

**Contract No. HY/2012/08
Tuen Mun – Chek Lap Kok Link –
Northern Connection Sub-sea Tunnel
Section**

*Seventy-first Monthly Environmental Monitoring
& Audit (EM&A) Report*

15 October 2019

Environmental Resources Management
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Ref.: HYDHZMBEEM00_0_7702L.19

16 October 2019

By Fax (2293 6300) and By Post

AECOM Asia Co. Ltd.
Supervising Officer Representative's Office
No.8 Mong Fat Street, Tuen Mun, New Territories, Hong Kong

Attention: Messrs. Andy Westmoreland / Roger Man

Dear Sirs,

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


**Contract No. HY/2012/08
TM-CLKL – Northern Connection Sub-sea Tunnel Section
71st Monthly EM&A Report for September 2019 (EP-354/2009/D)**

Reference is made to the Monthly EM&A Report for September 2019 (ET's ref.: "0212330_71st Monthly EM&A_20191015.doc") certified by the ET Leader and provided to us via e-mail on 16 October 2019.

Please be informed that we have no adverse comments on the captioned Report. We write to verify the captioned submission in accordance with Condition 4.4 of EP-354/2009/D.

Thank you for your attention. Please do not hesitate to contact the undersigned or the ENPO Leader Mr. Y. H. Hui should you have any queries.

Yours sincerely,



F. C. Tsang
Independent Environmental Checker
Tuen Mun – Chek Lap Kok Link

c.c.

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HyD	Mr. Cheng Pan	(By Fax: 3188 6614)
AECOM	Mr. Conrad Ng	(By Fax: 3922 9797)
ERM	Dr. Jasmine Ng	(By Fax: 2723 5660)
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Internal: DY, YH, DF, ENPO Site

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Contract No. HY/2012/08

Tuen Mun – Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section

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Seventy-first Monthly Environmental Monitoring & Audit (EM&A) Report

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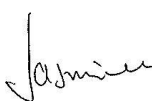


Client: DBJV		Project No: 0212330			
Summary: This document presents the Seventy-first Monthly EM&A Report for Tuen Mun – Chek Lap Kok Link Northern Connection Sub-sea Tunnel Section.		Date: 15 October 2019			
		Approved by: 			
		Mr Craig Reid Partner			
		Certified by: 			
		Dr Jasmine Ng ET Leader			
	71 st Monthly EM&A Report	VAR	JN	CAR	15/10/19
Revision	Description	By	Checked	Approved	Date
<p>This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.</p> <p>We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.</p>		<p>Distribution</p> <p><input type="checkbox"/> Internal</p> <p><input checked="" type="checkbox"/> Public</p> <p><input type="checkbox"/> Confidential</p>			
		 			

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EXECUTIVE SUMMARY

Under *Contract No. HY/2012/08*, Dragages – Bouygues Joint Venture (DBJV) is commissioned by the Highways Department (HyD) to undertake the design and construction of the Northern Connection Sub-sea Tunnel Section of the Tuen Mun – Chek Lap Kok Link Project (TM-CLK Link Project) while AECOM Asia Company Limited was appointed by HyD as the Supervising Officer. For implementation of the environmental monitoring and audit (EM&A) programme under the Contract, ERM-Hong Kong, Limited (ERM) has been appointed as the Environmental Team (ET) in accordance with *Environmental Permit No. EP-354/2009/A*. Ramboll Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO). Subsequent applications for variation of environmental permits (VEP), *EP-354/2009/B*, *EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

The construction phase of the Contract commenced on 1 November 2013 and will tentatively be completed by the end of 2019. The impact monitoring of the EM&A programme, including air quality, water quality, marine ecological monitoring and environmental site inspections, were commenced on 1 November 2013.

This is the Seventy-first Monthly EM&A report presenting the EM&A works carried out during the period from 1 to 30 September 2019 for the *Contract No. HY/2012/08 Northern Connection Sub-sea Tunnel Section* (the “Contract”) in accordance with the Updated EM&A Manual of the TM-CLK Link Contract. As informed by the Contractor, major activities in the reporting period included:

Land-based Works

- Construction of Thermal barrier – TBM tunnel;
- Construction of Walkway Corbel & Cover – TBM Tunnel;
- Road & Drainage works – Portion N-A
- RC structure – Portion S-A;
- Backfilling – Portion S-A & S-C;

Marine-based Works

- Seawall Modification Works – Portion S-B

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

24-hour TSP Monitoring	10 sessions
1-hour TSP Monitoring	10 sessions
Water Quality Monitoring	13 sessions
Impact Dolphin Monitoring	2 sessions
Joint Environmental Site Inspection	4 sessions

Implementation of Marine Mammal Exclusion Zone

Daily marine mammal exclusion zone was in effect during the period of silt curtain installation in open waters under this Contract. No sighting of the Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) was recorded in September 2019 during the exclusion zone monitoring.

Summary of Breaches of Action/Limit Levels

Breaches of Action and Limit Levels for Air Quality

One (1) Limit Level exceedance of 1-hour TSP Monitoring was recorded in the air quality monitoring of this reporting month.

Breaches of Action and Limit Levels for Water Quality

Thirty-five (35) Action Level exceedances for Dissolved Oxygen and One (1) Action Level exceedance for Depth-averaged suspended solids were recorded in the water quality monitoring of this reporting month.

Breaches of Action and Limit Levels for Dolphin Monitoring

Due to monthly variation in dolphin occurrence within the survey area, it would be more appropriate to draw conclusion on whether any unacceptable impacts on dolphins have been detected in relation to the construction activities of this Contract in the quarterly EM&A reports, where comparison on distribution, group size and encounter rates of dolphins between the quarterly impact monitoring period and baseline monitoring period will be made.

Environmental Complaints, Non-compliance & Summons

No non-compliance with EIA recommendations, EP conditions and other requirements associated with the construction of this Contract was recorded in this reporting period.

No environmental complaint was received in this reporting period.

No environmental summons was received in this reporting period.

Reporting Change

As the Seawall Modification Works has commenced on 12 August 2019, water quality monitoring was carried out in this reporting month.

Upcoming Works for the Next Reporting Month

Works to be undertaken in the next monitoring period of October 2019 include the following:

Land-based Works

- Construction of Thermal barrier – TBM tunnel;
- Construction of Walkway Corbel & Cover – TBM Tunnel;
- Road & Drainage works – Portion N-A
- Gantry Crane Removal – Portion N-B
- RC structure – Portion S-A;
- Backfilling – Portion S-A & S-C;

Marine-based Works

- Seawall Modification Works – Portion S-B

Future Key Issue

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of October 2019 are mainly associated with dust, marine water quality, marine ecology and waste management issues.

1.1

BACKGROUND

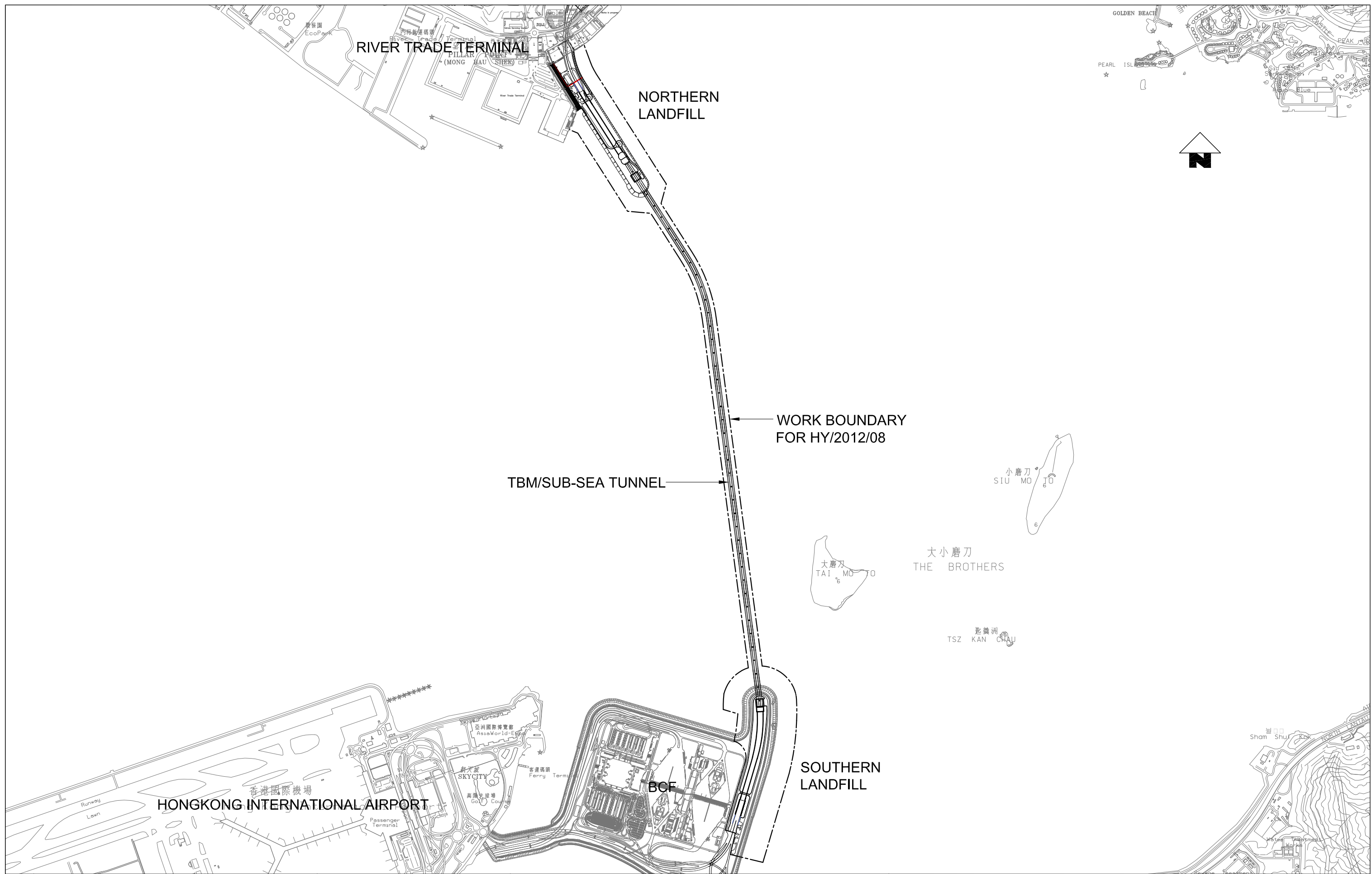
According to the findings of the Northwest New Territories (NWNT) Traffic and Infrastructure Review conducted by the Transport Department, Tuen Mun Road, Ting Kau Bridge, Lantau Link and North Lantau Highway would be operating beyond capacity after 2016. This forecast has been based on the estimated increase in cross boundary traffic, developments in the Northwest New Territories (NWNT), and possible developments in North Lantau, including the Airport developments, the Lantau Logistics Park (LLP) and the Hong Kong – Zhuhai – Macao Bridge (HZMB). In order to cope with the anticipated traffic demand, two new road sections between NWNT and North Lantau – Tuen Mun – Chek Lap Kok Link (TM-CLKL) and Tuen Mun Western Bypass (TMWB) are proposed.

An Environmental Impact Assessment (EIA) of TM-CLKL (the Project) was prepared in accordance with the EIA Study Brief (No. ESB-175/2007) and the *Technical Memorandum of the Environmental Impact Assessment Process (EIAO-TM)*. The EIA Report was submitted under the Environmental Impact Assessment Ordinance (EIAO) in August 2009. Subsequent to the approval of the EIA Report (EIAO Register Number AEIAR-146/2009), an Environmental Permit (EP-354/2009) for TM-CLKL was granted by the Director of Environmental Protection (DEP) on 4 November 2009, and EP variation (VEP) (EP-354/2009/A) was issued on 8 December 2010. Subsequent applications for variation of environmental permits (VEPs), *EP-354/2009/B*, *EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

Under *Contract No. HY/2012/08*, Dragages – Bouygues Joint Venture (DBJV) is commissioned by the Highways Department (HyD) to undertake the design and construction of the Northern Connection Sub-sea Tunnel Section of TM-CLKL while AECOM Asia Company Limited was appointed by HyD as the Supervising Officer. For implementation of the environmental monitoring and audit (EM&A) programme under the Contract, ERM-Hong Kong, Limited (ERM) has been appointed as the Environmental Team (ET). Ramboll Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO).

Layout of the Contract components is presented in *Figure 1.1*.

The construction phase of the Contract commenced on 1 November 2013 and will tentatively be completed by the end of 2019. The impact monitoring phase of the EM&A programme, including air quality, water quality, marine ecological monitoring and environmental site inspections, were commenced on 1 November 2013.



Designed By	PKV		
Drawn By	DAI		
Approved By	SPo		
Date	11SEP2013	PKV	Checked
Rev.	Description	Date	Checked
A	FIRST ISSUE	11SEP13	PKV

Main Contractor

Dragages - Bouygues Joint Venture 寶嘉 - 布依格聯營

Client

HIGHWAYS DEPARTMENT

Contractor's Designer

Arup Ove Arup & Partners Hong Kong Limited

Project

Contract No. HY/2012/08
Tuen Mun - Chek Lap Kok Link -
Northern Connection Sub-Sea Tunnel Section

Drawing Title

Figure 1.1

Drawing no.	TMCLKL8-DBJ-GEN-DWG-00174
Scale	1:25000 @ A3
CADD Ref.	TMCLKL8-DBJ-GEN-DWG-00174-DFT-A
Issue Status	DFT (DRAFT)
Revision	A

1.2 SCOPE OF REPORT

This is the Seventy-first Monthly EM&A Report under the *Contract No. HY/2012/08 Tuen Mun – Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section*. This report presents a summary of the environmental monitoring and audit works in September 2019.

1.3 ORGANIZATION STRUCTURE

The organization structure of the Contract is shown in *Appendix A*. The key personnel contact names and contact details are summarized in *Table 1.1* below.

Table 1.1 *Contact Information of Key Personnel*

Party	Position	Name	Telephone	Fax
Highways Department	Engr 24/SD	Ken T.M. Cheng	2762 4062	3188 6614
SOR (AECOM Asia Company Limited)	Chief Resident Engineer	Roger Man	2293 6388	2293 6300
		Andrew Westmoreland	2293 6360	2293 6300
ENPO / IEC (Ramboll Hong Kong Ltd.)	ENPO Leader	Y.H. Hui	3465 2850	3465 2899
	IEC	Dr. F.C. Tsang	3465 2851	3465 2899
Contractor (Dragages – Bouygues Joint Venture)	Deputy Environmental Manager	Bryan Lee	2293 7323	2293 7499
	24-hour hotline		2293 7330	
ET (ERM-HK)	ET Leader	Jasmine Ng	2271 3311	2723 5660

1.4 SUMMARY OF CONSTRUCTION WORKS

The construction phase of this Contract was commenced on 1 November 2013. The construction programme is shown in *Appendix B*.

As per DBJV's information, details of major construction works carried out in this reporting period are summarized in *Table 1.2*.

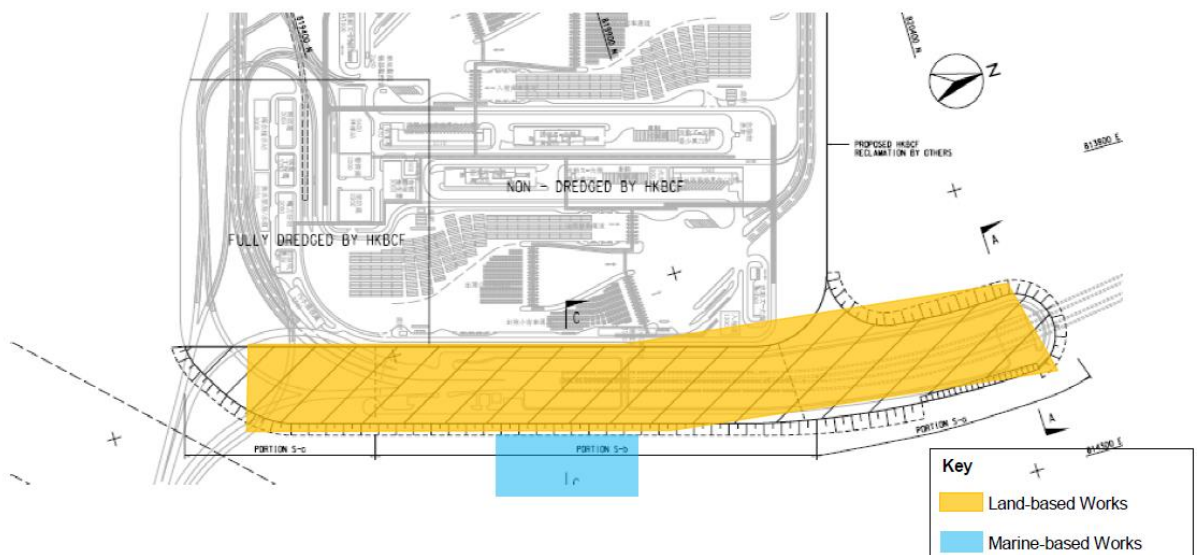
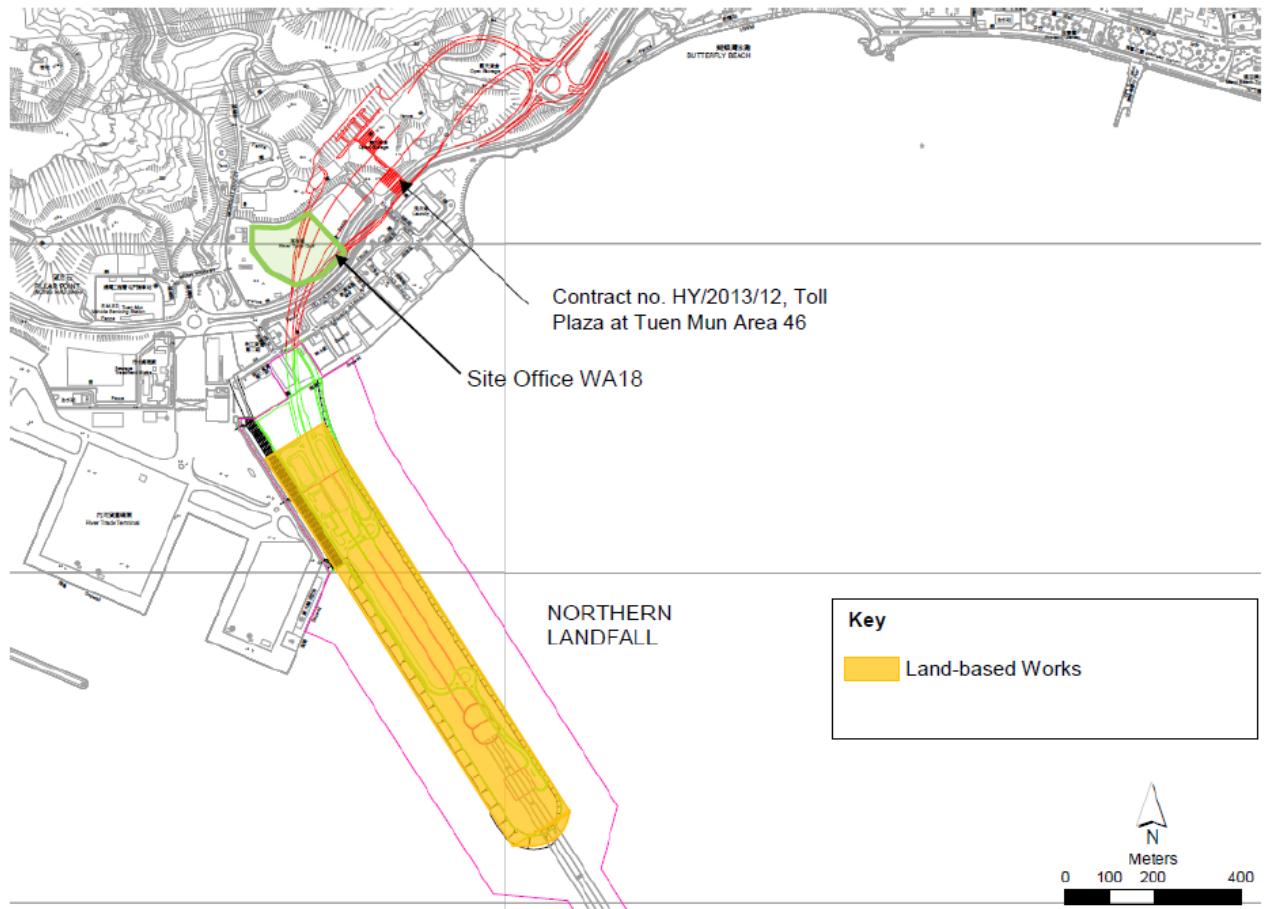
The general layout plan of the site showing the detailed works areas is shown in *Figure 1.2*. The Environmental Sensitive Receivers in the vicinity of the Contract are shown in *Figure 1.3*.

The implementation schedule of environmental mitigation measures is presented in *Appendix C*.

Table 1.2 **Summary of Construction Activities Undertaken during the Reporting Period**

Construction Activities Undertaken
<i>Land-based Works</i>
<ul style="list-style-type: none">• Construction of Thermal barrier - TBM tunnel;• Construction of Walkway Corbel & Cover - TBM Tunnel;• Road & Drainage works - Portion N-A• Gantry Crane Removal - Portion N-B• RC structure - Portion S-A;• Backfilling - Portion S-A & S-C;
<i>Marine-based Works</i>
<ul style="list-style-type: none">• Seawall Modification Works - Portion S-B

Figure 1.2 Locations of Construction Activities – September 2019



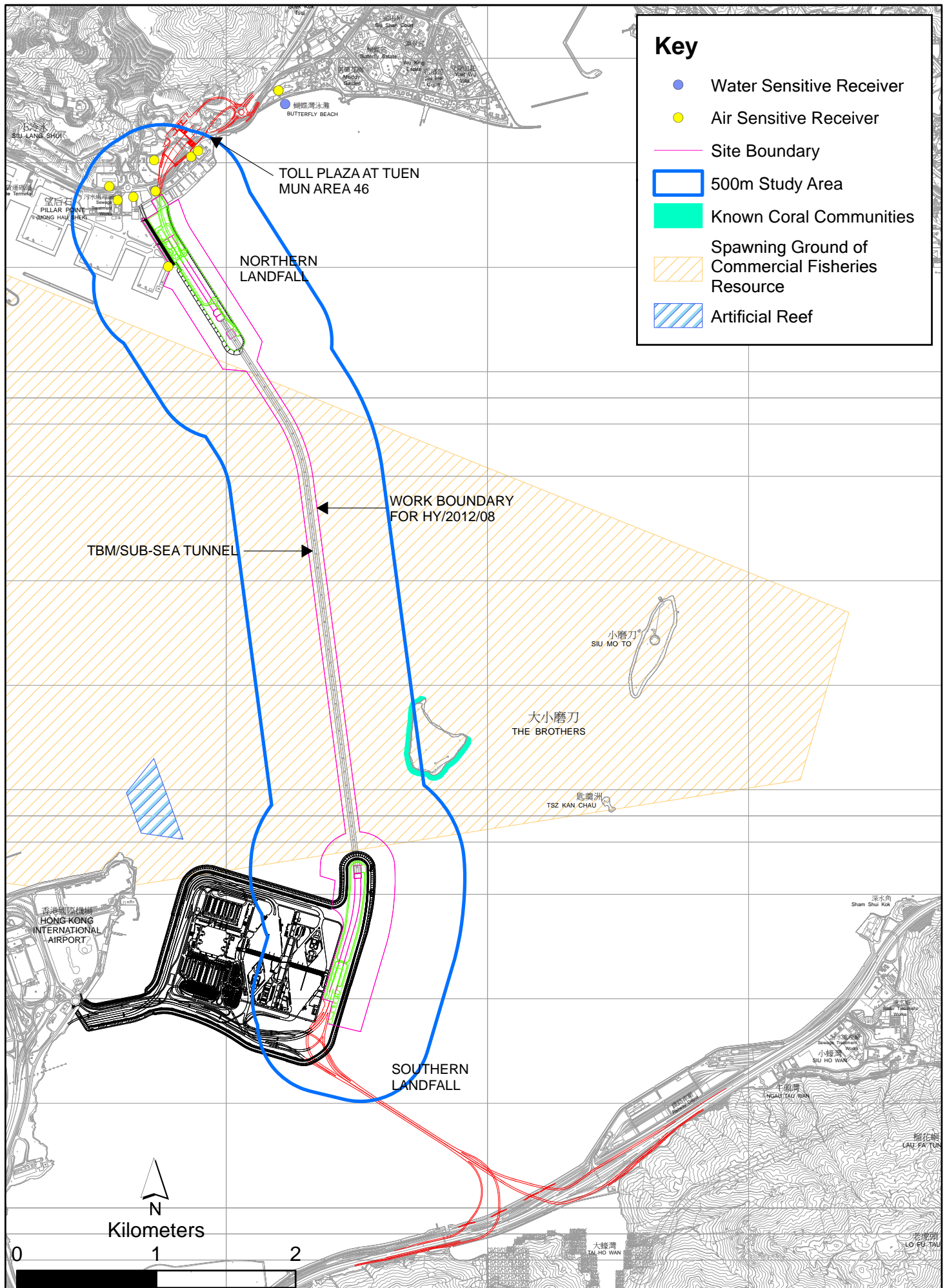


Figure 1.3 Environmental Sensitive Receivers in the vicinity of Contract No. HY/2012/08 Tuen Mun - Chek Lap Kok Link - Northern Connection Sub-Sea Tunnel Section

File: T:\GIS\CONTRACT\0212330\I\mxd\0212330_EMnA_Env_Sensitive_Receiver.mxd
Date: 15/4/2014

The EM&A programme required environmental monitoring for air quality, water quality and marine ecology as well as environmental site inspections for air quality, noise, water quality, waste management, marine ecology and landscape and visual impacts. The EM&A requirements and related findings for each component are summarized in the following sections

2.1 AIR QUALITY

2.1.1 Monitoring Requirements and Equipment

In accordance with the Updated EM&A Manual and the Enhanced TSP Monitoring Plan, impact 1-hour TSP monitoring was conducted three (3) times every six (6) days and impact 24-hour TSP monitoring was carried out once every six (6) days when the highest dust impact was expected. 1-hr and 24-hr TSP monitoring frequency was increased to three times per day every three days and daily every three days, respectively, as excavation works for launching shaft commenced on 24 October 2014.

High volume samplers (HVSs) were used to carry out the 1-hour and 24-hour TSP monitoring on 2, 5, 8, 11, 14, 17, 20, 23, 26 and 29 September 2019 at the five (5) air quality monitoring stations in accordance with the requirements stipulated in the Updated EM&A Manual (*Figure 2.1; Table 2.1*). Wind meter was installed at the rooftop of ASR5 for logging wind speed and wind direction. Details of the equipment deployed are provided in *Table 2.2*. Copies of the calibration certificates for the equipment are presented in *Appendix E*.

Table 2.1 *Locations of Impact Air Quality Monitoring Stations and Monitoring Dates in this Reporting Period*

Monitoring Station	Monitoring Dates	Location	Description	Parameters & Frequency
ASR1	2, 5, 8, 11, 14, 17, 20, 23, 26 and 29 September 2019	Tuen Mun Fireboat Station	Office	TSP monitoring
ASR5		Pillar Point Fire Station	Office	<ul style="list-style-type: none"> 1-hour Total Suspended Particulates (1-hour TSP, $\mu\text{g}/\text{m}^3$), 3 times in every 6 days 24-hour Total Suspended Particulates (24-hour TSP, $\mu\text{g}/\text{m}^3$), daily for 24-hour in every 6 days
AQMS1		Previous River Trade Golf	Bare ground	Enhanced TSP monitoring (commenced on 24 October 2014)
ASR6		Butterfly Beach Laundry	Office	<ul style="list-style-type: none"> 1-hour Total Suspended Particulates (1-hour TSP, $\mu\text{g}/\text{m}^3$), 3 times in every 3 days 24-hour Total Suspended Particulates (24-hour TSP, $\mu\text{g}/\text{m}^3$), daily for 24-hour in every 3 days
ASR10		Butterfly Beach Park	Recreational uses	<ul style="list-style-type: none"> 1-hour Total Suspended Particulates (1-hour TSP, $\mu\text{g}/\text{m}^3$), 3 times in every 3 days 24-hour Total Suspended Particulates (24-hour TSP, $\mu\text{g}/\text{m}^3$), daily for 24-hour in every 3 days

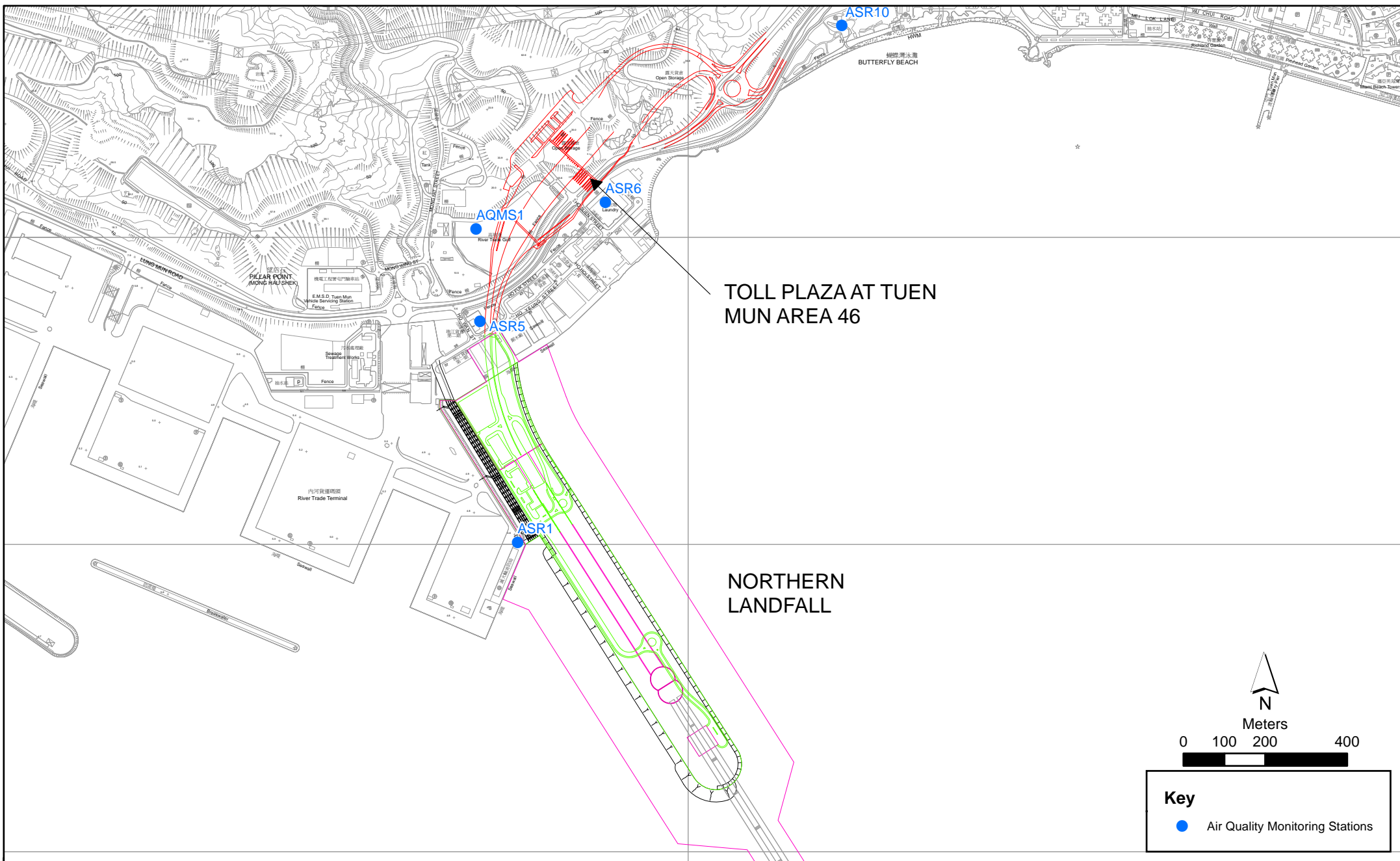


Figure 2.1

Air Quality Monitoring Stations for the Enhanced TSP Monitoring

Table 2.2 Air Quality Monitoring Equipment

Equipment	Brand and Model
High Volume Sampler (1-hour TSP and 24-hour TSP)	Tisch Environmental Mass Flow Controlled Total Suspended Particulate (TSP) High Volume Sampler (Model No. TE-5170)
Wind Meter	Davis (Model: Vantage Pro 2 (S/N: AS160104014)
Wind Anemometer for calibration	Lutron (Model No. AM-4201)

2.1.2 Action & Limit Levels

The Action and Limit Levels of the air quality monitoring is provided in *Appendix D*. The Event and Action plan is presented in *Appendix K*.

2.1.3 Monitoring Schedule for the Reporting Month

The schedule for air quality monitoring in September 2019 is provided in *Appendix F*.

2.1.4 Results and Observations

The monitoring results for 1-hour TSP and 24-hour TSP are summarized in *Tables 2.3 and 2.4*, respectively. Detailed impact air quality monitoring results and graphical presentations are presented in *Appendix G*.

Table 2.3 Summary of 1-hour TSP Monitoring Results in this Reporting Period

Station	Average (µg/m³)	Range (µg/m³)	Action Level (µg/m³)	Limit Level (µg/m³)
ASR1	121	23 - 539	331	500
ASR5	124	25 - 256	340	500
AQMS1	81	14 - 192	335	500
ASR6	87	14 - 201	338	500
ASR10	55	14 - 135	337	500

Table 2.4 Summary of 24-hour TSP Monitoring Results in this Reporting Period

Station	Average (µg/m³)	Range (µg/m³)	Action Level (µg/m³)	Limit Level (µg/m³)
ASR1	87	28 - 154	213	260
ASR5	93	55 - 169	238	260
AQMS1	59	25 - 108	213	260
ASR6	68	32 - 145	238	260
ASR10	46	22 - 95	214	260

The weather condition during the monitoring period varied from sunny to cloudy. The major dust sources in the reporting period included construction activities under the Contract as well as nearby traffic emissions.

A total of 10 1-hour TSP and 24-hour TSP monitoring were undertaken in this reporting month. One (1) Limit Level exceedance of 1-hour TSP Monitoring was recorded in the air quality monitoring of this reporting month.

Meteorological information collected at the ASR5, including wind speed and wind direction, is provided in *Appendix H*.

2.2 WATER QUALITY MONITORING

2.2.1 Monitoring Requirements & Equipment

The Seawall Modification Works has commenced on 12 August 2019. Water quality monitoring was carried out in this reporting month.

In accordance with the approved Environmental Review Report dated 21 March 2018 for the Change in Design of Vertical Seawall to Sloping Seawall on Southern Landfall, Updated Impact water quality monitoring programme and water quality monitoring stations IS17, SR7 and IS(Mf)11 specified under the EM&A Manual for HZMB HKBCF project will be adopted. (*Figure 2.2; Table 2.5*).

The Action and Limit Levels of the water quality monitoring were adopted from the EM&A Manual for HZMB HKBCF project. The Action and Limit Levels are provided in Appendix D.

Table 2.5 *Locations of Water Quality Monitoring Stations and the Corresponding Monitoring Requirements*

Station ID	Type	Coordinates		*Parameters, unit	Depth	Frequency
		Easting	Northing			
IS(Mf)11	Impact Station (Close to HKBCF construction site) 8	813562	820716	<ul style="list-style-type: none"> • Temperature(°C) • pH(pH unit) • Turbidity (NTU) • Water depth (m) • Salinity (ppt) 	3 water depths: 1m below sea	Impact monitoring: 3 days per week, at mid-flood and mid- ebb tides during the construction period of the Contract.
IS17	Impact Station (Close to HKBCF construction site)	814539	820391	<ul style="list-style-type: none"> • DO (mg/L and % of saturation) • SS (mg/L) 	surface, mid- depth and 1m above sea bed.	
SR7	Sensitive receivers (Tai Mo Do)	814293	821431		If the water depth is less than 3m, mid- depth sampling only. If water depth less than 6m, mid- depth may be omitted.	

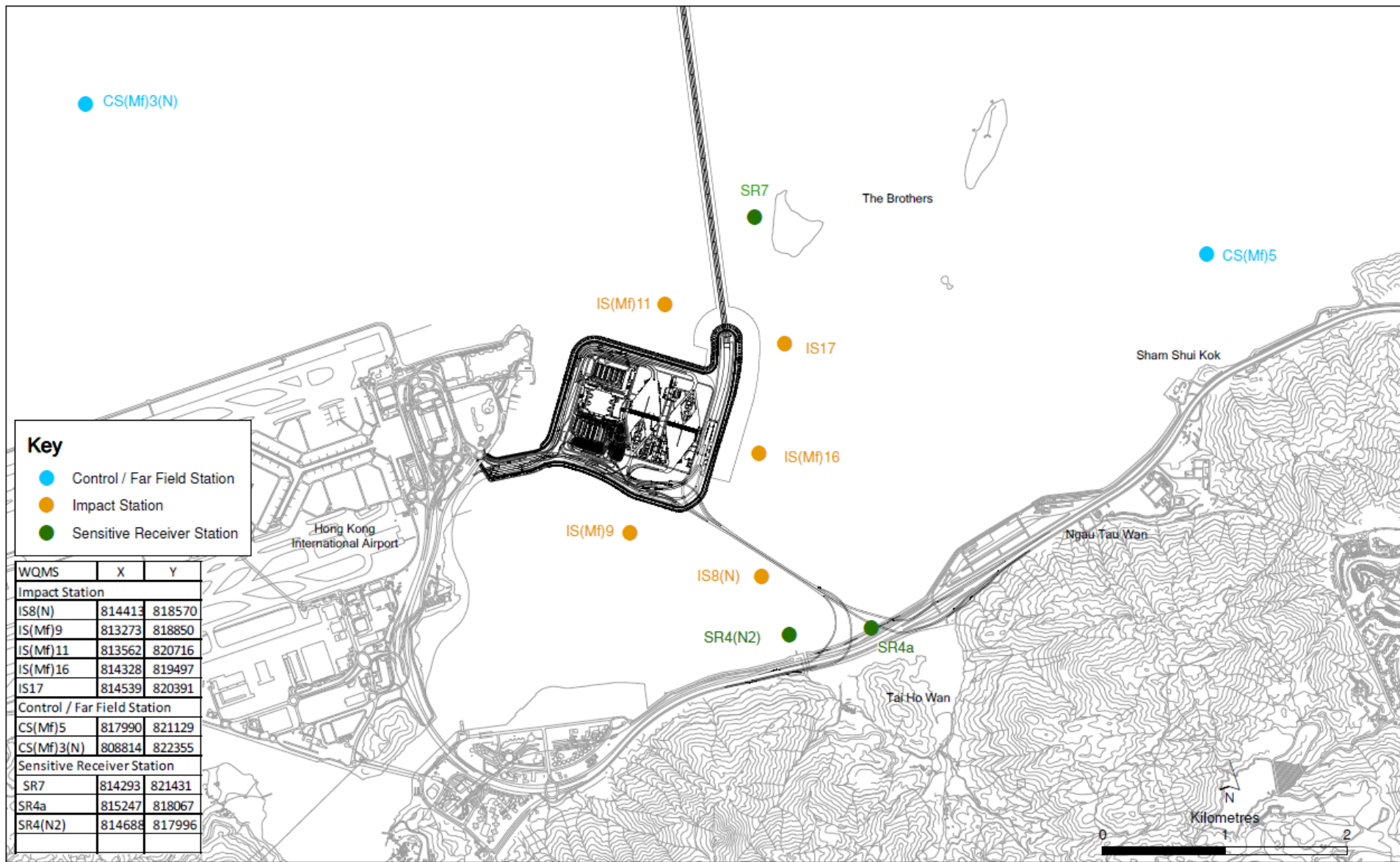


Figure 2.2

Water Quality Monitoring Stations

Station ID	Type	Coordinates		*Parameters, unit	Depth	Frequency
IS(Mf)9	Impact Station (Close to HKBCF construction site)	813273	818850			
IS(Mf)16	Impact Station (Close to HKBCF construction site)	814328	819497			
IS8(N)	Impact Station (Close to HKBCF construction site)	814413	818570			
SR4(N2)	Sensitive receiver (Tai Ho Inlet)	814688	817996			
SR4a	Sensitive receiver	815247	818067			
CS(Mf)3(N)	Control Station	808814	822355			
CS(Mf)5	Control Station	817990	821129			

*Notes:

In addition to the parameters presented monitoring location/position, time, water depth, sampling depth, tidal stages, weather conditions and any special phenomena or works underway nearby were also recorded. Water Quality Monitoring Station CS(Mf)3 was relocated to CS(Mf)3(N) since 2 May 2017.

Water Quality Monitoring Station SR4 was relocated to SR4(N) since 2 March 2018.

Water Quality Monitoring Station SR4(N) was relocated to SR4(N2) since 12 June 2019

Water Quality Monitoring Station IS8 was relocated to IS8(N) since 12 June 2019.

Table 2.6 summarizes the equipment used in the impact water quality monitoring programme. Copies of the calibration certificates are attached in Appendix E.

Table 2.6 Water Quality Monitoring Equipment

Equipment	Model
Multi-Parameters	YSI ProDss 18A104824
Multi-Parameters	YSI ProDss 15M100005
Multi-Parameters	YSI ProDss 0001C6A7
Multi-Parameters	YSI ProDss 17H105557
Multi-Parameters	YSI ProDss 17E100747
Positioning Equipment	Furuno GP-170
Water Depth Detector	Lowrance Mark 5x / Garmin Striker 4

2.2.2 Action & Limit Levels

The Action and Limit levels of water quality impact monitoring are shown in *Appendix D*. The Event and Action plan is presented in *Appendix K*.

2.2.3 Monitoring Schedule for the Reporting Month

The schedule for water quality monitoring in September 2019 is provided in *Appendix F*.

2.2.4 Results and Observations

Impact water quality monitoring was conducted at all designated monitoring stations in the reporting month. Results and graphical presentations of impact water quality monitoring are presented in *Appendix J*.

Water Quality Monitoring on 2 September during mid-flood tide was cancelled due to adverse weather.

In this reporting period, a total of thirteen (13) monitoring events were undertaken in which Thirty-five (35) Action Level exceedances for Dissolved Oxygen and One (1) Action Level exceedance for Depth-averaged suspended solids were recorded in the water quality monitoring.

2.3 DOLPHIN MONITORING

2.3.1 Monitoring Requirements

Impact dolphin monitoring is required to be conducted by a qualified dolphin specialist team to evaluate whether there have been any effects on the dolphins. In order to fulfil the EM&A requirements and make good use of available resources, the on-going impact line transect dolphin monitoring data collected by HyD’s *Contract No. HY/2011/03 Hong Kong-Zhuhai-Macao Bridge, Hong Kong Link Road - Section between Scenic Hill and Hong Kong Boundary Crossing Facilities* on the monthly basis is adopted to avoid duplicates of survey effort.

2.3.2 Monitoring Equipment

Table 2.7 summarises the equipment used for the impact dolphin monitoring.

Table 2.7 ***Dolphin Monitoring Equipment***

Equipment	Model
Global Positioning System (GPS)	Garmin 18X-PC Geo One Phottix
Camera	Nikon D90 300m 2.8D fixed focus Nikon D90 20-300m zoom lens
Laser Binocular	Infinitor LRF 1000
Marine Binocular	Bushell 7 x 50 marine binocular with compass and reticules
Vessel for Monitoring	65 foot single engine motor vessel with viewing platform 4.5m above water level

2.3.3 ***Monitoring Parameter, Frequencies & Duration***

Dolphin monitoring should cover all transect lines in Northeast Lantau (NEL) and the Northwest Lantau (NWL) survey areas twice per month throughout the entire construction period. The monitoring data should be compatible with, and should be made available for, long-term studies of small cetacean ecology in Hong Kong. In order to provide a suitable long-term dataset for comparison, identical methodology and line transects employed in baseline dolphin monitoring was followed in the impact dolphin monitoring.

2.3.4 ***Monitoring Location***

The impact dolphin monitoring was carried out in the NEL and NWL along the line transect as depicted in *Figure 2.3*. The co-ordinates of all transect lines are shown in *Table 2.8* below.

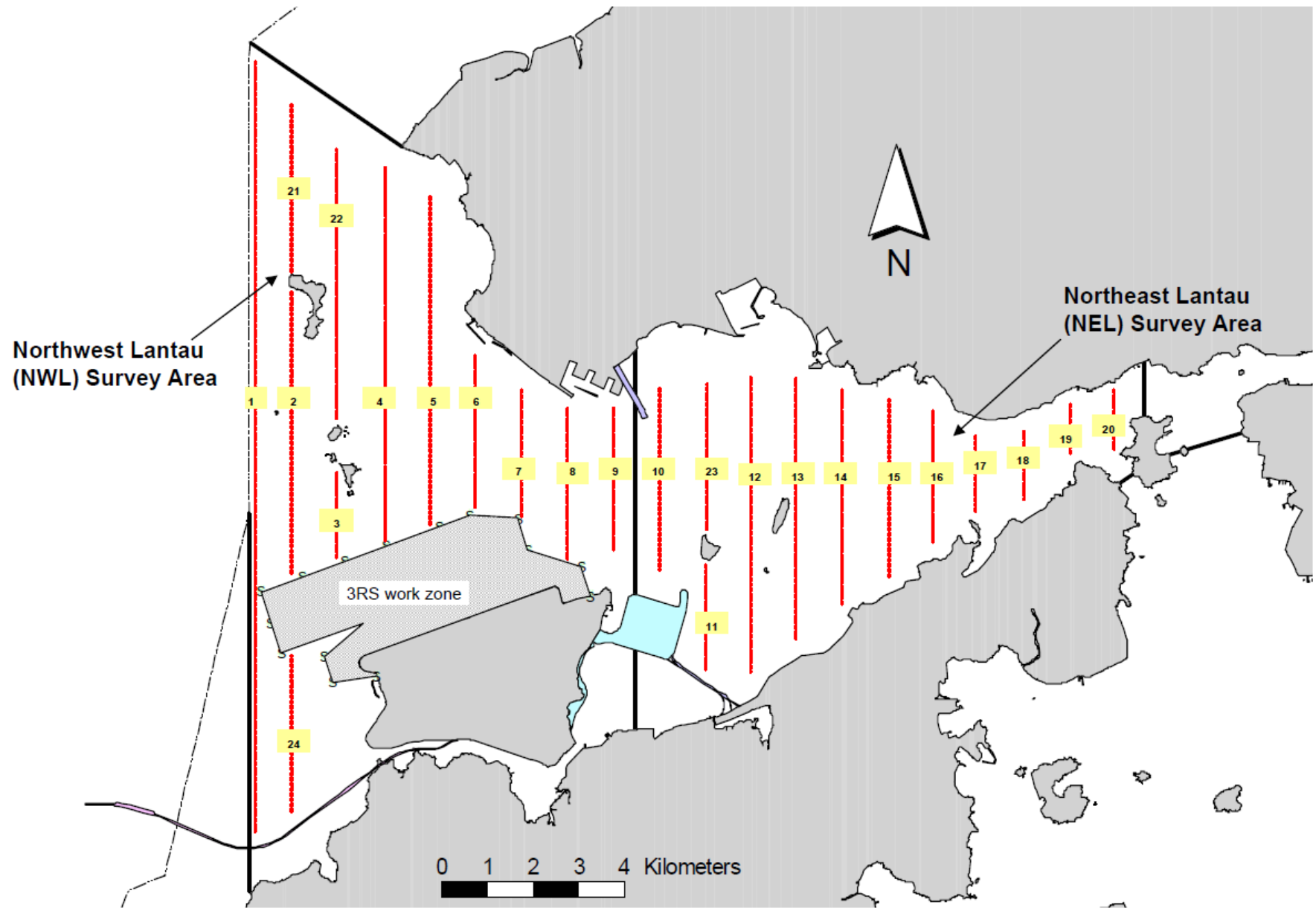


Figure 2.3

Layout of Transect Lines of Dolphin Monitoring in Northwest and Northeast Lantau Areas

Table 2.8 Impact Dolphin Monitoring Line Transect Co-ordinates

Line No.		Easting	Northing	Line No.		Easting	Northing
1	Start Point	804671	815456	13	Start Point	816506	819480
1	End Point	804671	831404	13	End Point	816506	824859
2	Start Point	805476	820800*	14	Start Point	817537	820220
2	End Point	805476	826654	14	End Point	817537	824613
3	Start Point	806464	821150*	15	Start Point	818568	820735
3	End Point	806464	822911	15	End Point	818568	824433
4	Start Point	807518	821500*	16	Start Point	819532	821420
4	End Point	807518	829230	16	End Point	819532	824209
5	Start Point	808504	821850*	17	Start Point	820451	822125
5	End Point	808504	828602	17	End Point	820451	823671
6	Start Point	809490	822150*	18	Start Point	821504	822371
6	End Point	809490	825352	18	End Point	821504	823761
7	Start Point	810499	822000*	19	Start Point	822513	823268
7	End Point	810499	824613	19	End Point	822513	824321
8	Start Point	811508	821123	20	Start Point	823477	823402
8	End Point	811508	824254	20	End Point	823477	824613
9	Start Point	812516	821303	21	Start Point	805476	827081
9	End Point	812516	824254	21	End Point	805476	830562
10	Start Point	813525	821176	22	Start Point	806464	824033
10	End Point	813525	824657	22	End Point	806464	829598
11	Start Point	814556	818853	23	Start Point	814559	821739
11	End Point	814556	820992	23	End Point	814559	824768
12	Start Point	815542	818807	24*	Start Point	805476*	815900*
12	End Point	815542	824882	24*	End Point	805476*	819100*

Remarks: The coordinates of several starting and ending points have been revised due to the presence of a work zone to the north of the airport platform with intense construction activities in association with the construction of the third runway expansion for the Hong Kong International Airport. Co-ordinates in red and marked with asterisk are revised co-ordinates of transect line.

2.3.5 Action & Limit Levels

The Action and Limit levels of impact dolphin monitoring are shown in *Appendix D*. The Event and Action plan is presented in *Appendix K*.

2.3.6 *Monitoring Schedule for the Reporting Month*

Dolphin monitoring was carried out on 4, 11, 17 and 23 of September 2019. The dolphin monitoring schedule for the reporting month is shown in *Appendix F*.

2.3.7 *Results & Observations*

A total of 267.91 km of survey effort was collected, with 98.8% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility) in September 2019. Among the two areas, 99.40 km and 168.51 km of survey effort were collected from NEL and NWL survey areas, respectively. The total survey effort conducted on primary and secondary lines were 193.93 km and 73.98 km respectively. The survey efforts are summarized in *Appendix I*.

Two group of 5 Chinese White Dolphins sighting was recorded during the two sets of surveys in September 2019. The dolphin sighting was made in NWL, while none was sighted in NEL. The two dolphin sightings was made during on-effort search and one of them was made on primary lines. The dolphin groups were not associated with any operating fishing vessel.

No dolphin sighting was made in the proximity of the TM-CLKL alignment. The distribution of dolphin sightings during the reporting month is shown in *Figure 2.4*.

The southern end of transect line no. 11 was not travelled within the first survey day for dolphin monitoring due to the presence of construction boats along the transect line. Part of the transect line was not travelled due to safety concerns.

Encounter rates of Chinese White Dolphins are deduced from the survey effort and on-effort sighting data made under favourable conditions (Beaufort 3 or below) in September 2019 with the results present in *Tables 2.9* and *2.10*.

Table 2.9 *Individual Survey Event Encounter Rates*

		Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)	Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)
		Primary Lines Only	Primary Lines Only
NEL	Set 1: September 4 th / 11 th	0.0	0.0
	Set 2: September 17 th / 23 rd	0.0	0.0
NWL	Set 1: September 4 th / 11 th	1.6	3.3
	Set 2: September 17 th / 23 rd	0.0	0.0

Note: Dolphin Encounter Rates are deduced from the Two Sets of Surveys (Two Surveys in Each Set) in September 2019 in Northeast (NEL) and Northwest Lantau (NWL)

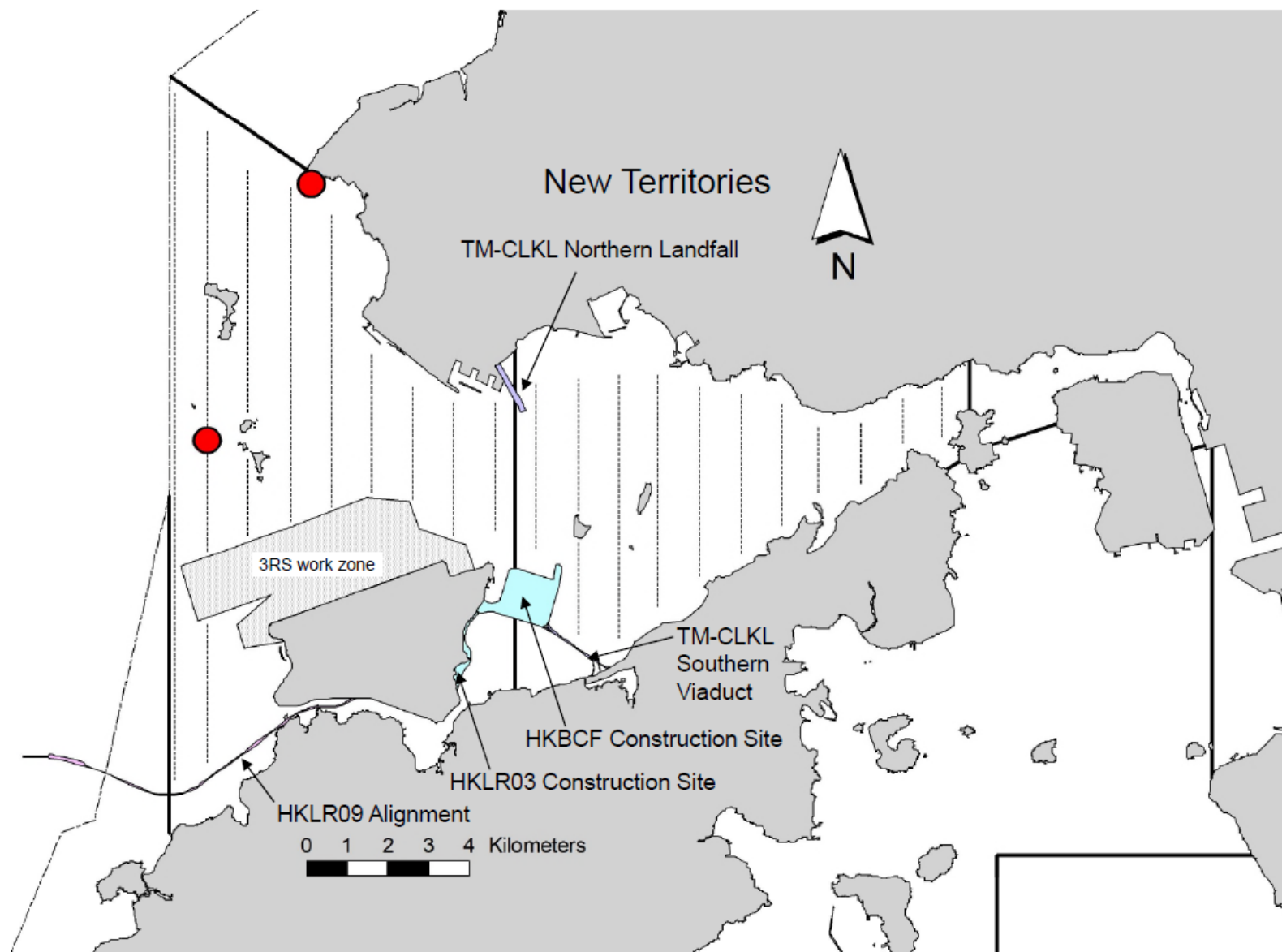


Figure 2.4

HY/2012/08 TM-CLKL Northern Connection Sub-sea Tunnel Section
 The distribution of dolphin sightings during the reporting period
 (Source: Adopted from HKLR03 Monitoring Survey in September 2019)

Table 2.10 *Monthly Average Encounter Rates*

	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)		Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)	
	Primary Lines Only	Both Primary and Secondary Lines	Primary Lines Only	Both Primary and Secondary Lines
Northeast Lantau	0.0	0.0	0.0	0.0
Northwest Lantau	0.8	1.2	1.7	3.0

Note: Overall dolphin encounter rates (sightings per 100 km of survey effort) from all four surveys are conducted in September 2019 on primary lines only as well as both primary lines and secondary lines in Northeast and Northwest Lantau.

Due to monthly variation in dolphin occurrence within the survey area, it would be more appropriate to draw conclusion on whether any unacceptable impacts on dolphins have been detected in relation to the construction activities of this Contract in the quarterly EM&A reports, where comparison on distribution, group size and encounter rates of dolphins between the quarterly impact monitoring period and baseline monitoring period will be made.

2.3.8 *Implementation of Marine Mammal Exclusion Zone*

Daily marine mammal exclusion zone was in effect during the period of silt curtain installation in open waters under this Contract. No sighting of the Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) was recorded in September 2019 during the exclusion zone monitoring.

2.4

EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting month, four (4) site inspections were carried out on 4, 11, 18 and 25 September 2019.

Key observations and recommendations during the site inspections in this reporting period are summarized in *Table 2.11*.

Table 2.11 *Specific Observations and Recommendations during the Weekly Site Inspection in this Reporting Month*

Inspection Date	Observations	Recommendations/ Remarks
4 September 2019	<p>Works Area – Portion N-A</p> <ul style="list-style-type: none"> • Food waste in the skip should be removed. • Drip tray should be provided for the chemical containers. • The faded NRMM label should be replaced. • The broken water barrier should be removed. <p>Works Area - Portion S-A</p> <ul style="list-style-type: none"> • Food waste should be removed. 	<p>Works Area – Portion N-A</p> <ul style="list-style-type: none"> • The Contractor was reminded to Remove the food waste in the skip. • The Contractor was reminded to provide drip tray for the chemical containers. • The Contractor was reminded to replace the NRMM label. • The Contractor was reminded to remove the broken water barrier. <p>Works Area - Portion S-A</p> <ul style="list-style-type: none"> • The Contractor was reminded to remove the food waste.
11 September 2019	<p>Works Area – TBM tunnel</p> <ul style="list-style-type: none"> • Better housekeeping should be maintained. • The broken water barrier should be removed. • Water spraying should be applied for dust control. <p>Works Area - Portion S-A</p> <ul style="list-style-type: none"> • Food waste should be removed. <p>Works Area – Portion S-B</p> <ul style="list-style-type: none"> • Oil spillage on the floor should be cleaned up. 	<p>Works Area – TBM tunnel</p> <ul style="list-style-type: none"> • The Contractor was reminded to maintain better housekeeping. • The Contractor was reminded to remove the broken water barrier. • The Contractor was reminded to apply water spraying for dust control. <p>Works Area - Portion S-A</p> <ul style="list-style-type: none"> • The Contractor was reminded to remove the food waste. <p>Works Area – Portion S-B</p> <ul style="list-style-type: none"> • The Contractor was reminded to clean up the oil spillage on the floor.
18 September 2019	<p>Works Area – Portion N-B</p> <ul style="list-style-type: none"> • Waste should be removed and better housekeeping should be maintained. • Drip tray should be provided for the chemical containers. <p>Reminder from the SOR</p> <p>Works Area – Portion S-B</p> <ul style="list-style-type: none"> • Stagnant water and rubbish should be cleared. • Stagnant water should be cleared. 	<p>Works Area – Portion N-B</p> <ul style="list-style-type: none"> • The Contractor was reminded to remove the waste and maintain better housekeeping. • The Contractor was reminded to provide drip tray for the chemical containers. <p>Reminder from the SOR</p> <p>Works Area – Portion S-B</p> <ul style="list-style-type: none"> • The Contractor was reminded to clear the stagnant water and rubbish. • The Contractor was reminded to clear the stagnant water.

Inspection Date	Observations	Recommendations/ Remarks
25 September 2019	<p>Works Area – Portion S-B</p> <ul style="list-style-type: none"> Waste and stagnant water should be cleared. <p>Works Area - Portion N-B</p> <ul style="list-style-type: none"> Waste should be cleared and better housekeeping should be maintained. Drip tray should be provided for the chemical containers. <p>Reminder from the SOR</p> <p>Works Area – Portion S-B</p> <ul style="list-style-type: none"> Stagnant water should be cleared. 	<p>Works Area – Portion S-B</p> <ul style="list-style-type: none"> The Contractor was reminded to clear the waste and stagnant water. <p>Works Area - Portion N-B</p> <ul style="list-style-type: none"> The Contractor was reminded to clear the waste and maintain better housekeeping. The Contractor was reminded to provide drip tray for the chemical containers. <p>Reminder from the SOR</p> <p>Works Area – Portion S-B</p> <ul style="list-style-type: none"> The Contractor was reminded to clear the stagnant water.

The Contractor has rectified all of the observations as identified during environmental site inspections in the reporting month.

2.5 WASTE MANAGEMENT STATUS

The Contractor had submitted application form for registration as chemical waste producer under the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.

Wastes generated during this reporting period included mainly construction wastes (inert and non-inert). Reference has been made to the waste flow table prepared by the Contractor (*Appendix M*). The quantities of different types of wastes are summarized in *Table 2.12*.

Table 2.12 Quantities of Different Waste Generated in the Reporting Month

Month/Year	Inert Construction Waste (a) (tonnes)	Inert Construction Waste Re-used (tonnes)	Non-inert Construction Waste (b) (tonnes)	Recyclable Materials (c) (kg)	Chemical Wastes (kg)	Marine Sediment (m ³)		
						Category L	Category M (M _p & M _f)	Mixed (L+M)
September 2019	3,610	0	711	399,320	8,000	0	0	0

Notes:

- (a) Inert construction wastes include hard rock and large broken concrete, and materials disposed as public fill.
- (b) Non-inert construction wastes include general refuse disposed at landfill.
- (c) Recyclable materials include metals, paper, cardboard, plastics, timber and others.

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

For chemical waste containers, the Contractor was reminded to treat properly and store temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

2.6

ENVIRONMENTAL LICENSES AND PERMITS

The status of environmental licensing and permit is summarized in *Table 2.13* below.

Table 2.13 Summary of Environmental Licensing and Permit Status

License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
Environmental Permit	EP-354/2009/D	13 March 2015	Throughout the Contract	HyD	Application for VEP on 3 March 2015 to supersede EP-354/2009/C
Construction Dust Notification	363510	19 August 2013	Throughout the Contract	DBJV	Northern Landfall
Construction Dust Notification	403620	10 June 2016	Throughout the Contract	DBJV	Southern Landfall
Chemical Waste Registration	5213-422-D2516-02	18 January 2017	Throughout the Contract	DBJV	Northern Landfall
Chemical Waste Registration	5213-951-D2591-01	25 May 2016	Throughout the Contract	DBJV	Southern Landfall
Construction Waste Disposal Account	7018108	28 August 2013	Throughout the Contract	DBJV	Waste disposal in Contract No. HY/2012/08
Construction Waste Disposal Account	7021715	4 July 2019	14 October 2019	DBJV	Vessel Disposal
Waste Water Discharge License	WT00031435-2018	2 August 2018	31 August 2023	DBJV	Southern Landfall
Waste Water Discharge License	WT00034060-2019	25 July 2019	30 June 2024	DBJV	Northern Landfall (4 Discharge Point)
Marine Dumping Permit	EP/MD/20-013	19 May 2019	18 November 2019	DBJV	Type 1 (Open Sea Disposal)
Construction Noise Permit	GW-RW0406-18	27 April 2019	15 October 2019	DBJV	Urmston Road in front of Pillar Point
Construction Noise Permit	GW-RW0374-19	20 August 2019	19 February 2020	DBJV	WA23 @ Tsing Yi
Construction Noise Permit	GW-RS0766-19	2 September 2019	25 February 2020	DBJV	Southern Landfall
Construction Noise Permit	GW-RS0224-19	25 March 2019	24 September 2019	DBJV	Southern Landfall
Construction Noise Permit	GW-RW0179-19	27 April 2019	15 October 2019	DBJV	Urmston Road in front of Pillar Point

Notes:

HyD = Highways Department

DBJV = Dragages - Bouygues Joint Venture

VEP = Variation of Environmental Permit

2.7 *IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES*

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

A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in *Appendix C*. The necessary mitigation measures relevant to this Contract were implemented properly.

2.8 *SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT*

One (1) Limit Level exceedance of 1-hour TSP Monitoring was recorded in the air quality monitoring of this reporting month.

Thirty-five (35) Action Level exceedances for Dissolved Oxygen and One (1) Action Level exceedance for Depth-averaged suspended solids were recorded in the water quality monitoring of this reporting month.

Cumulative statistics are provided in *Appendix L*.

2.9 *SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS*

The Environmental Complaint Handling Procedure is provided in *Figure 2.5*.

No environmental complaint was received in this reporting period.

No environmental summons was received in this reporting period.

Statistics on complaints, notifications of summons and successful prosecutions are summarized in *Appendix L*.

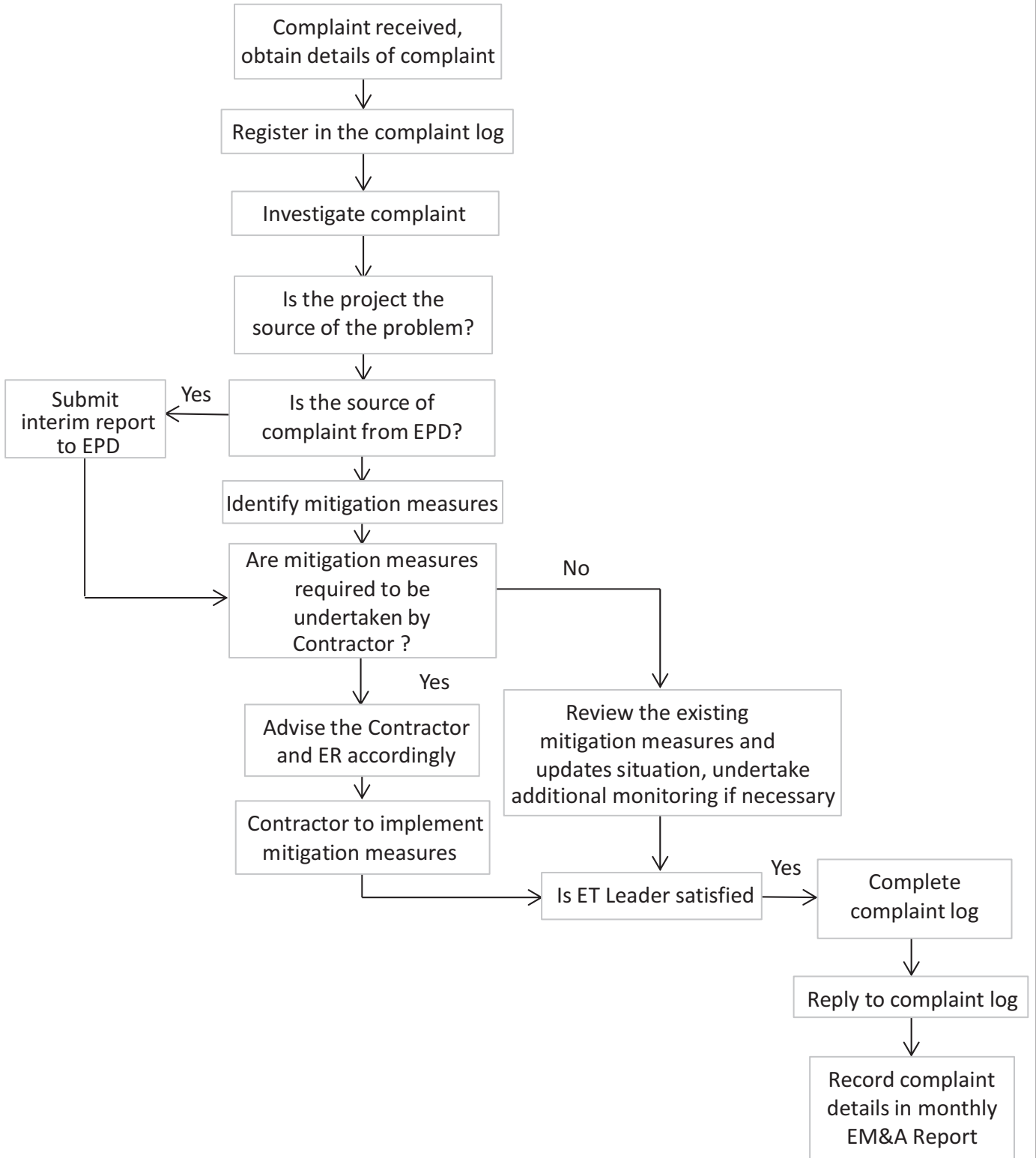


Figure 2.5

Environmental Complaint Handling Procedure

3 FUTURE KEY ISSUES

3.1 CONSTRUCTION ACTIVITIES FOR THE COMING MONTH

As informed by the Contractor, the major works for the Contract in October 2019 are summarized in *Table 3.1*.

Table 3.1 Construction Works to Be Undertaken in the Coming Month

Works to be undertaken
<i>Land-based Works</i>
<ul style="list-style-type: none">• Construction of Thermal barrier – TBM tunnel;• Construction of Walkway Corbel & Cover – TBM Tunnel;• Road & Drainage works – Portion N-A• Gantry Crane Removal – Portion N-B• RC structure – Portion S-A;• Backfilling – Portion S-A & S-C;
<i>Marine-based Works</i>
<ul style="list-style-type: none">• Seawall Modification Works – Portion S-B

3.2 KEY ISSUES FOR THE COMING MONTH

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of October 2019 are mainly associated with dust, marine water quality, marine ecology and waste management issues.

3.3 MONITORING SCHEDULE FOR THE COMING MONTH

The tentative schedule for environmental monitoring in October 2019 is provided in *Appendix F*.

4.1*CONCLUSIONS*

This Seventy-first Monthly EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 to 30 September 2019, in accordance with the Updated EM&A Manual and the requirements of EP-354/2009/D.

Air quality (including 1-hour TSP and 24-hour TSP), water quality monitoring and dolphin monitoring were carried out in this reporting month.

One (1) Limit Level exceedance of 1-hour TSP Monitoring was recorded in the air quality monitoring of this reporting month.

Thirty-five (35) Action Level exceedances for Dissolved Oxygen and One (1) Action Level exceedance for Depth-averaged suspended solids were recorded in the water quality monitoring of this reporting month.

Two group of 5 Chinese White Dolphins sighting was recorded during the two sets of surveys in September 2019. The dolphin sighting was made in NWL, while none was sighted in NEL. The two dolphin sightings was made during on-effort search and one of them was made on primary lines. The other was an off-effort sighting. The dolphin groups were not associated with any operating fishing vessel.

