.6 1.4	1.5	4.1	5 6	5.5	4.2
				Middle	4.5	21.1 21.2	21.2	7.9 7.7	7.8	30.7 30.6	30.7	109.4 109.6	109.5	8.1 8.1	8.1		5.1 5.1	5.1		4 4	4.0	
				Bottom	8	19.1 18.9	19.0	7.9 7.9	7.9	32.5 32.5	32.5	105.6 105.5	105.6	8.1 8.1	8.1	8.1	5.5 5.8	5.7		3 3	3.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at A - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	08:46	Surface	1	19.3 19.4	19.4	8.0 8.0	8.0	31.1 31.0	31.1	112.9 112.7	112.8	8.7 8.6	8.7	8.7	2.3 2.3	2.3	3.9	6 6	6.0	4.3
				Middle	5.5	19.6 19.6	19.6	8.1 8.1	8.1	30.8 30.8	30.8	112.2 112.3	112.3	8.6 8.6	8.6		4.1 4.2	4.2		3 3	3.0	
				Bottom	10	19.8 19.8	19.8	8.3 8.3	8.3	30.7 30.7	30.7	109.5 109.3	109.4	8.3 8.3	8.3	8.3	4.9 5.2	5.1		4 4	4.0	
19-Dec-14	Cloudy	Moderate	10:04	Surface	1	19.2 19.2	19.2	7.9 7.9	7.9	30.5 30.5	30.5	91.0 90.9	91.0	7.0 7.0	7.0	7.0	3.2 3.2	3.2	4.0	<2.5 <2.5	<2.5	4.7
				Middle	5.5	19.3 19.3	19.3	7.9 7.9	7.9	30.4 30.3	30.4	90.8 90.9	90.9	7.0 7.0	7.0		3.9 4.1	4.0		6 6	6.0	
				Bottom	10	19.3 19.4	19.4	7.9 7.9	7.9	30.3 30.2	30.3	91.0 91.0	91.0	7.0 7.0	7.0	7.0	4.7 5.0	4.9		5 6	5.5	
22-Dec-14	Cloudy	Moderate	13:24	Surface	1	18.2 18.8	18.5	8.1 8.0	8.1	27.1 27.6	27.4	87.3 88.4	87.9	7.0 7.0	7.0	7.1	2.8 2.8	2.8	3.6	3 4	3.5	4.5
				Middle	5.5	18.4 18.8	18.6	8.2 8.2	8.2	27.8 27.6	27.7	89.0 88.1	88.6	7.1 7.0	7.1		3.3 3.5	3.4		4 4	4.0	
				Bottom	10	18.6 18.8	18.7	8.3 8.3	8.3	27.8 27.7	27.8	88.3 87.9	88.1	7.0 6.9	7.0	7.0	4.7 4.7	4.7		6 6	6.0	
24-Dec-14	Cloudy	Moderate	14:12	Surface	1	18.5 18.4	18.5	8.1 8.1	8.1	30.2 29.3	29.8	109.9 96.5	103.2	8.6 7.6	8.1	8.0	2.0 2.5	2.3	3.4	7 7	7.0	4.0
				Middle	5.5	18.3 18.1	18.2	8.4 8.4	8.4	29.8 30.6	30.2	104.2 95.7	100.0	8.2 7.5	7.9		2.6 2.3	2.5		<2.5 <2.5	<2.5	
				Bottom	10	17.9 18.4	18.2	8.6 8.6	8.6	30.8 30.6	30.7	96.8 95.5	96.2	7.6 7.5	7.6	7.6	5.4 5.2	5.3		<2.5 <2.5	<2.5	
27-Dec-14	Fine	Moderate	16:17	Surface	1	19.1 19.1	19.1	8.0 7.9	8.0	33.5 33.5	33.5	79.0 78.6	78.8	6.0 6.0	6.0	6.0	0.6 0.6	0.6	1.6	3 3	3.0	3.7
				Middle	5.5	19.1 19.1	19.1	7.9 7.9	7.9	33.5 33.6	33.6	76.1 77.1	76.6	5.8 5.9	5.9		1.4 1.4	1.4		4 4	4.0	
				Bottom	10	19.1 19.1	19.1	7.9 7.9	7.9	33.8 33.8	33.8	77.1 78.0	77.6	5.8 5.9	5.9	5.9	2.9 2.8	2.9		4 4	4.0	
29-Dec-14	Fine	Moderate	18:34	Surface	1	18.1 18.1	18.1	7.5 7.5	7.5	30.3 30.3	30.3	59.6 59.6	59.6	4.7 4.7	4.7	4.7	3.7 3.8	3.8	3.9	5 5	5.0	4.8
				Middle	5.5	18.1 18.1	18.1	7.5 7.5	7.5	30.4 30.6	30.5	58.2 58.7	58.5	4.6 4.6	4.6		3.9 4.0	4.0		6 6	6.0	
				Bottom	10	18.1 18.1	18.1	7.5 7.5	7.5	33.6 35.3	34.5	53.8 53.9	53.9	4.2 4.1	4.2	4.2	4.0 4.0	4.0		4 3	3.5	
31-Dec-14	Fine	Moderate	08:45	Surface	1	17.9 17.5	17.7	7.6 7.6	7.6	28.6 29.4	29.0	75.7 73.0	74.4	6.1 5.9	6.0	5.6	4.1 4.2	4.2	4.3	4 4	4.0	4.0
				Middle	5.5	17.4 17.8	17.6	7.6 7.6	7.6	32.0 31.6	31.8	62.8 65.5	64.2	5.0 5.2	5.1		4.0 3.9	4.0		4 4	4.0	
				Bottom	10	17.6 17.4	17.5	7.6 7.6	7.6	32.4 32.5	32.5	54.1 52.5	53.3	4.3 4.1	4.2	4.2	4.6 4.7	4.7		4 4	4.0	
2-Jan-15	Sunny	Moderate	10:20	Surface	1	17.8 17.8	17.8	8.2 8.2	8.2	32.2 32.1	32.2	100.1 100.7	100.4	7.9 7.9	7.9	7.9	3.4 3.6	3.5	4.6	3 3	3.0	4.0
				Middle	5.5	17.5 17.5	17.5	8.2 8.2	8.2	32.3 32.3	32.3	99.2 100.5	99.9	7.8 7.9	7.9		3.0 3.2	3.1		4 4	4.0	
				Bottom	10	17.5 17.5	17.5	8.1 8.1	8.1	32.8 32.8	32.8	89.4 89.5	89.5	7.0 7.0	7.0	7.0	6.7 7.5	7.1		5 5	5.0	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at A - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	11:45	Surface	1	18.2 18.2	18.2	8.5 8.5	8.5	28.7 28.4	28.6	92.5 92.9	92.7	7.4 7.4	7.4	7.3	2.7 2.8	2.8	3.4	4 3	3.5	3.3
				Middle	5.5	18.3 18.3	18.3	8.6 8.6	8.6	27.8 27.9	27.9	89.2 88.9	89.1	7.1 7.1	7.1		2.8 2.8	2.8		3 4	3.5	
				Bottom	10	18.3 18.3	18.3	8.7 8.7	8.7	28.1 28.1	28.1	87.1 87.3	87.2	6.9 7.0	7.0	7.0	4.4 4.8	4.6		3 3	3.0	
7-Jan-15	Sunny	Moderate	13:43	Surface	1	18.5 18.5	18.5	8.5 8.5	8.5	25.1 26.1	25.6	85.5 85.8	85.7	6.9 6.9	6.9	6.9	2.5 2.6	2.6	3.1	4 4	4.0	4.8
				Middle	5.5	18.5 18.5	18.5	8.5 8.5	8.5	28.1 28.0	28.1	84.7 85.4	85.1	6.7 6.8	6.8		2.7 2.7	2.7		<2.5 <2.5	<2.5	
				Bottom	10	18.5 18.5	18.5	8.6 8.6	8.6	28.1 28.2	28.2	83.8 83.7	83.8	6.6 6.6	6.6	6.6	3.8 4.0	3.9		8 8	8.0	
9-Jan-15	Sunny	Moderate	14:53	Surface	1	16.2 16.5	16.4	8.4 8.4	8.4	25.6 26.1	25.9	89.4 87.3	88.4	7.5 7.3	7.4	7.0	3.9 4.0	4.0	4.0	<2.5 <2.5	<2.5	2.8
				Middle	5.5	17.6 17.5	17.6	8.5 8.5	8.5	28.2 28.2	28.2	81.2 81.1	81.2	6.5 6.6	6.6		4.1 4.1	4.1		3 3	3.0	
				Bottom	10	18.0 18.0	18.0	8.6 8.6	8.6	28.3 28.3	28.3	80.1 80.2	80.2	6.4 6.4	6.4	6.4	3.6 3.9	3.8		3 3	3.0	
12-Jan-15	Sunny	Moderate	16:16	Surface	1	22.2 22.3	22.3	8.0 8.0	8.0	30.1 30.1	30.1	105.7 105.9	105.8	7.7 7.7	7.7	7.8	3.0 3.2	3.1	4.4	3 3	3.0	4.0
				Middle	5.5	22.1 22.1	22.1	8.0 7.9	8.0	30.4 30.4	30.4	107.3 107.4	107.4	7.9 7.9	7.9		4.9 4.8	4.9		4 4	4.0	
				Bottom	10	21.7 21.6	21.7	7.9 7.9	7.9	30.4 30.5	30.5	107.1 106.8	107.0	7.9 7.9	7.9	7.9	5.2 5.2	5.2		5 5	5.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at A - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	13:28	Surface	1	19.8 19.8	19.8	7.9 7.9	7.9	30.7 30.7	30.7	109.0 109.0	109.0	8.3 8.3	8.3	8.2	2.0 2.1	2.1	4.3	<2.5 <2.5	<2.5	3.8
				Middle	5.5	19.7 19.8	19.8	8.0 7.9	8.0	30.8 30.7	30.8	106.6 106.6	106.6	8.1 8.1	8.1		3.8 3.7	3.8		3 3	3.0	
				Bottom	10	19.7 19.8	19.8	8.0 8.0	8.0	30.7 30.7	30.7	106.5 105.3	105.9	8.1 8.0	8.1	8.1	6.7 7.3	7.0		6 6	6.0	
19-Dec-14	Cloudy	Moderate	14:54	Surface	1	18.0 18.2	18.1	7.8 7.8	7.8	30.0 30.8	30.4	96.1 95.2	95.7	7.6 7.5	7.6	7.3	3.3 3.5	3.4	4.5	3 3	3.0	4.7
				Middle	5.5	19.3 19.3	19.3	7.9 7.9	7.9	30.4 30.4	30.4	90.7 90.6	90.7	7.0 7.0	7.0		4.3 4.3	4.3		5 5	5.0	
				Bottom	10	19.3 19.3	19.3	7.9 7.9	7.9	30.4 30.3	30.4	91.1 91.1	91.1	7.0 7.0	7.0	7.0	5.7 5.9	5.8		6 6	6.0	
22-Dec-14	Cloudy	Moderate	17:59	Surface	1	18.3 18.7	18.5	7.8 7.9	7.9	27.5 26.8	27.2	104.2 89.6	96.9	8.3 7.1	7.7	7.6	2.3 2.1	2.2	4.5	3 3	3.0	3.8
				Middle	5.5	17.1 18.7	17.9	8.1 8.1	8.1	27.1 27.7	27.4	95.8 89.0	92.4	7.9 7.0	7.5		3.9 4.0	4.0		5 4	4.5	
				Bottom	10	18.3 18.8	18.6	8.3 8.2	8.3	27.9 27.7	27.8	89.9 88.1	89.0	7.2 7.0	7.1	7.1	7.2 7.3	7.3		4 4	4.0	
24-Dec-14	Cloudy	Moderate	09:22	Surface	1	18.3 18.4	18.4	8.3 8.1	8.2	29.9 30.1	30.0	95.3 95.5	95.4	7.5 7.5	7.5	7.6	3.9 3.7	3.8	4.9	3 3	3.0	2.7
				Middle	5.5	18.0 18.4	18.2	8.3 8.3	8.3	30.7 30.5	30.6	96.1 95.4	95.8	7.6 7.5	7.6		5.2 5.1	5.2		<2.5 <2.5	<2.5	
				Bottom	10	17.8 18.2	18.0	8.5 8.5	8.5	30.7 30.6	30.7	94.9 94.9	94.9	7.5 7.5	7.5	7.5	5.4 5.9	5.7		<2.5 <2.5	<2.5	
27-Dec-14	Fine	Moderate	10:45	Surface	1	19.1 19.1	19.1	8.1 8.1	8.1	33.5 33.5	33.5	77.6 77.2	77.4	5.9 5.9	5.9	5.8	0.4 0.4	0.4	1.3	3 3	3.0	3.7
				Middle	5.5	19.1 19.1	19.1	8.0 8.0	8.0	33.5 33.6	33.6	74.7 75.6	75.2	5.7 5.7	5.7		1.1 1.1	1.1		3 3	3.0	
				Bottom	10	19.1 19.1	19.1	8.0 8.0	8.0	33.8 33.8	33.8	75.6 76.6	76.1	5.7 5.8	5.8	5.8	2.3 2.3	2.3		5 5	5.0	
29-Dec-14	Fine	Moderate	12:11	Surface	1	19.5 19.5	19.5	7.9 7.9	7.9	29.5 29.6	29.6	62.2 61.5	61.9	4.8 4.7	4.8	4.7	2.9 3.0	3.0	3.0	3 3	3.0	3.0
				Middle	5.5	19.5 19.5	19.5	7.9 7.9	7.9	30.2 30.2	30.2	58.3 58.2	58.3	4.5 4.5	4.5		2.6 2.7	2.7		3 3	3.0	
				Bottom	10	19.5 19.5	19.5	7.9 7.9	7.9	30.6 30.6	30.6	53.8 53.8	53.8	4.1 4.1	4.1	4.1	3.2 3.2	3.2		3 3	3.0	
31-Dec-14	Fine	Moderate	14:20	Surface	1	18.1 17.9	18.0	7.7 7.7	7.7	29.0 29.3	29.2	77.6 74.8	76.2	6.2 6.0	6.1	5.6	4.1 4.2	4.2	4.3	4 4	4.0	4.3
				Middle	6	17.8 18.1	18.0	7.7 7.7	7.7	31.2 31.1	31.2	61.6 64.3	63.0	4.9 5.0	5.0		4.6 4.4	4.5		6 6	6.0	
				Bottom	11	17.9 17.8	17.9	7.7 7.7	7.7	31.3 31.3	31.3	53.4 51.9	52.7	4.2 4.1	4.2	4.2	4.3 4.3	4.3		3 3	3.0	
2-Jan-15	Sunny	Moderate	15:30	Surface	1	18.4 18.4	18.4	8.1 8.1	8.1	32.0 32.0	32.0	83.9 82.8	83.4	6.5 6.4	6.5	6.5	3.0 3.4	3.2	3.7	5 4	4.5	4.3
				Middle	5.5	18.1 18.0	18.1	8.0 8.0	8.0	32.0 32.1	32.1	81.9 81.3	81.6	6.4 6.4	6.4		3.6 3.9	3.8		5 4	4.5	
				Bottom	10	17.9 17.9	17.9	8.1 8.1	8.1	32.0 32.1	32.1	82.0 81.8	81.9	6.4 6.4	6.4	6.4	4.1 4.2	4.2		4 4	4.0	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at A - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	16:51	Surface	1	18.2 18.2	18.2	8.5 8.5	8.5	27.8 27.6	27.7	95.8 94.6	95.2	7.7 7.6	7.7	7.4	2.5 2.7	2.6	3.0	4 4	4.0	4.7
				Middle	5.5	18.3 18.3	18.3	8.6 8.6	8.6	27.9 27.8	27.9	89.0 89.1	89.1	7.1 7.1	7.1		2.9 2.9	2.9		4 4	4.0	
				Bottom	10	18.3 18.3	18.3	8.7 8.7	8.7	28.1 28.1	28.1	87.0 86.9	87.0	6.9 6.9	6.9	6.9	3.3 3.4	3.4		6 6	6.0	
7-Jan-15	Sunny	Moderate	09:12	Surface	1	17.8 17.8	17.8	8.6 8.6	8.6	28.2 28.3	28.3	88.7 88.4	88.6	7.1 7.1	7.1	7.0	2.6 2.6	2.6	3.0	6 6	6.0	4.7
				Middle	5.5	17.9 17.9	17.9	8.6 8.6	8.6	28.4 28.4	28.4	84.9 85.4	85.2	6.8 6.8	6.8		3.0 3.1	3.1		5 5	5.0	
				Bottom	10	17.9 17.9	17.9	8.7 8.7	8.7	28.5 28.5	28.5	84.4 84.4	84.4	6.8 6.8	6.8	6.8	3.4 3.4	3.4		3 3	3.0	
9-Jan-15	Sunny	Moderate	09:51	Surface	1	16.8 16.6	16.7	8.4 8.4	8.4	27.1 26.5	26.8	85.1 86.5	85.8	7.0 7.2	7.1	6.9	3.2 3.3	3.3	3.7	3 3	3.0	3.5
				Middle	5.5	17.4 17.6	17.5	8.5 8.5	8.5	28.1 28.3	28.2	81.6 80.9	81.3	6.6 6.5	6.6		3.6 3.7	3.7		3 3	3.0	
				Bottom	10	17.9 17.9	17.9	8.6 8.6	8.6	28.3 28.3	28.3	80.3 80.3	80.3	6.4 6.4	6.4	6.4	3.9 4.0	4.0		4 5	4.5	
12-Jan-15	Sunny	Moderate	11:29	Surface	1	21.0 21.0	21.0	8.0 7.9	8.0	30.6 30.6	30.6	111.1 110.7	110.9	8.3 8.3	8.3	8.2	1.6 1.6	1.6	2.7	4 4	4.0	3.7
				Middle	5.5	21.3 21.2	21.3	8.0 7.9	8.0	30.7 30.8	30.8	109.7 109.6	109.7	8.1 8.1	8.1		2.6 2.9	2.8		3 3	3.0	
				Bottom	10	21.2 21.1	21.2	7.8 7.9	7.9	30.8 30.8	30.8	108.9 110.0	109.5	8.1 8.2	8.2	8.2	3.8 3.7	3.8		4 4	4.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at WSD17 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	07:25	Surface	1	18.3 19.1	18.7	7.9 8.0	8.0	30.0 27.3	28.7	105.2 105.3	105.3	8.3 8.3	8.3	8.3	3.6 3.5	3.6	4.5	4 4	4.0	4.5
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.1	18.8 19.3	19.1	7.9 8.0	8.0	27.3 27.5	27.4	100.5 101.7	101.1	8.0 8.0	8.0	8.0	5.3 5.4	5.4		5 5	5.0	
19-Dec-14	Cloudy	Moderate	09:27	Surface	1	18.3 18.8	18.6	7.7 7.7	7.7	28.4 28.3	28.4	111.1 108.8	110.0	8.8 8.6	8.7	8.7	3.6 3.8	3.7	4.1	5 4	4.5	4.8
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.6	18.5 18.9	18.7	7.7 7.8	7.8	28.4 28.3	28.4	110.0 108.5	109.3	8.7 8.5	8.6	8.6	4.3 4.4	4.4		5 5	5.0	
22-Dec-14	Cloudy	Moderate	12:11	Surface	1	18.8 20.6	19.7	7.7 7.7	7.7	29.6 29.7	29.7	87.1 83.0	85.1	6.8 6.3	6.6	6.6	4.2 4.1	4.2	4.7	3 3	3.0	3.0
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.5	19.6 20.2	19.9	7.8 8.1	8.0	38.2 37.0	37.6	77.6 79.5	78.6	5.7 5.8	5.8	5.8	5.2 5.2	5.2		3 3	3.0	
24-Dec-14	Cloudy	Moderate	13:11	Surface	1	18.3 18.3	18.3	8.3 8.3	8.3	31.7 31.7	31.7	102.9 102.7	102.8	8.0 8.0	8.0	8.0	4.4 4.8	4.6	4.7	5 5	5.0	4.8
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.3	18.3 18.3	18.3	8.3 8.2	8.3	31.7 31.7	31.7	102.9 102.7	102.8	8.0 8.0	8.0	8.0	4.7 4.9	4.8		5 4	4.5	
27-Dec-14	Fine	Moderate	16:48	Surface	1	18.1 18.1	18.1	8.1 8.1	8.1	33.7 33.8	33.8	75.7 75.6	75.7	5.9 5.8	5.9	5.9	2.2 2.2	2.2	2.8	5 5	5.0	4.0
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3	18.1 18.1	18.1	8.1 8.1	8.1	33.7 33.8	33.8	71.2 70.7	71.0	5.5 5.5	5.5	5.5	3.3 3.4	3.4		3 3	3.0	
29-Dec-14	Fine	Moderate	19:06	Surface	1	17.5 17.8	17.7	7.9 7.9	7.9	30.2 30.1	30.2	61.7 62.5	62.1	4.9 5.0	5.0	5.0	4.2 4.2	4.2	4.0	<2.5 <2.5	<2.5	<2.5
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3	17.7 17.9	17.8	7.9 7.9	7.9	30.1 30.0	30.1	59.4 59.4	59.4	4.7 4.7	4.7	4.7	3.5 3.9	3.7		<2.5 <2.5	<2.5	
31-Dec-14	Fine	Moderate	09:20	Surface	1	17.5 17.5	17.5	7.6 7.6	7.6	30.0 30.3	30.2	70.1 67.9	69.0	5.6 5.4	5.5	5.5	4.1 4.1	4.1	4.7	4 3	3.5	3.8
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.5	17.5 17.3	17.4	7.7 7.7	7.7	33.3 33.3	33.3	51.7 51.1	51.4	4.1 4.0	4.1	4.1	5.1 5.5	5.3		4 4	4.0	
2-Jan-15	Sunny	Moderate	09:53	Surface	1	17.9 17.9	17.9	8.1 8.1	8.1	31.9 31.9	31.9	79.2 77.0	78.1	6.2 6.0	6.1	6.1	3.1 3.0	3.1	3.8	4 4	4.0	3.8
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.6	17.9 17.9	17.9	8.1 8.0	8.1	32.0 32.0	32.0	73.8 72.2	73.0	5.8 5.7	5.8	5.8	4.5 4.5	4.5		3 4	3.5	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at WSD17 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	12:02	Surface	1	18.0 18.1	18.1	8.6 8.6	8.6	27.0 27.6	27.3	103.8 102.3	103.1	8.4 8.2	8.3	8.3	3.1 3.1	3.1	3.6	3 3	3.0	4.0
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.8	18.1 18.1	18.1	8.7 8.7	8.7	28.0 28.0	28.0	96.3 96.2	96.3	7.7 7.7	7.7	7.7	4.1 4.0	4.1		5 5	5.0	
7-Jan-15	Sunny	Moderate	14:14	Surface	1	18.3 18.3	18.3	8.6 8.6	8.6	26.2 26.2	26.2	87.6 87.6	87.6	7.1 7.1	7.1	7.1	3.1 3.2	3.2	3.2	5 4	4.5	4.3
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	4.4	18.3 18.3	18.3	8.7 8.7	8.7	28.2 28.2	28.2	89.4 89.2	89.3	7.1 7.1	7.1	7.1	3.2 3.1	3.2		4 4	4.0	
9-Jan-15	Sunny	Moderate	14:29	Surface	1	16.3 16.5	16.4	8.5 8.5	8.5	23.9 26.0	25.0	101.8 101.1	101.5	8.6 8.4	8.5	8.5	4.0 4.3	4.2	4.1	4 3	3.5	3.3
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.5	17.6 17.7	17.7	8.6 8.6	8.6	28.4 28.4	28.4	96.1 95.8	96.0	7.7 7.7	7.7	7.7	4.2 3.7	4.0		3 3	3.0	
12-Jan-15	Sunny	Moderate	16:43	Surface	1	22.3 22.3	22.3	8.0 8.0	8.0	30.4 30.4	30.4	106.3 106.2	106.3	7.8 7.7	7.8	7.8	3.4 3.8	3.6	5.1	3 3	3.0	4.5
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	4	21.9 22.2	22.1	8.0 8.0	8.0	30.7 30.5	30.6	106.8 107.3	107.1	7.8 7.8	7.8	7.8	6.8 6.1	6.5		6 6	6.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at WSD17 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	14:01	Surface	1	19.3 19.4	19.4	8.0 8.0	8.0	26.0 26.2	26.1	98.9 100.7	99.8	7.8 7.9	7.9	7.9	4.2 4.2	4.2	4.5	4 4	4.0	4.5
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.4	19.3 19.4	19.4	8.0 8.0	8.0	26.0 26.1	26.1	100.1 101.2	100.7	7.9 8.0	8.0	8.0	4.7 4.7	4.7		5 5	5.0	
19-Dec-14	Cloudy	Moderate	14:18	Surface	1	18.9 19.0	19.0	7.8 7.8	7.8	28.3 28.2	28.3	108.2 108.0	108.1	8.5 8.5	8.5	8.5	3.7 3.8	3.8	3.7	4 5	4.5	3.7
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.4	18.9 19.0	19.0	7.8 7.8	7.8	28.3 28.2	28.3	108.2 108.0	108.1	8.5 8.5	8.5	8.5	3.6 3.6	3.6		3 <2.5	2.8	
22-Dec-14	Cloudy	Moderate	18:26	Surface	1	20.9 20.7	20.8	7.8 7.7	7.8	30.6 29.9	30.3	81.6 79.3	80.5	6.1 6.0	6.1	6.1	4.3 4.5	4.4	4.9	3 3	3.0	3.5
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.6	20.3 20.4	20.4	8.0 7.8	7.9	31.2 31.8	31.5	71.8 70.9	71.4	5.4 5.3	5.4	5.4	5.5 5.3	5.4		4 4	4.0	
24-Dec-14	Cloudy	Moderate	07:37	Surface	1	18.2 18.3	18.3	8.4 8.3	8.4	31.2 31.4	31.3	103.0 102.8	102.9	8.1 8.0	8.1	8.1	4.4 4.5	4.5	5.1	5 5	5.0	4.0
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.5	18.2 18.3	18.3	8.4 8.3	8.4	31.4 31.5	31.5	103.1 102.7	102.9	8.1 8.0	8.1	8.1	5.7 5.5	5.6		3 3	3.0	
27-Dec-14	Fine	Moderate	10:22	Surface	1	17.8 18.0	17.9	8.0 8.1	8.1	32.0 31.8	31.9	76.5 76.3	76.4	6.0 6.0	6.0	6.0	2.1 2.1	2.1	2.3	3 3	3.0	4.5
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3	18.0 18.1	18.1	8.1 8.1	8.1	33.3 33.6	33.5	73.3 72.1	72.7	5.7 5.6	5.7	5.7	2.5 2.5	2.5		6 6	6.0	
29-Dec-14	Fine	Moderate	12:07	Surface	1	17.6 17.0	17.3	7.9 7.9	7.9	29.6 30.3	30.0	74.7 73.1	73.9	6.0 5.9	6.0	6.0	2.5 2.5	2.5	3.0	5 5	5.0	4.3
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	4	17.0 17.3	17.2	7.8 7.9	7.9	29.8 30.3	30.1	59.2 63.6	61.4	4.8 5.1	5.0	5.0	3.3 3.4	3.4		3 4	3.5	
31-Dec-14	Fine	Moderate	13:42	Surface	1	18.0 18.0	18.0	7.7 7.7	7.7	31.3 31.7	31.5	78.0 77.0	77.5	6.1 6.0	6.1	6.1	4.2 4.0	4.1	4.2	4 4	4.0	4.3
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.5	18.0 17.9	18.0	7.7 7.7	7.7	32.1 32.2	32.2	55.4 54.7	55.1	4.3 4.3	4.3	4.3	4.2 4.2	4.2		4 5	4.5	
2-Jan-15	Sunny	Moderate	14:57	Surface	1	18.0 18.0	18.0	8.2 8.2	8.2	32.1 32.1	32.1	96.9 97.6	97.3	7.6 7.6	7.6	7.6	3.8 3.8	3.8	4.6	7 7	7.0	4.8
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.3	18.0 18.0	18.0	8.1 8.1	8.1	32.6 32.6	32.6	88.7 88.2	88.5	6.9 6.9	6.9	6.9	5.5 5.2	5.4		<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.

Water Quality Monitoring Results at WSD17 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	16:35	Surface	1	18.2 18.2	18.2	8.6 8.6	8.6	23.3 25.2	24.3	97.4 97.9	97.7	8.0 7.9	8.0	8.0	3.2 3.3	3.3	3.7	4 5	4.5	4.3
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.6	18.1 18.1	18.1	8.7 8.7	8.7	27.9 27.5	27.7	96.5 96.6	96.6	7.7 7.7	7.7	7.7	4.2 4.0	4.1		4 4	4.0	
7-Jan-15	Sunny	Moderate	08:48	Surface	1	17.7 17.7	17.7	8.6 8.6	8.6	28.2 28.4	28.3	89.7 89.1	89.4	7.2 7.2	7.2	7.2	3.4 3.3	3.4	3.3	5 5	5.0	4.5
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.9	17.7 17.7	17.7	8.7 8.7	8.7	28.5 28.5	28.5	90.0 89.6	89.8	7.2 7.2	7.2	7.2	3.1 3.0	3.1		4 4	4.0	
9-Jan-15	Sunny	Moderate	10:13	Surface	1	16.7 16.1	16.4	8.5 8.5	8.5	26.6 22.1	24.4	100.5 101.7	101.1	8.3 8.8	8.6	8.6	2.7 2.6	2.7	3.1	3 3	3.0	4.0
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.7	17.5 17.6	17.6	8.6 8.6	8.6	28.3 28.3	28.3	96.4 96.2	96.3	7.8 7.8	7.8	7.8	3.3 3.4	3.4		5 5	5.0	
12-Jan-15	Sunny	Moderate	11:02	Surface	1	21.1 21.1	21.1	7.9 7.9	7.9	30.7 30.7	30.7	109.8 109.9	109.9	8.2 8.2	8.2	8.2	3.5 3.5	3.5	4.0	3 3	3.0	4.0
				Middle	-	- -	-	- -	-	- -	-	- -	-	- -	-		- -	-		- -	-	
				Bottom	3.7	21.1 21.2	21.2	7.8 7.7	7.8	30.8 30.8	30.8	109.4 109.6	109.5	8.1 8.1	8.1	8.1	4.5 4.5	4.5		5 5	5.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at WSD9 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	08:32	Surface	1	19.2 19.5	19.4	8.0 8.0	8.0	31.7 31.4	31.6	104.4 103.6	104.0	8.0 7.9	8.0	7.9	1.8 1.8	1.8	3.5	3 3	3.0	4.3
				Middle	4	19.7 19.7	19.7	8.0 8.0	8.0	31.1 31.2	31.2	102.8 102.9	102.9	7.8 7.8	7.8		3.7 3.7	3.7		6 6	6.0	
				Bottom	7	19.9 19.9	19.9	8.1 8.1	8.1	30.7 30.7	30.7	102.0 102.0	102.0	7.8 7.8	7.8	7.8	5.0 5.1	5.1		4 4	4.0	
19-Dec-14	Cloudy	Moderate	09:53	Surface	1	18.4 18.6	18.5	7.9 7.9	7.9	31.1 30.9	31.0	105.0 104.1	104.6	8.2 8.1	8.2	8.2	2.7 2.7	2.7	3.8	4 4	4.0	4.2
				Middle	4	19.2 19.2	19.2	7.9 7.9	7.9	30.4 30.3	30.4	105.1 105.0	105.1	8.1 8.1	8.1		3.9 3.9	3.9		6 6	6.0	
				Bottom	7	19.1 19.1	19.1	7.9 7.9	7.9	30.4 30.4	30.4	105.7 105.8	105.8	8.2 8.2	8.2	8.2	4.8 4.7	4.8		<2.5 <2.5	<2.5	
22-Dec-14	Cloudy	Moderate	13:01	Surface	1	18.9 18.5	18.7	7.9 8.0	8.0	27.6 27.1	27.4	100.9 99.9	100.4	8.0 8.0	8.0	8.0	3.4 3.5	3.5	4.9	3 3	3.0	3.2
				Middle	4	18.9 18.6	18.8	8.1 8.1	8.1	27.7 27.9	27.8	102.6 99.2	100.9	8.1 7.9	8.0		4.8 4.8	4.8		<2.5 <2.5	<2.5	
				Bottom	7	18.4 17.6	18.0	8.2 8.2	8.2	28.0 27.9	28.0	98.8 96.2	97.5	7.9 7.8	7.9	7.9	6.3 6.4	6.4		4 4	4.0	
24-Dec-14	Cloudy	Moderate	14:25	Surface	1	18.5 18.6	18.6	8.0 8.0	8.0	30.1 30.4	30.3	112.5 107.5	110.0	8.8 8.4	8.6	8.6	2.0 2.1	2.1	4.4	<2.5 <2.5	<2.5	<2.5
				Middle	4	18.6 18.3	18.5	8.3 8.2	8.3	31.0 30.7	30.9	109.0 106.6	107.8	8.5 8.4	8.5		4.0 4.2	4.1		<2.5 <2.5	<2.5	
				Bottom	7	18.3 18.1	18.2	8.5 8.4	8.5	30.8 30.7	30.8	106.3 105.3	105.8	8.3 8.3	8.3	8.3	6.7 7.0	6.9		<2.5 <2.5	<2.5	
27-Dec-14	Fine	Moderate	16:34	Surface	1	18.8 18.6	18.7	7.9 7.9	7.9	33.3 32.9	33.1	89.7 87.9	88.8	6.9 6.8	6.9	6.9	1.9 1.9	1.9	2.2	3 3	3.0	4.0
				Middle	4	18.9 18.7	18.8	7.8 7.8	7.8	33.3 32.9	33.1	90.5 89.0	89.8	6.9 6.8	6.9		2.3 2.2	2.3		4 4	4.0	
				Bottom	7	18.9 18.6	18.8	7.8 7.8	7.8	33.3 32.9	33.1	92.8 90.9	91.9	7.1 7.0	7.1	7.1	2.3 2.6	2.5		5 5	5.0	
29-Dec-14	Fine	Moderate	18:20	Surface	1	18.2 18.2	18.2	7.6 7.6	7.6	31.2 31.2	31.2	59.9 59.9	59.9	4.7 4.7	4.7	4.7	3.9 4.0	4.0	4.2	4 4	4.0	4.3
				Middle	4	18.2 18.2	18.2	7.6 7.6	7.6	31.5 31.5	31.5	59.2 59.0	59.1	4.6 4.6	4.6		4.3 4.2	4.3		5 5	5.0	
				Bottom	7	18.2 18.2	18.2	7.6 7.6	7.6	31.5 31.6	31.6	51.2 51.0	51.1	4.0 4.0	4.0	4.0	4.4 4.3	4.4		4 4	4.0	
31-Dec-14	Fine	Moderate	09:03	Surface	1	17.6 17.4	17.5	7.7 7.7	7.7	28.1 28.7	28.4	80.3 78.1	79.2	6.5 6.3	6.4	5.9	4.0 3.9	4.0	4.2	<2.5 <2.5	<2.5	2.8
				Middle	4	17.3 17.5	17.4	7.7 7.7	7.7	32.5 32.1	32.3	67.2 69.2	68.2	5.3 5.5	5.4		4.2 4.2	4.2		3 3	3.0	
				Bottom	7	17.5 17.3	17.4	7.7 7.7	7.7	33.8 33.9	33.9	57.6 56.5	57.1	4.5 4.4	4.5	4.5	4.4 4.5	4.5		3 3	3.0	
2-Jan-15	Sunny	Moderate	10:05	Surface	1	17.7 17.7	17.7	8.1 8.1	8.1	32.1 32.1	32.1	79.4 79.9	79.7	6.2 6.3	6.3	6.3	4.0 4.1	4.1	4.2	7 7	7.0	4.0
				Middle	4	17.7 17.7	17.7	8.1 8.1	8.1	32.2 32.2	32.2	79.6 80.0	79.8	6.3 6.3	6.3		4.3 4.1	4.2		<2.5 <2.5	<2.5	
				Bottom	7	17.7 17.7	17.7	8.1 8.1	8.1	32.2 32.2	32.2	79.5 80.2	79.9	6.3 6.3	6.3	6.3	4.3 4.2	4.3		<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.

Water Quality Monitoring Results at WSD9 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	11:54	Surface	1	18.4 18.4	18.4	8.6 8.6	8.6	27.5 27.6	27.6	100.9 102.0	101.5	8.0 8.1	8.1	8.0	3.1 3.4	3.3	3.2	3 3	3.0	4.3
				Middle	4	18.4 18.4	18.4	8.7 8.7	8.7	27.4 27.9	27.7	97.5 97.1	97.3	7.8 7.7	7.8		3.1 3.0	3.1		4 4	4.0	
				Bottom	7	18.4 18.4	18.4	8.8 8.8	8.8	28.0 28.0	28.0	96.0 96.1	96.1	7.6 7.6	7.6	7.6	3.2 3.3	3.3		6 6	6.0	
7-Jan-15	Sunny	Moderate	14:02	Surface	1	18.3 18.3	18.3	8.6 8.6	8.6	25.4 28.3	26.9	91.8 92.5	92.2	7.4 7.4	7.4	7.4	2.6 2.7	2.7	2.8	3 3	3.0	3.8
				Middle	4	18.3 18.3	18.3	8.7 8.7	8.7	28.3 28.3	28.3	92.1 92.3	92.2	7.3 7.3	7.3		2.7 2.6	2.7		6 6	6.0	
				Bottom	7	18.3 18.3	18.3	8.9 8.9	8.9	28.4 28.4	28.4	92.2 92.1	92.2	7.3 7.3	7.3	7.3	3.0 3.0	3.0		<2.5 <2.5	<2.5	
9-Jan-15	Sunny	Moderate	14:39	Surface	1	15.0 15.4	15.2	8.5 8.5	8.5	28.5 28.7	28.6	114.7 110.8	112.8	9.7 9.3	9.5	8.5	3.9 4.0	4.0	3.9	<2.5 <2.5	<2.5	3.2
				Middle	4	17.0 17.0	17.0	8.5 8.5	8.5	27.7 27.7	27.7	90.8 90.8	90.8	7.4 7.4	7.4		4.0 4.0	4.0		4 4	4.0	
				Bottom	7	18.1 18.1	18.1	8.5 8.5	8.5	28.3 28.3	28.3	85.6 85.6	85.6	6.8 6.8	6.8	6.8	3.8 3.7	3.8		3 3	3.0	
12-Jan-15	Sunny	Moderate	16:29	Surface	1	22.1 21.9	22.0	8.0 8.0	8.0	30.3 30.4	30.4	107.4 107.2	107.3	7.9 7.9	7.9	7.9	2.4 2.4	2.4	4.7	3 3	3.0	4.3
				Middle	4	21.8 22.1	22.0	7.9 7.9	7.9	30.5 30.5	30.5	107.0 107.2	107.1	7.9 7.8	7.9		4.2 4.2	4.2		3 3	3.0	
				Bottom	7	22.0 22.0	22.0	7.8 7.9	7.9	30.6 30.6	30.6	107.1 107.0	107.1	7.8 7.8	7.8	7.8	7.2 7.6	7.4		7 7	7.0	

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at WSD9 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
17-Dec-14	Cloudy	Moderate	13:43	Surface	1	19.8 19.8	19.8	7.7 7.7	7.7	30.7 30.7	30.7	101.5 101.4	101.5	7.7 7.7	7.7	7.7	2.6 2.6	2.6	3.9	4 4	4.0	3.8
				Middle	4	19.8 19.8	19.8	7.8 7.8	7.8	30.8 30.8	30.8	101.5 101.4	101.5	7.7 7.7	7.7		4.2 4.4	4.3		3 4	3.5	
				Bottom	7	19.8 19.8	19.8	7.8 7.8	7.8	30.8 30.8	30.8	101.4 101.4	101.4	7.7 7.7	7.7	7.7	4.8 4.7	4.8		4 4	4.0	
19-Dec-14	Cloudy	Moderate	15:09	Surface	1	17.4 17.6	17.5	7.9 7.9	7.9	30.7 31.2	31.0	107.3 106.8	107.1	8.6 8.5	8.6	8.4	3.7 3.5	3.6	4.3	5 5	5.0	3.3
				Middle	4	19.1 19.1	19.1	7.9 7.9	7.9	30.5 30.5	30.5	104.8 105.1	105.0	8.1 8.1	8.1		4.3 4.4	4.4		<2.5 <2.5	<2.5	
				Bottom	7	19.1 19.1	19.1	7.9 7.9	7.9	30.3 30.4	30.4	105.7 105.6	105.7	8.2 8.2	8.2	8.2	5.0 4.7	4.9		<2.5 <2.5	<2.5	
22-Dec-14	Cloudy	Moderate	18:08	Surface	1	18.5 18.6	18.6	8.0 8.0	8.0	27.4 27.8	27.6	102.7 101.9	102.3	8.2 8.1	8.2	8.2	2.3 2.3	2.3	4.4	6 6	6.0	4.3
				Middle	4	18.2 18.6	18.4	8.2 8.1	8.2	28.1 27.8	28.0	101.1 101.2	101.2	8.1 8.0	8.1		4.7 4.7	4.7		4 4	4.0	
				Bottom	7	18.5 18.6	18.6	8.3 8.3	8.3	27.9 27.8	27.9	100.6 100.2	100.4	8.0 7.9	8.0	8.0	6.3 6.2	6.3		3 3	3.0	
24-Dec-14	Cloudy	Moderate	09:11	Surface	1	18.7 18.6	18.7	8.1 8.1	8.1	30.4 29.7	30.1	111.3 106.0	108.7	8.7 8.3	8.5	8.4	2.6 2.1	2.4	4.5	4 4	4.0	3.2
				Middle	4	18.7 18.5	18.6	8.2 8.2	8.2	30.6 30.8	30.7	108.1 105.4	106.8	8.4 8.2	8.3		4.9 4.1	4.5		3 3	3.0	
				Bottom	7	17.8 17.9	17.9	8.4 8.3	8.4	30.9 30.8	30.9	104.0 103.2	103.6	8.2 8.1	8.2	8.2	6.6 6.6	6.6		<2.5 <2.5	<2.5	
27-Dec-14	Fine	Moderate	10:30	Surface	1	19.0 18.9	19.0	7.8 7.8	7.8	33.6 33.2	33.4	92.4 90.8	91.6	7.0 6.9	7.0	7.0	1.6 1.5	1.6	2.2	5 4	4.5	4.2
				Middle	4	19.0 18.8	18.9	7.8 7.8	7.8	33.6 33.2	33.4	90.2 88.4	89.3	6.9 6.8	6.9		2.1 2.3	2.2		4 4	4.0	
				Bottom	7	19.0 18.8	18.9	7.7 7.8	7.8	33.6 33.2	33.4	89.4 87.6	88.5	6.8 6.7	6.8	6.8	2.8 2.7	2.8		4 4	4.0	
29-Dec-14	Fine	Moderate	12:27	Surface	1	19.6 19.6	19.6	8.0 8.0	8.0	31.6 31.6	31.6	81.2 80.9	81.1	6.2 6.2	6.2	6.1	2.9 2.8	2.9	3.0	3 3	3.0	4.5
				Middle	4	19.6 19.6	19.6	8.0 8.0	8.0	31.8 31.8	31.8	77.9 77.9	77.9	5.9 5.9	5.9		3.0 3.0	3.0		5 6	5.5	
				Bottom	7	19.6 19.6	19.6	8.0 8.0	8.0	31.8 31.9	31.9	71.3 71.4	71.4	5.4 5.4	5.4	5.4	3.1 3.2	3.2		5 5	5.0	
31-Dec-14	Fine	Moderate	14:02	Surface	1	17.5 17.5	17.5	7.7 7.7	7.7	31.9 32.3	32.1	79.2 78.7	79.0	6.3 6.2	6.3	6.0	4.1 4.1	4.1	4.5	<2.5 <2.5	<2.5	3.3
				Middle	4	17.5 17.5	17.5	7.7 7.7	7.7	32.5 32.4	32.5	69.5 71.4	70.5	5.5 5.6	5.6		4.7 4.7	4.7		4 3	3.5	
				Bottom	7	17.5 17.5	17.5	7.7 7.7	7.7	32.5 32.5	32.5	57.6 56.2	56.9	4.5 4.4	4.5	4.5	4.7 4.6	4.7		4 4	4.0	
2-Jan-15	Sunny	Moderate	15:10	Surface	1	17.9 17.9	17.9	8.1 8.1	8.1	32.7 32.7	32.7	96.9 97.0	97.0	7.6 7.6	7.6	7.7	3.7 3.6	3.7	3.8	4 4	4.0	3.0
				Middle	4	17.7 17.7	17.7	8.1 8.1	8.1	32.7 32.7	32.7	97.9 97.6	97.8	7.7 7.7	7.7		3.6 3.9	3.8		<2.5 <2.5	<2.5	
				Bottom	7	17.7 17.7	17.7	8.1 8.1	8.1	32.8 32.9	32.9	96.8 96.1	96.5	7.6 7.5	7.6	7.6	3.7 4.0	3.9		<2.5 <2.5	<2.5	

Remarks: *DA: Depth-Averaged

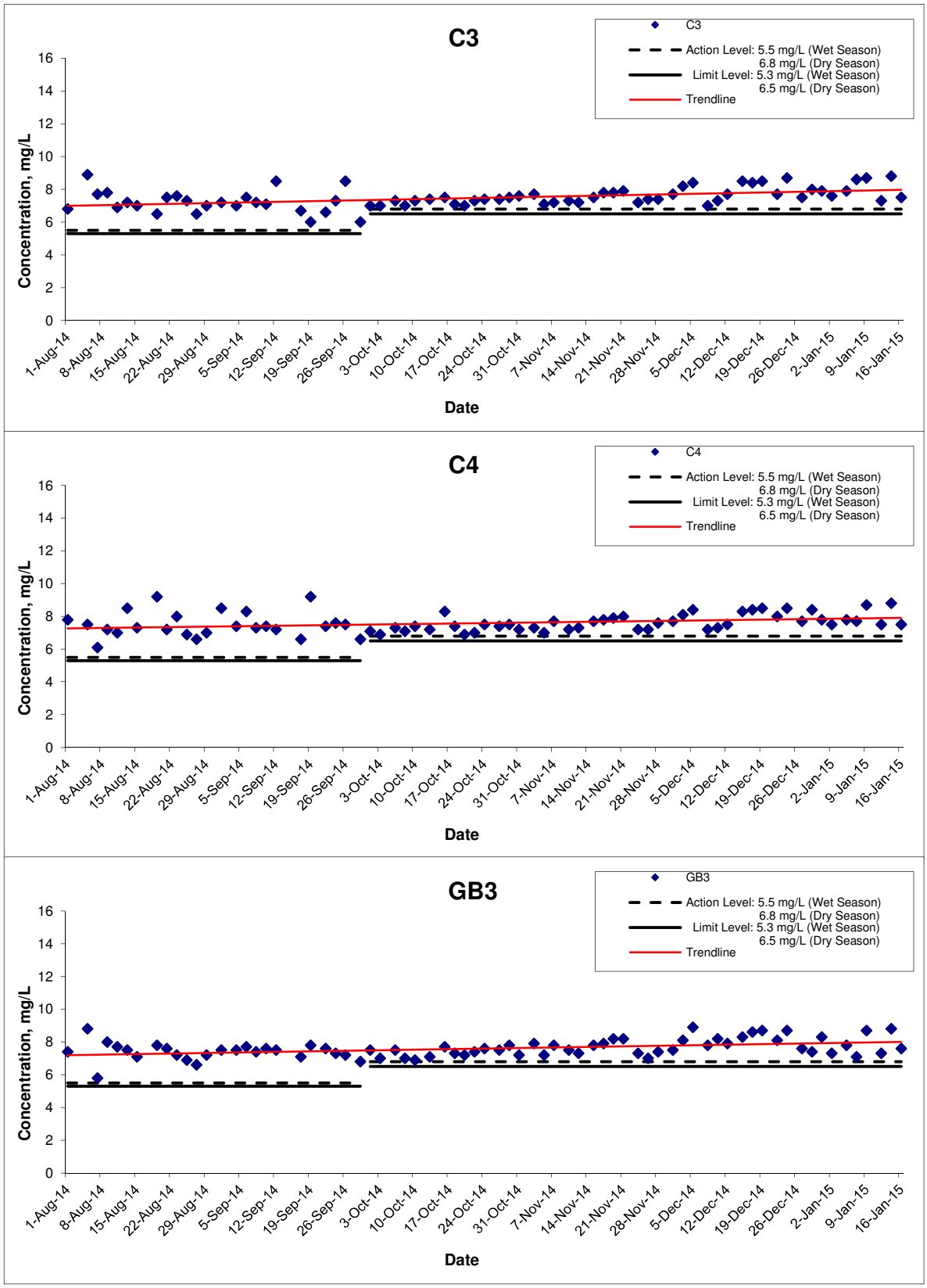
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at WSD9 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	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*
5-Jan-15	Sunny	Moderate	16:41	Surface	1	18.4 18.4	18.4	8.6 8.6	8.6	26.1 27.6	26.9	104.2 104.0	104.1	8.4 8.3	8.4	8.1	2.8 2.8	2.8	2.8	5 5	5.0	3.6
				Middle	4	18.4 18.4	18.4	8.7 8.7	8.7	27.8 27.8	27.8	97.1 97.3	97.2	7.7 7.7	7.7		2.7 2.8	2.8		<2.5 3	2.8	
				Bottom	7	18.3 18.3	18.3	8.8 8.8	8.8	28.1 28.1	28.1	96.0 95.7	95.9	7.6 7.6	7.6	7.6	2.9 2.9	2.9		3 3	3.0	
7-Jan-15	Sunny	Moderate	09:00	Surface	1	17.7 17.7	17.7	8.7 8.7	8.7	28.5 28.5	28.5	93.8 93.5	93.7	7.5 7.5	7.5	7.5	2.7 2.7	2.7	2.8	3 3	3.0	4.3
				Middle	4	17.7 17.7	17.7	8.8 8.8	8.8	28.7 28.7	28.7	93.1 93.1	93.1	7.5 7.5	7.5		2.7 2.7	2.7		5 4	4.5	
				Bottom	7	17.7 17.7	17.7	8.9 8.9	8.9	28.8 28.8	28.8	93.1 93.1	93.1	7.5 7.5	7.5	7.5	3.1 3.0	3.1		5 6	5.5	
9-Jan-15	Sunny	Moderate	10:02	Surface	1	16.0 15.7	15.9	8.5 8.5	8.5	20.9 17.3	19.1	97.9 99.8	98.9	8.5 8.9	8.7	8.1	2.7 2.6	2.7	3.1	4 4	4.0	3.0
				Middle	4	16.8 17.3	17.1	8.5 8.5	8.5	27.2 28.1	27.7	91.7 89.3	90.5	7.6 7.2	7.4		3.1 3.0	3.1		<2.5 <2.5	<2.5	
				Bottom	7	18.0 18.0	18.0	8.5 8.5	8.5	28.3 28.3	28.3	85.9 85.9	85.9	6.9 6.9	6.9	6.9	3.5 3.4	3.5		<2.5 <2.5	<2.5	
12-Jan-15	Sunny	Moderate	11:14	Surface	1	21.1 21.3	21.2	8.1 8.0	8.1	29.4 29.3	29.4	108.0 108.6	108.3	8.1 8.1	8.1	7.8	3.1 3.2	3.2	4.3	5 5	5.0	4.7
				Middle	4.5	21.0 21.1	21.1	7.8 7.8	7.8	30.6 30.5	30.6	98.6 97.9	98.3	7.4 7.3	7.4		4.5 4.6	4.6		5 5	5.0	
				Bottom	8	21.2 21.2	21.2	8.2 8.2	8.2	30.8 30.8	30.8	95.2 95.3	95.3	7.1 7.1	7.1	7.1	5.2 5.2	5.2		4 4	4.0	