Environmental site inspection was carried out four (4) times in September 2019. Remedial actions recommended for the deficiencies identified during the site audits were properly implemented by the Contractor.

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

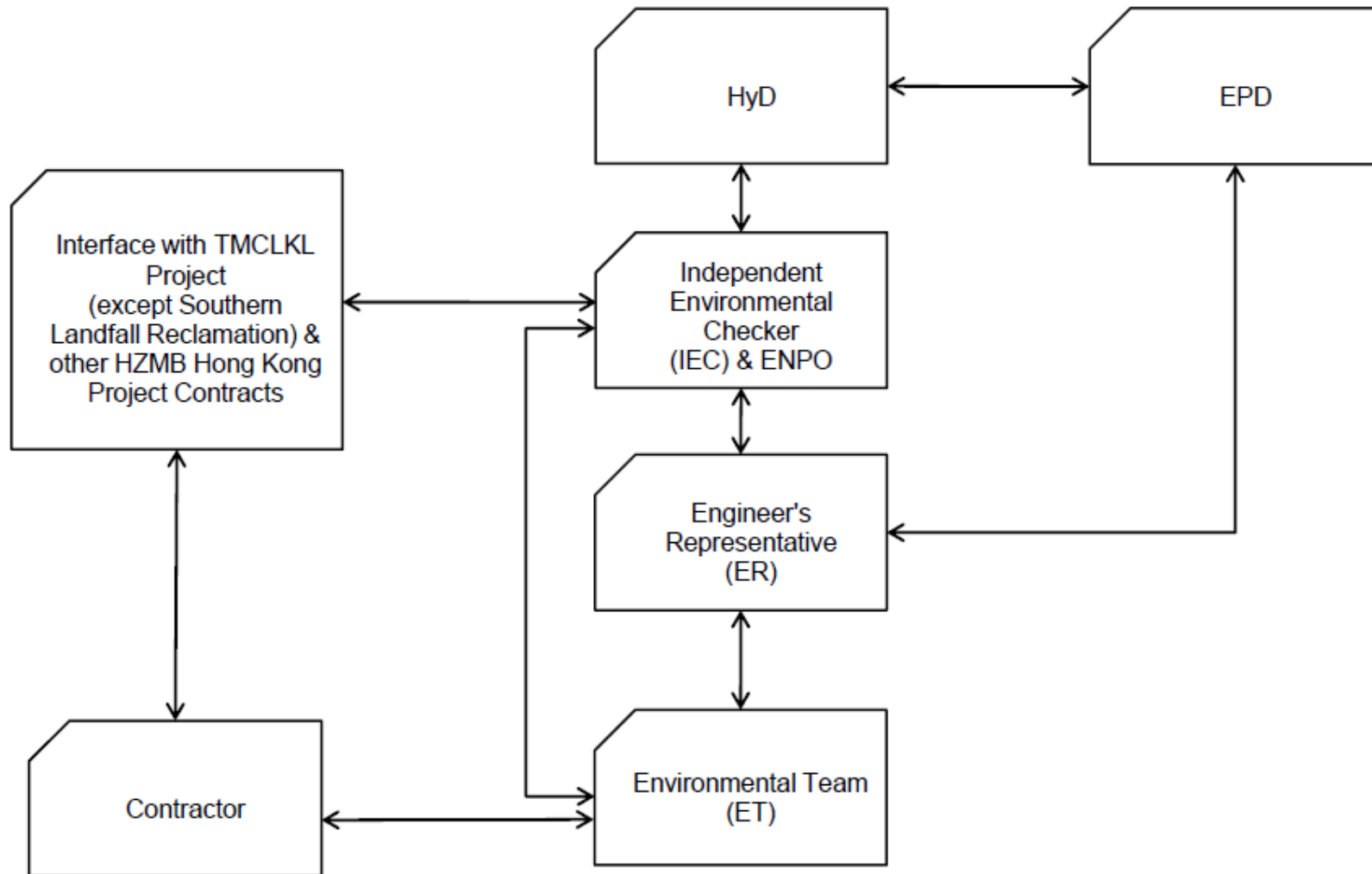
No environmental complaint was received in this reporting period.

No environmental summons was received in this reporting period.

The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Appendix A

Project Organization for Environmental Works



↔ Line of Communication

Appendix B

Construction Programme

TMCLKL Northern Connection Sub-sea Tunnel Section

Possession / Access Dates

N13Ji, Jii, Ki & Kii - Possession / Access (after E&M scope)	0	16-Oct-19	
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Contract Key Dates

[KD-2b] Stage 2b Completion - TSS between CP33 to CP13	0	15-Apr-19*	
[KD-2c] Stage 2c Completion - Remaining TSS & TSA	0	30-Sep-19*	
[KD-2d] Stage 2d Completion - MHS C&C Tunnel	0	15-Nov-19*	
[KD-3b] Stage 3b Completion - NLF Provision for CLP, LV & I	0	02-Oct-19*	
[KD-3f] Stage 3f Achievement - NLS/NAR - provide access	0	02-Oct-19*	
[KD-3g] Stage 3g Completion - SVS Tunnel	0	30-Sep-19*	
[KD-3i] Stage 3i Completion - South Approach Ramp	0	15-Oct-19*	
[KD-10] Section 3A Completion - SVB	0	20-Jul-19*	
[KD-10a] Stage 5 Completion - SVB BL2	0	11-May-19*	

Portion Handover Dates

N5 - Handover	0	30-Apr-19*	
N10 (excl Tunnel) - Handover	0	30-Sep-19*	
N11A - Handover	0	15-Feb-19*	
N11B - Handover	0	15-Feb-19*	
N13Ji, Jii, Ki & Kii - Handover for E&M Contract scope	0	15-Feb-19*	
N13B - Handover	0	12-Apr-19*	

North Approach Ramp

[KD-3f] Stage 3f Achievement - NAR - provide access	0	02-Oct-19*	
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Access Ramp Section

NAR Pipe Pile Section - Base Slab	48	22-Jan-19	25-Mar-19
NAR Pipe Pile Section - Strut S2 Removal	24	12-Mar-19	09-Apr-19
NAR Pipe Pile Section - Wall up to S1	48	26-Mar-19	27-May-19
NAR Pipe Pile Section - Strut S1 Removal	24	14-May-19	11-Jun-19
NAR Pipe Pile Section - Wall Remaining	48	28-May-19	24-Jul-19

NLS Interface (OAP-NAR-DWG-10442-B)

NLS Cell 3 Dwall removal (down to -3.0mPD) - 188m3	18	18-Jan-19	14-Feb-19
Strut Installation and Excavation down to FWL	12	15-Feb-19	28-Feb-19
NLS Cell 3 Dwall removal (down to -6.0mPD) - 134m3	18	01-Mar-19	21-Mar-19
NLS/NAR Stitch structure - Base Slab & S2 removed	36	19-Mar-19	04-May-19
Resume Tunnel Ramp Access	0	06-May-19	
NLS/NAR Stitch structure - Remaining Wall Structure & Stru	48	06-May-19	03-Jul-19
NAR Parapet, Cable Trough	58	25-Jul-19	02-Oct-19*

North Launching Shaft

[KD-3f] Stage 3f Achievement - NLS - provide access	0	02-Oct-19*	
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NLS Cell 1-3 Remaining Structure

Availability of NAR Access to Tunnel	0	06-May-19	
Cell 1 & 2 Top Slab Closing	24	22-May-19	19-Jun-19
ML02			
ML02 Cell 1 & 2 OHVD Slab	24	16-Jan-19	19-Feb-19
ML03			
ML03 Cell 1 & 2 Preparation for BRL structure	24	16-Jan-19	19-Feb-19
ML03 Cell 1 & 2 BRL Structure	48	20-Feb-19	17-Apr-19
NLS W6 & W7 - Wall opening - closing	24	03-Apr-19	06-May-19
ML03 Cell 1 & 2 OHVD Slab	24	18-Apr-19	21-May-19

NLF Demobilization & At-grade works

[KD-3b] Stage 3b Completion - NLF Provision for CLP, LV & I	0	02-Oct-19*	
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Portion N12 & Portion N6B

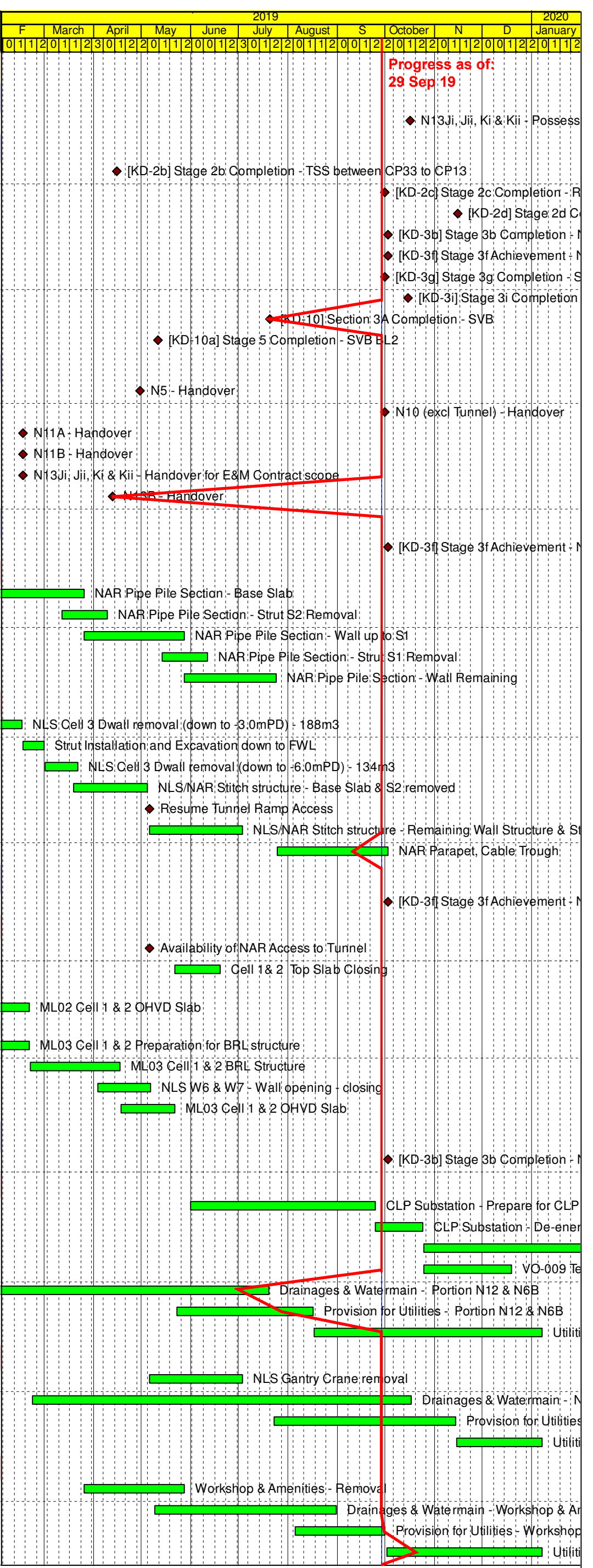
CLP Substation - Prepare for CLP Consent for de-energiza	96	01-Jun-19	24-Sep-19
CLP Substation - De-energization	24	25-Sep-19	24-Oct-19
CLP Substation - Dismantling & Removal	178	25-Oct-19	01-Jun-20
VO-009 Temporary Protection Barrier - Dismantling & Remc	48	25-Oct-19	19-Dec-19
Drainages & Watermain - Portion N12 & N6B	144	17-Jan-19	19-Jul-19
Provision for Utilities - Portion N12 & N6B	72	23-May-19	16-Aug-19
Utilities parties coordination & Remaining Civil Provision - I	117	17-Aug-19	07-Jan-20

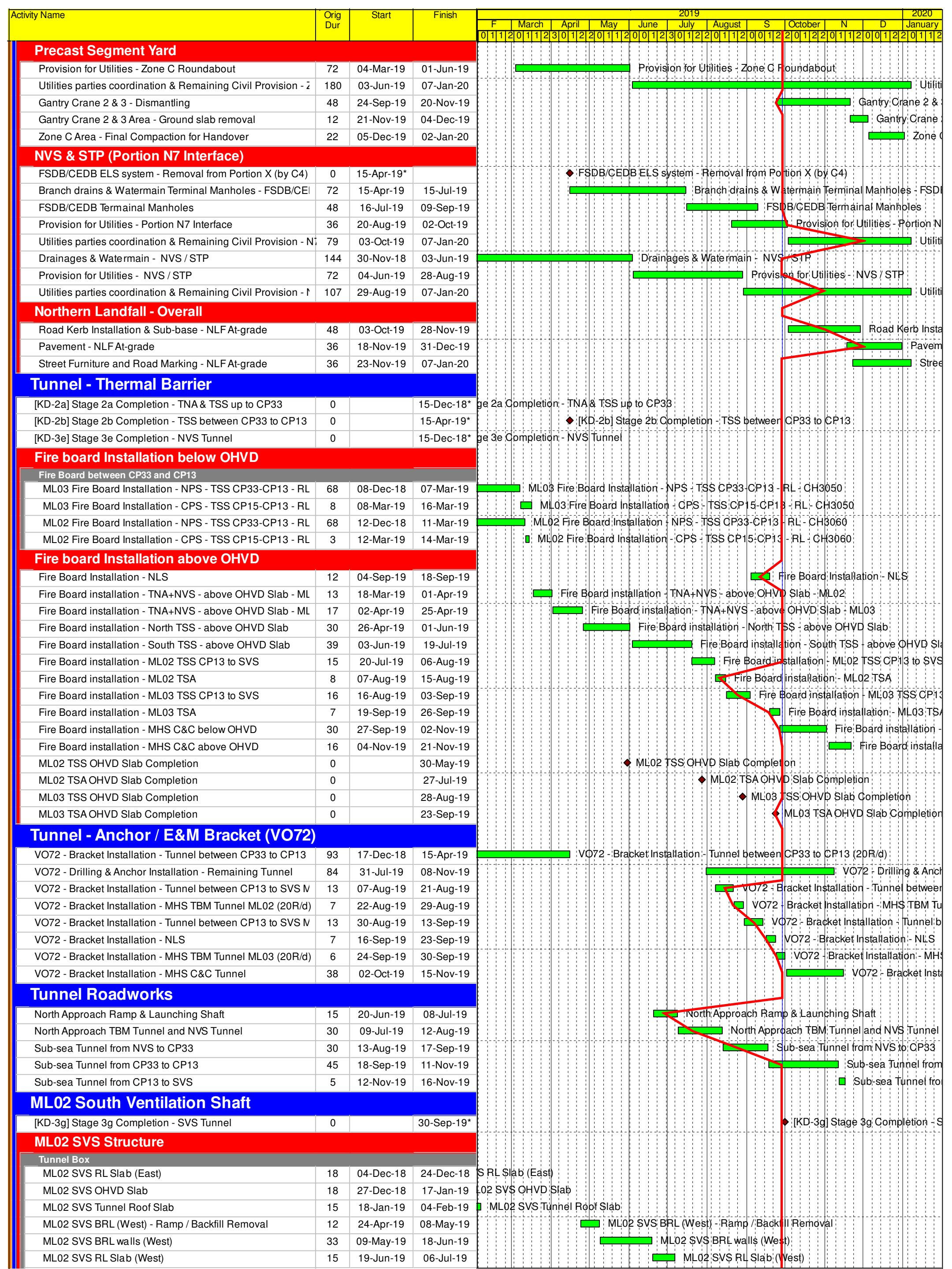
North Launching Shaft

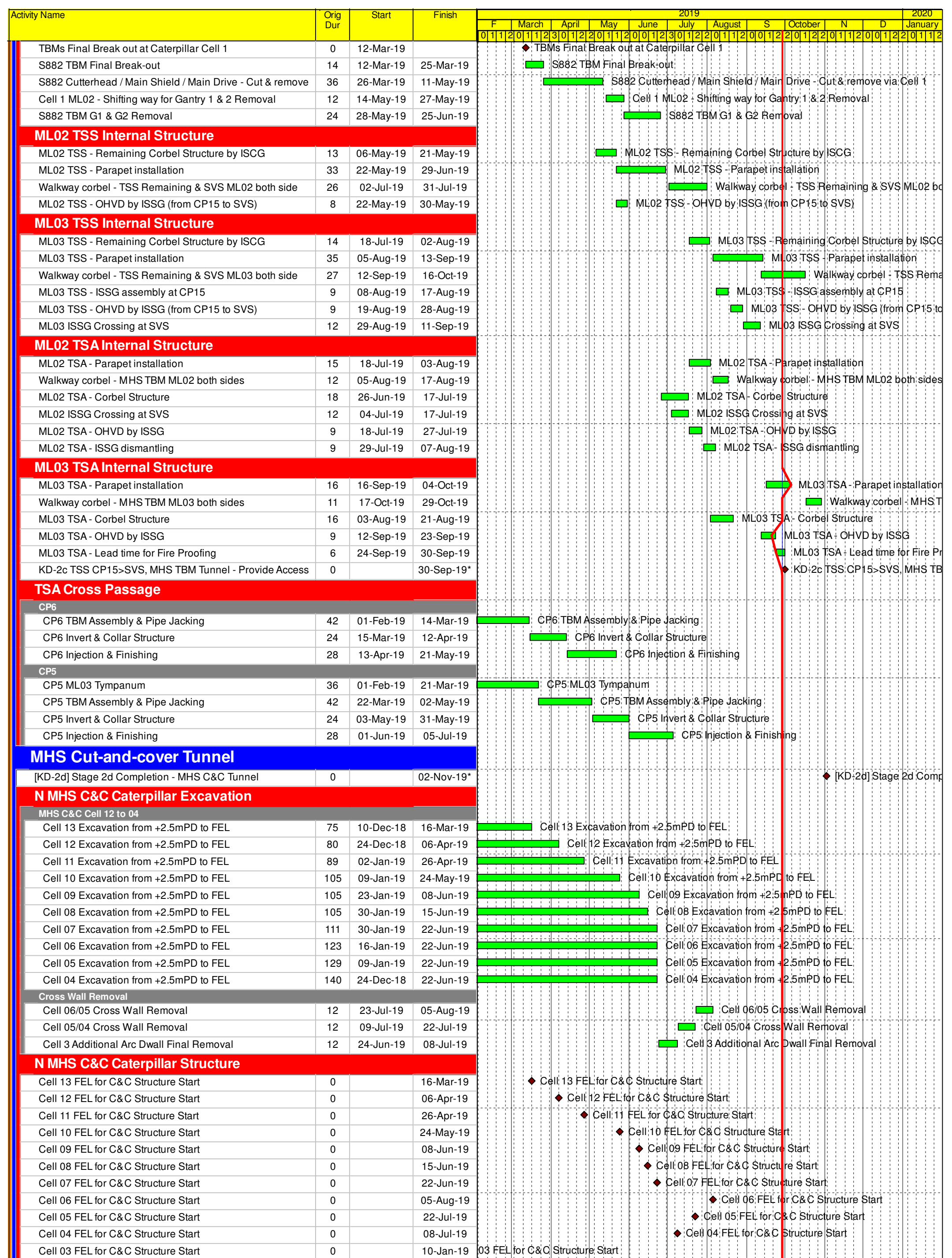
NLS Gantry Crane removal	48	06-May-19	03-Jul-19
Drainages & Watermain - NLS	194	21-Feb-19	17-Oct-19
Provision for Utilities - NLS	96	23-Jul-19	14-Nov-19
Utilities parties coordination & Remaining Civil Provision - I	43	15-Nov-19	07-Jan-20

Sloping Seawall

Workshop & Amenities - Removal	48	26-Mar-19	27-May-19
Drainages & Watermain - Workshop & Amenities	96	09-May-19	31-Aug-19
Provision for Utilities - Workshop & Amenities	48	05-Aug-19	30-Sep-19
Utilities parties coordination & Remaining Civil Provision - I	80	02-Oct-19	07-Jan-20







Appendix C

Environmental Mitigation
and Enhancement Measure
Implementation Schedules

*Contract No. HY/2012/08
Tuen Mun – Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Environmental Mitigation and Enhancement Measure Implementation Schedule*

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
Air Quality									
4.8.1	3.8	An effective watering programme of twice daily watering with complete coverage, is estimated to reduce by 50%. This is recommended for all areas in order to reduce dust levels to a minimum;	All areas / throughout construction period	Contractor	TMEIA Avoid smoke impacts and disturbance		Y		✓
4.8.1	3.8	Watering of the construction sites in Lantau for 8 times/day and in Tuen Mun for 12 times/day to reduce dust emissions by 87.5% and 91.7% respectively and shall be undertaken.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	The Contractor shall, to the satisfaction of the Engineer, install effective dust suppression measures and take such other measures as may be necessary to ensure that at the Site boundary and any nearby sensitive receiver, dust levels are kept to acceptable levels.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	The Contractor shall not burn debris or other materials on the works areas.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	In hot, dry or windy weather, the watering programme shall maintain all exposed road surfaces and dust sources wet.	All unpaved haul roads / throughout construction period in hot, dry or windy weather	Contractor	TMEIA Avoid smoke impacts and disturbance		Y		✓
4.8.1	3.8	Where breaking of oversize rock/concrete is required, watering shall be implemented to control dust. Water spray shall be used during the handling of fill material at the site and at active cuts, excavation and fill sites where dust is likely to be created.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		<>
4.8.1	3.8	Open dropping heights for excavated materials shall be controlled to a maximum height of 2m to minimise the fugitive dust arising from unloading.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	During transportation by truck, materials shall not be loaded to a level higher than the side and tail boards, and shall be dampened or covered before transport.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓

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						D	C	O	
4.8.1	3.8	Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin. The tarpaulin shall be properly secured and shall extend at least 300mm over the edges of the side and tail boards.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	No earth, mud, debris, dust and the like shall be deposited on public roads. Wheel washing facility shall be usable prior to any earthworks excavation activity on the site.	All site exits / throughout construction period	Contractor	TMEIA Avoid dust		Y		✓
4.8.1	3.8	Areas of exposed soil shall be minimised to areas in which works have been completed shall be restored as soon as is practicable.	All exposed surfaces / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	All stockpiles of aggregate or spoil shall be enclosed or covered and water applied in dry or windy condition.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.11	Section 3	EM&A in the form of 1 hour and 24 hour dust monitoring and site audit.	All representative existing ASRs / throughout construction period	Contractor	EM&A Manual		Y		✓
WATER QUALITY									
<i>Marine Works (Sequence A)</i>									
6.1	Annex A	Construction of seawalls to be advanced by at least 200m before the main reclamation dredging and filling can commence. The protection by advanced seawall is a dynamic process depending on the progress of the construction activities and the stage when such protection could be realised is illustrated in Figure 6.2a and detailed in Appendix D6a. The part of the works where such measures can be undertaken for the majority of the time includes the following locations: - TM-CLKL northern reclamation;	All areas/ prior to dredging and backfilling works	Contractor	TM-EIAO		Y		✓
6.1	-	a maximum of 50% public fill to be used for all seawall filling below +2.5mPD for TM-CLKL southern and northern landfalls.	TM-CLKL seawall filling	Contractor	TM-EIAO		Y		✓

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						D	C	O	
6.1	-	a maximum of 30% public fill to be used for reclamation filling below +2.5mPD for TM-CLKL southern landfall	TM-CLKL southern landfall reclamation filling	Contractor	TM-EIAO		Y		N/A
6.1	-	a maximum of 100% public fill to be used for reclamation filling below +2.5mPD for TM-CLKL northern landfall	TM-CLKL northern landfall reclamation filling	Contractor	TM-EIAO		Y		✓
6.1	-	Use of cage type silt curtains round allgrab dredgers during the HKBCF, HKLR and TM-CLKL southern reclamation works.	All areas dredging works	Contractor	TM-EIAO		Y		✓
	Figure 1.1 of Annex C	A layer of floating type silt curtain will be applied when dredging and reclamation works are being undertaken at Portion N-a as shown in Figure 1.1 of Annex C of the EM&A Manual.	All areas/ through out marine works	Contractor	TM-EIAO		Y		✓
6.1	-	Trailer suction hopper dredgers shall not allow mud to overflow.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.1	-	The use of Lean Material Overboard (LMOB) systems shall be prohibited.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.1	Annex A Figure 6.2b Appendix D6b	For other parts of the reclamation works construction of seawalls to be advanced by at least 200m before the main reclamation dredging and filling can commence. It should be noted that the protection by advanced seawall is a dynamic process depending on the progress of the construction activities and the stage when such protection could be realised is illustrated in Figure 6.2b and detailed in Appendices D6b. The part of the works where such measures can be undertaken for the majority of the time includes the following locations: - TM-CLKL northern reclamation; - Reclamation filling for Portion D of HKBCF; Reclamation filling for FSD berth of HKBCF; and	TM-CLKL northern landfall, Portion D of HKBCF and HKLR	Contractor	TM-EIAO		Y		✓

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						D	C	O	
		- Reclamation dredging and filling for Portion 1 of HKLR;							
6.1	-	The filling material for the other parts of the works are the same as Sequence A;	All other areas/backfilling works	Contractor	TM-EIAO		Y		N/A
6.1	5.7	Cage type silt curtain (with steel enclosure) shall be used for grab dredgers working in the site of HKBCF and TM- CLKL southern reclamation. Cage type silt curtains will be applied round all grab dredgers at other works area.	HKBCF, HKLR and TM-CLKL grab dredging	Contractor	TM-EIAO		Y		✓
6.1	Annex A	A layer of floating type silt curtain will be applied around all works as defined in Appendix D6b.	All areas/ through out marine works	Contractor	TM-EIAO		Y		✓
6.1	-	TM-CLKL northern landfall: - Reclamation filling shall not proceed until at least 200m section of leading seawall at both the east and west sides of the reclamation are formed above +2.5 mPD, except for 100m gaps for marine access;	All areas/ through out marine works	Contractor	TM-EIAO		Y		✓
<i>General Marine Works</i>									
6.1	-	Use of TBM for the construction of the submarine tunnel.	Tunnel works / Construction phase	Contractor	TM-EIAO		Y		N/A
6.1	-	Export dredged spoils from NWWCZ.	All areas as much as possible / dredging activities	Contractor	DASO Permit conditions		Y		✓
6.1	-	Where public fill is proposed for filling below +2.5mPD, the fine content in the public fill will be controlled to 25%	All areas/ backfilling works	Contractor	TM-EIAO		Y		N/A
6.1	-	Where sand fill is proposed for filling below +2.5mPD, the fine content in the sand fill will be controlled to 5%.	All areas/ backfilling works	Contractor	TM-EIAO		Y		N/A
6.1	-	Mechanical grabs shall be designed and maintained to avoid spillage and should seal tightly while being lifted.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.1	-	Barges and hopper dredgers shall have tight fitting seals to their bottom openings to prevent leakage of material.	All areas/ throughout construction period	Contractor	Marine Fill Committee		Y		✓

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						D	C	O	
					Guidelines. DASO permit conditions.				
6.1	-	Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.1	-	Loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.1	-	Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.1	-	Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action;	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		N/A
6.1	-	All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		N/A
6.1	-	The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit		Y		✓

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						D	C	O	
					conditions.				
6.1	5.2	Silt curtain shall have proved effectiveness from the producer and shall be fully maintained throughout the works by the contractor.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	The daily maximum production rates shall not exceed those assumed in the water quality assessment.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	The dredging and filling works shall be scheduled to spread the works evenly over a working day.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
<i>Land Works</i>									
6.1	-	Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Sewage effluent and discharges from on- site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Temporary access roads should be surfaced with crushed stone or gravel.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓

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						D	C	O	
6.1	-	Measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	5.8	Manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	All vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		N/A
6.1	-	The Contractor shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓

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						D	C	O	
6.1	-	Waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance.	All areas/ throughout construction period	Contractor	TM-EIAO Waste Disposal Ordinance		Y		✓
6.1	-	All fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	Roadside gullies to trap silt and grit shall be provided prior to discharging the stormwater into the marine environment. The sumps will be maintained and cleaned at regular intervals.	Roadside/design and operation	Design Consultant/ Contractor	TM-EIAO	Y		Y	✓
6.1	Section 5	All construction works shall be subject to routine audit to ensure implementation of all EIA recommendations and good working practice.	All areas/ throughout construction period	Contractor	EM&A Manual		Y		✓
Water Quality Monitoring									
6.1	Section 5	Water quality monitoring shall be undertaken for suspended solids, turbidity, and dissolved oxygen. Nutrients and metal parameters shall also be measured for Mf sediment operations (only HKBCF and HKLR required handling of Mf sediment) during baseline, backfilling and post construction period. One year operation phase water quality monitoring at designated stations.	Designated monitoring stations as defined in EM&A Manual, Section 5/ Before, through-out marine construction period, post construction and monthly operational phase water quality monitoring for a year.	Contractor	EM&A Manual		Y	Y	✓
ECOLOGY									
8.14	6.3	Specification for and implement pre, during and post construction dolphin abundance monitoring.	All Areas/Detailed Design/ during construction works/post construction	Design Consultant/ Contractor	TMEIA	Y	Y	Y	✓
8.14	6.3,6.5	Specification and implementation of 250m dolphin exclusion zone.	All dredging and reclamation areas/Detailed Design/ during all reclamation and dredging works	Design Consultant/ Contractor	TMEIA	Y	Y		✓

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						D	C	O	
8.15	6.3, 6.5	Specification and deployment of an artificial reef of an area of 3,600m2 in an area where fishing activities are prohibited.	Area of prohibited fishing activities/Detailed Design/towards end of construction period	TM-CLKL/ HKBCF Design Consultant/TM-CLKL/ HKBCF Contractor	TMEIA	Y		Y	N/A. To be implemented by AFCD.
8.14	6.3, 6.5	Specification and implementation of marine vessel control specifications	All areas/Detailed Design/during construction works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.14	6.3, 6.5	Design and implementation of acoustic decoupling methods for dredging and reclamation works	All areas/ Detailed Design/during dredging and reclamation works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.3, 6.4	Pre-construction phase survey and coral translocation	Detailed Design/Prior to construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.5	Audit coral translocation success	Post translocation	Contractor	TMEIA		Y		✓
7.13	6.5	The loss of habitat shall be supplemented by enhancement planting in accordance with the landscape mitigation schedule.	All areas / As soon as accessible	Contractor	TMEIA		Y		N/A
7.13	6.5	Spoil heaps shall be covered at all times.	All areas / Throughout construction period	Contractor	TMEIA		Y		✓
7.13	6.5	Avoid damage and disturbance to the remaining and surrounding natural habitat	All areas / Throughout construction period	Contractor	TMEIA		Y		✓
7.13	6.5	Placement of equipment in designated areas within the existing disturbed land	All areas / Throughout construction period	Contractor	TMEIA		Y		✓
7.13	6.5	Disturbed areas to be reinstated immediately after completion of the works.	All areas / Throughout construction period	Contractor	TMEIA		Y		✓
7.13	6.5	Construction activities should be restricted to the proposed works boundary.	All areas / Throughout construction period	Contractor	TMEIA		Y		✓
LANDSCAPE AND VISUAL									
10.9	7.6	The colour and shape of the toll control buildings, ventilation building and administration building shall adopt a design which could blend it into the vicinity elements, and the details will be developed in detailed design stage (DM2)	All areas/detailed design	Design Consultant	TMEIA	Y			N/A

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						D	C	O	
10.9	7.6	Aesthetic design of the viaduct, retaining wall and other structures will be developed under ACABAS submission (DM5)	All areas/detailed design	Design Consultant	TMEIA	Y			N/A
10.9	7.6	Screening of construction works by hoardings around works area in visually unobtrusive colours, to screen works (CM5)	All areas/detailed design/ during construction/post construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Control night-time lighting and glare by hooding all lights (CM6)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Ensure no run-off into water body adjacent to the Project Area (CM7)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Avoidance of excessive height and bulk of buildings and structures (CM8)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Aesthetically pleasing design (visually unobtrusive and non-reflective) as regard to the form, material and finishes shall be incorporated to all buildings, engineering structures and associated infrastructure facilities (OM5)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	N/A
10.9	7.6	Avoidance of excessive height and bulk of buildings and structures (OM6)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	N/A
WASTE									
12.6		The Contractor shall identify a coordinator for the management of waste.	Contract mobilisation	Contractor	TMEIA		Y		✓
12.6		The Contractor shall prepare and implement a Waste Management Plan which specifies procedures such as a ticketing system, to facilitate tracking of loads and to ensure that illegal disposal of wastes does not occur, and protocols for the maintenance of records of the quantities of wastes generated, recycled and disposed. A recording system for the amount of waste generated, recycled and disposed (locations) should be established.	Contract mobilisation	Contractor	TMEIA, Works Branch Technical Circular No. 5/99 for the Trip-ticket System for Disposal of Construction and Demolition Material		Y		✓
12.6		The Contractor shall apply for and obtain the appropriate licenses for the disposal of public fill, chemical waste and effluent discharges.	Contract mobilisation	Contractor	TMEIA, Land (Miscellaneous		Y		✓

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						D	C	O	
					Provisions) Ordinance (Cap 28); Waste Disposal Ordinance (Cap 354); Dumping at Sea Ordinance (Cap 466); Water Pollution Control Ordinance.				
12.6	8.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures including waste reduction, reuse and recycling.	Contract Mobilisation	Contractor	TMEIA		Y		✓
12.6	8.1	The extent of cutting operation should be optimised where possible. Earth retaining structures and bored pile walls should be proposed to minimise the extent of cutting.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The surplus surcharge should be transferred to a fill bank	Reclamation areas / after surcharge works	Contractor	TMEIA		Y		N/A
12.6	8.1	Rock armour from the existing seawall should be reused on the new sloping seawall as far as possible	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The site and surroundings shall be kept tidy and litter free.	All areas / throughout construction period	Contractor	TMEIA		Y		<>
12.6	8.1	No waste shall be burnt on site.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Provisions to be made in contract documents to allow and promote the use of recycled aggregates where appropriate.	Detailed Design	Design Consultant	TMEIA	Y			✓
12.6	8.1	The Contractor shall be prohibited from disposing of C&D materials at any sensitive locations. The Contractor should propose the final disposal sites in the EMP and WMP for approval before implementation.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Stockpiled material shall be covered by tarpaulin and /or watered as appropriate to prevent windblown dust/ surface run off.	All areas / throughout construction period	Contractor	TMEIA		Y		✓

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						D	C	O	
12.6	8.1	Excavated material in trucks shall be covered by tarpaulins to reduce the potential for spillage and dust generation.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Wheel washing facilities shall be used by all trucks leaving the site to prevent transfer of mud onto public roads.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Dredged marine mud shall be disposed of in a gazetted marine disposal ground under the requirements of the Dumping at Seas Ordinance.	Reclamation areas / throughout dredging works	Contractor	TMEIA		Y		✓
12.6	8.1	Standard formwork or pre-fabrication should be used as far as practicable so as to minimise the C&D materials arising. The use of more durable formwork/plastic facing for construction works should be considered. The use of wooden hoardings should be avoided and metal hoarding should be used to facilitate recycling. Purchasing of construction materials should avoid over-ordering and wastage.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The Contractor should recycle as many C&D materials (this is a waste section) as possible on-site. The public fill and C&D waste should be segregated and stored in separate containers or skips to facilitate the reuse or recycling of materials and proper disposal. Where practicable, the concrete and masonry should be crushed and used as fill materials. Steel reinforcement bar should be collected for use by scrap steel mills. Different areas of the sites should be considered for segregation and storage activities.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	All falsework will be steel instead of wood.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Chemical waste producers should register with the EPD. Chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows: f suitable for the substance to be held, resistant to corrosion, maintained in good conditions and securely closed;	All areas / throughout construction period	Contractor	TMEIA		Y		<>

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

*Contract No. HY/2012/08
Tuen Mun – Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Environmental Mitigation and Enhancement Measure Implementation Schedule*

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
		<p><i>f</i> Having a capacity of <450L unless the specifications have been approved by the EPD; and</p> <p>w Chinese according to the instructions prescribed in Schedule 2 of the Regulations.</p> <p><i>f</i> Clearly labelled and used solely for the storage of chemical wastes;</p> <p><i>f</i> Enclosed with at least 3 sides;</p> <p><i>f</i> Impermeable floor and bund with capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is greatest;</p> <p><i>f</i> Adequate ventilation;</p> <p><i>f</i> Sufficiently covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and</p> <p><i>f</i> Incompatible materials are adequately separated.</p>							
12.6	8.1	Waste oils, chemicals or solvents shall not be disposed of to drain,	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Adequate numbers of portable toilets should be provided for on-site workers. Portable toilets should be maintained in reasonable states, which will not deter the workers from utilising them.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Night soil should be regularly collected by licensed collectors.	All areas / throughout construction period	Contractor	TMEIA		Y		N/A

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

Contract No. HY/2012/08
Tuen Mun – Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Environmental Mitigation and Enhancement Measure Implementation Schedule

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
12.6	8.1	General refuse arising on-site should be stored in enclosed bins or compaction units separately from C&D and chemical wastes. Sufficient dustbins shall be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By-laws. In addition, general refuse shall be cleared daily and shall be disposed of to the nearest licensed landfill or refuse transfer station. Burning of refuse on construction sites is prohibited.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	All waste containers shall be in a secure area on hardstanding;	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including waste reduction, reuse and recycling.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Office wastes can be reduced by recycling of paper if such volume is sufficiently large to warrant collection. Participation in a local collection scheme by the Contractor should be advocated. Waste separation facilities for paper, aluminium cans, plastic bottles, etc should be provided on-site.	Site Offices/ throughout construction period	Contractor	TMEIA		Y		✓
12.6	Section 8	EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site audit programme shall be undertaken.	All areas / throughout construction period	Contractor	EM&A Manual		Y		✓
CULTURAL HERITAGE									
11.8	Section 9	EM&A in the form of audit of the mitigation measures	All areas / throughout construction period	Highways Department	EIAO-TM		Y		N/A

*** Remarks:**

- ✓ Compliance of Mitigation Measures
- <> Compliance of Mitigation but need improvement
- x Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by Contractor
- Δ Deficiency of Mitigation Measures but rectified by Contractor
- N/A Not Applicable in Reporting Period

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

Appendix D

Summary of Action and Limit Levels

Table D1 *Action and Limit Levels for 1-hour and 24-hour TSP*

Parameters	Action	Limit
24 Hour TSP Level in $\mu\text{g}/\text{m}^3$	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214	260
1 Hour TSP Level in $\mu\text{g}/\text{m}^3$	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337	500

Table D2 *Action and Limit Levels for Water Quality*

Parameter	Action Level#	Limit Level#
DO in mg/L ^(a)	<u>Surface and Middle</u> 5.0 mg/L	<u>Surface and Middle</u> 4.2 mg/L
	<u>Bottom</u> 4.7 mg/L	<u>Bottom</u> 3.6 mg/L
Turbidity in NTU (Depth-averaged ^{(b), (c)})	120% of upstream control station at the same tide of the same day and 95%-ile of baseline data, i.e., 27.5 NTU	130% of upstream control station at the same tide of the same day and 99%-ile of baseline data, i.e., 47.0 NTU
SS in mg/L (Depth-averaged ^{(b), (c)})	120% of upstream control station at the same tide of the same day and 95%-ile of baseline data, i.e., 23.5 mg/L	130% of upstream control station at the same tide of the same day and 10mg/L for WSD Seawater Intakes at Tuen Mun and 99%-ile of baseline data, i.e., 34.4 mg/L

Notes:

Baseline data: data from HKZMB Baseline Water Quality Monitoring between 6 and 31 October 2011.

- (a) For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- (b) "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths
- (c) For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
- (d) All figures given in the table are used for reference only, and EPD may amend the figures whenever it is considered as necessary
- (e) The 1%-ile of baseline data for surface and middle DO is 4.2 mg/L, whilst for bottom DO is 3.6 mg/L.
- (f) The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

Table D3 *Action and Limit Levels for Impact Dolphin Monitoring*

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

Notes:

1. STG means quarterly encounter rate of number of dolphin sightings, which is **6.00 in NEL** and **9.85 in NWL** during the baseline monitoring period
2. ANI means quarterly encounter rate of total number of dolphins, which is **22.19 in NEL** and **44.66 in NWL** during the baseline monitoring period
3. For North Lantau Social Cluster, AL will be trigger if NEL or NWL fall below the criteria; LL will be triggered if both NEL and NWL fall below the criteria.

Table D4 *Derived Value of Action Level (AL) and Limit Level (LL)*

	North Lantau Social Cluster	
	NEL	NWL
Action Level	STG < 4.2 & ANI < 15.5	STG < 6.9 & ANI < 31.3
Limit Level	NEL = [STG < 2.4 & ANI < 8.9] and NWL = [STG < 3.9 & ANI < 17.9]	

Appendix E

Copies of
Calibration
Certificates for Air
and Water Quality
Monitoring

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR 5
 Calibrated by : P.F. Yeung
 Date : 08/08/2019

Sampler

Model : TE-5170
 Serial Number : S/N 0816

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 25 February 2019
 Slope (m) : 2.07076
 Intercept (b) : -0.02917
 Correlation Coefficient(r) : 1.00000

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1004
 Ta(K) : 303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.2	3.448	1.679	56	55.29
2	13 holes	9.4	3.027	1.476	51	50.35
3	10 holes	7.2	2.649	1.293	46	45.42
4	7 holes	4.6	2.118	1.037	38	37.52
5	5 holes	2.5	1.561	0.768	30	29.62

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 28.457

Intercept(b): 8.049

Correlation Coefficient(r): 0.9991

Checked by: Magnum Fan

Date: 13/08/2019

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR10
 Calibrated by : P.F. Yeung
 Date : 08/08/2019

Sampler

Model : TE-5170
 Serial Number : S/N 8162

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 25 February 2019
 Slope (m) : 2.07076
 Intercept (b) : -0.02917
 Correlation Coefficient(r) : 1.00000

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1004
 Ta(K) : 303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.4	3.334	1.624	54	53.31
2	13 holes	9.2	2.995	1.460	50	49.37
3	10 holes	6.5	2.517	1.230	45	44.43
4	7 holes	4.4	2.071	1.014	37	36.53
5	5 holes	2.5	1.561	0.768	30	29.62

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 27.987 Intercept(b): 8.530 Correlation Coefficient(r): 0.9920

Checked by: Magnum Fan

Date: 13/08/2019

High-Volume TSP Sampler
5-Point Calibration Record

Location : AQMS1
 Calibrated by : P.F.Yeung
 Date : 08/08/2019

Sampler

Model : TE-5170
 Serial Number : S/N 1253

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 25 February 2019
 Slope (m) : 2.07076
 Intercept (b) : -0.02917
 Correlation Coefficient(r) : 1.00000

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1004
 Ta(K) : 303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.0	3.420	1.666	56	55.29
2	13 holes	9.4	3.027	1.476	50	49.37
3	10 holes	6.5	2.517	1.230	45	44.43
4	7 holes	4.4	2.071	1.014	38	37.52
5	5 holes	2.6	1.592	0.783	30	29.62

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 29.118

Intercept(b): 8.273

Correlation Coefficient(r): 0.9959

Checked by: Magnum Fan

Date: 13/08/2019

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR 1
 Calibrated by : P.F.Yeung
 Date : 08/08/2019

Sampler

Model : TE-5170
 Serial Number : S/N 0146

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 25 February 2019
 Slope (m) : 2.07076
 Intercept (b) : -0.02917
 Correlation Coefficient(r) : 1.00000

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1004
 Ta(K) : 303

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	11.6	3.363	1.638	52	51.34
2 13 holes	9.0	2.962	1.444	48	47.39
3 10 holes	6.6	2.536	1.239	41	40.48
4 7 holes	4.4	2.071	1.014	35	34.56
5 5 holes	2.6	1.592	0.783	27	26.66

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 29.118 Intercept(b): 4.454 Correlation Coefficient(r): 0.9973

Checked by: Magnum Fan

Date: 13/08/2019

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR 6
 Calibrated by : P.F. Yeung
 Date : 08/08/2019

Sampler

Model : TE-5170
 Serial Number : S/N 3957

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 25 February 2019
 Slope (m) : 2.07076
 Intercept (b) : -0.02917
 Correlation Coefficient(r) : 1.00000

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1004
 Ta(K) : 303

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	12.0	3.420	1.666	55	54.30
2 13 holes	9.2	2.995	1.460	50	49.37
3 10 holes	7.0	2.612	1.276	45	44.43
4 7 holes	4.6	2.118	1.037	38	37.52
5 5 holes	2.8	1.652	0.812	30	29.62

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship (Linear Regression)

Slope(m): 28.794 Intercept(b): 7.053 Correlation Coefficient(r): 0.9973

Checked by: Magnum Fan

Date: 13/08/2019



RECALIBRATION

DUE DATE:

February 25, 2020

Certificate of Calibration

Calibration Certification Information			
Cal. Date: February 25, 2019	Rootsmeter S/N: 438320	Ta: 294 °K	
Operator: Jim Tisch		Pa: 762.0 mm Hg	
Calibration Model #: TE-5025A	Calibrator S/N: 2454		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4400	3.2	2.00
2	3	4	1	1.0200	6.4	4.00
3	5	6	1	0.9120	7.9	5.00
4	7	8	1	0.8700	8.8	5.50
5	9	10	1	0.7180	12.8	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)}$ (y-axis)
1.0120	0.7028	1.4257	0.9958	0.6915	0.8784
1.0077	0.9880	2.0162	0.9916	0.9722	1.2423
1.0057	1.1028	2.2542	0.9896	1.0851	1.3889
1.0045	1.1546	2.3642	0.9885	1.1362	1.4567
0.9992	1.3916	2.8513	0.9832	1.3694	1.7569
QSTD	m= 2.07076		QA	m= 1.29667	
	b= -0.02917			b= -0.01797	
	r= 1.00000			r= 1.00000	

Calculations	
Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
For subsequent flow rate calculations:	
Qstd= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsmeter manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

RECALIBRATION
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30



輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration

校正證書

Certificate No. : C184960

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC18-1761) Date of Receipt / 收件日期 : 23 August 2018

Description / 儀器名稱 : Anemometer
Manufacturer / 製造商 : Lutron
Model No. / 型號 : AM-4201
Serial No. / 編號 : AF.27513
Supplied By / 委託者 : Envirotech Services Co.
Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(50 \pm 25)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 5 September 2018

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- Testo Industrial Services GmbH, Germany

Tested By
測試

:

T L Shek
Assistant Engineer

Certified By
核證

:

H C Chan
Engineer

Date of Issue
簽發日期

:

6 September 2018

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Sun Creation Engineering Limited – Calibration & Testing Laboratory

c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 — 校正及檢測實驗室

c/o 香港新界屯門興安里一號四樓

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輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C184960

證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
2. The results presented are the mean of 10 measurements at each calibration point.
3. Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL386	Multi-function Measuring Instrument	S16493

4. Test procedure : MA130N.

5. Results :

Air Velocity

Applied Value (m/s)	UUT Reading (m/s)	Measured Correction		
		Value (m/s)	Measurement Uncertainty	
			Expanded Uncertainty (m/s)	Coverage Factor
2.0	1.7	+0.3	0.2	2.0
4.0	3.8	+0.2	0.3	2.0
6.0	5.8	+0.2	0.3	2.0
8.0	7.9	+0.1	0.3	2.0
10.0	10.0	0.0	0.4	2.0

Remarks : - The Measured Corrections are defined as :
Value = Applied Value - UUT Reading

- The expanded uncertainties are for a level of confidence of 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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Fax/傳真: (852) 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com

ENVIROTECH SERVICES CO.

Calibration Report of Wind Meter

Date of Calibration : 15 August 2019

Brand of Test Meter: Davis

Model: Vantage Pro 2 (s/n: AS160104014)

Location : Roof of Tuen Mun Firestation

Procedures :

- 1. Wind Still Test: The wind speed sensor was hold by hand until it keep still
- 2. Wind Speed Test: The wind meter was on-site calibrated against the Anemometer
- 3. Wind Direction Test : The wind meter was on-site calibrated against the marine compass at four directions

Results:

Wind Still Test

Wind Speed (m/s)
0.00

Wind Speed Test

Davis (m/s)	Anemometer (m/s)
3.3	3.7
2.8	2.4
1.1	1.2

Wind Direction Test

Davis (o)	Marine Compass (o)
270	270
0	0
89	90
181	180

Calibrated by: Ho
Yeung Ping Fai
(Technical Officer)

Checked by : Fat
Ho Kam Fat
(Senior Technical Officer)



專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AI060143
Date of Issue : 25 June, 2019
Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment : YSI ProDSS (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 17E100747
Date of Received : Jun 25, 2019
Date of Calibration : Jun 25, 2019
Date of Next Calibration^(a) : Sep 25, 2019

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.01	0.01	Satisfactory
7.42	7.41	-0.01	Satisfactory
10.01	10.03	0.02	Satisfactory

Tolerance of pH should be less than ±0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
15.0	15.2	0.2	Satisfactory
30.0	30.0	0.0	Satisfactory
48.0	47.9	-0.1	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

- ^(a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.
^(b) The results relate only to the calibrated equipment as received
^(c) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
^(d) "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
^(e) The "Tolerance Limit" mentioned is referenced to YSI product specifications.

APPROVED SIGNATORY:

LAM Ho-ye, Emma
Assistant Laboratory Manager



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QUALITY PRO TEST-CONSULT LIMITED

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AI060143
Date of Issue : 25 June, 2019
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PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.03	-0.42	Satisfactory
2.84	3.26	0.42	Satisfactory
5.21	5.29	0.08	Satisfactory
8.03	7.64	-0.39	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading ($\mu\text{S}/\text{cm}$)	Displayed Reading ($\mu\text{S}/\text{cm}$)	Tolerance (%)	Results
0.001	146.9	145.1	-1.2	Satisfactory
0.01	1412	1402	-0.7	Satisfactory
0.1	12890	12921	0.2	Satisfactory
0.5	58670	56719	-3.3	Satisfactory
1.0	111900	111688	-0.2	Satisfactory

Tolerance limit of conductivity should be less than ± 10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.96	-0.4	Satisfactory
20	20.13	0.6	Satisfactory
30	30.00	0.0	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.01	--	Satisfactory
10	10.05	0.5	Satisfactory
20	20.12	0.6	Satisfactory
100	100.90	0.9	Satisfactory
800	805.40	0.7	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

^(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

^(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.



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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AI060144
Date of Issue : 25 June, 2019
Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment : YSI ProDSS (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 15M100005
Date of Received : Jun 25, 2019
Date of Calibration : Jun 25, 2019
Date of Next Calibration^(a) : Sep 25, 2019

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.02	0.02	Satisfactory
7.42	7.40	-0.02	Satisfactory
10.01	10.01	0.00	Satisfactory

Tolerance of pH should be less than ±0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
15.0	15.1	0.1	Satisfactory
30.0	29.8	-0.2	Satisfactory
48.0	48.1	0.1	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

- ^(a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.
^(b) The results relate only to the calibrated equipment as received
^(c) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
^(d) "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
^(e) The "Tolerance Limit" mentioned is referenced to YSI product specifications.

APPROVED SIGNATORY:

LAM Ho-ye, Emma
Assistant Laboratory Manager



REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

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Date of Issue : 25 June, 2019
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PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.03	-0.42	Satisfactory
2.88	3.26	0.38	Satisfactory
5.23	5.29	0.06	Satisfactory
8.12	7.64	-0.48	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading ($\mu\text{S}/\text{cm}$)	Displayed Reading ($\mu\text{S}/\text{cm}$)	Tolerance (%)	Results
0.001	146.9	142.8	-2.8	Satisfactory
0.01	1412	1398	-1.0	Satisfactory
0.1	12890	12934	0.3	Satisfactory
0.5	58670	56361	-3.9	Satisfactory
1.0	111900	111597	-0.3	Satisfactory

Tolerance limit of conductivity should be less than ± 10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.94	-0.6	Satisfactory
20	20.00	0.0	Satisfactory
30	30.14	0.5	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.00	--	--
10	10.07	0.7	Satisfactory
20	20.11	0.5	Satisfactory
100	101.20	1.2	Satisfactory
800	804.30	0.5	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

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^(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.



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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AI070143
Date of Issue : 25 July, 2019
Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment : YSI 6920V2 (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 0001C6A7
Date of Received : Jul 24, 2019
Date of Calibration : Jul 24, 2019
Date of Next Calibration^(a) : Oct 24, 2019

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

<u>Parameter</u>	<u>Reference Method</u>
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.08	0.08	Satisfactory
7.42	7.38	-0.04	Satisfactory
10.01	10.05	0.04	Satisfactory

Tolerance of pH should be less than ± 0.20 (pH unit)

(2) Temperature


Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
23.0	23.32	0.32	Satisfactory
28.0	27.65	-0.35	Satisfactory
48.0	49.6	1.6	Satisfactory

Tolerance limit of temperature should be less than ± 2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

- ^(a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.
^(b) The results relate only to the calibrated equipment as received
^(c) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
^(d) "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
^(e) The "Tolerance Limit" mentioned is referenced to YSI product specifications.


LEE Chun-ning, Desmond
Senior Chemist



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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AI070143
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PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.02	0.48	0.46	Satisfactory
3.66	3.50	-0.16	Satisfactory
5.70	5.78	0.08	Satisfactory
7.64	7.49	-0.15	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading ($\mu\text{S/cm}$)	Displayed Reading ($\mu\text{S/cm}$)	Tolerance (%)	Results
0.001	146.9	140.2	-4.56	Satisfactory
0.01	1412	1386	-1.84	Satisfactory
0.1	12890	12742	-1.15	Satisfactory
0.5	58670	56780	-3.22	Satisfactory
1.0	111900	107432	-3.99	Satisfactory

Tolerance limit of conductivity should be less than ± 10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.95	-0.50	Satisfactory
20	19.95	-0.25	Satisfactory
30	30.04	0.13	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.1	--	Satisfactory
10	9.8	-2.0	Satisfactory
20	19.4	-3.0	Satisfactory
100	97.2	-2.8	Satisfactory
800	776.3	-3.0	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

^(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

^(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.



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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AI080035
Date of Issue : 06 Aug, 2019
Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment : YSI 6920V2 (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 18A104824
Date of Received : Aug 02, 2019
Date of Calibration : Aug 02, 2019
Date of Next Calibration^(a) : Nov 02, 2019

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

<u>Parameter</u>	<u>Reference Method</u>
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.01	0.01	Satisfactory
7.42	7.44	0.02	Satisfactory
10.01	10.00	-0.01	Satisfactory

Tolerance of pH should be less than ± 0.20 (pH unit)

(2) Temperature


Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
11.5	11.4	-0.1	Satisfactory
26.0	25.9	-0.1	Satisfactory
51.5	52.0	0.5	Satisfactory

Tolerance limit of temperature should be less than ± 2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

- ^(a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.
- ^(b) The results relate only to the calibrated equipment as received
- ^(c) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
- ^(d) "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
- ^(e) The "Tolerance Limit" mentioned is referenced to YSI product specifications.


LEE Chun-ning, Desmond
Senior Chemist



REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AI080035
Date of Issue : 06 Aug, 2019
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PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.01	0.26	0.25	Satisfactory
1.68	1.82	0.14	Satisfactory
4.52	4.83	0.21	Satisfactory
7.84	8.04	0.20	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading ($\mu\text{S}/\text{cm}$)	Displayed Reading ($\mu\text{S}/\text{cm}$)	Tolerance (%)	Results
0.001	146.9	144.3	-1.8	Satisfactory
0.01	1412	1394	-1.3	Satisfactory
0.1	12890	12677	-1.7	Satisfactory
0.5	58670	58642	0.0	Satisfactory
1.0	111900	112012	0.1	Satisfactory

Tolerance limit of conductivity should be less than ± 10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.06	0.6	Satisfactory
20	20.22	1.1	Satisfactory
30	30.17	0.6	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ⁽¹⁾ (NTU)	Tolerance ⁽²⁾ (%)	Results
0	0.01	--	Satisfactory
10	10.04	0.4	Satisfactory
20	20.09	0.4	Satisfactory
100	100.19	0.2	Satisfactory
800	801.44	0.2	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

⁽¹⁾ "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

⁽²⁾ The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.



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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AI080036
 Date of Issue : 06 Aug, 2019
 Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
 Flat 2207, Yu Fun House,
 Yu Chui Court, Shatin
 New Territories, Hong Kong
 Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment : YSI 6920V2 (Multi-Parameters)
 Manufacturer : YSI (a xylem brand)
 Serial Number : 17H105557
 Date of Received : Aug 02, 2019
 Date of Calibration : Aug 02, 2019
 Date of Next Calibration^(a) : Nov 02, 2019

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	3.98	-0.02	Satisfactory
7.42	7.40	-0.02	Satisfactory
10.01	10.01	0.00	Satisfactory

Tolerance of pH should be less than ± 0.20 (pH unit)

(2) Temperature


Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
11.5	11.3	-0.2	Satisfactory
26.0	25.9	-0.1	Satisfactory
51.5	52.0	0.5	Satisfactory

Tolerance limit of temperature should be less than ± 2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

- ^(a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.
^(b) The results relate only to the calibrated equipment as received
^(c) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
^(d) "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
^(e) The "Tolerance Limit" mentioned is referenced to YSI product specifications.


 LEE Chun-ning, Desmond
 Senior Chemist



REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AI080036
Date of Issue : 06 Aug, 2019
Page No. : 2 of 2

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.01	0.27	0.26	Satisfactory
1.68	1.75	0.07	Satisfactory
4.52	4.81	0.29	Satisfactory
7.84	8.00	0.16	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading ($\mu\text{S/cm}$)	Displayed Reading ($\mu\text{S/cm}$)	Tolerance (%)	Results
0.001	146.9	152.6	3.9	Satisfactory
0.01	1412	1389	-1.6	Satisfactory
0.1	12890	12452	-3.4	Satisfactory
0.5	58670	58588	-0.1	Satisfactory
1.0	111900	111882	0.0	Satisfactory

Tolerance limit of conductivity should be less than ± 10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.08	0.8	Satisfactory
20	20.35	1.8	Satisfactory
30	30.00	0.0	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.00	--	Satisfactory
10	10.03	0.3	Satisfactory
20	20.11	0.5	Satisfactory
100	100.07	0.1	Satisfactory
800	800.35	0.0	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

^(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

^(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.

Appendix F

EM&A Monitoring Schedules

**HY/2012/08 - Tuen Mun - Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Air Quality Impact Monitoring Schedule - September 2019**

Air quality monitoring stations: ASR1, ASR5, ASR6, ASR10, AQMS1

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Sep	2-Sep	3-Sep	4-Sep	5-Sep	6-Sep	7-Sep
1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM				1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM		
8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep
1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM			1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM			1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM
15-Sep	16-Sep	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep
		1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM			1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM	
22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep
1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM				1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM		
29-Sep	30-Sep					
1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM						

**HY/2012/08 - Tuen Mun - Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Tentative Air Quality Impact Monitoring Schedule - October 2019**

Air quality monitoring stations: ASR1, ASR5, ASR6, ASR10, AQMS1

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
		Public Holiday	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct
			1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM				1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM
6-Oct	Public Holiday	7-Oct	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct
		1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM			1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM		
13-Oct	14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	
1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM				1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM			
20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	
1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM			1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM			1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM	
27-Oct	28-Oct	29-Oct	30-Oct	31-Oct			
		1-hour TSP - 3 times 24-hour TSP - 1 time Impact AQM					

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

HY/2012/08 - Tuen Mun - Chek Lap Kok Link - Northern Landfall
Impact Marine Water Quality Monitoring (WQM) Schedule (September 2019)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1/Sep	2/Sep	3/Sep	4/Sep	5/Sep	6/Sep	7/Sep
	ebb tide 13:25 - 16:55 flood tide Cancelled due to adverse weather		ebb tide 14:57 - 18:27 flood tide 8:52 - 12:22		ebb tide 16:57 - 20:27 flood tide 11:32 - 15:02	
8/Sep	9/Sep	10/Sep	11/Sep	12/Sep	13/Sep	14/Sep
	ebb tide 8:14 - 11:44 flood tide 16:00 - 19:30		ebb tide 9:47 - 13:17 flood tide 16:59 - 20:29		ebb tide 11:00 - 14:30 flood tide 17:48 - 21:18	Public Holiday
15/Sep	16/Sep	17/Sep	18/Sep	19/Sep	20/Sep	21/Sep
	ebb tide 12:28 - 15:58 flood tide 6:12 - 9:42		ebb tide 13:28 - 16:58 flood tide 7:30 - 11:00		ebb tide 14:44 - 18:14 flood tide 9:11 - 12:41	
22/Sep	23/Sep	24/Sep	25/Sep	26/Sep	27/Sep	28/Sep
	ebb tide 5:25 - 8:55 flood tide 18:18 - 21:00		ebb tide 8:11 - 11:41 flood tide 15:40 - 19:10		ebb tide 10:02 - 13:32 flood tide 16:51 - 20:21	
29/Sep	30/Sep					
	ebb tide 12:19 - 15:49 flood tide 6:01 - 9:31					

**HY/2012/08 - Tuen Mun - Chek Lap Kok Link - Northern Landfall
Impact Marine Water Quality Monitoring (WQM) Schedule (October 2019)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		Public Holiday 1/Oct	2/Oct	3/Oct	4/Oct	5/Oct
			ebb tide 13:48 - 17:18 flood tide 7:52 - 11:22		ebb tide 15:24 - 18:54 flood tide 10:00 - 13:30	
6/Oct	Public Holiday 7/Oct	8/Oct	9/Oct	10/Oct	11/Oct	12/Oct
	ebb tide 6:08 - 9:38 flood tide 14:47 - 18:17		ebb tide 8:31 - 12:01 flood tide 15:55 - 19:25		ebb tide 9:55 - 13:25 flood tide 16:40 - 20:10	
13/Oct	14/Oct	15/Oct	16/Oct	17/Oct	18/Oct	19/Oct
	ebb tide 11:29 - 14:59 flood tide 5:27 - 8:57		ebb tide 12:31 - 16:01 flood tide 6:43 - 10:13		ebb tide 13:45 - 17:15 flood tide 8:14 - 11:44	
20/Oct	21/Oct	22/Oct	23/Oct	24/Oct	25/Oct	26/Oct
	ebb tide 3:41 - 7:11 flood tide 16:12 - 19:00		ebb tide 7:00 - 9:49 flood tide 14:24 - 17:54		ebb tide 8:48 - 12:18 flood tide 15:38 - 19:08	
27/Oct	28/Oct	29/Oct	30/Oct	31/Oct		
	ebb tide 11:15 - 14:45 flood tide 5:10 - 8:40		ebb tide 12:47 - 16:17 flood tide 7:01 - 10:31			

**HY/2012/08 - Tuen Mun - Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Impact Dolphin Monitoring Survey Monitoring Schedule - September 2019**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Sep	2-Sep	3-Sep	4-Sep	5-Sep	6-Sep	7-Sep
			Impact Dolphin Monitoring			
8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep Public Holiday
			Impact Dolphin Monitoring			
15-Sep	16-Sep	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep
		Impact Dolphin Monitoring				
22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep
	Impact Dolphin Monitoring					
29-Sep	30-Sep					

**HY/2012/08 - Tuen Mun - Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Tentative Impact Dolphin Monitoring Survey Monitoring Schedule - October 2019**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		Public Holiday 1-Oct	2-Oct	3-Oct	4-Oct	5-Oct
6-Oct	Public Holiday 7-Oct	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct
		Impact Dolphin Monitoring	Impact Dolphin Monitoring			
13-Oct	14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct
20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct
			Impact Dolphin Monitoring			
27-Oct	28-Oct	29-Oct	30-Oct	31-Oct		
	Impact Dolphin Monitoring					

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

Appendix G

Impact Air Quality Monitoring Results

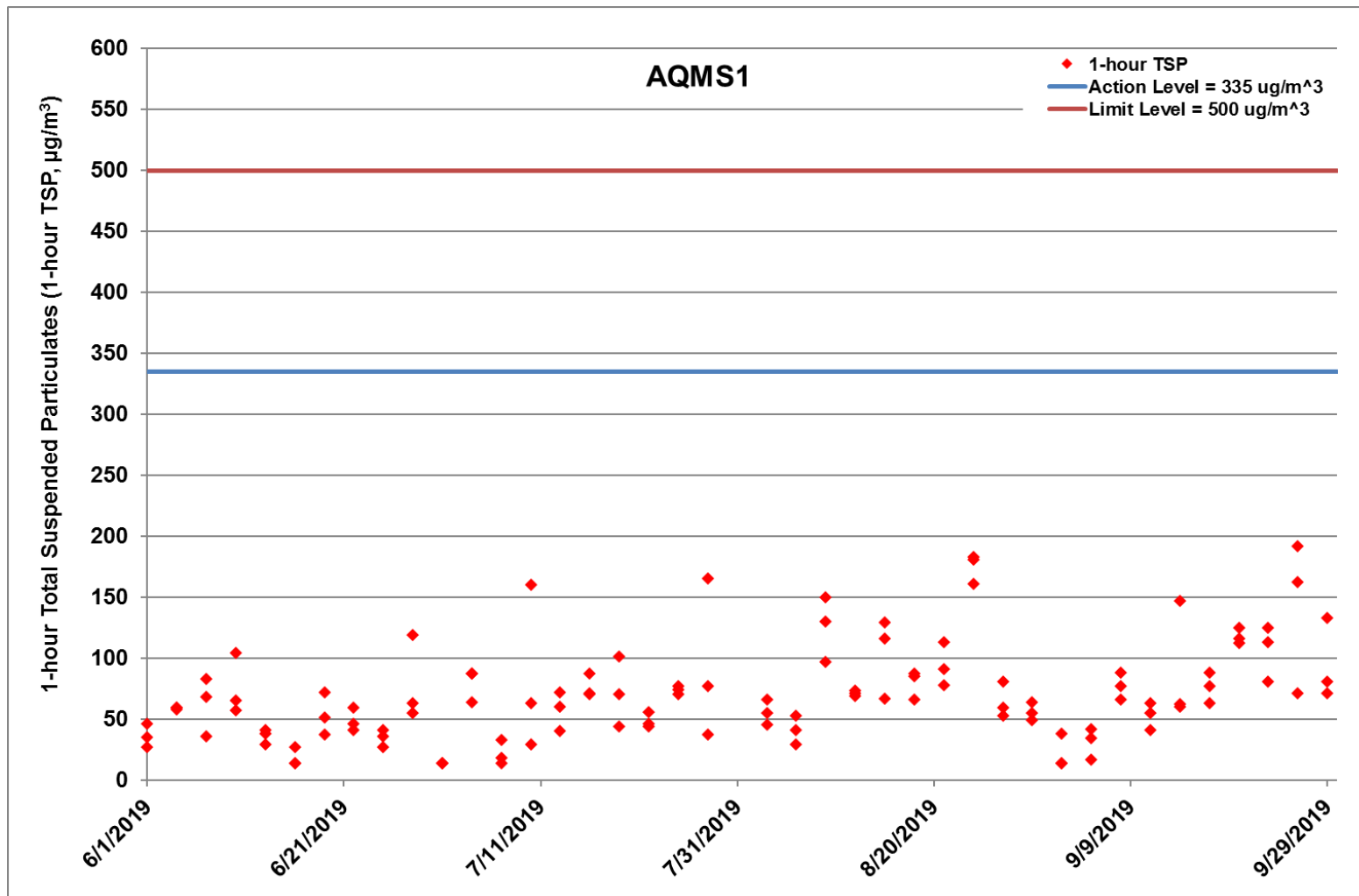


Figure G.1 Impact Monitoring – 1-hour Total Suspended Particulates ($\mu\text{g}/\text{m}^3$) at AQMS1 between 1 June 2019 and 30 September 2019 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Backfilling, Road & Drainage Works (1/6/2019 – 30/9/2019)

Ref: 0212330_Impact AQM graphs_September 2019_REV a.xlsx



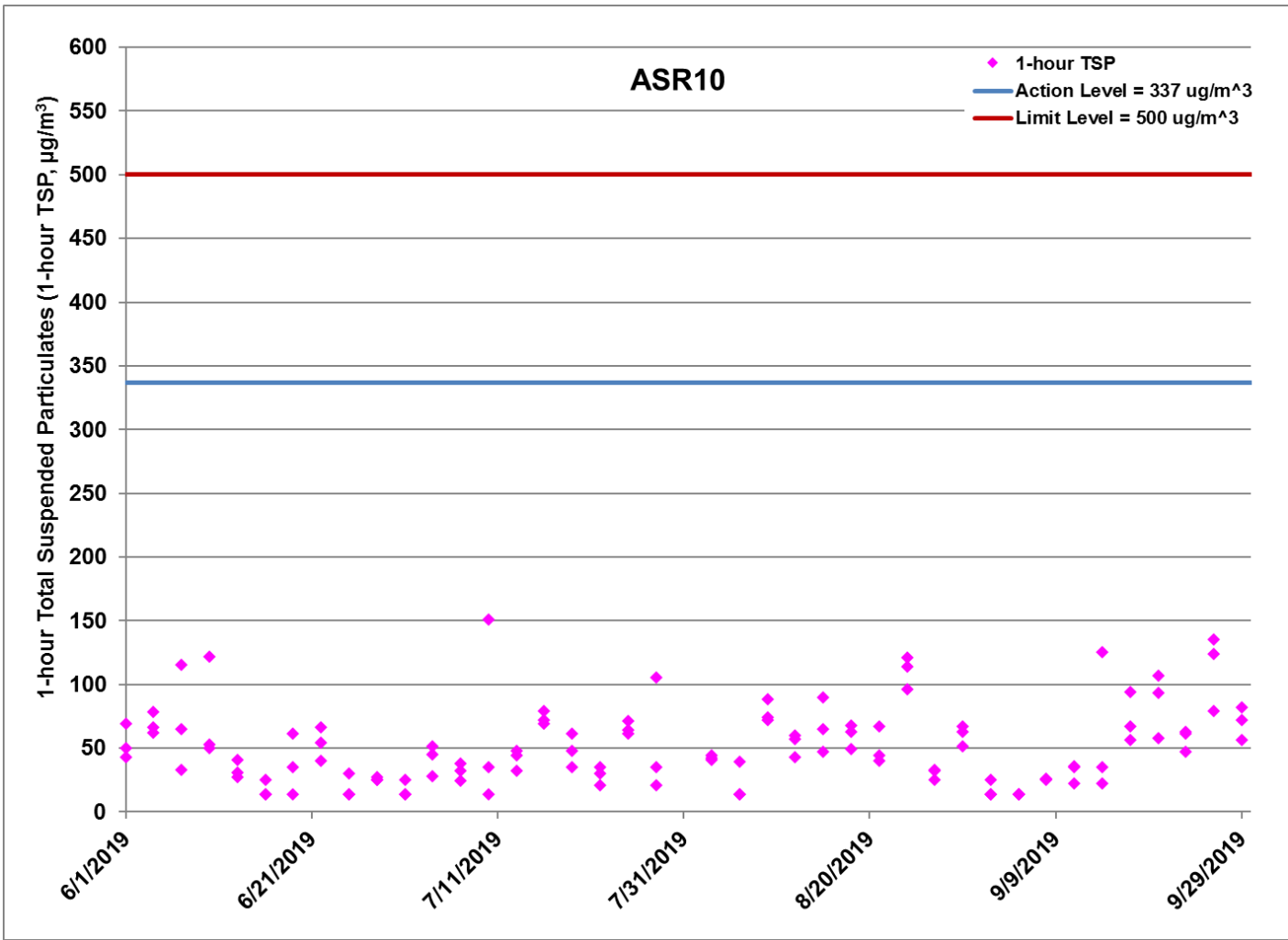


Figure G.5 Impact Monitoring - 1-hour Total Suspended Particulates ($\mu\text{g}/\text{m}^3$) at ASR10 between 1 June 2019 and 30 September 2019 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Backfilling, Road & Drainage Works (1/6/2019 - 30/9/2019)