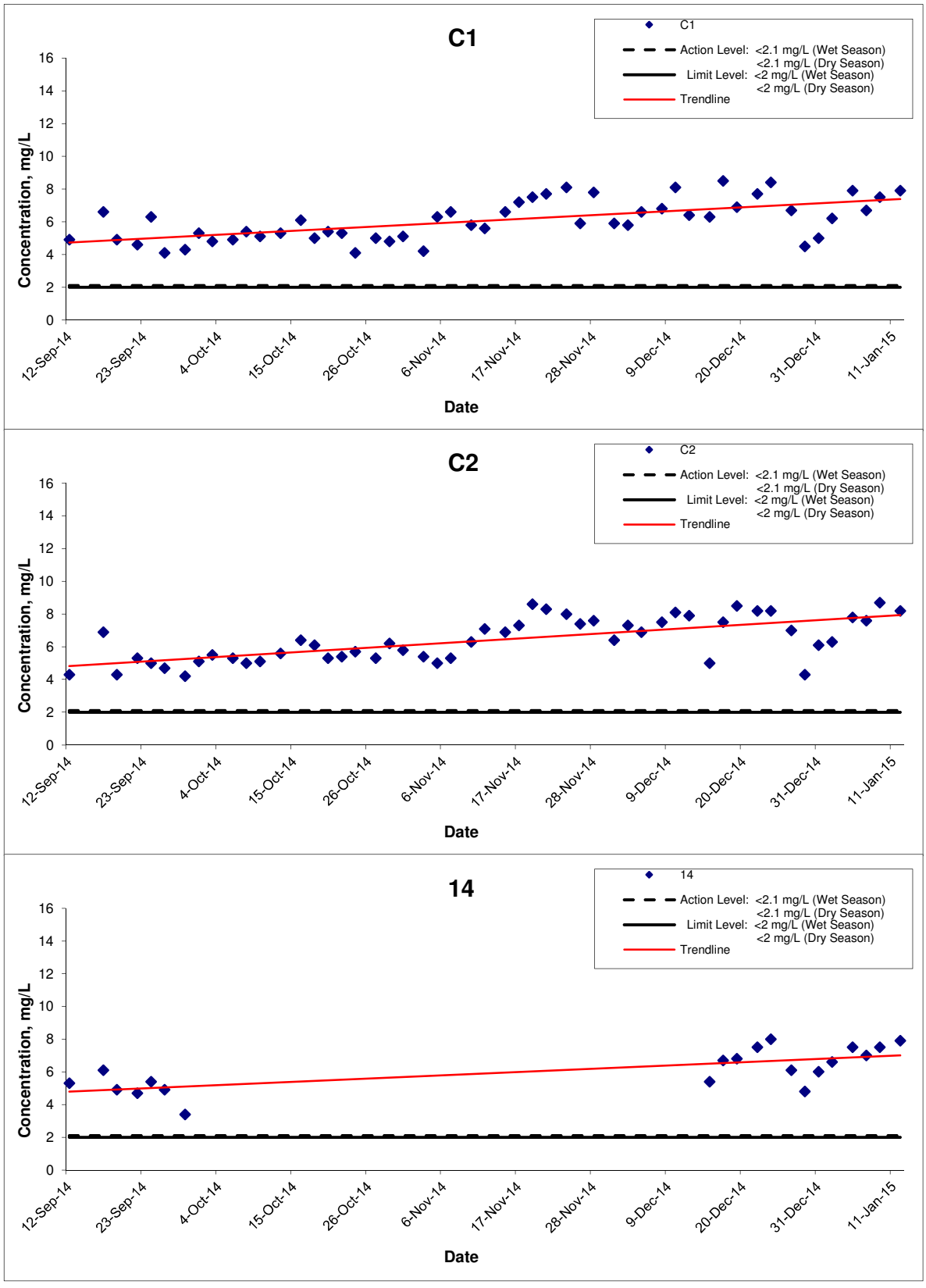
Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Dissolved Oxygen (Surface) at Mid-Ebb Tide



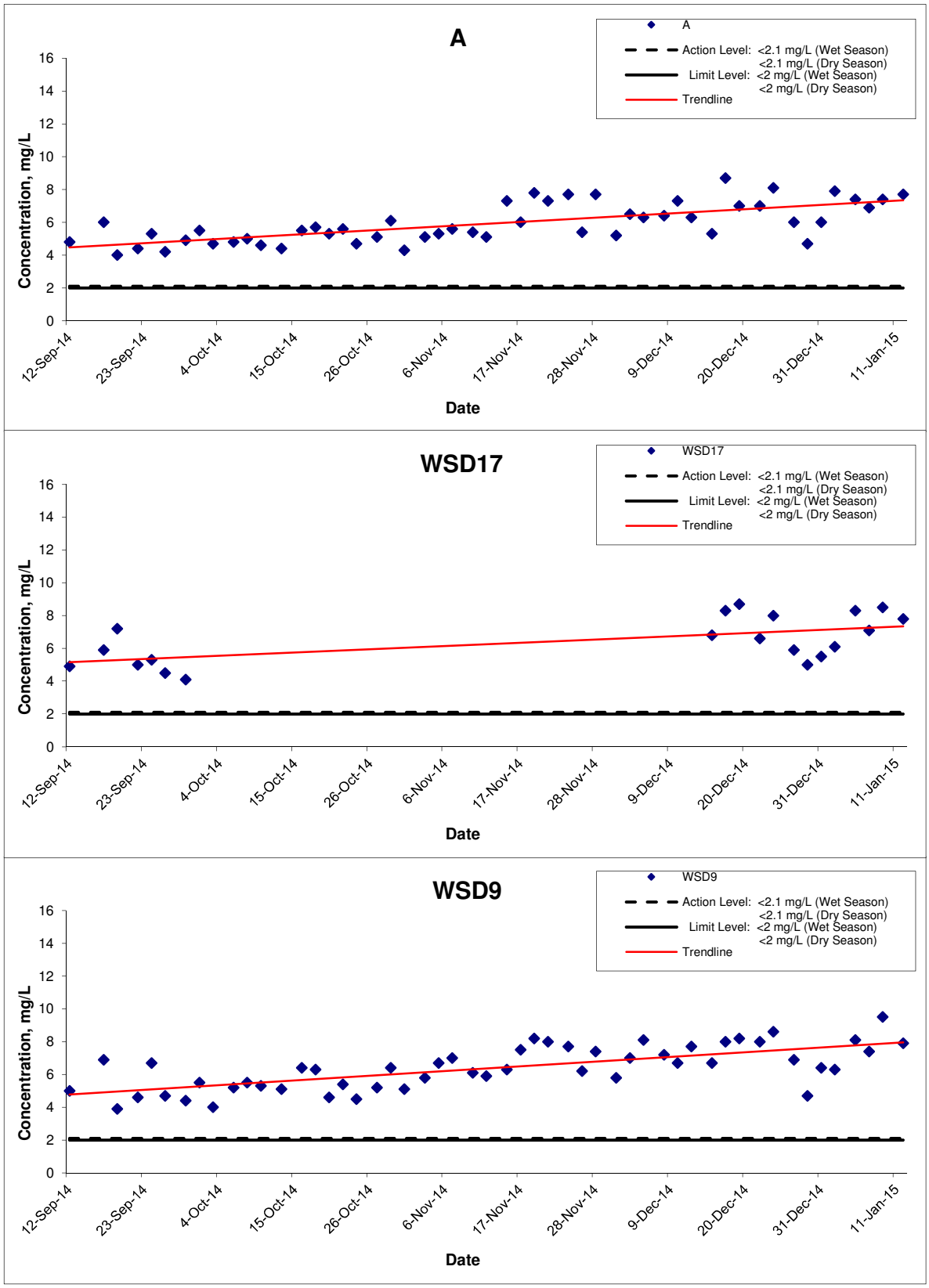
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Shek O)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Surface) at Mid-Ebb Tide



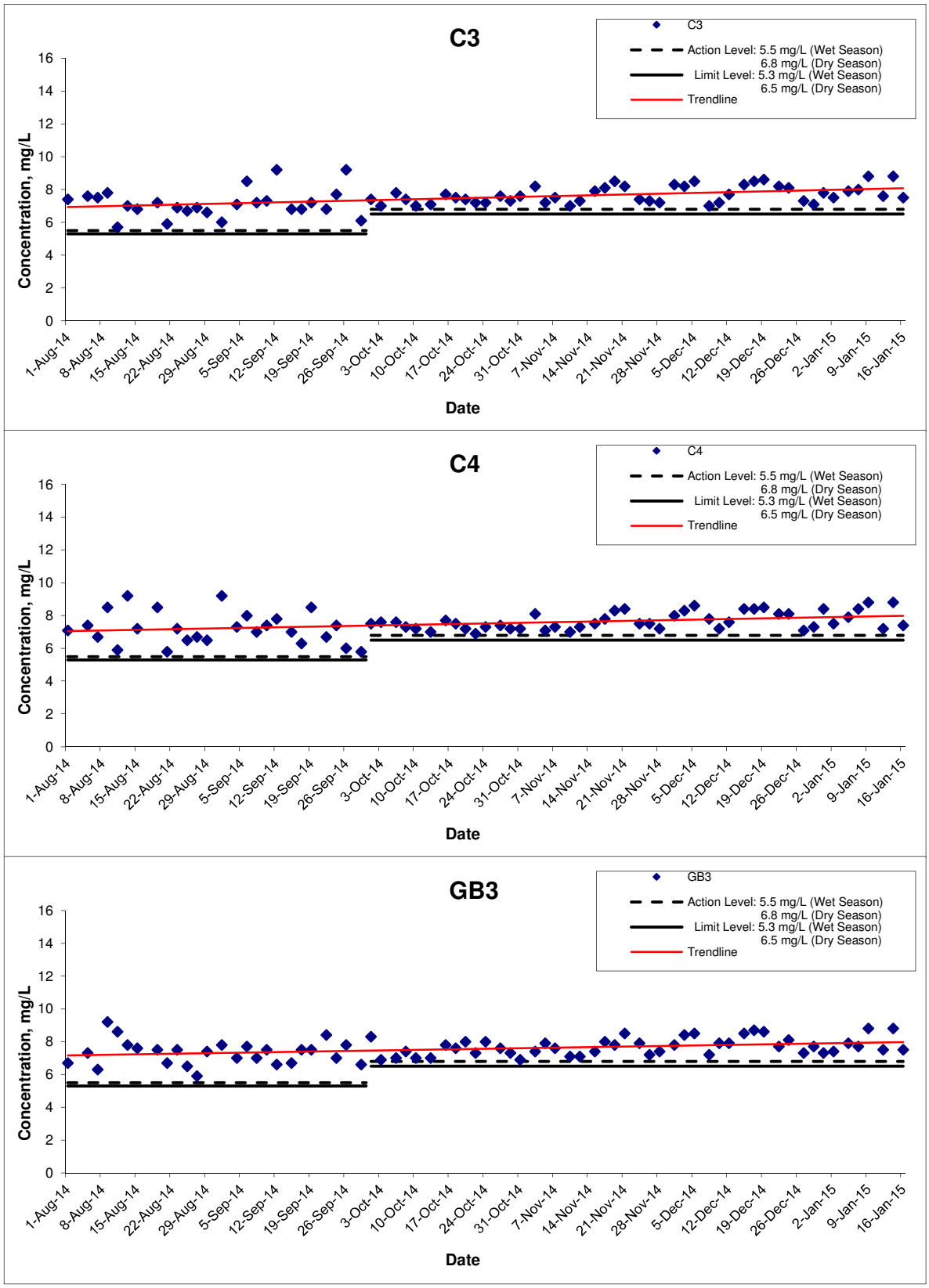
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Surface) at Mid-Ebb Tide



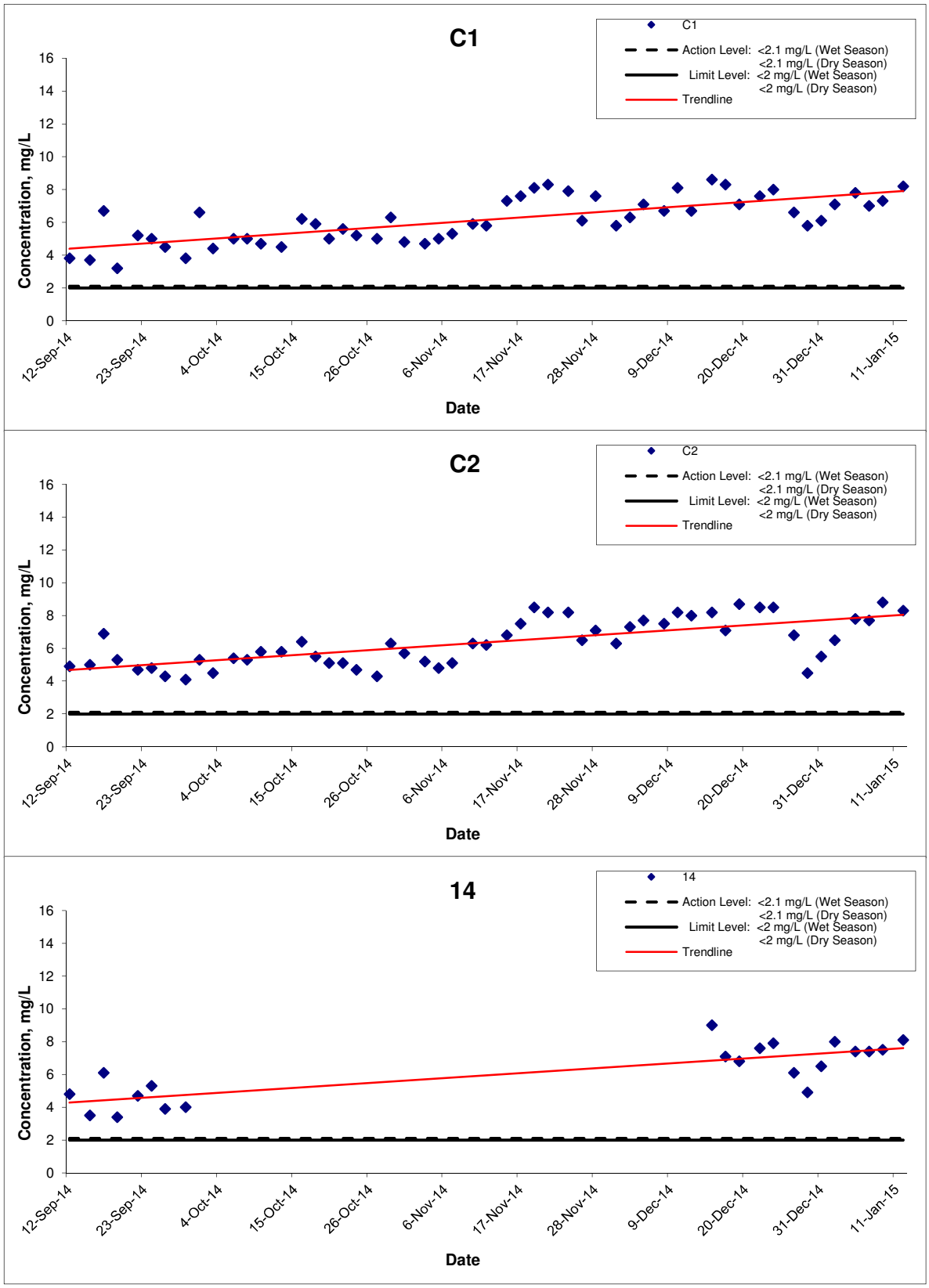
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Surface) at Mid-Flood Tide



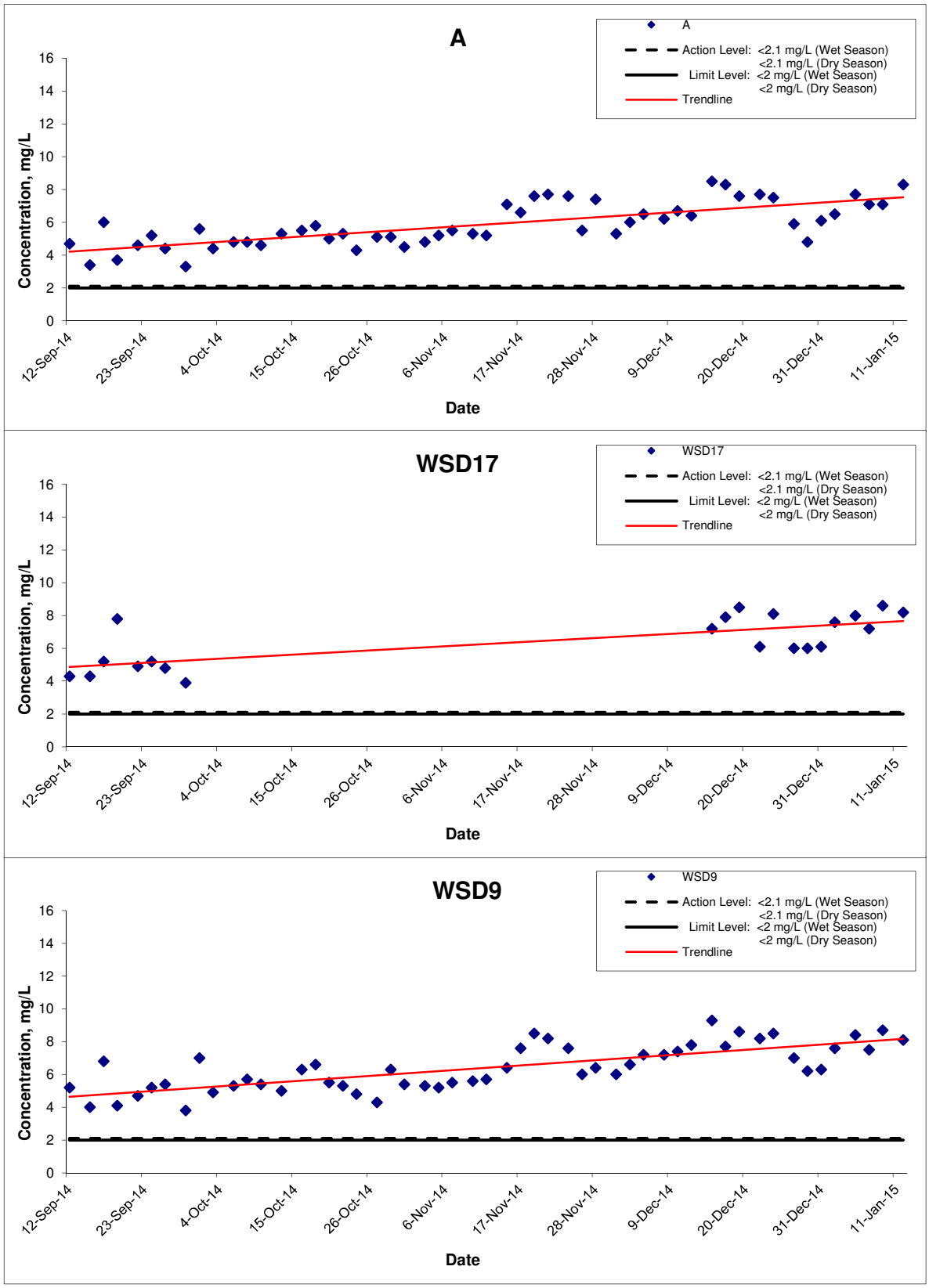
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Shek O)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Surface) at Mid-Flood Tide



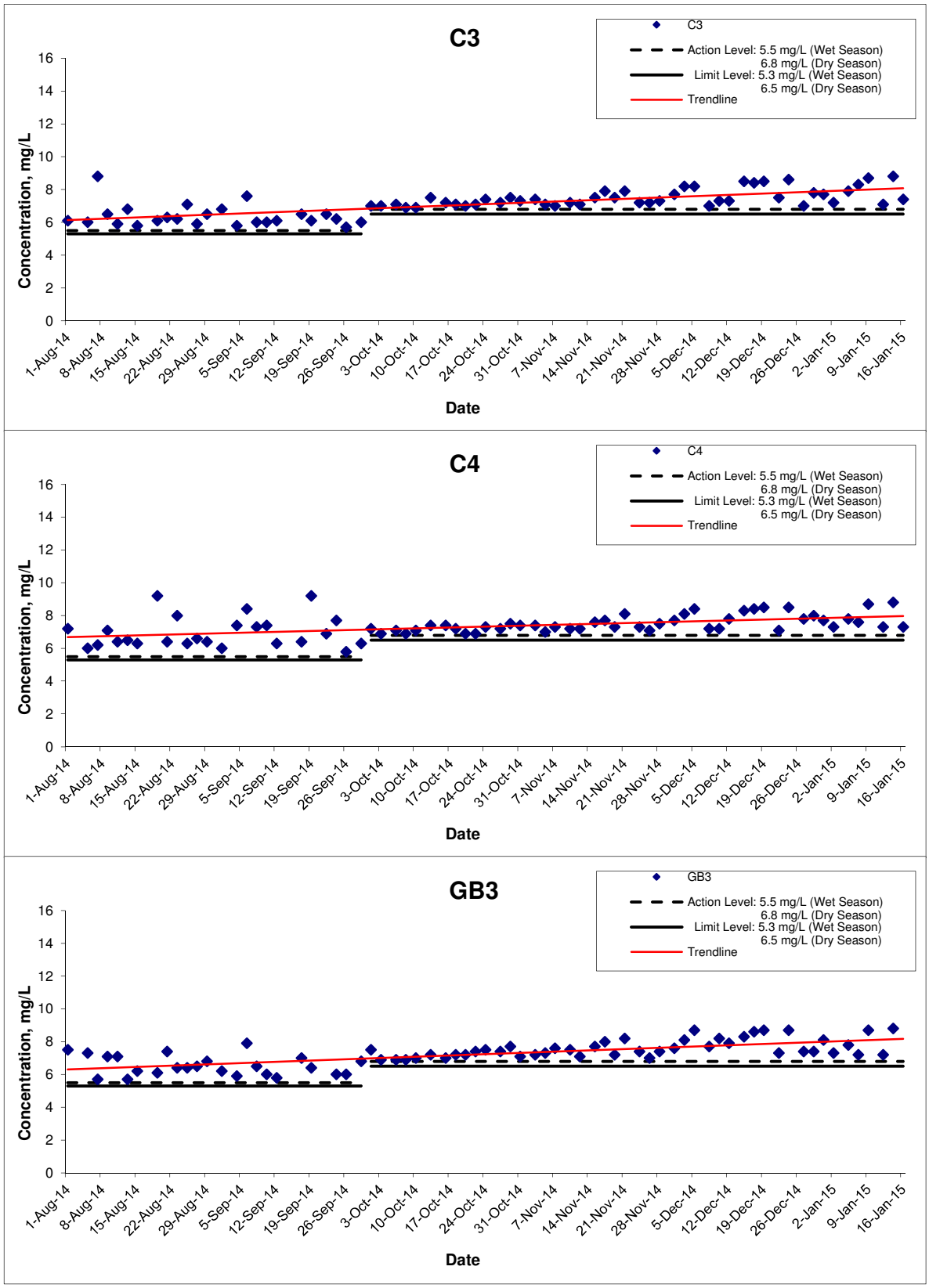
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Surface) at Mid-Flood Tide