Ref: 0212330_Impact AQM graphs_September 2019_REV a.xlsx



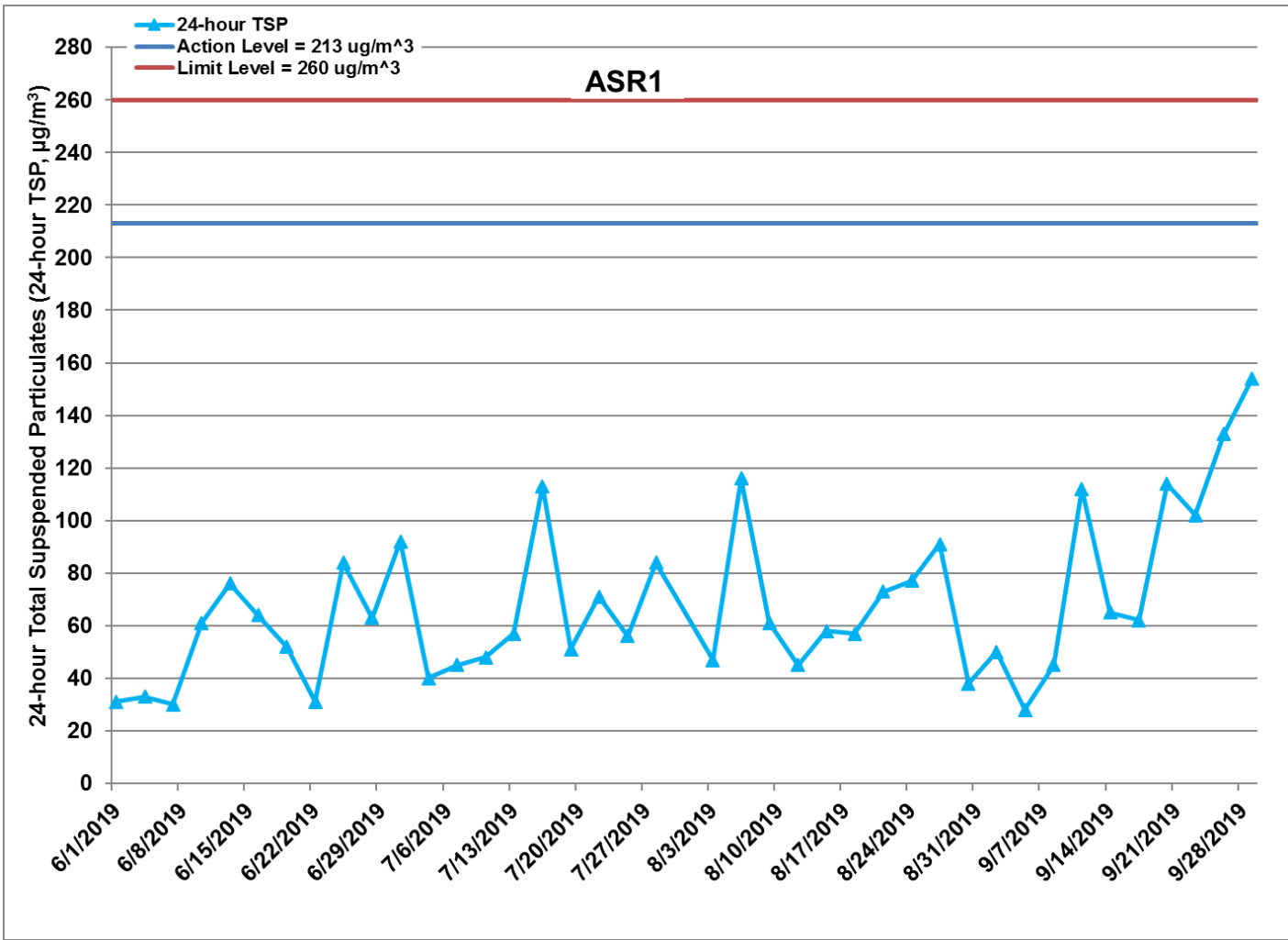


Figure G.6 Impact Monitoring - 24-hour Total Suspended Particulates ($\mu\text{g}/\text{m}^3$) at ASR1 between 1 June 2019 and 30 September 2019 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Backfilling, Road & Drainage Works (1/6/2019 - 30/9/2019)

Ref: 0212330_Impact AQM graphs_September 2019_REV a.xlsx



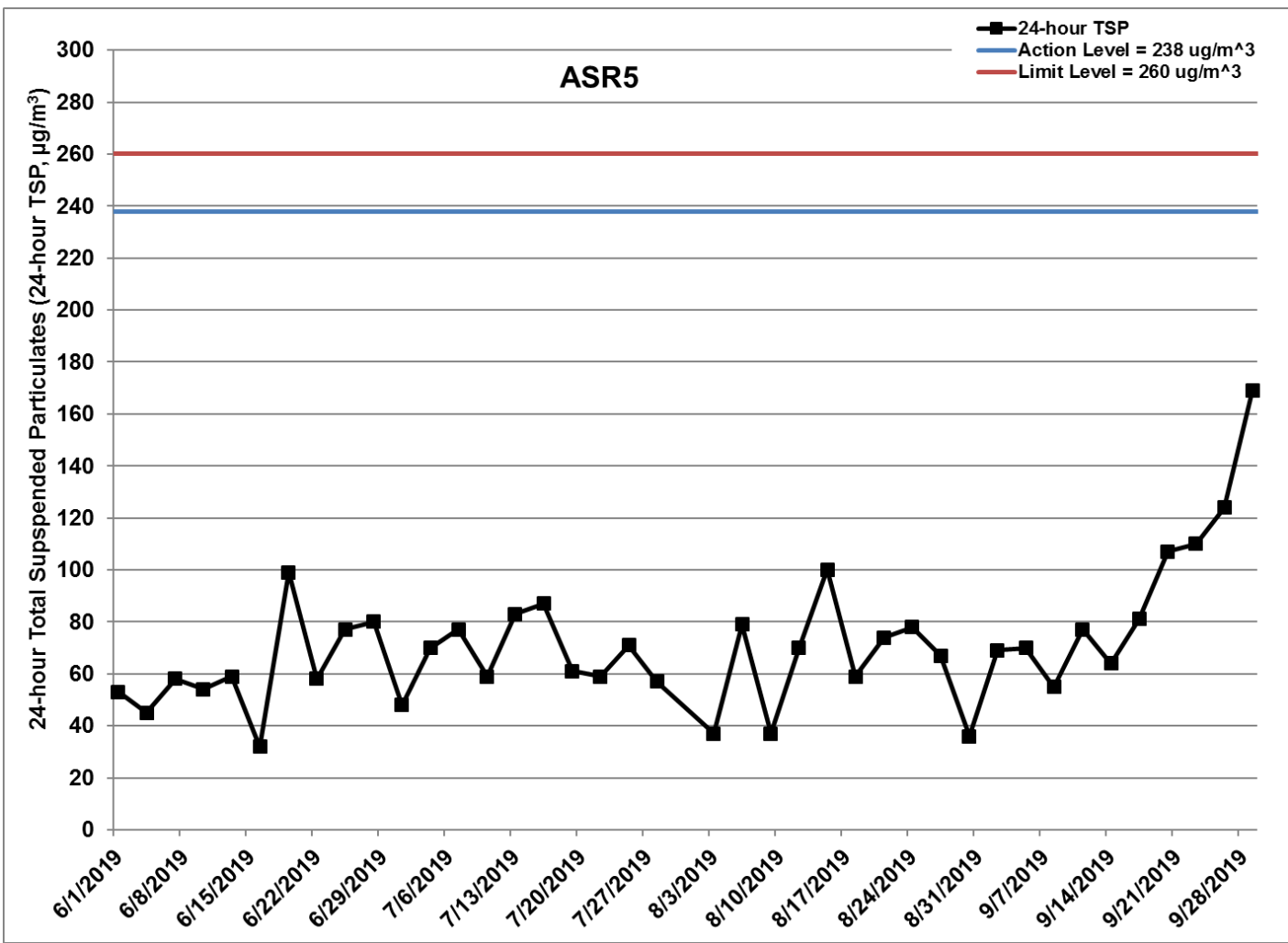
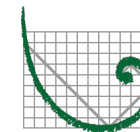


Figure G.7 Impact Monitoring - 24-hour Total Suspended Particulates ($\mu\text{g}/\text{m}^3$) at ASR5 between 1 June 2019 and 30 September 2019 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Backfilling, Road & Drainage Works (1/6/2019 - 30/9/2019)

Ref: 0212330_Impact AQM graphs_September 2019_REV a.xlsx



ERM

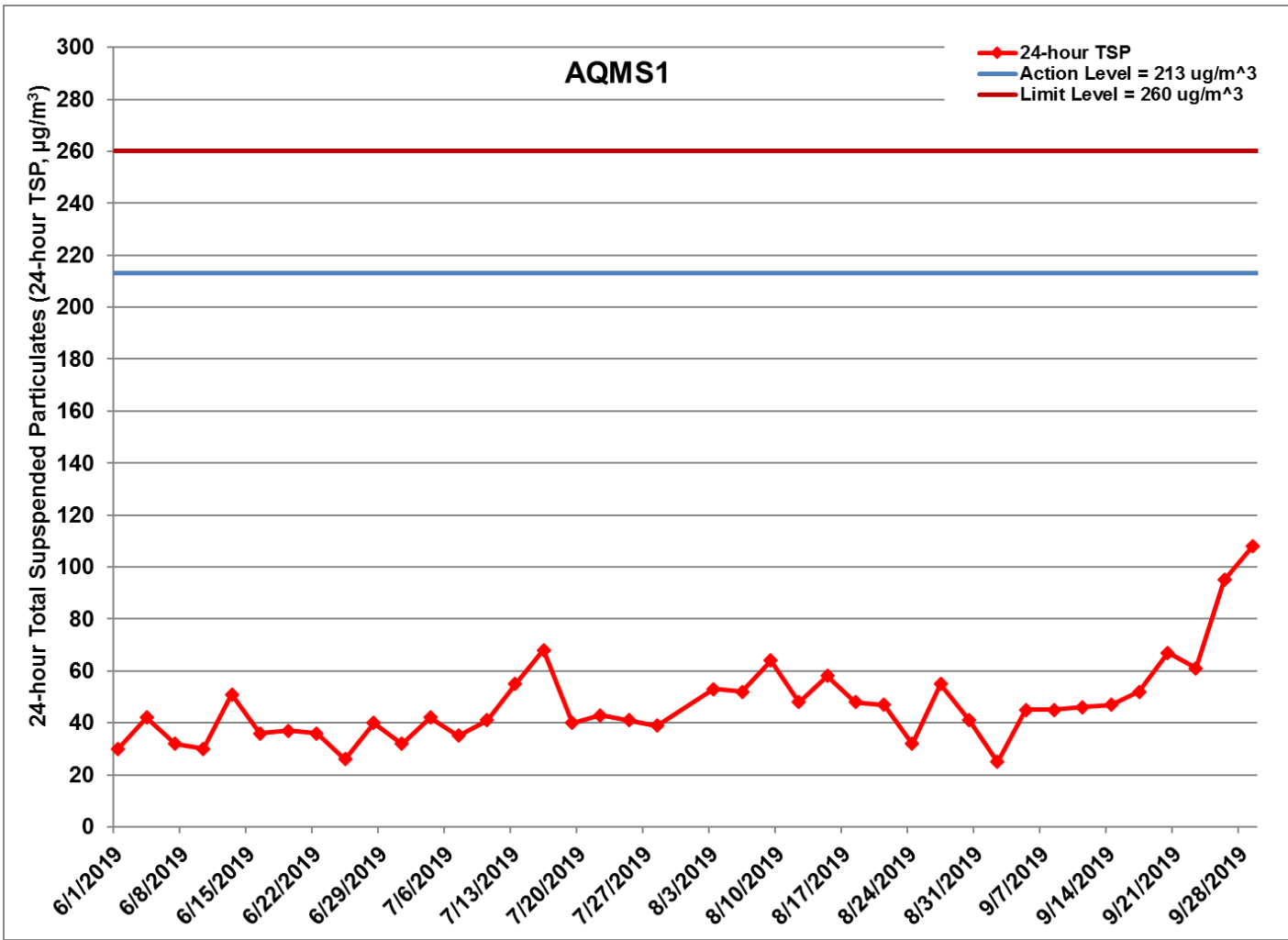


Figure G.8 Impact Monitoring - 24-hour Total Suspended Particulates ($\mu\text{g}/\text{m}^3$) at AQMS1 between 1 June 2019 and 30 September 2019 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Backfilling, Road & Drainage Works (1/6/2019 - 30/9/2019)

Ref: 0212330_Impact AQM graphs_September 2019_REV a.xlsx



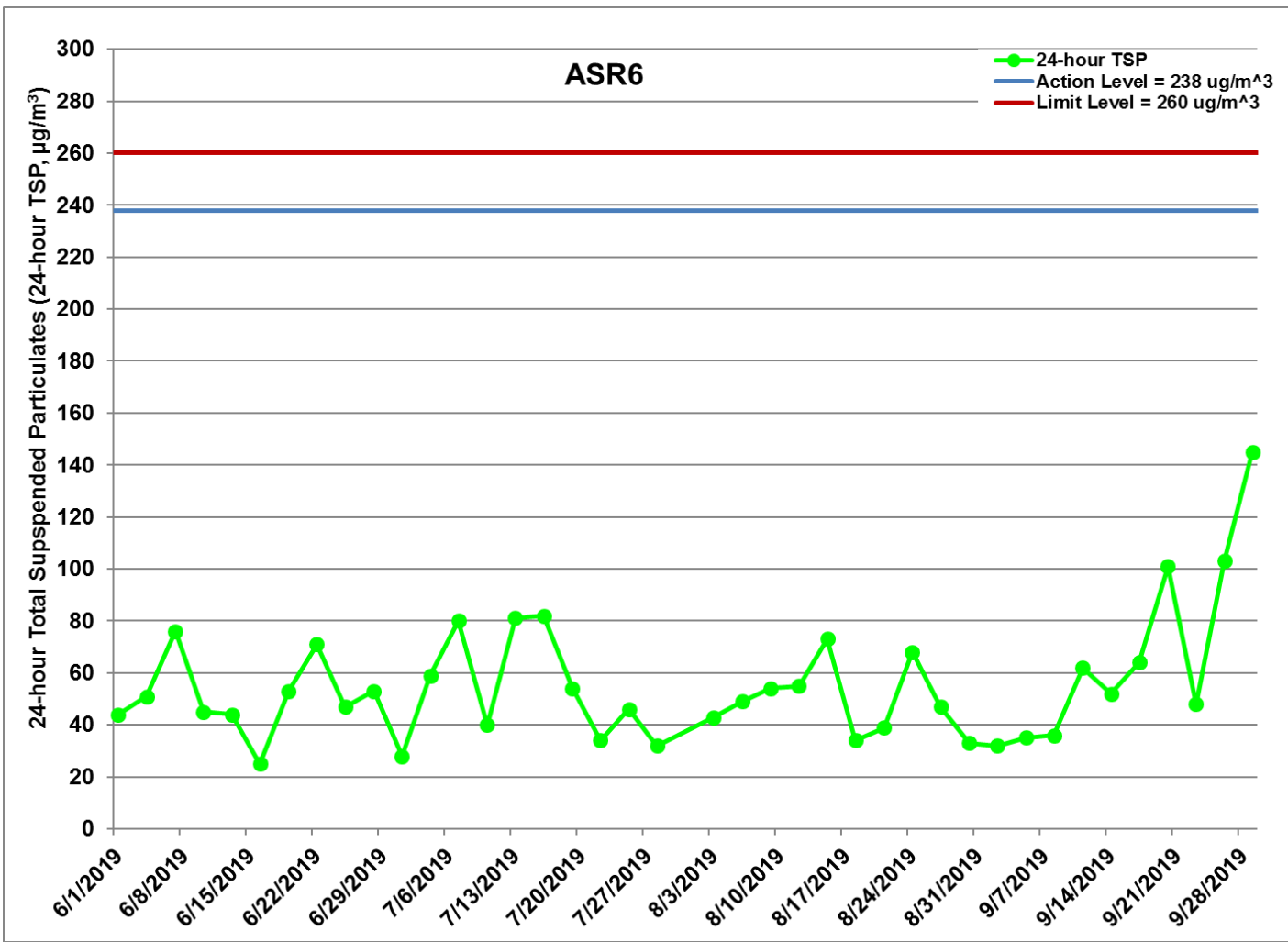


Figure G.9 Impact Monitoring - 24-hour Total Suspended Particulates ($\mu\text{g}/\text{m}^3$) at ASR6 between 1 June 2019 and 30 September 2019 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Backfilling, Road & Drainage Works (1/6/2019 - 30/9/2019)

Ref: 0212330_Impact AQM graphs_September 2019_REV a.xlsx



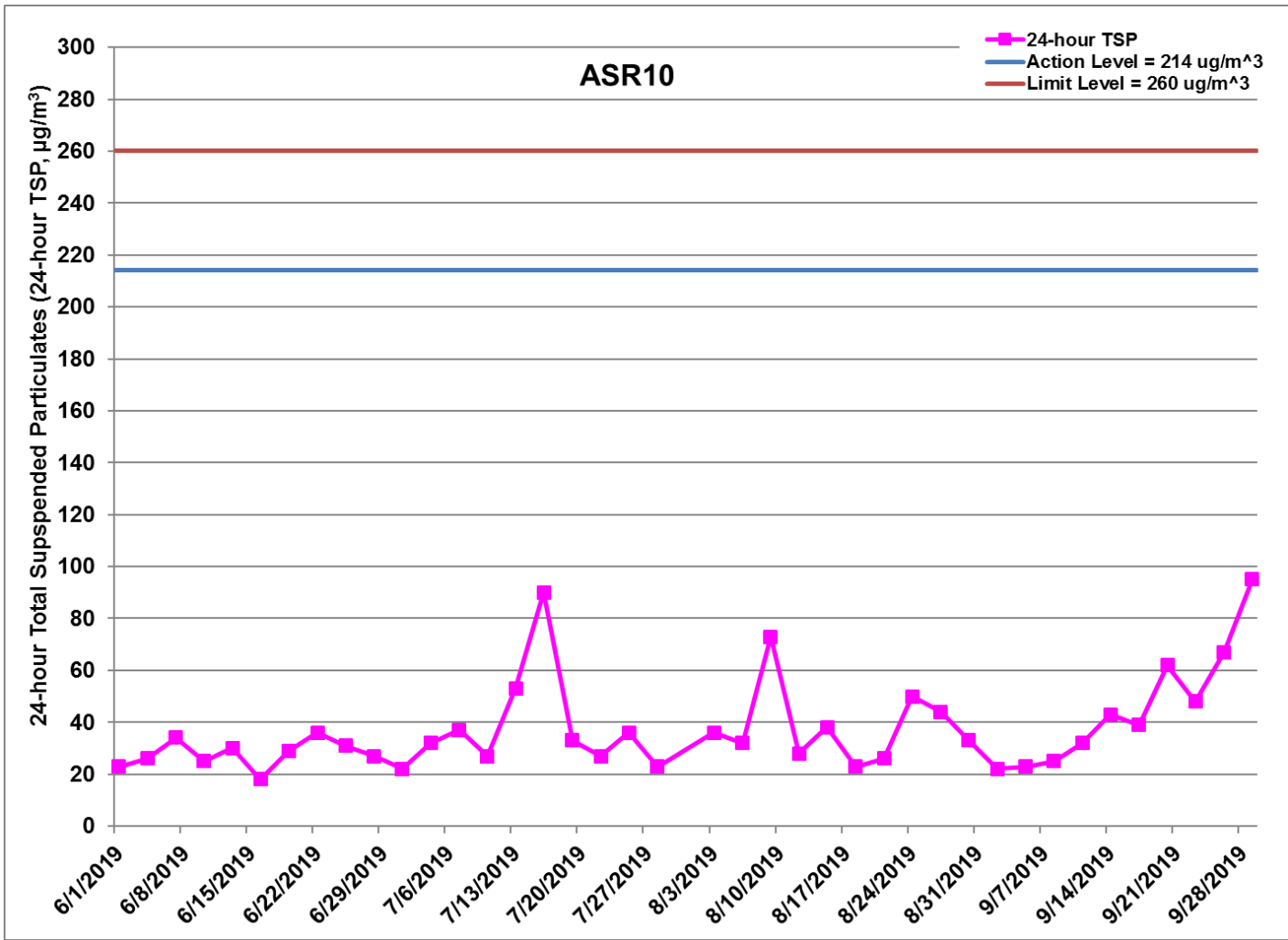


Figure G.10 Impact Monitoring - 24-hour Total Suspended Particulates ($\mu\text{g}/\text{m}^3$) at ASR10 between 1 June 2019 and 30 September 2019 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Backfilling, Road & Drainage Works (1/6/2019 - 30/9/2019)

Ref: 0212330_Impact AQM graphs_September 2019_REV a.xlsx



Project	Contract	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2019-09-02	AQMS1	Cloudy	13:48	1-hour TSP	38	ug/m3
TMCLKL	HY/2012/08	2019-09-02	AQMS1	Cloudy	14:50	1-hour TSP	14	ug/m3
TMCLKL	HY/2012/08	2019-09-02	AQMS1	Cloudy	15:52	1-hour TSP	14	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR1	Cloudy	13:37	1-hour TSP	53	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR1	Cloudy	14:39	1-hour TSP	23	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR1	Cloudy	15:41	1-hour TSP	23	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR10	Cloudy	13:03	1-hour TSP	14	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR10	Cloudy	14:05	1-hour TSP	25	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR10	Cloudy	15:07	1-hour TSP	14	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR5	Cloudy	13:25	1-hour TSP	57	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR5	Cloudy	14:27	1-hour TSP	25	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR5	Cloudy	15:29	1-hour TSP	57	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR6	Cloudy	13:14	1-hour TSP	28	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR6	Cloudy	14:16	1-hour TSP	14	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR6	Cloudy	15:18	1-hour TSP	22	ug/m3
TMCLKL	HY/2012/08	2019-09-05	AQMS1	Sunny	09:00	1-hour TSP	17	ug/m3
TMCLKL	HY/2012/08	2019-09-05	AQMS1	Sunny	10:02	1-hour TSP	42	ug/m3
TMCLKL	HY/2012/08	2019-09-05	AQMS1	Sunny	11:04	1-hour TSP	34	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR1	Sunny	08:48	1-hour TSP	110	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR1	Sunny	09:50	1-hour TSP	49	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR1	Sunny	10:52	1-hour TSP	23	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR10	Sunny	08:14	1-hour TSP	14	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR10	Sunny	09:16	1-hour TSP	14	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR10	Sunny	10:18	1-hour TSP	14	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR5	Sunny	08:37	1-hour TSP	39	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR5	Sunny	09:39	1-hour TSP	169	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR5	Sunny	10:41	1-hour TSP	106	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR6	Sunny	08:26	1-hour TSP	45	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR6	Sunny	09:28	1-hour TSP	30	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR6	Sunny	10:30	1-hour TSP	23	ug/m3

Project	Contract	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2019-09-08	AQMS1	Sunny	08:50	1-hour TSP	88	ug/m3
TMCLKL	HY/2012/08	2019-09-08	AQMS1	Sunny	09:52	1-hour TSP	77	ug/m3
TMCLKL	HY/2012/08	2019-09-08	AQMS1	Sunny	10:54	1-hour TSP	66	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR1	Sunny	08:39	1-hour TSP	35	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR1	Sunny	09:41	1-hour TSP	40	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR1	Sunny	10:43	1-hour TSP	32	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR10	Sunny	08:05	1-hour TSP	26	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR10	Sunny	09:07	1-hour TSP	25	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR10	Sunny	10:09	1-hour TSP	26	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR5	Sunny	08:27	1-hour TSP	74	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR5	Sunny	09:29	1-hour TSP	67	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR5	Sunny	10:31	1-hour TSP	64	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR6	Sunny	08:16	1-hour TSP	33	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR6	Sunny	09:18	1-hour TSP	40	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR6	Sunny	10:20	1-hour TSP	39	ug/m3
TMCLKL	HY/2012/08	2019-09-11	AQMS1	Sunny	09:09	1-hour TSP	63	ug/m3
TMCLKL	HY/2012/08	2019-09-11	AQMS1	Sunny	10:11	1-hour TSP	55	ug/m3
TMCLKL	HY/2012/08	2019-09-11	AQMS1	Sunny	11:13	1-hour TSP	41	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR1	Sunny	08:57	1-hour TSP	65	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR1	Sunny	09:59	1-hour TSP	58	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR1	Sunny	11:01	1-hour TSP	35	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR10	Sunny	08:25	1-hour TSP	36	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR10	Sunny	09:27	1-hour TSP	35	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR10	Sunny	10:29	1-hour TSP	22	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR5	Sunny	08:47	1-hour TSP	154	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR5	Sunny	09:49	1-hour TSP	122	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR5	Sunny	10:51	1-hour TSP	71	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR6	Sunny	08:36	1-hour TSP	51	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR6	Sunny	09:38	1-hour TSP	83	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR6	Sunny	10:40	1-hour TSP	58	ug/m3

Project	Contract	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2019-09-14	AQMS1	Sunny	08:48	1-hour TSP	147	ug/m3
TMCLKL	HY/2012/08	2019-09-14	AQMS1	Sunny	09:50	1-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	2019-09-14	AQMS1	Sunny	10:52	1-hour TSP	60	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR1	Sunny	08:37	1-hour TSP	47	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR1	Sunny	09:39	1-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR1	Sunny	10:41	1-hour TSP	93	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR10	Sunny	08:02	1-hour TSP	35	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR10	Sunny	09:04	1-hour TSP	22	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR10	Sunny	10:06	1-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR5	Sunny	08:25	1-hour TSP	126	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR5	Sunny	09:27	1-hour TSP	92	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR5	Sunny	10:29	1-hour TSP	113	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR6	Sunny	08:14	1-hour TSP	66	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR6	Sunny	09:16	1-hour TSP	54	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR6	Sunny	10:18	1-hour TSP	58	ug/m3
TMCLKL	HY/2012/08	2019-09-17	AQMS1	Sunny	08:47	1-hour TSP	63	ug/m3
TMCLKL	HY/2012/08	2019-09-17	AQMS1	Sunny	09:49	1-hour TSP	77	ug/m3
TMCLKL	HY/2012/08	2019-09-17	AQMS1	Sunny	10:51	1-hour TSP	88	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR1	Sunny	08:35	1-hour TSP	140	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR1	Sunny	09:37	1-hour TSP	146	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR1	Sunny	10:39	1-hour TSP	168	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR10	Sunny	08:00	1-hour TSP	56	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR10	Sunny	09:02	1-hour TSP	67	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR10	Sunny	10:04	1-hour TSP	94	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR5	Sunny	08:23	1-hour TSP	146	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR5	Sunny	09:25	1-hour TSP	140	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR5	Sunny	10:27	1-hour TSP	161	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR6	Sunny	09:12	1-hour TSP	120	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR6	Sunny	09:14	1-hour TSP	109	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR6	Sunny	10:16	1-hour TSP	120	ug/m3

Project	Contract	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2019-09-20	AQMS1	Sunny	08:56	1-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	2019-09-20	AQMS1	Sunny	09:58	1-hour TSP	116	ug/m3
TMCLKL	HY/2012/08	2019-09-20	AQMS1	Sunny	11:00	1-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR1	Sunny	08:45	1-hour TSP	220	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR1	Sunny	09:47	1-hour TSP	214	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR1	Sunny	10:49	1-hour TSP	539	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR10	Sunny	08:11	1-hour TSP	107	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR10	Sunny	09:13	1-hour TSP	93	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR10	Sunny	10:15	1-hour TSP	58	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR5	Sunny	08:33	1-hour TSP	141	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR5	Sunny	09:35	1-hour TSP	188	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR5	Sunny	10:37	1-hour TSP	144	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR6	Sunny	08:23	1-hour TSP	152	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR6	Sunny	09:25	1-hour TSP	163	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR6	Sunny	10:27	1-hour TSP	131	ug/m3
TMCLKL	HY/2012/08	2019-09-23	AQMS1	Sunny	09:03	1-hour TSP	81	ug/m3
TMCLKL	HY/2012/08	2019-09-23	AQMS1	Sunny	10:05	1-hour TSP	113	ug/m3
TMCLKL	HY/2012/08	2019-09-23	AQMS1	Sunny	11:07	1-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR1	Sunny	08:52	1-hour TSP	286	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR1	Sunny	09:54	1-hour TSP	177	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR1	Sunny	10:56	1-hour TSP	145	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR10	Sunny	08:20	1-hour TSP	61	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR10	Sunny	09:22	1-hour TSP	63	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR10	Sunny	10:24	1-hour TSP	47	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR5	Sunny	08:41	1-hour TSP	186	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR5	Sunny	09:43	1-hour TSP	132	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR5	Sunny	10:45	1-hour TSP	153	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR6	Sunny	08:30	1-hour TSP	110	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR6	Sunny	09:32	1-hour TSP	106	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR6	Sunny	10:34	1-hour TSP	84	ug/m3

Project	Contract	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2019-09-26	AQMS1	Sunny	08:55	1-hour TSP	162	ug/m3
TMCLKL	HY/2012/08	2019-09-26	AQMS1	Sunny	09:57	1-hour TSP	192	ug/m3
TMCLKL	HY/2012/08	2019-09-26	AQMS1	Sunny	10:59	1-hour TSP	71	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR1	Sunny	08:44	1-hour TSP	187	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR1	Sunny	09:46	1-hour TSP	195	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR1	Sunny	10:48	1-hour TSP	143	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR10	Sunny	08:08	1-hour TSP	124	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR10	Sunny	09:10	1-hour TSP	135	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR10	Sunny	10:12	1-hour TSP	79	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR5	Sunny	08:31	1-hour TSP	234	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR5	Sunny	09:33	1-hour TSP	256	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR5	Sunny	10:35	1-hour TSP	148	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR6	Sunny	08:20	1-hour TSP	172	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR6	Sunny	09:22	1-hour TSP	179	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR6	Sunny	10:24	1-hour TSP	105	ug/m3
TMCLKL	HY/2012/08	2019-09-29	AQMS1	Sunny	14:06	1-hour TSP	133	ug/m3
TMCLKL	HY/2012/08	2019-09-29	AQMS1	Sunny	15:08	1-hour TSP	71	ug/m3
TMCLKL	HY/2012/08	2019-09-29	AQMS1	Sunny	16:10	1-hour TSP	81	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR1	Sunny	13:55	1-hour TSP	89	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR1	Sunny	14:57	1-hour TSP	88	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR1	Sunny	15:59	1-hour TSP	80	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR10	Sunny	13:20	1-hour TSP	82	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR10	Sunny	14:22	1-hour TSP	72	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR10	Sunny	15:24	1-hour TSP	56	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR5	Sunny	13:44	1-hour TSP	157	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR5	Sunny	14:46	1-hour TSP	104	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR5	Sunny	15:48	1-hour TSP	104	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR6	Sunny	13:32	1-hour TSP	201	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR6	Sunny	14:34	1-hour TSP	131	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR6	Sunny	15:36	1-hour TSP	92	ug/m3

Project	Contract	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2019-09-02	AQMS1	Cloudy	16:54	24-hour TSP	25	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR1	Cloudy	16:43	24-hour TSP	50	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR10	Cloudy	16:09	24-hour TSP	22	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR5	Cloudy	16:31	24-hour TSP	69	ug/m3
TMCLKL	HY/2012/08	2019-09-02	ASR6	Cloudy	16:20	24-hour TSP	32	ug/m3
TMCLKL	HY/2012/08	2019-09-05	AQMS1	Sunny	12:06	24-hour TSP	45	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR1	Sunny	11:54	24-hour TSP	28	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR10	Sunny	11:20	24-hour TSP	23	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR5	Sunny	11:43	24-hour TSP	70	ug/m3
TMCLKL	HY/2012/08	2019-09-05	ASR6	Sunny	11:32	24-hour TSP	35	ug/m3
TMCLKL	HY/2012/08	2019-09-08	AQMS1	Sunny	11:56	24-hour TSP	45	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR1	Sunny	11:45	24-hour TSP	45	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR10	Sunny	11:11	24-hour TSP	25	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR5	Sunny	11:53	24-hour TSP	55	ug/m3
TMCLKL	HY/2012/08	2019-09-08	ASR6	Sunny	11:22	24-hour TSP	36	ug/m3
TMCLKL	HY/2012/08	2019-09-11	AQMS1	Sunny	12:15	24-hour TSP	46	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR1	Sunny	12:03	24-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR10	Sunny	11:31	24-hour TSP	32	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR5	Sunny	11:53	24-hour TSP	77	ug/m3
TMCLKL	HY/2012/08	2019-09-11	ASR6	Sunny	11:42	24-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	2019-09-14	AQMS1	Sunny	11:54	24-hour TSP	47	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR1	Sunny	11:43	24-hour TSP	65	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR10	Sunny	11:08	24-hour TSP	43	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR5	Sunny	11:31	24-hour TSP	64	ug/m3
TMCLKL	HY/2012/08	2019-09-14	ASR6	Sunny	11:20	24-hour TSP	52	ug/m3
TMCLKL	HY/2012/08	2019-09-17	AQMS1	Sunny	11:53	24-hour TSP	52	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR1	Sunny	11:41	24-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR10	Sunny	11:06	24-hour TSP	39	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR5	Sunny	11:29	24-hour TSP	81	ug/m3
TMCLKL	HY/2012/08	2019-09-17	ASR6	Sunny	11:18	24-hour TSP	64	ug/m3

Project	Contract	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2019-09-20	AQMS1	Sunny	12:02	24-hour TSP	67	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR1	Sunny	11:51	24-hour TSP	114	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR10	Sunny	11:17	24-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR5	Sunny	11:39	24-hour TSP	107	ug/m3
TMCLKL	HY/2012/08	2019-09-20	ASR6	Sunny	11:29	24-hour TSP	101	ug/m3
TMCLKL	HY/2012/08	2019-09-23	AQMS1	Sunny	12:09	24-hour TSP	61	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR1	Sunny	11:58	24-hour TSP	102	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR10	Sunny	11:26	24-hour TSP	48	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR5	Sunny	11:47	24-hour TSP	110	ug/m3
TMCLKL	HY/2012/08	2019-09-23	ASR6	Sunny	11:36	24-hour TSP	48	ug/m3
TMCLKL	HY/2012/08	2019-09-26	AQMS1	Sunny	12:01	24-hour TSP	95	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR1	Sunny	11:50	24-hour TSP	133	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR10	Sunny	11:14	24-hour TSP	67	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR5	Sunny	11:37	24-hour TSP	124	ug/m3
TMCLKL	HY/2012/08	2019-09-26	ASR6	Sunny	11:26	24-hour TSP	103	ug/m3
TMCLKL	HY/2012/08	2019-09-29	AQMS1	Sunny	17:12	24-hour TSP	108	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR1	Sunny	17:01	24-hour TSP	154	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR10	Sunny	16:26	24-hour TSP	95	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR5	Sunny	16:50	24-hour TSP	169	ug/m3
TMCLKL	HY/2012/08	2019-09-29	ASR6	Sunny	16:38	24-hour TSP	145	ug/m3

Appendix H

Meteorological Data

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/09/02	0:00	1.3	26
19/09/02	1:00	1.8	12
19/09/02	2:00	1.8	20
19/09/02	3:00	1.3	31
19/09/02	4:00	0.9	28
19/09/02	5:00	1.3	27
19/09/02	6:00	0.9	43
19/09/02	7:00	1.3	21
19/09/02	8:00	1.3	17
19/09/02	9:00	1.8	12
19/09/02	10:00	1.3	42
19/09/02	11:00	1.3	27
19/09/02	12:00	0.9	26
19/09/02	13:00	2.7	141
19/09/02	14:00	1.3	36
19/09/02	15:00	2.2	28
19/09/02	16:00	1.8	49
19/09/02	17:00	2.2	50
19/09/02	18:00	1.3	25
19/09/02	19:00	1.3	13
19/09/02	20:00	0.9	68
19/09/02	21:00	0.9	14
19/09/02	22:00	0.9	22
19/09/02	23:00	0.9	35
19/09/03	0:00	1.3	20
19/09/03	1:00	1.3	30
19/09/03	2:00	1.3	14
19/09/03	3:00	2.2	26
19/09/03	4:00	1.8	14
19/09/03	5:00	2.2	23
19/09/03	6:00	2.2	23
19/09/03	7:00	2.2	30
19/09/03	8:00	1.8	15
19/09/03	9:00	1.8	20
19/09/03	10:00	2.2	15
19/09/03	11:00	2.2	14
19/09/03	12:00	1.8	19
19/09/03	13:00	2.2	23
19/09/03	14:00	1.8	17
19/09/03	15:00	1.8	13
19/09/03	16:00	3.1	90
19/09/03	17:00	3.1	73
19/09/03	18:00	3.1	95
19/09/03	19:00	1.8	91
19/09/03	20:00	1.8	58
19/09/03	21:00	1.8	85
19/09/03	22:00	1.8	77
19/09/03	23:00	1.3	38
19/09/05	0:00	0.9	49
19/09/05	1:00	0.4	59
19/09/05	2:00	0.9	18
19/09/05	3:00	0.4	55
19/09/05	4:00	0.9	56
19/09/05	5:00	0.4	24
19/09/05	6:00	0	-

Meteorological Data for Impact Monitoring in the reporting period

Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/09/05	7:00	0.4	22
19/09/05	8:00	1.3	13
19/09/05	9:00	1.3	13
19/09/05	10:00	1.3	26
19/09/05	11:00	0.9	31
19/09/05	12:00	1.8	122
19/09/05	13:00	2.2	117
19/09/05	14:00	2.2	117
19/09/05	15:00	2.2	96
19/09/05	16:00	2.7	83
19/09/05	17:00	2.7	117
19/09/05	18:00	2.2	79
19/09/05	19:00	1.8	34
19/09/05	20:00	1.3	56
19/09/05	21:00	2.2	93
19/09/05	22:00	1.3	98
19/09/05	23:00	0.4	88
19/09/06	0:00	0.9	33
19/09/06	1:00	0.4	17
19/09/06	2:00	0.4	91
19/09/06	3:00	0	-
19/09/06	4:00	0	-
19/09/06	5:00	0.9	23
19/09/06	6:00	1.3	12
19/09/06	7:00	1.3	33
19/09/06	8:00	1.3	31
19/09/06	9:00	1.3	17
19/09/06	10:00	1.3	17
19/09/06	11:00	1.8	133
19/09/06	12:00	2.2	140
19/09/06	13:00	1.8	130
19/09/06	14:00	1.8	123
19/09/06	15:00	3.1	145
19/09/06	16:00	1.8	139
19/09/06	17:00	0.9	82
19/09/06	18:00	0.9	81
19/09/06	19:00	1.3	101
19/09/06	20:00	1.8	99
19/09/06	21:00	1.3	83
19/09/06	22:00	0.9	41
19/09/06	23:00	0.9	52
19/09/08	0:00	0.4	14
19/09/08	1:00	0.4	322
19/09/08	2:00	0	-
19/09/08	3:00	0	-
19/09/08	4:00	0.4	338
19/09/08	5:00	0.4	321
19/09/08	6:00	0.4	303
19/09/08	7:00	0	-
19/09/08	8:00	0.4	145
19/09/08	9:00	0.4	132
19/09/08	10:00	0.9	133
19/09/08	11:00	0.9	163
19/09/08	12:00	2.7	200
19/09/08	13:00	3.6	206

Meteorological Data for Impact Monitoring in the reporting period

Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/09/08	14:00	1.8	191
19/09/08	15:00	1.8	144
19/09/08	16:00	1.3	89
19/09/08	17:00	1.3	85
19/09/08	18:00	0.9	64
19/09/08	19:00	0.9	46
19/09/08	20:00	0.9	65
19/09/08	21:00	0.4	50
19/09/08	22:00	0.4	76
19/09/08	23:00	0.4	69
19/09/09	0:00	0.4	47
19/09/09	1:00	0.9	65
19/09/09	2:00	0.4	55
19/09/09	3:00	0.4	316
19/09/09	4:00	0	-
19/09/09	5:00	0	-
19/09/09	6:00	0	-
19/09/09	7:00	0	-
19/09/09	8:00	0	-
19/09/09	9:00	0.9	90
19/09/09	10:00	1.3	123
19/09/09	11:00	1.3	142
19/09/09	12:00	1.8	130
19/09/09	13:00	1.3	153
19/09/09	14:00	1.8	201
19/09/09	15:00	1.3	131
19/09/09	16:00	2.2	132
19/09/09	17:00	1.8	100
19/09/09	18:00	1.3	101
19/09/09	19:00	0.4	97
19/09/09	20:00	1.8	141
19/09/09	21:00	1.3	97
19/09/09	22:00	0.9	140
19/09/09	23:00	1.3	85
19/09/11	0:00	0	-
19/09/11	1:00	0	-
19/09/11	2:00	0	-
19/09/11	3:00	0	-
19/09/11	4:00	0.4	90
19/09/11	5:00	0	-
19/09/11	6:00	0	-
19/09/11	7:00	0.4	43
19/09/11	8:00	0.9	57
19/09/11	9:00	1.3	95
19/09/11	10:00	2.2	141
19/09/11	11:00	2.7	130
19/09/11	12:00	2.7	125
19/09/11	13:00	2.2	135
19/09/11	14:00	0.9	120
19/09/11	15:00	1.8	203
19/09/11	16:00	1.8	191
19/09/11	17:00	1.8	206
19/09/11	18:00	1.8	127
19/09/11	19:00	1.3	135
19/09/11	20:00	0.9	72

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/09/11	21:00	0.9	44
19/09/11	22:00	0.9	35
19/09/11	23:00	0.4	63
19/09/12	0:00	0.4	324
19/09/12	1:00	0.4	304
19/09/12	2:00	0.4	336
19/09/12	3:00	0	-
19/09/12	4:00	0	-
19/09/12	5:00	0	-
19/09/12	6:00	0	-
19/09/12	7:00	0	-
19/09/12	8:00	0.4	329
19/09/12	9:00	0.4	149
19/09/12	10:00	0.9	209
19/09/12	11:00	1.3	194
19/09/12	12:00	1.3	219
19/09/12	13:00	1.3	219
19/09/12	14:00	1.8	196
19/09/12	15:00	1.3	262
19/09/12	16:00	0.9	266
19/09/12	17:00	0.9	144
19/09/12	18:00	3.1	127
19/09/12	19:00	2.2	144
19/09/12	20:00	1.3	88
19/09/12	21:00	2.2	121
19/09/12	22:00	2.2	127
19/09/12	23:00	1.3	79
19/09/14	0:00	1.8	131
19/09/14	1:00	0.9	96
19/09/14	2:00	0.4	96
19/09/14	3:00	0.4	134
19/09/14	4:00	0.9	127
19/09/14	5:00	0	-
19/09/14	6:00	0	-
19/09/14	7:00	0.9	307
19/09/14	8:00	0.4	100
19/09/14	9:00	0.9	126
19/09/14	10:00	1.3	131
19/09/14	11:00	1.3	129
19/09/14	12:00	1.3	210
19/09/14	13:00	1.3	270
19/09/14	14:00	0.9	266
19/09/14	15:00	0.4	268
19/09/14	16:00	1.3	93
19/09/14	17:00	1.8	97
19/09/14	18:00	2.7	123
19/09/14	19:00	2.7	131
19/09/14	20:00	1.3	86
19/09/14	21:00	0.4	76
19/09/14	22:00	2.2	13
19/09/14	23:00	1.3	357
19/09/15	0:00	0.4	306
19/09/15	1:00	0.4	323
19/09/15	2:00	0.4	25
19/09/15	3:00	0	-

Meteorological Data for Impact Monitoring in the reporting period

Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/09/15	4:00	0	-
19/09/15	5:00	0	-
19/09/15	6:00	0	-
19/09/15	7:00	0	-
19/09/15	8:00	0.4	26
19/09/15	9:00	1.8	63
19/09/15	10:00	0.9	74
19/09/15	11:00	0.9	80
19/09/15	12:00	0.9	126
19/09/15	13:00	1.8	134
19/09/15	14:00	1.8	132
19/09/15	15:00	1.8	139
19/09/15	16:00	1.3	224
19/09/15	17:00	0.4	282
19/09/15	18:00	0.4	221
19/09/15	19:00	0	-
19/09/15	20:00	0	-
19/09/15	21:00	0.4	24
19/09/15	22:00	0.4	51
19/09/15	23:00	0	-
19/09/17	0:00	0.9	80
19/09/17	1:00	0.9	95
19/09/17	2:00	0.4	78
19/09/17	3:00	0	-
19/09/17	4:00	0	-
19/09/17	5:00	0	-
19/09/17	6:00	0	-
19/09/17	7:00	0	-
19/09/17	8:00	0.4	7
19/09/17	9:00	1.3	47
19/09/17	10:00	1.3	50
19/09/17	11:00	0.9	81
19/09/17	12:00	1.8	5
19/09/17	13:00	1.8	357
19/09/17	14:00	0.4	325
19/09/17	15:00	0.4	184
19/09/17	16:00	0.9	182
19/09/17	17:00	0	-
19/09/17	18:00	0.4	172
19/09/17	19:00	1.3	25
19/09/17	20:00	0.4	22
19/09/17	21:00	0.9	95
19/09/17	22:00	0	-
19/09/17	23:00	0	-
19/09/18	0:00	0	-
19/09/18	1:00	0	-
19/09/18	2:00	0	-
19/09/18	3:00	0	-
19/09/18	4:00	0	-
19/09/18	5:00	0	-
19/09/18	6:00	0	-
19/09/18	7:00	0	-
19/09/18	8:00	0.4	68
19/09/18	9:00	0.9	77
19/09/18	10:00	0.9	85
19/09/18	11:00	0.9	69

Meteorological Data for Impact Monitoring in the reporting period

Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/09/18	12:00	1.3	40
19/09/18	13:00	0.9	35
19/09/18	14:00	1.3	68
19/09/18	15:00	0.9	316
19/09/18	16:00	1.3	324
19/09/18	17:00	0.9	184
19/09/18	18:00	1.1	94
19/09/18	19:00	1.2	65
19/09/18	20:00	0.9	71
19/09/18	21:00	1.4	52
19/09/18	22:00	0.8	40
19/09/18	23:00	1.1	44
19/09/20	0:00	0.5	274
19/09/20	1:00	0.6	285
19/09/20	2:00	1.2	291
19/09/20	3:00	1	288
19/09/20	4:00	1.1	251
19/09/20	5:00	0.5	322
19/09/20	6:00	0.4	288
19/09/20	7:00	0.3	351
19/09/20	8:00	0.5	350
19/09/20	9:00	0.6	347
19/09/20	10:00	0.7	5
19/09/20	11:00	0.5	2
19/09/20	12:00	0.5	347
19/09/20	13:00	0.3	322
19/09/20	14:00	0.8	21
19/09/20	15:00	0.2	24
19/09/20	16:00	0.1	3
19/09/20	17:00	0.1	357
19/09/20	18:00	0.2	344
19/09/20	19:00	0.3	351
19/09/20	20:00	0.5	352
19/09/20	21:00	0.6	287
19/09/20	22:00	1.1	295
19/09/20	23:00	0.4	354
19/09/20	0:00	0.3	305
19/09/21	1:00	0.5	311
19/09/21	2:00	0.8	354
19/09/21	3:00	1.1	344
19/09/21	4:00	1.5	12
19/09/21	5:00	2.2	18
19/09/21	6:00	2.3	24
19/09/21	7:00	2.1	2
19/09/21	8:00	1.8	5
19/09/21	9:00	1.6	351
19/09/21	10:00	2	46
19/09/21	11:00	2	12
19/09/21	12:00	2.3	311
19/09/21	13:00	1.5	344
19/09/21	14:00	1.4	305
19/09/21	15:00	1.1	316
19/09/21	16:00	2.3	351
19/09/21	17:00	3.1	352
19/09/21	18:00	3.4	294
19/09/21	19:00	2.8	298
19/09/21	20:00	2.6	286

Meteorological Data for Impact Monitoring in the reporting period

Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/09/21	21:00	2.1	351
19/09/21	22:00	2.5	311
19/09/23	0:00	1.4	305
19/09/23	1:00	1.1	299
19/09/23	2:00	1.2	264
19/09/23	3:00	0.9	274
19/09/23	4:00	0.8	265
19/09/23	5:00	0.4	273
19/09/23	6:00	0.5	277
19/09/23	7:00	0.6	281
19/09/23	8:00	0.3	274
19/09/23	9:00	0.4	351
19/09/23	10:00	0.5	267
19/09/23	11:00	0.2	308
19/09/23	12:00	0.8	275
19/09/23	13:00	0.6	2
19/09/23	14:00	0.5	359
19/09/23	15:00	0.4	15
19/09/23	16:00	0.3	3
19/09/23	17:00	0.2	288
19/09/23	18:00	0.1	352
19/09/23	19:00	1.2	349
19/09/23	20:00	0.8	355
19/09/23	21:00	0.6	2
19/09/23	22:00	0.5	19
19/09/23	23:00	0.6	1
19/09/24	0:00	0.8	13
19/09/24	1:00	0.7	14
19/09/24	2:00	0.6	91
19/09/24	3:00	0.5	88
19/09/24	4:00	0.4	75
19/09/24	5:00	0.6	46
19/09/24	6:00	0.8	52
19/09/24	7:00	0.4	40
19/09/24	8:00	0.5	11
19/09/24	9:00	1.1	95
19/09/24	10:00	1.2	87
19/09/24	11:00	0.9	92
19/09/24	12:00	0.7	53
19/09/24	13:00	0.6	67
19/09/24	14:00	0.5	11
19/09/24	15:00	0.5	44
19/09/24	16:00	0.4	95
19/09/24	17:00	0.5	3
19/09/24	18:00	0.6	47
19/09/24	19:00	0.2	92
19/09/24	20:00	0.8	88
19/09/24	21:00	0.6	77
19/09/24	22:00	0.9	96
19/09/24	23:00	0.7	94
19/09/26	0:00	0.6	44
19/09/26	1:00	0.5	115
19/09/26	2:00	0.4	88
19/09/26	3:00	0.7	84
19/09/26	4:00	0.5	91
19/09/26	5:00	0.6	52
19/09/26	6:00	0.5	81

Meteorological Data for Impact Monitoring in the reporting period

Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/09/26	7:00	0.4	80
19/09/26	8:00	0.4	79
19/09/26	9:00	0.7	44
19/09/26	10:00	0.3	39
19/09/26	11:00	0.3	42
19/09/26	12:00	0.5	118
19/09/26	13:00	0.6	95
19/09/26	14:00	0.7	97
19/09/26	15:00	0.5	50
19/09/26	16:00	0.8	68
19/09/26	17:00	1.1	72
19/09/26	18:00	0.2	181
19/09/26	19:00	0	-
19/09/26	20:00	0.1	173
19/09/26	21:00	0.1	115
19/09/26	22:00	0.2	108
19/09/26	23:00	0.2	44
19/09/27	0:00	0.3	62
19/09/27	1:00	0.2	93
19/09/27	2:00	0.2	71
19/09/27	3:00	0.1	90
19/09/27	4:00	0.1	92
19/09/27	5:00	0.2	68
19/09/27	6:00	0.1	63
19/09/27	7:00	0.2	11
19/09/27	8:00	0.2	74
19/09/27	9:00	0.1	8
19/09/27	10:00	0.3	80
19/09/27	11:00	0.4	51
19/09/27	12:00	0.2	42
19/09/27	13:00	0.3	61
19/09/27	14:00	0.1	17
19/09/27	15:00	0.1	75
19/09/27	16:00	0.2	66
19/09/27	17:00	0.2	40
19/09/27	18:00	0.3	38
19/09/27	19:00	0.4	55
19/09/27	20:00	0.2	119
19/09/27	21:00	0.1	94
19/09/27	22:00	0.3	20
19/09/27	23:00	0.3	98
19/09/29	0:00	0.5	55
19/09/29	1:00	0.2	71
19/09/29	2:00	0.2	14
19/09/29	3:00	0.2	69
19/09/29	4:00	0.1	94
19/09/29	5:00	0.1	99
19/09/29	6:00	0.4	132
19/09/29	7:00	0.4	140
19/09/29	8:00	0.4	172
19/09/29	9:00	0.4	167
19/09/29	10:00	0.5	188
19/09/29	11:00	0.2	175
19/09/29	12:00	0.3	138
19/09/29	13:00	0.2	120
19/09/29	14:00	0.3	133
19/09/29	15:00	0.4	114

Meteorological Data for Impact Monitoring in the reporting period

Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/09/29	16:00	0.5	121
19/09/29	17:00	0.6	117
19/09/29	18:00	0.5	105
19/09/29	19:00	0.4	110
19/09/29	20:00	0.3	118
19/09/29	21:00	0.4	185
19/09/29	22:00	0.4	191
19/09/29	23:00	0.4	200
19/09/30	0:00	0.5	184
19/09/30	1:00	0.4	226
19/09/30	2:00	0.4	165
19/09/30	3:00	0.2	230
19/09/30	4:00	0.3	227
19/09/30	5:00	0.5	267
19/09/30	6:00	0.4	258
19/09/30	7:00	0.4	261
19/09/30	8:00	0.4	201
19/09/30	9:00	0.5	259
19/09/30	10:00	0.3	200
19/09/30	11:00	0.3	267
19/09/30	12:00	0.2	204
19/09/30	13:00	0.1	181
19/09/30	14:00	0.2	192
19/09/30	15:00	0.3	176
19/09/30	16:00	0.4	187
19/09/30	17:00	0.5	225
19/09/30	18:00	0.4	254
19/09/30	19:00	0.3	266
19/09/30	20:00	0.4	260
19/09/30	21:00	0.3	273
19/09/30	22:00	0.5	280
19/09/30	23:00	0.3	274

Appendix I

Impact Dolphin Monitoring Survey

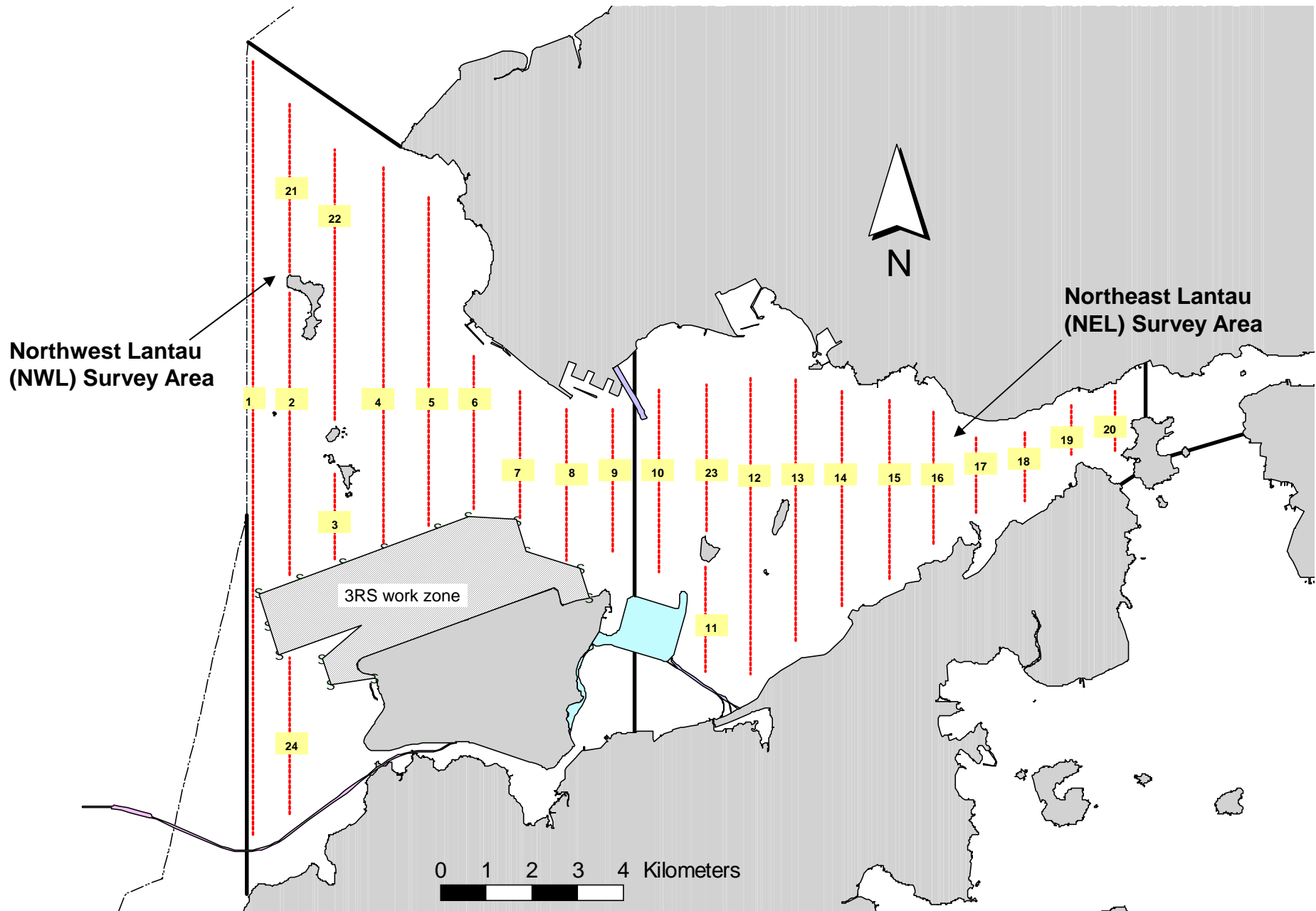


Figure 1. Transect Line Layout in Northwest and Northeast Lantau Survey Areas

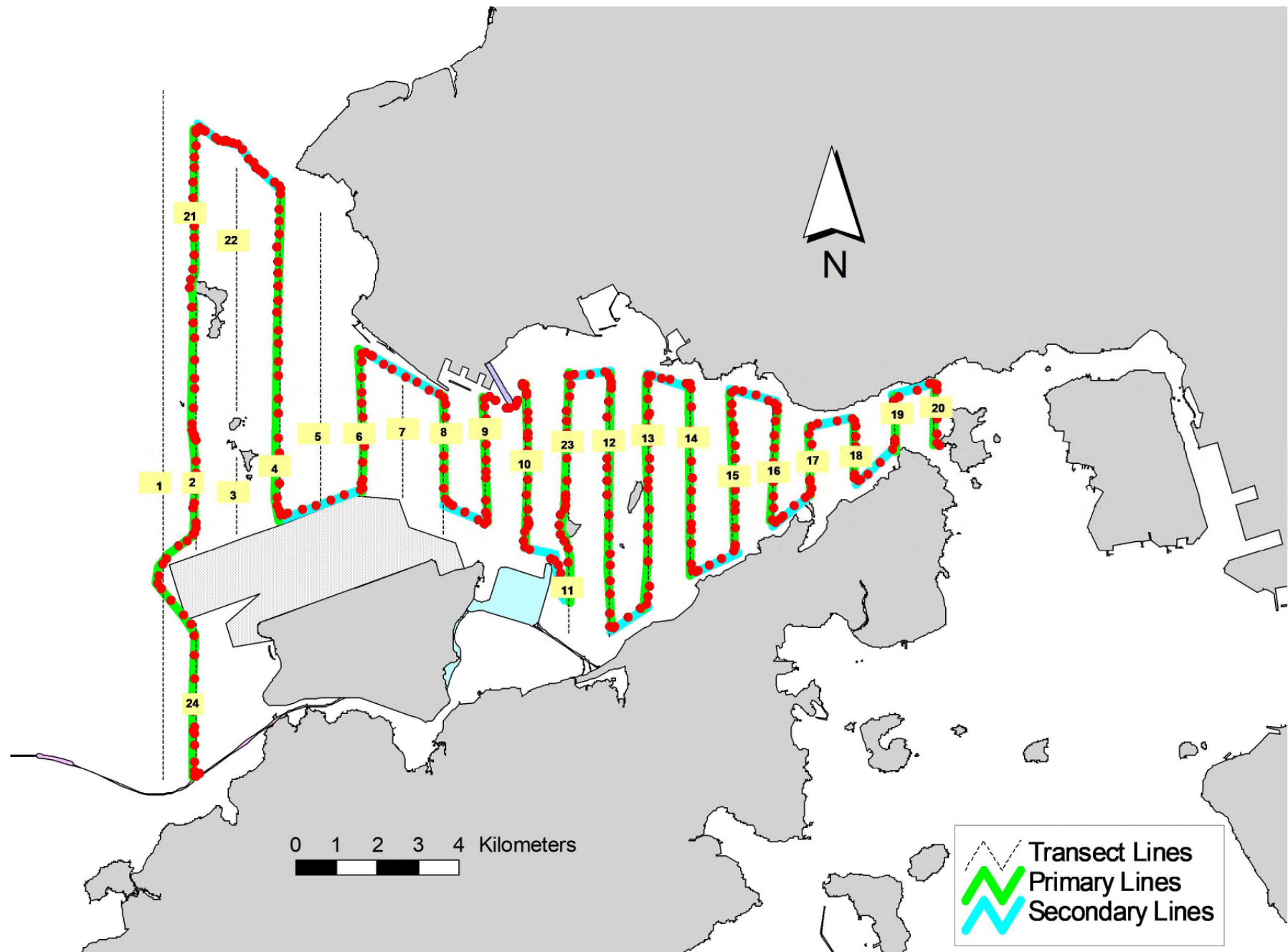


Figure 2. Survey Route on September 4th, 2019 (from HKLR03 project)

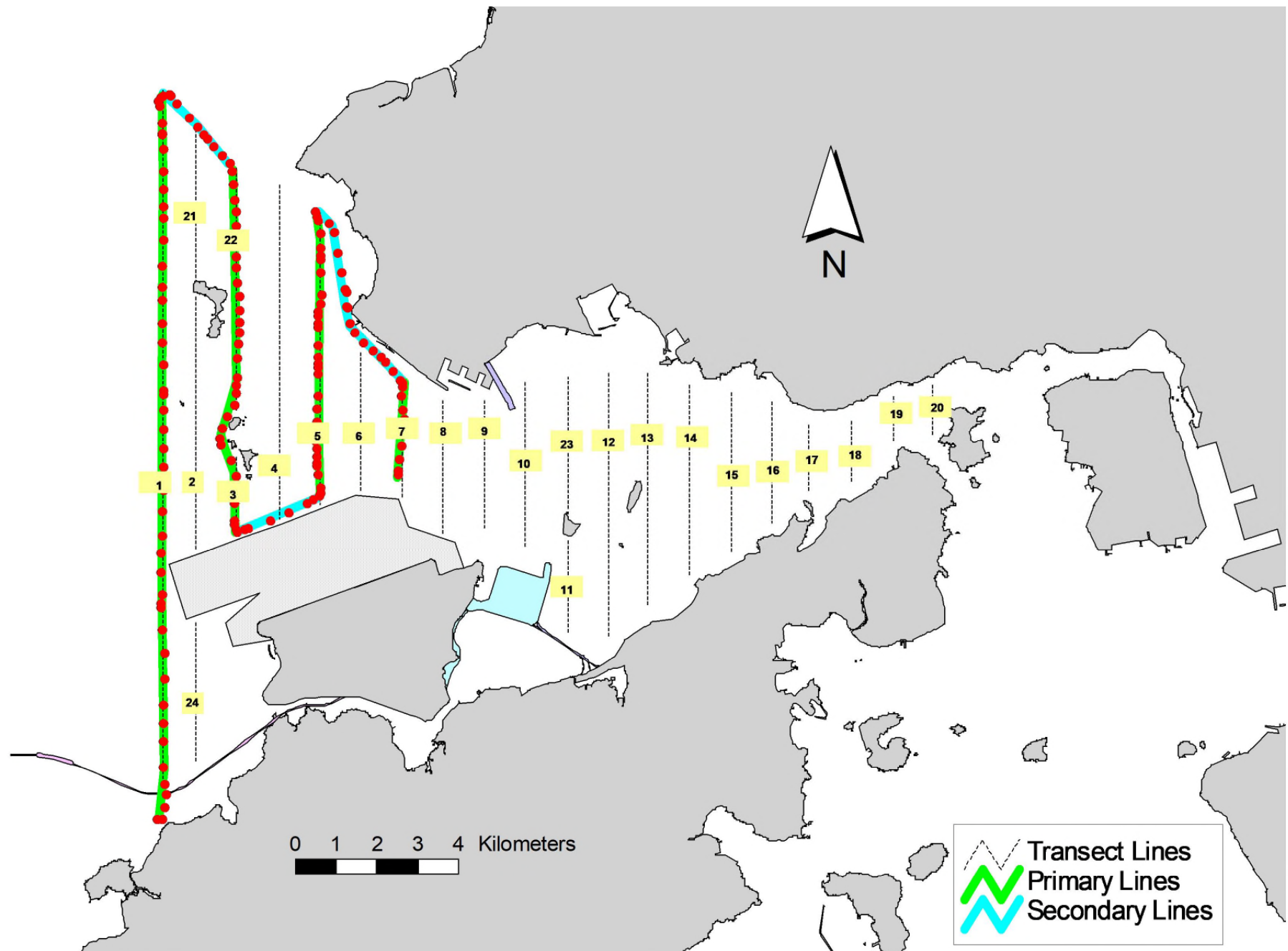


Figure 3. Survey Route on September 11th, 2019 (from HKLR03 project)

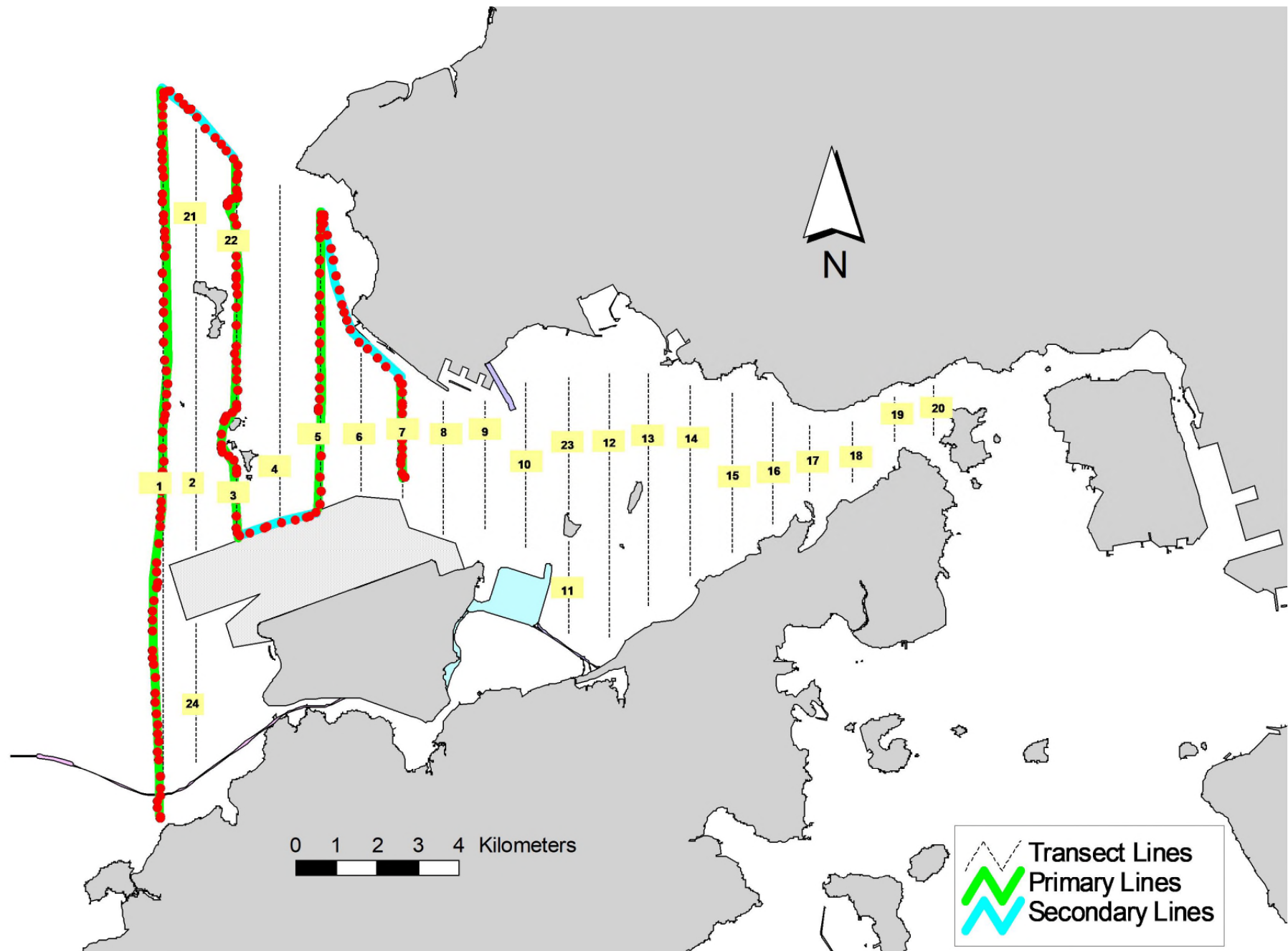


Figure 4. Survey Route on September 17th, 2019 (from HKLR03 project)

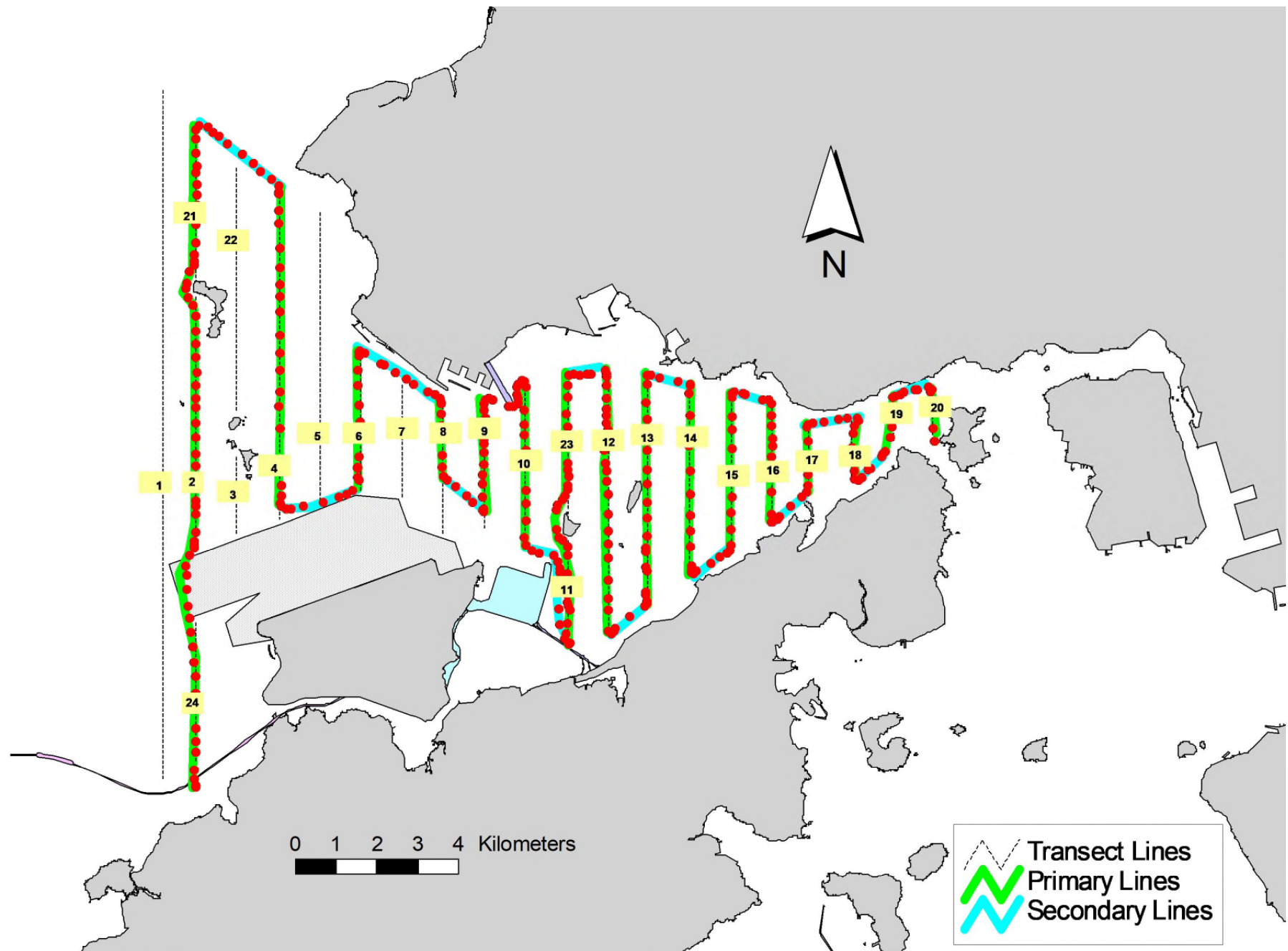


Figure 5. Survey Route on September 23rd, 2019 (from HKLR03 project)

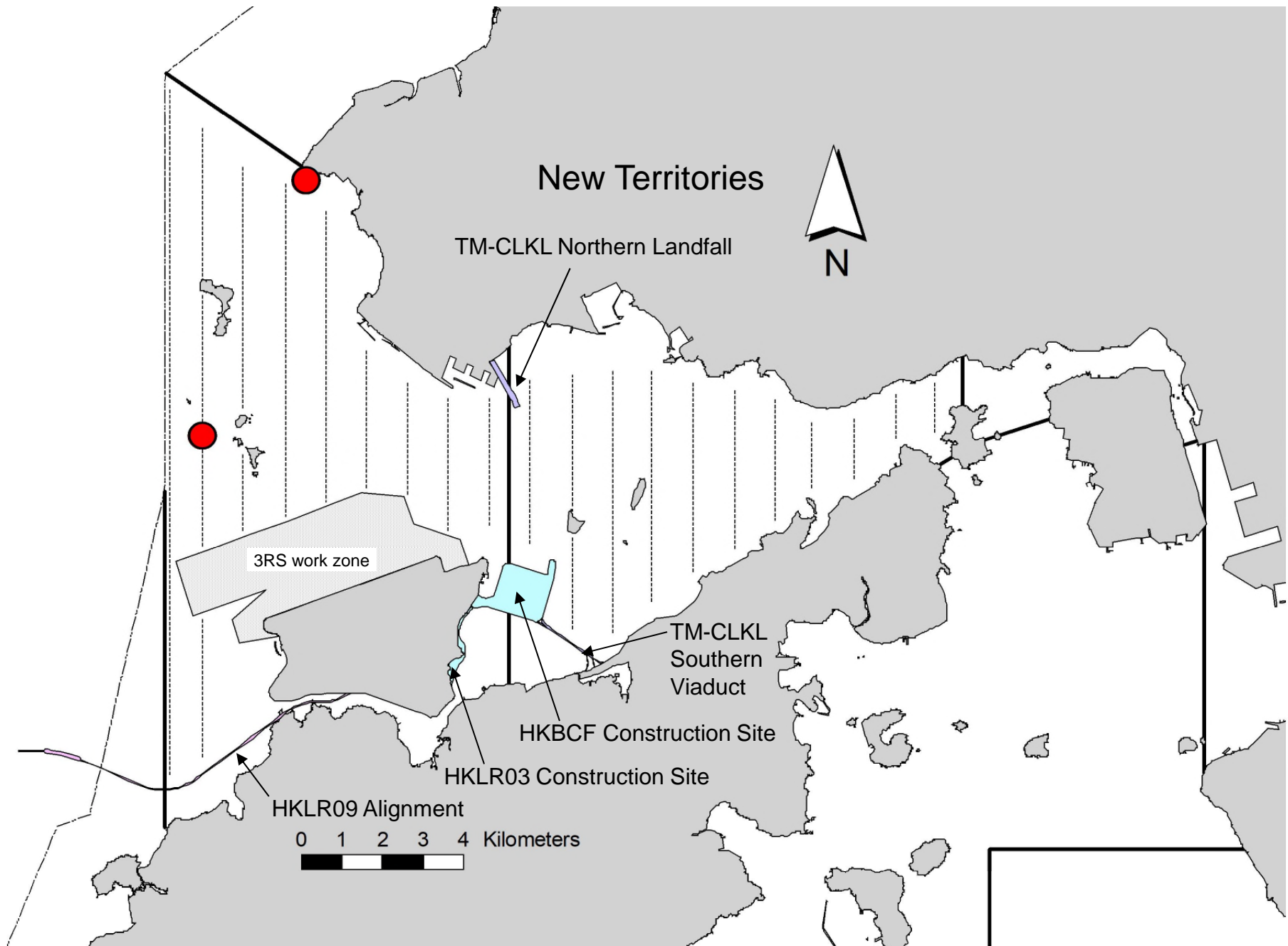


Figure 6. Distribution of Chinese White Dolphin Sightings during September 2019 HKLR03 Monitoring Surveys

Appendix I. HKLR03 Survey Effort Database (September 2019)

(Abbreviations: BEAU = Beaufort Sea State; P = Primary Line Effort; S = Secondary Line Effort)

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
4-Sep-19	NW LANTAU	2	21.38	AUTUMN	STANDARD36826	HKLR	P
4-Sep-19	NW LANTAU	3	6.40	AUTUMN	STANDARD36826	HKLR	P
4-Sep-19	NW LANTAU	2	9.12	AUTUMN	STANDARD36826	HKLR	S
4-Sep-19	NW LANTAU	3	2.52	AUTUMN	STANDARD36826	HKLR	S
4-Sep-19	NE LANTAU	2	16.70	AUTUMN	STANDARD36826	HKLR	P
4-Sep-19	NE LANTAU	3	18.83	AUTUMN	STANDARD36826	HKLR	P
4-Sep-19	NE LANTAU	2	7.75	AUTUMN	STANDARD36826	HKLR	S
4-Sep-19	NE LANTAU	3	5.12	AUTUMN	STANDARD36826	HKLR	S
11-Sep-19	NW LANTAU	1	1.60	AUTUMN	STANDARD36826	HKLR	P
11-Sep-19	NW LANTAU	2	29.50	AUTUMN	STANDARD36826	HKLR	P
11-Sep-19	NW LANTAU	3	2.10	AUTUMN	STANDARD36826	HKLR	P
11-Sep-19	NW LANTAU	1	1.40	AUTUMN	STANDARD36826	HKLR	S
11-Sep-19	NW LANTAU	2	8.99	AUTUMN	STANDARD36826	HKLR	S
17-Sep-19	NW LANTAU	2	8.96	AUTUMN	STANDARD36826	HKLR	P
17-Sep-19	NW LANTAU	3	22.90	AUTUMN	STANDARD36826	HKLR	P
17-Sep-19	NW LANTAU	4	1.90	AUTUMN	STANDARD36826	HKLR	P
17-Sep-19	NW LANTAU	2	4.54	AUTUMN	STANDARD36826	HKLR	S
17-Sep-19	NW LANTAU	3	4.90	AUTUMN	STANDARD36826	HKLR	S
17-Sep-19	NW LANTAU	4	1.20	AUTUMN	STANDARD36826	HKLR	S
23-Sep-19	NW LANTAU	2	19.22	AUTUMN	STANDARD36826	HKLR	P
23-Sep-19	NW LANTAU	3	7.79	AUTUMN	STANDARD36826	HKLR	P
23-Sep-19	NW LANTAU	2	9.84	AUTUMN	STANDARD36826	HKLR	S
23-Sep-19	NW LANTAU	3	4.25	AUTUMN	STANDARD36826	HKLR	S
23-Sep-19	NE LANTAU	1	11.30	AUTUMN	STANDARD36826	HKLR	P
23-Sep-19	NE LANTAU	2	25.35	AUTUMN	STANDARD36826	HKLR	P
23-Sep-19	NE LANTAU	1	3.61	AUTUMN	STANDARD36826	HKLR	S
23-Sep-19	NE LANTAU	2	10.74	AUTUMN	STANDARD36826	HKLR	S

Appendix II. HKLR03 Chinese White Dolphin Sighting Database (September 2019)

(Abberviations: STG# = Sighting Number; HRD SZ = Dolphin Herd Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance; BOAT ASSOC. = Fishing Boat Association; P/S: Sighting Made on Primary/Secondary Lines)

DATE	STG #	TIME	HRD SZ	AREA	BEAU	PSD	EFFORT	TYPE	NORTHING	EASTING	SEASON	BOAT ASSOC.	P/S
4-Sep-19	1	1046	2	NW LANTAU	2	311	ON	HKLR	823375	805440	AUTUMN	NONE	P
11-Sep-19	1	1058	3	NW LANTAU	2	430	ON	HKLR	829316	807975	AUTUMN	NONE	S

Appendix III. Individual dolphins identified during HKLR03 monitoring surveys in (September 2019)

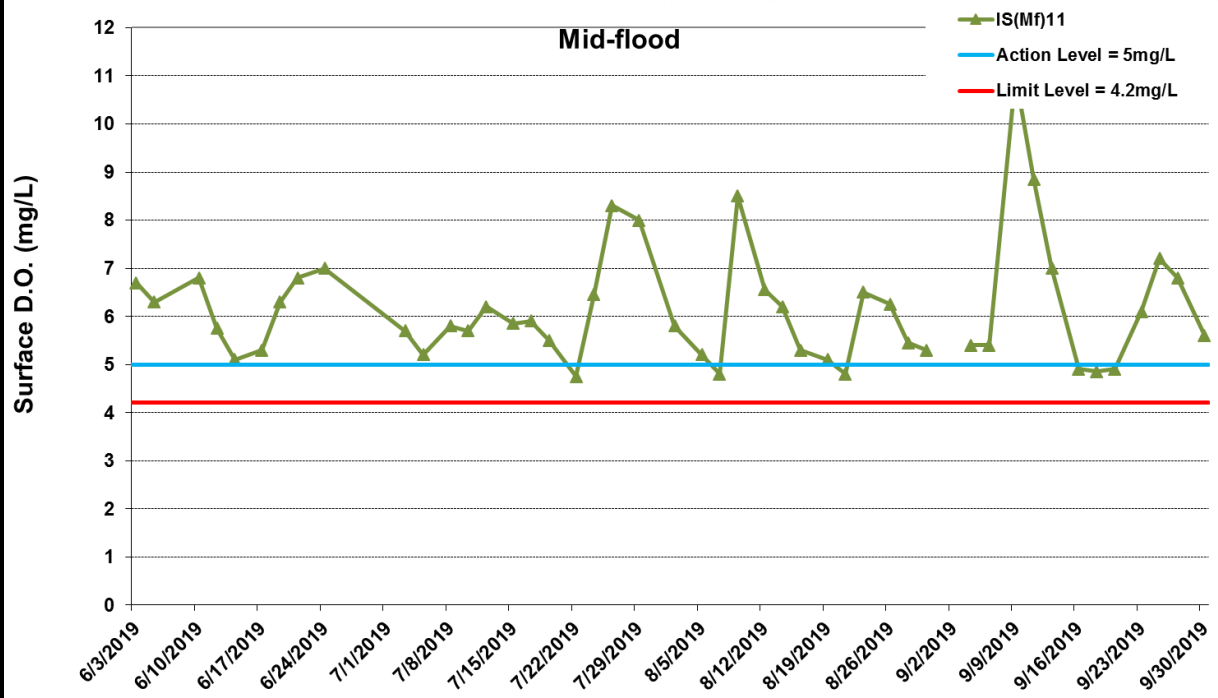
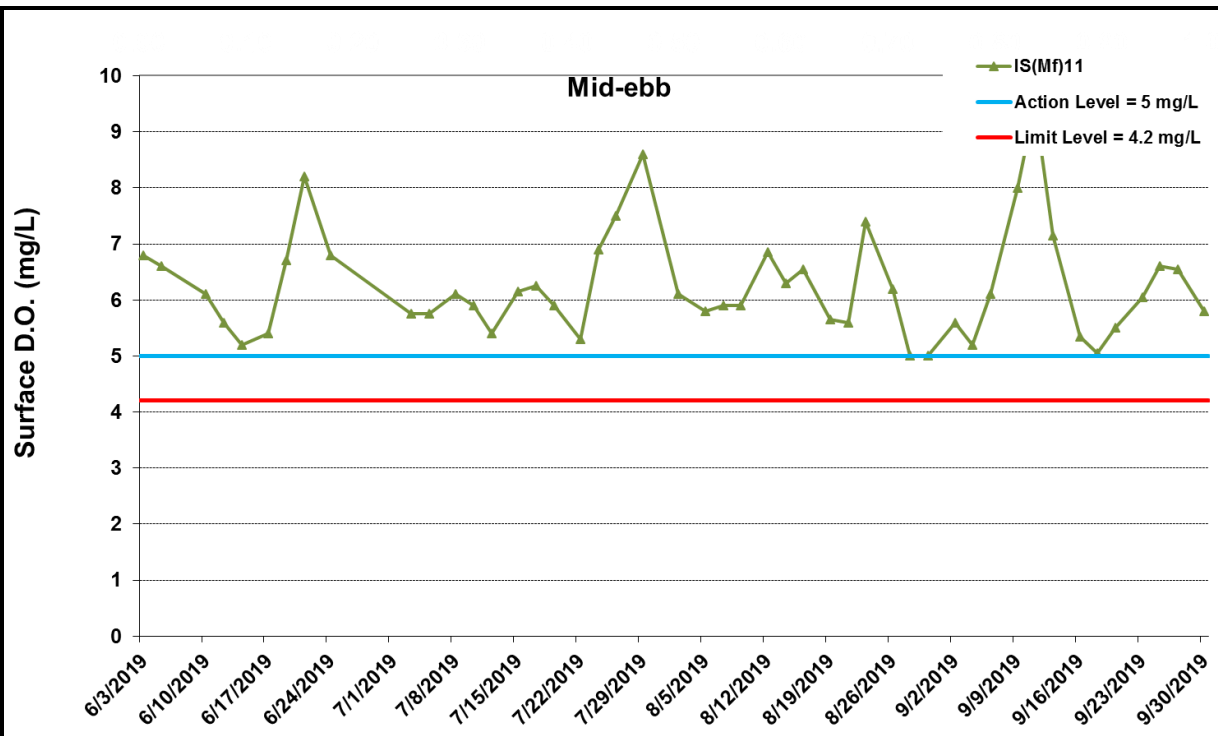
ID#	DATE	STG#	AREA
NL136	11/09/19	1	NW LANTAU
NL202	11/09/19	1	NW LANTAU
NL286	11/09/19	1	NW LANTAU



Appendix IV. Photographs of Identified Individual Dolphins in September 2019 (HKLR03)

Appendix J

Impact Water Quality Monitoring Results



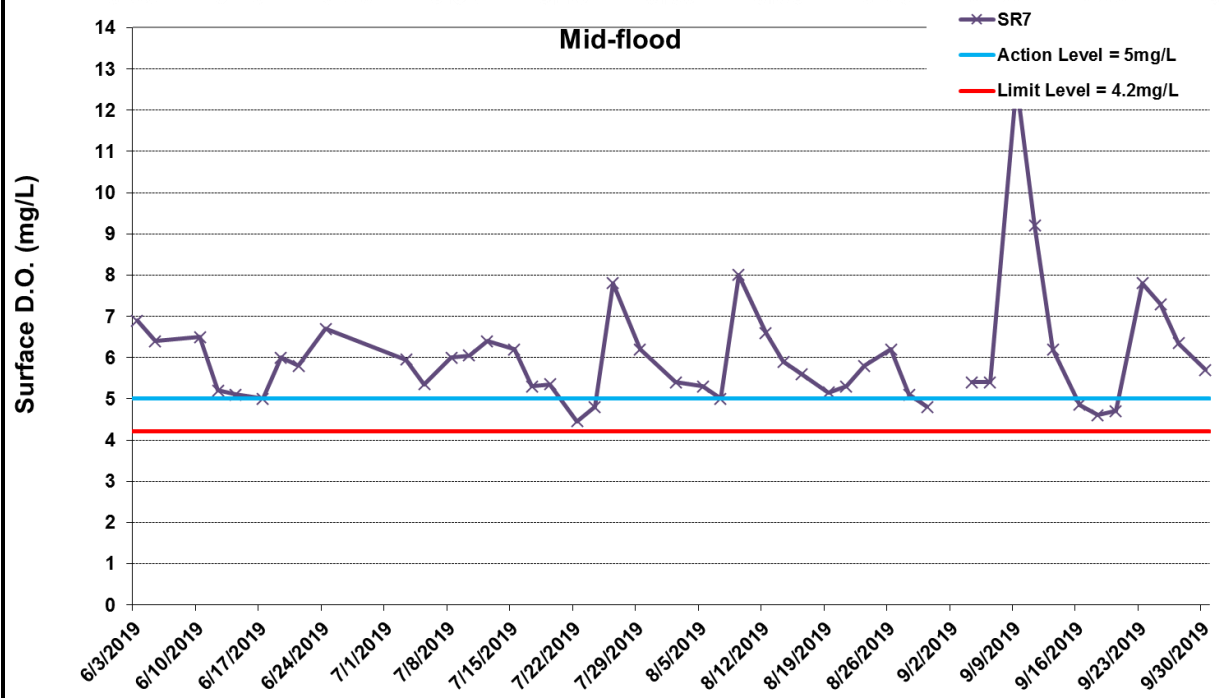
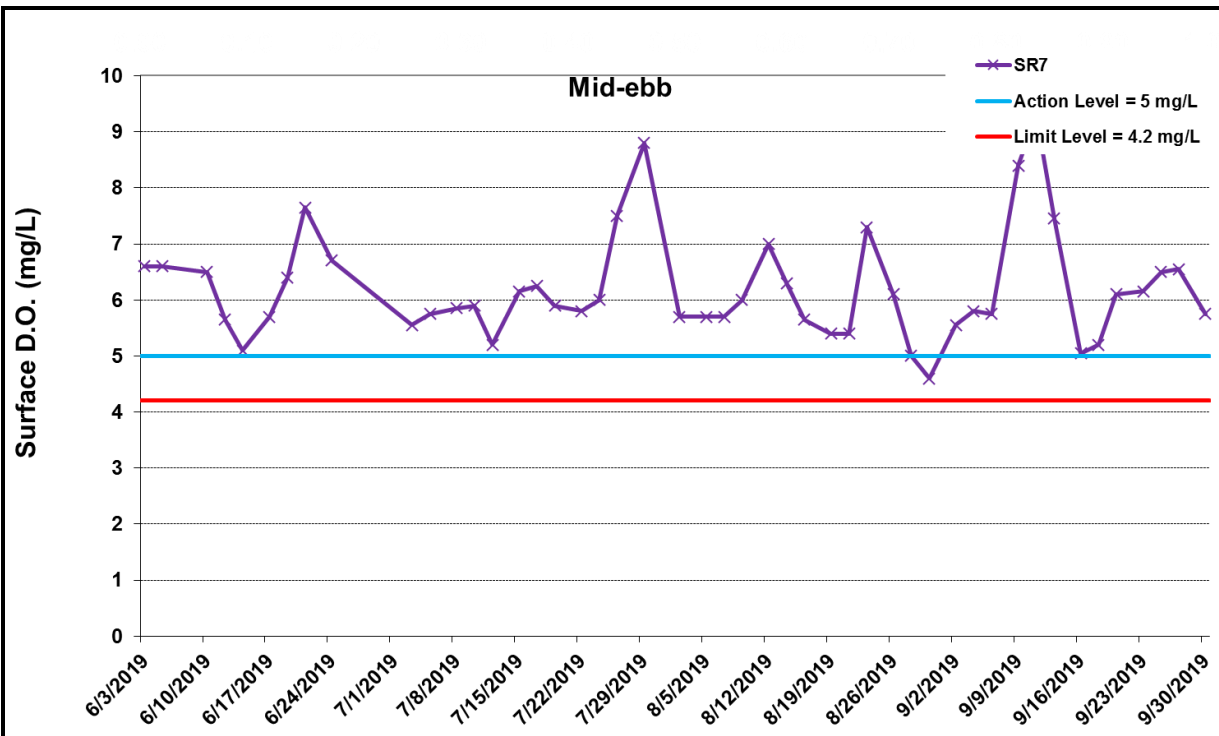
* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J1 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 June 2019 and 30 September 2019 at IS(Mf)11. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



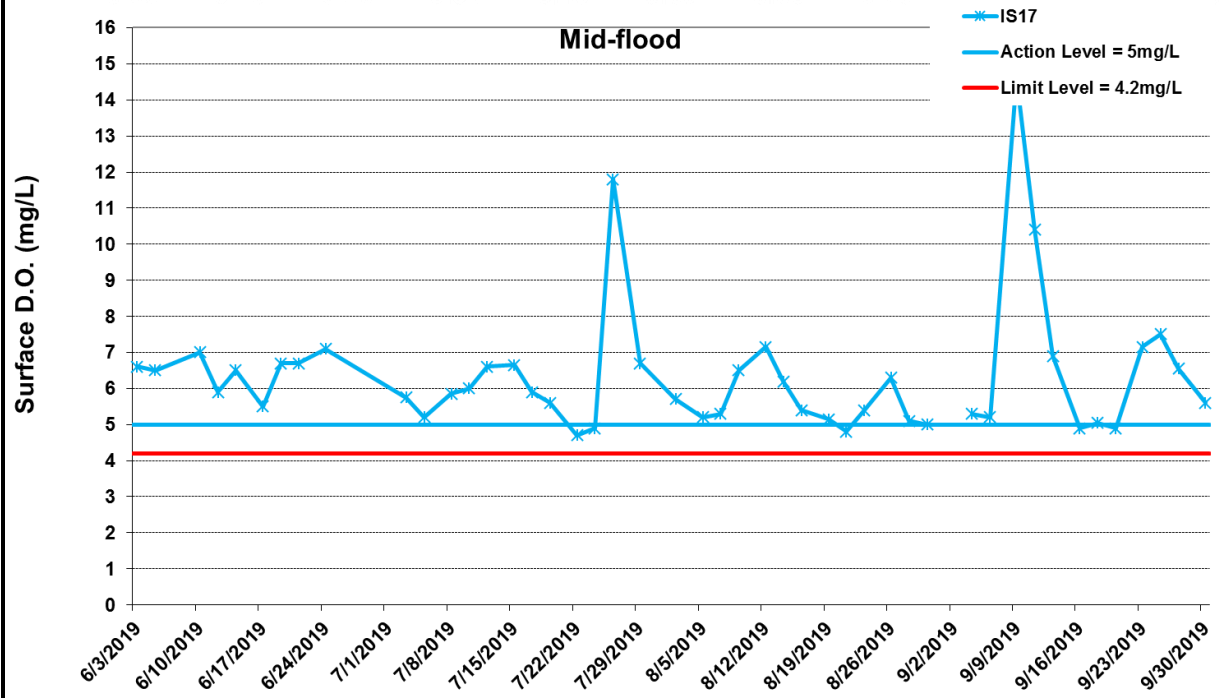
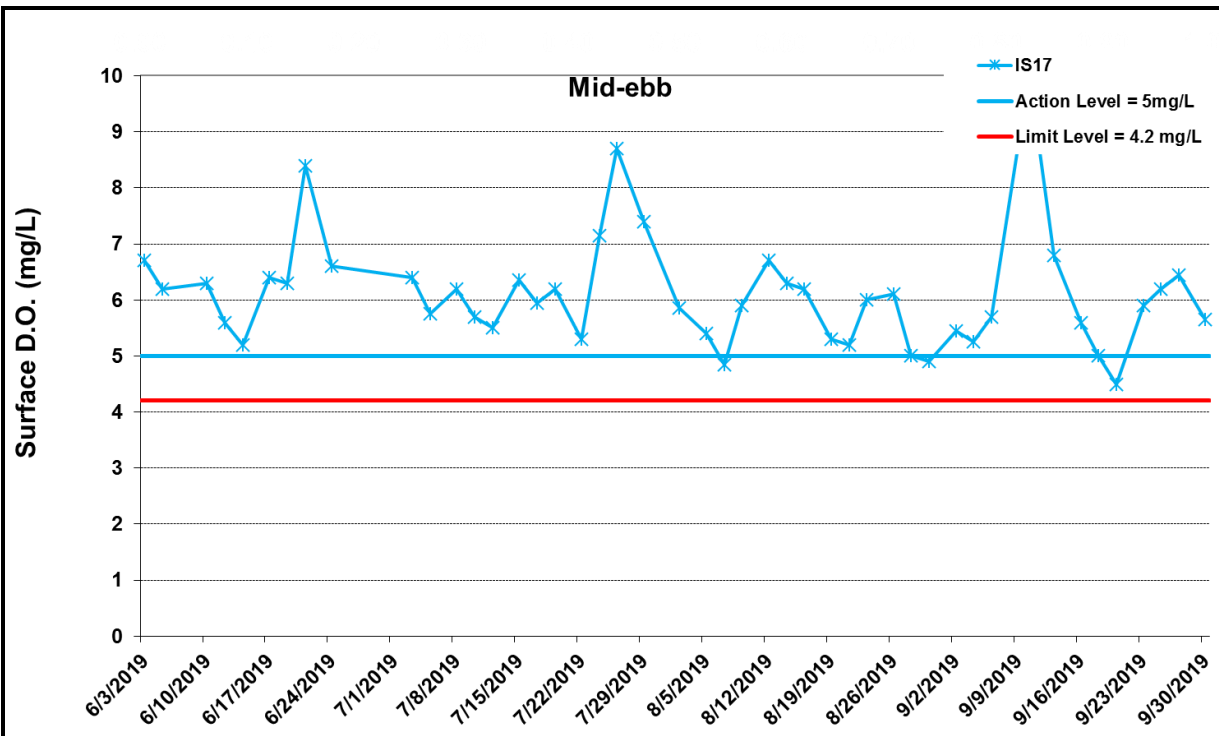
* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J2 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 June 2019 and 30 September 2019 at SR7. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

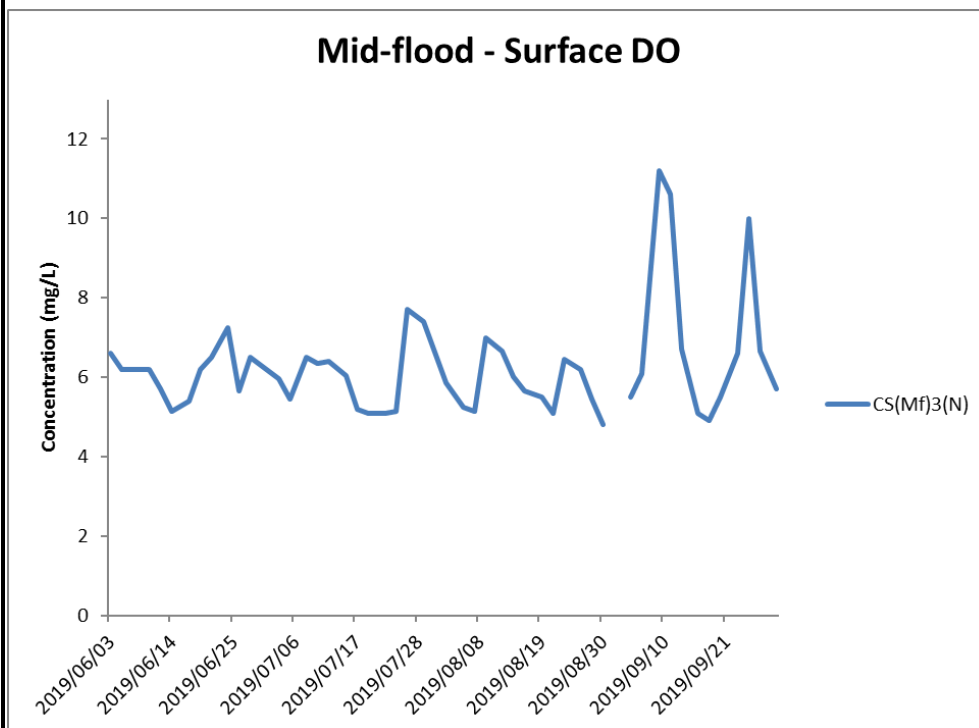
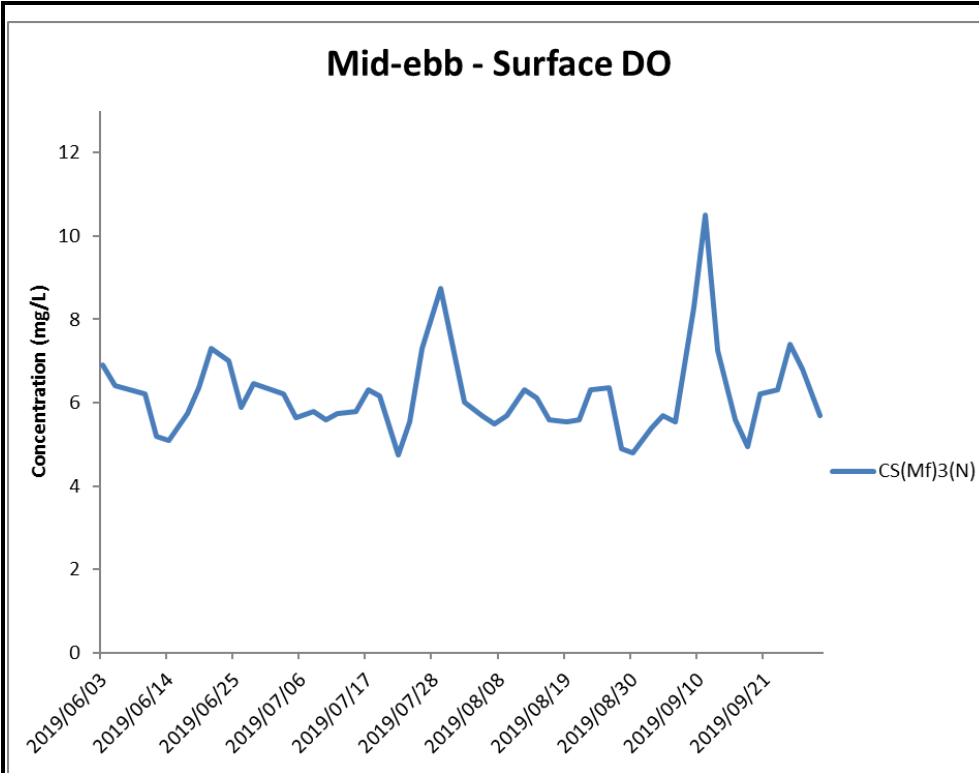


* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.
 *Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J3 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 June 2019 and 30 September 2019 at IS(Mf)11. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

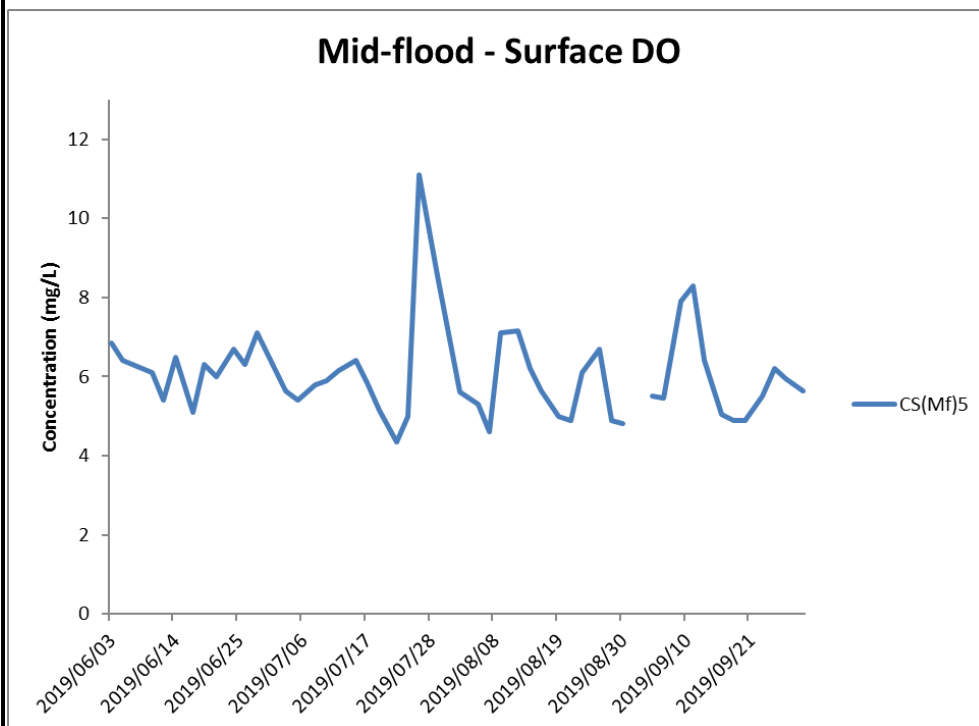
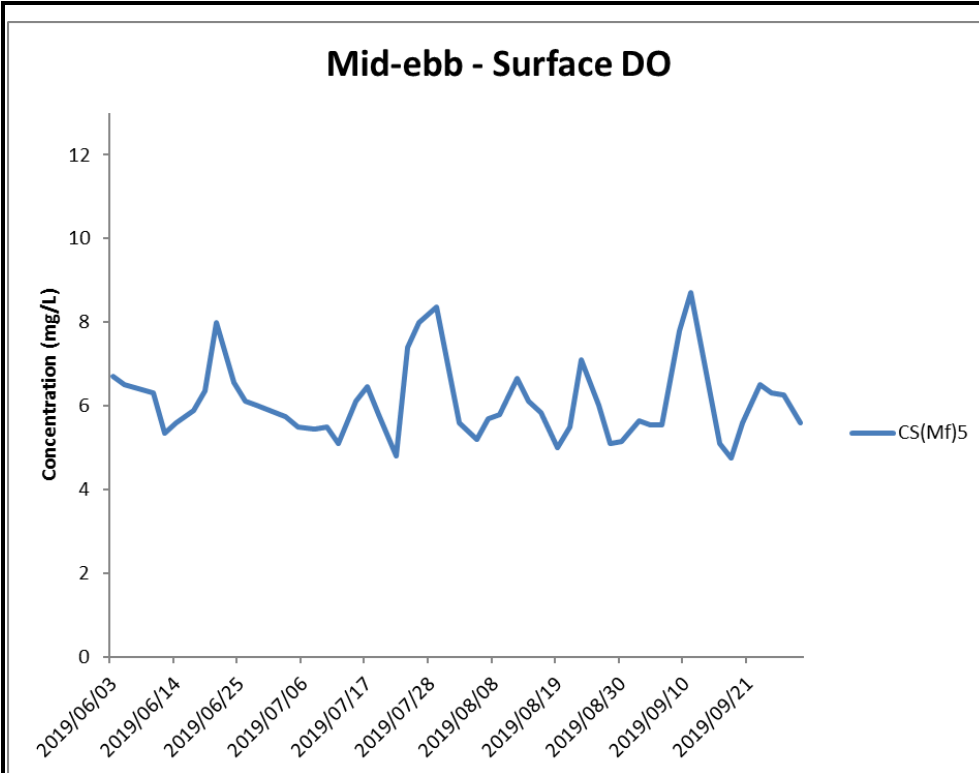


*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J4 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 June 2019 and 30 September 2019 at CS(Mf)3(N). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

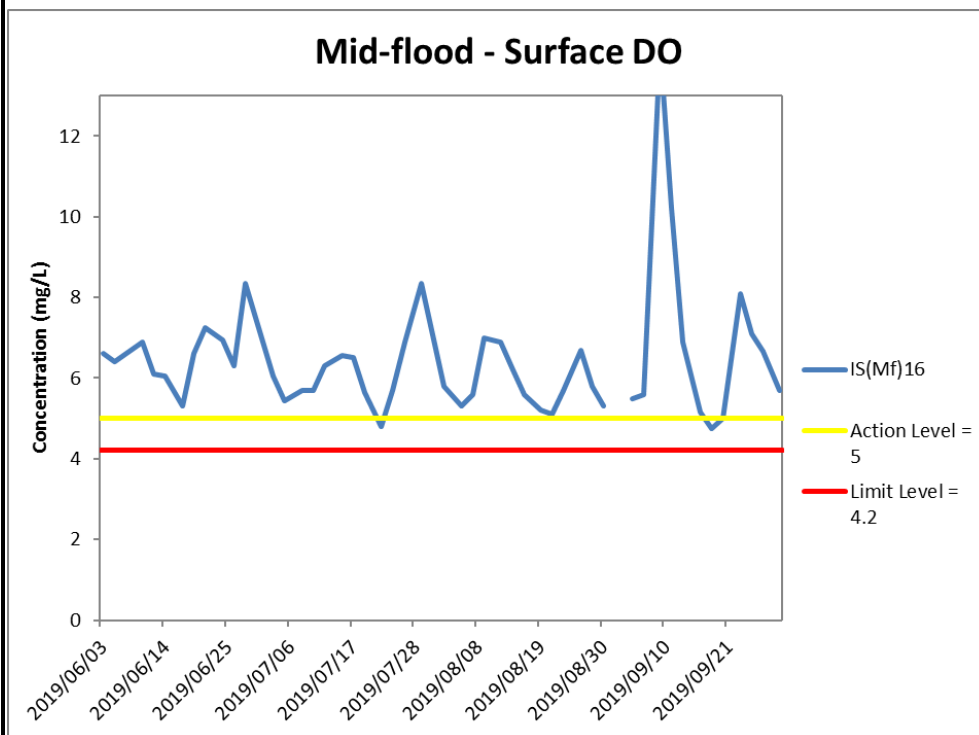
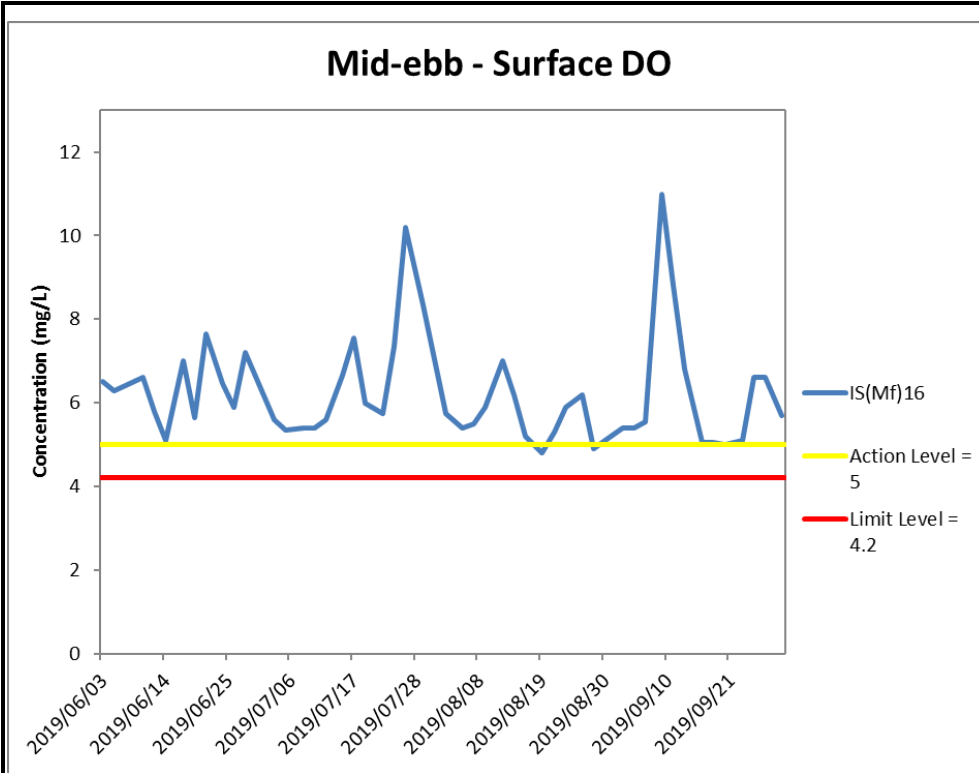


*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J5 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 June 2019 and 30 September 2019 at CS(Mf)5. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



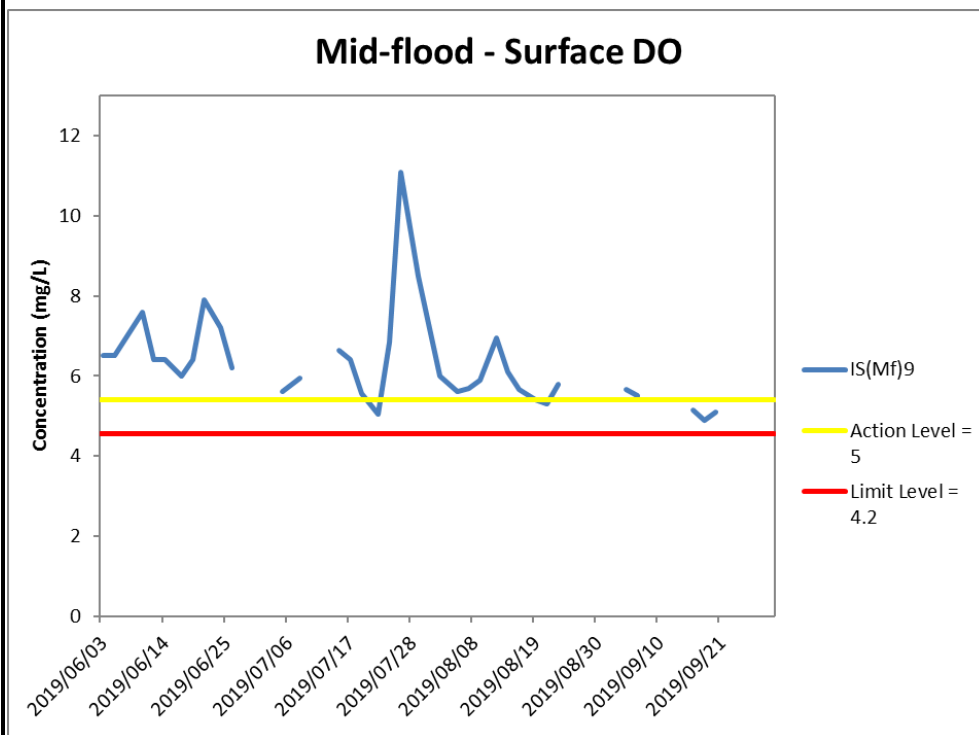
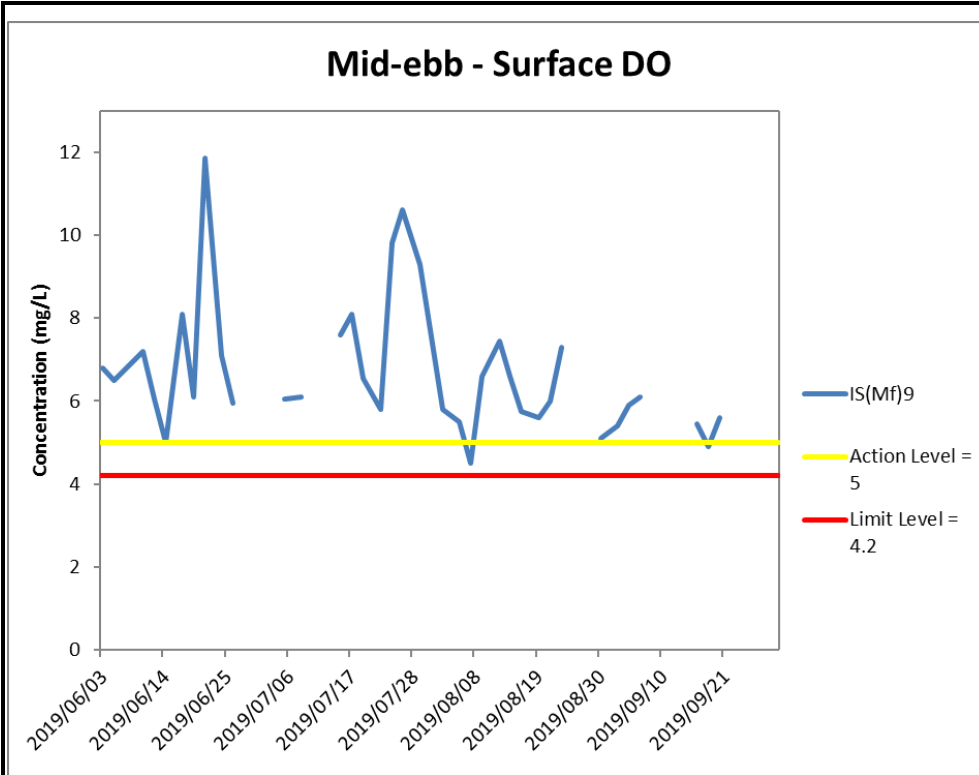
Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J6 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 June 2019 and 30 September 2019 at IS(Mf)16. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

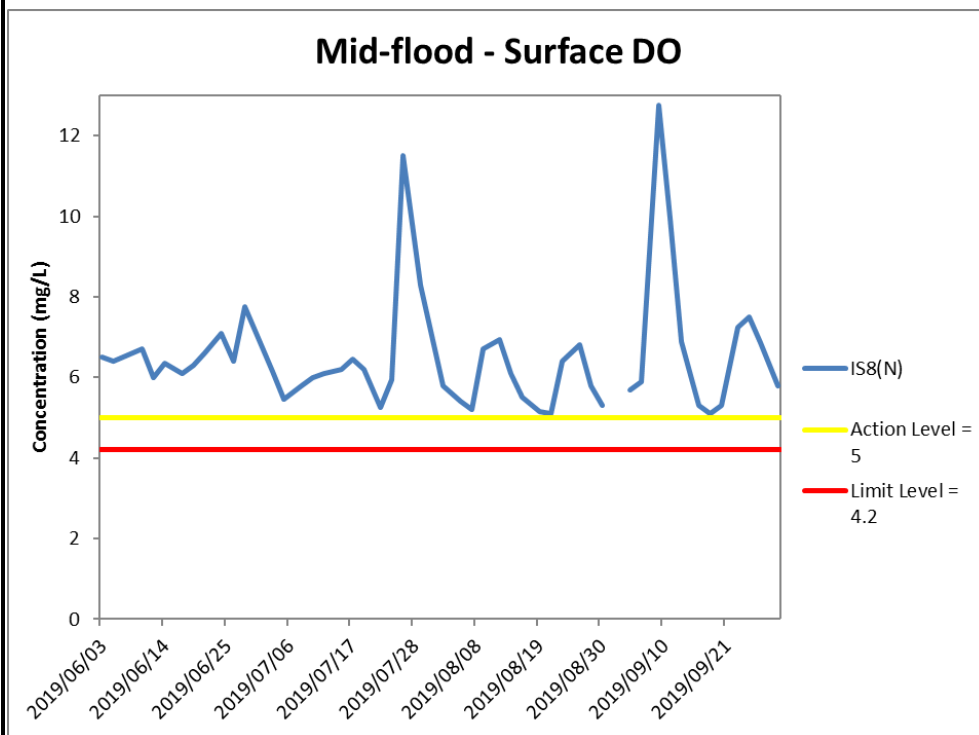
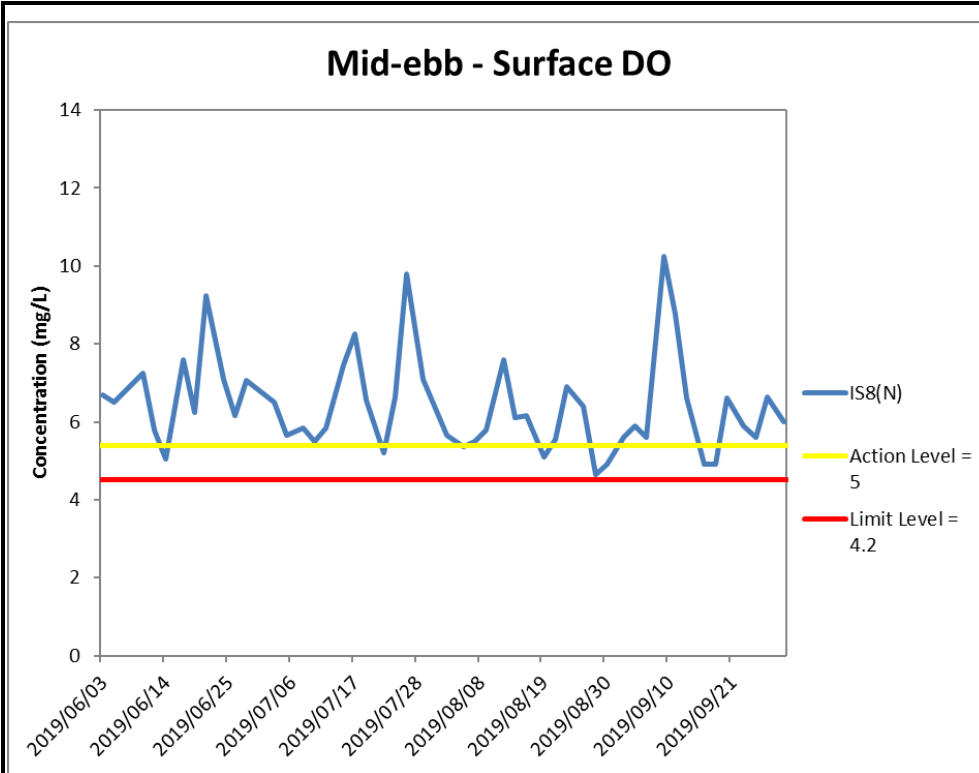




*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J7 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 June 2019 and 30 September 2019 at IS(Mf)9. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

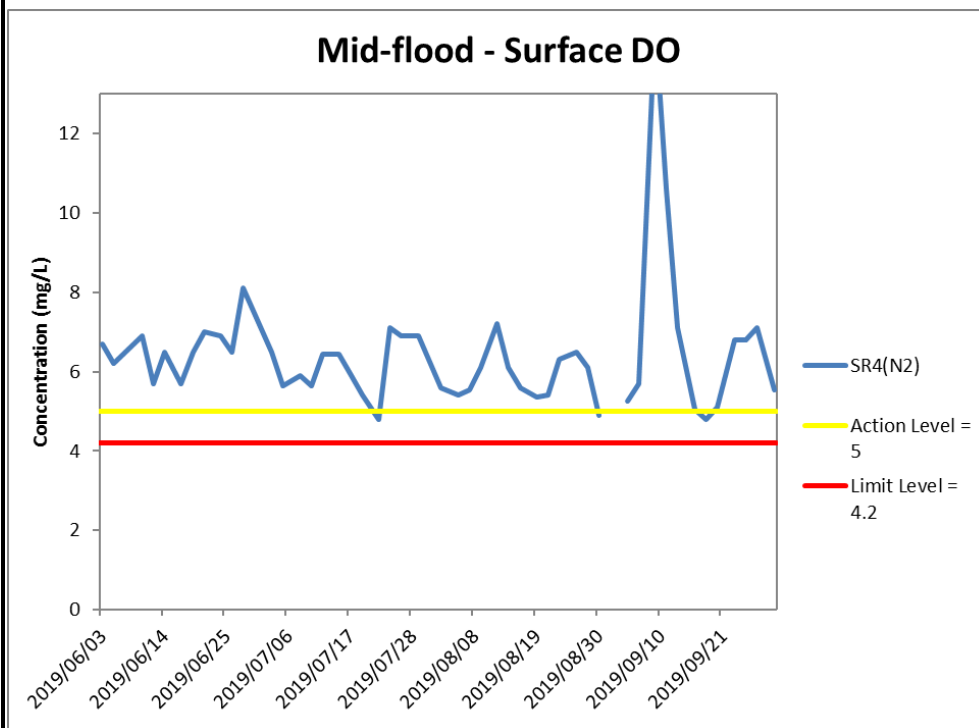
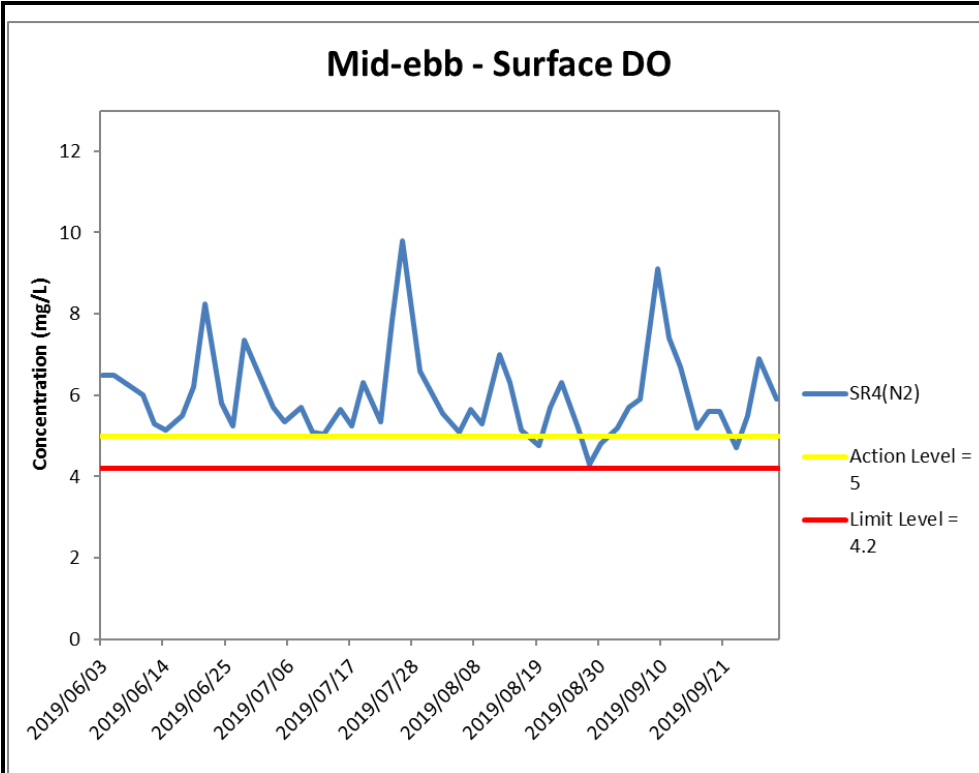




*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J8 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 June 2019 and 30 September 2019 at IS8(N). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

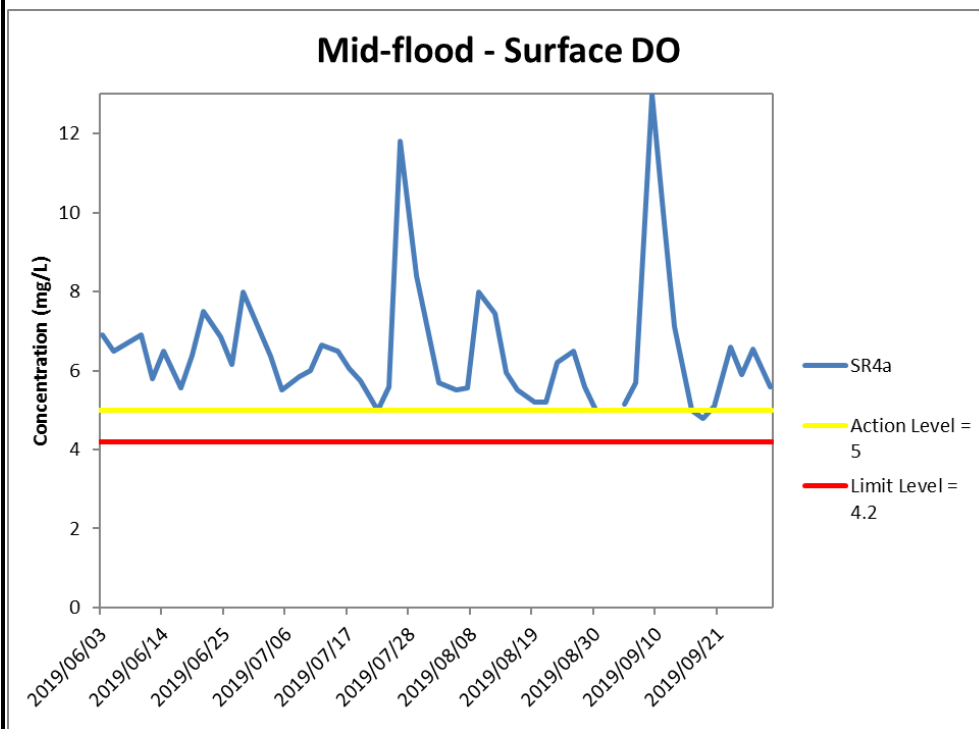
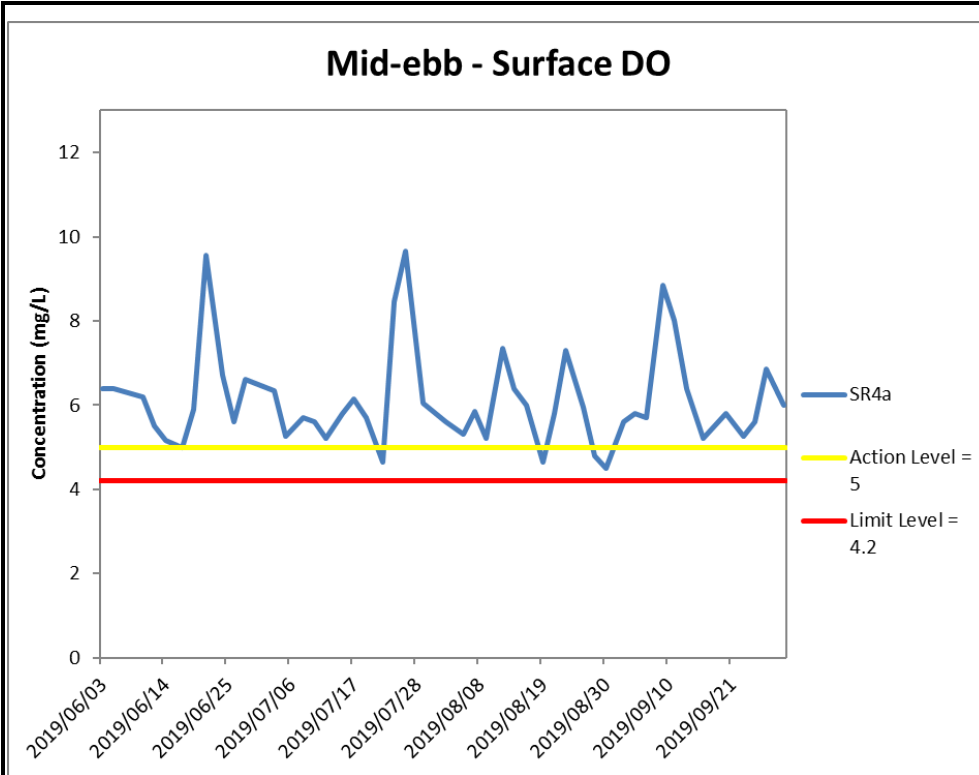




*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J9 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 June 2019 and 30 September 2019 at SR4(N2). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



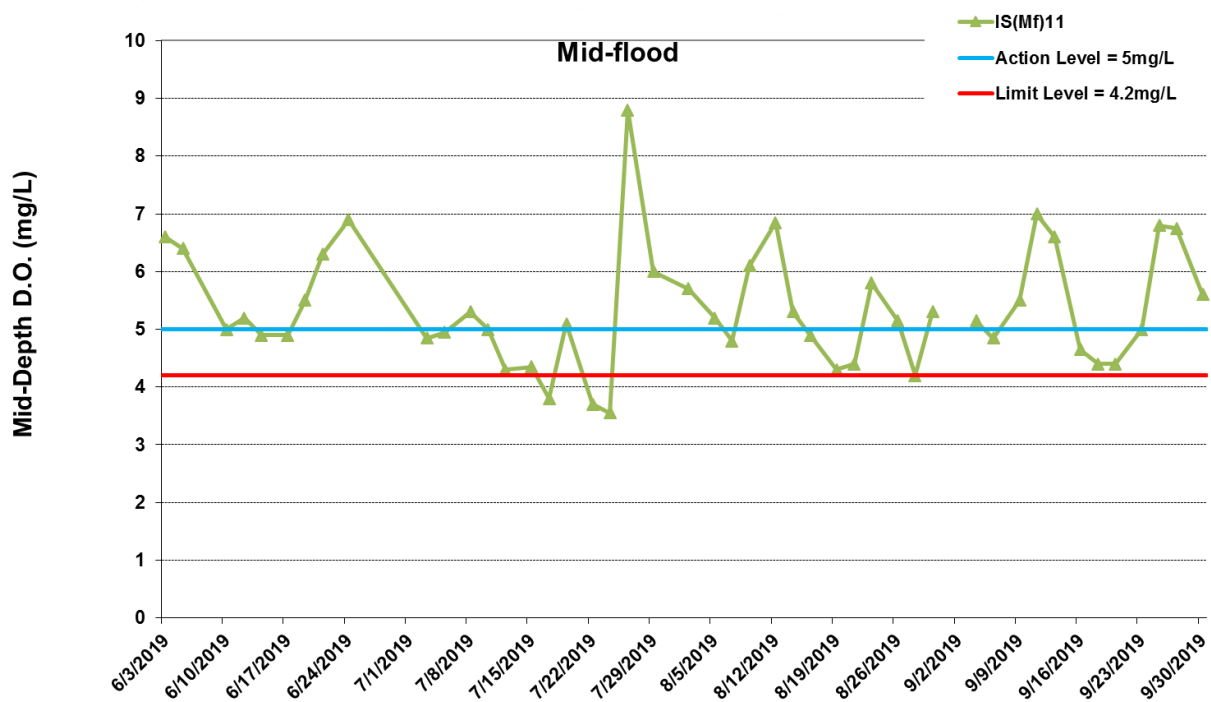
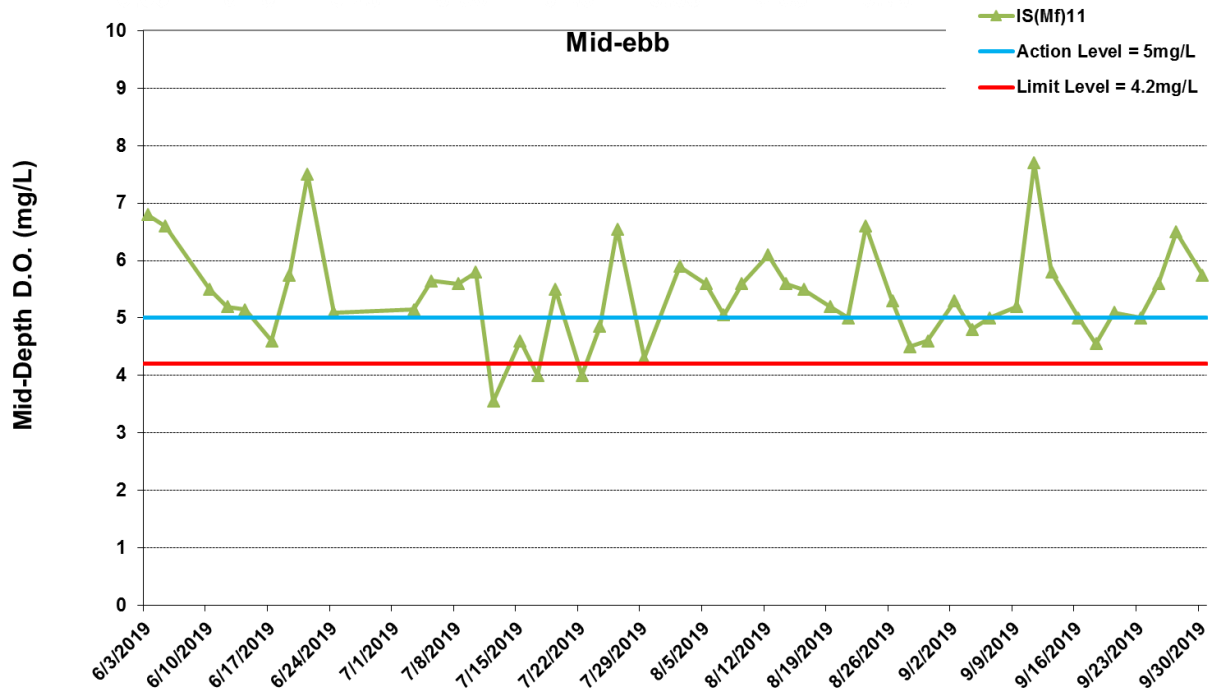


*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J10 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 June 2019 and 30 September 2019 at SR4a. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



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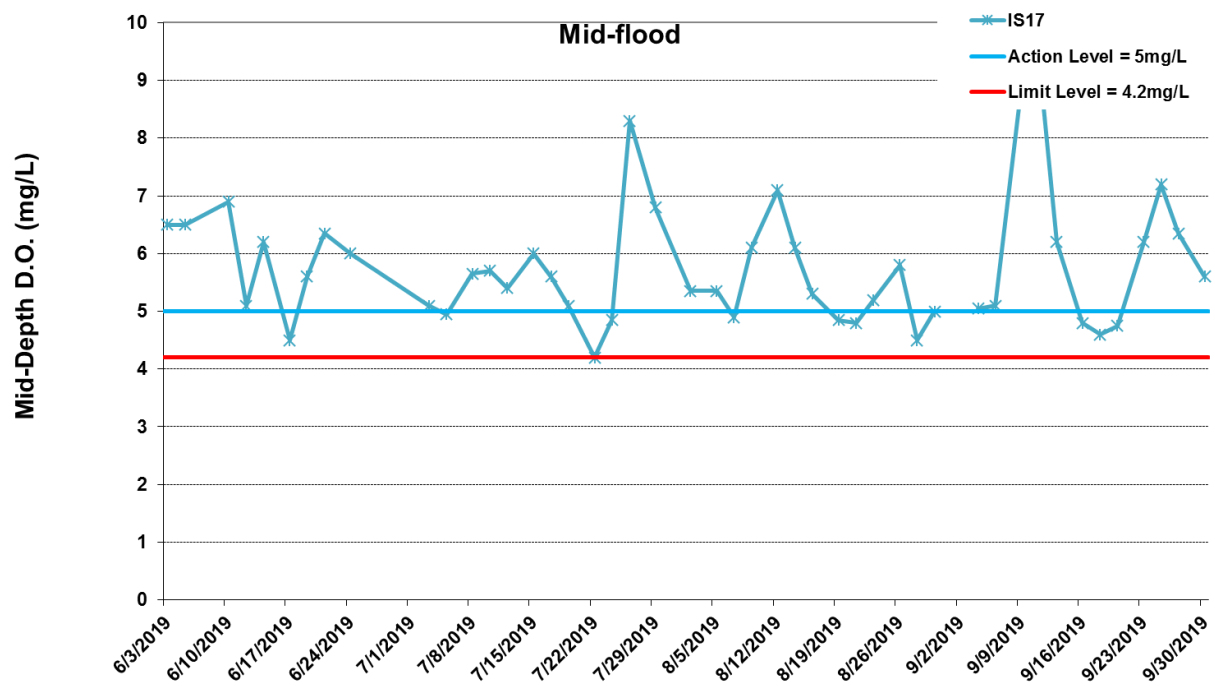
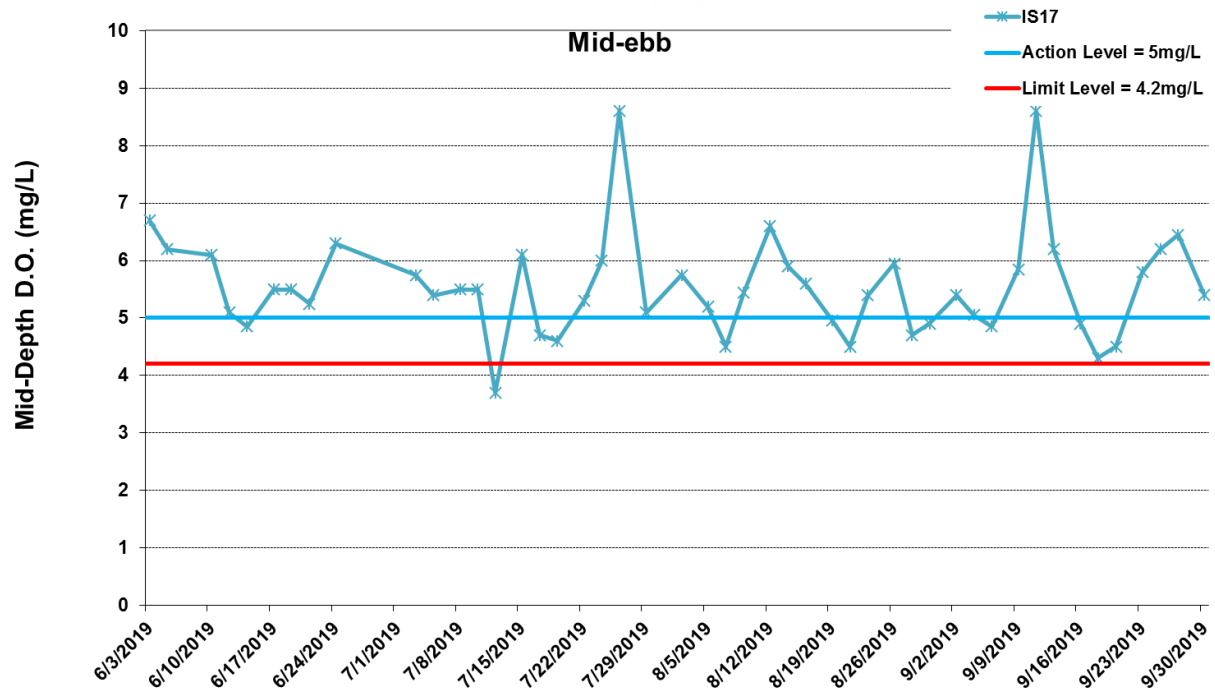
* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

*No data for Stations SR7 due to shallow water depth (< 6m).