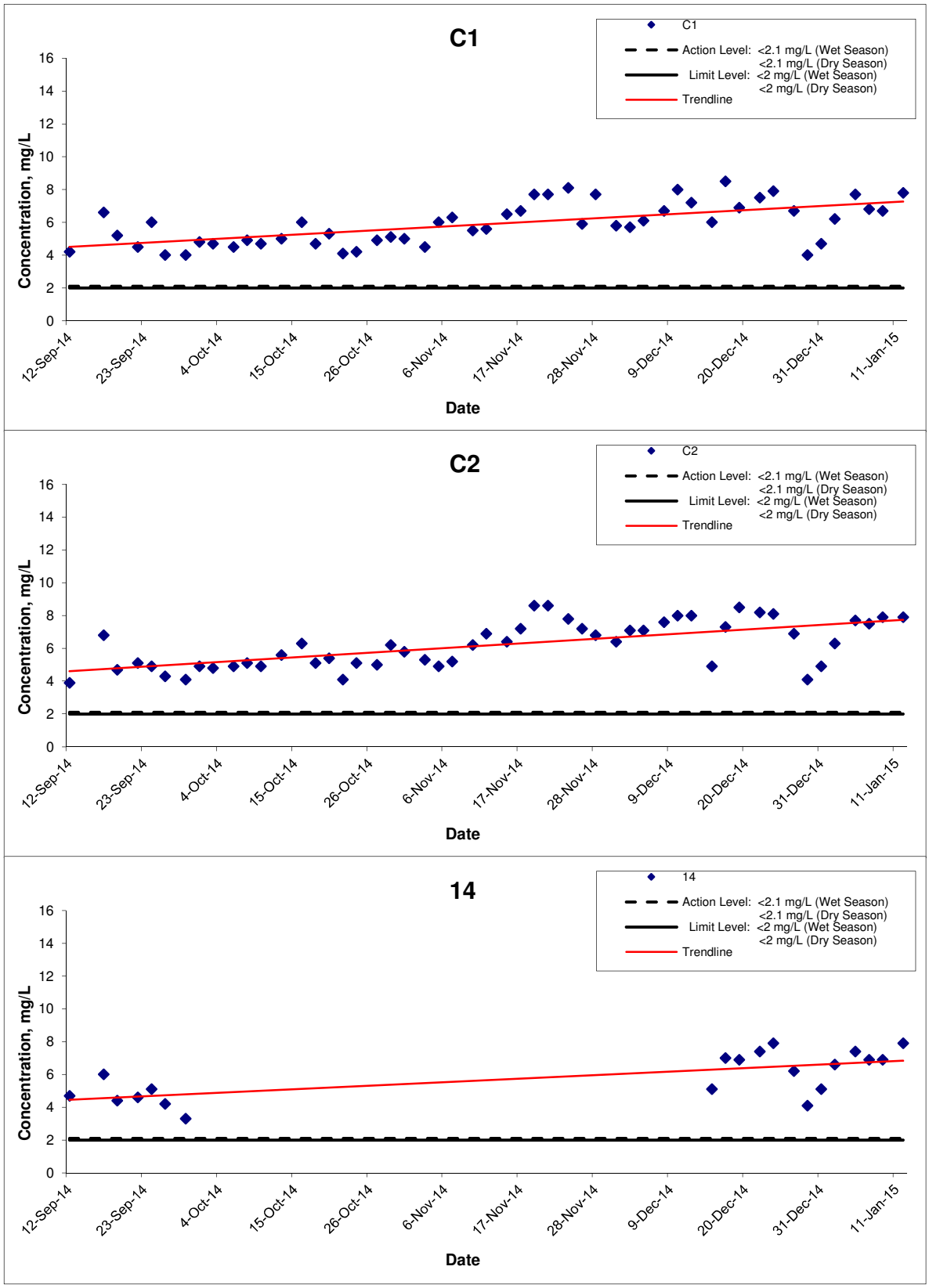
Title	Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale N.T.S	Project No. MA14028	CINOTECH
		Date Jan 15	Appendix D	

Dissolved Oxygen (Middle) at Mid-Ebb Tide



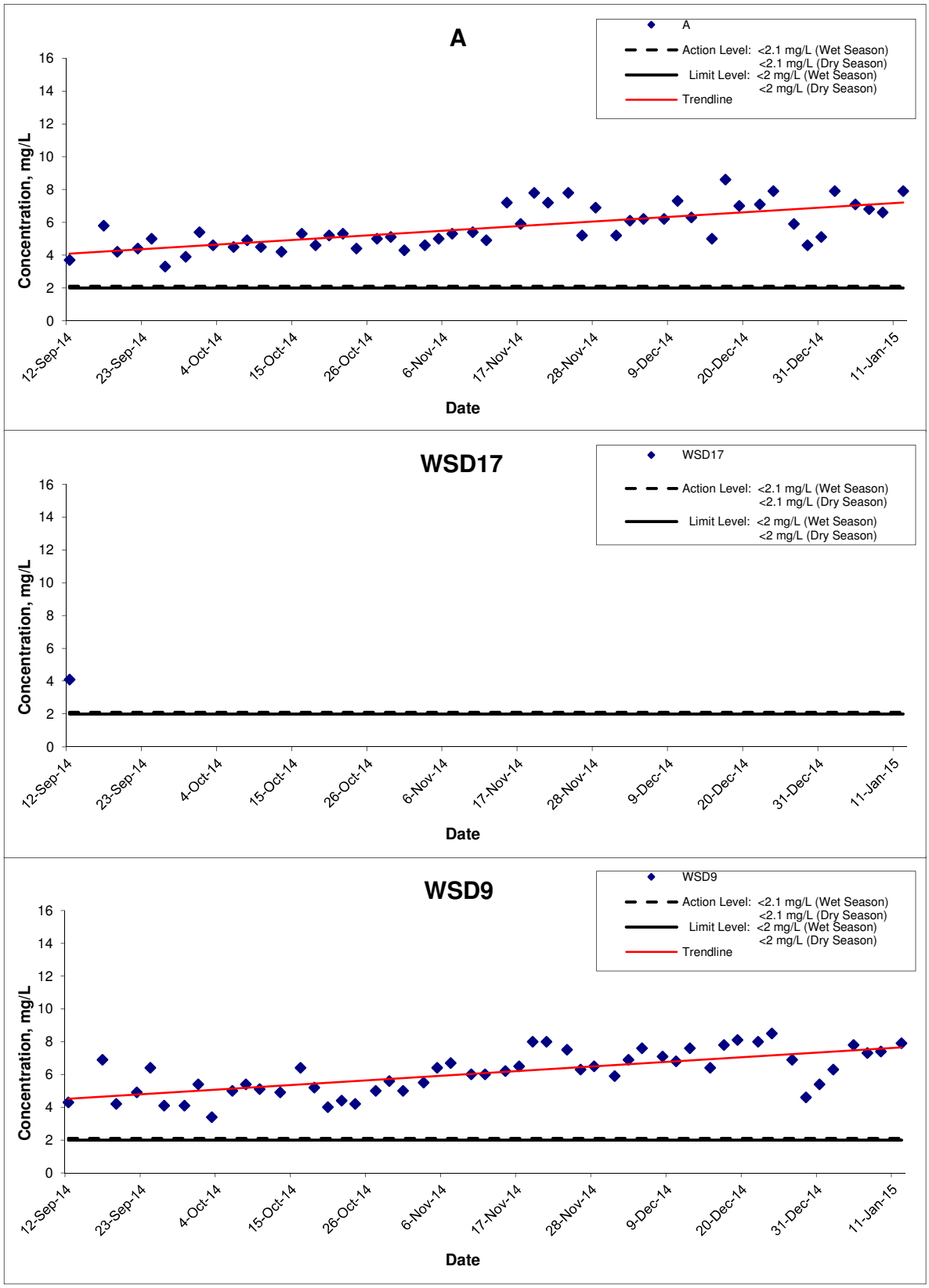
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Shek O)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Middle) at Mid-Ebb Tide



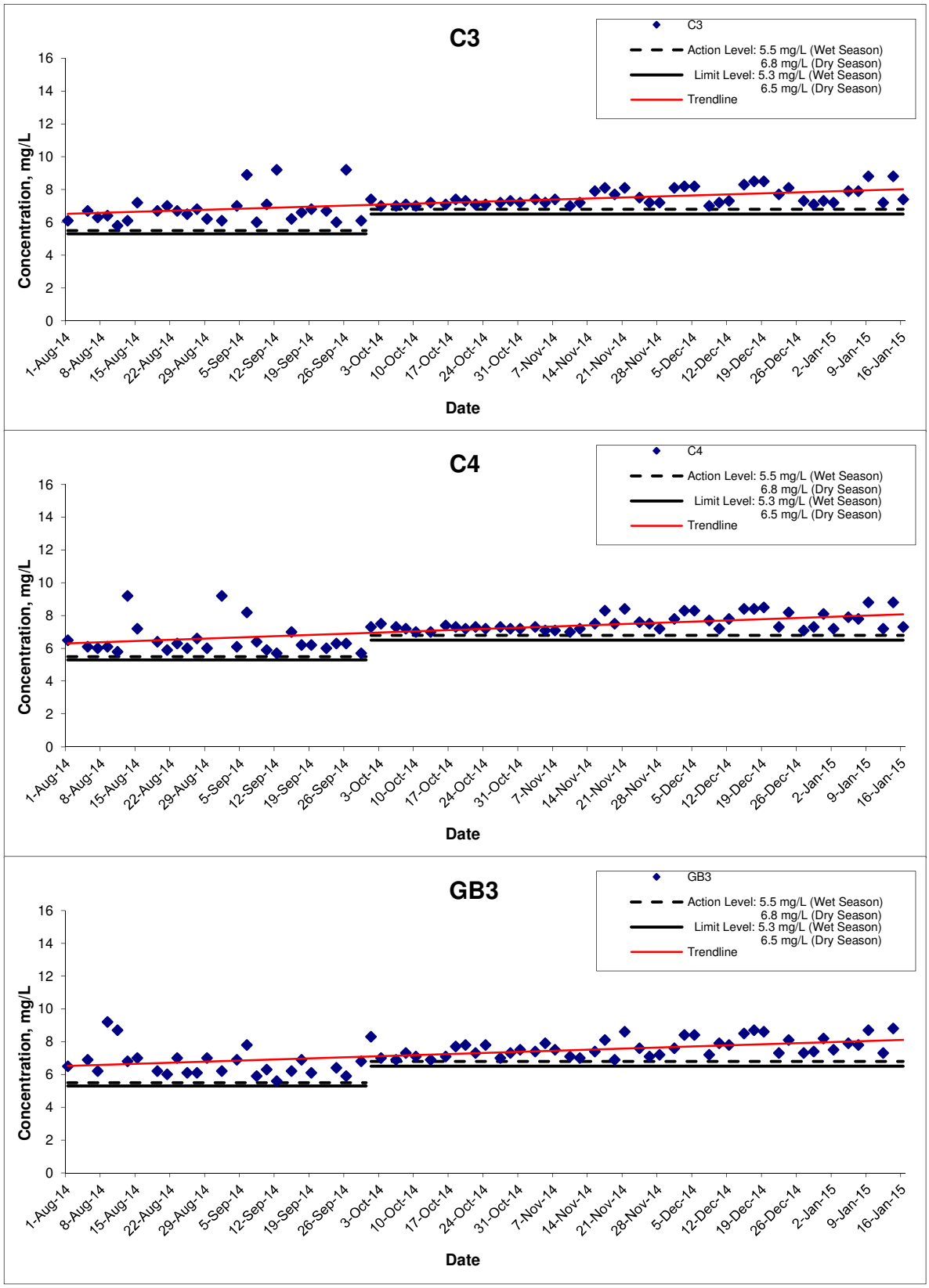
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Middle) at Mid-Ebb Tide



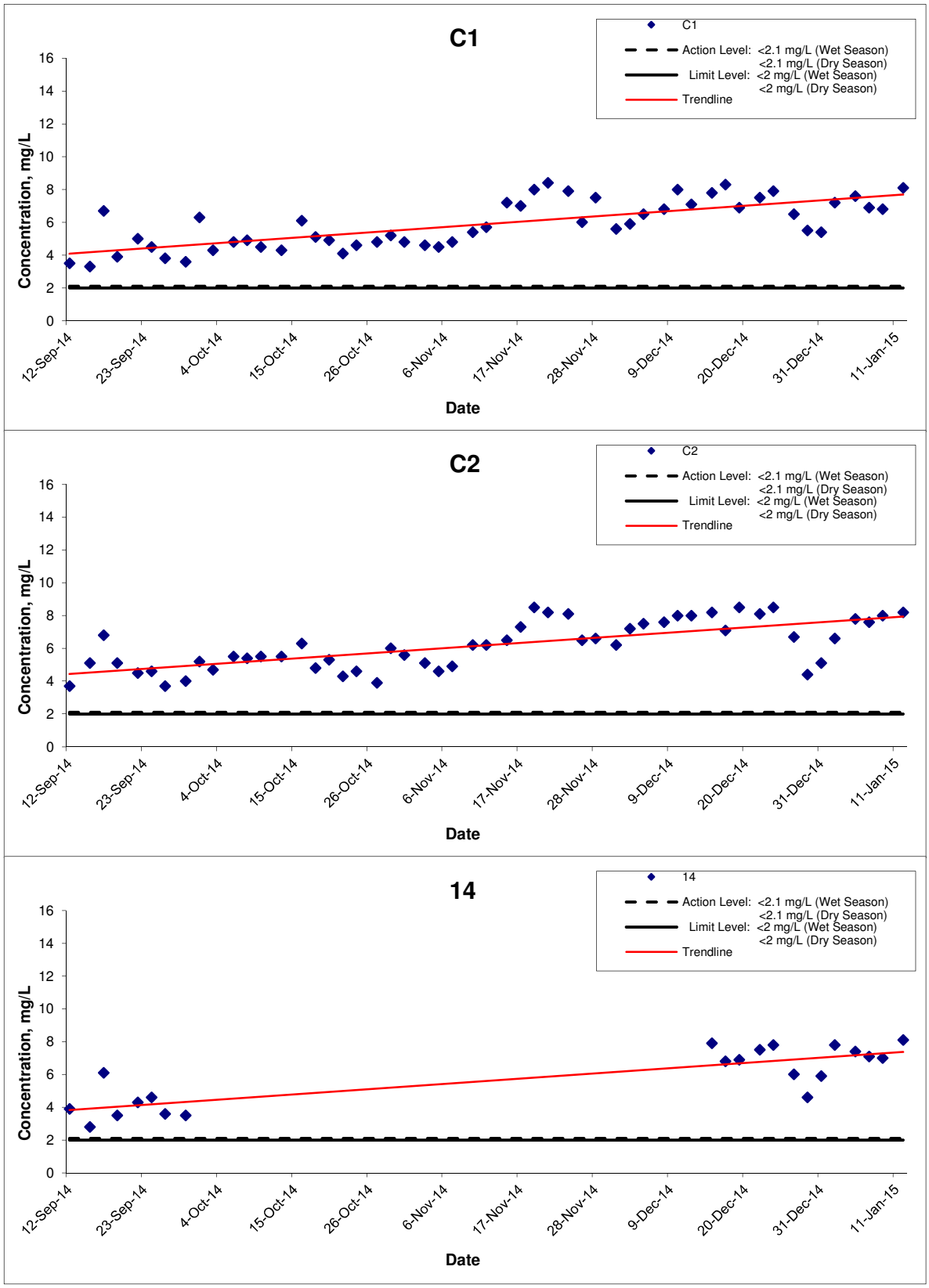
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Middle) at Mid-Flood Tide



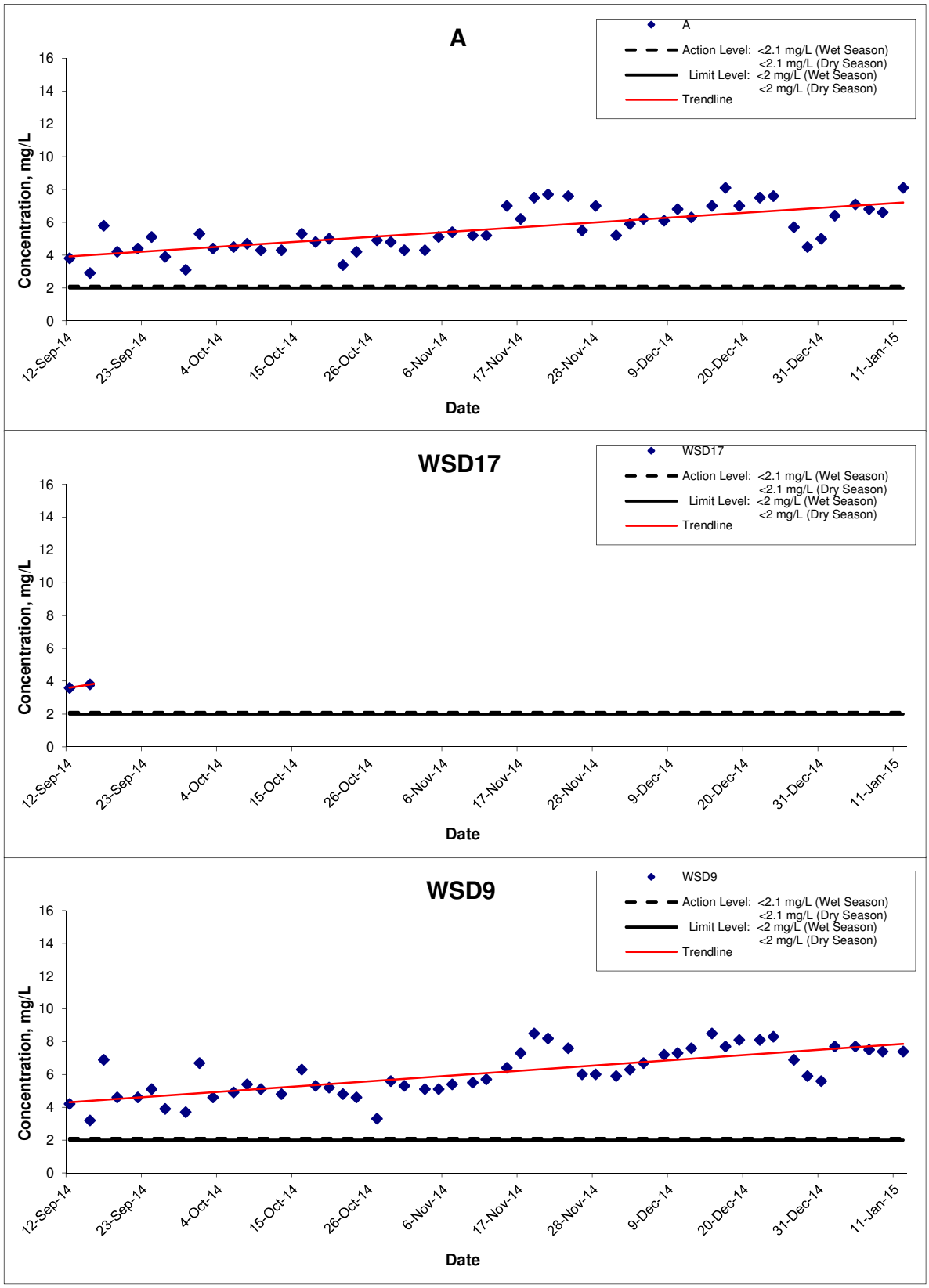
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Shek O)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Middle) at Mid-Flood Tide



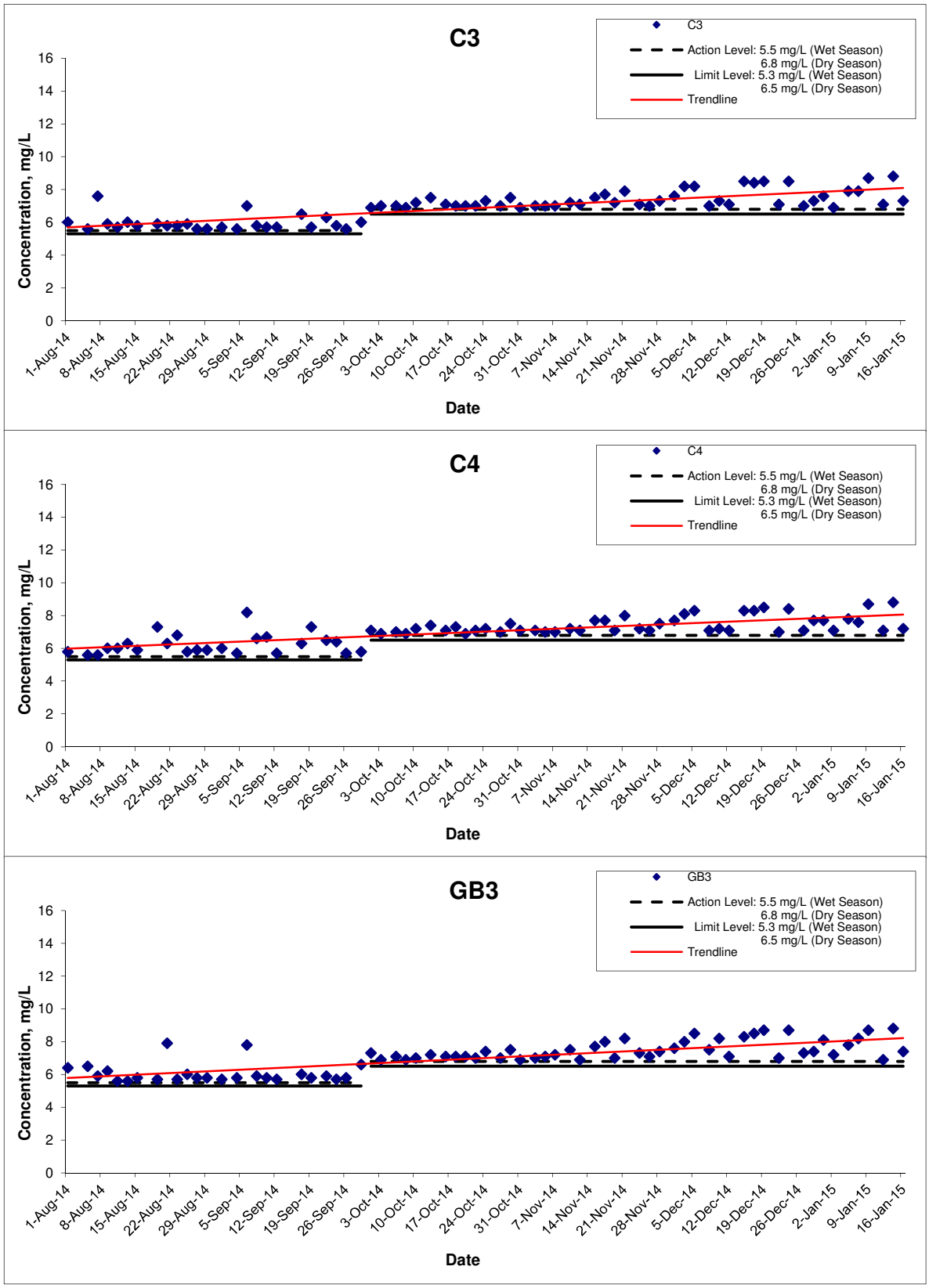
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Middle) at Mid-Flood Tide