*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J11 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 June 2019 and 30 September 2019 at IS(Mf)11. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).





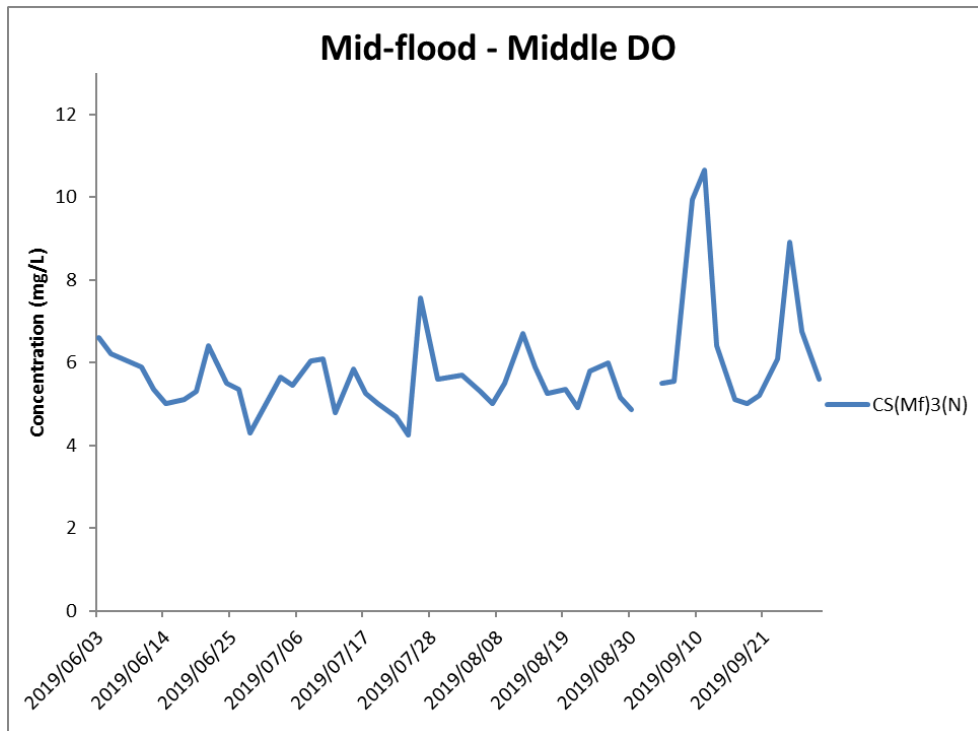
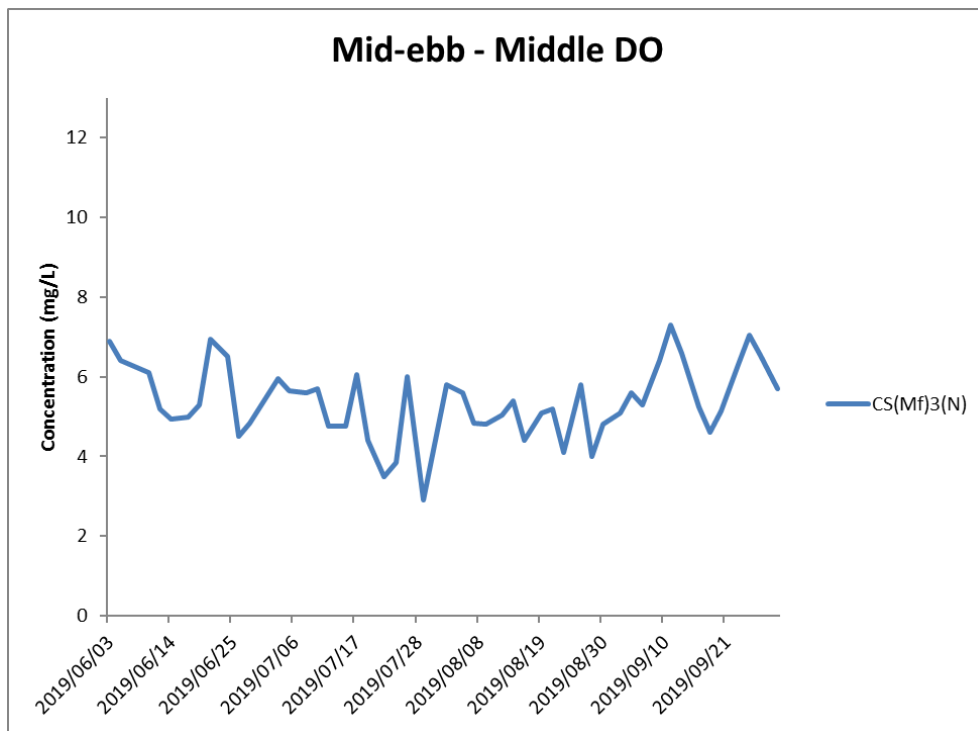
* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

*No data for Stations SR7 due to shallow water depth (< 6m).

*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J12 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 June 2019 and 30 September 2019 at IS17. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

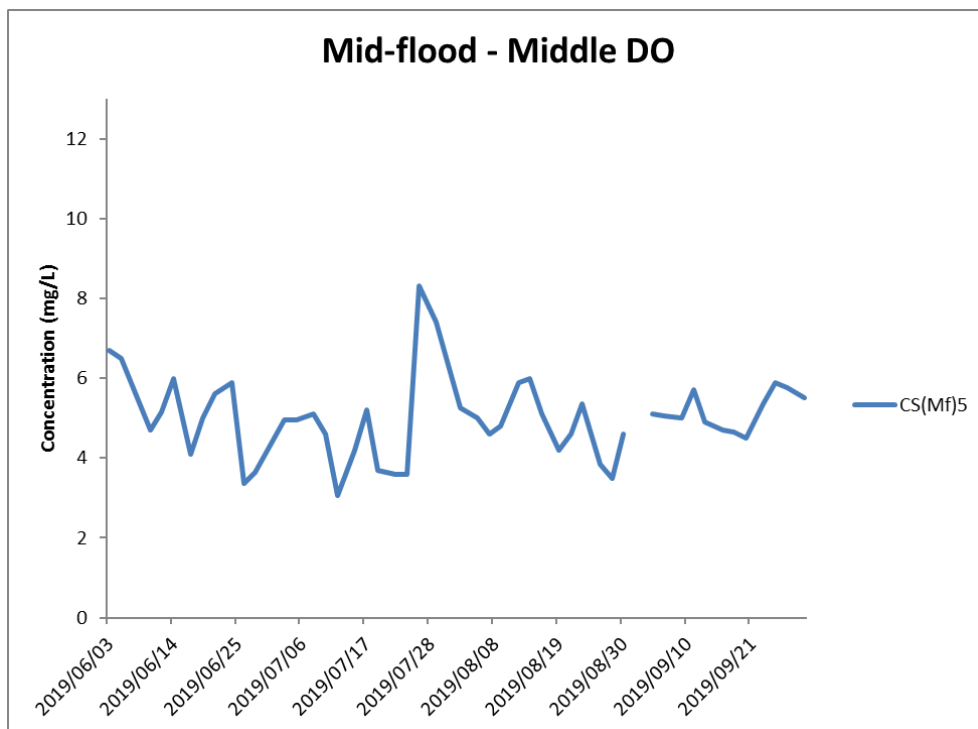
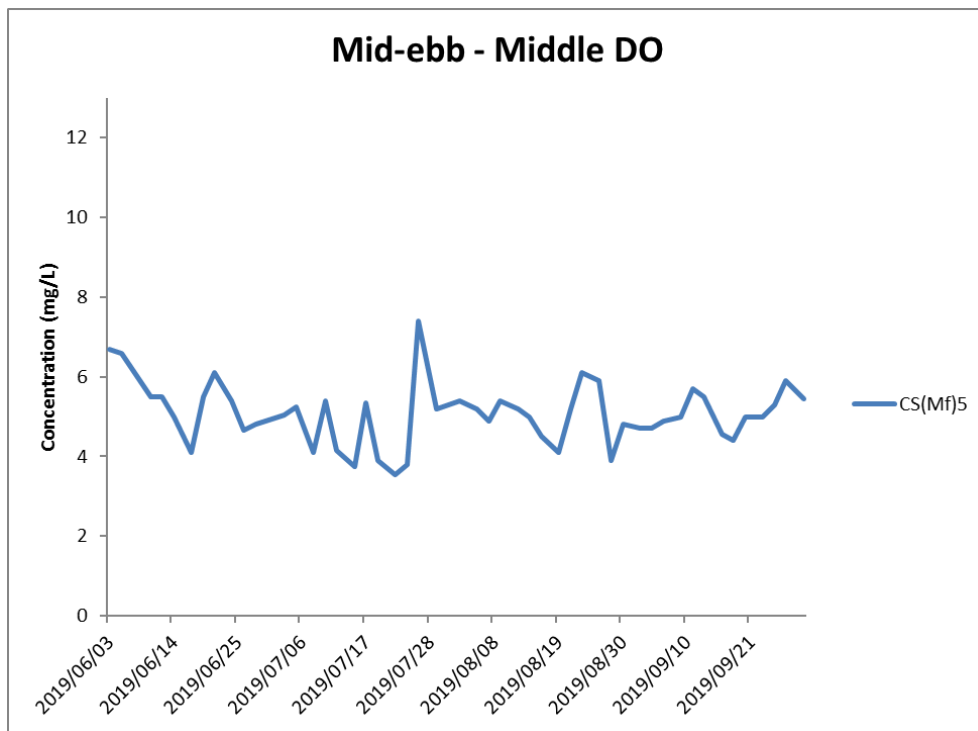




*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J13 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 June 2019 and 30 September 2019 at CS(Mf)3(N). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

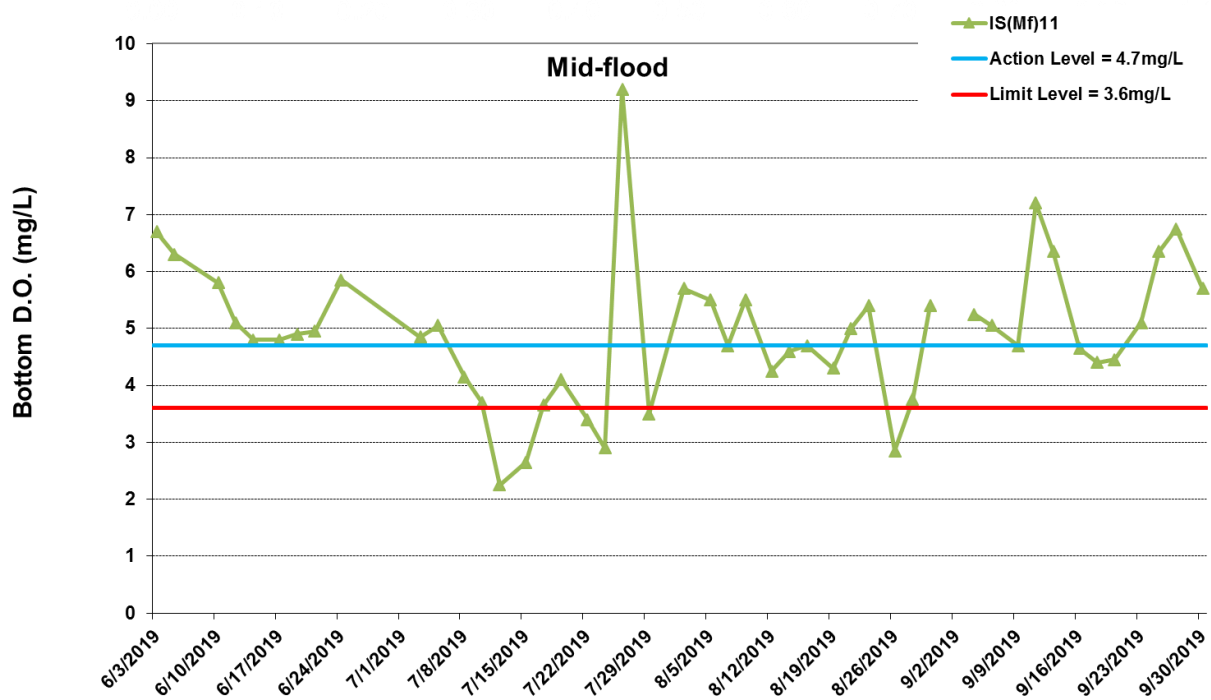
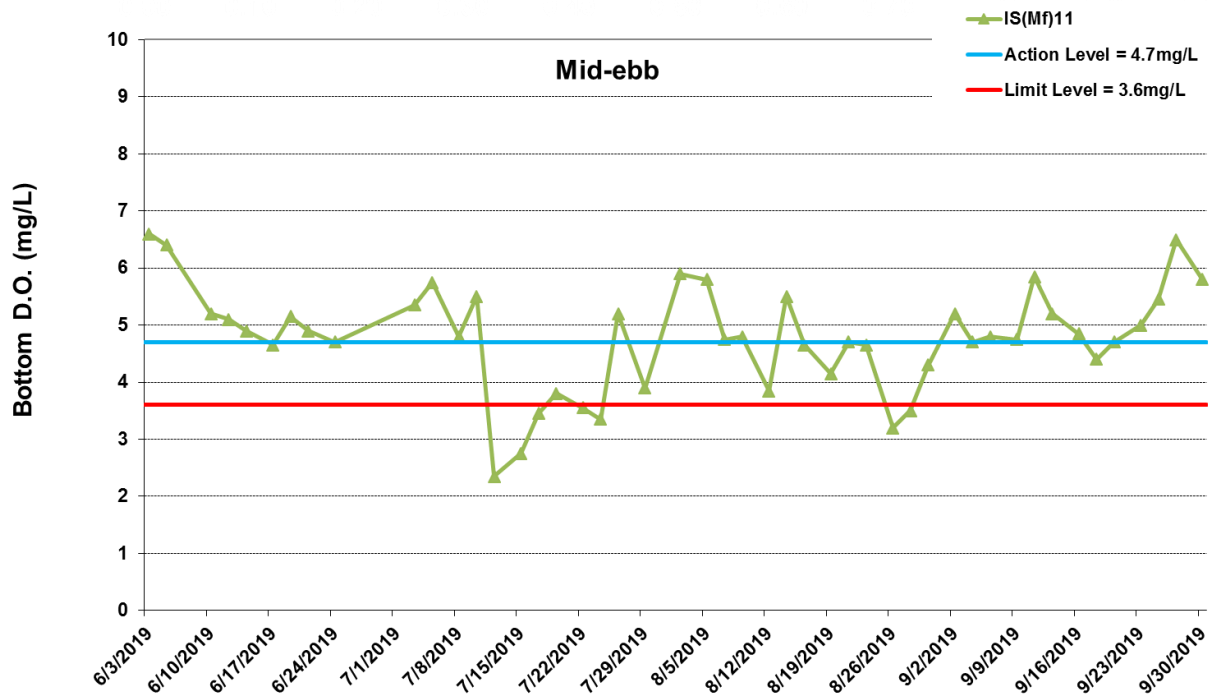




*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J14 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 June 2019 and 30 September 2019 at CS(Mf)5. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).





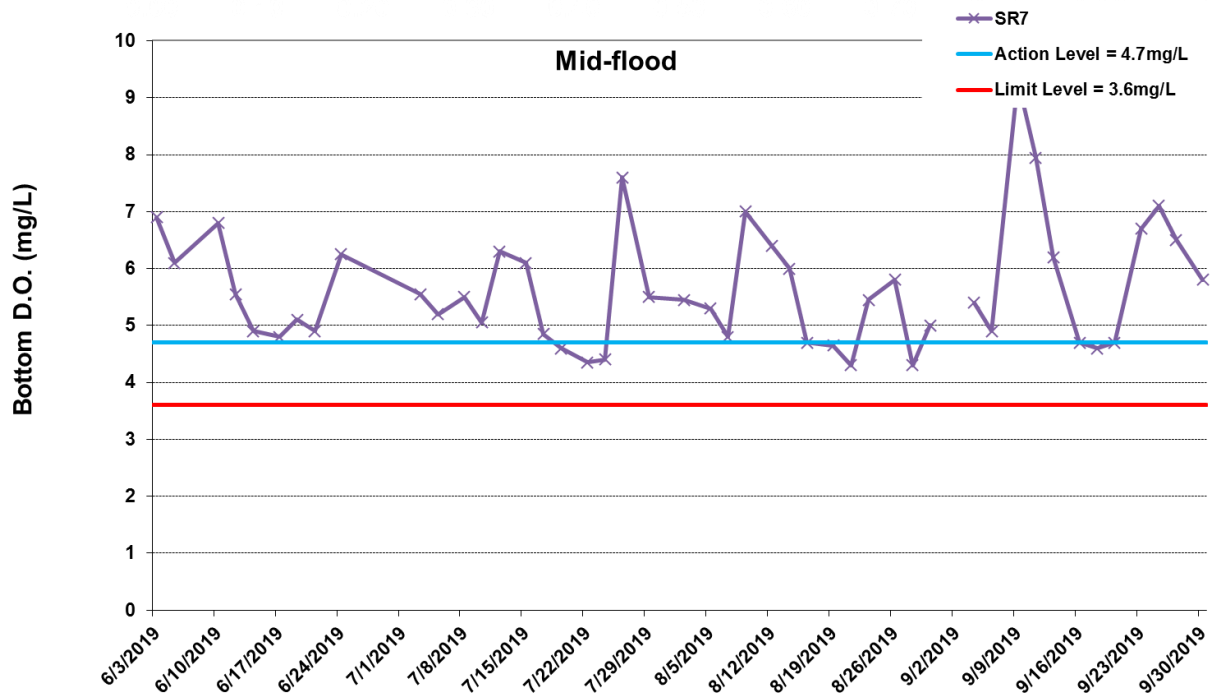
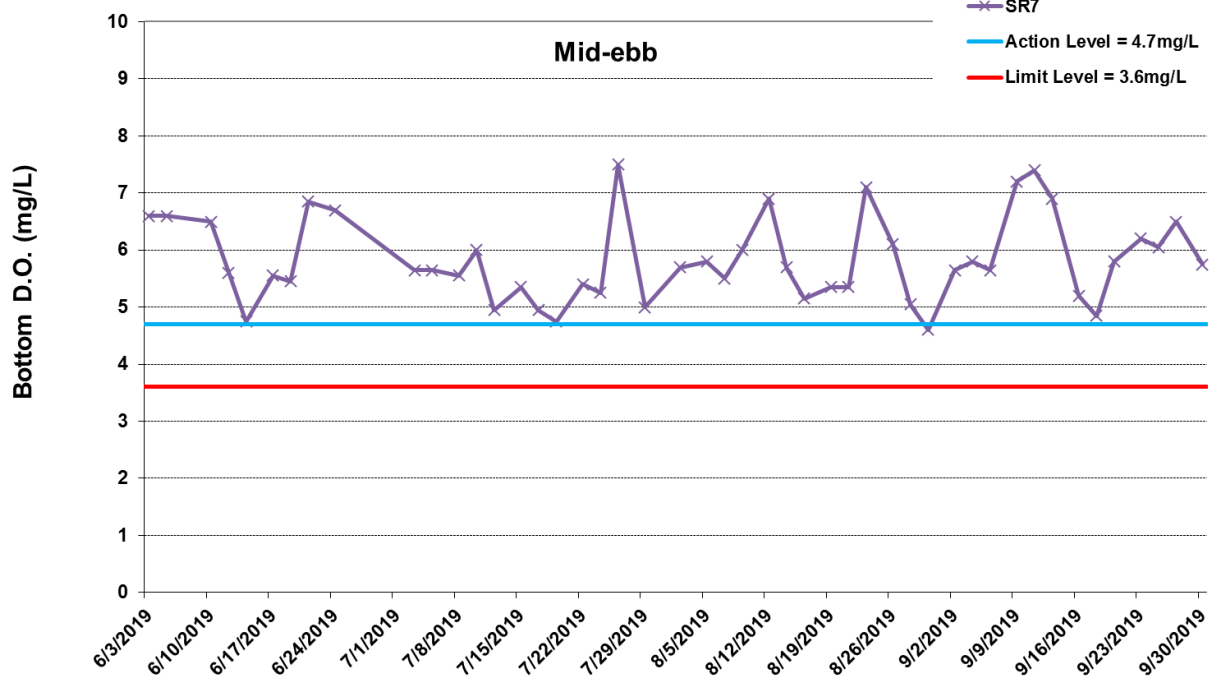
* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J15 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 June 2019 and 30 September 2019 at IS(Mf)11. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



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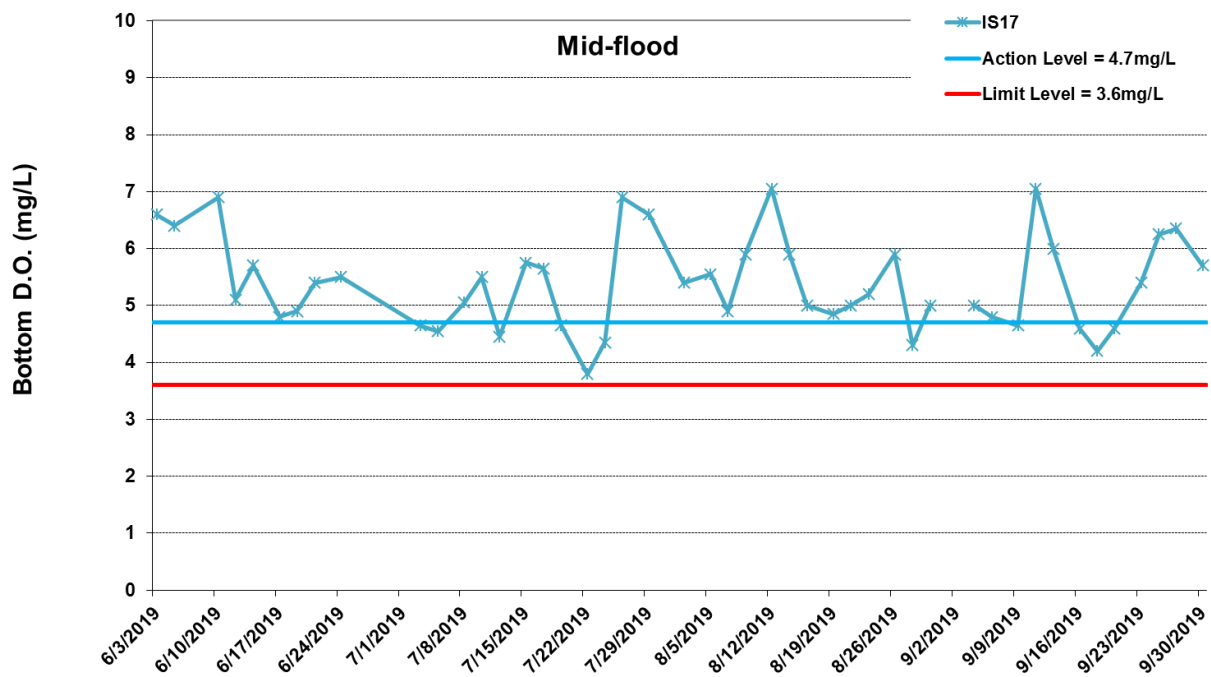
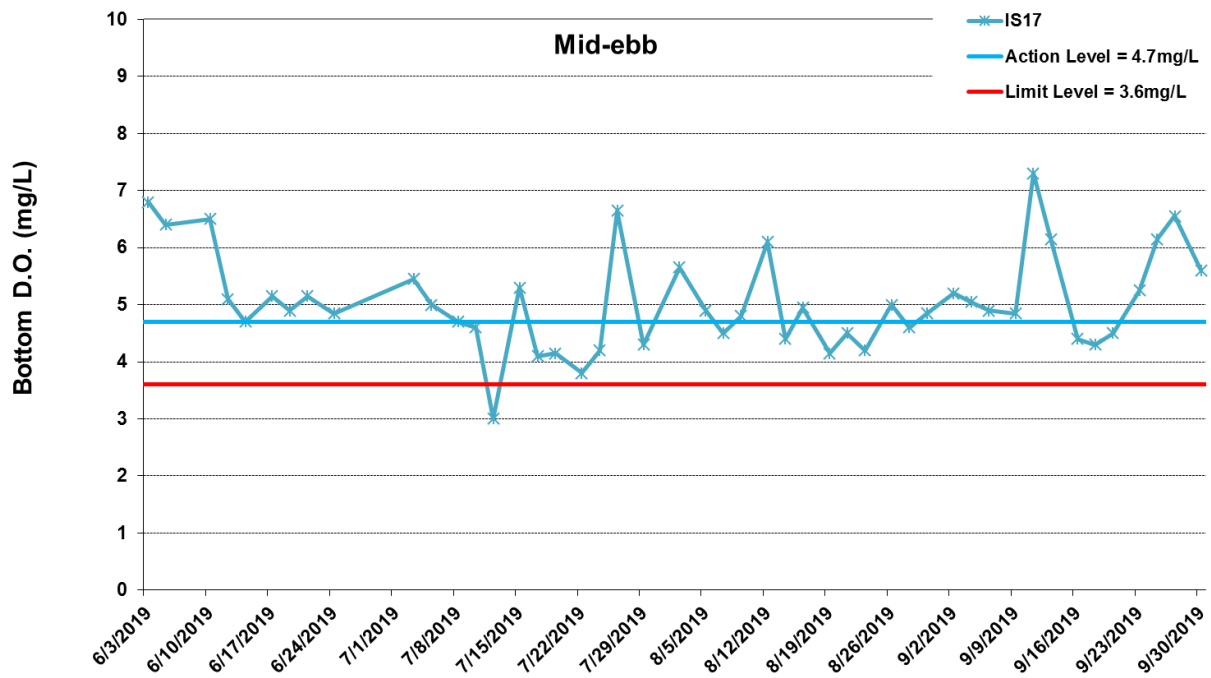
* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J16 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 June 2019 and 30 September 2019 at SR7. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



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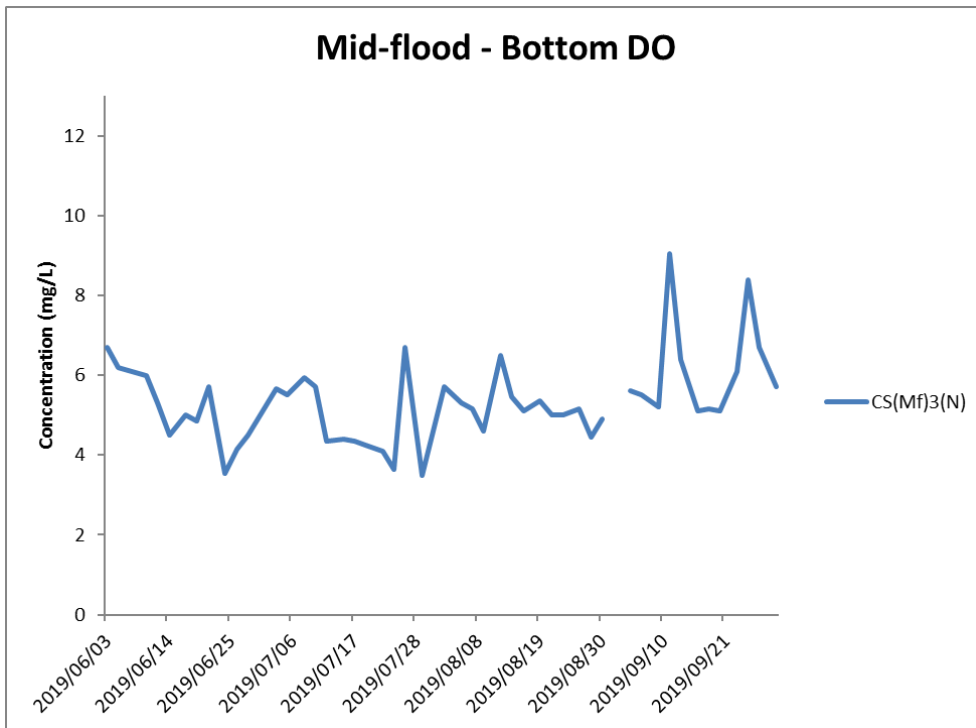
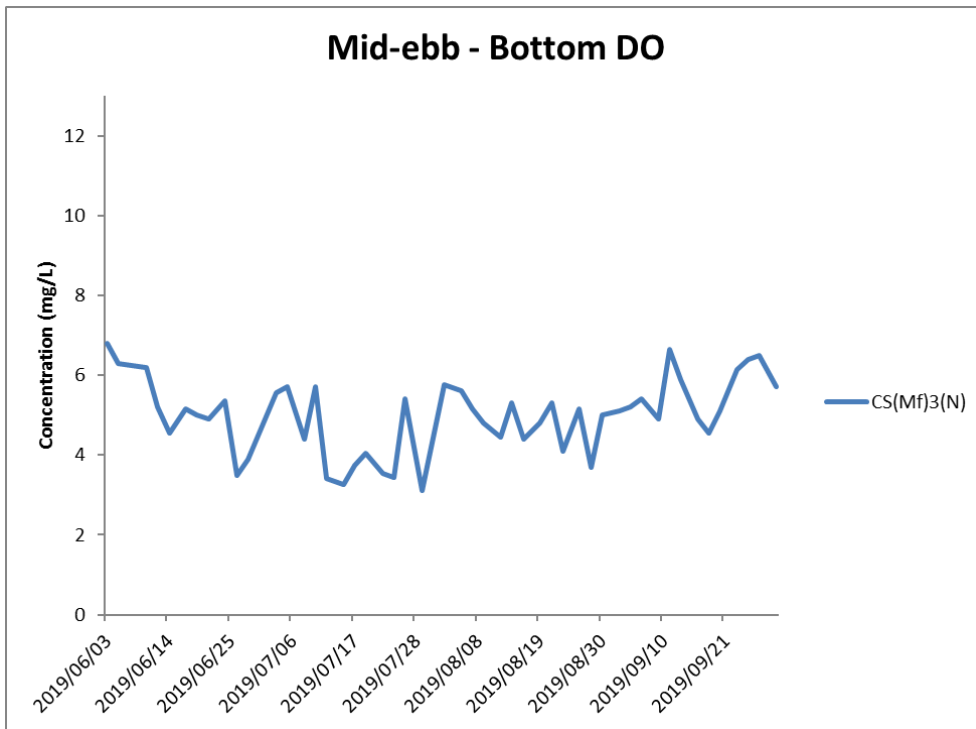


* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J17 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 June 2019 and 30 September 2019 at IS17. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

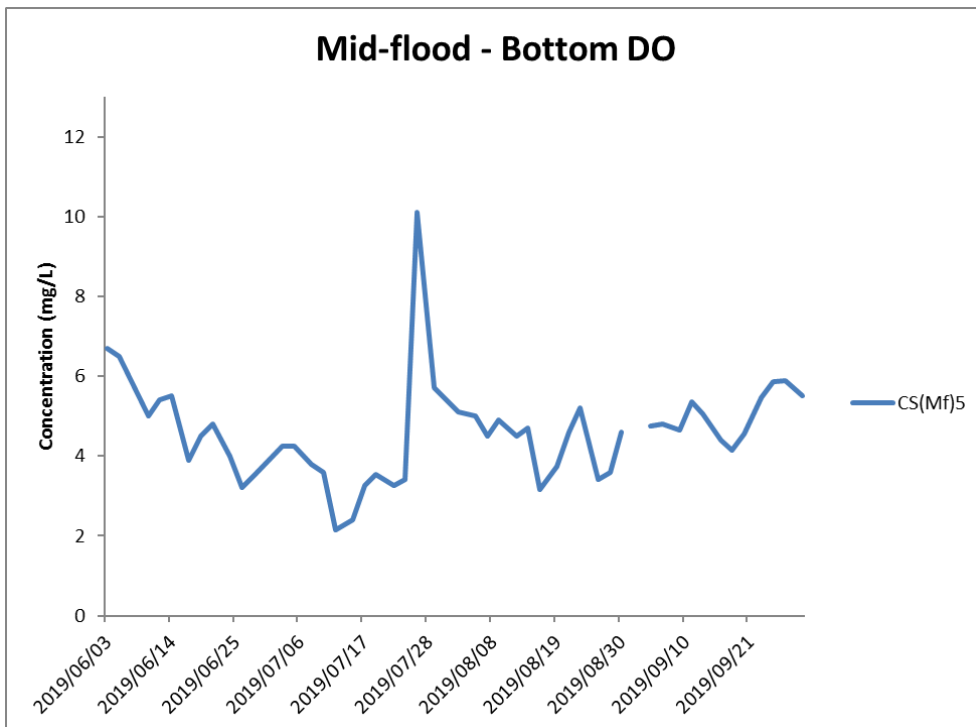
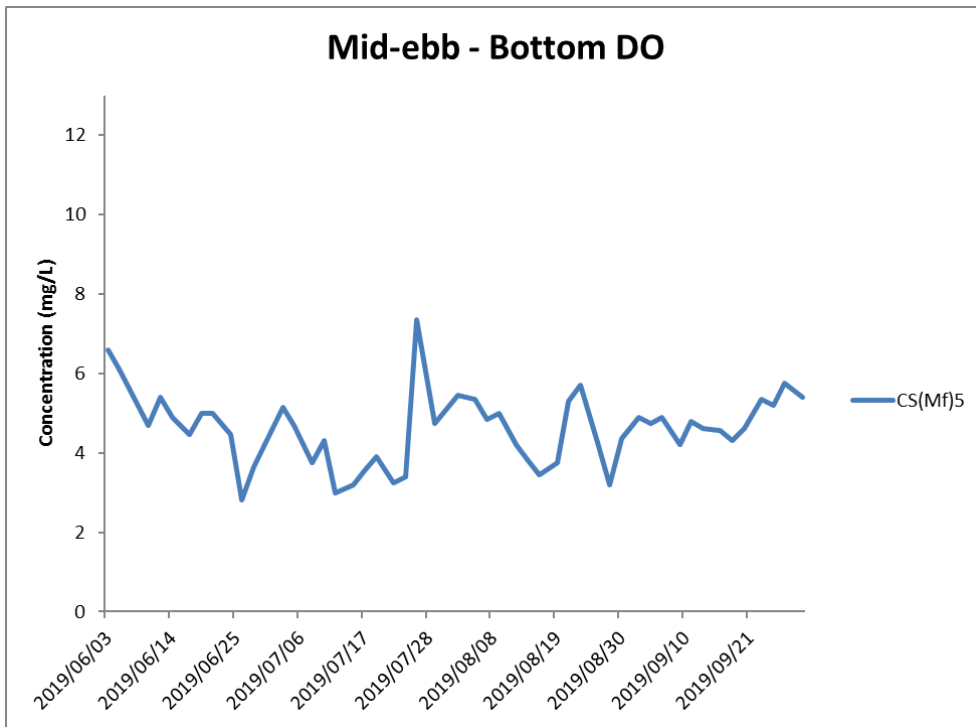




*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J18 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 June 2019 and 30 September 2019 at CS(Mf)3(N). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

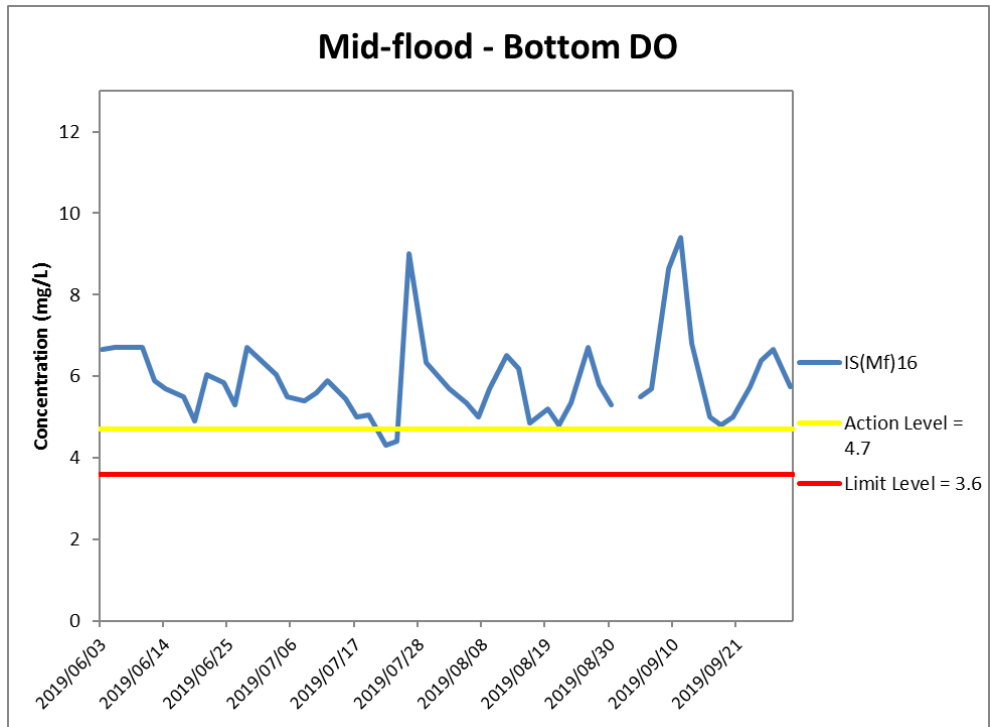
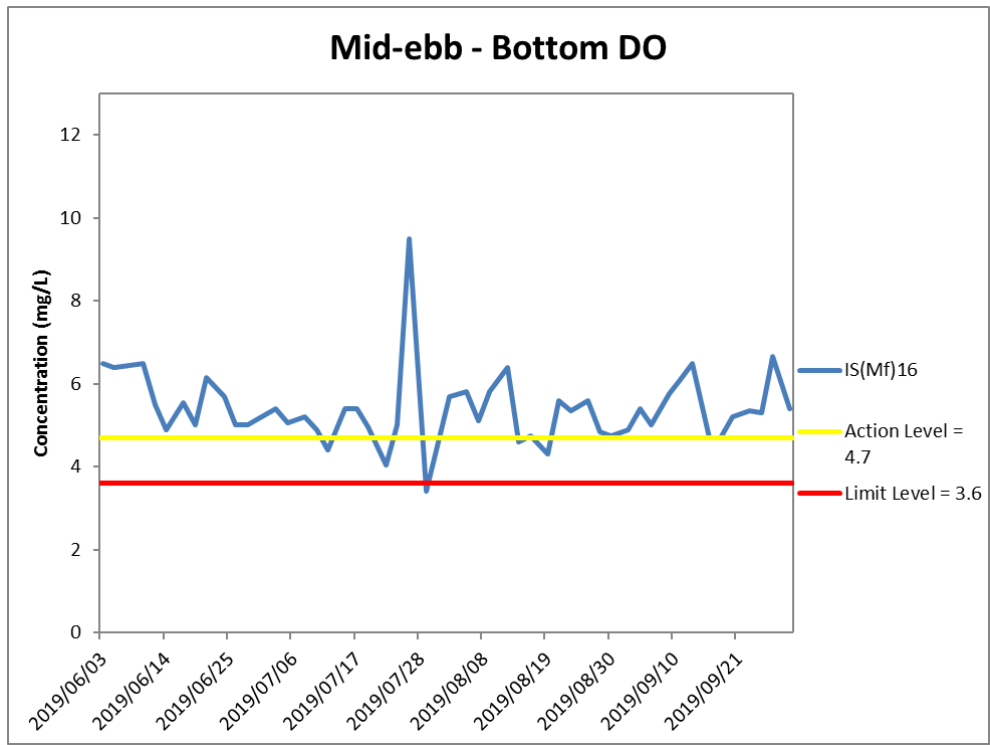




*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J19 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 June 2019 and 30 September 2019 at CS(Mf)5. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

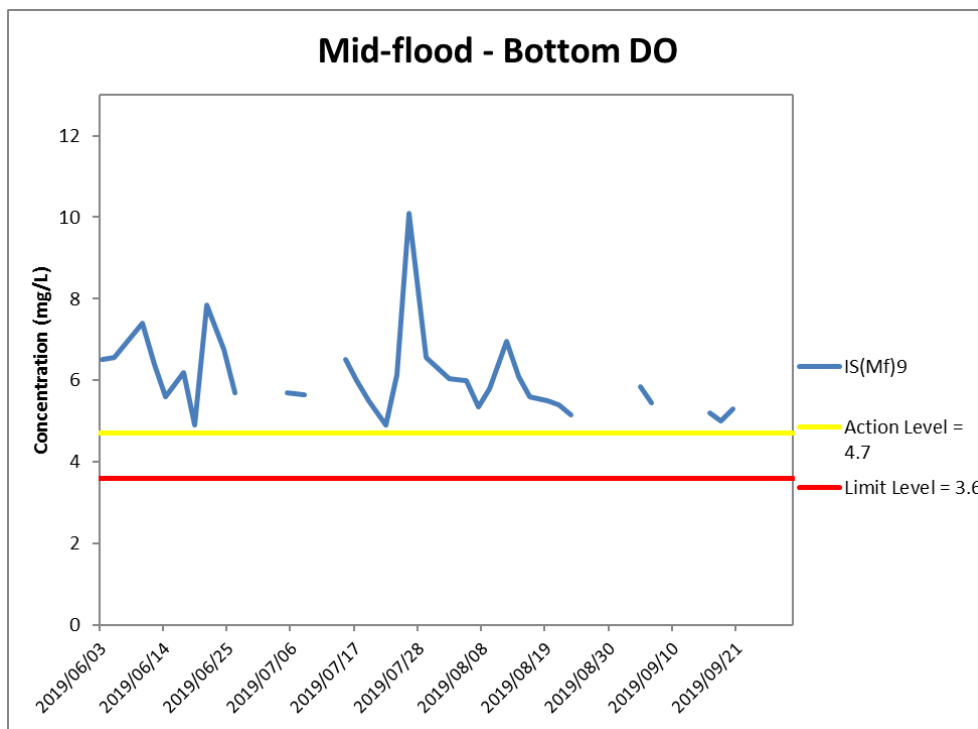
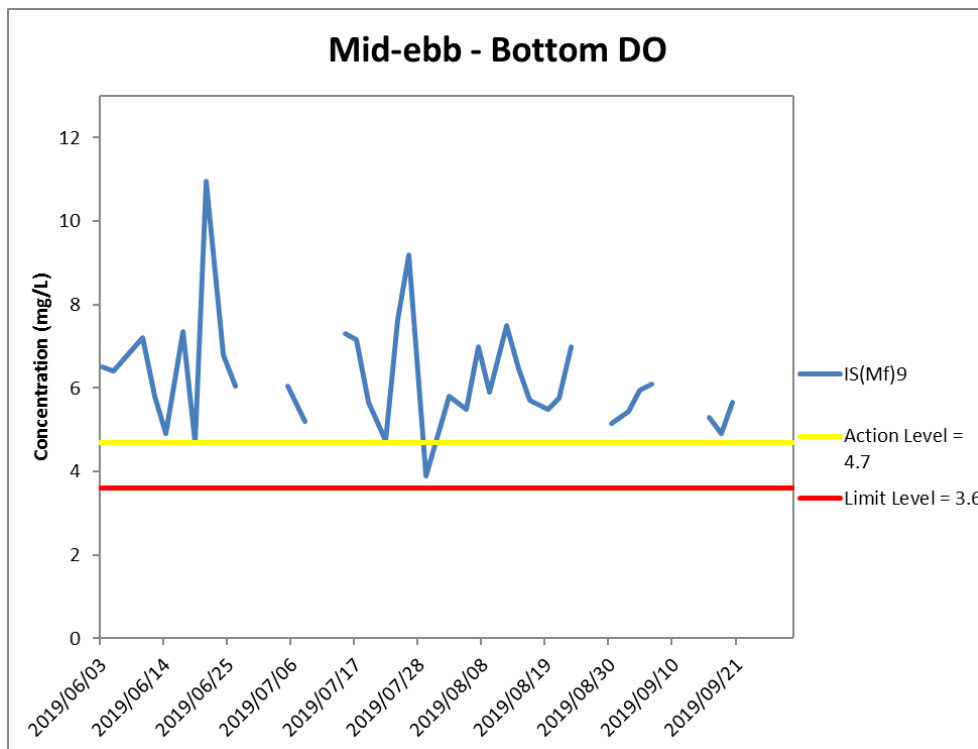




*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J20 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 June 2019 and 30 September 2019 at IS(Mf)16. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

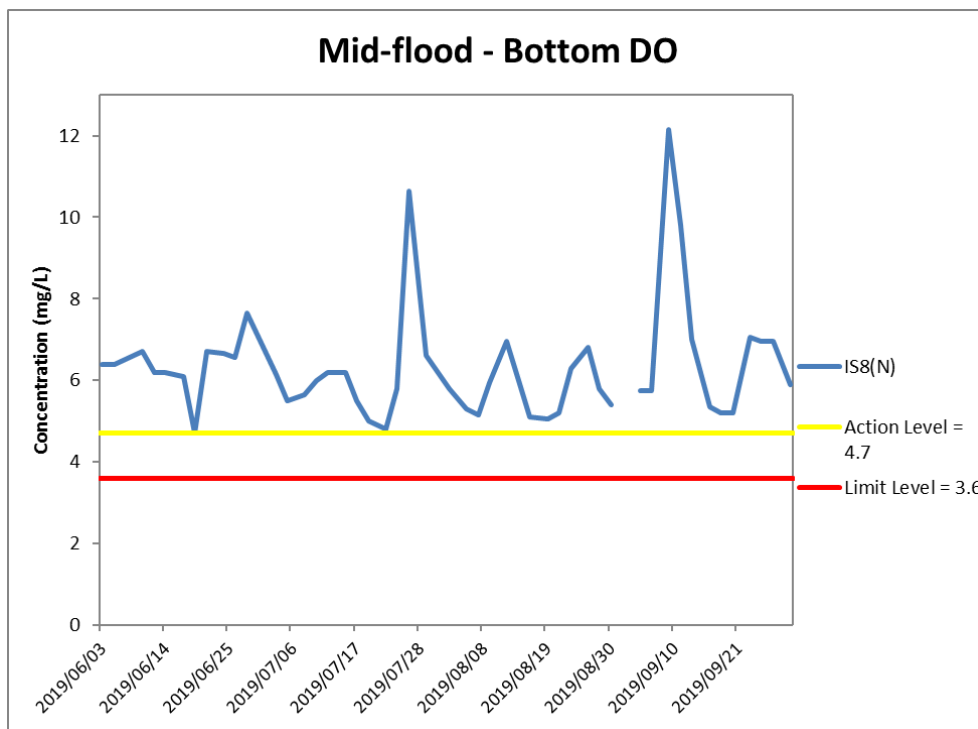
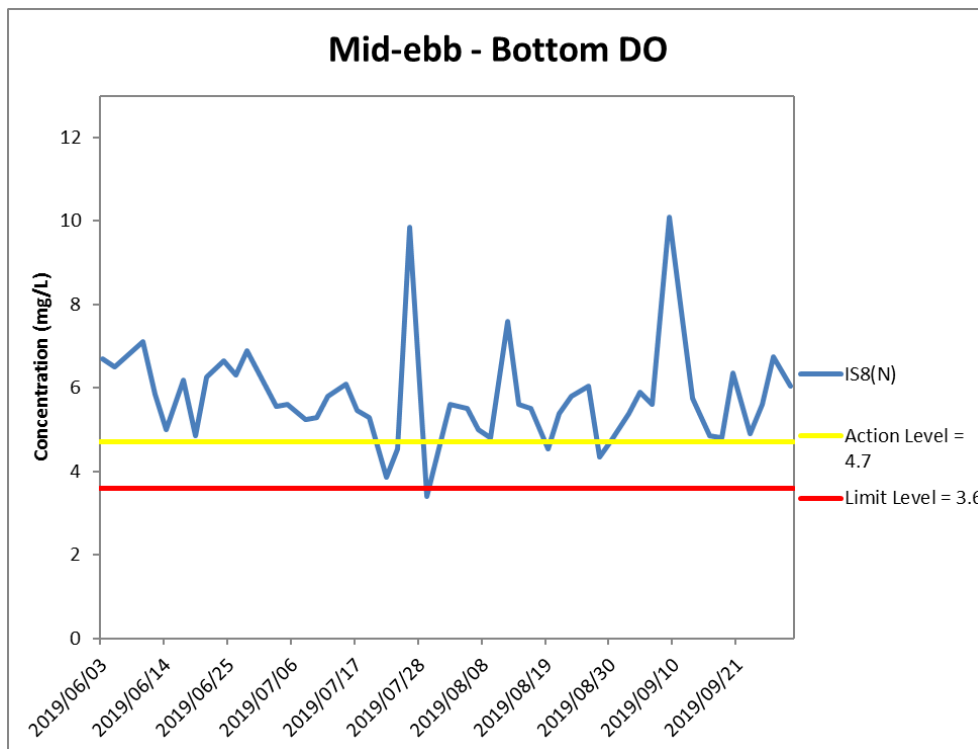




*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

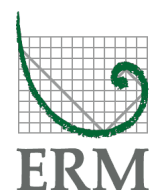
Figure J21 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 June 2019 and 30 September 2019 at IS(Mf)9. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



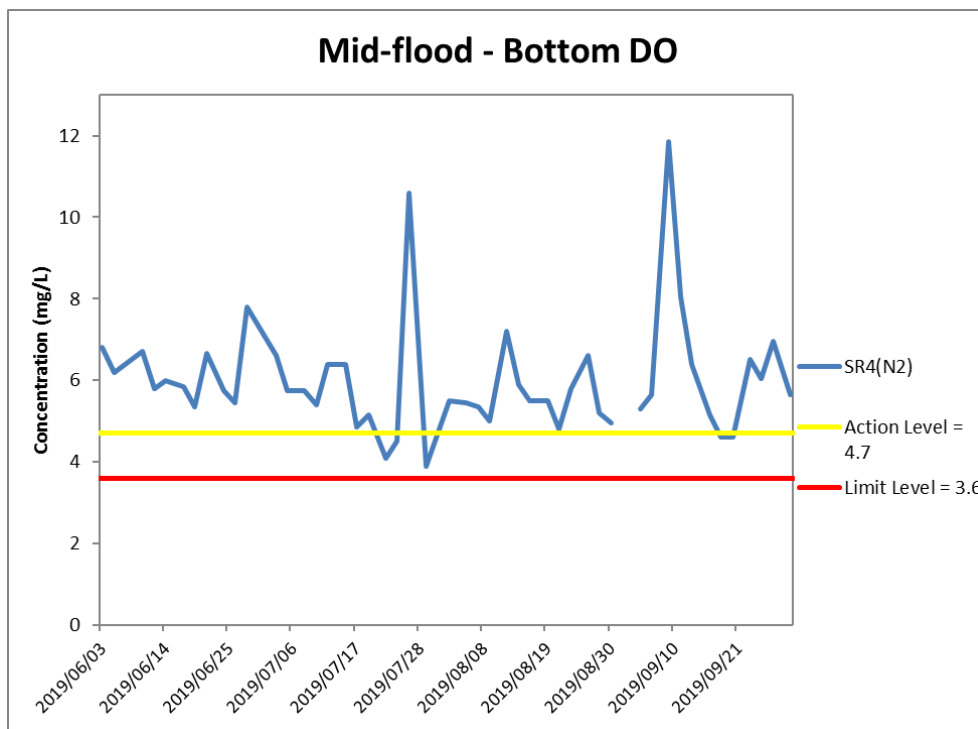
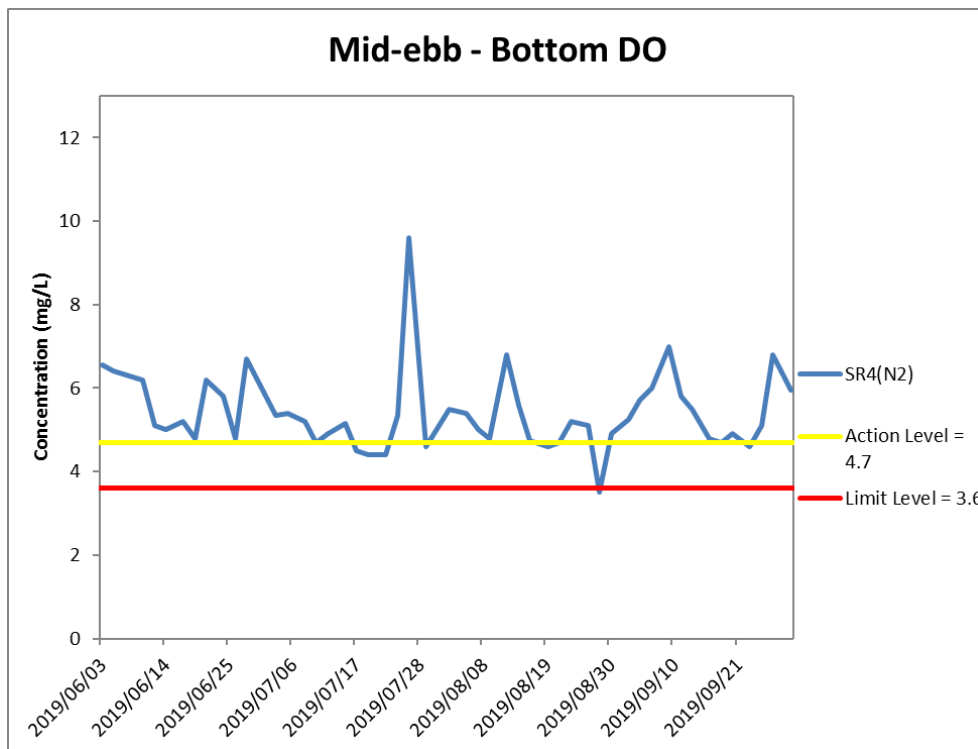


*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J22 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 June 2019 and 30 September 2019 at IS8(N). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



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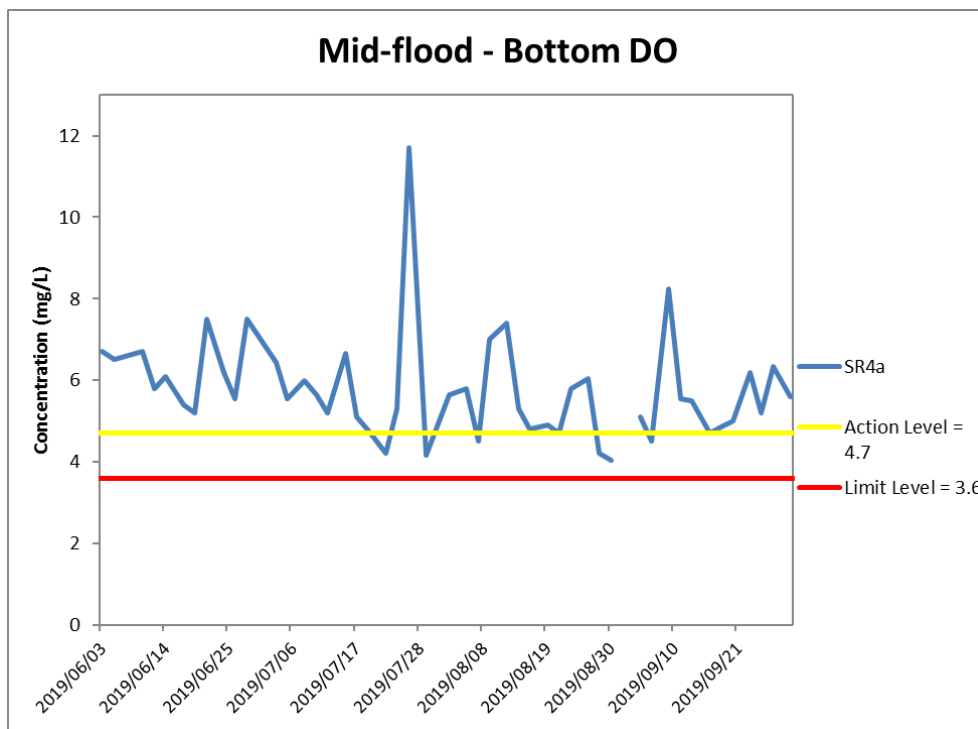
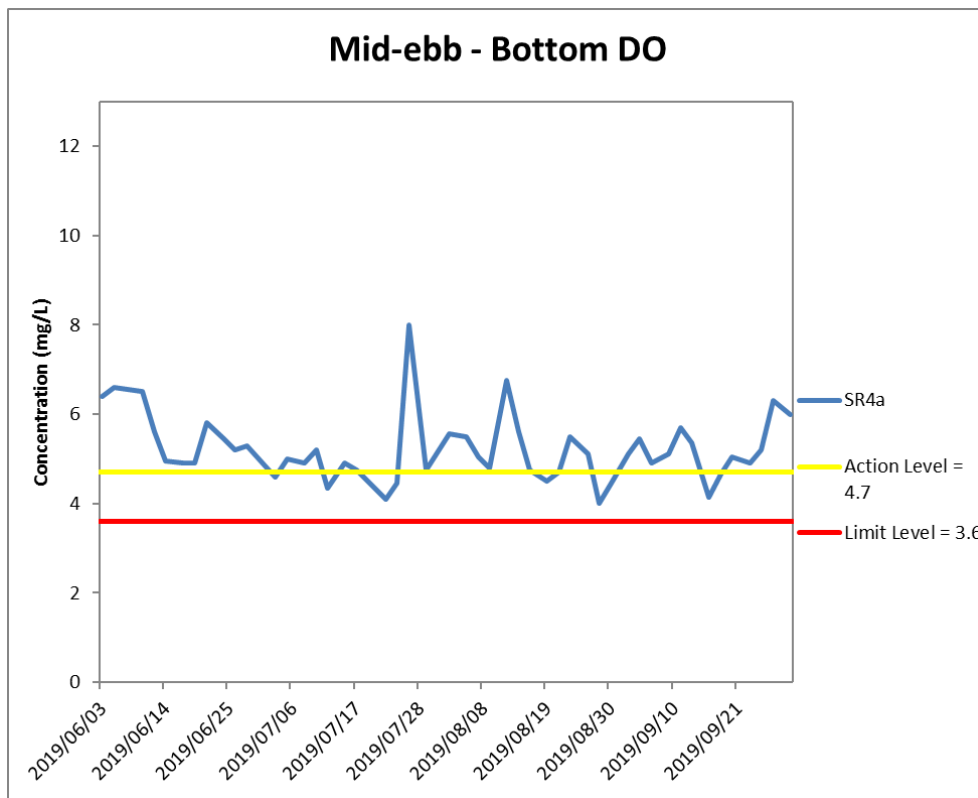


*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J23 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 June 2019 and 30 September 2019 at SR4(N2). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



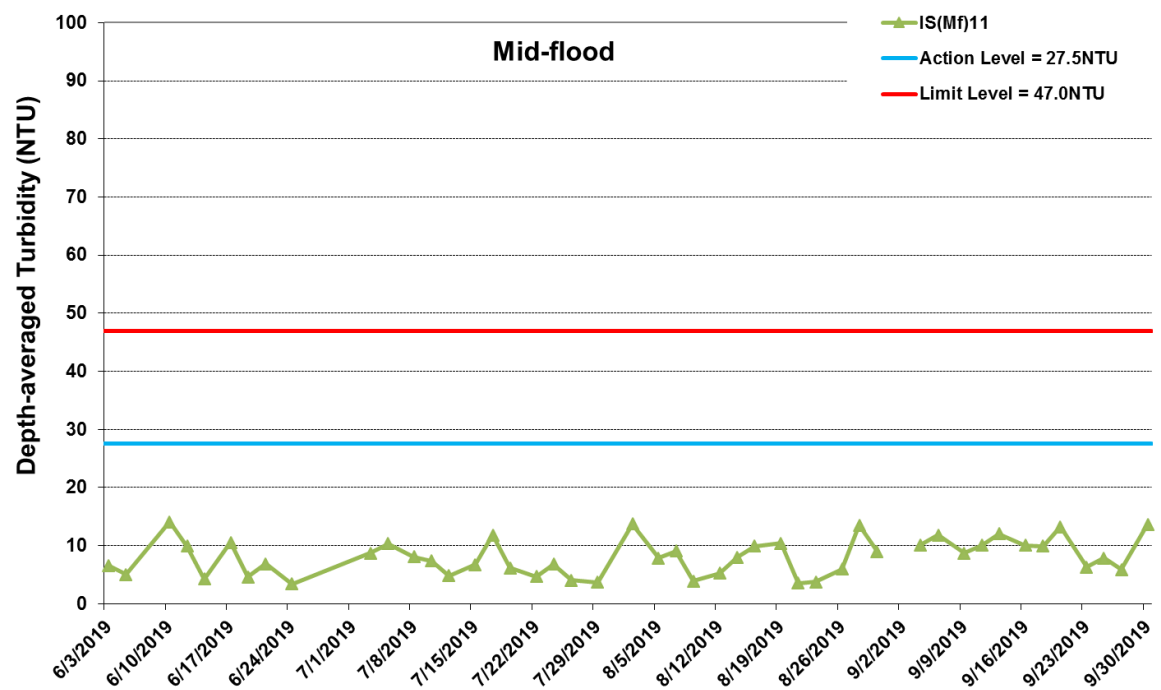
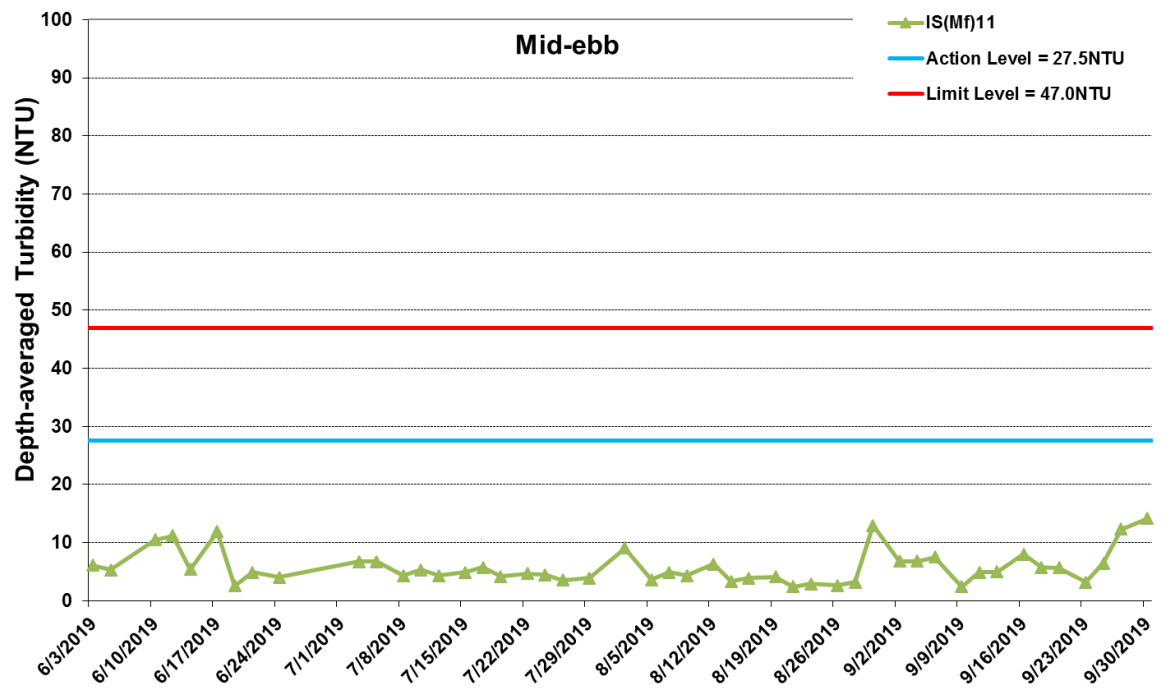
Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



*Exceedances of Dissolved oxygen level are calculated based on average value of data from both Surface and Middle level, and bottom level separately.

Figure J24 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 June 2019 and 30 September 2019 at SR4a. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



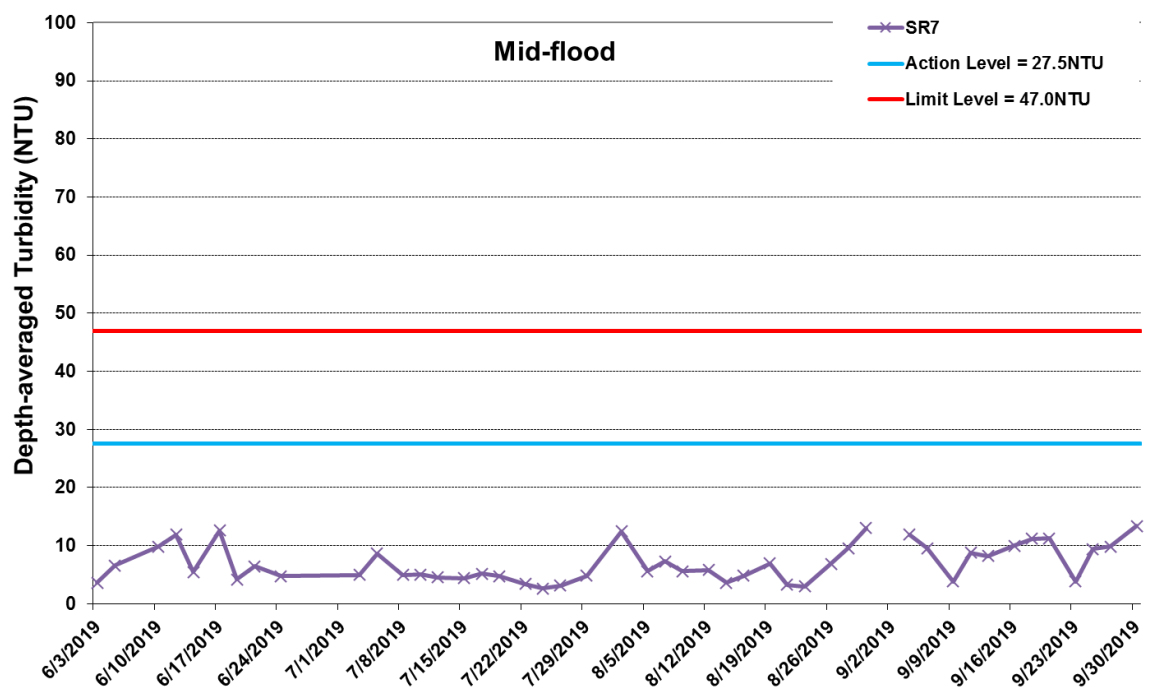
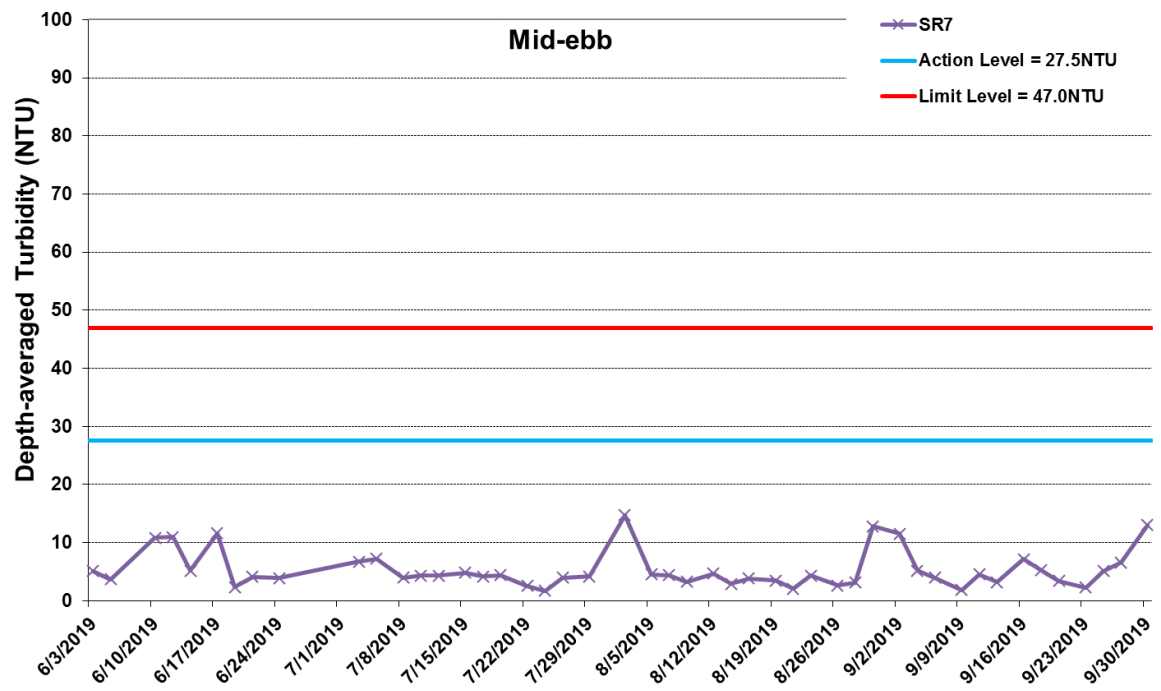


* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

Figure J25 Impact Monitoring - Mean Depth-averaged Level of Turbidity (NTU) between 1 June 2019 and 30 September 2019 at IS(Mf)11. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



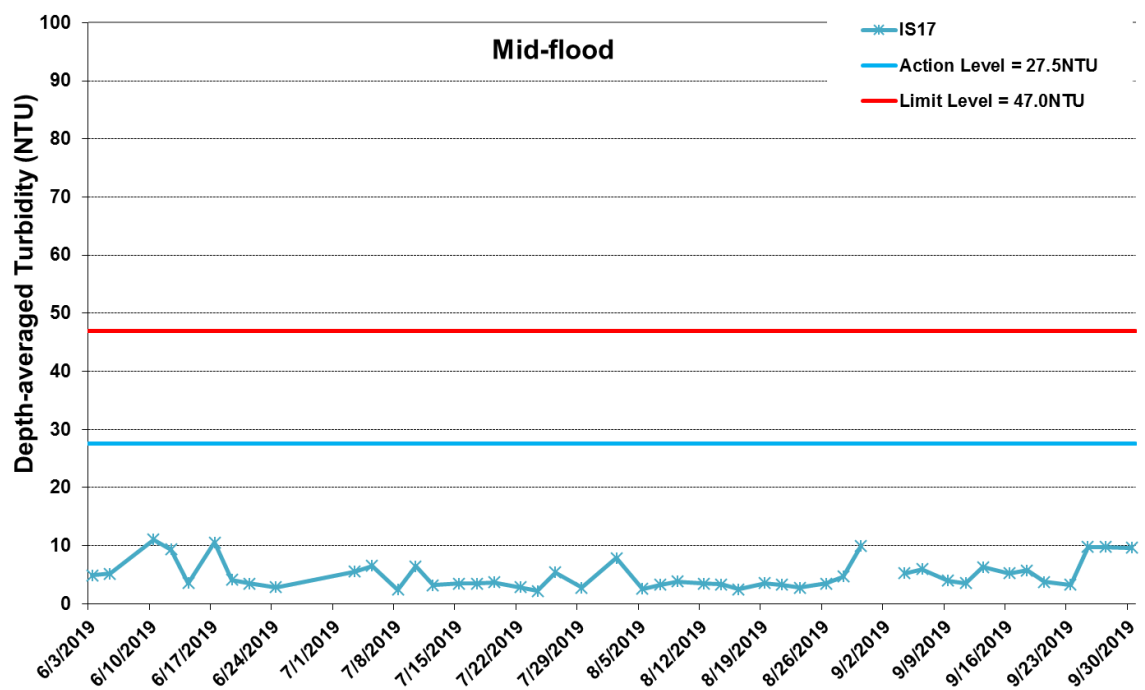
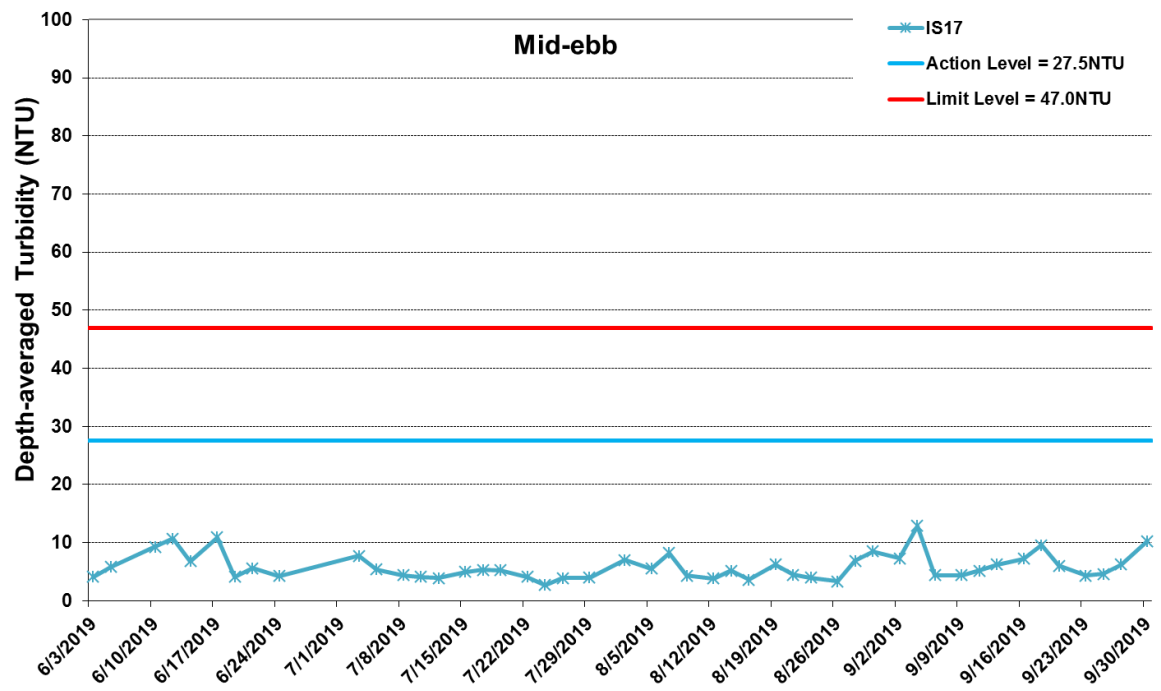


* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

Figure J26 Impact Monitoring - Mean Depth-averaged Level of Turbidity (NTU) between 1 June 2019 and 30 September 2019 at SR7. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls





* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

Figure J27 Impact Monitoring - Mean Depth-averaged Level of Turbidity (NTU) between 1 June 2019 and 30 September 2019 at IS17. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



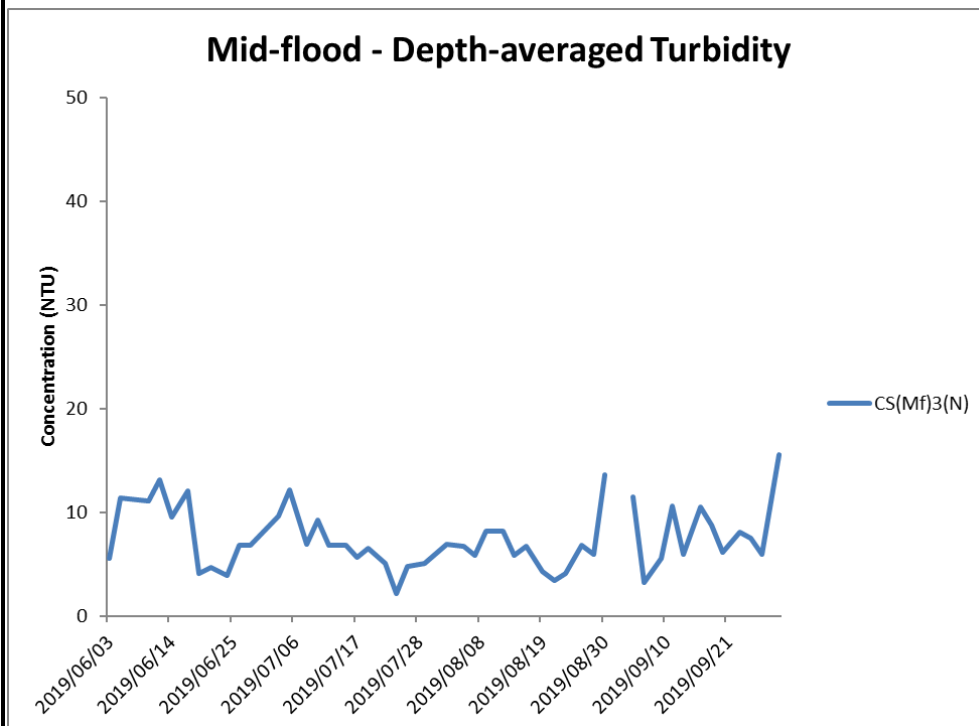
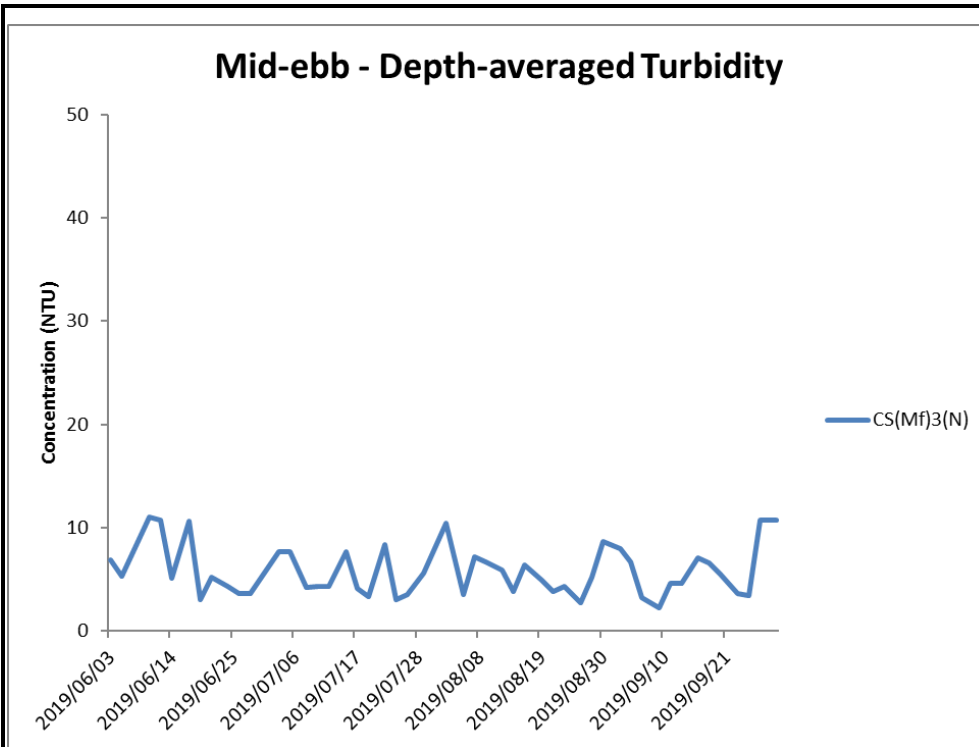


Figure J28 Impact Monitoring - Mean Depth-averaged Level of Turbidity (NTU) between 1 June 2019 and 30 September 2019 at CS(Mf)3(N). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



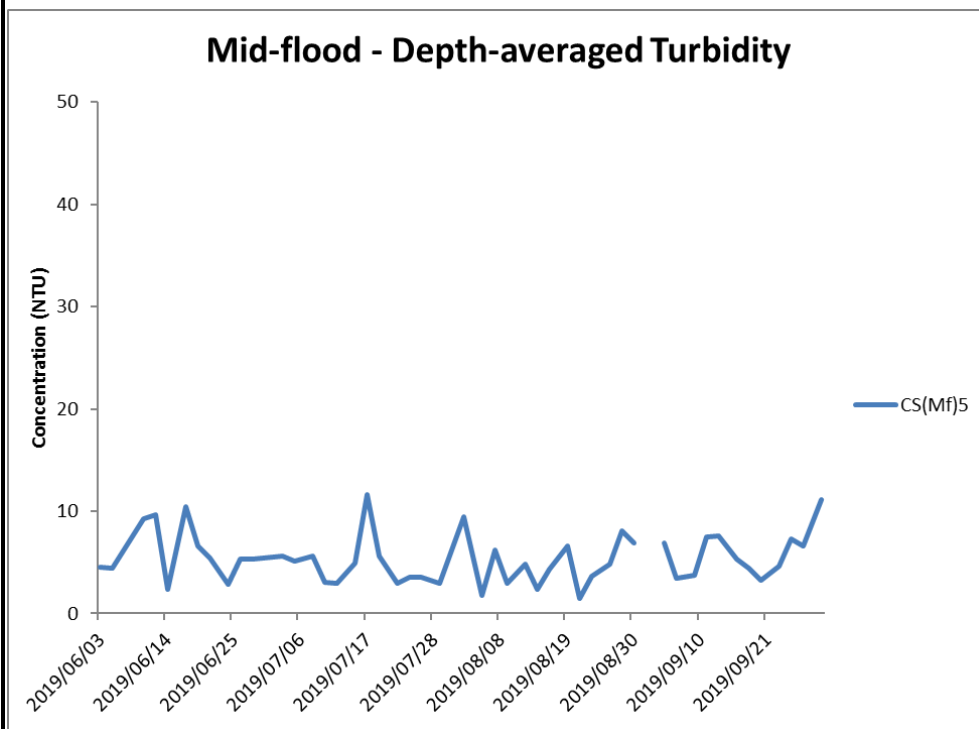
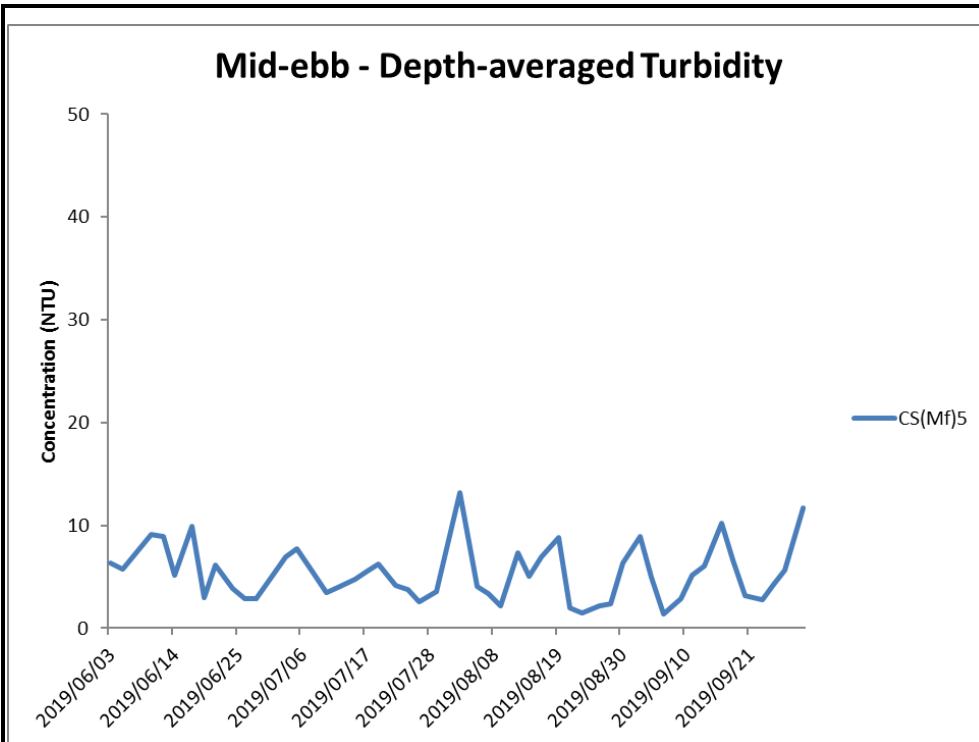


Figure J29 Impact Monitoring - Mean Depth-averaged Level of Turbidity (NTU) between 1 June 2019 and 30 September 2019 at CS(Mf)5. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



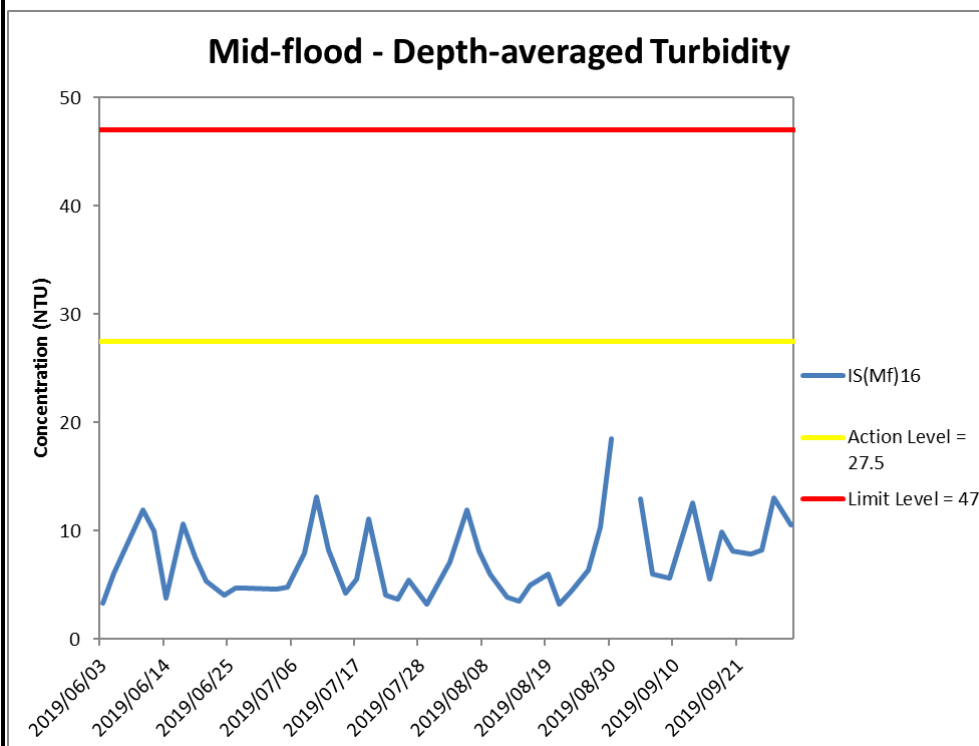
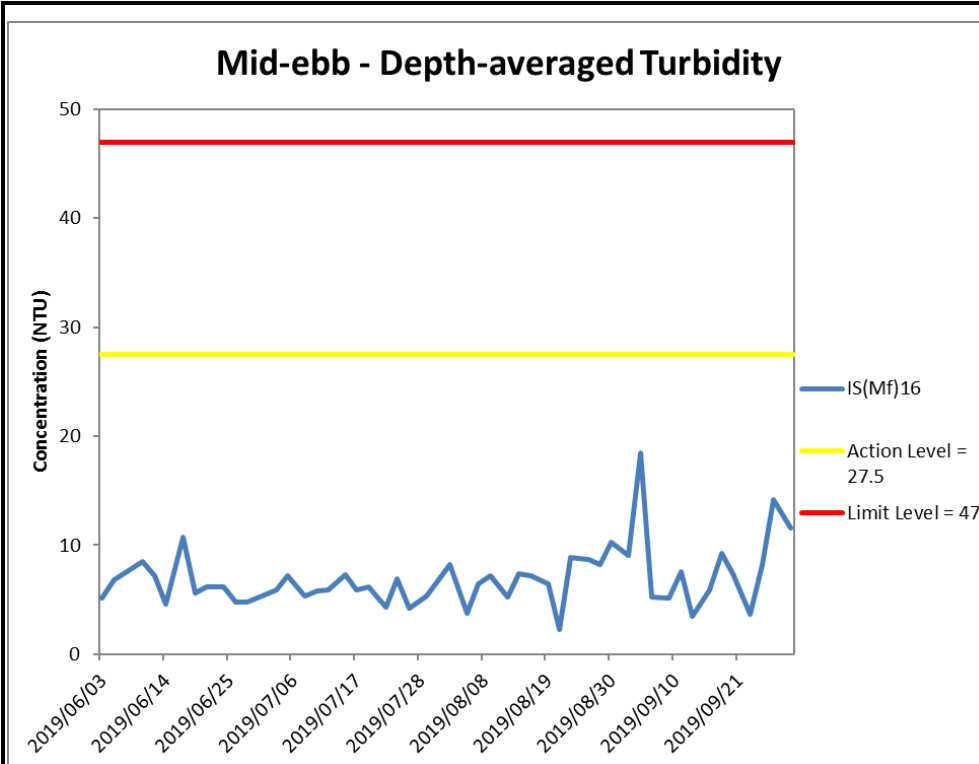


Figure J30 Impact Monitoring - Mean Depth-averaged Level of Turbidity (NTU) between 1 June 2019 and 30 September 2019 at IS(Mf)16. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



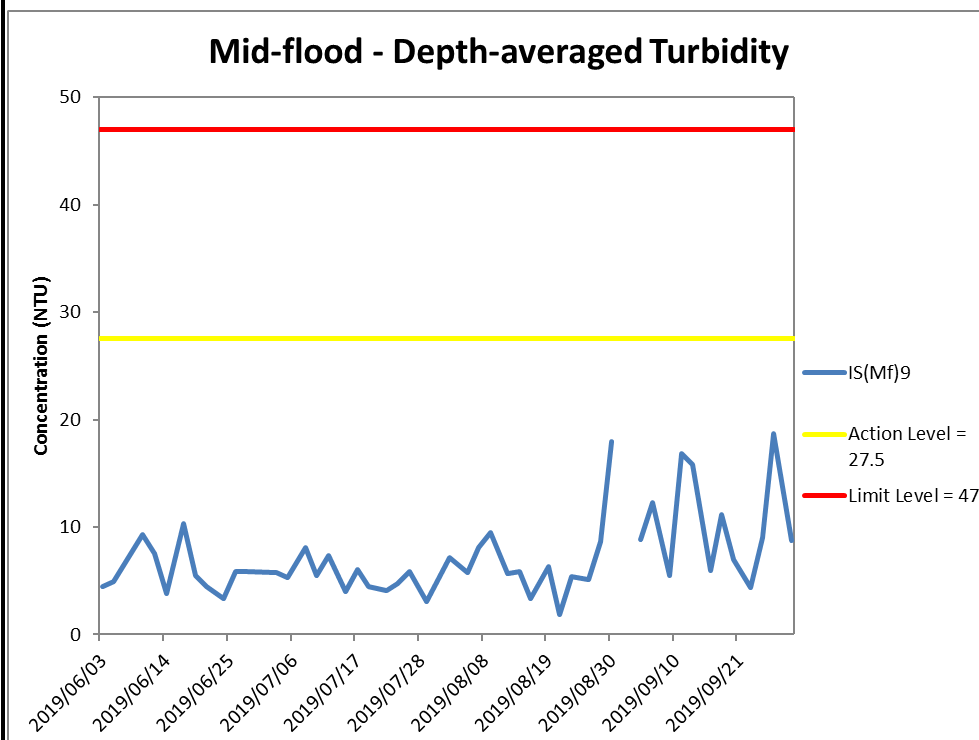
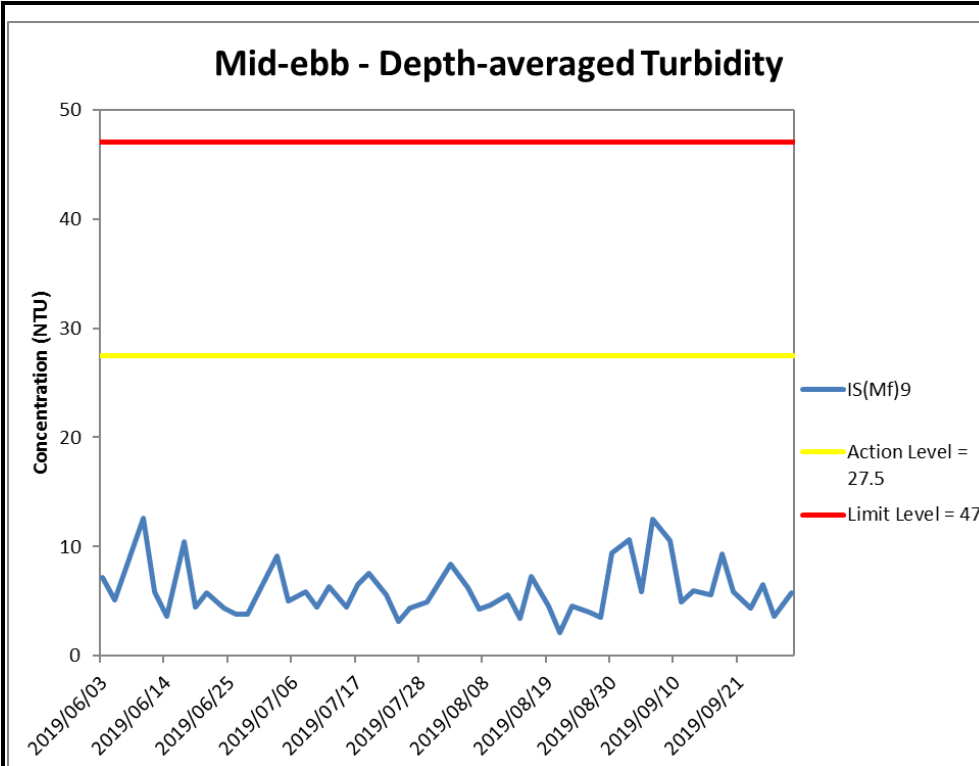


Figure J31 Impact Monitoring - Mean Depth-averaged Level of Turbidity (NTU) between 1 June 2019 and 30 September 2019 at IS(Mf)9. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



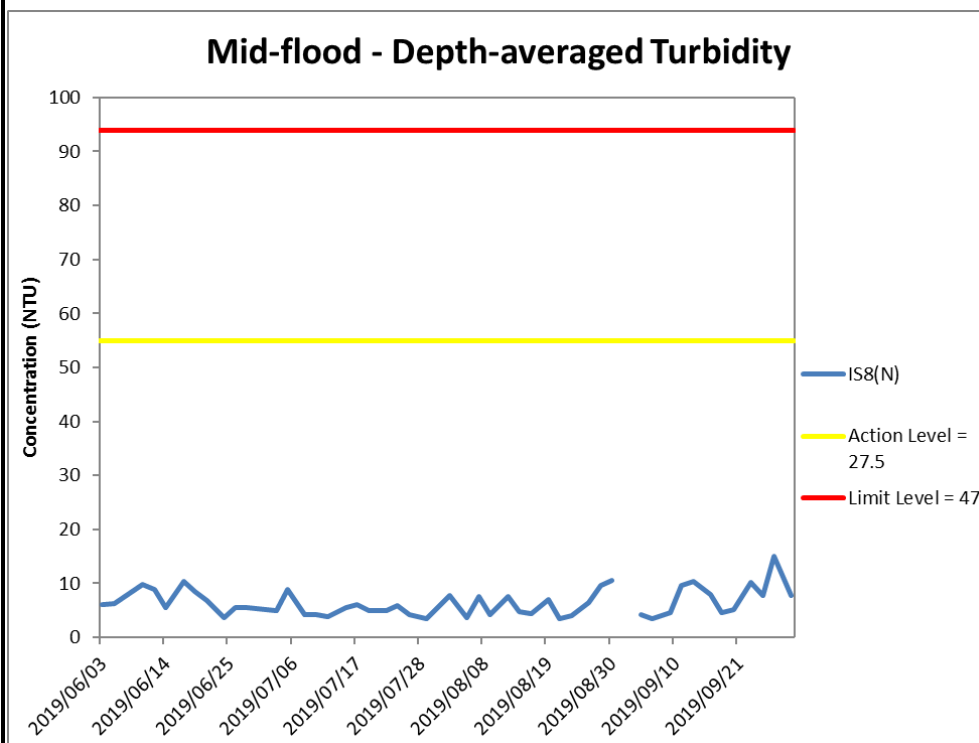
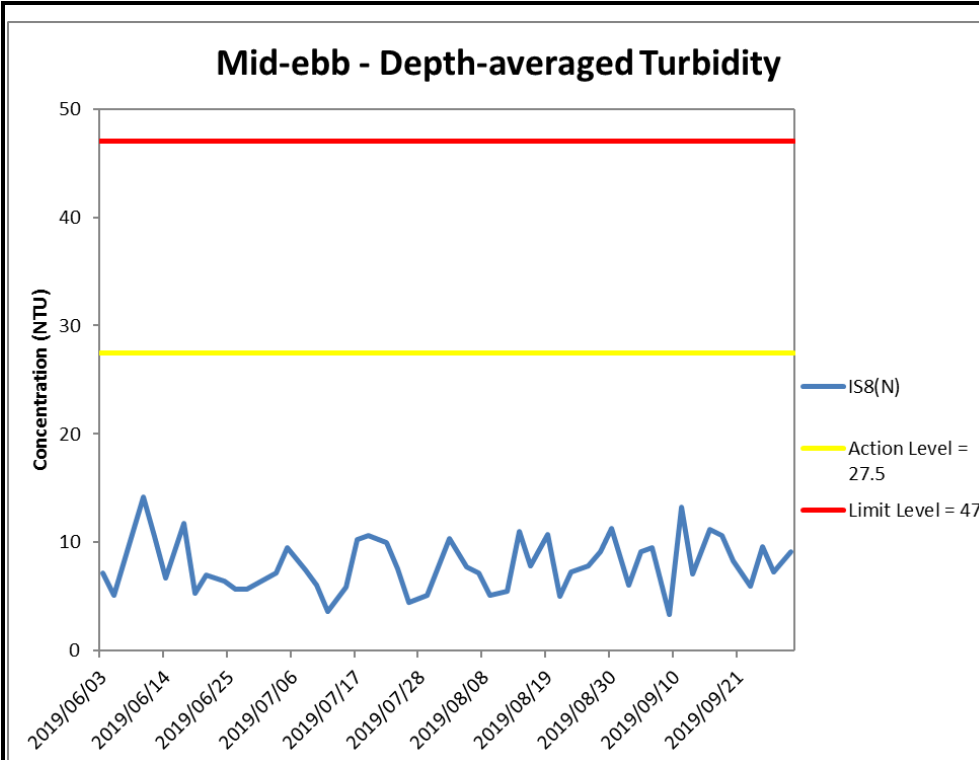


Figure J32 Impact Monitoring - Mean Depth-averaged Level of Turbidity (NTU) between 1 June 2019 and 30 September 2019 at IS8(N). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



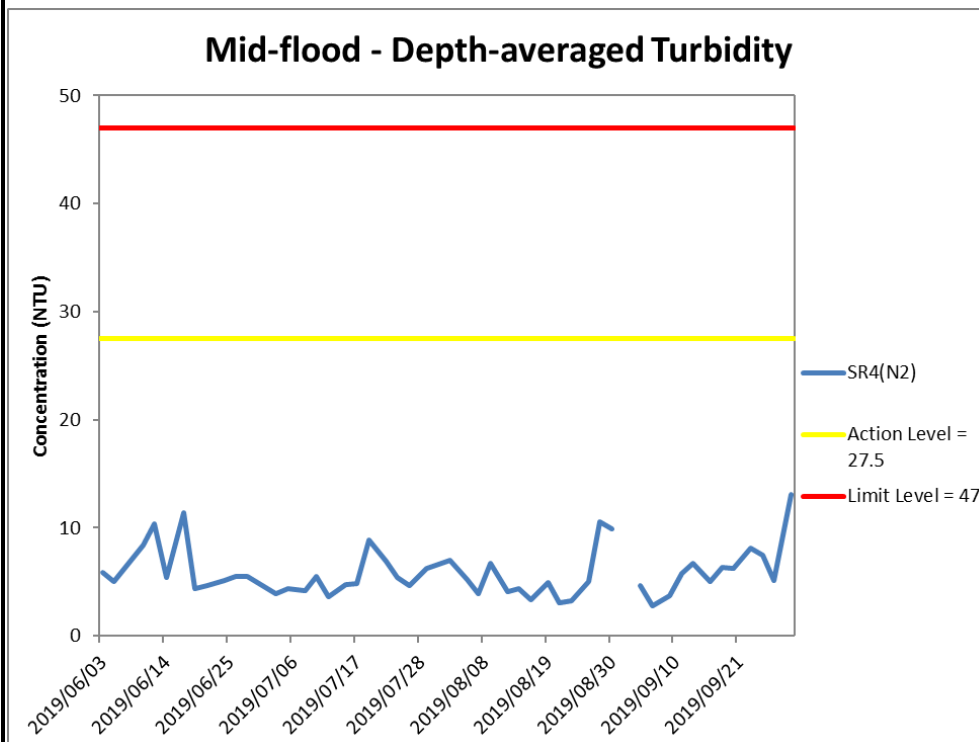
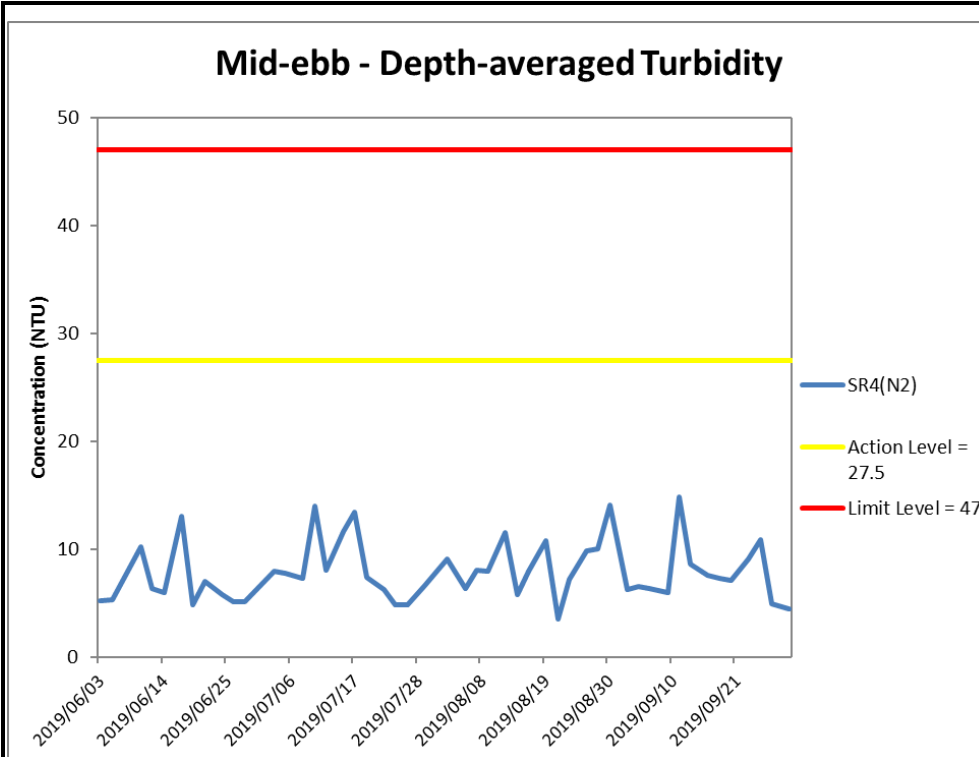


Figure J33 Impact Monitoring - Mean Depth-averaged Level of Turbidity (NTU) between 1 June 2019 and 30 September 2019 at SR4(N2). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



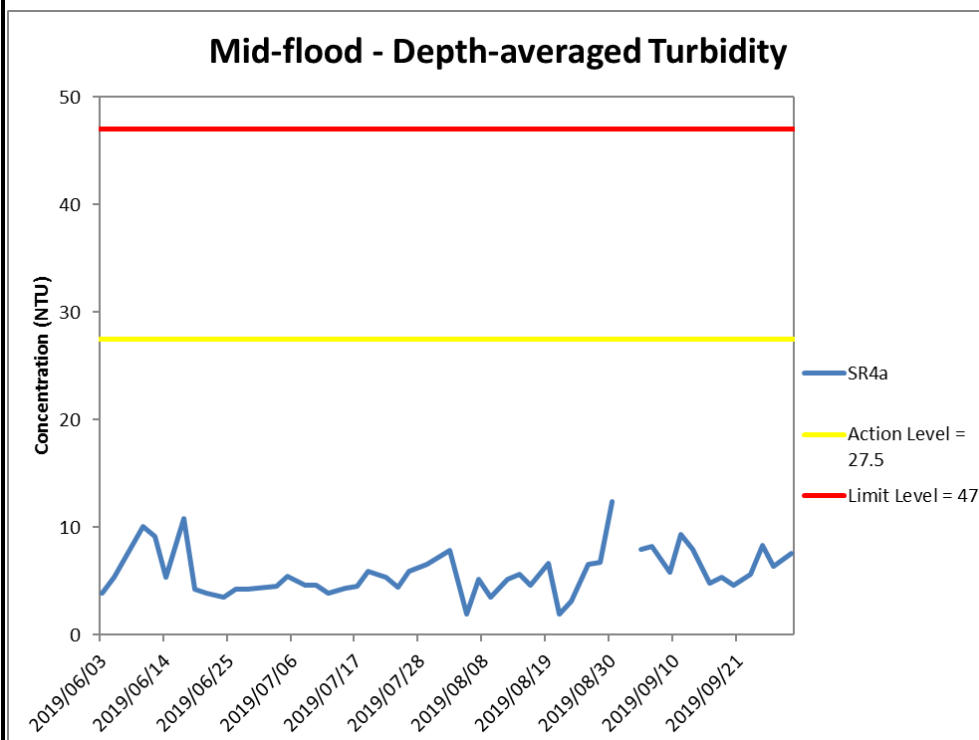
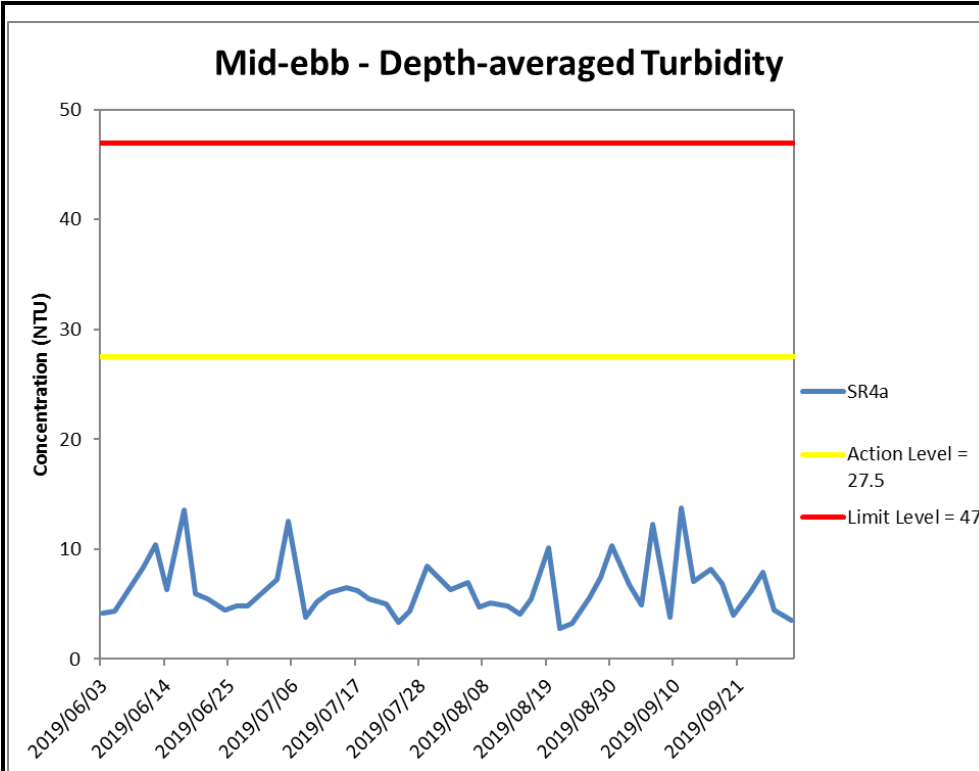
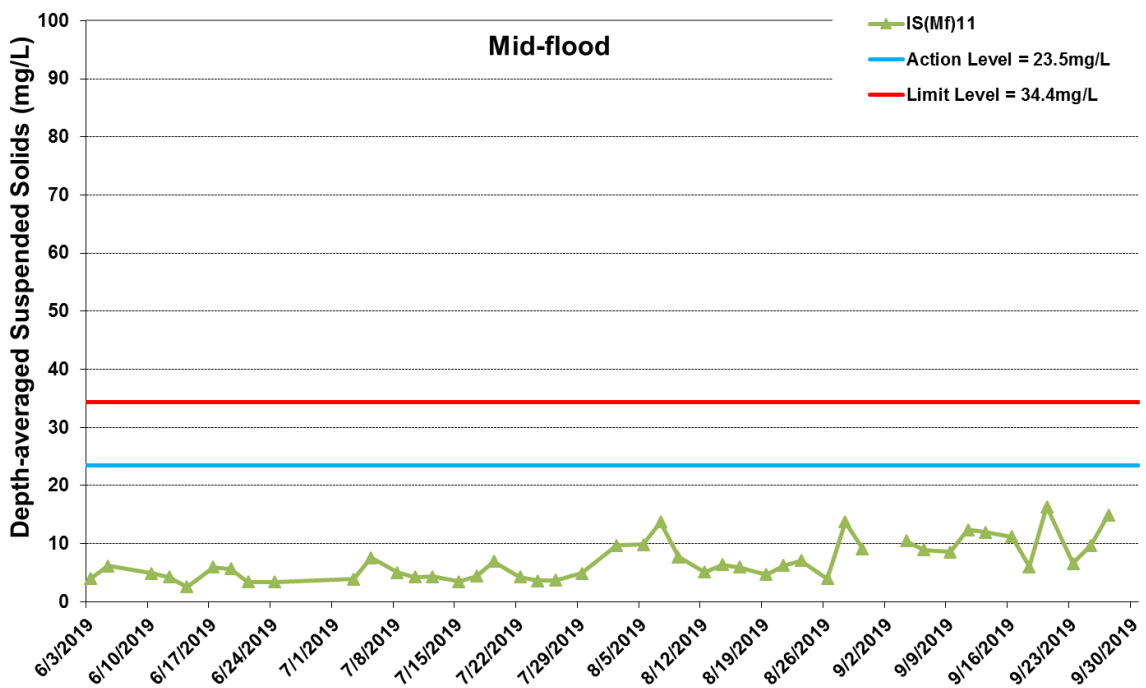
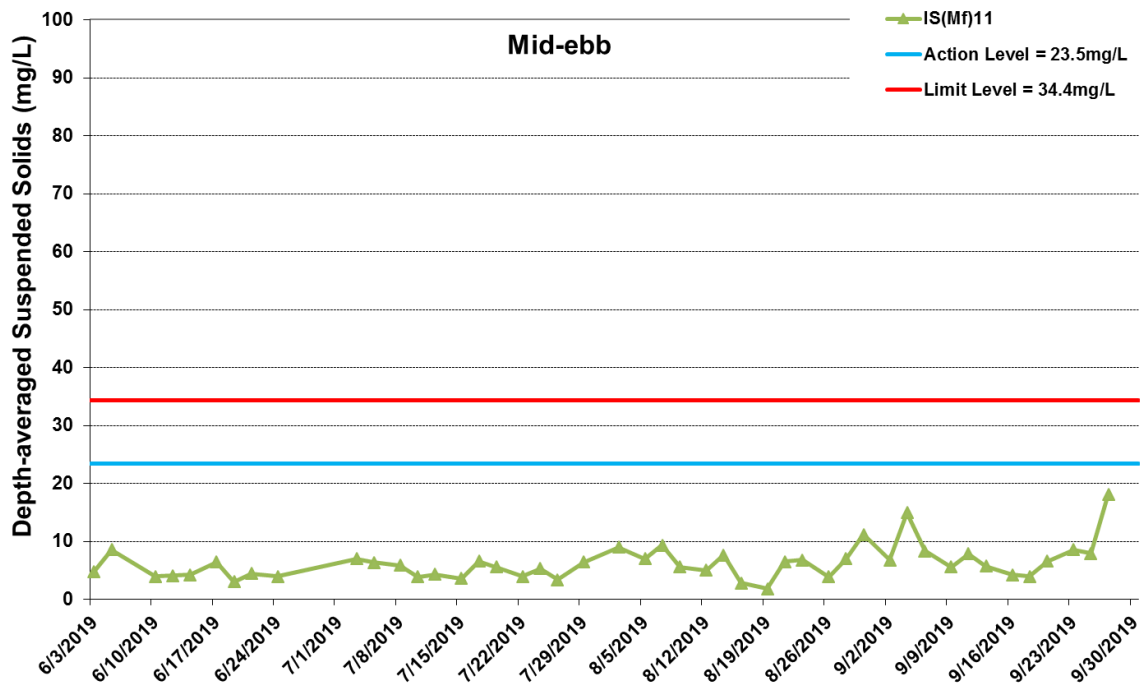


Figure J34 Impact Monitoring - Mean Depth-averaged Level of Turbidity (NTU) between 1 June 2019 and 30 September 2019 at SR4a. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).

Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



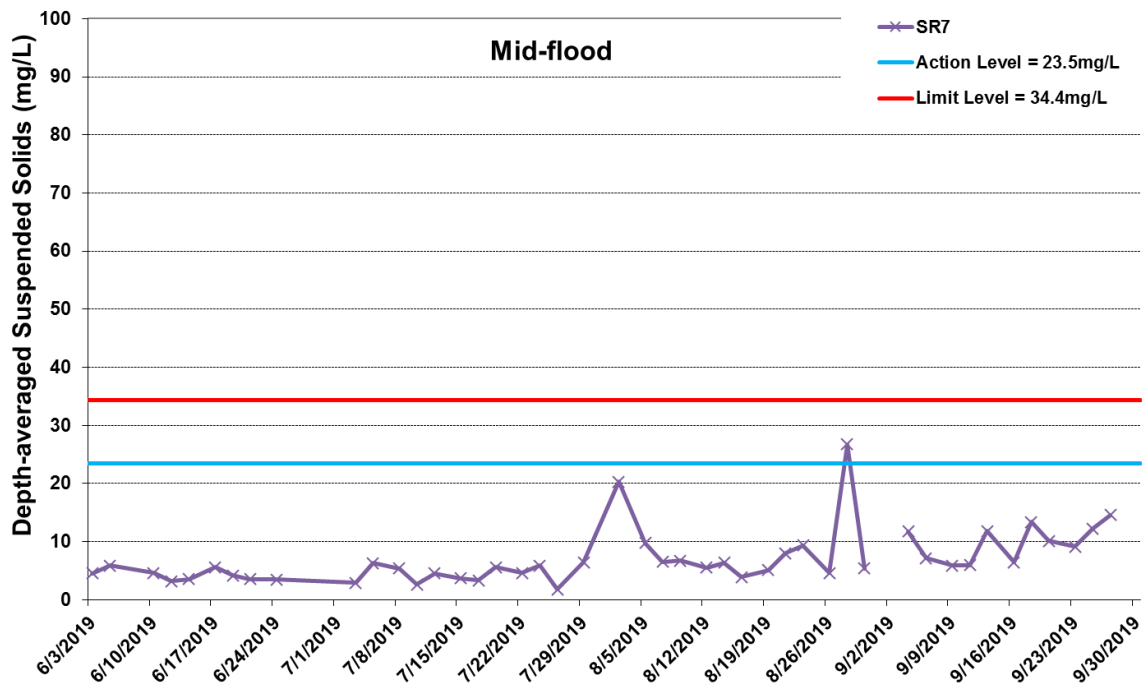
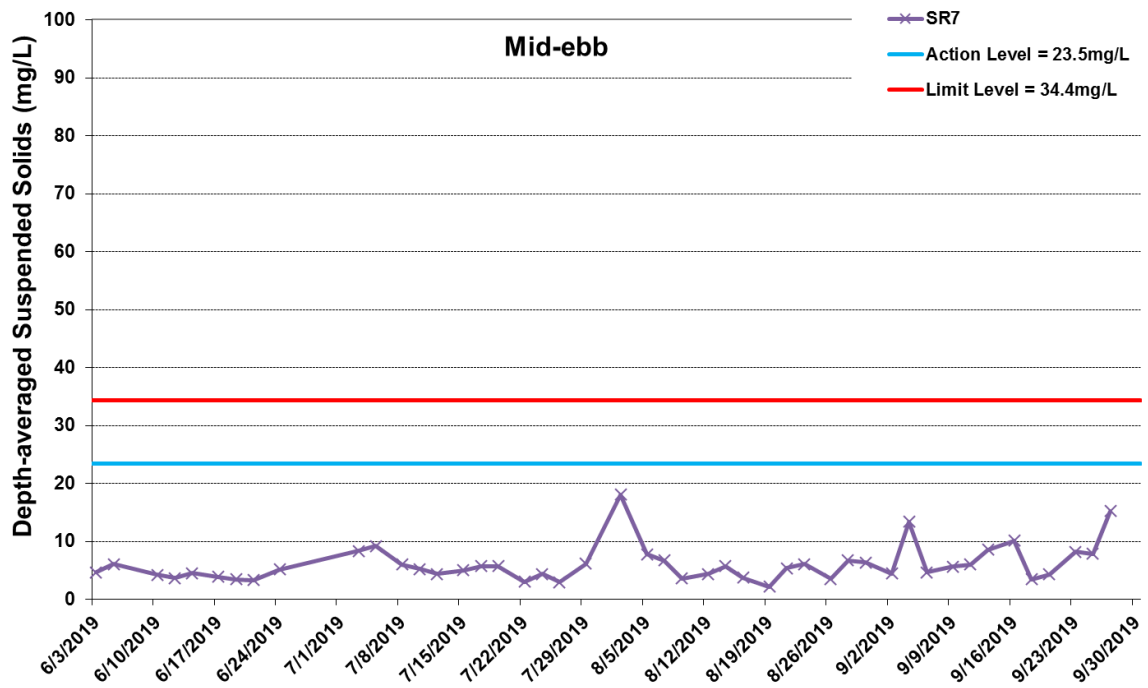


* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

Figure J35 Impact Monitoring - Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 June 2019 and 30 September 2019 at IS(Mf)11. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

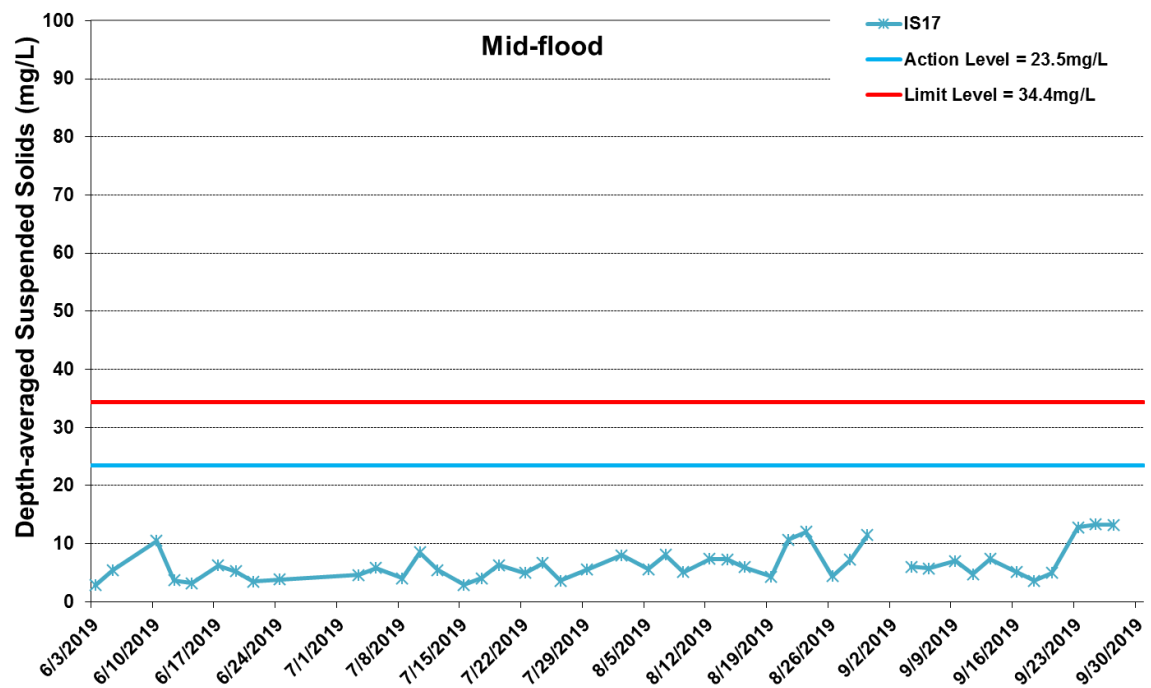
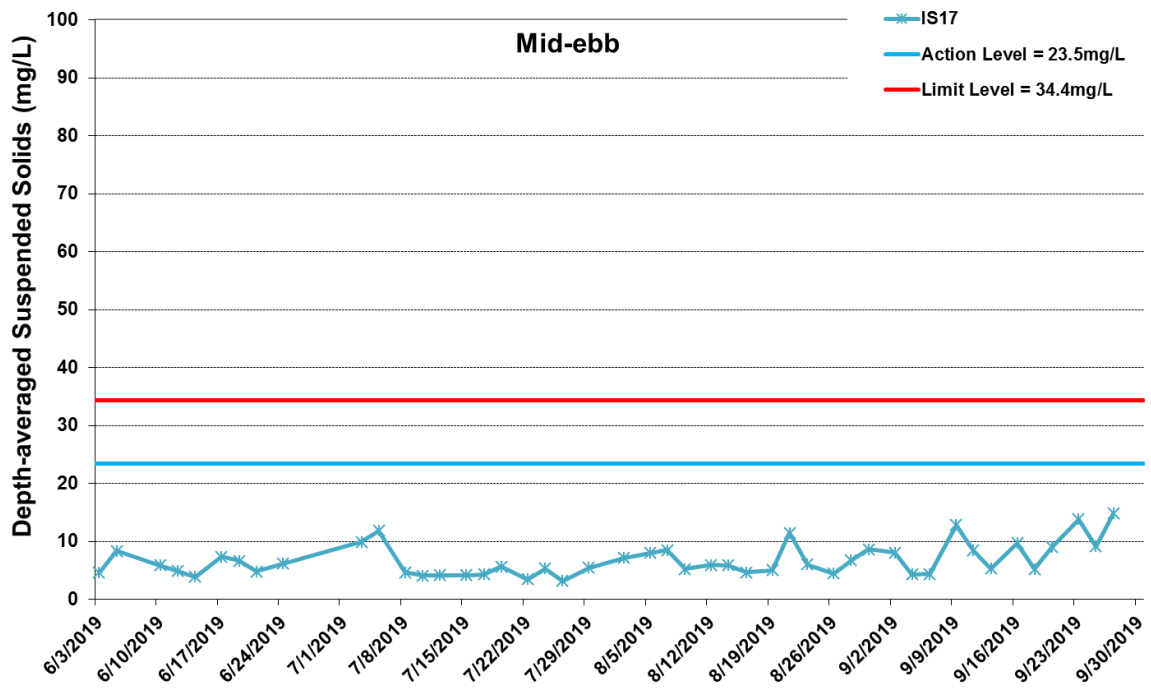


* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

Figure J36 Impact Monitoring - Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 June 2019 and 30 September 2019 at SR7. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls



* The AL/LL for WQM stations, IS(Mf)11, IS17 and SR7, are adopted from HZMB HKBCF project.

Figure J37 Impact Monitoring - Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 June 2019 and 30 September 2019 at IS17. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 - 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

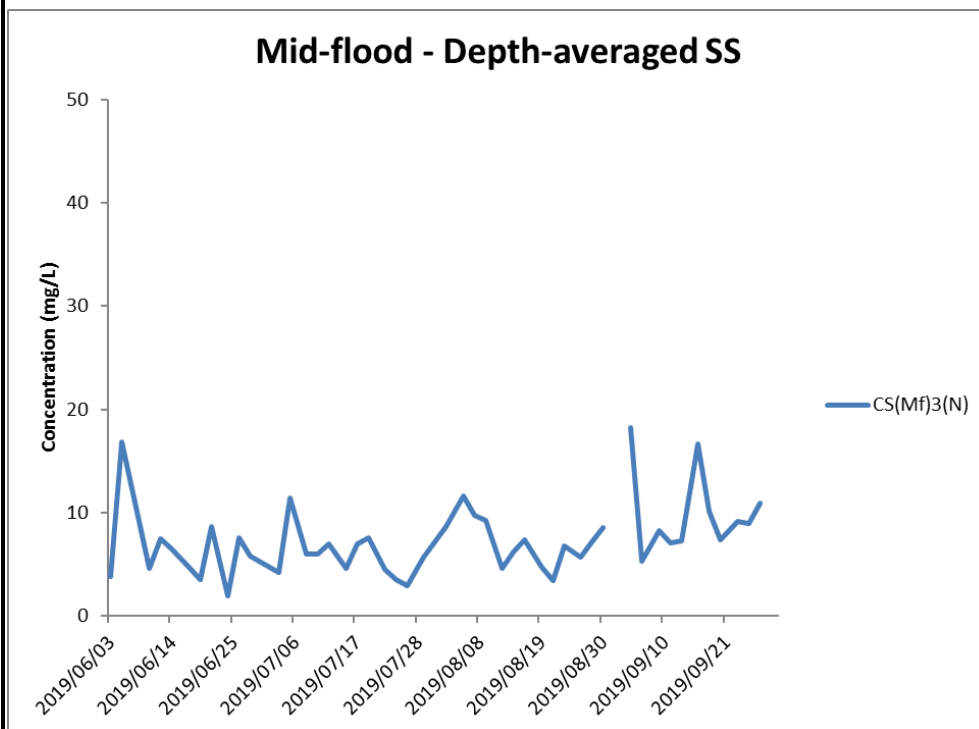
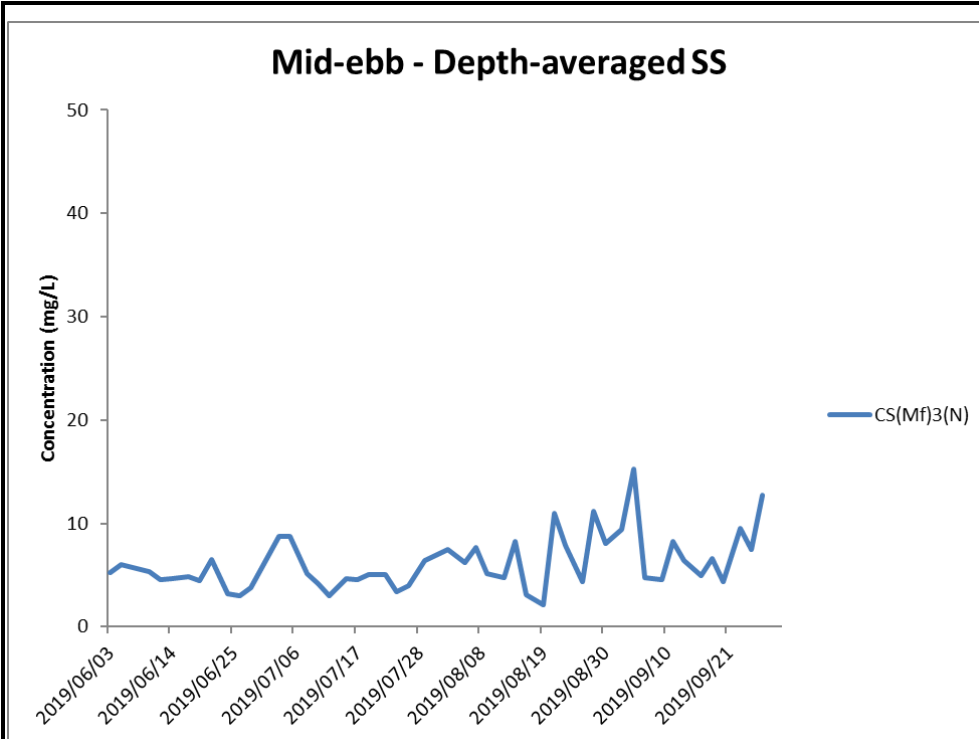


Figure J38 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 June 2019 and 30 September 2019 at CS(Mf)3(N). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 – 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

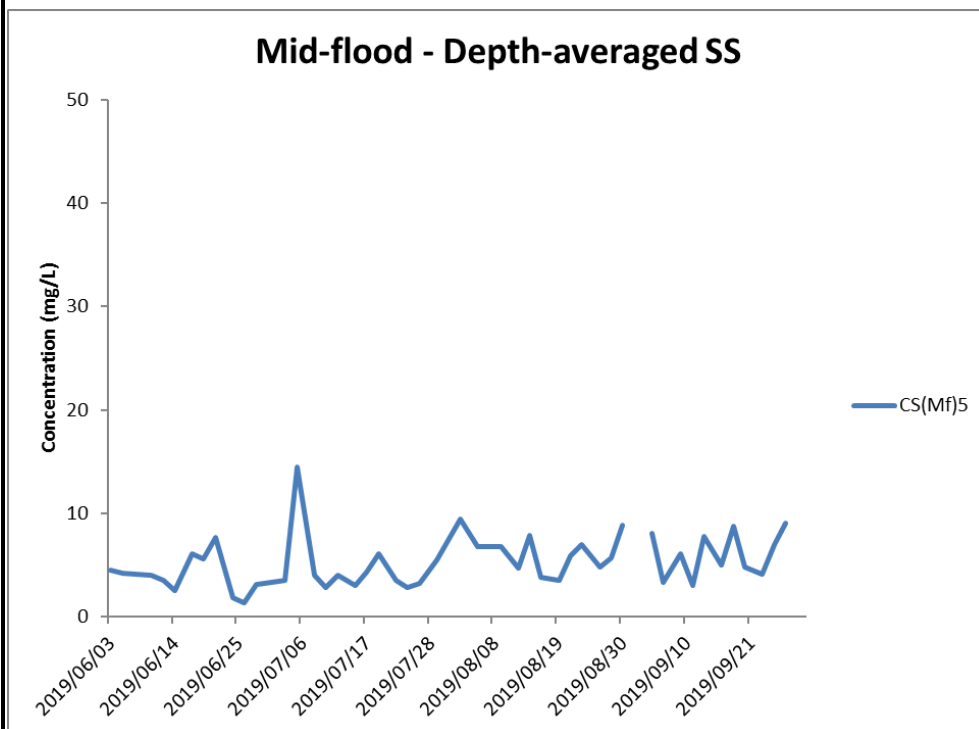
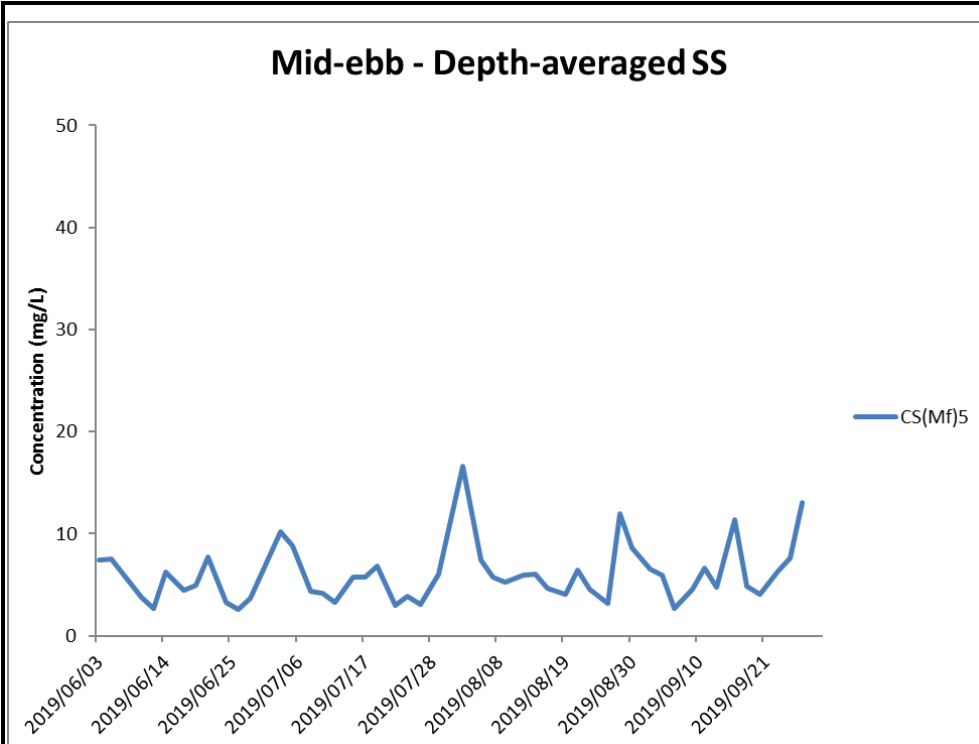
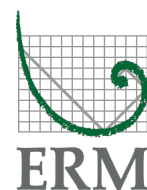


Figure J39 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 June 2019 and 30 September 2019 at CS(Mf)5. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 – 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

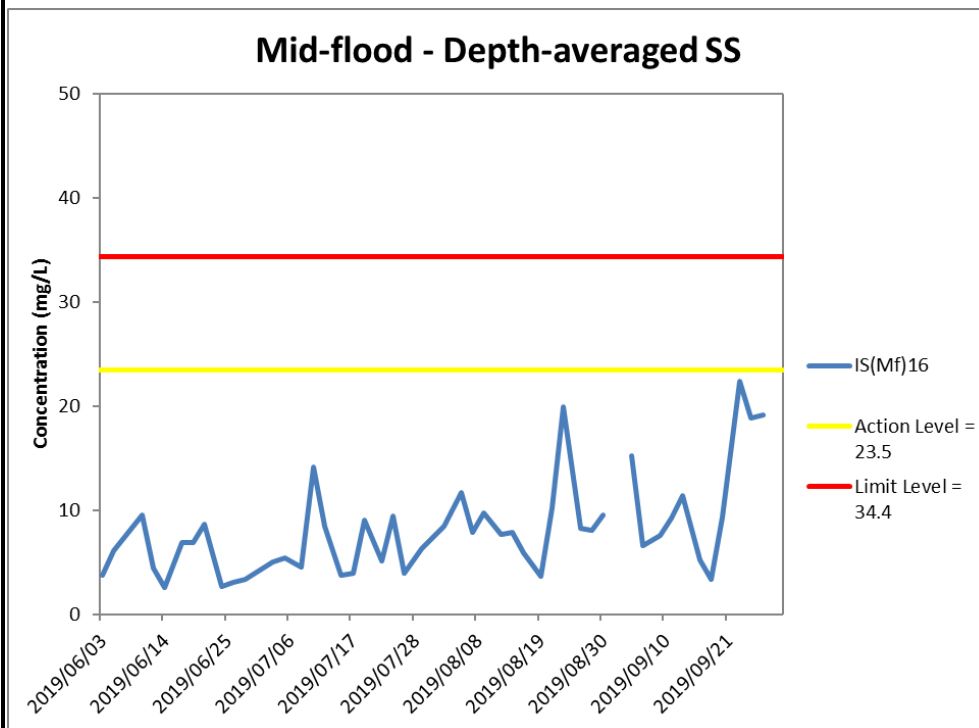
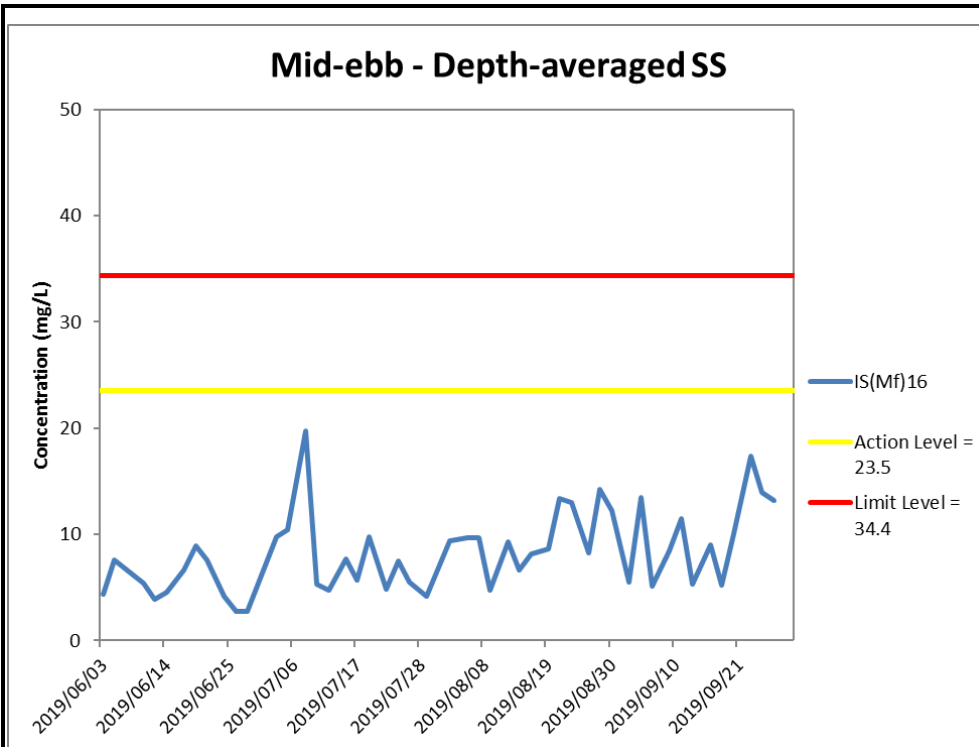


Figure J40 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 June 2019 and 30 September 2019 at IS(Mf)16. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 – 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

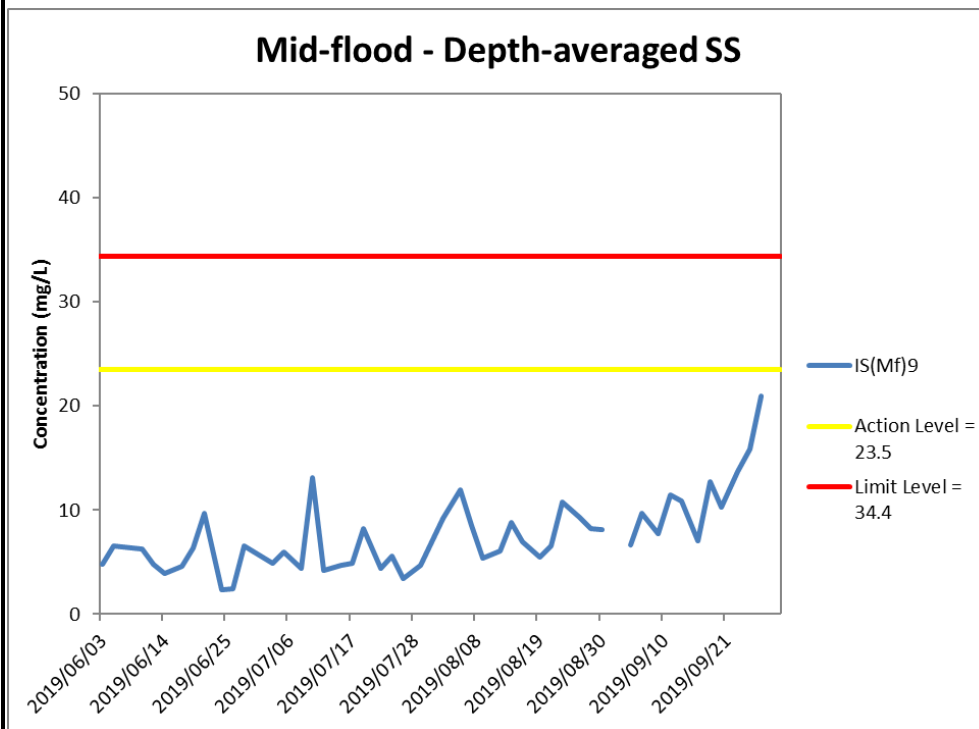
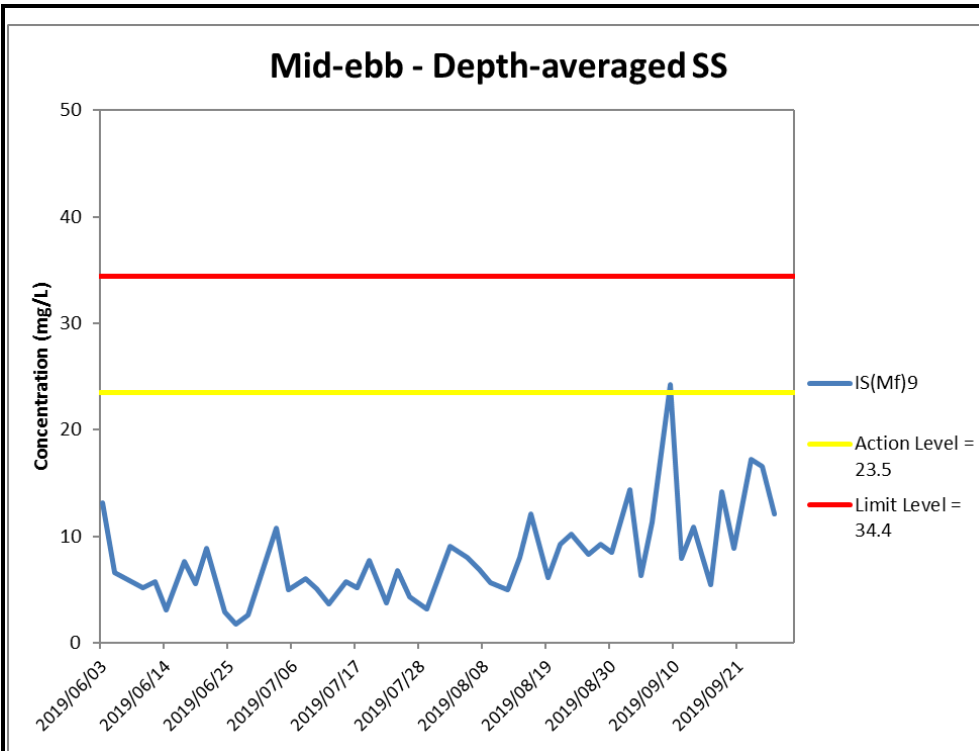