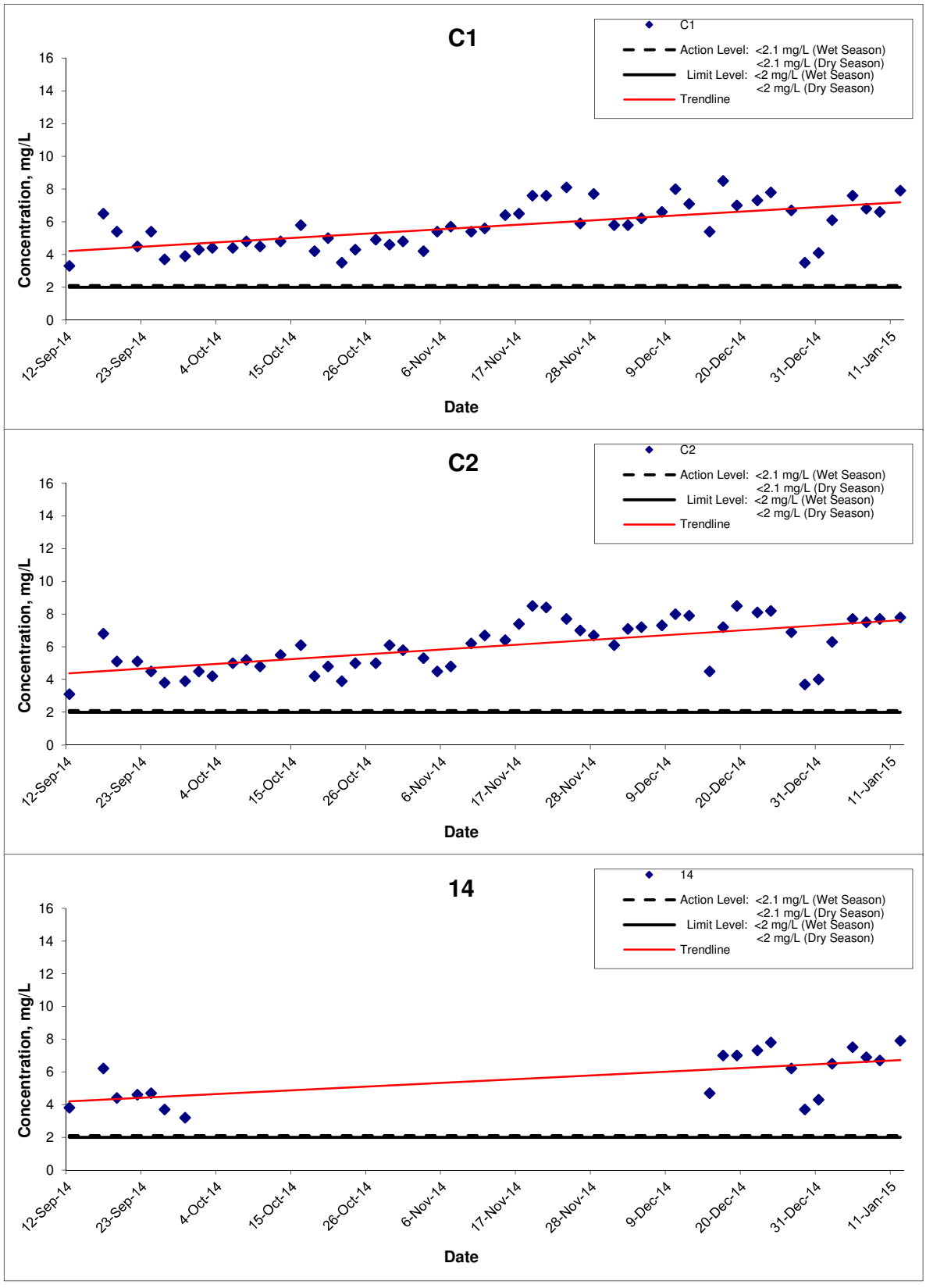
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



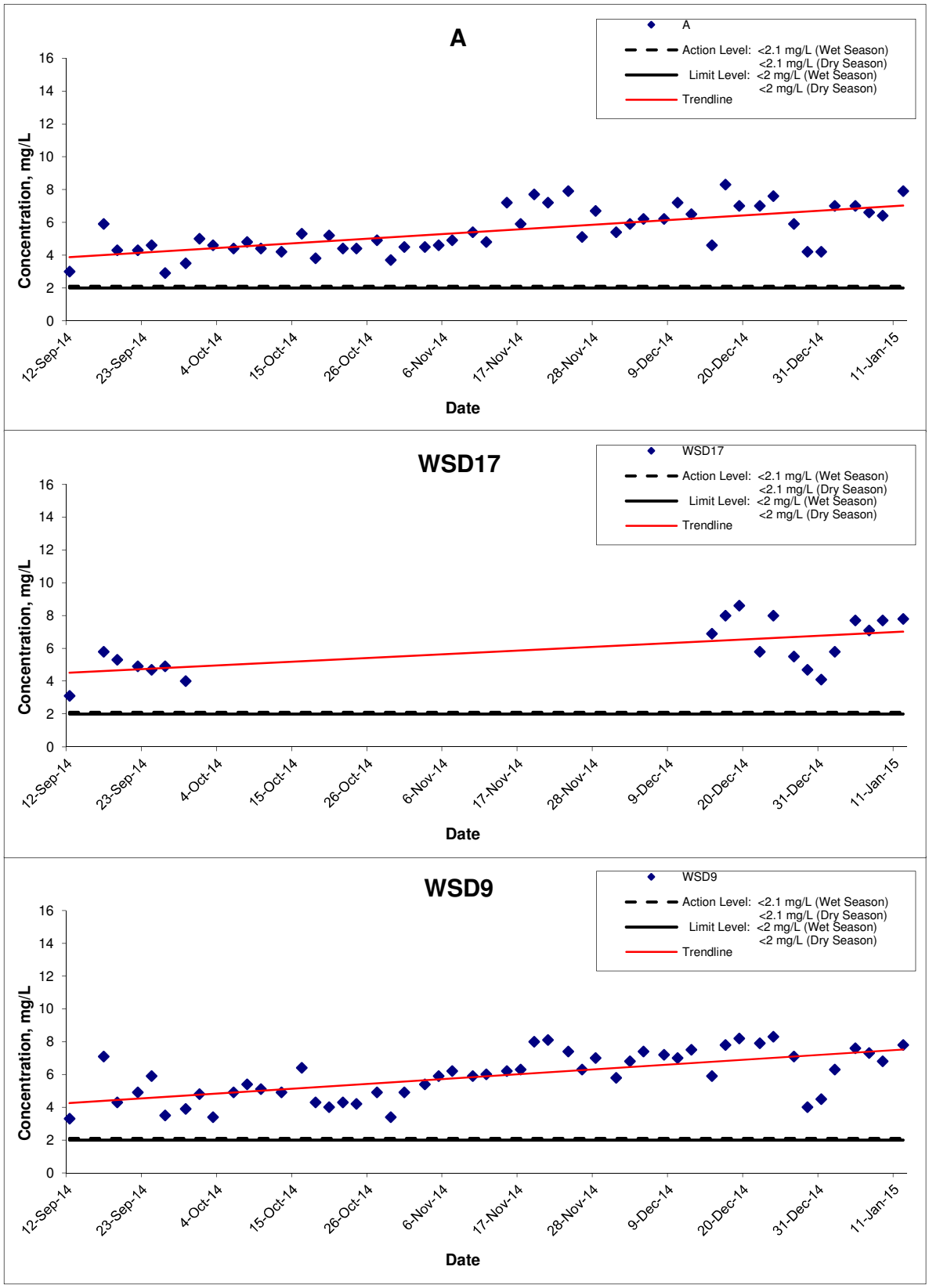
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Shek O)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



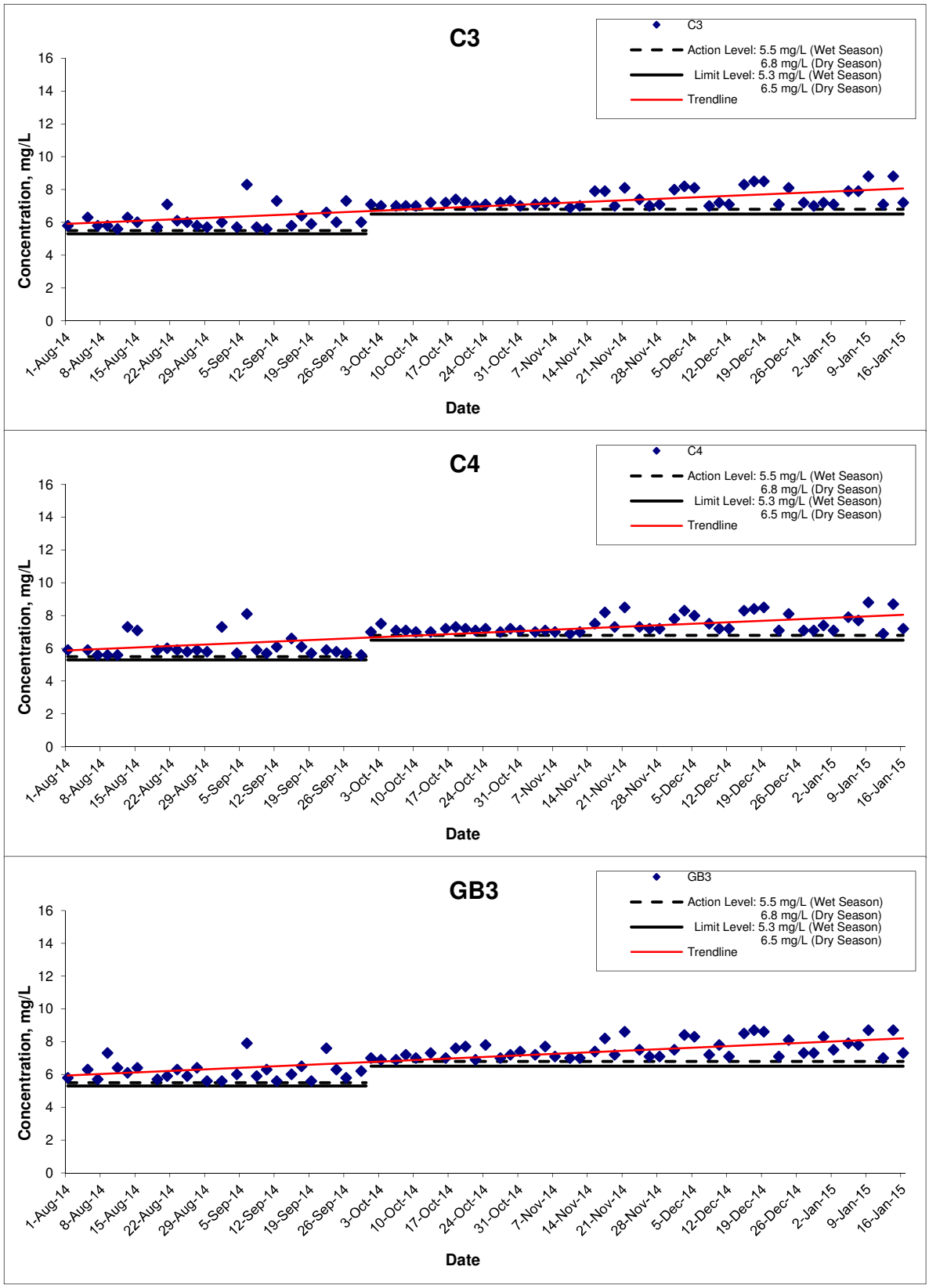
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



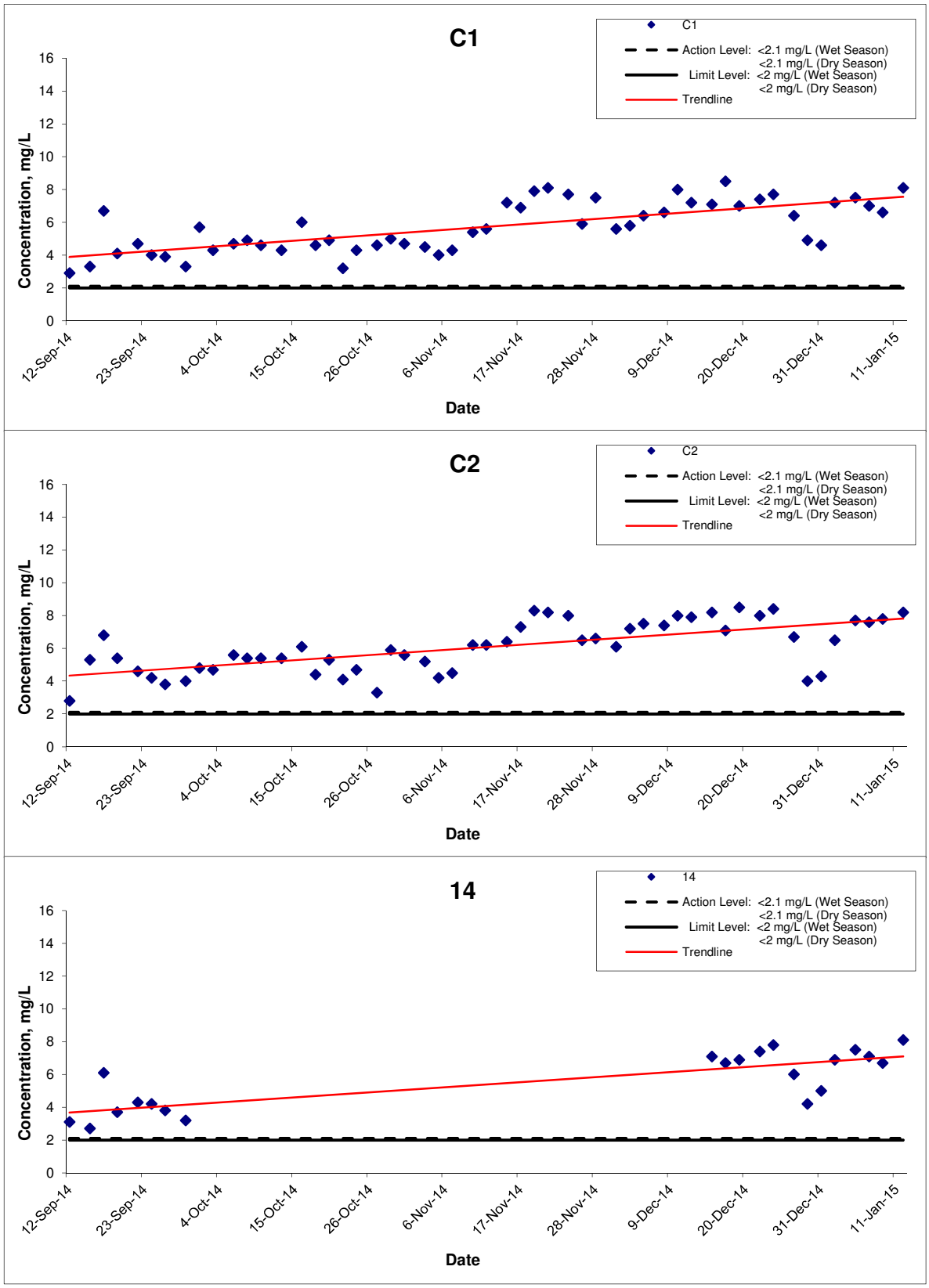
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Bottom) at Mid-Flood Tide



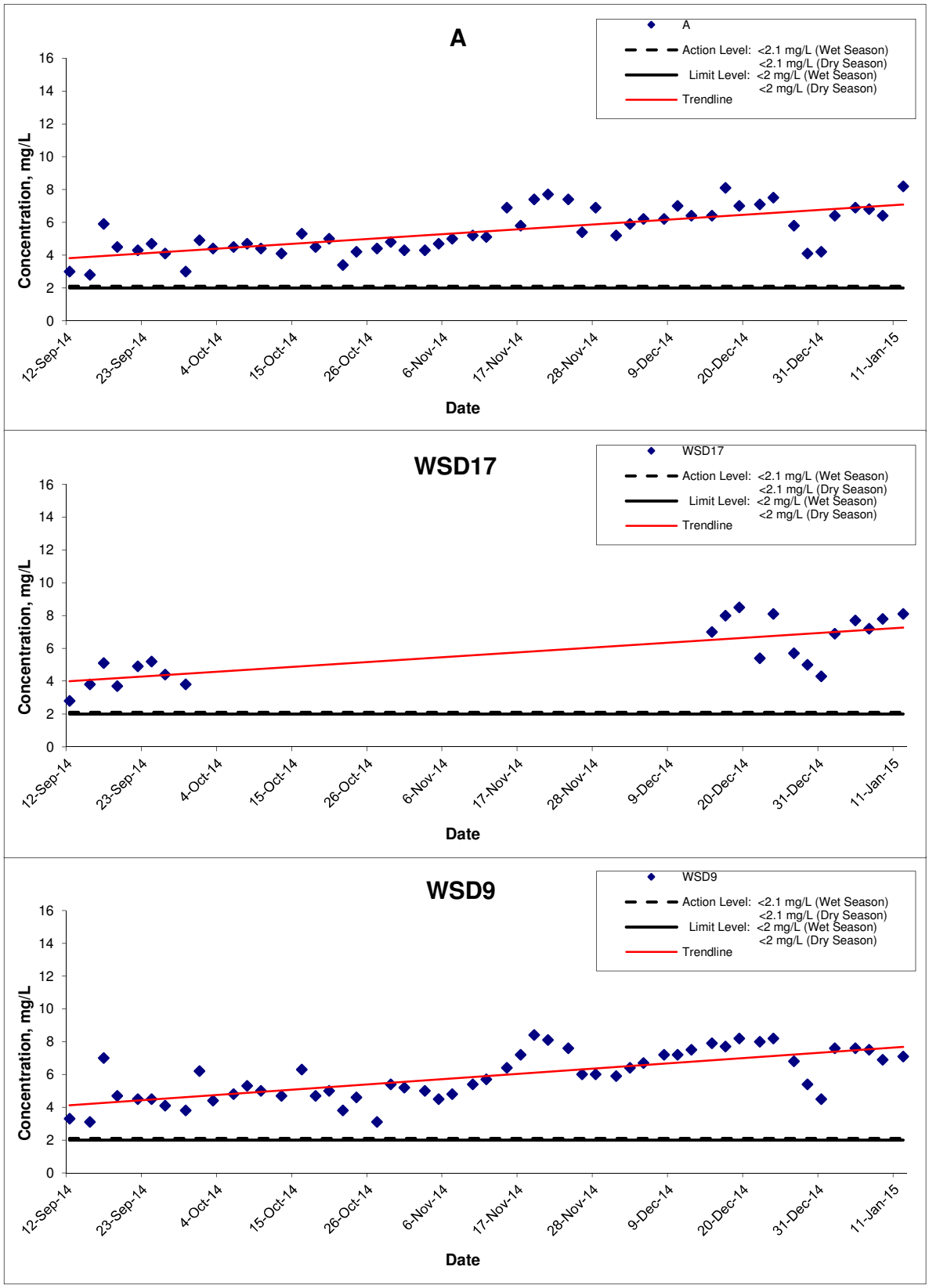
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Shek O)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Bottom) at Mid-Flood Tide



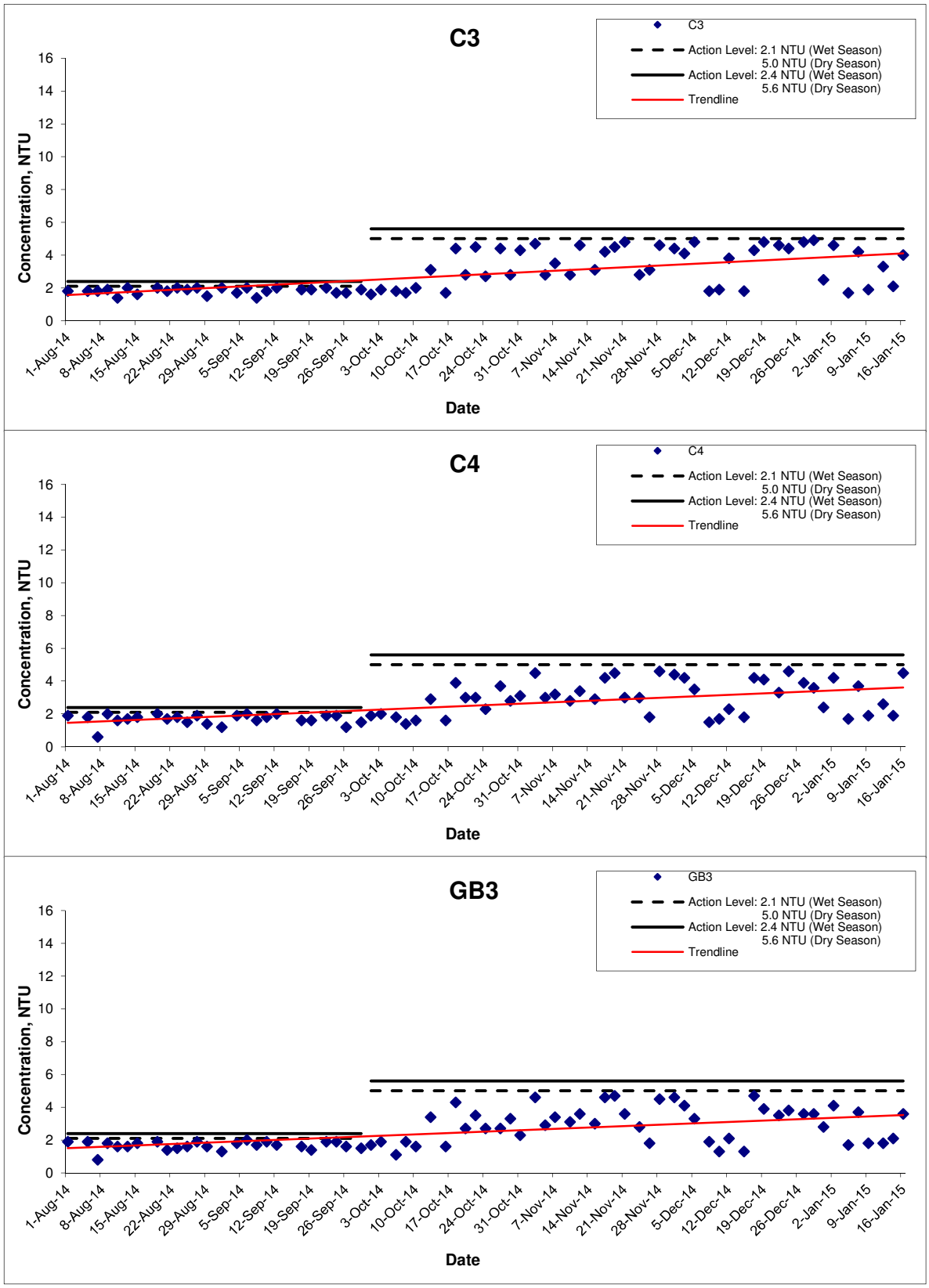
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Dissolved Oxygen (Bottom) at Mid-Flood Tide



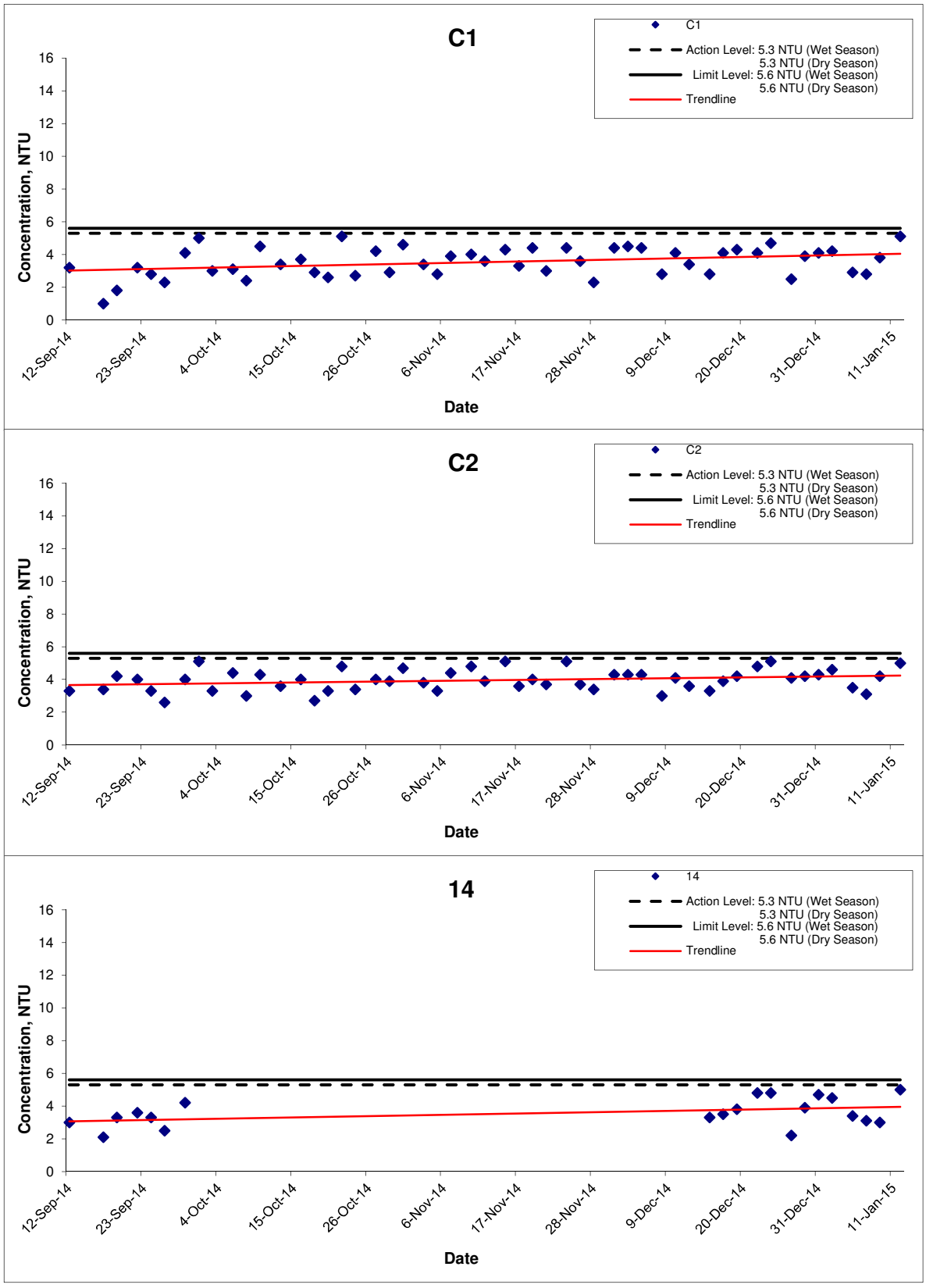
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Turbidity (Depth-averaged) at Mid-Ebb Tide