Figure J41 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 June 2019 and 30 September 2019 at IS(Mf)9. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 – 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

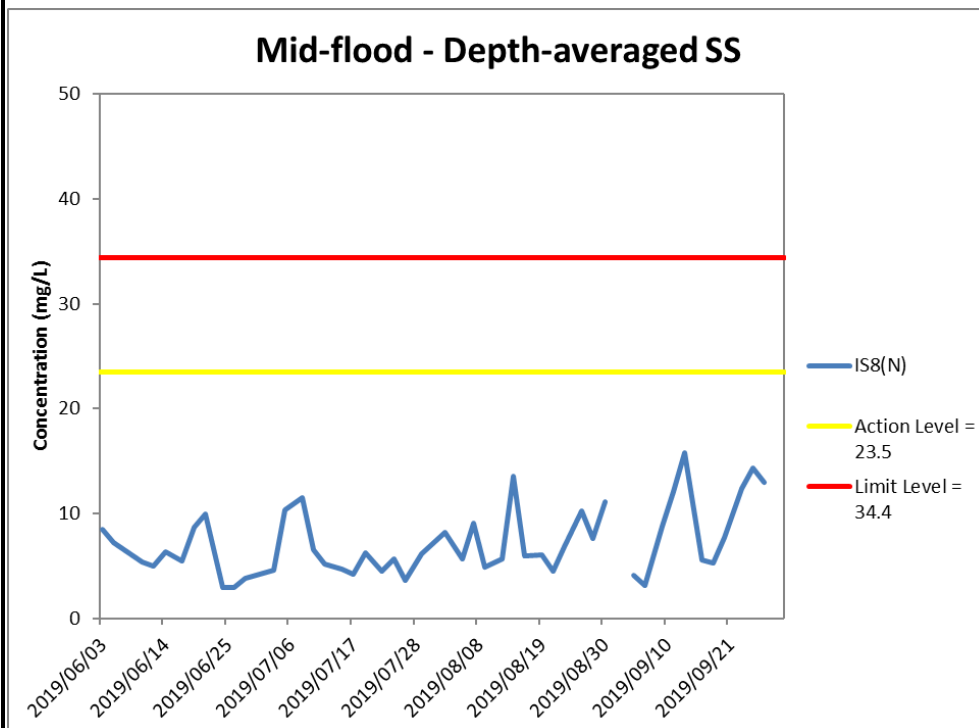
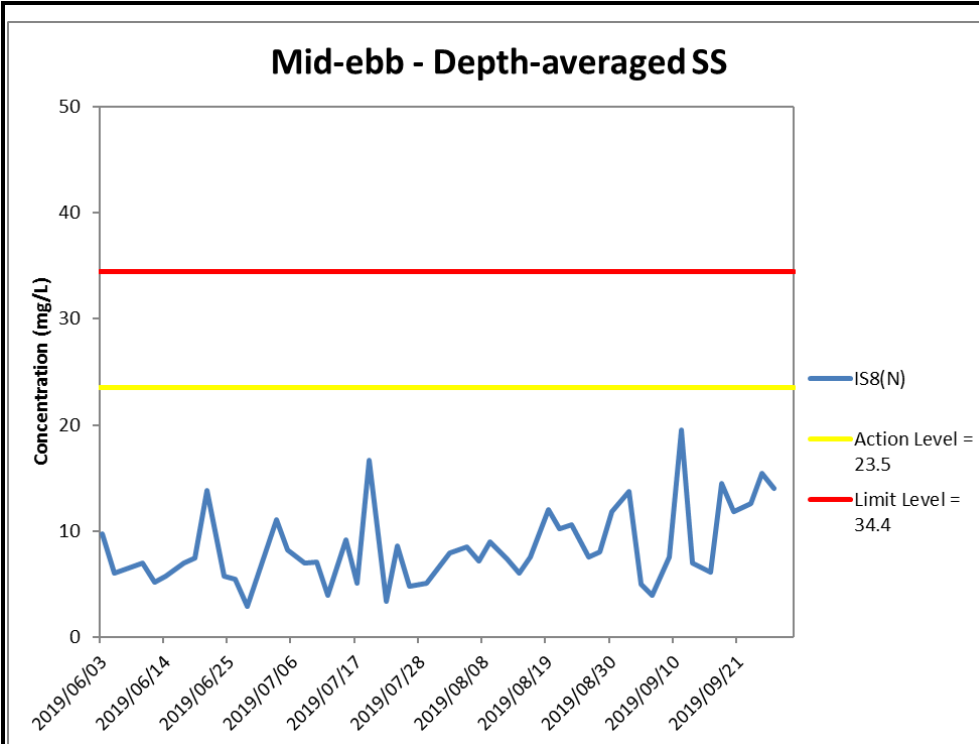


Figure J42 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 June 2019 and 30 September 2019 at IS8(N). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 – 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

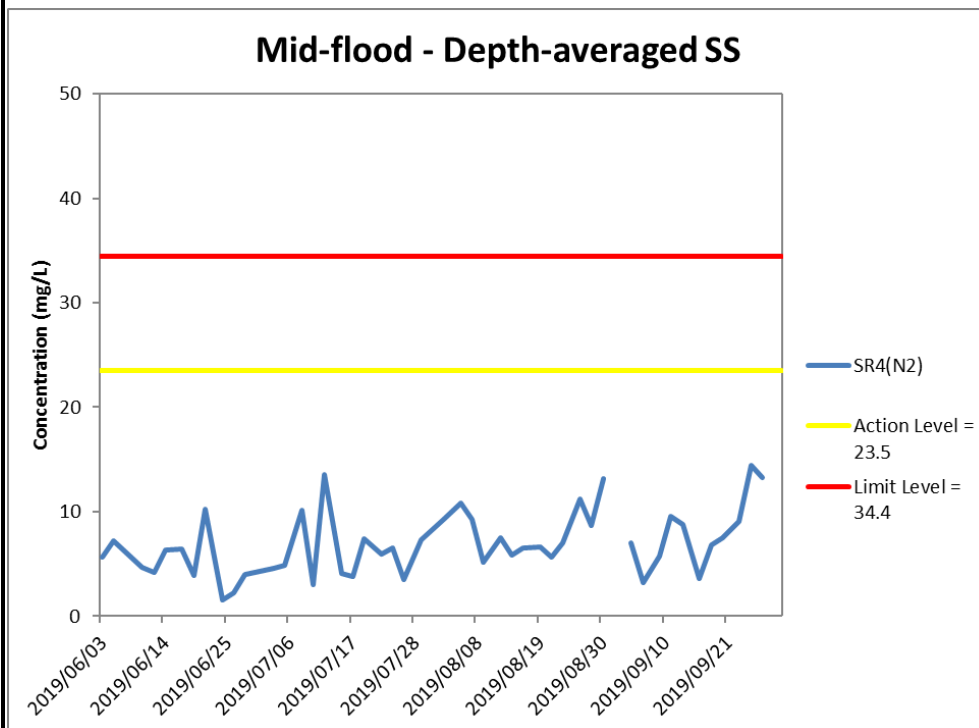
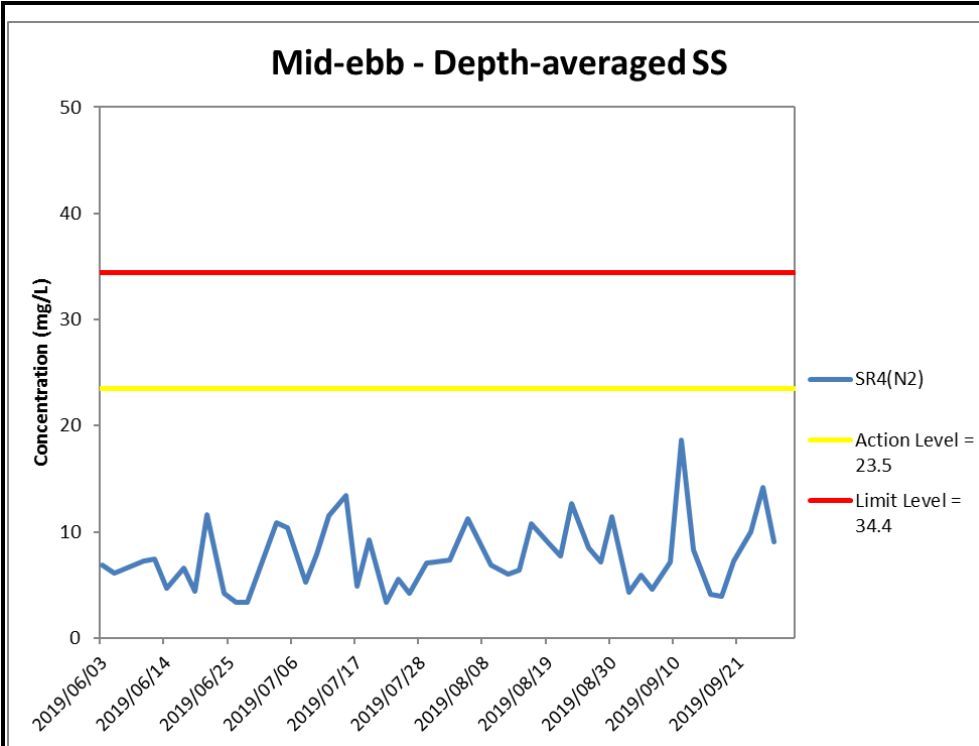
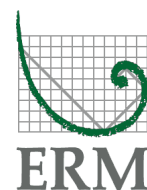


Figure J43 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 June 2019 and 30 September 2019 at SR4(N2). The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 – 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

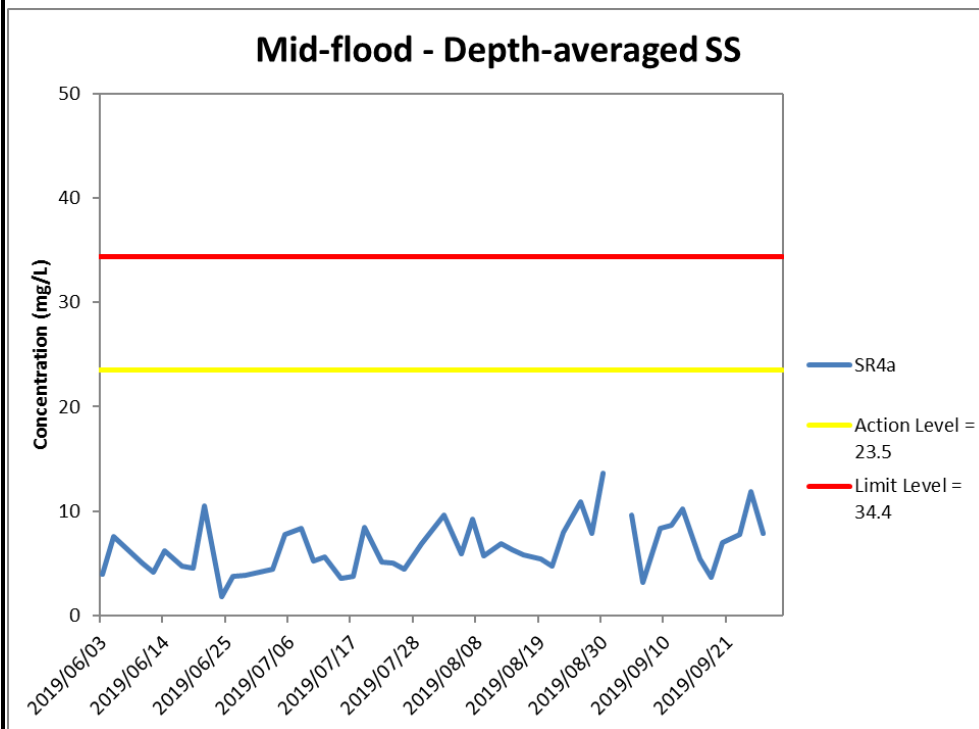
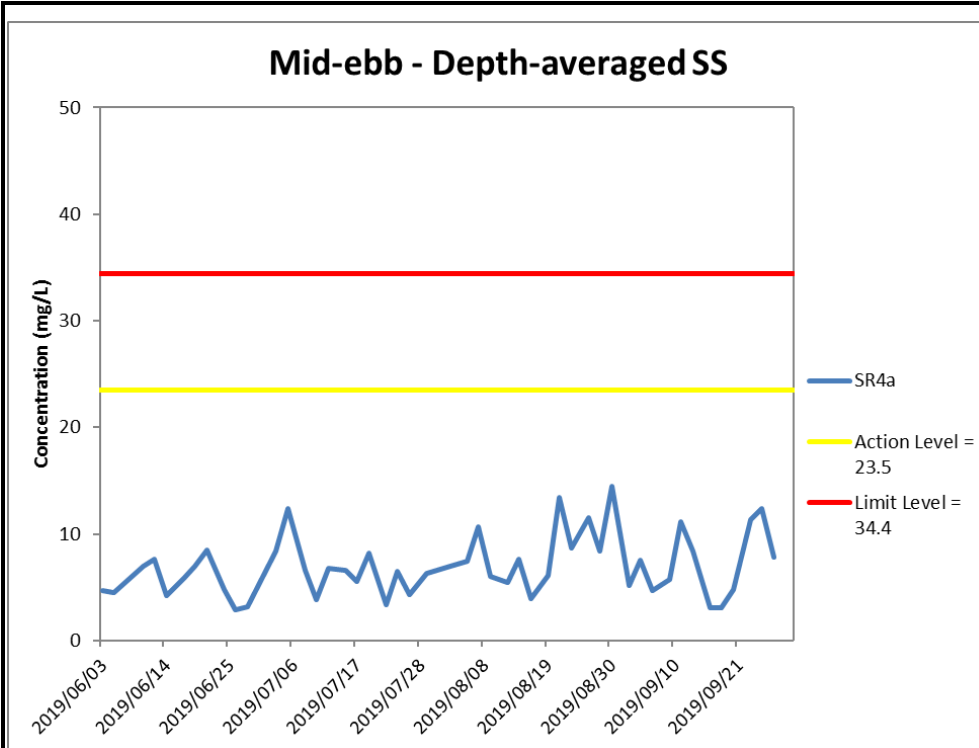
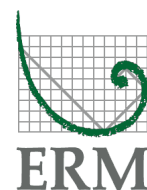


Figure J44 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 June 2019 and 30 September 2019 at SR4a. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Modification Works at Portion S-B (1/6/2019 – 30/9/2019).



Ref: 0212330_Impact-WQM_September2019_graphs_Rev a.xls

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)5	Rainy	Moderate	16:17	12.5	Surface	1	1	27.8	7.9	22.4	5.6	3.3	8.4
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)5	Rainy	Moderate	16:17	12.5	Surface	1	2	27	7.8	23.3	5.7	3.9	7.5
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)5	Rainy	Moderate	16:17	12.5	Middle	2	1	27.2	7.9	25	4.7	8.2	5.2
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)5	Rainy	Moderate	16:17	12.5	Middle	2	2	26.4	7.8	26	4.7	8.1	6
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)5	Rainy	Moderate	16:17	12.5	Bottom	3	1	27.1	7.9	25.4	4.9	14.9	5.7
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)5	Rainy	Moderate	16:17	12.5	Bottom	3	2	26.3	7.8	26.3	4.9	14.9	6.5
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)3(N)	Cloudy	Rough	15:22	7.4	Surface	1	1	27.7	7.9	22.7	5.4	4.6	10.1
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)3(N)	Cloudy	Rough	15:22	7.4	Surface	1	2	26.9	7.8	23.5	5.4	4.3	9.6
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)3(N)	Cloudy	Rough	15:22	7.4	Middle	2	1	27.7	8	24.3	5.1	8.7	10.9
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)3(N)	Cloudy	Rough	15:22	7.4	Middle	2	2	26.8	7.8	25.2	5.1	8.6	10
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)3(N)	Cloudy	Rough	15:22	7.4	Bottom	3	1	27.6	8	25.5	5.1	10.7	7.4
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	CS(Mf)3(N)	Cloudy	Rough	15:22	7.4	Bottom	3	2	26.8	7.8	26.4	5.1	10.6	8.4
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)16	Rainy	Moderate	14:35	5.7	Surface	1	1	27.5	7.9	23.5	5.4	6.3	6
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)16	Rainy	Moderate	14:35	5.7	Surface	1	2	26.7	7.7	24.4	5.4	6.5	5
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)16	Rainy	Moderate	14:35	5.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)16	Rainy	Moderate	14:35	5.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)16	Rainy	Moderate	14:35	5.7	Bottom	3	1	27.2	7.9	24.9	4.9	11.8	5.6
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)16	Rainy	Moderate	14:35	5.7	Bottom	3	2	26.4	7.7	25.8	4.9	11.7	5.3
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4a	Rainy	Calm	14:24	4.3	Surface	1	1	27.5	7.9	21.8	5.6	3	3.9
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4a	Rainy	Calm	14:24	4.3	Surface	1	2	26.7	7.7	22.6	5.6	3.1	4.9
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4a	Rainy	Calm	14:24	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4a	Rainy	Calm	14:24	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4a	Rainy	Calm	14:24	4.3	Bottom	3	1	27.6	7.9	23.6	5.1	10.8	6.4
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4a	Rainy	Calm	14:24	4.3	Bottom	3	2	26.8	7.7	24.4	5.1	10.4	5.6
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4(N2)	Rainy	Moderate	14:20	3.8	Surface	1	1	27.6	7.9	22.7	5.2	6	4.6
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4(N2)	Rainy	Moderate	14:20	3.8	Surface	1	2	26.8	7.7	23.5	5.2	6.1	5.6
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4(N2)	Rainy	Moderate	14:20	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4(N2)	Rainy	Moderate	14:20	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4(N2)	Rainy	Moderate	14:20	3.8	Bottom	3	1	27.6	7.9	23.3	5.2	6.5	3.2
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR4(N2)	Rainy	Moderate	14:20	3.8	Bottom	3	2	26.8	7.7	24.1	5.3	6.4	4
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS8(N)	Rainy	Moderate	14:12	4.2	Surface	1	1	27.6	7.9	22.6	5.6	3.6	13.8
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS8(N)	Rainy	Moderate	14:12	4.2	Surface	1	2	26.8	7.7	23.4	5.6	3.4	15.7
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS8(N)	Rainy	Moderate	14:12	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS8(N)	Rainy	Moderate	14:12	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS8(N)	Rainy	Moderate	14:12	4.2	Bottom	3	1	27.6	7.9	23.2	5.4	8.7	12.8
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS8(N)	Rainy	Moderate	14:12	4.2	Bottom	3	2	26.8	7.7	24	5.4	8.5	12.8
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)9	Rainy	Moderate	13:56	3.3	Surface	1	1	27.6	7.8	23.6	5.4	10	13.5
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)9	Rainy	Moderate	13:56	3.3	Surface	1	2	26.8	7.7	24.4	5.4	10.1	13.3
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)9	Rainy	Moderate	13:56	3.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)9	Rainy	Moderate	13:56	3.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)9	Rainy	Moderate	13:56	3.3	Bottom	3	1	27.6	7.7	23.7	5.5	11.2	14.5
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)9	Rainy	Moderate	13:56	3.3	Bottom	3	2	26.8	7.7	24.5	5.4	11.3	16.2
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:49	10.2	Surface	1	1	27.7	7.9	23.1	5.6	4.4	5.8
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:49	10.2	Surface	1	2	26.9	7.8	24	5.6	4.7	4.9
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:49	10.2	Middle	2	1	27.7	7.9	23.5	5.3	5.4	7.8
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:49	10.2	Middle	2	2	26.9	7.8	24.3	5.3	5.3	7.1
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:49	10.2	Bottom	3	1	27.6	7.9	24.4	5.2	10.5	8
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:49	10.2	Bottom	3	2	26.8	7.8	25.3	5.2	10.4	7.1
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR7	Cloudy	Rough	15:57	4.1	Surface	1	1	27.7	7.9	23.8	5.5	10.9	4.4
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR7	Cloudy	Rough	15:57	4.1	Surface	1	2	26.9	7.8	24.6	5.6	11.2	5.2
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR7	Cloudy	Rough	15:57	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR7	Cloudy	Rough	15:57	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR7	Cloudy	Rough	15:57	4.1	Bottom	3	1	27.6	8	23.9	5.6	12	3.9
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	SR7	Cloudy	Rough	15:57	4.1	Bottom	3	2	26.8	7.8	24.7	5.7	12.1	4.5
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS17	Rainy	Moderate	14:43	7.6	Surface	1	1	27.6	7.9	22.8	5.5	10.3	9.4
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS17	Rainy	Moderate	14:43	7.6	Surface	1	2	26.8	7.7	23.6	5.4	10.2	9.7
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS17	Rainy	Moderate	14:43	7.6	Middle	2	1	27.5	7.9	23.3	5.4	4.8	7.4
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS17	Rainy	Moderate	14:43	7.6	Middle	2	2	26.7	7.7	24.1	5.4	4.6	7
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS17	Rainy	Moderate	14:43	7.6	Bottom	3	1	27.3	7.9	24.6	5.2	6.8	7
TMCLKL	HY/2012/08	2019-09-02	Mid-Ebb	IS17	Rainy	Moderate	14:43	7.6	Bottom	3	2	26.5	7.8	25.5	5.2	7	7.9
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)5					Surface	1	1						

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)5					Surface	1	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)5					Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)5					Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)5					Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)5					Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)3(N)					Surface	1	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)3(N)					Surface	1	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)3(N)					Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)3(N)					Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)3(N)					Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	CS(Mf)3(N)					Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)16					Surface	1	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)16					Surface	1	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)16					Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)16					Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)16					Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)16					Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4a					Surface	1	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4a					Surface	1	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4a					Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4a					Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4a					Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4a					Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4(N2)					Surface	1	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4(N2)					Surface	1	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4(N2)					Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4(N2)					Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4(N2)					Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR4(N2)					Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS8(N)					Surface	1	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS8(N)					Surface	1	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS8(N)					Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS8(N)					Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS8(N)					Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS8(N)					Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)9					Surface	1	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)9					Surface	1	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)9					Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)9					Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)9					Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)9					Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)11					Surface	1	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)11					Surface	1	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)11					Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)11					Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)11					Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS(Mf)11					Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR7					Surface	1	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR7					Surface	1	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR7					Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR7					Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR7					Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	SR7					Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS17					Surface	1	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS17					Surface	1	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS17					Middle	2	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS17					Middle	2	2						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS17					Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-02	Mid-Flood	IS17					Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	16:42	12	Surface	1	1	27.5	8	25.5	5.5	4	8
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	16:42	12	Surface	1	2	27.6	8	25.2	5.6	3.8	7.1

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	16:42	12	Middle	2	1	27.1	8	26.7	4.7	5.1	5
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	16:42	12	Middle	2	2	27.1	8	26.6	4.7	4.8	5.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	16:42	12	Bottom	3	1	27	8	27	4.8	6.1	4.8
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	16:42	12	Bottom	3	2	27	8	27	4.7	6.1	5.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	16:00	7.2	Surface	1	1	28.2	8	21.3	5.7	3.4	14.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	16:00	7.2	Surface	1	2	28.2	8	21.3	5.7	3.3	13.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	16:00	7.2	Middle	2	1	27.8	8	23.2	5.6	8.2	12.8
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	16:00	7.2	Middle	2	2	27.9	8	23.2	5.6	8.1	13.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	16:00	7.2	Bottom	3	1	27.7	8	24.9	5.2	8.6	18.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	16:00	7.2	Bottom	3	2	27.7	8	25.1	5.2	8.6	19.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)16	Cloudy	Rough	15:19	5.5	Surface	1	1	27.6	8	24.8	5.4	18.4	11.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)16	Cloudy	Rough	15:19	5.5	Surface	1	2	27.6	8	24.8	5.4	17.8	12.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)16	Cloudy	Rough	15:19	5.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)16	Cloudy	Rough	15:19	5.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)16	Cloudy	Rough	15:19	5.5	Bottom	3	1	27.6	8	25	5.4	19	15
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)16	Cloudy	Rough	15:19	5.5	Bottom	3	2	27.6	8	25	5.4	18.6	15.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4a	Cloudy	Calm	15:10	5	Surface	1	1	27.9	8	23.8	5.8	4.4	6.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4a	Cloudy	Calm	15:10	5	Surface	1	2	27.9	8	23.7	5.8	4	7.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4a	Cloudy	Calm	15:10	5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4a	Cloudy	Calm	15:10	5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4a	Cloudy	Calm	15:10	5	Bottom	3	1	27.8	8	23.9	5.5	5.5	7.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4a	Cloudy	Calm	15:10	5	Bottom	3	2	27.7	8	24	5.4	5.7	8.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4(N2)	Cloudy	Calm	15:06	3.1	Surface	1	1	27.8	8	23.2	5.7	5.7	5.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4(N2)	Cloudy	Calm	15:06	3.1	Surface	1	2	27.8	8	23.1	5.7	5.8	6.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4(N2)	Cloudy	Calm	15:06	3.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4(N2)	Cloudy	Calm	15:06	3.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4(N2)	Cloudy	Calm	15:06	3.1	Bottom	3	1	27.7	8	23.9	5.7	7.2	5.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR4(N2)	Cloudy	Calm	15:06	3.1	Bottom	3	2	27.7	8	23.9	5.7	7.6	6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS8(N)	Cloudy	Calm	15:01	4.2	Surface	1	1	28	8.1	22.8	5.9	8	4.8
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS8(N)	Cloudy	Calm	15:01	4.2	Surface	1	2	28.1	8.1	22.9	5.9	8.5	5.8
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS8(N)	Cloudy	Calm	15:01	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS8(N)	Cloudy	Calm	15:01	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS8(N)	Cloudy	Calm	15:01	4.2	Bottom	3	1	27.9	8.1	24	5.9	10.1	4.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS8(N)	Cloudy	Calm	15:01	4.2	Bottom	3	2	27.9	8.1	24	5.9	10	5
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)9	Cloudy	Calm	14:58	3	Surface	1	1	28.3	8.2	24	5.9	6.1	5.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)9	Cloudy	Calm	14:58	3	Surface	1	2	28.3	8.2	24	5.9	6.1	6.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)9	Cloudy	Calm	14:58	3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)9	Cloudy	Calm	14:58	3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)9	Cloudy	Calm	14:58	3	Bottom	3	1	28.3	8.2	24	6	5.7	6.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)9	Cloudy	Calm	14:58	3	Bottom	3	2	28.3	8.2	24	5.9	5.7	6.8
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:30	11	Surface	1	1	27.6	8	24.7	5.2	5.9	16.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:30	11	Surface	1	2	27.7	8	24.6	5.2	6.1	14.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:30	11	Middle	2	1	27.3	8	25.9	4.8	6.9	16.8
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:30	11	Middle	2	2	27.3	8	25.7	4.8	6.7	14.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:30	11	Bottom	3	1	27.1	8	26.7	4.7	7.5	14.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS(Mf)11	Cloudy	Rough	15:30	11	Bottom	3	2	27.1	8	26.7	4.7	7.8	12.9
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR7	Cloudy	Moderate	16:24	4.2	Surface	1	1	27.9	8	23.5	5.8	4.4	14
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR7	Cloudy	Moderate	16:24	4.2	Surface	1	2	27.9	8	23.3	5.8	4.2	14.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR7	Cloudy	Moderate	16:24	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR7	Cloudy	Moderate	16:24	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR7	Cloudy	Moderate	16:24	4.2	Bottom	3	1	27.8	8	24.3	5.8	5.9	13.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	SR7	Cloudy	Moderate	16:24	4.2	Bottom	3	2	27.8	8	24.2	5.8	6.3	11.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS17	Cloudy	Rough	15:24	9.5	Surface	1	1	27.6	8	24.9	5.2	9.6	3.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS17	Cloudy	Rough	15:24	9.5	Surface	1	2	27.6	8	24.9	5.3	8.8	4.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS17	Cloudy	Rough	15:24	9.5	Middle	2	1	27.4	8	25.4	5	12.8	4.8
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS17	Cloudy	Rough	15:24	9.5	Middle	2	2	27.4	8	25.3	5.1	12.5	3.8
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS17	Cloudy	Rough	15:24	9.5	Bottom	3	1	27.3	8	25.7	5.1	16.6	4.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Ebb	IS17	Cloudy	Rough	15:24	9.5	Bottom	3	2	27.3	8	25.7	5	16.8	4.4
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)5	Rainy	Moderate	09:20	11.5	Surface	1	1	26.8	7.9	24.3	5.5	4.5	7.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)5	Rainy	Moderate	09:20	11.5	Surface	1	2	26.8	7.9	24.2	5.5	4.4	8.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)5	Rainy	Moderate	09:20	11.5	Middle	2	1	26.6	7.9	25.4	5.1	4.9	8.3

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)5	Rainy	Moderate	09:20	11.5	Middle	2	2	26.6	7.9	25.2	5.1	4.9	8.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)5	Rainy	Moderate	09:20	11.5	Bottom	3	1	26.3	7.9	27.3	4.8	11.3	7.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)5	Rainy	Moderate	09:20	11.5	Bottom	3	2	26.2	7.9	27.3	4.7	11.6	8.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)3(N)	Rainy	Moderate	10:10	7.3	Surface	1	1	27	8	23.1	5.5	10.7	18.4
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)3(N)	Rainy	Moderate	10:10	7.3	Surface	1	2	27	8	23.1	5.5	10.4	21.2
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)3(N)	Rainy	Moderate	10:10	7.3	Middle	2	1	27	8	23.1	5.5	11.2	16.9
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)3(N)	Rainy	Moderate	10:10	7.3	Middle	2	2	27	8	23.1	5.5	11	18.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)3(N)	Rainy	Moderate	10:10	7.3	Bottom	3	1	27	8	23.1	5.6	12.6	17.4
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	CS(Mf)3(N)	Rainy	Moderate	10:10	7.3	Bottom	3	2	27	8	23.1	5.6	12.7	17.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)16	Rainy	Moderate	10:55	5.5	Surface	1	1	26.8	8	24.5	5.5	12.1	15.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)16	Rainy	Moderate	10:55	5.5	Surface	1	2	26.8	8	24.5	5.5	11.9	15.9
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)16	Rainy	Moderate	10:55	5.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)16	Rainy	Moderate	10:55	5.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)16	Rainy	Moderate	10:55	5.5	Bottom	3	1	26.8	7.9	24.7	5.5	14	14.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)16	Rainy	Moderate	10:55	5.5	Bottom	3	2	26.8	7.9	24.7	5.5	14	15.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4a	Rainy	Calm	11:07	4.7	Surface	1	1	26.7	7.9	24.2	5.1	5.2	9.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4a	Rainy	Calm	11:07	4.7	Surface	1	2	26.7	7.9	24.1	5.2	4.5	10.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4a	Rainy	Calm	11:07	4.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4a	Rainy	Calm	11:07	4.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4a	Rainy	Calm	11:07	4.7	Bottom	3	1	26.6	8.1	25.1	5.1	11.3	9.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4a	Rainy	Calm	11:07	4.7	Bottom	3	2	26.6	8.1	25.1	5.1	11	9.4
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4(N2)	Rainy	Calm	11:11	3.3	Surface	1	1	26.8	8.2	24.5	5.3	4.4	6.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4(N2)	Rainy	Calm	11:11	3.3	Surface	1	2	26.8	8.2	24.5	5.2	4.3	7.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4(N2)	Rainy	Calm	11:11	3.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4(N2)	Rainy	Calm	11:11	3.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4(N2)	Rainy	Calm	11:11	3.3	Bottom	3	1	26.7	8	24.6	5.3	5.1	7.2
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR4(N2)	Rainy	Calm	11:11	3.3	Bottom	3	2	26.7	8	24.6	5.3	4.9	7.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS8(N)	Rainy	Calm	11:16	4	Surface	1	1	26.8	8	24.2	5.7	4.2	4
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS8(N)	Rainy	Calm	11:16	4	Surface	1	2	26.8	8	24.2	5.7	3.9	4.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS8(N)	Rainy	Calm	11:16	4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS8(N)	Rainy	Calm	11:16	4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS8(N)	Rainy	Calm	11:16	4	Bottom	3	1	26.8	8.2	24.3	5.8	4.4	4
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS8(N)	Rainy	Calm	11:16	4	Bottom	3	2	26.8	8.2	24.3	5.7	4.4	3.8
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)9	Rainy	Calm	11:22	3.2	Surface	1	1	26.8	8.1	24.4	5.7	7.8	7.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)9	Rainy	Calm	11:22	3.2	Surface	1	2	26.8	8.1	24.4	5.6	6.8	6.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)9	Rainy	Calm	11:22	3.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)9	Rainy	Calm	11:22	3.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)9	Rainy	Calm	11:22	3.2	Bottom	3	1	26.8	8.1	24.4	5.9	10.3	6.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)9	Rainy	Calm	11:22	3.2	Bottom	3	2	26.8	8.1	24.5	5.8	10.5	6.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)11	Rainy	Moderate	10:40	11.2	Surface	1	1	26.8	7.9	24.4	5.4	8.9	11
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)11	Rainy	Moderate	10:40	11.2	Surface	1	2	26.8	7.9	24.4	5.4	8.8	10.5
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)11	Rainy	Moderate	10:40	11.2	Middle	2	1	26.7	8	24.9	5.1	9.8	10.9
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)11	Rainy	Moderate	10:40	11.2	Middle	2	2	26.7	8	24.9	5.2	9.6	10
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)11	Rainy	Moderate	10:40	11.2	Bottom	3	1	26.7	8	25	5.3	12	9.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS(Mf)11	Rainy	Moderate	10:40	11.2	Bottom	3	2	26.7	8	25.2	5.2	11.5	10.6
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR7	Rainy	Moderate	09:42	4.4	Surface	1	1	26.8	8	24.4	5.4	11.5	13
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR7	Rainy	Moderate	09:42	4.4	Surface	1	2	26.9	8	24.4	5.4	11.5	12.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR7	Rainy	Moderate	09:42	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR7	Rainy	Moderate	09:42	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR7	Rainy	Moderate	09:42	4.4	Bottom	3	1	26.8	8	24.6	5.4	12.4	11.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	SR7	Rainy	Moderate	09:42	4.4	Bottom	3	2	26.8	8	24.6	5.4	12.3	10.1
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS17	Rainy	Moderate	10:49	10.1	Surface	1	1	26.8	7.9	24.7	5.3	4.6	4.9
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS17	Rainy	Moderate	10:49	10.1	Surface	1	2	26.8	7.9	24.6	5.3	4.5	5.3
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS17	Rainy	Moderate	10:49	10.1	Middle	2	1	26.7	8	25.2	5	4.7	5.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS17	Rainy	Moderate	10:49	10.1	Middle	2	2	26.7	8	25.1	5.1	4.7	6.7
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS17	Rainy	Moderate	10:49	10.1	Bottom	3	1	26.3	7.9	26.7	5	6.2	7
TMCLKL	HY/2012/08	2019-09-04	Mid-Flood	IS17	Rainy	Moderate	10:49	10.1	Bottom	3	2	26.3	7.9	26.7	5	6.7	6.4
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)5	Fine	Moderate	18:40	12.5	Surface	1	1	28	7.9	25.8	5.5	1	3.2
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)5	Fine	Moderate	18:40	12.5	Surface	1	2	28.1	7.9	25.6	5.6	1	3.2
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)5	Fine	Moderate	18:40	12.5	Middle	2	1	27.5	7.9	27.8	4.9	1.6	3.2
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)5	Fine	Moderate	18:40	12.5	Middle	2	2	27.5	7.9	27.7	4.9	1.5	3.5

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)5	Fine	Moderate	18:40	12.5	Bottom	3	1	27.5	7.9	27.7	4.9	1.7	1.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)5	Fine	Moderate	18:40	12.5	Bottom	3	2	27.5	7.9	27.8	4.9	1.7	1.3
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)3(N)	Sunny	Moderate	17:53	7.2	Surface	1	1	28.4	7.9	19.7	5.6	2.5	3.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)3(N)	Sunny	Moderate	17:53	7.2	Surface	1	2	28.5	7.9	19.8	5.5	2.7	3.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)3(N)	Sunny	Moderate	17:53	7.2	Middle	2	1	28	7.9	22.9	5.3	2.7	4.3
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)3(N)	Sunny	Moderate	17:53	7.2	Middle	2	2	28	7.9	22.9	5.3	2.5	3.8
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)3(N)	Sunny	Moderate	17:53	7.2	Bottom	3	1	28	7.9	25.2	5.4	4.4	6.4
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	CS(Mf)3(N)	Sunny	Moderate	17:53	7.2	Bottom	3	2	28	7.9	25.1	5.4	4.2	7
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)16	Sunny	Calm	17:18	5.6	Surface	1	1	28	7.9	24.9	5.5	5.2	7.1
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)16	Sunny	Calm	17:18	5.6	Surface	1	2	28.1	7.9	24.7	5.6	5.3	6.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)16	Sunny	Calm	17:18	5.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)16	Sunny	Calm	17:18	5.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)16	Sunny	Calm	17:18	5.6	Bottom	3	1	27.6	7.8	25.8	5	5.2	3.2
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)16	Sunny	Calm	17:18	5.6	Bottom	3	2	27.6	7.8	25.8	5	5.2	3.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4a	Sunny	Calm	17:09	5.1	Surface	1	1	28.1	7.8	24.6	5.7	9.4	4
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4a	Sunny	Calm	17:09	5.1	Surface	1	2	28.2	7.8	24.4	5.7	9.2	3.9
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4a	Sunny	Calm	17:09	5.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4a	Sunny	Calm	17:09	5.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4a	Sunny	Calm	17:09	5.1	Bottom	3	1	27.9	7.8	24.9	4.9	15.2	5.4
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4a	Sunny	Calm	17:09	5.1	Bottom	3	2	27.9	7.8	24.9	4.9	15.4	5.3
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4(N2)	Sunny	Calm	17:04	3.2	Surface	1	1	28.4	7.9	24.1	5.9	4.1	5.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4(N2)	Sunny	Calm	17:04	3.2	Surface	1	2	28.4	7.9	24.1	5.9	4.2	5.2
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4(N2)	Sunny	Calm	17:04	3.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4(N2)	Sunny	Calm	17:04	3.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4(N2)	Sunny	Calm	17:04	3.2	Bottom	3	1	28.4	7.8	24.2	6	8.5	3.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR4(N2)	Sunny	Calm	17:04	3.2	Bottom	3	2	28.3	7.8	24.2	6	8.8	3.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS8(N)	Sunny	Calm	17:01	3.8	Surface	1	1	28.3	7.9	24.4	5.6	9.1	4.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS8(N)	Sunny	Calm	17:01	3.8	Surface	1	2	28.3	7.9	24.4	5.6	8.8	4.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS8(N)	Sunny	Calm	17:01	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS8(N)	Sunny	Calm	17:01	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS8(N)	Sunny	Calm	17:01	3.8	Bottom	3	1	28.3	7.8	24.4	5.6	10.1	3.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS8(N)	Sunny	Calm	17:01	3.8	Bottom	3	2	28.3	7.8	24.4	5.6	10.2	3.3
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)9	Sunny	Calm	16:58	3	Surface	1	1	28.8	7.9	24.6	6.1	11.8	7.2
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)9	Sunny	Calm	16:58	3	Surface	1	2	28.8	7.9	24.6	6.1	11.7	7.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)9	Sunny	Calm	16:58	3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)9	Sunny	Calm	16:58	3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)9	Sunny	Calm	16:58	3	Bottom	3	1	28.6	7.8	24.6	6.1	13.4	16.1
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)9	Sunny	Calm	16:58	3	Bottom	3	2	28.6	7.8	24.6	6.1	13	14.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)11	Sunny	Moderate	18:15	11	Surface	1	1	28.5	7.9	23.1	6.1	5.2	5.2
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)11	Sunny	Moderate	18:15	11	Surface	1	2	28.7	7.9	22.9	6.1	5.5	4.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)11	Sunny	Moderate	18:15	11	Middle	2	1	27.6	7.9	26	5	8.9	6.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)11	Sunny	Moderate	18:15	11	Middle	2	2	27.6	7.9	25.9	5	8.9	7.3
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)11	Sunny	Moderate	18:15	11	Bottom	3	1	27.5	7.9	26.2	4.8	8.3	12.9
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS(Mf)11	Sunny	Moderate	18:15	11	Bottom	3	2	27.5	7.9	26.3	4.8	8.2	13.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR7	Fine	Calm	18:22	4.5	Surface	1	1	28.3	7.9	24.7	5.7	2.7	5.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR7	Fine	Calm	18:22	4.5	Surface	1	2	28.4	7.9	24.6	5.8	2.3	5.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR7	Fine	Calm	18:22	4.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR7	Fine	Calm	18:22	4.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR7	Fine	Calm	18:22	4.5	Bottom	3	1	28.2	7.9	24.9	5.6	5.5	4
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	SR7	Fine	Calm	18:22	4.5	Bottom	3	2	28.2	7.9	24.9	5.7	5.3	3.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS17	Sunny	Moderate	17:24	10.4	Surface	1	1	28.1	7.9	25.1	5.7	1.7	6.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS17	Sunny	Moderate	17:24	10.4	Surface	1	2	28.2	7.9	24.9	5.7	1.5	6.1
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS17	Sunny	Moderate	17:24	10.4	Middle	2	1	27.5	7.9	26.4	4.8	5.6	3.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS17	Sunny	Moderate	17:24	10.4	Middle	2	2	27.5	7.9	26.3	4.9	5	3.4
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS17	Sunny	Moderate	17:24	10.4	Bottom	3	1	27.5	7.9	26.6	4.9	6.1	3.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Ebb	IS17	Sunny	Moderate	17:24	10.4	Bottom	3	2	27.4	7.9	26.7	4.9	6.5	3.2
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)5	Sunny	Moderate	11:50	12.4	Surface	1	1	27.8	7.8	24.7	5.4	1.8	2
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)5	Sunny	Moderate	11:50	12.4	Surface	1	2	27.9	7.9	24.3	5.5	1.6	2.1
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)5	Sunny	Moderate	11:50	12.4	Middle	2	1	27.5	7.8	25.8	5	2.1	3.3
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)5	Sunny	Moderate	11:50	12.4	Middle	2	2	27.6	7.8	25.5	5.1	2.3	3.1
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)5	Sunny	Moderate	11:50	12.4	Bottom	3	1	27.3	7.8	27.1	4.8	6.6	4.8

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)5	Sunny	Moderate	11:50	12.4	Bottom	3	2	27.3	7.8	27.2	4.8	6.5	4.3
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	12:47	7.2	Surface	1	1	28.9	7.8	18	6.1	2.2	9.9
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	12:47	7.2	Surface	1	2	29	7.8	18	6.1	2.3	10.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	12:47	7.2	Middle	2	1	28.3	7.8	19.8	5.6	3.7	3.9
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	12:47	7.2	Middle	2	2	28.3	7.8	20	5.5	3.4	3.3
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	12:47	7.2	Bottom	3	1	28.4	7.8	22.3	5.5	3.8	1.9
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	12:47	7.2	Bottom	3	2	28.3	7.8	22.4	5.5	3.9	1.8
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)16	Sunny	Moderate	13:27	5.6	Surface	1	1	28.1	7.8	24.4	5.6	5.5	7.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)16	Sunny	Moderate	13:27	5.6	Surface	1	2	28.1	7.8	24.3	5.6	5.7	7.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)16	Sunny	Moderate	13:27	5.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)16	Sunny	Moderate	13:27	5.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)16	Sunny	Moderate	13:27	5.6	Bottom	3	1	28	7.8	24.4	5.7	6.4	5.9
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)16	Sunny	Moderate	13:27	5.6	Bottom	3	2	28	7.8	24.4	5.7	6.6	5.3
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4a	Sunny	Moderate	13:36	5.1	Surface	1	1	28.4	7.8	24.1	5.7	8.4	2.9
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4a	Sunny	Moderate	13:36	5.1	Surface	1	2	28.5	7.8	23.9	5.7	8.2	2.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4a	Sunny	Moderate	13:36	5.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4a	Sunny	Moderate	13:36	5.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4a	Sunny	Moderate	13:36	5.1	Bottom	3	1	27.8	7.8	25	4.5	8.1	3.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4a	Sunny	Moderate	13:36	5.1	Bottom	3	2	27.7	7.8	25	4.5	8.1	3.8
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4(N2)	Sunny	Calm	13:41	3.3	Surface	1	1	28.3	7.9	24	5.7	2.9	4.8
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4(N2)	Sunny	Calm	13:41	3.3	Surface	1	2	28.4	7.9	23.9	5.7	2.7	4.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4(N2)	Sunny	Calm	13:41	3.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4(N2)	Sunny	Calm	13:41	3.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4(N2)	Sunny	Calm	13:41	3.3	Bottom	3	1	28.5	7.9	23.7	5.7	2.5	1.8
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR4(N2)	Sunny	Calm	13:41	3.3	Bottom	3	2	28.4	7.9	23.9	5.6	2.8	1.9
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS8(N)	Sunny	Calm	13:48	4.4	Surface	1	1	28.6	7.9	24	5.9	2.7	3.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS8(N)	Sunny	Calm	13:48	4.4	Surface	1	2	28.6	7.9	23.9	5.9	2.2	3.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS8(N)	Sunny	Calm	13:48	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS8(N)	Sunny	Calm	13:48	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS8(N)	Sunny	Calm	13:48	4.4	Bottom	3	1	28.4	7.8	24.2	5.8	4.4	2.8
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS8(N)	Sunny	Calm	13:48	4.4	Bottom	3	2	28.4	7.8	24.2	5.7	4.3	2.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)9	Sunny	Calm	13:54	3.2	Surface	1	1	28.1	7.9	24.9	5.5	10.3	6
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)9	Sunny	Calm	13:54	3.2	Surface	1	2	28.1	7.9	24.9	5.5	10.7	5.3
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)9	Sunny	Calm	13:54	3.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)9	Sunny	Calm	13:54	3.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)9	Sunny	Calm	13:54	3.2	Bottom	3	1	28.2	7.9	24.9	5.5	14.2	13
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)9	Sunny	Calm	13:54	3.2	Bottom	3	2	28.2	7.9	25	5.4	13.8	14.4
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)11	Sunny	Moderate	12:23	11.3	Surface	1	1	28	7.9	24.5	5.4	6.2	3.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)11	Sunny	Moderate	12:23	11.3	Surface	1	2	28.2	7.9	24.3	5.4	6	3.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)11	Sunny	Moderate	12:23	11.3	Middle	2	1	27.5	7.8	26.1	4.9	13.9	6.9
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)11	Sunny	Moderate	12:23	11.3	Middle	2	2	27.5	7.8	26.1	4.8	13.3	7
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)11	Sunny	Moderate	12:23	11.3	Bottom	3	1	27.6	7.8	26.1	5.1	15.9	15.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS(Mf)11	Sunny	Moderate	12:23	11.3	Bottom	3	2	27.6	7.8	26.1	5	15.7	16.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR7	Sunny	Calm	12:15	4.3	Surface	1	1	28.1	7.8	24.6	5.4	7.5	6.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR7	Sunny	Calm	12:15	4.3	Surface	1	2	28.2	7.8	24.3	5.4	7.9	6.5
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR7	Sunny	Calm	12:15	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR7	Sunny	Calm	12:15	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR7	Sunny	Calm	12:15	4.3	Bottom	3	1	27.7	7.8	25.6	4.9	11.3	7.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	SR7	Sunny	Calm	12:15	4.3	Bottom	3	2	27.7	7.8	25.7	4.9	11.6	7.7
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS17	Sunny	Moderate	13:19	10.5	Surface	1	1	27.8	7.9	24.8	5.2	3.3	7
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS17	Sunny	Moderate	13:19	10.5	Surface	1	2	27.8	7.9	24.8	5.2	3.7	6.6
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS17	Sunny	Moderate	13:19	10.5	Middle	2	1	27.6	7.8	25.6	5.1	4.4	5.2
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS17	Sunny	Moderate	13:19	10.5	Middle	2	2	27.6	7.8	25.4	5.1	4.4	5.4
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS17	Sunny	Moderate	13:19	10.5	Bottom	3	1	27.5	7.8	26.1	4.8	9.9	5.2
TMCLKL	HY/2012/08	2019-09-06	Mid-Flood	IS17	Sunny	Moderate	13:19	10.5	Bottom	3	2	27.5	7.8	26.3	4.8	9.9	4.9
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)5	Fine	Moderate	08:55	13.1	Surface	1	1	29.4	7.8	19.2	7.8	1	5.3
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)5	Fine	Moderate	08:55	13.1	Surface	1	2	29.4	8	18.8	7.8	1.1	5.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)5	Fine	Moderate	08:55	13.1	Middle	2	1	28.4	7.8	26.9	5	2.2	4.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)5	Fine	Moderate	08:55	13.1	Middle	2	2	28.4	7.8	26.4	5	2.5	4.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)5	Fine	Moderate	08:55	13.1	Bottom	3	1	27.9	7.8	29.8	4.2	5.4	3.8
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)5	Fine	Moderate	08:55	13.1	Bottom	3	2	27.9	7.8	29.3	4.2	5.1	4.1

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	09:57	7	Surface	1	1	29.6	8	15.7	8.3	1.4	4.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	09:57	7	Surface	1	2	29.6	8	15.4	8.3	1.2	4.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	09:57	7	Middle	2	1	29.4	7.9	20.1	6.4	2.5	4.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	09:57	7	Middle	2	2	29.4	7.8	19.6	6.4	2	4
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	09:57	7	Bottom	3	1	28.3	7.7	26.2	4.9	3.3	4.2
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	09:57	7	Bottom	3	2	28.3	7.8	25.6	4.9	2.7	5
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)16	Fine	Moderate	10:32	5.5	Surface	1	1	30	8.1	21	11	3.6	9.9
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)16	Fine	Moderate	10:32	5.5	Surface	1	2	30	8.2	20.6	11	3.1	9
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)16	Fine	Moderate	10:32	5.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)16	Fine	Moderate	10:32	5.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)16	Fine	Moderate	10:32	5.5	Bottom	3	1	28.8	8	25.7	5.7	7.2	7
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)16	Fine	Moderate	10:32	5.5	Bottom	3	2	28.8	7.9	25.2	5.8	6.7	8
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4a	Fine	Calm	10:43	4.4	Surface	1	1	29.7	8	19.5	8.9	1.9	5.8
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4a	Fine	Calm	10:43	4.4	Surface	1	2	29.7	8	19.2	8.8	1.6	5.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4a	Fine	Calm	10:43	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4a	Fine	Calm	10:43	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4a	Fine	Calm	10:43	4.4	Bottom	3	1	28.7	7.8	24.1	5.1	6.1	5.8
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4a	Fine	Calm	10:43	4.4	Bottom	3	2	28.7	7.8	23.7	5.1	5.6	5.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4(N2)	Fine	Calm	10:50	4.1	Surface	1	1	29.9	8	19.2	9.1	4.1	6.3
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4(N2)	Fine	Calm	10:50	4.1	Surface	1	2	29.9	8.1	18.8	9.1	3.3	7.3
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4(N2)	Fine	Calm	10:50	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4(N2)	Fine	Calm	10:50	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4(N2)	Fine	Calm	10:50	4.1	Bottom	3	1	29.6	7.8	21.6	7	8.5	7.2
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR4(N2)	Fine	Calm	10:50	4.1	Bottom	3	2	29.6	7.9	21.2	7	8	8
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS8(N)	Fine	Calm	10:57	3.7	Surface	1	1	29.9	8.1	19	10.2	1.6	6.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS8(N)	Fine	Calm	10:57	3.7	Surface	1	2	29.9	8.2	18.6	10.3	1.3	5.9
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS8(N)	Fine	Calm	10:57	3.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS8(N)	Fine	Calm	10:57	3.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS8(N)	Fine	Calm	10:57	3.7	Bottom	3	1	29.9	8	20.4	10.1	5.5	9.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS8(N)	Fine	Calm	10:57	3.7	Bottom	3	2	29.9	8.1	20	10.1	5.1	8.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)9	Fine	Calm	11:05	2.9	Surface	1	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)9	Fine	Calm	11:05	2.9	Surface	1	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)9	Fine	Calm	11:05	2.9	Middle	2	1	30.1	8.1	22.2	10	10.6	22.8
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)9	Fine	Calm	11:05	2.9	Middle	2	2	30.1	8.1	21.7	10.1	10.5	25.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)9	Fine	Calm	11:05	2.9	Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)9	Fine	Calm	11:05	2.9	Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)11	Fine	Moderate	09:29	11.5	Surface	1	1	29.7	7.9	18.7	8	2.5	5.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)11	Fine	Moderate	09:29	11.5	Surface	1	2	29.6	8	18.3	8	2.1	5.3
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)11	Fine	Moderate	09:29	11.5	Middle	2	1	28.7	7.8	23.5	5.2	2.7	5.8
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)11	Fine	Moderate	09:29	11.5	Middle	2	2	28.7	7.8	23	5.2	2.2	4.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)11	Fine	Moderate	09:29	11.5	Bottom	3	1	28	7.7	28	4.8	2.6	6.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS(Mf)11	Fine	Moderate	09:29	11.5	Bottom	3	2	28	7.8	27.5	4.7	2.3	5.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR7	Fine	Moderate	09:21	4.4	Surface	1	1	29.7	7.9	17.3	8.4	1.6	6
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR7	Fine	Moderate	09:21	4.4	Surface	1	2	29.7	8	17	8.4	1.4	5
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR7	Fine	Moderate	09:21	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR7	Fine	Moderate	09:21	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR7	Fine	Moderate	09:21	4.4	Bottom	3	1	29.4	7.8	19.2	7.2	2.1	5.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	SR7	Fine	Moderate	09:21	4.4	Bottom	3	2	29.4	7.9	18.8	7.2	2.3	6.3
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS17	Fine	Moderate	10:25	10.2	Surface	1	1	29.6	7.9	21.4	8.8	2.2	19.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS17	Fine	Moderate	10:25	10.2	Surface	1	2	29.6	8	20.9	8.8	2	17.1
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS17	Fine	Moderate	10:25	10.2	Middle	2	1	28.7	7.8	23.8	5.9	4.1	5.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS17	Fine	Moderate	10:25	10.2	Middle	2	2	28.7	7.8	23.3	5.8	3.4	5.5
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS17	Fine	Moderate	10:25	10.2	Bottom	3	1	28	7.8	28.1	4.8	7.6	15.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Ebb	IS17	Fine	Moderate	10:25	10.2	Bottom	3	2	28	7.7	27.5	4.9	6.9	14
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)5	Fine	Moderate	18:04	12.2	Surface	1	1	29.2	7.9	22	7.9	1.2	6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)5	Fine	Moderate	18:04	12.2	Surface	1	2	29.2	7.9	21.6	7.9	1	6.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)5	Fine	Moderate	18:04	12.2	Middle	2	1	28.3	7.9	28.1	5	2	6.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)5	Fine	Moderate	18:04	12.2	Middle	2	2	28.3	7.8	27.6	5	1.9	5.9
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)5	Fine	Moderate	18:04	12.2	Bottom	3	1	28.1	8	29.3	4.6	8.7	5.2
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)5	Fine	Moderate	18:04	12.2	Bottom	3	2	28.1	7.8	28.7	4.7	7.8	6.2
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)3(N)	Fine	Moderate	17:07	7.2	Surface	1	1	31.2	8.1	12	11.2	4.1	5.7

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)3(N)	Fine	Moderate	17:07	7.2	Surface	1	2	31.2	8.1	11.7	11.2	3.3	4.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)3(N)	Fine	Moderate	17:07	7.2	Middle	2	1	30.5	8	15.9	10	6.7	7.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)3(N)	Fine	Moderate	17:07	7.2	Middle	2	2	30.4	8	15.7	9.9	5.9	8.2
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)3(N)	Fine	Moderate	17:07	7.2	Bottom	3	1	28.7	8	23.5	5.2	6.9	11.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	CS(Mf)3(N)	Fine	Moderate	17:07	7.2	Bottom	3	2	28.7	7.8	23	5.2	6.5	12
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)16	Fine	Moderate	16:33	5.3	Surface	1	1	30.6	8.2	19.1	14.1	3.5	8
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)16	Fine	Moderate	16:33	5.3	Surface	1	2	30.6	8.1	18.8	14.3	2.9	7.9
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)16	Fine	Moderate	16:33	5.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)16	Fine	Moderate	16:33	5.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)16	Fine	Moderate	16:33	5.3	Bottom	3	1	29.5	7.9	22.1	8.7	8.5	6.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)16	Fine	Moderate	16:33	5.3	Bottom	3	2	29.5	7.7	21.7	8.6	7.5	7.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4a	Fine	Calm	16:23	4	Surface	1	1	30.5	8.1	19.5	12.9	4.9	9.8
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4a	Fine	Calm	16:23	4	Surface	1	2	30.5	8	19.2	13.1	4.1	9
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4a	Fine	Calm	16:23	4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4a	Fine	Calm	16:23	4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4a	Fine	Calm	16:23	4	Bottom	3	1	29.6	7.8	21.3	8.2	7.6	7.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4a	Fine	Calm	16:23	4	Bottom	3	2	29.6	7.7	20.9	8.3	6.7	7.1
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4(N2)	Fine	Calm	16:17	3.8	Surface	1	1	30.8	8.2	19.2	14.7	2.4	6.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4(N2)	Fine	Calm	16:17	3.8	Surface	1	2	30.8	8.2	18.9	14.9	2.3	5.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4(N2)	Fine	Calm	16:17	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4(N2)	Fine	Calm	16:17	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4(N2)	Fine	Calm	16:17	3.8	Bottom	3	1	29.9	8.1	20.3	11.8	5.4	5
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR4(N2)	Fine	Calm	16:17	3.8	Bottom	3	2	29.9	7.9	19.9	11.9	4.9	6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS8(N)	Fine	Calm	16:10	3.4	Surface	1	1	30.4	8.1	18.8	12.7	3.9	8
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS8(N)	Fine	Calm	16:10	3.4	Surface	1	2	30.4	8	18.5	12.8	3.8	8.9
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS8(N)	Fine	Calm	16:10	3.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS8(N)	Fine	Calm	16:10	3.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS8(N)	Fine	Calm	16:10	3.4	Bottom	3	1	30.3	8	19.2	12.1	5.9	9.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS8(N)	Fine	Calm	16:10	3.4	Bottom	3	2	30.3	8	18.8	12.2	4.9	8.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)9	Fine	Calm	16:00	2.7	Surface	1	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)9	Fine	Calm	16:00	2.7	Surface	1	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)9	Fine	Calm	16:00	2.7	Middle	2	1	29.8	7.9	20.8	10.1	5.8	8
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)9	Fine	Calm	16:00	2.7	Middle	2	2	29.9	7.8	20.3	10.3	5.2	7.5
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)9	Fine	Calm	16:00	2.7	Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)9	Fine	Calm	16:00	2.7	Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)11	Fine	Moderate	17:35	10.8	Surface	1	1	30.2	8	19	11	4.1	6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)11	Fine	Moderate	17:35	10.8	Surface	1	2	30.2	8.1	18.6	11	3.3	5
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)11	Fine	Moderate	17:35	10.8	Middle	2	1	28.4	7.8	26	5.5	11.2	6.7
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)11	Fine	Moderate	17:35	10.8	Middle	2	2	28.4	7.8	25.4	5.5	10.6	7.5
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)11	Fine	Moderate	17:35	10.8	Bottom	3	1	28.3	7.9	26.8	4.7	11.7	12.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS(Mf)11	Fine	Moderate	17:35	10.8	Bottom	3	2	28.2	7.8	26.3	4.7	11.2	13.9
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR7	Fine	Moderate	17:43	4	Surface	1	1	30.8	8.2	16.8	12.6	2.5	5.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR7	Fine	Moderate	17:43	4	Surface	1	2	30.8	8.2	16.6	12.7	2.3	6.6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR7	Fine	Moderate	17:43	4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR7	Fine	Moderate	17:43	4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR7	Fine	Moderate	17:43	4	Bottom	3	1	29.8	8.1	20.6	9.3	5.5	6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	SR7	Fine	Moderate	17:43	4	Bottom	3	2	29.8	8	20.3	9.3	4.9	5.3
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS17	Fine	Moderate	16:39	9.6	Surface	1	1	30.9	8.2	17.6	14.5	2.3	8
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS17	Fine	Moderate	16:39	9.6	Surface	1	2	30.9	8.2	17.3	14.7	2.1	7
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS17	Fine	Moderate	16:39	9.6	Middle	2	1	29.5	8	21.8	8.9	3	6
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS17	Fine	Moderate	16:39	9.6	Middle	2	2	29.5	7.8	21.5	8.9	2.9	6.9
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS17	Fine	Moderate	16:39	9.6	Bottom	3	1	28.2	7.9	27.4	4.6	7	7.4
TMCLKL	HY/2012/08	2019-09-09	Mid-Flood	IS17	Fine	Moderate	16:39	9.6	Bottom	3	2	28.2	7.8	26.8	4.7	6.4	6.8
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)5	Fine	Moderate	10:54	12.7	Surface	1	1	29.8	8.2	22.6	8.7	1.5	7
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)5	Fine	Moderate	10:54	12.7	Surface	1	2	29.8	8.2	23	8.7	2.3	7.8
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)5	Fine	Moderate	10:54	12.7	Middle	2	1	28.6	8	27.6	5.7	3.2	6.1
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)5	Fine	Moderate	10:54	12.7	Middle	2	2	28.6	8	28.1	5.7	3.9	6.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)5	Fine	Moderate	10:54	12.7	Bottom	3	1	28.4	8	29.2	4.8	9.7	6
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)5	Fine	Moderate	10:54	12.7	Bottom	3	2	28.4	8	29.8	4.8	10.3	6.8
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	12:03	6.5	Surface	1	1	29.7	8.3	20.3	10.4	2.1	8.1
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	12:03	6.5	Surface	1	2	29.7	8.3	20.8	10.6	2	7.3

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	12:03	6.5	Middle	2	1	29.2	8.1	22.1	7.3	5	7.7
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	12:03	6.5	Middle	2	2	29.2	8	22.2	7.3	5.8	8.7
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	12:03	6.5	Bottom	3	1	29	8.1	23.4	6.7	5.8	9.4
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	CS(Mf)3(N)	Fine	Moderate	12:03	6.5	Bottom	3	2	29	8	23.9	6.6	6.7	8.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)16	Fine	Moderate	12:37	5.6	Surface	1	1	29.9	8.2	22.9	8.8	3.9	8.9
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)16	Fine	Moderate	12:37	5.6	Surface	1	2	29.9	8.2	23.4	8.8	4.7	9.9
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)16	Fine	Moderate	12:37	5.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)16	Fine	Moderate	12:37	5.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)16	Fine	Moderate	12:37	5.6	Bottom	3	1	28.8	8	26.4	6.1	10.5	12.8
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)16	Fine	Moderate	12:37	5.6	Bottom	3	2	28.8	8	26.9	6.1	11.3	14.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4a	Fine	Moderate	12:47	4.3	Surface	1	1	29.6	8.1	22.1	7.9	5.3	10.3
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4a	Fine	Moderate	12:47	4.3	Surface	1	2	29.7	8.1	22.4	8.1	6	10.8
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4a	Fine	Moderate	12:47	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4a	Fine	Moderate	12:47	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4a	Fine	Moderate	12:47	4.3	Bottom	3	1	29	8	24.5	5.7	19.8	12.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4a	Fine	Moderate	12:47	4.3	Bottom	3	2	29	7.9	25	5.7	24.1	11.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4(N2)	Fine	Moderate	12:51	3.3	Surface	1	1	29.7	8.1	22.3	7.4	14.3	17.3
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4(N2)	Fine	Moderate	12:51	3.3	Surface	1	2	29.7	8.1	22.7	7.4	12.2	19.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4(N2)	Fine	Moderate	12:51	3.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4(N2)	Fine	Moderate	12:51	3.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4(N2)	Fine	Moderate	12:51	3.3	Bottom	3	1	29.2	7.9	23.6	5.8	16	18.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR4(N2)	Fine	Moderate	12:51	3.3	Bottom	3	2	29.2	7.9	24	5.8	17	19.7
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS8(N)	Fine	Moderate	12:56	3.2	Surface	1	1	29.9	8.2	22.4	8.7	12.4	18.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS8(N)	Fine	Moderate	12:56	3.2	Surface	1	2	29.8	8.2	22.8	8.8	13.1	19.3
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS8(N)	Fine	Moderate	12:56	3.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS8(N)	Fine	Moderate	12:56	3.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS8(N)	Fine	Moderate	12:56	3.2	Bottom	3	1	29.8	8.2	22.6	8	13.5	19.1
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS8(N)	Fine	Moderate	12:56	3.2	Bottom	3	2	29.8	8.1	23	8	14.2	21.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)9	Fine	Moderate	13:04	2.6	Surface	1	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)9	Fine	Moderate	13:04	2.6	Surface	1	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)9	Fine	Moderate	13:04	2.6	Middle	2	1	29.9	8.3	22.1	10.4	4.6	7.7
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)9	Fine	Moderate	13:04	2.6	Middle	2	2	29.9	8.3	22.6	10.4	5.3	8.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)9	Fine	Moderate	13:04	2.6	Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)9	Fine	Moderate	13:04	2.6	Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)11	Fine	Moderate	11:30	11.5	Surface	1	1	29.7	8.2	20.8	9.5	3.5	8.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)11	Fine	Moderate	11:30	11.5	Surface	1	2	29.7	8.2	21.2	9.5	3	9
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)11	Fine	Moderate	11:30	11.5	Middle	2	1	29.4	8.1	21.7	7.7	5	8.8
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)11	Fine	Moderate	11:30	11.5	Middle	2	2	29.4	8.1	22.2	7.7	4.5	8.6
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)11	Fine	Moderate	11:30	11.5	Bottom	3	1	28.8	8	25.6	5.9	6.4	6.6
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS(Mf)11	Fine	Moderate	11:30	11.5	Bottom	3	2	28.8	8	26.2	5.8	6.9	6
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR7	Fine	Moderate	11:23	4.4	Surface	1	1	30	8.2	21.4	9.3	2.6	6.1
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR7	Fine	Moderate	11:23	4.4	Surface	1	2	30	8.2	21.8	9.3	3.2	5.3
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR7	Fine	Moderate	11:23	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR7	Fine	Moderate	11:23	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR7	Fine	Moderate	11:23	4.4	Bottom	3	1	29.3	8.1	23	7.4	6.1	6.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	SR7	Fine	Moderate	11:23	4.4	Bottom	3	2	29.3	8.1	23.4	7.4	6.2	6.6
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS17	Fine	Moderate	12:31	7.5	Surface	1	1	29.7	8.2	22	9.2	4.2	8.4
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS17	Fine	Moderate	12:31	7.5	Surface	1	2	29.7	8.2	22.6	9.1	4.9	9
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS17	Fine	Moderate	12:31	7.5	Middle	2	1	29.6	8.1	22.4	8.6	4.6	8.3
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS17	Fine	Moderate	12:31	7.5	Middle	2	2	29.6	8.1	22.9	8.6	5.3	8.9
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS17	Fine	Moderate	12:31	7.5	Bottom	3	1	29.2	8.1	24.2	7.4	5.6	8.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Ebb	IS17	Fine	Moderate	12:31	7.5	Bottom	3	2	29.1	8.1	25.1	7.2	6.3	8
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:55	11.2	Surface	1	1	29.6	8.2	23	8.3	0.7	2
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:55	11.2	Surface	1	2	29.6	8.2	23.5	8.3	1.2	2.3
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:55	11.2	Middle	2	1	28.7	8	27.2	5.7	4	3.1
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:55	11.2	Middle	2	2	28.7	8	27.8	5.7	4.4	3.4
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:55	11.2	Bottom	3	1	28.6	8	28.1	5.3	17.9	3.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:55	11.2	Bottom	3	2	28.6	8	28.7	5.4	16.6	3.7
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:01	6.5	Surface	1	1	30.6	8.3	17.1	10.6	8.9	6.8
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:01	6.5	Surface	1	2	30.6	8.3	17.4	10.6	8.6	6.6
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:01	6.5	Middle	2	1	30.2	8.3	18.4	10.7	11.2	6.7