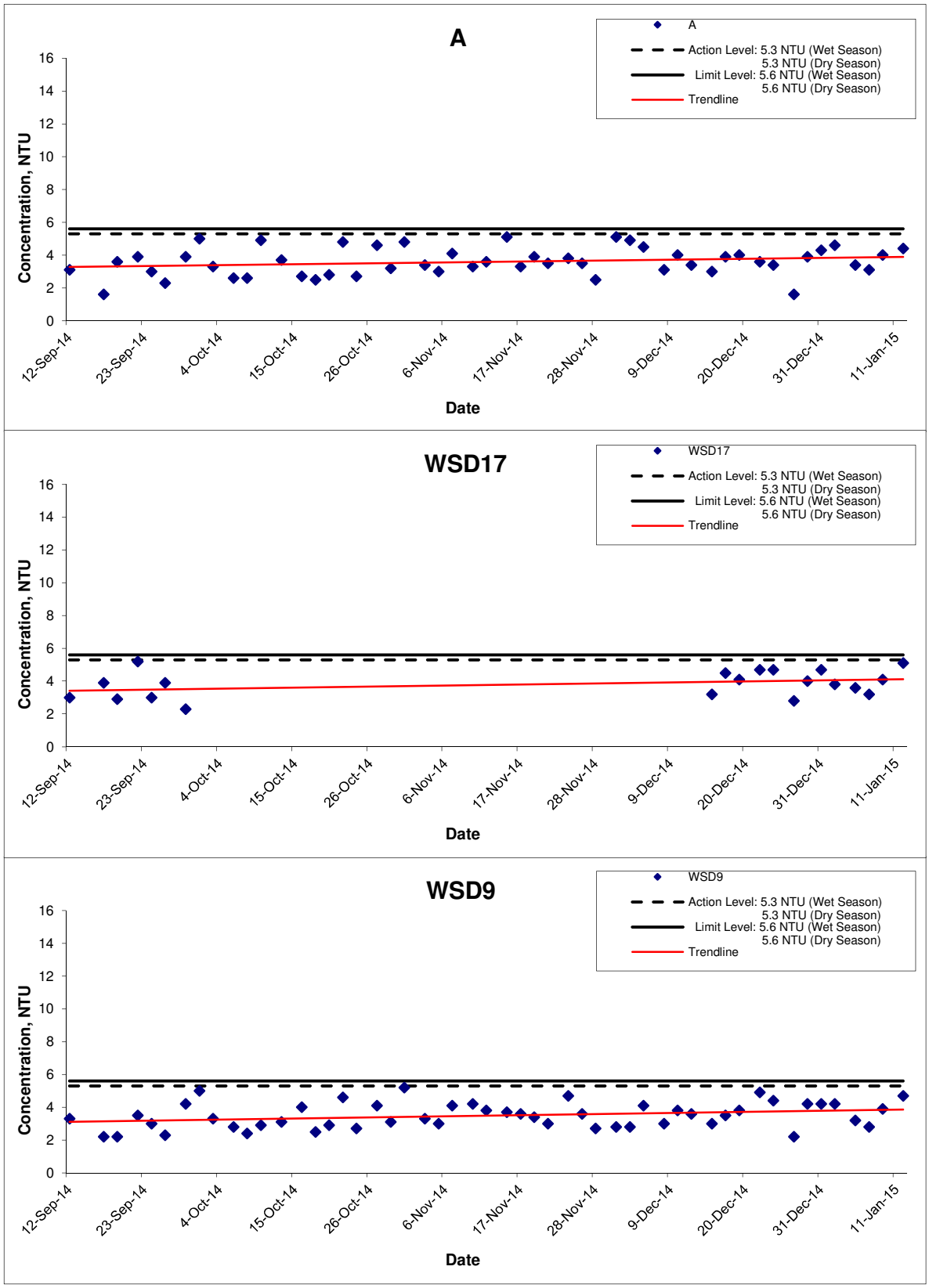
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Shek O)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Turbidity (Depth-averaged) at Mid-Ebb Tide



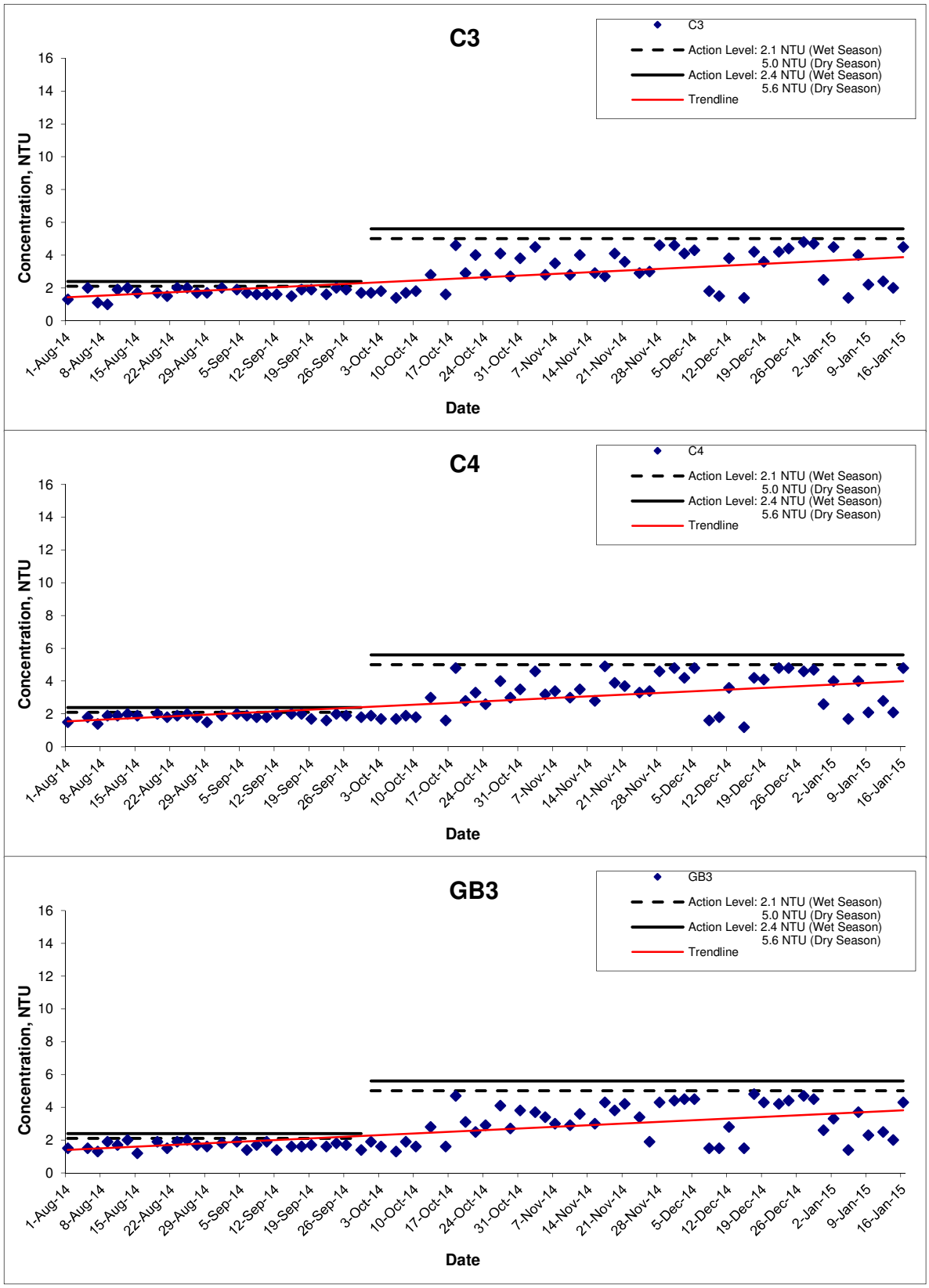
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Turbidity (Depth-averaged) at Mid-Ebb Tide



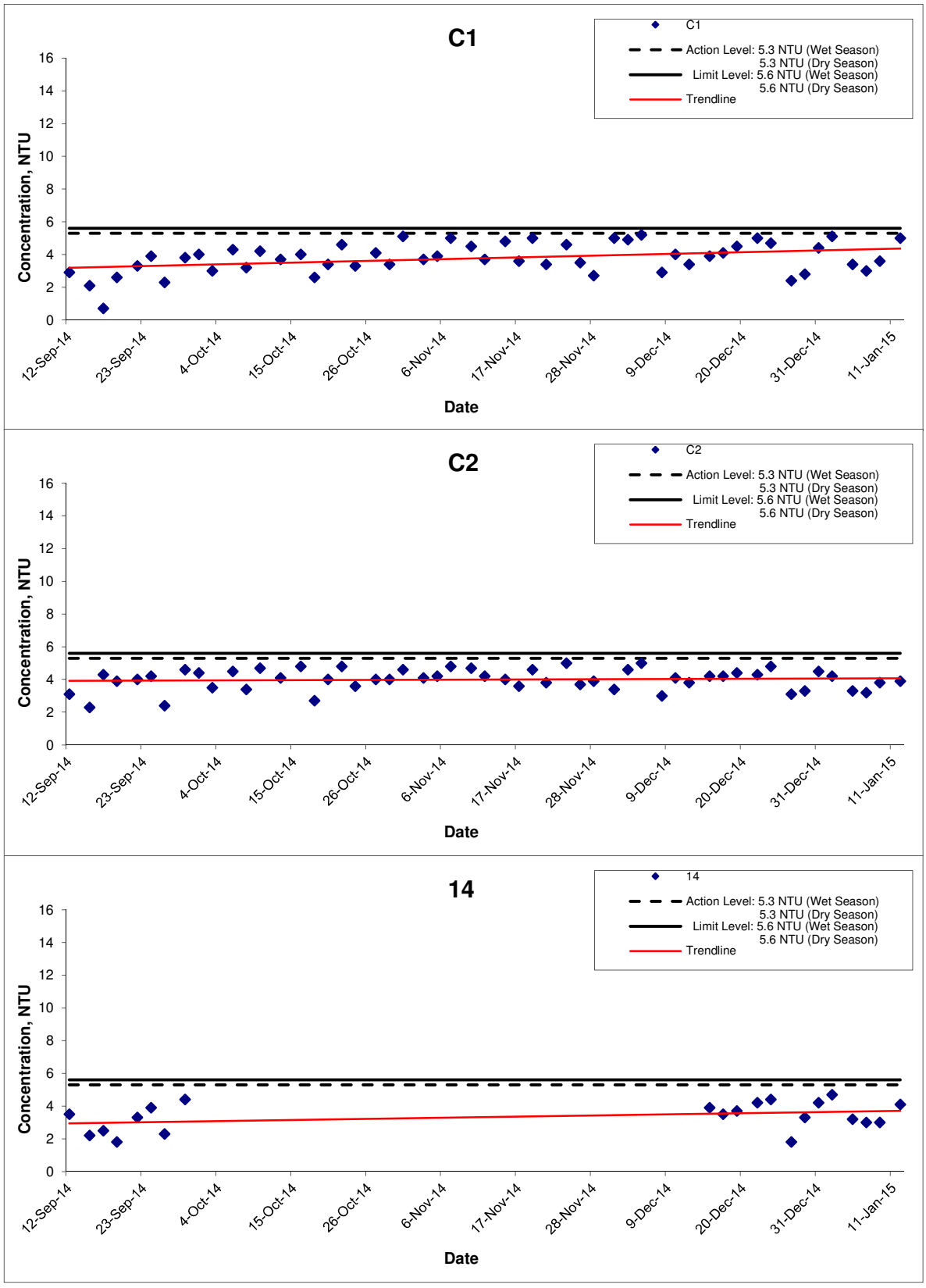
Title	Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
		Date: Jan 15	Appendix: D	

Turbidity (Depth-averaged) at Mid-Flood Tide



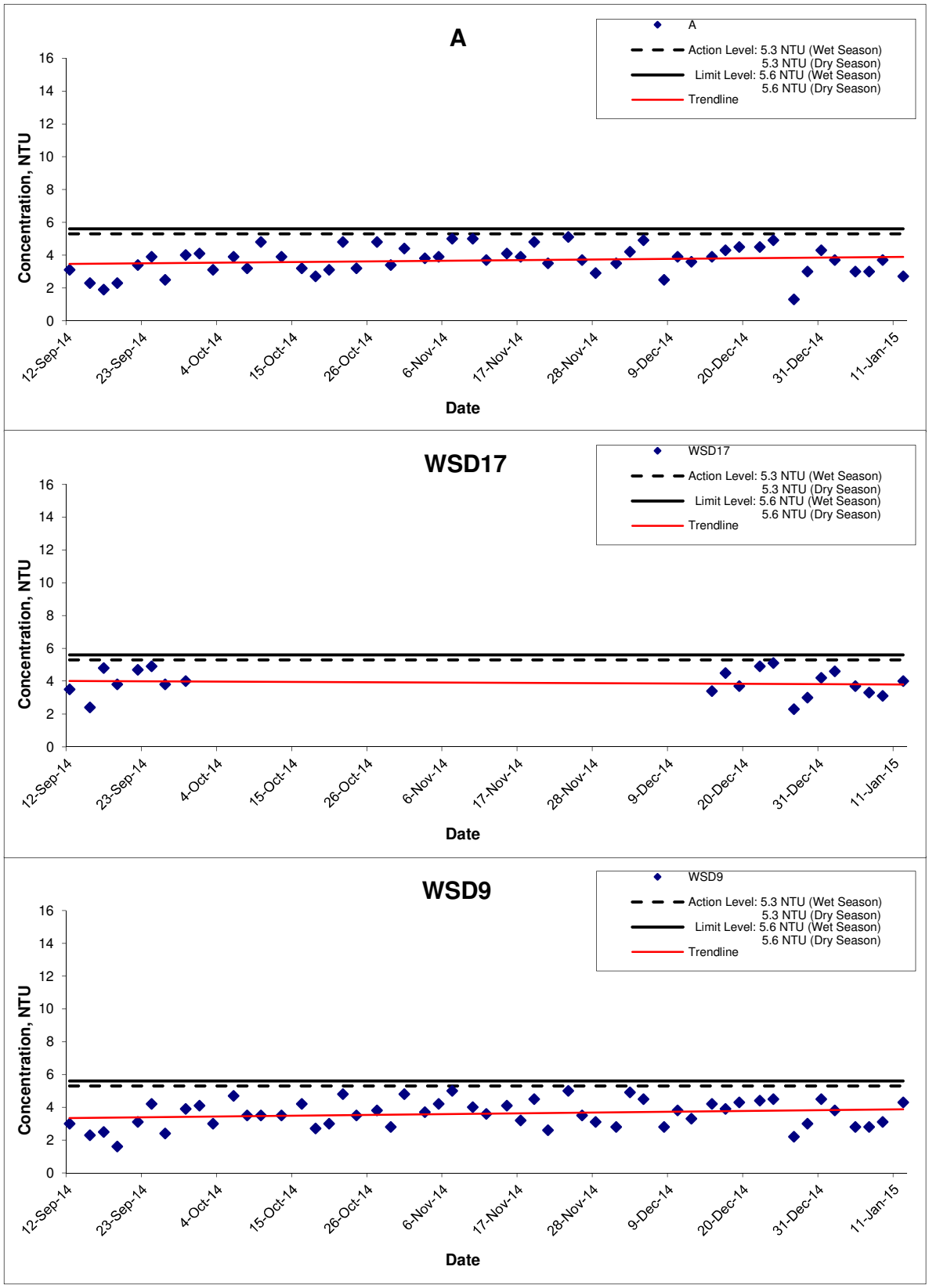
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Shek O)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Turbidity (Depth-averaged) at Mid-Flood Tide



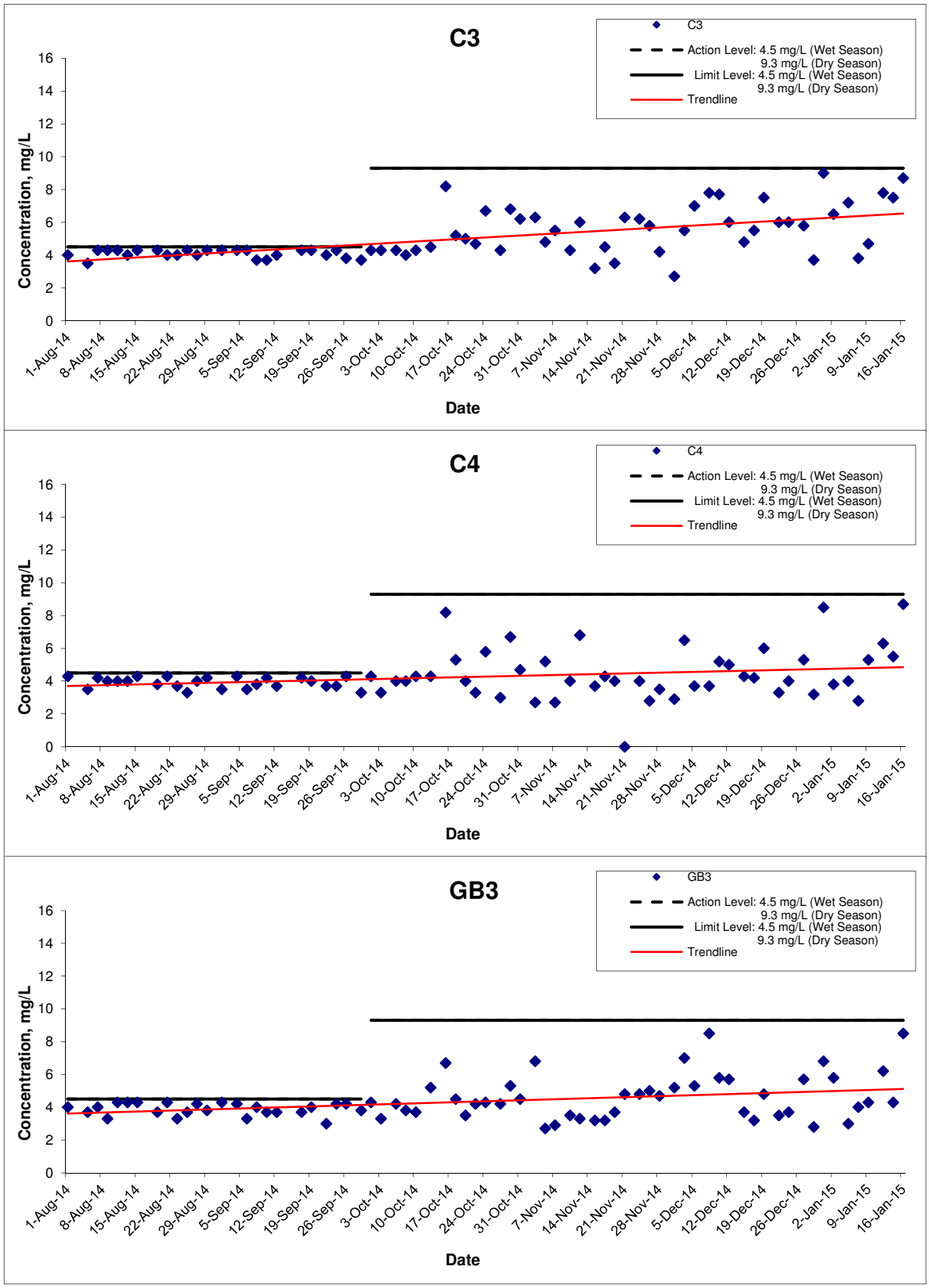
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Turbidity (Depth-averaged) at Mid-Flood Tide



Title	Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
		Date: Jan 15	Appendix: D	

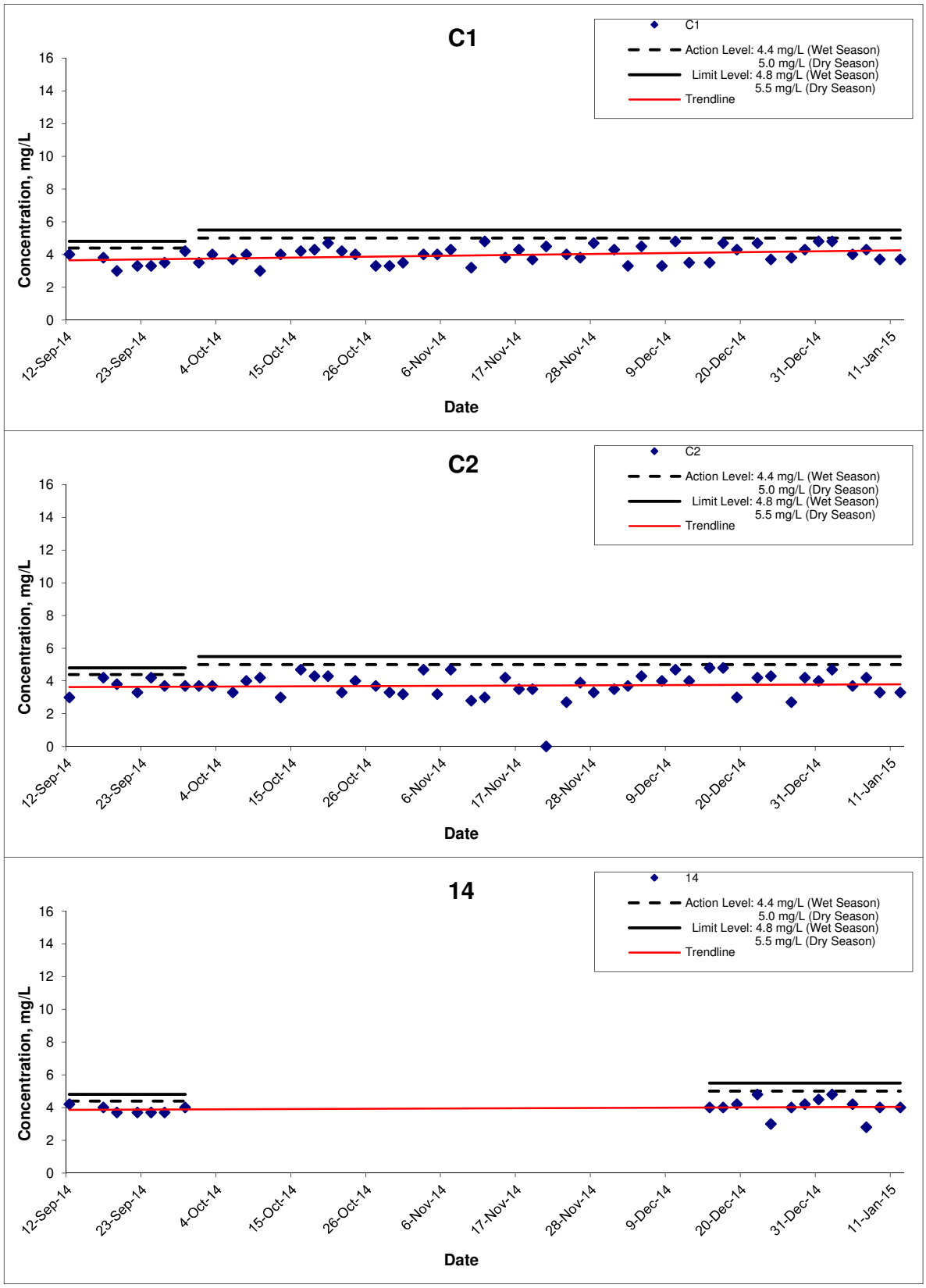
Suspended Solids (Depth-averaged) at Mid-Ebb Tide



Remarks: The graphical point at zero concentration is presented as <2.5 mg/L

Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Shek O)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

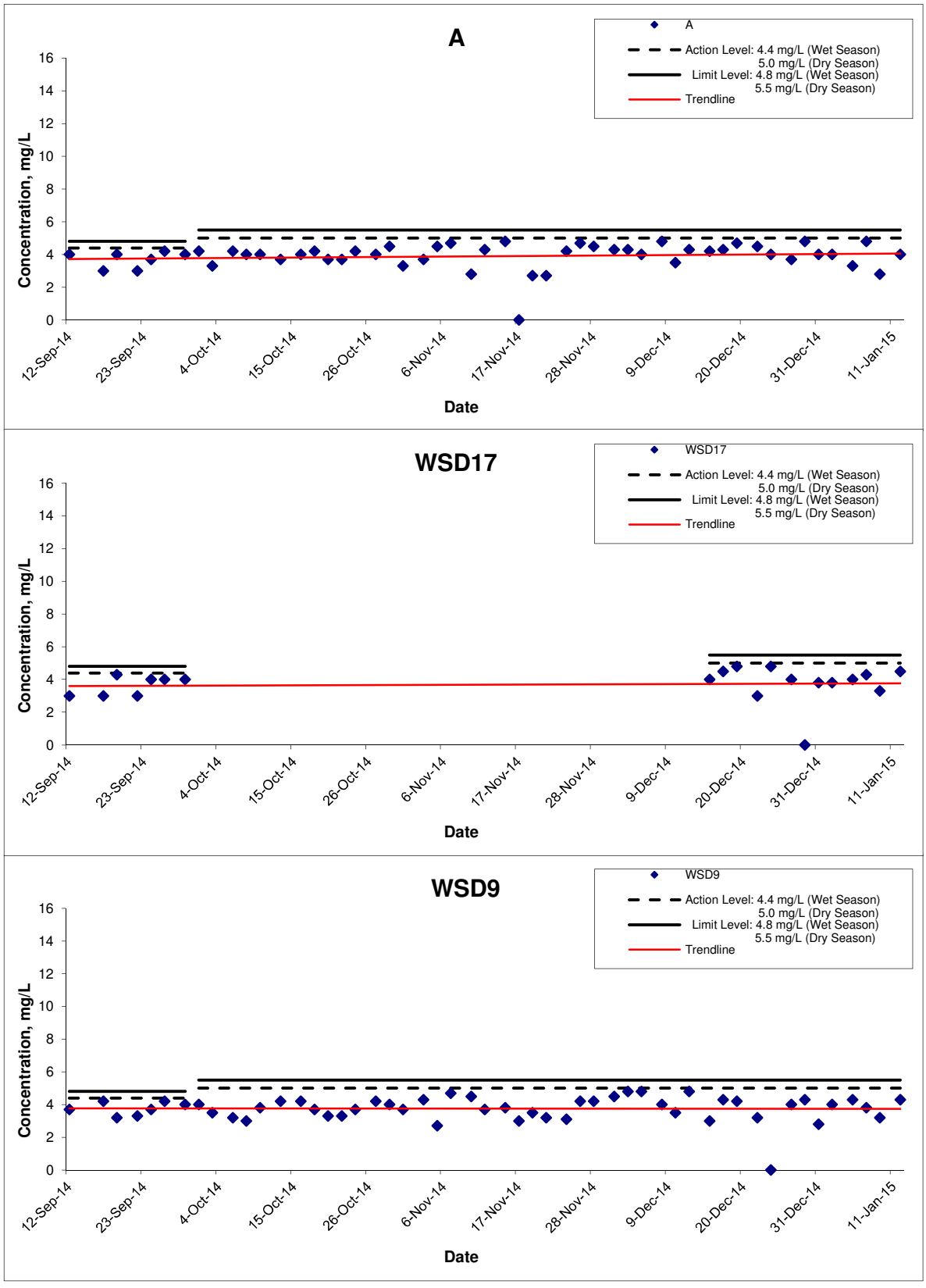
Suspended Solids (Depth-averaged) at Mid-Ebb Tide



Remarks: The graphical point at zero concentration is presented as <2.5 mg/L

Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

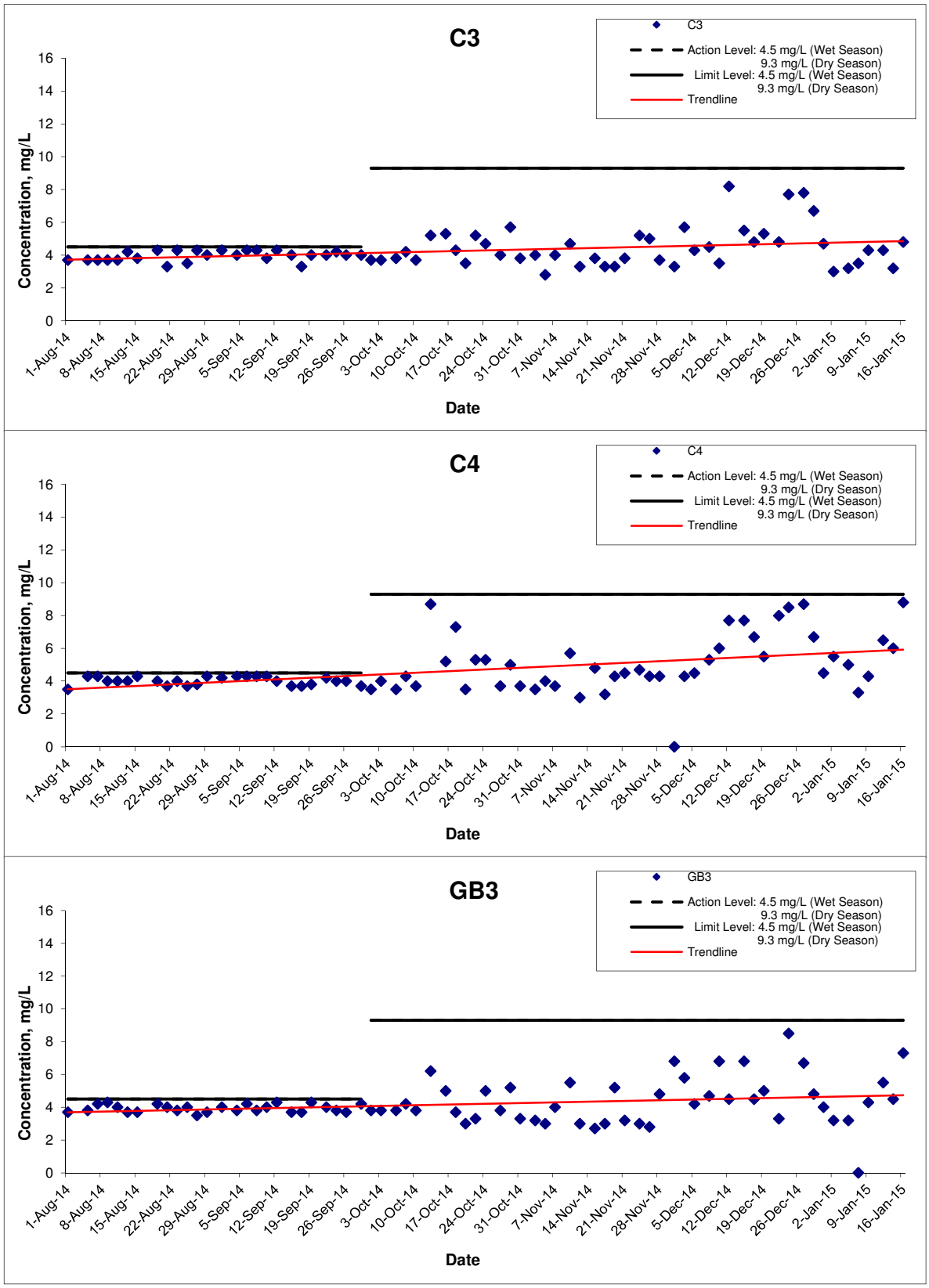
Suspended Solids (Depth-averaged) at Mid-Ebb Tide



Remarks: The graphical point at zero concentration is presented as <2.5 mg/L

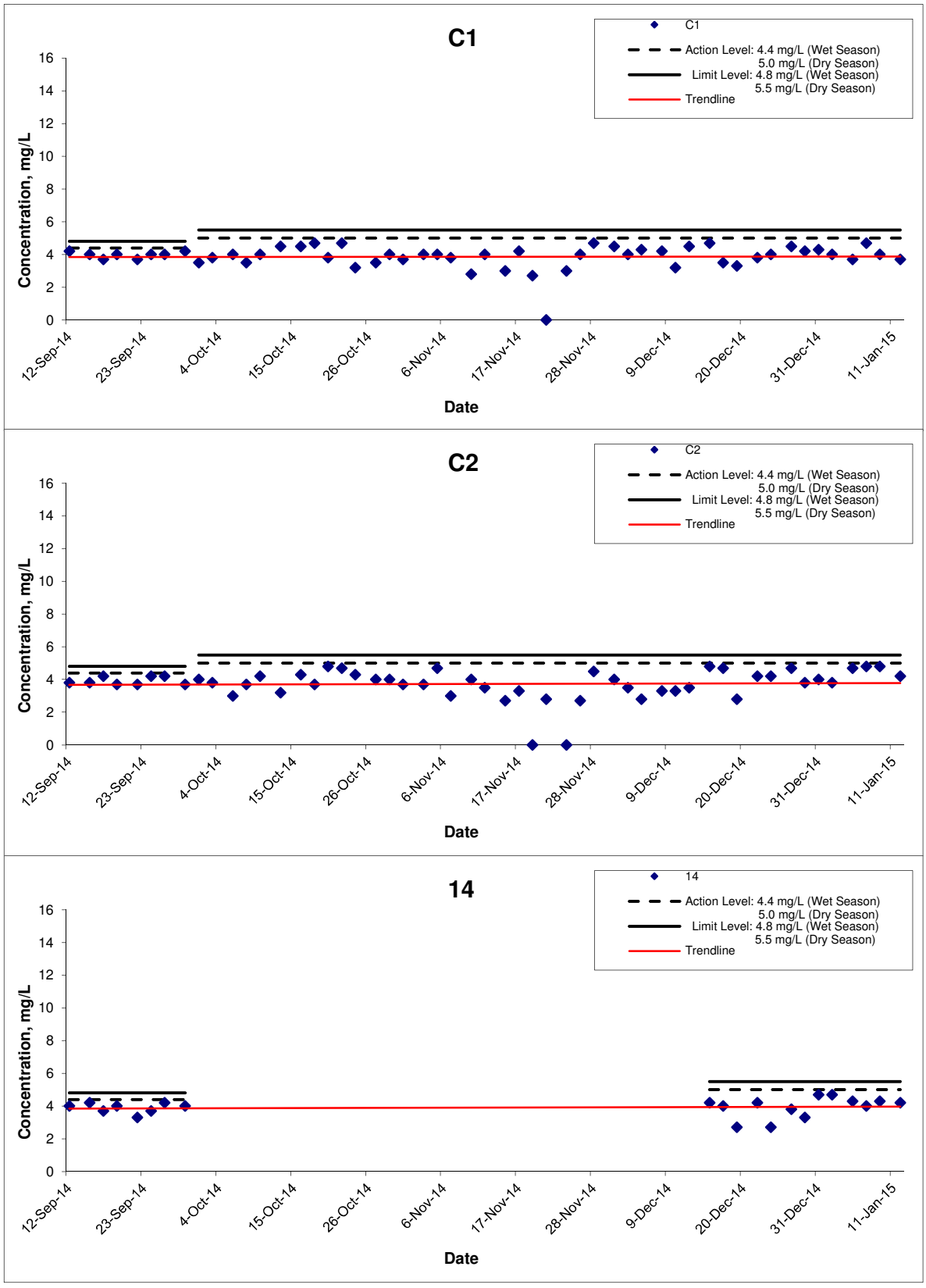
Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Suspended Solids (Depth-averaged) at Mid-Flood Tide



Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Shek O)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

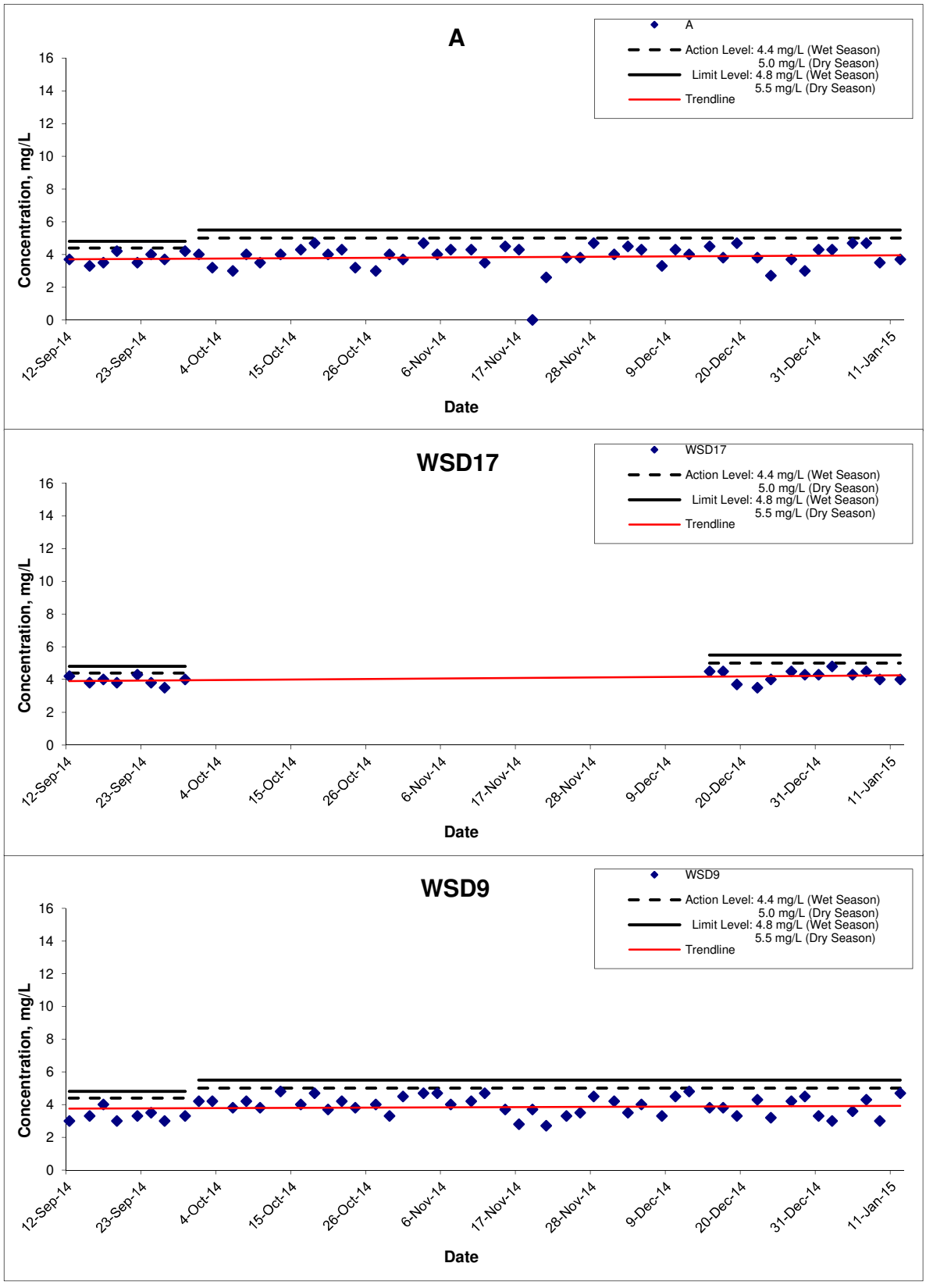
Suspended Solids (Depth-averaged) at Mid-Flood Tide



Remarks: The graphical point at zero concentration is presented as <2.5 mg/L

Title: Shatin to Central Link – Contract 11227 Advance Works for NSL Cross Harbour Tunnels Graphical Presentation of Water Quality Monitoring Results (Victoria Harbour)	Scale: N.T.S	Project No.: MA14028	CINOTECH
	Date: Jan 15	Appendix: D	

Suspended Solids (Depth-averaged) at Mid-Flood Tide



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	Date: Jan 15	Appendix: D	

APPENDIX E
COPIES OF CALIBRATION CERTIFICATES

WELLAB 匯力 Testing & Research

WELLAB LIMITED
Rms 816, 1516 & 1701, Technology Park,
18 On Lai Street, Shatin, N.T, Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W.K. Tang**

Test Report No.:	C/W/141031-1
Date of Issue:	2014-10-31
Date Received:	2014-10-31
Date Tested:	2014-10-31
Date Completed:	2014-10-31
Next Due Date:	2015-01-30
Page:	1 of 2

Certificate of Calibration

Item for calibration:

Description	: Sonde Environmental Monitoring System
Manufacturer	: YSI
Model No.	: 6820-C-M
Serial No.	: 02D0126AA
Equipment No.	: W.03.01

Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 56%

Test Specifications:

Conductivity & Salinity Sensor, Model: 6560, L/N: 11J100025
1. Conductivity performance check with Potassium Chloride standard solution
2. Salinity performance check with Sodium Chloride standard solution

Dissolved Oxygen Sensor, Model: 6562, L/N: 07E100029
1. Performance check against Winkler titration

Turbidity Sensor, Model: 6136, S/N: 12B100900
1. Calibration check with Formazin standard solution

pH Meter, Model: 6561, L/N: 11H
1. Calibration check with standard pH buffer

Depth Meter
1. Calibration check at 1m water level depth

Methodologies:

1. YSI 6-Series Sonde Environmental Monitoring System Instruction Manual
2. In-house method with reference to APHA and ISO standards
   Conductivity (APHA 20ed 2510), Salinity (APHA 20ed 2520B)
   Dissolved Oxygen (APHA 20ed 4500-O C), Turbidity (APHA 19ed 2130 B),
   pH (APHA 19th 4500-H+ B)

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

WELLAB 匯力 Testing & Research

WELLAB LIMITED
Rms 816, 1516 & 1701, Technology Park,
18 On Lai Street, Shatin, N.T, Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

Test Report No.:	C/W/141031-1
Date of Issue:	2014-10-31
Date Received:	2014-10-31
Date Tested:	2014-10-31
Date Completed:	2014-10-31
Next Due Date:	2015-01-30
Page:	2 of 2

Results:

1. Conductivity performance check

Specific Conductivity, µS/cm		Correction, µS/cm	Acceptable range
Salinity Meter (C1)	Theoretical Value (C2)	D = C1 - C2	
1420	1420	0	1420 ± 20

2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.0	30.0	0.0	30.0 ± 3

3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O_2/L		Correction, mg O_2/L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.1	9.1	0.0	± 0.2
Half-saturated	5.6	5.6	0.0	± 0.2
Zero	0.0	0.0	0.0	± 0.2

4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range
0.00	0.00	0.00	0.00 ± 0.05
100	100	0	100 ± 5
1000	1000	0	1000 ± 100

5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error ΔpH_j , pH unit	0.01	Less than 0.05
Shift on stirring ΔpH_s , pH unit	0.01	Less than 0.02
Noise ΔpH_n , pH unit	0.00	Less than 0.02

6. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range
1.0	1.00	0.00	1.00 ± 0.05

**********END OF REPORT**********

WELLAB LIMITED
Rms 816, 1516 & 1701, Technology Park,
18 On Lai Street, Shatin, N.T, Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/W/141212-1
Date of Issue:	2014-12-12
Date Received:	2014-12-12
Date Tested:	2014-12-12
Date Completed:	2014-12-12
Next Due Date:	2015-03-11

ATTN: **Mr. W.K. Tang**

Certificate of Calibration

Item for calibration:

Description	: Sonde Environmental Monitoring System
Manufacturer	: YSI
Model No.	: 6820-C-M
Serial No.	: 12B100803
Equipment No.	: W.03.12

Test conditions:

Room Temperature	: 21 degree Celsius
Relative Humidity	: 58%

Test Specifications:

Conductivity & Salinity Sensor, Model: 6560, L/N: 12B10055
1. Conductivity performance check with Potassium Chloride standard solution
2. Salinity performance check with Sodium Chloride standard solution

Dissolved Oxygen Sensor, Model: 6562, L/N: 12A100930
1. Performance check against Winkler titration

Turbidity Sensor, Model: 6136, S/N: 12B100644
1. Calibration check with Formazin standard solution

pH Meter, Model: 6561, L/N: 11H
1. Calibration check with standard pH buffer

Depth Meter
1. Calibration check at 1m water level depth

Methodologies:

1. YSI 6-Series Sonde Environmental Monitoring System Instruction Manual
2. In-house method with reference to APHA and ISO standards
   Conductivity (APHA 20ed 2510), Salinity (APHA 20ed 2520B)
   Dissolved Oxygen (APHA 20ed 4500-O C), Turbidity (APHA 19ed 2130 B),
   pH (APHA 19th 4500-H+ B)

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

WELLAB 匯力 Testing & Research

WELLAB LIMITED
Rms 816, 1516 & 1701, Technology Park,
18 On Lai Street, Shatin, N.T, Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

Test Report No.:	C/W/141212-1
Date of Issue:	2014-12-12
Date Received:	2014-12-12
Date Tested:	2014-12-12
Date Completed:	2014-12-12
Next Due Date:	2015-03-11
Page:	2 of 2

Results:

1. Conductivity performance check

Specific Conductivity, µS/cm		Correction, µS/cm	Acceptable range
Salinity Meter (C1)	Theoretical Value (C2)	D = C1 - C2	
1420	1420	0	1420 ± 20

2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.0	30.0	0	30.0 ± 3

3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O_2/L		Correction, mg O_2/L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.0	9.0	0.0	± 0.2
Half-saturated	5.8	5.8	0.0	± 0.2
Zero	0.0	0.0	0.0	± 0.2

4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range
0.00	0.00	0.00	0.00 ± 0.05
100	100	0	100 ± 5
1000	1000	0	1000 ± 100

5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error ΔpH_j , pH unit	0.01	Less than 0.05
Shift on stirring ΔpH_s , pH unit	0.01	Less than 0.02
Noise ΔpH_n , pH unit	0.00	Less than 0.02

6. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range
1.0	1.00	0.00	1.00 ± 0.05

**********END OF REPORT**********

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W.K. Tang**

Test Report No.:	C/W/141121-3
Date of Issue:	2014-11-21
Date Received:	2014-11-21
Date Tested:	2014-11-21
Date Completed:	2014-11-21
Next Due Date:	2015-02-20
Page:	1 of 2

Certificate of Calibration

Item for calibration:

Description	: Multiparameter Water Quality Probe
Manufacturer	: Aquaread Ltd
Model No.	:AP-2000-D
Serial No.	: 122430520
Equipment No.	: W.18.08

Test conditions:

Room Temperature	: 22 degree Celsius
Relative Humidity	: 64%

Test Specifications:

Dissolved Oxygen, Conductivity & Salinity Sensor,
1. Performance check against Winkler titration
2. Conductivity performance check with Potassium Chloride standard solution
3. Salinity performance check with Sodium Chloride standard solution

Turbidity Sensor, Batch: 12213
1. Calibration check with Formazin standard solution

pH / ORP electrode, Batch: 11933
1. Calibration check with standard pH buffer
2. Redox performance check with ZoBell's standard solution

Depth Meter
1. Calibration check at 1m water level depth

Methodologies:

1. Aquaprobe AP-2000 Manual
2. In-house method with reference to APHA and ISO standards
   Conductivity (APHA 20ed 2510), Salinity (APHA 20ed 2520B)
   Dissolved Oxygen (APHA 20ed 4500-O C), Turbidity (APHA 19ed 2130 B),
   pH (ISO 10523, Section 9.1 and APHA 19ed 4500-H+ B) ,
   Redox electrode (APHA 20ed 2580)

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

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TEST REPORT

Test Report No.:	C/W/141121-3
Date of Issue:	2014-11-21
Date Received:	2014-11-21
Date Tested:	2014-11-21
Date Completed:	2014-11-21
Next Due Date:	2015-02-20
Page:	2 of 2

Results:

1. Conductivity performance check

Specific Conductivity, µS/cm		Correction, µS/cm	Acceptable range
Instrument Reading	Theoretical Value		
1420	1420	0	1420 ± 20

2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.0	30.0	0.0	30.0 ± 3

3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O_2/L		Correction, mg O_2/L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.1	9.1	0.0	± 0.2
Half-saturated	5.6	5.6	0.0	± 0.2
Zero	0.0	0.0	0.0	± 0.2

4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range
0.00	0.00	0.00	0.00 ± 0.05
100	100	0	100 ± 5
1000	1000	0	1000 ± 100

5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error ΔpH_j, pH unit	0.01	Less than 0.05
Shift on stirring ΔpH_s, pH unit	0.01	Less than 0.02
Noise ΔpH_n, pH unit	0.00	Less than 0.02

6. Redox Meter check

Redox, mV		Acceptable range
Instrument Reading	Theoretical Value	
228	229	229±10

7. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range
1.0	1.00	0.00	1.00 ± 0.05

**********END OF REPORT**********

APPENDIX F
QUALITY CONTROL REPORTS FOR SS LABORATORY ANALYSIS

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TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21639
Date of Issue:	2014/12/18
Date Received:	2014/12/17
Date Tested:	2014/12/17
Date Completed:	2014/12/18
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2014/12/17
Number of Sample: 104
Custody No.: MA14028/141217

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3sf	8	8	0	100

**********END OF REPORT**********

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

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Website: www.wellab.com.hk

TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21653
Date of Issue:	2014/12/22
Date Received:	2014/12/19
Date Tested:	2014/12/19
Date Completed:	2014/12/22
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2014/12/19
Number of Sample: 104
Custody No.: MA14028/141219

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3sf	8	8	0	99

**********END OF REPORT**********

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick Tse

PATRICK TSE
Laboratory Manager

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Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21660
Date of Issue:	2014/12/23
Date Received:	2014/12/22
Date Tested:	2014/12/22
Date Completed:	2014/12/23
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2014/12/22
Number of Sample: 104
Custody No.: MA14028/141222

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3sf	7	7	3	113

**********END OF REPORT**********

PREPARED AND CHECKED BY:
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Website: www.wellab.com.hk

TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21677
Date of Issue:	2014/12/29
Date Received:	2014/12/24
Date Tested:	2014/12/24
Date Completed:	2014/12/29
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2014/12/24
Number of Sample: 104
Custody No.: MA14028/141224

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3sf	9	8	4	102

**********END OF REPORT**********

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

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TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21683
Date of Issue:	2014/12/29
Date Received:	2014/12/27
Date Tested:	2014/12/27
Date Completed:	2014/12/29
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2014/12/27
Number of Sample: 104
Custody No.: MA14028/141227

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3sf	7	7	1	98

**********END OF REPORT**********

PREPARED AND CHECKED BY:
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PATRICK TSE
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Website: www.wellab.com.hk

TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21690
Date of Issue:	2014/12/30
Date Received:	2014/12/29
Date Tested:	2014/12/29
Date Completed:	2014/12/30
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2014/12/29
Number of Sample: 104
Custody No.: MA14028/141229

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3sf	10	10	1	101

**********END OF REPORT**********

PREPARED AND CHECKED BY:
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Website: www.wellab.com.hk

TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21715
Date of Issue:	2015/01/02
Date Received:	2014/12/31
Date Tested:	2014/12/31
Date Completed:	2015/01/02
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2014/12/31
Number of Sample: 104
Custody No.: MA14028/141231

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3sf	6	5	4	101

**********END OF REPORT**********

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick Tse

PATRICK TSE
Laboratory Manager

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Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21727
Date of Issue:	2015/01/05
Date Received:	2015/01/02
Date Tested:	2015/01/02
Date Completed:	2015/01/05
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2015/01/02
Number of Sample: 104
Custody No.: MA14028/150102

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C4sf	7	7	3	95

**********END OF REPORT**********

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
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TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21734
Date of Issue:	2015/01/06
Date Received:	2015/01/05
Date Tested:	2015/01/05
Date Completed:	2015/01/06
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2015/01/05
Number of Sample: 104
Custody No.: MA14028/150105

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3sf	4	4	1	99

**********END OF REPORT**********

PREPARED AND CHECKED BY:
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PATRICK TSE
Laboratory Manager

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TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21751
Date of Issue:	2015/01/08
Date Received:	2015/01/07
Date Tested:	2015/01/07
Date Completed:	2015/01/08
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2015/01/07
Number of Sample: 104
Custody No.: MA14028/150107

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3sf	4	4	2	100

**********END OF REPORT**********

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

WELLAB 匯力 Testing & Research

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TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21768
Date of Issue:	2015/01/12
Date Received:	2015/01/09
Date Tested:	2015/01/09
Date Completed:	2015/01/12
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2015/01/09
Number of Sample: 104
Custody No.: MA14028/150109

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3sf	5	4	6	102

**********END OF REPORT**********

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick Tse

PATRICK TSE
Laboratory Manager

WELLAB LIMITED
Rms 816, 1516 & 1701, Technology Park,
18 On Lai Street, Shatin, N.T, Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21776
Date of Issue:	2015/01/13
Date Received:	2015/01/12
Date Tested:	2015/01/12
Date Completed:	2015/01/13
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2015/01/12
Number of Sample: 104
Custody No.: MA14028/150112

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C4sf	6	6	3	103

**********END OF REPORT**********

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

WELLAB 匯力 Testing & Research

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Website: www.wellab.com.hk

TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21787
Date of Issue:	2015/01/15
Date Received:	2015/01/14
Date Tested:	2015/01/14
Date Completed:	2015/01/15
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2015/01/14
Number of Sample: 36
Custody No.: MA14028/150114

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C4sf	8	8	2	101

**********END OF REPORT**********

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

WELLAB 匯力 Testing & Research

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TEST REPORT

QC REPORT

APPLICANT: Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Laboratory No.:	21803
Date of Issue:	2015/01/19
Date Received:	2015/01/16
Date Tested:	2015/01/16
Date Completed:	2015/01/19
Page:	1 of 1

ATTN: Ms. Mei Ling Tang

Project Name: Shatin to Central Link - Contract No.11227
Advance Works for NSL Cross Harbour Tunnels
Sampling Date: 2015/01/16
Number of Sample: 32
Custody No.: MA14028/150116

****

Total Suspended Solids	Duplicate Analysis			QC Recovery, %
Sampling Point	Trial 1, mg/L	Trial 2, mg/L	Difference, %	
C3mf	6	6	4	98

**********END OF REPORT**********

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick Tse

PATRICK TSE
Laboratory Manager

APPENDIX G
UPDATED ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

SCL Works Contract 11227 - Environmental Mitigation Implementation Schedule

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
Ecology (Construction Phase)							
S5.134	Accidental chemical spillage and construction site run-off to the receiving water bodies, mitigation measures such as removing the pollutants before discharge into storm drain and paving the section of construction road between the wheel washing bay and the public road as suggested in Sections 11.216and 11.219 to 11.256 of the EIA Report shall be adopted	Minimise the contamination of wastewater discharge	Contractor	All land based works areas	Construction phase	• EIAO-TM	^
ERR S3.6.3	Installation of floating type silt curtains around the area of site levelling works and construction and removal of earth bund.	Minimize indirect impact to the nearby subtidal and intertidal flora and fauna	Contractor	Shek O Casting Basin	Construction phase	• EIAO-TM	*
Fisheries Impact							
S6.57	The size of the dredging and underwater blasting areas shall be minimized as much as possible	To minimize loss of fishing ground and fisheries resources	Contractor/ MTR	All dredging and underwater blasting works areas	Construction phase	• EIAO-TM	^
S6.57	Mitigation measures recommended in Sections 11.200 to 11.207, 11.209 to 11.211 and 11.213 to 11.256 of the EIA Report to control water quality, i.e. use of effective site drainage in land-based construction site and installation of silt curtain surrounding the dredging point, use of closed grab dredger and reduction of dredging rate shall be implemented.	To minimize change in water quality impact on fisheries resources and operation	Contractor	Works Areas	Construction phase	• EIAO-TM	^

SCL Works Contract 11227 - Environmental Mitigation Implementation Schedule

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
Landscape & Visual (Construction Phase)							
Table 7.9	CM3 - Control of night-time lighting glare	Minimize the night time glare due to the Project during construction phase	MTR	All works sites	Construction phase	• EIAO-TM	^
Table 7.9	CM5 - Management of facilities on work sites which give control on the height and disposition/arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs.	Control of height and deposition/arrangement of temporary facilities in works areas	MTR	All works sites	Construction phase	• EIAO-TM	^
Construction Dust Impact							
EP 2.25	All diesel fuelled construction plant used by the contractors within the works areas of the Project shall be powered by ultra low sulphur diesel fuel.	Mitigating Aerial Emissions from Construction Plant	Contractor	All works areas	Construction phase	• EIAO-TM	^
Construction Noise (Airborne)							
S9.55	The following good site practices shall be implemented: •Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program • Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the	Minimize construction noise impact	Contractor	All works areas	Construction phase	• EIAO-TM	^ ^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	construction program ・Mobile plant, if any, shall be sited as far from NSRs as possible ・Machines and plant (such as trucks) that may be in intermittent use shall be shut down between work periods or shall be throttled down to a minimum ・Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs ・Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.						^ ^ ^ ^
Water Quality (Construction Phase)							
S11.204	No more than one closed grab dredger shall be operated outside the CBTS in the open harbor for SCL construction.	To minimize loss of fines and contaminants from dredging in the Victoria Harbour	Contractor	Marine works areas in Victoria Harbour	Construction phase	・EIAO-TM ・WPCO	^
Table 11.23	Silt screens shall be installed at the WSD Flushing Water Intakes at Kowloon Station, Tai Wan, Quarry Bay and Wan Chai (namely Intakes 14, WSD9, WSD17 and A respectively) during any dredging / filling works outside the CBTS for	To protect the beneficial use of flushing water intakes in Victoria Harbour from dredging / filling	Contractor	Flushing water intake points in Victoria Harbour	Construction phase	・EIAO-TM ・WPCO	N/A

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	temporary reclamation at SCL2 or for IMT construction	activities					
S11.210 - S11.211 & Table 11.24	If the marine works for SCL are to be carried out concurrently with other dredging / filling activities in the Victoria Harbour, the production rates of any dredging / filling work to be undertaken outside the CBTS for SCL construction in the open harbour (including temporary reclamation at SCL2 and IMT construction) shall not exceed 2,500 m^3 per day at any time throughout the entire construction period. The hourly production rate for dredging or bulk filling within the open Victoria Harbour (outside the breakwater of CBTS) shall not exceed 156 m^3 per hour (if there are other concurrent marine works in Victoria Harbour) and the maximum working hour for the dredging / bulkfilling works shall be 16 hours per day. If the marine works for SCL are to be carried out with no other concurrent dredging / filling activities in the Victoria Harbour, the production rates of any dredging / filling work to be undertaken outside the CBTS for SCL construction in the open harbour (including temporary reclamation at SCL2 and IMT construction) shall not exceed 4,500 m^3 per day at any time throughout the entire construction period. The hourly	To minimize loss of fines and contaminants from dredging / filling in the Victoria Harbour	Contractor	Marine works areas in Victoria Harbour	Construction phase	Construction phase	^ ^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	production rate for dredging or bulk filling within the open Victoria Harbour (outside the breakwater of CBTS) shall not exceed 281 m^3 per hour (if there is no other concurrent marine works in Victoria Harbour) and the maximum working hour for the dredging / bulk filling works shall be 16 hours per day.						
S11.215	The following good site practices shall be undertaken during dredging: • mechanical grabs, if used, shall be designed and maintained to avoid spillage and sealed tightly while being lifted; • all vessels shall be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; • all hopper barges and dredgers shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material; • construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds; • loading of barges and hoppers shall be controlled to	To minimize loss of fines and contaminants from dredging / filling	Contractor	Marine works areas	Construction phase	• EIAO-TM • WPCO	^ ^ ^ ^ ^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	prevent splashing of dredged material into the surrounding water. Barges or hoppers shall not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation; • before commencement of the temporary reclamation works, the holder of the Environmental Permit shall submit plans showing the phased construction of the reclamation, design and operation of the silt curtain.						N/A
S11.216	The following mitigation measures are proposed to minimize the potential water quality impacts from the construction works at or close to the seafront: • Temporary storage of construction materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction and demolition materials shall be located well away from the seawater front and storm drainage during carrying out of the works. • Stockpiling of construction and demolition materials and dusty materials shall be covered and located away from the seawater front and storm drainage. • Construction debris and spoil shall be covered up and/or disposed of as soon as possible to avoid being washed into the	minimize release of construction wastes from construction works at or close to the seafront	Contractor	Construction works at or close to the seafront	Construction phase	• EIAO-TM • WPCO	* * ^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	nearby receiving waters.						
S11.218	Silt screens are recommended to be deployed at the seawater intakes during the construction works period. Regular maintenance of the silt screens and refuse collection shall be performed at the silt screens at regular intervals on a daily basis. The Contractor shall be responsible for keeping the water behind the silt screen free from floating rubbish and debris during the impact monitoring period.	To avoid the pollutant and refuse entrapment problems at the silt screens to be installed at the water intakes	Contractor	Proposed silt screens at water intakes.	Construction phase	• EIAO-TM • WPCO	^
S11.219	It is recommended that collection and removal of floating refuse shall be performed within the marine construction areas at regular intervals on a daily basis. The Contractor shall be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish during the dredging works.	To minimize water quality impacts from illegal dumping and littering from marine vessels and runoff from the coastal area	Contractor	Marine works area	Construction phase	• EIAO-TM • WPCO • WDO	*
S11.246 & 11.247	Construction work force sewage discharges on site are expected to be discharged to the nearby existing trunk sewer or sewage treatment facilities. If disposal of sewage to public sewerage system is not feasible, appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment.	minimize water quality impacts due to sewage generated from construction workforce	Contractor	All works areas	Construction phase	• EIAO-TM • WPCO • TM-DSS • WDO	^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	The Contractor shall also be responsible for waste disposal and maintenance practices. Notices shall be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.						^
S11.254	Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation shall be observed and complied with for control of chemical wastes.	minimize water quality impact from accidental spillage of chemical	Contractor	All construction works areas	Construction phase	• EIAO-TM • WPCO • TM-DSS • WDO	N/A
S11.255	Any service shop and maintenance facilities shall be located on hard standings within a bunded area, and sumps and oil interceptors shall be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage shall only be undertaken within the areas appropriately equipped to control these discharges.	minimize water quality impact from accidental spillage of chemical	Contractor	All construction works areas	Construction phase	• EIAO-TM • WPCO • TM-DSS • WDO	*
S11.256	Disposal of chemical wastes shall be carried out in compliance with the Waste Disposal Ordinance. The “Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes”	minimize water quality impact from accidental spillage of chemical	Contractor	All construction works areas	Construction phase	• EIAO-TM • WPCO • TM-DSS	

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: • Suitable containers shall be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. • Chemical waste containers shall be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. • Storage area shall be selected at a safe location on site and adequate space shall be allocated to the storage area.the areas appropriately equipped to control these discharges.					• WDO	^ ^ ^
ERR S 8.5.1	Floating type silt curtains would be installed around the area of site levelling works and construction and removal of earth bund during the respective works.	minimize water quality impact at Shek O Casting Basin	Contractor	Shek O Casting Basin	Construction phase	• WPCO	*
ERR S 8.5.1	Floating type silt curtains would be installed around the entrances of the basin during rock filling works.	minimize water quality impact at Shek O Casting Basin	Contractor	Shek O Casting Basin	Construction phase	• WPCO	*
EP 2.23.3	All fill materials used in marine works at the Basin shall contain no more than 5% fines (aggregates diameter smaller than 63μm) content.	minimize water quality impact at Shek O Casting Basin	Contractor	Shek O Casting Basin	Construction phase	• WPCO	^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
EP 2.23.4	The sea bed levelling works shall not involve any dumping of imported fill materials onto the seabed. The in-situ volume of sea bed materials to be moved during the sea bed leveling works shall not be more than 10,000m^3. If sea bed materials other than coarse sand, cobble and gravel as identified in the previous marine investigation are encountered, alternative leveling methods and/or additional mitigation measures shall be proposed for the approval of the Director before the works can proceed. The silt curtain shall be properly installed prior to the commencement of sea bed leveling works, and if necessary, double silt curtains shall be deployed to ensure full enclosure of the leveling works at all times to prevent the escape of sediment to water column outside the silt curtains.	minimize water quality impact at Shek O Casting Basin	Contractor	Shek O Casting Basin	Construction phase	• WPCO	^
EP 2.23.5	The filling of the southern part of the Basin shall be carried out using rocks or coarse aggregates with diameters between 20mm and 200mm and with no more than 5% fines (aggregates with diameter smaller than 63μm) content, up to a level not higher than -12mPD. The maximum filling rate shall be no more than 4,500m^3/day.	minimize water quality impact at Shek O Casting Basin	Contractor	Shek O Casting Basin	Construction phase	• WPCO	^
Waste Management (Construction Waste)							
S12.75	***Good Site Practices and Waste Reduction Measures***	reduce waste management	Contractor	All works sites	Construction	• Waste Disposal	

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	- Prepare a Waste Management Plan (WMP) approved by the Engineer/Supervising Officer of the Project based on current practices on construction sites; - Training of site personnel in, site cleanliness, proper waste management and chemical handling procedures; - Provision of sufficient waste disposal points and regular collection of waste; - Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; - Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and - Separation of chemical wastes for special handling and appropriate treatment.	impacts			phase	Ordinance (Cap. 354) • Land (Miscellaneous Provisions) Ordinance (Cap. 28) • DEVB TCW No. 6/2010	^ ^ ^ ^ ^ ^
S12.76	***Good Site Practices and Waste Reduction Measures (Con't)*** - Sorting of demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions (i.e. soil, broken concrete, metal etc.); - Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or	achieve waste reduction	Contractor	All works sites	Construction phase	• Waste Disposal Ordinance (Cap. 354) • Land (Miscellaneous Provisions) Ordinance (Cap.	^ ^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	recycling of materials and their proper disposal; - Encourage collection of aluminum cans by providing separate labeled bins to enable this waste to be segregated from other general refuse generated by the workforce; - Proper storage and site practices to minimize the potential for damage or contamination of construction materials; - Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; and - Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.					28)	^ ^ ^ ^
S12.77	***Good Site Practices and Waste Reduction Measures (Con't)*** - The Contractor shall prepare and implement a WMP as part of the EMP in accordance with ETWBTCW No. 19/2005 which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities. Such a management plan shall	achieve waste reduction	Contractor	All works sites	Construction phase	• ETWB TCW No. 19/2005	^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP shall be submitted to the Engineer for approval. The Contractor shall implement the waste management practices in the EMP throughout the construction stage of the Project. The EMP shall be reviewed regularly and updated by the Contractor, preferably in a monthly basis.						^
S12.78	C&D materials would be reused in other local concurrent projects as far as possible. If all reuse outlets are exhausted during the construction phase, the C&D materials would be disposed of at Taishan, China as a last resort.	achieve waste reduction	Contractor	All works sites	Construction phase	• ETWB TCW No. 19/2005	^
S12.79	***Storage, Collection and Transportation of Waste*** Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include: - Waste, such as soil, shall be handled and stored well to ensure secure containment, thus minimizing the potential of pollution; - Maintain and clean storage areas routinely; - Stockpiling area shall be provided with covers and water	minimize potential adverse environmental impacts arising from waste storage	Contractor	All works sites	Construction phase	-	^ ^ ^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	spraying system to prevent materials from wind-blown or being washed away; and - Different locations shall be designated to stockpile each material to enhance reuse						^
S12.80	***Storage, Collection and Transportation of Waste (Con't)*** Waste haulier with appropriate permits shall be employed by the Contractor for the collection and transportation of waste from works areas to respective disposal outlets. The following suggestions shall be enforced to minimize the potential adverse impacts: - Remove waste in timely manner - Waste collectors shall only collect wastes prescribed by their permits - Impacts during transportation, such as dust and odour, shall be mitigated by the use of covered trucks or in enclosed containers - Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28)	minimize potential adverse environmental impacts arising from waste collection and disposal	Contractor	All works sites	Construction phase	-	^ ^ ^ ^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	- Waste shall be disposed of at licensed waste disposal facilities - Maintain records of quantities of waste generated, recycled and disposed						^ ^
S12.81	***Storage, Collection and Transportation of Waste (Con't)*** - Implementation of trip ticket system with reference to DevB TC(W) No.6/2010 to monitor disposal of waste and to control fly-tipping at PFRFs or landfills. A recording system for the amount of waste generated, recycled and disposed (including disposal sites) shall be proposed	minimize potential adverse environmental impacts arising from waste collection and disposal	Contractor	All works sites	Construction phase	• DEVB TCW No. 6/2010	^
S12.83 – 12.86	***Sorting of C&D Materials*** - Sorting to be performed to recover the inert materials, reusable and recyclable materials before disposal off-site. - Specific areas shall be provided by the Contractors for sorting and to provide temporary storage areas for the sorted materials. - The C&D materials shall at least be segregated into inert and non-inert materials, in which the inert portion could be reused and recycled as far as practicable before delivery to PFRFs as mentioned for beneficial use in other projects. While opportunities for reusing the non-inert portion shall be	minimize potential adverse environmental impacts during the handling, transportation and disposal of C&D materials	Contractor	All works sites	Construction phase	• DEVB TCW No. 6/2010 • ETWB TCW No. 33/2002 • ETWB TCW No. 19/2005	^ ^ ^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	investigated before disposal of at designated landfills. - Possibility of reusing the spoil in the Project will be continuously investigated in the detailed design and construction stages, it includes backfilling to cut and cover construction works for the Hung Hom south and north approach						^
S12.88	***Sediments*** *The basic requirements and procedures for excavated / dredged sediment disposal specified under ETWB TC(W) No. 34/2002 shall be followed. MFC is managing the disposal facilities in Hong Kong for the dredged and excavated sediment, while EPD is the authorityof issuing marine dumping permit under the Dumping at Sea Ordinance*	To ensure the sediment to be disposed of in an authorized and least impacted way	Contractor	All works areas with sediments concern	Construction Phase	ETWB TC(W) No. 34/2002 & Dumping at Sea Ordinance	^
S12.89	***Sediments*** The contractor for the excavation / dredging works shall apply for the site allocations of marine sediment disposal based on the prior agreement with MFC/CEDD. A request for reservation of sediment disposal space have been submitted to MFC for onward discussions of disposal approach and feasible disposal sites and the letter is attached in Appendix 12.6. The Project proponent shall also be responsible for the application of all	To determine the best handling and disposal option of the sediments	Contractor	All works areas with sediments concern	Construction Phase	ETWB TC(W) No. 34/2002 & Dumping at Sea Ordinance	^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	necessary permits from relevant authorities, including the dumping permit as required under DASO from EPD, for the disposal of dredged and excavated sediment prior to the commencement of the excavation works.						
S12.91-12.94	***Sediments*** - Stockpiling of contaminated sediments shall be avoided as far as possible. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment shall be covered by tarpaulin and the area shall be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and/or surrounding water bodies. The stockpiling areas shall be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas shall be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, shall be collected and discharged according to the Water Pollution Control Ordinance (WPCO). - In order to minimise the potential odour / dust emissions during excavation and transportation of the sediment, the excavated sediments shall be wetted during excavation /	To ensure handling of sediments are in accordance to statutory requirements	Contractor	Work Sites, Sediment disposal sites	Construction Phase	ETWB TC(W) No. 34/2002 & Dumping at Sea Ordinance	^ ^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	material handling and shall be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water. - The barge transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic selfmonitoring devices as specified by the DEP. - In order to minimise the exposure to contaminated materials, workers shall, when necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities shall also be provided on site.						^ ^
S12.95	***Sediments*** A possible arrangement for Type 3 disposal is by geosynthetic	To ensure handling of sediments are in	Contractor	Work Sites, Sediment	Construction Phase	ETWB TC(W) No. 34/2002 &	N/A

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	containment. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, at the disposal site, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping, thereby meeting the requirements for fully confined mud disposal. The technology is readily available for the manufacture of the geosynthetic containers to the project-specific requirements. Similar disposal methods have been used for projects in Europe, the USA and Japan and the issues of fill retention by the geosynthetic fabrics, possible rupture of the containers and sediment loss due to impact of thecontainer on the seabed have been addressed.	accordance to statutory requirements		disposal sites		Dumping at Sea Ordinance	
S12.97	***Containers for Storage of Chemical Waste*** The Contractor shall register with EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Containers used for storage of chemical waste shall: - Be compatible with the chemical wastes being stored, maintained in good condition and securely sealed; - Have a capacity of less than 450 litters unless the	register with EPD as a Chemical waste producer and store chemical waste in appropriate containers	Contractor	All works sites	Construction phase	• Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes	* ^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	specifications have been approved by EPD; and - Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Waste Disposal (Chemical Waste) (General) Regulation						^
S12.98	***Chemical Waste Storage Area*** - Be clearly labeled to indicate corresponding chemical characteristics of the chemical waste and used for storage of chemical waste only; - Be enclosed on at least 3 sides; - Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; - Have adequate ventilation; - Be covered to prevent rainfall from entering; and - Be properly arranged so that incompatible materials are adequately separated.	prepare appropriate storage areas for chemical waste at works areas	Contractor	All works sites	Construction phase	• Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes	N/A N/A N/A N/A N/A N/A
S12.98	***Chemical Waste*** - Lubricants, waste oils and other chemical wastes would be generated during the maintenance of vehicles and mechanical equipments. Used lubricants shall be collected and stored in	clearly label the chemical waste at works areas	Contractor	All works sites	Construction phase	• Code of Practice on the Packaging, Labelling and	^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	individual containers which are fully labelled in English and Chinese and stored in a designated secure place.					Storage of Chemical Wastes	
S12.100	***Collection and Disposal of Chemical Waste*** A trip-ticket system shall be operated in accordance with the Waste Disposal (Chemical Waste) (General) Regulation to monitor all movements of chemical waste. The Contractor shall employ a licensed collector to transport and dispose of the chemical wastes, to either the approved CWTC at Tsing Yi, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation	To monitor the generation, reuse and disposal of chemical waste	Contractor	All works sites	Construction phase	• Waste Disposal (Chemical Waste) (General) Regulation	N/A
S12.101	***General Refuse*** General refuse shall be stored in enclosed bins or compaction units separate from C&D materials and chemical waste. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D materials and chemical wastes. Preferably, an enclosed and covered area shall be provided to reduce the occurrence of wind-blown light material.	properly store and separate from other C&D materials for subsequent collection and disposal	Contractor	All works sites	Construction phase	-	*
S12.102	The recyclable component of general refuse, such as aluminum cans, paper and cleansed plastic containers shall be separated from other waste. Provision and collection of	facilitate recycling of recyclable portions of refuse	Contractor	All works sites	Construction phase	-	^

EIA Ref.	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
	recycling bins for different types of recyclable waste shall be set up by the Contractor. The Contractor shall also be responsible for arranging recycling companies to collect these materials.						
S12.102	The Contractor shall carry out an education programme for workers in avoiding, reducing, reusing and recycling of materials generation. Posters and leaflets advising on the use of the bins shall also be provided in the sites as reminders	raise workers' awareness on recycling issue	Contractor	All works sites	Construction phase	-	^

Remarks: ^ Compliance of mitigation measure X Non-compliance of mitigation measure

• Non-compliance but rectified by the contractor

* Observation/reminder was made during site audit but improved/rectified by the contractor.

N/A Not Applicable

APPENDIX H
WASTE GENERATION IN THE CONSTRUCTION PERIOD

Monthly Summary Waste Flow Table for Year 2014

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000kg)	('000kg)	('000kg)	('000kg)	('000m^3)
August	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
September	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
October	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
November	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
December	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***
Total	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.001**	**0.000**