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:01	6.5	Middle	2	2	30.2	8.3	18.8	10.6	11.3	6.7
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:01	6.5	Bottom	3	1	29.9	8.2	20.6	9.2	12	8.4
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:01	6.5	Bottom	3	2	29.8	8.2	20.9	8.9	11.8	7.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:25	5.4	Surface	1	1	30	8.2	22.5	10.2	4.3	10.7
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:25	5.4	Surface	1	2	30	8.2	22.9	10.2	4.3	9.9
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:25	5.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:25	5.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:25	5.4	Bottom	3	1	29.9	8.2	22.8	9.4	13.7	8.6
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:25	5.4	Bottom	3	2	29.9	8.2	23.2	9.4	13.6	7.6
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4a	Cloudy	Moderate	17:16	4.4	Surface	1	1	30.2	8.2	22.1	10	4.8	8.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4a	Cloudy	Moderate	17:16	4.4	Surface	1	2	30.2	8.2	22.5	10	5.5	9.4
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4a	Cloudy	Moderate	17:16	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4a	Cloudy	Moderate	17:16	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4a	Cloudy	Moderate	17:16	4.4	Bottom	3	1	29	8.1	24.6	5.6	13.5	8.3
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4a	Cloudy	Moderate	17:16	4.4	Bottom	3	2	29	8	25	5.5	13.7	8.6
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4(N2)	Cloudy	Moderate	17:12	3.8	Surface	1	1	30.4	8.3	22.1	10.7	4.3	10
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4(N2)	Cloudy	Moderate	17:12	3.8	Surface	1	2	30.4	8.2	22.5	10.5	4.8	9
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4(N2)	Cloudy	Moderate	17:12	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4(N2)	Cloudy	Moderate	17:12	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4(N2)	Cloudy	Moderate	17:12	3.8	Bottom	3	1	29.7	8.2	22.8	8.2	6.6	9.9
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR4(N2)	Cloudy	Moderate	17:12	3.8	Bottom	3	2	29.7	8.1	23.3	7.9	7.3	9.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS8(N)	Cloudy	Moderate	17:08	3.2	Surface	1	1	30.2	8.3	22	10	9	11.7
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS8(N)	Cloudy	Moderate	17:08	3.2	Surface	1	2	30.2	8.2	22.5	9.9	10.2	11.6
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS8(N)	Cloudy	Moderate	17:08	3.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS8(N)	Cloudy	Moderate	17:08	3.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS8(N)	Cloudy	Moderate	17:08	3.2	Bottom	3	1	30.2	8.2	22.1	9.8	9.7	12.8
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS8(N)	Cloudy	Moderate	17:08	3.2	Bottom	3	2	30.2	8.2	22.5	9.8	9.2	12.3
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)9	Cloudy	Moderate	16:59	2.8	Surface	1	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)9	Cloudy	Moderate	16:59	2.8	Surface	1	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)9	Cloudy	Moderate	16:59	2.8	Middle	2	1	30.1	8.3	22.4	10.1	16.3	12.2
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)9	Cloudy	Moderate	16:59	2.8	Middle	2	2	30.1	8.2	22.8	10.1	17.3	10.7
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)9	Cloudy	Moderate	16:59	2.8	Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)9	Cloudy	Moderate	16:59	2.8	Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11.2	Surface	1	1	29.9	8.2	22.3	8.8	9.7	8.8
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11.2	Surface	1	2	29.9	8.2	22.7	8.9	9.8	9.3
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11.2	Middle	2	1	29.2	8.1	24.7	7	8.1	10.1
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11.2	Middle	2	2	29.2	8	25.2	7	8.4	11.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11.2	Bottom	3	1	29.3	8.1	24.9	7.2	12	16.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11.2	Bottom	3	2	29.3	8	25.4	7.2	12.2	18.3
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.3	Surface	1	1	29.7	8.2	21.7	9.2	7.3	6.4
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.3	Surface	1	2	29.7	8.2	22.1	9.2	8.4	7.4
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.3	Bottom	3	1	29.6	8.2	23.2	8.1	9.1	5.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.3	Bottom	3	2	29.6	8.1	23.6	7.8	10.4	4.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS17	Cloudy	Moderate	17:30	7.5	Surface	1	1	30.2	8.3	22.1	10.4	1.8	3.5
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS17	Cloudy	Moderate	17:30	7.5	Surface	1	2	30.2	8.2	22.5	10.4	2.3	4.4
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS17	Cloudy	Moderate	17:30	7.5	Middle	2	1	29.9	8.2	22.4	9.4	2.9	3.6
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS17	Cloudy	Moderate	17:30	7.5	Middle	2	2	30	8.2	22.8	9.4	3.5	4.6
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS17	Cloudy	Moderate	17:30	7.5	Bottom	3	1	29.2	8.1	23.8	7.1	4.9	6
TMCLKL	HY/2012/08	2019-09-11	Mid-Flood	IS17	Cloudy	Moderate	17:30	7.5	Bottom	3	2	29.3	8	24.3	7	5.8	6.3
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:42	12.7	Surface	1	1	30.6	8.2	22.8	7.3	2.6	4.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:42	12.7	Surface	1	2	30.7	8	23.2	7.3	2.2	4.6
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:42	12.7	Middle	2	1	29.1	8	26.1	5.5	4.7	4.7
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:42	12.7	Middle	2	2	29.1	7.9	26.6	5.5	4.6	5.5
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:42	12.7	Bottom	3	1	28.5	8	28.7	4.6	11.2	4.8
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:42	12.7	Bottom	3	2	28.5	7.9	29.3	4.6	11	4.3
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:07	7.3	Surface	1	1	30.1	8.2	23.7	7.2	3.8	4.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:07	7.3	Surface	1	2	30.2	8.1	24.2	7.3	4.1	5.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:07	7.3	Middle	2	1	29.6	8.1	24.6	6.6	4.8	5.6
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:07	7.3	Middle	2	2	29.7	8.1	25.1	6.6	4.5	6.6

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:07	7.3	Bottom	3	1	29.1	8.1	26	5.9	5.2	7.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:07	7.3	Bottom	3	2	29.2	8.1	26.5	5.9	5.2	7.3
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)16	Fine	Moderate	13:32	5.7	Surface	1	1	30	8.2	21.8	6.8	3	6.7
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)16	Fine	Moderate	13:32	5.7	Surface	1	2	30	8.2	22.3	6.8	3.1	6
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)16	Fine	Moderate	13:32	5.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)16	Fine	Moderate	13:32	5.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)16	Fine	Moderate	13:32	5.7	Bottom	3	1	29.8	8.2	22.3	6.5	3.8	4.7
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)16	Fine	Moderate	13:32	5.7	Bottom	3	2	29.8	8.1	22.7	6.5	4	3.8
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4a	Fine	Calm	13:41	4.2	Surface	1	1	29.8	8.2	22.9	6.4	7.3	9.1
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4a	Fine	Calm	13:41	4.2	Surface	1	2	29.8	8.2	23.3	6.4	7.1	8.1
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4a	Fine	Calm	13:41	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4a	Fine	Calm	13:41	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4a	Fine	Calm	13:41	4.2	Bottom	3	1	29.4	8.1	24.7	5.4	6.8	8.2
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4a	Fine	Calm	13:41	4.2	Bottom	3	2	29.4	8.1	25.2	5.3	7	8.3
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4(N2)	Fine	Calm	13:48	3.7	Surface	1	1	30.1	8.2	22.5	6.7	5.9	6.6
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4(N2)	Fine	Calm	13:48	3.7	Surface	1	2	30.1	8.1	23	6.7	6.1	7.4
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4(N2)	Fine	Calm	13:48	3.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4(N2)	Fine	Calm	13:48	3.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4(N2)	Fine	Calm	13:48	3.7	Bottom	3	1	29.4	8.1	24.3	5.5	11.2	9.2
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR4(N2)	Fine	Calm	13:48	3.7	Bottom	3	2	29.5	8.1	24.7	5.5	11.2	10.1
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS8(N)	Fine	Calm	13:53	3.9	Surface	1	1	29.9	8.2	22.8	6.6	6.8	6.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS8(N)	Fine	Calm	13:53	3.9	Surface	1	2	29.9	8.2	23.2	6.6	7	7.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS8(N)	Fine	Calm	13:53	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS8(N)	Fine	Calm	13:53	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS8(N)	Fine	Calm	13:53	3.9	Bottom	3	1	29.5	8.2	24.1	5.8	7.4	7
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS8(N)	Fine	Calm	13:53	3.9	Bottom	3	2	29.5	8.1	24.6	5.7	7.3	6
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)9	Fine	Calm	13:59	2.7	Surface	1	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)9	Fine	Calm	13:59	2.7	Surface	1	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)9	Fine	Calm	13:59	2.7	Middle	2	1	30.2	8.3	22.6	7.6	5.8	10.6
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)9	Fine	Calm	13:59	2.7	Middle	2	2	30.2	8.3	23.1	7.7	6.1	11.2
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)9	Fine	Calm	13:59	2.7	Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)9	Fine	Calm	13:59	2.7	Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:20	12	Surface	1	1	30.5	8.2	23.3	7.1	3.3	7
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:20	12	Surface	1	2	30.5	8.2	23.7	7.2	3.1	7.2
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:20	12	Middle	2	1	29.2	8.1	25.5	5.8	6.4	5.3
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:20	12	Middle	2	2	29.3	8	26	5.8	6.4	6.3
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:20	12	Bottom	3	1	28.8	8.1	27.6	5.2	5.3	3.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:20	12	Bottom	3	2	28.9	8.1	28.1	5.2	5.4	4.8
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR7	Cloudy	Moderate	12:28	5.2	Surface	1	1	30.5	8.2	23.2	7.4	3.1	10.2
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR7	Cloudy	Moderate	12:28	5.2	Surface	1	2	30.5	8.1	23.6	7.5	3	9.4
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR7	Cloudy	Moderate	12:28	5.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR7	Cloudy	Moderate	12:28	5.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR7	Cloudy	Moderate	12:28	5.2	Bottom	3	1	30.3	8.2	23.5	6.9	3.5	6.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	SR7	Cloudy	Moderate	12:28	5.2	Bottom	3	2	30.3	8.1	24	6.9	3.3	7.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS17	Fine	Moderate	13:27	8.8	Surface	1	1	30.1	8.2	21.9	6.8	2	4.5
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS17	Fine	Moderate	13:27	8.8	Surface	1	2	30.1	8.2	22.3	6.8	2.2	4.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS17	Fine	Moderate	13:27	8.8	Middle	2	1	29.5	8.2	23	6.2	6.5	5.4
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS17	Fine	Moderate	13:27	8.8	Middle	2	2	29.5	8.2	23.4	6.2	6.8	5.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS17	Fine	Moderate	13:27	8.8	Bottom	3	1	29.4	8.2	24	6.2	10.1	5.2
TMCLKL	HY/2012/08	2019-09-13	Mid-Ebb	IS17	Fine	Moderate	13:27	8.8	Bottom	3	2	29.4	8.2	24.5	6.1	9.7	6
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:00	11.6	Surface	1	1	29.7	8.2	23.8	6.4	2	7.5
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:00	11.6	Surface	1	2	29.7	8.2	24.2	6.4	2	8.4
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:00	11.6	Middle	2	1	28.7	8.1	27.7	4.9	8.6	8.3
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:00	11.6	Middle	2	2	28.7	8	28.3	4.9	8.9	7.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:00	11.6	Bottom	3	1	28.7	8.1	27.8	5.1	12.2	7.8
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:00	11.6	Bottom	3	2	28.7	8	28.4	5	12	6.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:58	7.4	Surface	1	1	30.5	8.1	20.5	6.7	2.9	7.5
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:58	7.4	Surface	1	2	30.5	8.1	20.9	6.7	3	8.5
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:58	7.4	Middle	2	1	30.3	8.1	21.4	6.4	7.2	8
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:58	7.4	Middle	2	2	30.3	8.1	21.8	6.4	7.2	7
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:58	7.4	Bottom	3	1	30.2	8.1	21.6	6.4	7.8	5.9

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	18:58	7.4	Bottom	3	2	30.2	8.1	22	6.4	7.7	6.7
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)16	Cloudy	Calm	18:20	5.7	Surface	1	1	30	8.2	23.2	6.9	11.4	12.7
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)16	Cloudy	Calm	18:20	5.7	Surface	1	2	30	8.2	23.7	6.9	11.2	11.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)16	Cloudy	Calm	18:20	5.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)16	Cloudy	Calm	18:20	5.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)16	Cloudy	Calm	18:20	5.7	Bottom	3	1	29.9	8.2	23.5	6.8	14	10.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)16	Cloudy	Calm	18:20	5.7	Bottom	3	2	30	8.2	24	6.8	13.9	10.1
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4a	Cloudy	Calm	18:10	4.6	Surface	1	1	30.1	8.2	23	7.1	5.5	10.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4a	Cloudy	Calm	18:10	4.6	Surface	1	2	30.1	8.2	23.4	7.1	5.6	10.6
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4a	Cloudy	Calm	18:10	4.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4a	Cloudy	Calm	18:10	4.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4a	Cloudy	Calm	18:10	4.6	Bottom	3	1	29.5	8.1	24.5	5.5	10.4	9.2
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4a	Cloudy	Calm	18:10	4.6	Bottom	3	2	29.5	8.1	25	5.5	10.4	10.2
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4(N2)	Cloudy	Calm	18:06	3.6	Surface	1	1	30.1	8.2	22.9	7.1	5.4	9.3
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4(N2)	Cloudy	Calm	18:06	3.6	Surface	1	2	30.1	8.2	23.4	7.1	5.5	9.5
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4(N2)	Cloudy	Calm	18:06	3.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4(N2)	Cloudy	Calm	18:06	3.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4(N2)	Cloudy	Calm	18:06	3.6	Bottom	3	1	29.7	8.1	24	6.4	8.1	7.6
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR4(N2)	Cloudy	Calm	18:06	3.6	Bottom	3	2	29.7	8.1	24.5	6.4	8	8.6
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS8(N)	Cloudy	Calm	18:00	3.7	Surface	1	1	30	8.2	23.2	6.9	10.2	14.5
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS8(N)	Cloudy	Calm	18:00	3.7	Surface	1	2	30	8.1	23.7	6.9	10	16.6
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS8(N)	Cloudy	Calm	18:00	3.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS8(N)	Cloudy	Calm	18:00	3.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS8(N)	Cloudy	Calm	18:00	3.7	Bottom	3	1	30	8.2	23.2	7	10.5	16
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS8(N)	Cloudy	Calm	18:00	3.7	Bottom	3	2	30	8.2	23.7	7	10.4	16
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)9	Cloudy	Calm	17:52	2.8	Surface	1	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)9	Cloudy	Calm	17:52	2.8	Surface	1	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)9	Cloudy	Calm	17:52	2.8	Middle	2	1	30.2	8.3	23.3	7.3	15.8	10.4
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)9	Cloudy	Calm	17:52	2.8	Middle	2	2	30.2	8.2	23.7	7.3	15.9	11.4
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)9	Cloudy	Calm	17:52	2.8	Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)9	Cloudy	Calm	17:52	2.8	Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:33	10.9	Surface	1	1	30.1	8.2	23	7	8.9	9.8
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:33	10.9	Surface	1	2	30.2	8.3	23.4	7	8.6	10.7
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:33	10.9	Middle	2	1	29.9	8.2	23.7	6.6	10.5	10.6
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:33	10.9	Middle	2	2	29.9	8.1	24.2	6.6	10.8	12.1
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:33	10.9	Bottom	3	1	29.7	8.2	24.6	6.4	16.7	14
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:33	10.9	Bottom	3	2	29.7	8.2	25.1	6.3	16.6	14.5
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR7	Cloudy	Moderate	19:35	5.6	Surface	1	1	29.7	8.2	23.5	6.2	8	14.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR7	Cloudy	Moderate	19:35	5.6	Surface	1	2	29.7	8.2	24	6.2	8	13.2
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR7	Cloudy	Moderate	19:35	5.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR7	Cloudy	Moderate	19:35	5.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR7	Cloudy	Moderate	19:35	5.6	Bottom	3	1	29.7	8.1	23.8	6.2	8.3	9.8
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	SR7	Cloudy	Moderate	19:35	5.6	Bottom	3	2	29.7	8.1	24.3	6.2	8.5	9.4
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS17	Cloudy	Calm	18:25	8.9	Surface	1	1	30.1	8.2	22.8	6.9	2.8	9.9
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS17	Cloudy	Calm	18:25	8.9	Surface	1	2	30.1	8.2	23.2	6.9	2.7	9.5
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS17	Cloudy	Calm	18:25	8.9	Middle	2	1	29.7	8.1	23.9	6.2	8	7.3
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS17	Cloudy	Calm	18:25	8.9	Middle	2	2	29.7	8.1	24.4	6.2	8.1	6.3
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS17	Cloudy	Calm	18:25	8.9	Bottom	3	1	29.6	8.1	24.8	6	8.2	6
TMCLKL	HY/2012/08	2019-09-13	Mid-Flood	IS17	Cloudy	Calm	18:25	8.9	Bottom	3	2	29.6	8.1	25.2	6	8.2	5.4
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:54	12.7	Surface	1	1	28.8	7.8	24.7	5.1	7.6	10.6
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:54	12.7	Surface	1	2	29.7	7.9	24.3	5.1	7.9	10
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:54	12.7	Middle	2	1	28.3	7.9	26.5	4.6	9.4	12
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:54	12.7	Middle	2	2	29.3	7.9	26	4.5	9.3	12.2
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:54	12.7	Bottom	3	1	28.3	7.9	26.8	4.6	13.3	11.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:54	12.7	Bottom	3	2	29.2	7.9	26.3	4.5	13.9	12
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)3(N)	Cloudy	Calm	14:06	7.5	Surface	1	1	29.2	7.8	22.7	5.6	4	4.6
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)3(N)	Cloudy	Calm	14:06	7.5	Surface	1	2	30.1	7.9	22.3	5.6	4.1	5
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)3(N)	Cloudy	Calm	14:06	7.5	Middle	2	1	29.1	7.8	23.4	5.2	5.3	5.4
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)3(N)	Cloudy	Calm	14:06	7.5	Middle	2	2	30.1	7.9	23	5.3	5.3	4.9
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)3(N)	Cloudy	Calm	14:06	7.5	Bottom	3	1	28.4	7.9	23.2	5	11.8	5
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	CS(Mf)3(N)	Cloudy	Calm	14:06	7.5	Bottom	3	2	29.3	7.9	25.5	4.8	11.6	5

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	13:19	5.8	Surface	1	1	28.8	8	25.2	5.1	6.8	7.8
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	13:19	5.8	Surface	1	2	29.7	7.9	24.7	5	6.9	8.3
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	13:19	5.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	13:19	5.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	13:19	5.8	Bottom	3	1	28.1	8	27.4	4.7	4.8	10.4
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	13:19	5.8	Bottom	3	2	29.1	7.9	26.8	4.7	4.9	9.4
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4a	Cloudy	Calm	13:09	4.4	Surface	1	1	28.9	7.9	24.1	5.2	3.2	3.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4a	Cloudy	Calm	13:09	4.4	Surface	1	2	29.8	7.9	23.7	5.2	3.1	3.3
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4a	Cloudy	Calm	13:09	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4a	Cloudy	Calm	13:09	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4a	Cloudy	Calm	13:09	4.4	Bottom	3	1	28.6	7.9	25.2	4.2	13.1	2.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4a	Cloudy	Calm	13:09	4.4	Bottom	3	2	29.6	7.9	24.8	4.1	13.5	2.8
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:02	3.9	Surface	1	1	28.9	8	24.1	5.2	5.9	4.2
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:02	3.9	Surface	1	2	29.9	7.9	23.7	5.2	5.8	4.9
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:02	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:02	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:02	3.9	Bottom	3	1	28.7	8	24.5	4.8	9.4	4.1
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:02	3.9	Bottom	3	2	29.7	8	24.1	4.8	9.2	3.4
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS8(N)	Cloudy	Calm	12:54	4.2	Surface	1	1	28.8	8	24.7	4.9	8.9	5.9
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS8(N)	Cloudy	Calm	12:54	4.2	Surface	1	2	29.8	8	24.2	4.9	9	6.9
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS8(N)	Cloudy	Calm	12:54	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS8(N)	Cloudy	Calm	12:54	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS8(N)	Cloudy	Calm	12:54	4.2	Bottom	3	1	28.8	8	24.9	4.9	13.5	6.3
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS8(N)	Cloudy	Calm	12:54	4.2	Bottom	3	2	29.7	8.1	24.5	4.8	13.4	5.3
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)9	Cloudy	Calm	12:46	4	Surface	1	1	29.5	8	24.4	5.5	5	5.1
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)9	Cloudy	Calm	12:46	4	Surface	1	2	30.5	8	24	5.4	4.9	5.1
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)9	Cloudy	Calm	12:46	4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)9	Cloudy	Calm	12:46	4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)9	Cloudy	Calm	12:46	4	Bottom	3	1	29	8	24.5	5.3	6.2	5.4
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)9	Cloudy	Calm	12:46	4	Bottom	3	2	30	8	24.1	5.3	6.2	6.3
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)11	Cloudy	Calm	14:27	11	Surface	1	1	29.1	7.8	23.6	5.4	5.4	4.1
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)11	Cloudy	Calm	14:27	11	Surface	1	2	30.1	7.8	23.2	5.3	5.3	3.9
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)11	Cloudy	Calm	14:27	11	Middle	2	1	28.8	7.8	24.4	5	7.8	4.2
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)11	Cloudy	Calm	14:27	11	Middle	2	2	29.8	7.7	24	5	8.1	4.9
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)11	Cloudy	Calm	14:27	11	Bottom	3	1	28.6	7.8	25.5	4.9	10	4.3
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS(Mf)11	Cloudy	Calm	14:27	11	Bottom	3	2	29.6	7.9	25	4.8	11.2	4.2
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR7	Cloudy	Calm	14:36	5.3	Surface	1	1	28.8	7.8	24.8	5.1	6.9	8.8
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR7	Cloudy	Calm	14:36	5.3	Surface	1	2	29.8	7.9	24.4	5	6.9	9.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR7	Cloudy	Calm	14:36	5.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR7	Cloudy	Calm	14:36	5.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR7	Cloudy	Calm	14:36	5.3	Bottom	3	1	28.8	7.8	24.9	5.2	7.4	10.3
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	SR7	Cloudy	Calm	14:36	5.3	Bottom	3	2	29.7	7.9	24.5	5.2	7.5	11.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS17	Cloudy	Moderate	13:27	9.1	Surface	1	1	30.1	7.9	22.2	5.6	7.5	8.1
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS17	Cloudy	Moderate	13:27	9.1	Surface	1	2	30	7.9	23.8	5.6	7.5	7.1
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS17	Cloudy	Moderate	13:27	9.1	Middle	2	1	28.7	7.9	25.4	4.9	7.4	10.4
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS17	Cloudy	Moderate	13:27	9.1	Middle	2	2	29.7	7.9	24.9	4.9	7.4	10
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS17	Cloudy	Moderate	13:27	9.1	Bottom	3	1	28.1	8	27.4	4.4	6.8	10.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Ebb	IS17	Cloudy	Moderate	13:27	9.1	Bottom	3	2	29.1	7.8	26.9	4.4	6.8	12.1
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:11	12.5	Surface	1	1	28.6	7.8	24.4	5.1	4.2	5.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:11	12.5	Surface	1	2	29.6	8	24	5	4.1	5.4
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:11	12.5	Middle	2	1	28.4	7.8	25.8	4.7	4.3	4.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:11	12.5	Middle	2	2	29.3	7.9	25.5	4.7	4.2	4.8
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:11	12.5	Bottom	3	1	27.8	7.9	28.5	4.4	7.3	5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:11	12.5	Bottom	3	2	28.7	8	28.1	4.4	7.5	4.8
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:07	7.4	Surface	1	1	28.8	7.8	23.6	5.1	8.9	15.6
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:07	7.4	Surface	1	2	29.8	7.9	23.2	5.1	9.8	16
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:07	7.4	Middle	2	1	28.8	7.8	23.6	5.1	10.2	16.3
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:07	7.4	Middle	2	2	29.8	7.9	23.2	5.1	10.1	17.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:07	7.4	Bottom	3	1	28.8	7.8	23.6	5.1	12.1	17
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:07	7.4	Bottom	3	2	29.7	7.9	23.2	5.1	12.1	17.4
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:52	5.7	Surface	1	1	28.6	8	24.6	5.2	4.1	4.6

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:52	5.7	Surface	1	2	29.6	8.1	24.1	5.1	4.2	4.6
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:52	5.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:52	5.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:52	5.7	Bottom	3	1	28.6	8	24.9	5	6.8	5.9
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:52	5.7	Bottom	3	2	29.5	8.1	24.4	5	7	5.6
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4a	Cloudy	Calm	09:02	4.3	Surface	1	1	29.6	8.1	23.7	5	4.5	6.6
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4a	Cloudy	Calm	09:02	4.3	Surface	1	2	29.6	8.1	23.7	5	4.4	6.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4a	Cloudy	Calm	09:02	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4a	Cloudy	Calm	09:02	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4a	Cloudy	Calm	09:02	4.3	Bottom	3	1	29.6	8.1	24	4.7	5	4.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4a	Cloudy	Calm	09:02	4.3	Bottom	3	2	29.6	8.1	24	4.7	5.2	3.8
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4(N2)	Cloudy	Calm	09:09	3.7	Surface	1	1	29.6	8.1	23.8	5	4.9	3.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4(N2)	Cloudy	Calm	09:09	3.7	Surface	1	2	29.6	8.1	23.8	5.1	4.7	4.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4(N2)	Cloudy	Calm	09:09	3.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4(N2)	Cloudy	Calm	09:09	3.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4(N2)	Cloudy	Calm	09:09	3.7	Bottom	3	1	29.6	8.1	23.9	5.2	5.2	2.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR4(N2)	Cloudy	Calm	09:09	3.7	Bottom	3	2	29.6	8.1	23.9	5.1	5.2	3.6
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS8(N)	Cloudy	Calm	09:16	4.3	Surface	1	1	28.7	8	24	5.3	6	5.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS8(N)	Cloudy	Calm	09:16	4.3	Surface	1	2	29.7	8.1	23.5	5.3	5.9	6.2
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS8(N)	Cloudy	Calm	09:16	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS8(N)	Cloudy	Calm	09:16	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS8(N)	Cloudy	Calm	09:16	4.3	Bottom	3	1	28.7	8	24.2	5.4	9.8	4.8
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS8(N)	Cloudy	Calm	09:16	4.3	Bottom	3	2	29.7	8.1	23.7	5.3	9.7	5.8
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)9	Cloudy	Calm	09:24	4.1	Surface	1	1	28.7	8	24.3	5.2	6.4	8.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)9	Cloudy	Calm	09:24	4.1	Surface	1	2	29.7	8.2	23.8	5.1	6.6	7.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)9	Cloudy	Calm	09:24	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)9	Cloudy	Calm	09:24	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)9	Cloudy	Calm	09:24	4.1	Bottom	3	1	28.7	8	24.4	5.2	5.5	6.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)9	Cloudy	Calm	09:24	4.1	Bottom	3	2	29.6	8.2	24	5.2	5.3	5.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:44	11.1	Surface	1	1	28.6	7.9	24.6	4.9	9.6	10.1
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:44	11.1	Surface	1	2	29.6	8	24.2	4.9	9.9	10.1
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:44	11.1	Middle	2	1	28.4	7.9	25.8	4.7	9.4	11
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:44	11.1	Middle	2	2	29.4	8	25.3	4.6	9.3	12
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:44	11.1	Bottom	3	1	28.3	7.9	26.1	4.7	11.1	12
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:44	11.1	Bottom	3	2	29.3	8	25.7	4.6	11.1	12
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR7	Cloudy	Moderate	07:36	5.1	Surface	1	1	28.5	7.9	25	4.9	8.9	5.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR7	Cloudy	Moderate	07:36	5.1	Surface	1	2	29.5	8	24.5	4.8	8.9	6.6
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR7	Cloudy	Moderate	07:36	5.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR7	Cloudy	Moderate	07:36	5.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR7	Cloudy	Moderate	07:36	5.1	Bottom	3	1	28.4	7.9	25.6	4.7	11	7.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	SR7	Cloudy	Moderate	07:36	5.1	Bottom	3	2	29.4	8	25.1	4.7	11.1	6
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS17	Cloudy	Moderate	08:42	8.7	Surface	1	1	28.7	7.8	24.7	4.9	3.9	8.7
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS17	Cloudy	Moderate	08:42	8.7	Surface	1	2	29.6	8	24.2	4.9	3.9	8.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS17	Cloudy	Moderate	08:42	8.7	Middle	2	1	28.6	7.9	25.1	4.8	4.2	4.5
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS17	Cloudy	Moderate	08:42	8.7	Middle	2	2	29.5	8	24.7	4.8	4	3.6
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS17	Cloudy	Moderate	08:42	8.7	Bottom	3	1	28.1	7.8	27.2	4.6	7.8	2.6
TMCLKL	HY/2012/08	2019-09-16	Mid-Flood	IS17	Cloudy	Moderate	08:42	8.7	Bottom	3	2	29.1	8	26.7	4.6	7.6	2.9
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	15:25	12.9	Surface	1	1	29.7	8.2	25.7	4.7	4.6	5.4
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	15:25	12.9	Surface	1	2	28.7	8.1	26.2	4.8	4.6	4.8
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	15:25	12.9	Middle	2	1	29.2	8.1	26.3	4.4	5.5	4.2
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	15:25	12.9	Middle	2	2	28.2	8.1	26.8	4.4	5.4	5.1
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	15:25	12.9	Bottom	3	1	28.8	8.2	27.9	4.3	9.9	5.3
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	15:25	12.9	Bottom	3	2	27.9	8.2	28.5	4.3	10.1	4.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	14:44	7.5	Surface	1	1	29.8	8.1	23.5	4.9	4.8	6.1
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	14:44	7.5	Surface	1	2	28.8	8.1	24	5	5	6.7
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	14:44	7.5	Middle	2	1	29.4	8	24.7	4.6	7.1	6.2
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	14:44	7.5	Middle	2	2	28.4	8.1	25.3	4.6	7.1	6.8
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	14:44	7.5	Bottom	3	1	29.3	8	25.4	4.5	7.7	6.7
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	14:44	7.5	Bottom	3	2	28.3	8.1	25.9	4.6	7.6	7
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)16	Cloudy	Calm	13:57	5.7	Surface	1	1	30.2	8.1	24.5	5	8	5.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)16	Cloudy	Calm	13:57	5.7	Surface	1	2	29.2	8.1	25	5.1	8	4.8

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)16	Cloudy	Calm	13:57	5.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)16	Cloudy	Calm	13:57	5.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)16	Cloudy	Calm	13:57	5.7	Bottom	3	1	29.3	8.1	26.1	4.7	10.4	5.1
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)16	Cloudy	Calm	13:57	5.7	Bottom	3	2	28.3	8.1	26.6	4.7	10.4	5.3
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4a	Cloudy	Calm	13:48	4.8	Surface	1	1	30.3	8.1	23.6	5.5	4.2	3.7
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4a	Cloudy	Calm	13:48	4.8	Surface	1	2	29.2	8.1	24.2	5.5	4.1	3.7
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4a	Cloudy	Calm	13:48	4.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4a	Cloudy	Calm	13:48	4.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4a	Cloudy	Calm	13:48	4.8	Bottom	3	1	29.5	8.1	24.4	4.6	9.7	2
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4a	Cloudy	Calm	13:48	4.8	Bottom	3	2	28.5	8.1	24.8	4.7	9.6	2.8
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:44	4.1	Surface	1	1	30.3	8	21.9	5.6	4.4	3.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:44	4.1	Surface	1	2	29.3	8	22.4	5.6	4.4	3.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:44	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:44	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:44	4.1	Bottom	3	1	29.5	8.1	24.4	4.7	10.3	4.4
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:44	4.1	Bottom	3	2	28.5	8	24.9	4.7	10.1	4.3
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS8(N)	Cloudy	Calm	13:37	4.2	Surface	1	1	29.8	8	24	4.9	10.2	15.7
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS8(N)	Cloudy	Calm	13:37	4.2	Surface	1	2	28.8	7.9	24.5	4.9	9.9	14.2
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS8(N)	Cloudy	Calm	13:37	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS8(N)	Cloudy	Calm	13:37	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS8(N)	Cloudy	Calm	13:37	4.2	Bottom	3	1	29.8	8.1	24.1	4.8	11.1	13.7
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS8(N)	Cloudy	Calm	13:37	4.2	Bottom	3	2	28.8	8	24.6	4.8	11.3	14.4
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:30	3.8	Surface	1	1	29.9	8	23.7	4.9	6.5	15
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:30	3.8	Surface	1	2	28.9	8	24.2	4.9	6.7	13.1
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:30	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:30	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:30	3.8	Bottom	3	1	29.7	8	24.3	4.9	12.1	13.9
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:30	3.8	Bottom	3	2	28.7	8	24.8	4.9	12.2	14.7
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	14:11	11.1	Surface	1	1	30	8.1	23.6	5	4.5	4.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	14:11	11.1	Surface	1	2	29.1	8.1	24.1	5.1	4.6	4
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	14:11	11.1	Middle	2	1	29.5	8.1	25.1	4.5	6.6	4.3
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	14:11	11.1	Middle	2	2	28.5	8	25.6	4.6	6.6	4
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	14:11	11.1	Bottom	3	1	29	8.2	27.1	4.4	6.1	3.8
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	14:11	11.1	Bottom	3	2	28	8	27.6	4.4	6.2	3.2
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR7	Cloudy	Moderate	15:08	5.5	Surface	1	1	29.9	8.1	22.8	5.2	3.9	4.3
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR7	Cloudy	Moderate	15:08	5.5	Surface	1	2	28.9	8.2	23.3	5.2	3.9	3.4
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR7	Cloudy	Moderate	15:08	5.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR7	Cloudy	Moderate	15:08	5.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR7	Cloudy	Moderate	15:08	5.5	Bottom	3	1	29.5	8.1	25.5	4.8	6.5	3.2
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	SR7	Cloudy	Moderate	15:08	5.5	Bottom	3	2	28.6	8.1	26	4.9	6.6	3
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS17	Cloudy	Moderate	14:02	9.3	Surface	1	1	30	8.2	25.1	5	7.2	5.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS17	Cloudy	Moderate	14:02	9.3	Surface	1	2	29	8.2	25.6	5	7.3	4.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS17	Cloudy	Moderate	14:02	9.3	Middle	2	1	29.2	8.1	26.3	4.3	7.2	5.8
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS17	Cloudy	Moderate	14:02	9.3	Middle	2	2	28.3	8.1	26.8	4.3	7.2	4.8
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS17	Cloudy	Moderate	14:02	9.3	Bottom	3	1	29	8.1	26.9	4.3	14.2	4.9
TMCLKL	HY/2012/08	2019-09-18	Mid-Ebb	IS17	Cloudy	Moderate	14:02	9.3	Bottom	3	2	28.1	8.1	27.4	4.3	14.3	5.7
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)5	Cloudy	Moderate	08:06	12.6	Surface	1	1	29.5	8.1	24.2	4.9	3.8	9.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)5	Cloudy	Moderate	08:06	12.6	Surface	1	2	28.5	7.9	24.7	4.9	3.7	9.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)5	Cloudy	Moderate	08:06	12.6	Middle	2	1	29.4	8	24.9	4.6	4.5	8
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)5	Cloudy	Moderate	08:06	12.6	Middle	2	2	28.4	8	25.4	4.7	4.4	9
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)5	Cloudy	Moderate	08:06	12.6	Bottom	3	1	28.8	8.1	27.7	4.1	4.9	8.1
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)5	Cloudy	Moderate	08:06	12.6	Bottom	3	2	27.9	8	28.2	4.2	5	8.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:52	7.4	Surface	1	1	29.7	7.9	23.6	4.9	7	9.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:52	7.4	Surface	1	2	28.7	8.1	24	4.9	6.8	8.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:52	7.4	Middle	2	1	29.6	8.2	23.6	5	9.3	9
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:52	7.4	Middle	2	2	28.7	8.1	24.1	5	9.4	9.9
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:52	7.4	Bottom	3	1	29.3	8.2	23.7	5.1	10.1	10.9
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:52	7.4	Bottom	3	2	28.4	8.1	24.2	5.2	10.2	12.8
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)16	Cloudy	Calm	09:44	5.6	Surface	1	1	29.5	8.1	24.4	4.7	9.8	2.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)16	Cloudy	Calm	09:44	5.6	Surface	1	2	28.6	8	24.8	4.8	9.7	2.4
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)16	Cloudy	Calm	09:44	5.6	Middle	2	1						

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)16	Cloudy	Calm	09:44	5.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)16	Cloudy	Calm	09:44	5.6	Bottom	3	1	29.5	8.1	24.5	4.8	10.2	4.3
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)16	Cloudy	Calm	09:44	5.6	Bottom	3	2	28.5	8	25	4.8	10	4
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4a	Cloudy	Calm	09:53	4.5	Surface	1	1	29.6	8.1	23.7	4.8	4.2	4.3
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4a	Cloudy	Calm	09:53	4.5	Surface	1	2	28.6	8.1	24.2	4.8	4	3.4
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4a	Cloudy	Calm	09:53	4.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4a	Cloudy	Calm	09:53	4.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4a	Cloudy	Calm	09:53	4.5	Bottom	3	1	29.4	8.1	24.3	4.9	6.8	3.9
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4a	Cloudy	Calm	09:53	4.5	Bottom	3	2	28.4	8.1	24.8	4.8	6.6	3.1
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4(N2)	Cloudy	Calm	09:58	4.4	Surface	1	1	29.5	8.1	23.9	4.8	5.4	7.2
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4(N2)	Cloudy	Calm	09:58	4.4	Surface	1	2	28.5	8.1	24.4	4.8	5.4	7.2
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4(N2)	Cloudy	Calm	09:58	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4(N2)	Cloudy	Calm	09:58	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4(N2)	Cloudy	Calm	09:58	4.4	Bottom	3	1	29.4	8.1	24.2	4.6	7.2	5.9
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR4(N2)	Cloudy	Calm	09:58	4.4	Bottom	3	2	28.5	8.1	24.7	4.6	7.4	6.9
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS8(N)	Cloudy	Calm	10:04	4	Surface	1	1	29.7	8.1	23.6	5.1	4.5	5.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS8(N)	Cloudy	Calm	10:04	4	Surface	1	2	28.7	8.1	24.1	5.1	4.9	4.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS8(N)	Cloudy	Calm	10:04	4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS8(N)	Cloudy	Calm	10:04	4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS8(N)	Cloudy	Calm	10:04	4	Bottom	3	1	29.7	8.1	23.6	5.2	4.4	5.2
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS8(N)	Cloudy	Calm	10:04	4	Bottom	3	2	28.7	8.1	24.1	5.2	4.7	5.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)9	Cloudy	Calm	10:10	3.6	Surface	1	1	29.5	8.2	24.2	4.9	10.3	12.4
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)9	Cloudy	Calm	10:10	3.6	Surface	1	2	28.5	8.1	24.7	4.9	10.2	10.7
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)9	Cloudy	Calm	10:10	3.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)9	Cloudy	Calm	10:10	3.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)9	Cloudy	Calm	10:10	3.6	Bottom	3	1	29.5	8.2	24.2	5	12	13.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)9	Cloudy	Calm	10:10	3.6	Bottom	3	2	28.5	8.1	24.7	5	12.1	14.2
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)11	Cloudy	Moderate	09:27	10.7	Surface	1	1	29.5	8.1	24.2	4.8	6	7.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)11	Cloudy	Moderate	09:27	10.7	Surface	1	2	28.5	8.1	24.7	4.9	6	15.7
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)11	Cloudy	Moderate	09:27	10.7	Middle	2	1	29.3	8	25.3	4.4	7.4	4.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)11	Cloudy	Moderate	09:27	10.7	Middle	2	2	28.3	8.1	25.8	4.4	7.7	3.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)11	Cloudy	Moderate	09:27	10.7	Bottom	3	1	29.2	8	25.5	4.4	16.2	2.9
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS(Mf)11	Cloudy	Moderate	09:27	10.7	Bottom	3	2	28.3	8.1	26	4.4	16.2	2.1
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR7	Cloudy	Moderate	08:27	4.4	Surface	1	1	29.4	8.1	24.9	4.6	7.2	14.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR7	Cloudy	Moderate	08:27	4.4	Surface	1	2	28.4	8.2	25.4	4.6	7	14
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR7	Cloudy	Moderate	08:27	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR7	Cloudy	Moderate	08:27	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR7	Cloudy	Moderate	08:27	4.4	Bottom	3	1	29.3	8	25.3	4.6	15.2	12.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	SR7	Cloudy	Moderate	08:27	4.4	Bottom	3	2	28.3	8.1	25.8	4.6	15.2	12.4
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS17	Cloudy	Moderate	09:36	9.4	Surface	1	1	29.6	8.1	23.8	5	3	2.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS17	Cloudy	Moderate	09:36	9.4	Surface	1	2	28.7	7.9	24.3	5.1	3	3.5
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS17	Cloudy	Moderate	09:36	9.4	Middle	2	1	29.4	8.1	24.9	4.6	3.9	3.6
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS17	Cloudy	Moderate	09:36	9.4	Middle	2	2	28.4	8	25.4	4.6	4.1	3.9
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS17	Cloudy	Moderate	09:36	9.4	Bottom	3	1	29.1	8.1	26.5	4.2	10.2	4.1
TMCLKL	HY/2012/08	2019-09-18	Mid-Flood	IS17	Cloudy	Moderate	09:36	9.4	Bottom	3	2	28.1	8	27	4.2	10.3	4.3
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)5	Sunny	Moderate	16:44	14.8	Surface	1	1	28.9	7.8	26.8	5.6	2.1	3.3
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)5	Sunny	Moderate	16:44	14.8	Surface	1	2	28.9	7.8	26.7	5.6	2.1	4
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)5	Sunny	Moderate	16:44	14.8	Middle	2	1	28.4	7.8	28.5	5	3.4	3.1
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)5	Sunny	Moderate	16:44	14.8	Middle	2	2	28.4	7.8	28.2	5	3.4	4
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)5	Sunny	Moderate	16:44	14.8	Bottom	3	1	28.1	7.8	29.5	4.6	3.8	4.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)5	Sunny	Moderate	16:44	14.8	Bottom	3	2	28.1	7.8	29.5	4.6	3.9	5.4
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)3(N)	Sunny	Rough	16:02	7.3	Surface	1	1	28.9	7.9	22.9	6.2	2.7	3.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)3(N)	Sunny	Rough	16:02	7.3	Surface	1	2	29	7.9	22.8	6.2	2.7	4.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)3(N)	Sunny	Rough	16:02	7.3	Middle	2	1	28.7	8	24.5	5.2	4	3.8
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)3(N)	Sunny	Rough	16:02	7.3	Middle	2	2	28.7	8	24.5	5.1	4	4.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)3(N)	Sunny	Rough	16:02	7.3	Bottom	3	1	28.3	8	27	5.1	9.7	5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	CS(Mf)3(N)	Sunny	Rough	16:02	7.3	Bottom	3	2	28.3	8	27	5.1	9.7	4.4
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)16	Sunny	Moderate	15:21	5.2	Surface	1	1	28.5	7.9	26.3	5	7.5	10.6
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)16	Sunny	Moderate	15:21	5.2	Surface	1	2	28.5	7.9	26.3	5	7.4	9.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)16	Sunny	Moderate	15:21	5.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)16	Sunny	Moderate	15:21	5.2	Middle	2	2						

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)16	Sunny	Moderate	15:21	5.2	Bottom	3	1	28.5	8	26.4	5.2	7.4	9.8
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)16	Sunny	Moderate	15:21	5.2	Bottom	3	2	28.5	8	26.5	5.2	7.3	10.2
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4a	Sunny	Moderate	15:13	3.7	Surface	1	1	29	7.9	25.6	5.8	3.4	5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4a	Sunny	Moderate	15:13	3.7	Surface	1	2	29	7.9	25.6	5.8	3.4	4.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4a	Sunny	Moderate	15:13	3.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4a	Sunny	Moderate	15:13	3.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4a	Sunny	Moderate	15:13	3.7	Bottom	3	1	28.7	7.9	26	5	4.6	4.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4a	Sunny	Moderate	15:13	3.7	Bottom	3	2	28.7	7.9	26	5.1	4.5	4.6
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4(N2)	Sunny	Moderate	15:09	3.8	Surface	1	1	28.9	7.9	25.7	5.6	4.6	8
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4(N2)	Sunny	Moderate	15:09	3.8	Surface	1	2	28.9	7.9	25.7	5.6	4.6	7
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4(N2)	Sunny	Moderate	15:09	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4(N2)	Sunny	Moderate	15:09	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4(N2)	Sunny	Moderate	15:09	3.8	Bottom	3	1	28.5	7.9	26.2	4.9	9.7	6.8
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR4(N2)	Sunny	Moderate	15:09	3.8	Bottom	3	2	28.6	7.9	26.2	4.9	9.5	7.3
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS8(N)	Sunny	Moderate	15:04	4.5	Surface	1	1	29	8.1	25.9	6.6	8.4	11.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS8(N)	Sunny	Moderate	15:04	4.5	Surface	1	2	29	8.1	25.9	6.6	8.4	11.8
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS8(N)	Sunny	Moderate	15:04	4.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS8(N)	Sunny	Moderate	15:04	4.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS8(N)	Sunny	Moderate	15:04	4.5	Bottom	3	1	28.9	8.1	26	6.3	8.2	11.6
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS8(N)	Sunny	Moderate	15:04	4.5	Bottom	3	2	28.9	8.1	26	6.4	8.2	12.4
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)9	Sunny	Moderate	14:57	4.3	Surface	1	1	28.9	8.1	26.1	5.6	5.7	9.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)9	Sunny	Moderate	14:57	4.3	Surface	1	2	28.9	8.1	26.1	5.6	5.8	9
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)9	Sunny	Moderate	14:57	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)9	Sunny	Moderate	14:57	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)9	Sunny	Moderate	14:57	4.3	Bottom	3	1	28.9	8	26.1	5.7	6	8.8
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)9	Sunny	Moderate	14:57	4.3	Bottom	3	2	28.9	8	26.1	5.6	6	8.2
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)11	Sunny	Rough	15:35	10.9	Surface	1	1	28.9	7.9	25.9	5.5	4.7	5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)11	Sunny	Rough	15:35	10.9	Surface	1	2	28.9	7.9	25.9	5.5	4.7	4
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)11	Sunny	Rough	15:35	10.9	Middle	2	1	28.7	7.9	26.4	5.1	5.3	7.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)11	Sunny	Rough	15:35	10.9	Middle	2	2	28.7	7.9	26.4	5.1	5.2	7.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)11	Sunny	Rough	15:35	10.9	Bottom	3	1	28.3	7.9	27.6	4.7	7	8
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS(Mf)11	Sunny	Rough	15:35	10.9	Bottom	3	2	28.3	7.9	27.6	4.7	6.9	7.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR7	Sunny	Rough	16:27	4	Surface	1	1	28.9	7.9	24.5	6.1	3.1	3.4
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR7	Sunny	Rough	16:27	4	Surface	1	2	28.9	7.9	24.5	6.1	3.1	4.4
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR7	Sunny	Rough	16:27	4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR7	Sunny	Rough	16:27	4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR7	Sunny	Rough	16:27	4	Bottom	3	1	28.7	7.9	24.9	5.7	3.8	4
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	SR7	Sunny	Rough	16:27	4	Bottom	3	2	28.7	7.9	24.8	5.9	3.7	5.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS17	Sunny	Moderate	15:27	11.1	Surface	1	1	28.4	7.9	27.5	4.5	6.7	7.6
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS17	Sunny	Moderate	15:27	11.1	Surface	1	2	28.4	7.9	27.5	4.5	6.6	8.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS17	Sunny	Moderate	15:27	11.1	Middle	2	1	28.2	8	28.6	4.5	4.6	9.8
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS17	Sunny	Moderate	15:27	11.1	Middle	2	2	28.2	8	28.6	4.5	4.6	9.6
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS17	Sunny	Moderate	15:27	11.1	Bottom	3	1	28.1	8	29.2	4.5	6.9	9
TMCLKL	HY/2012/08	2019-09-20	Mid-Ebb	IS17	Sunny	Moderate	15:27	11.1	Bottom	3	2	28.1	8	29.2	4.5	6.8	10
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)5	Sunny	Moderate	10:09	15.2	Surface	1	1	28.4	7.9	26.6	4.9	3.3	3.3
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)5	Sunny	Moderate	10:09	15.2	Surface	1	2	28.4	7.9	26.5	4.9	3.3	3.6
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)5	Sunny	Moderate	10:09	15.2	Middle	2	1	28.3	7.9	27.9	4.5	3.4	4.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)5	Sunny	Moderate	10:09	15.2	Middle	2	2	28.3	7.9	27.8	4.5	3.4	5.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)5	Sunny	Moderate	10:09	15.2	Bottom	3	1	28.3	7.9	28.1	4.6	3.2	6
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)5	Sunny	Moderate	10:09	15.2	Bottom	3	2	28.3	7.9	28.1	4.5	3.1	5.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	11:00	7.2	Surface	1	1	28.7	7.9	23.4	5.5	3.2	4
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	11:00	7.2	Surface	1	2	28.7	7.9	23.4	5.5	3.2	4.9
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	11:00	7.2	Middle	2	1	28.6	8	24.7	5.2	7.4	6.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	11:00	7.2	Middle	2	2	28.5	8	24.8	5.2	7.4	6
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	11:00	7.2	Bottom	3	1	28.5	7.9	25.1	5.1	7.7	11
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	CS(Mf)3(N)	Sunny	Moderate	11:00	7.2	Bottom	3	2	28.5	7.9	25.1	5.1	7.7	11.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)16	Sunny	Moderate	11:44	5.6	Surface	1	1	28.5	7.8	25.9	5	8.2	9.1
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)16	Sunny	Moderate	11:44	5.6	Surface	1	2	28.5	7.8	25.9	5	8.2	8.1
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)16	Sunny	Moderate	11:44	5.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)16	Sunny	Moderate	11:44	5.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)16	Sunny	Moderate	11:44	5.6	Bottom	3	1	28.4	7.9	26.1	5	8.1	10.2

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)16	Sunny	Moderate	11:44	5.6	Bottom	3	2	28.4	7.9	26.1	5	8.1	10.1
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4a	Sunny	Moderate	11:55	4.2	Surface	1	1	28.6	7.8	25.9	5.1	4.3	6.2
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4a	Sunny	Moderate	11:55	4.2	Surface	1	2	28.7	7.8	25.8	5.1	4.3	5.2
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4a	Sunny	Moderate	11:55	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4a	Sunny	Moderate	11:55	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4a	Sunny	Moderate	11:55	4.2	Bottom	3	1	28.5	7.8	26	5	4.9	7.8
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4a	Sunny	Moderate	11:55	4.2	Bottom	3	2	28.5	7.8	26	5	4.9	8.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4(N2)	Sunny	Moderate	11:59	4.3	Surface	1	1	28.6	7.8	25.9	5.1	4.6	6.4
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4(N2)	Sunny	Moderate	11:59	4.3	Surface	1	2	28.6	7.8	25.9	5.1	4.6	5.4
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4(N2)	Sunny	Moderate	11:59	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4(N2)	Sunny	Moderate	11:59	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4(N2)	Sunny	Moderate	11:59	4.3	Bottom	3	1	28.4	7.8	26.2	4.6	7.9	8.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR4(N2)	Sunny	Moderate	11:59	4.3	Bottom	3	2	28.4	7.8	26.2	4.6	7.8	9.6
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS8(N)	Sunny	Moderate	12:06	4.6	Surface	1	1	28.7	7.7	25.5	5.3	4.5	7.9
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS8(N)	Sunny	Moderate	12:06	4.6	Surface	1	2	28.7	7.7	25.5	5.3	4.5	8.4
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS8(N)	Sunny	Moderate	12:06	4.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS8(N)	Sunny	Moderate	12:06	4.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS8(N)	Sunny	Moderate	12:06	4.6	Bottom	3	1	28.6	7.7	25.6	5.2	5.8	7.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS8(N)	Sunny	Moderate	12:06	4.6	Bottom	3	2	28.6	7.7	25.6	5.2	5.7	6.8
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)9	Sunny	Moderate	12:14	4.4	Surface	1	1	28.6	7.8	26	5.1	6.3	7.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)9	Sunny	Moderate	12:14	4.4	Surface	1	2	28.6	7.8	26	5.1	6.3	8.2
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)9	Sunny	Moderate	12:14	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)9	Sunny	Moderate	12:14	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)9	Sunny	Moderate	12:14	4.4	Bottom	3	1	28.7	7.9	26	5.3	7.7	12.6
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)9	Sunny	Moderate	12:14	4.4	Bottom	3	2	28.6	7.9	26	5.3	7.7	12.8
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)11	Sunny	Moderate	10:35	11.4	Surface	1	1	28.4	8	25.8	4.9	6.4	10.1
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)11	Sunny	Moderate	10:35	11.4	Surface	1	2	28.4	8	25.7	4.9	6.4	9.1
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)11	Sunny	Moderate	10:35	11.4	Middle	2	1	28.3	7.9	27.4	4.4	16.3	18
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)11	Sunny	Moderate	10:35	11.4	Middle	2	2	28.3	7.9	27.3	4.4	16.2	17.1
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)11	Sunny	Moderate	10:35	11.4	Bottom	3	1	28.3	7.8	27.4	4.5	17.1	21.1
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS(Mf)11	Sunny	Moderate	10:35	11.4	Bottom	3	2	28.3	7.8	27.4	4.4	17.1	22.8
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR7	Sunny	Moderate	10:28	4.3	Surface	1	1	28.4	7.8	26.8	4.7	9.1	9.5
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR7	Sunny	Moderate	10:28	4.3	Surface	1	2	28.4	7.8	26.8	4.7	9	9.6
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR7	Sunny	Moderate	10:28	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR7	Sunny	Moderate	10:28	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR7	Sunny	Moderate	10:28	4.3	Bottom	3	1	28.4	7.7	27.2	4.7	13.4	11.2
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	SR7	Sunny	Moderate	10:28	4.3	Bottom	3	2	28.3	7.7	27.2	4.7	13.4	10.3
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS17	Sunny	Moderate	11:37	10.5	Surface	1	1	28.5	7.9	26.2	4.9	3.5	4
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS17	Sunny	Moderate	11:37	10.5	Surface	1	2	28.5	7.9	26.1	4.9	3.5	4.2
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS17	Sunny	Moderate	11:37	10.5	Middle	2	1	28.4	7.9	26.5	4.7	3.6	4.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS17	Sunny	Moderate	11:37	10.5	Middle	2	2	28.4	7.9	26.4	4.8	3.5	5.7
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS17	Sunny	Moderate	11:37	10.5	Bottom	3	1	28.3	7.9	27.3	4.6	4.3	6.1
TMCLKL	HY/2012/08	2019-09-20	Mid-Flood	IS17	Sunny	Moderate	11:37	10.5	Bottom	3	2	28.3	7.9	27.2	4.6	4.3	5.2
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)5	Cloudy	Rough	05:48	12.6	Surface	1	1	26.8	8.2	28.2	6.5	2.5	5.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)5	Cloudy	Rough	05:48	12.6	Surface	1	2	27.8	8.1	27.1	6.5	2.7	5.4
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)5	Cloudy	Rough	05:48	12.6	Middle	2	1	28.2	8.1	31.9	5	2.2	5.8
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)5	Cloudy	Rough	05:48	12.6	Middle	2	2	29.1	8.1	30.7	5	2.4	6.3
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)5	Cloudy	Rough	05:48	12.6	Bottom	3	1	28.1	8	32.3	5.4	3.5	7.9
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)5	Cloudy	Rough	05:48	12.6	Bottom	3	2	29.1	8.1	31.1	5.3	3.2	7.6
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	06:49	7.3	Surface	1	1	27.1	8.1	28.7	6.3	2	7.9
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	06:49	7.3	Surface	1	2	28	8.2	27.6	6.3	2.1	8.2
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	06:49	7.3	Middle	2	1	27.2	8.1	28.9	6.3	2.3	9.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	06:49	7.3	Middle	2	2	28.1	8.2	27.8	6.3	2.3	9.4
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	06:49	7.3	Bottom	3	1	27.5	8.1	30.3	6.2	6.6	11.4
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	06:49	7.3	Bottom	3	2	28.4	8.2	29	6.1	6.5	11
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	07:26	5.6	Surface	1	1	27.9	8.1	30.5	5.1	3.5	15.9
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	07:26	5.6	Surface	1	2	28.9	8.1	29.2	5.1	3.7	16.3
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	07:26	5.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	07:26	5.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	07:26	5.6	Bottom	3	1	28	8.1	31.5	5.4	3.7	18.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	07:26	5.6	Bottom	3	2	29	8.1	30.3	5.3	3.7	18.6

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4a	Cloudy	Calm	07:36	4.5	Surface	1	1	27.5	8	28.4	5.3	4	10.9
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4a	Cloudy	Calm	07:36	4.5	Surface	1	2	28.5	8.1	27.3	5.2	4.2	11.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4a	Cloudy	Calm	07:36	4.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4a	Cloudy	Calm	07:36	4.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4a	Cloudy	Calm	07:36	4.5	Bottom	3	1	28	8	30.4	4.8	8.1	11.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4a	Cloudy	Calm	07:36	4.5	Bottom	3	2	28.9	8.1	29.2	5	8.1	11.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4(N2)	Cloudy	Calm	07:40	4.2	Surface	1	1	28	8	29.6	4.7	7.6	9.2
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4(N2)	Cloudy	Calm	07:40	4.2	Surface	1	2	28.9	8.1	28.4	4.7	7.7	9.4
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4(N2)	Cloudy	Calm	07:40	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4(N2)	Cloudy	Calm	07:40	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4(N2)	Cloudy	Calm	07:40	4.2	Bottom	3	1	28	8	30.4	4.5	10.5	10.6
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR4(N2)	Cloudy	Calm	07:40	4.2	Bottom	3	2	28.9	8.1	29.2	4.7	10.4	10.9
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS8(N)	Cloudy	Calm	07:46	3.7	Surface	1	1	27.6	8.1	28.7	5.9	5.7	12.4
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS8(N)	Cloudy	Calm	07:46	3.7	Surface	1	2	28.5	8.1	27.5	5.9	5.4	12.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS8(N)	Cloudy	Calm	07:46	3.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS8(N)	Cloudy	Calm	07:46	3.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS8(N)	Cloudy	Calm	07:46	3.7	Bottom	3	1	27.8	8	29.7	4.9	6.2	13.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS8(N)	Cloudy	Calm	07:46	3.7	Bottom	3	2	28.8	8.1	28.5	4.9	6.4	12.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)9	Cloudy	Calm	07:55	2.5	Surface	1	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)9	Cloudy	Calm	07:55	2.5	Surface	1	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)9	Cloudy	Calm	07:55	2.5	Middle	2	1	27.1	8.2	27.8	6.4	4.3	17.3
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)9	Cloudy	Calm	07:55	2.5	Middle	2	2	28.1	8.2	26.7	6.4	4.4	17.2
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)9	Cloudy	Calm	07:55	2.5	Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)9	Cloudy	Calm	07:55	2.5	Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	06:20	11.1	Surface	1	1	27.1	8.1	28.9	6.1	2.4	8.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	06:20	11.1	Surface	1	2	28.1	8.1	27.8	6	2.5	9.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	06:20	11.1	Middle	2	1	28.1	8.1	31.1	5	3	8.8
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	06:20	11.1	Middle	2	2	29	8.1	29.9	5	3	8.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	06:20	11.1	Bottom	3	1	28.1	8.2	31.6	5	4.4	8.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	06:20	11.1	Bottom	3	2	29.1	8.1	30.3	5	4	8.3
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR7	Cloudy	Moderate	06:13	4.7	Surface	1	1	27.2	8.1	29.2	6.2	2.2	6.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR7	Cloudy	Moderate	06:13	4.7	Surface	1	2	28.1	8.2	28.1	6.1	2.1	6.2
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR7	Cloudy	Moderate	06:13	4.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR7	Cloudy	Moderate	06:13	4.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR7	Cloudy	Moderate	06:13	4.7	Bottom	3	1	27.2	8.2	29.4	6.2	2.4	10.4
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	SR7	Cloudy	Moderate	06:13	4.7	Bottom	3	2	28.1	8.1	28.3	6.2	2.3	9.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS17	Cloudy	Moderate	07:19	8.5	Surface	1	1	27.1	8.1	28.9	5.9	3.3	12.3
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS17	Cloudy	Moderate	07:19	8.5	Surface	1	2	28.1	8.1	27.8	5.9	3.2	12.6
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS17	Cloudy	Moderate	07:19	8.5	Middle	2	1	27.2	8.1	29.1	5.8	3.6	14.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS17	Cloudy	Moderate	07:19	8.5	Middle	2	2	28.1	8.1	27.9	5.8	3.6	14.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS17	Cloudy	Moderate	07:19	8.5	Bottom	3	1	28	8.1	31.5	5.2	6.1	14.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Ebb	IS17	Cloudy	Moderate	07:19	8.5	Bottom	3	2	29	8.1	30.3	5.3	6.1	14.3
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:18	12.5	Surface	1	1	27.9	8.2	31.6	5.5	3.9	3.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:18	12.5	Surface	1	2	28.9	8.1	30.4	5.5	3.7	3.8
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:18	12.5	Middle	2	1	28	8.2	32.2	5.3	4.7	4.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:18	12.5	Middle	2	2	28.9	8.1	30.9	5.4	4.4	4.3
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:18	12.5	Bottom	3	1	28	8.1	32.3	5.4	5.5	4.2
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)5	Cloudy	Moderate	20:18	12.5	Bottom	3	2	28.9	8.1	31	5.5	5.5	4.4
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	19:24	7.5	Surface	1	1	27.7	8.1	29.5	6.6	3.3	10.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	19:24	7.5	Surface	1	2	28.7	8.2	28.3	6.6	3.3	10.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	19:24	7.5	Middle	2	1	27.8	8.2	30.5	6.1	9.9	8.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	19:24	7.5	Middle	2	2	28.8	8.2	29.2	6.1	10	8.2
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	19:24	7.5	Bottom	3	1	27.8	8.1	30.7	6.1	11.1	8.6
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	19:24	7.5	Bottom	3	2	28.8	8.2	29.5	6.1	11.1	9.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)16	Cloudy	Moderate	18:43	5.8	Surface	1	1	27.9	8.3	29.6	8.1	5.1	21.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)16	Cloudy	Moderate	18:43	5.8	Surface	1	2	28.9	8.3	28.3	8.1	5.3	21.8
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)16	Cloudy	Moderate	18:43	5.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)16	Cloudy	Moderate	18:43	5.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)16	Cloudy	Moderate	18:43	5.8	Bottom	3	1	27.9	8.1	30.6	5.8	10.7	22.9
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)16	Cloudy	Moderate	18:43	5.8	Bottom	3	2	28.8	8.1	29.4	5.7	10.4	23.2
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4a	Cloudy	Calm	18:33	4.7	Surface	1	1	27.9	8.2	29.5	6.6	5.2	7.7

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4a	Cloudy	Calm	18:33	4.7	Surface	1	2	28.8	8.2	28.3	6.6	5	8.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4a	Cloudy	Calm	18:33	4.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4a	Cloudy	Calm	18:33	4.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4a	Cloudy	Calm	18:33	4.7	Bottom	3	1	27.8	8.2	29.7	6.2	6.3	7.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4a	Cloudy	Calm	18:33	4.7	Bottom	3	2	28.7	8.2	28.4	6.2	6.2	7.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4(N2)	Cloudy	Calm	18:29	4.4	Surface	1	1	27.9	8.2	29.3	6.8	6.7	8.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4(N2)	Cloudy	Calm	18:29	4.4	Surface	1	2	28.9	8.2	28.1	6.8	6.6	8.6
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4(N2)	Cloudy	Calm	18:29	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4(N2)	Cloudy	Calm	18:29	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4(N2)	Cloudy	Calm	18:29	4.4	Bottom	3	1	27.9	8.1	29.4	6.5	9.5	9.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR4(N2)	Cloudy	Calm	18:29	4.4	Bottom	3	2	28.8	8.2	28.2	6.5	9.8	9.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS8(N)	Cloudy	Calm	18:24	3.5	Surface	1	1	27.8	8.1	29.6	7.2	10	12.2
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS8(N)	Cloudy	Calm	18:24	3.5	Surface	1	2	28.8	8.1	28.3	7.3	10.3	11.9
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS8(N)	Cloudy	Calm	18:24	3.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS8(N)	Cloudy	Calm	18:24	3.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS8(N)	Cloudy	Calm	18:24	3.5	Bottom	3	1	27.8	8.2	29.6	7	10.1	12.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS8(N)	Cloudy	Calm	18:24	3.5	Bottom	3	2	28.8	8.2	28.3	7.1	10.1	12.9
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)9	Cloudy	Calm	18:19	2.7	Surface	1	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)9	Cloudy	Calm	18:19	2.7	Surface	1	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)9	Cloudy	Calm	18:19	2.7	Middle	2	1	28	8.1	29.4	8.2	4.4	14
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)9	Cloudy	Calm	18:19	2.7	Middle	2	2	28.9	8.2	28.1	8.2	4.3	13.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)9	Cloudy	Calm	18:19	2.7	Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)9	Cloudy	Calm	18:19	2.7	Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:56	11	Surface	1	1	27.9	8.2	30.1	6.1	4.2	6.4
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:56	11	Surface	1	2	28.9	8.1	28.9	6.1	4.3	6.1
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:56	11	Middle	2	1	28	8.1	31	5	7.1	6.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:56	11	Middle	2	2	28.9	8.1	29.8	5	7.2	6.9
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:56	11	Bottom	3	1	28	8.1	31.1	5.1	7.5	6.6
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS(Mf)11	Cloudy	Moderate	18:56	11	Bottom	3	2	28.9	8.1	29.8	5.1	7.4	6.8
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR7	Cloudy	Moderate	19:54	4.6	Surface	1	1	27.6	8.2	30.1	7.8	2.4	9.2
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR7	Cloudy	Moderate	19:54	4.6	Surface	1	2	28.6	8.2	28.9	7.8	2.6	9.4
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR7	Cloudy	Moderate	19:54	4.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR7	Cloudy	Moderate	19:54	4.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR7	Cloudy	Moderate	19:54	4.6	Bottom	3	1	27.8	8.2	30.5	6.7	5.1	9
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	SR7	Cloudy	Moderate	19:54	4.6	Bottom	3	2	28.8	8.2	29.2	6.7	5.1	9
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS17	Cloudy	Moderate	18:49	8.8	Surface	1	1	27.7	8.2	29.9	7.1	3.1	11.7
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS17	Cloudy	Moderate	18:49	8.8	Surface	1	2	28.7	8.2	28.7	7.2	3.1	11.5
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS17	Cloudy	Moderate	18:49	8.8	Middle	2	1	27.7	8.1	30.7	6.2	2.6	12
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS17	Cloudy	Moderate	18:49	8.8	Middle	2	2	28.6	8.2	29.4	6.2	2.7	12.3
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS17	Cloudy	Moderate	18:49	8.8	Bottom	3	1	27.8	8.1	31.5	5.4	4.2	14.9
TMCLKL	HY/2012/08	2019-09-23	Mid-Flood	IS17	Cloudy	Moderate	18:49	8.8	Bottom	3	2	28.8	8.1	30.2	5.4	4	14.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	09:03	12.3	Surface	1	1	28.4	8	29.5	6.3	2.8	6
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	09:03	12.3	Surface	1	2	27.4	8	30.7	6.3	3.5	6.3
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	09:03	12.3	Middle	2	1	28.7	7.9	30.2	5.3	3.3	8
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	09:03	12.3	Middle	2	2	27.8	7.9	31.4	5.3	3.8	7.9
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	09:03	12.3	Bottom	3	1	28.9	7.9	30.9	5.2	5.8	8.8
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	09:03	12.3	Bottom	3	2	27.9	8	32.2	5.2	6.1	8.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	09:59	7.1	Surface	1	1	28.6	8	28.9	7.4	1.7	5.5
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	09:59	7.1	Surface	1	2	27.6	8	30.2	7.4	1.8	5.7
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	09:59	7.1	Middle	2	1	28.6	8	29.3	7.1	2.9	8
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	09:59	7.1	Middle	2	2	27.7	8	30.6	7	3.5	8.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	09:59	7.1	Bottom	3	1	28.5	8	30.2	6.4	5.7	8.5
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	09:59	7.1	Bottom	3	2	27.5	8	31.5	6.4	5	8.7
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	10:32	5.3	Surface	1	1	28.8	8	29.1	6.6	7.3	12.2
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	10:32	5.3	Surface	1	2	27.8	8	30.3	6.6	7.4	12
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	10:32	5.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	10:32	5.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	10:32	5.3	Bottom	3	1	28.8	7.9	30.2	5.3	9.1	15.9
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	10:32	5.3	Bottom	3	2	27.9	7.9	31.5	5.3	9.2	15.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4a	Cloudy	Moderate	10:41	4.6	Surface	1	1	28.7	7.8	28.2	5.6	7.2	12.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4a	Cloudy	Moderate	10:41	4.6	Surface	1	2	27.7	7.9	31	5.6	7.4	12.4

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4a	Cloudy	Moderate	10:41	4.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4a	Cloudy	Moderate	10:41	4.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4a	Cloudy	Moderate	10:41	4.6	Bottom	3	1	28.7	7.9	29.9	5.2	8.9	12.2
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4a	Cloudy	Moderate	10:41	4.6	Bottom	3	2	27.8	7.9	31.2	5.2	8.1	12.2
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4(N2)	Cloudy	Moderate	10:46	4	Surface	1	1	28.7	7.9	28.8	5.4	9.6	13.8
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4(N2)	Cloudy	Moderate	10:46	4	Surface	1	2	27.8	8	30.2	5.6	9	13.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4(N2)	Cloudy	Moderate	10:46	4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4(N2)	Cloudy	Moderate	10:46	4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4(N2)	Cloudy	Moderate	10:46	4	Bottom	3	1	28.7	7.9	28.3	5.1	12.6	14.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR4(N2)	Cloudy	Moderate	10:46	4	Bottom	3	2	27.7	8	30.9	5.1	12.4	14.8
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS8(N)	Cloudy	Moderate	10:52	3.8	Surface	1	1	28.6	7.9	29.2	5.6	10	14.5
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS8(N)	Cloudy	Moderate	10:52	3.8	Surface	1	2	27.7	7.9	30.5	5.6	9.2	14.8
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS8(N)	Cloudy	Moderate	10:52	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS8(N)	Cloudy	Moderate	10:52	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS8(N)	Cloudy	Moderate	10:52	3.8	Bottom	3	1	28.6	7.9	29.4	5.6	10	16.1
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS8(N)	Cloudy	Moderate	10:52	3.8	Bottom	3	2	27.7	7.9	30.6	5.6	9.4	16.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	11:00	3.2	Surface	1	1	28.7	8	29.1	6.1	5.3	16.3
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	11:00	3.2	Surface	1	2	27.7	7.9	30.4	6.1	5.8	16.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	11:00	3.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	11:00	3.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	11:00	3.2	Bottom	3	1	28.7	8	29.1	6.1	7.5	16.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	11:00	3.2	Bottom	3	2	27.7	7.9	30.4	6.1	7.4	16.9
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	09:35	12.4	Surface	1	1	28.6	8	29.2	6.6	5.5	7.1
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	09:35	12.4	Surface	1	2	27.6	8	30.4	6.6	5.2	7.1
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	09:35	12.4	Middle	2	1	28.7	7.9	29.6	5.6	4.7	8.2
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	09:35	12.4	Middle	2	2	27.8	8	30.9	5.6	4.3	8
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	09:35	12.4	Bottom	3	1	28.8	7.9	30.2	5.4	9.7	8.7
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	09:35	12.4	Bottom	3	2	27.8	8.1	31.5	5.5	9.2	8.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR7	Cloudy	Moderate	09:28	4.7	Surface	1	1	28.7	8	29.5	6.5	4.9	8.2
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR7	Cloudy	Moderate	09:28	4.7	Surface	1	2	27.7	7.9	30.7	6.5	4.4	7.8
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR7	Cloudy	Moderate	09:28	4.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR7	Cloudy	Moderate	09:28	4.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR7	Cloudy	Moderate	09:28	4.7	Bottom	3	1	28.7	8	29.7	6	5.2	7.9
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	SR7	Cloudy	Moderate	09:28	4.7	Bottom	3	2	27.7	7.9	30.9	6.1	5.9	7.7
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS17	Cloudy	Moderate	10:29	7.4	Surface	1	1	28.8	8	29.5	6.2	5	8.3
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS17	Cloudy	Moderate	10:29	7.4	Surface	1	2	27.8	7.9	30.8	6.2	4.5	8.1
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS17	Cloudy	Moderate	10:29	7.4	Middle	2	1	28.7	8	29.6	6.2	5	9.2
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS17	Cloudy	Moderate	10:29	7.4	Middle	2	2	27.8	7.9	30.8	6.2	4.3	9
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS17	Cloudy	Moderate	10:29	7.4	Bottom	3	1	28.7	8	29.6	6.1	4.6	10
TMCLKL	HY/2012/08	2019-09-25	Mid-Ebb	IS17	Cloudy	Moderate	10:29	7.4	Bottom	3	2	27.8	7.9	30.8	6.2	4.1	10.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)5	Cloudy	Moderate	17:42	12	Surface	1	1	28.9	8	30.1	6.2	4.2	6.2
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)5	Cloudy	Moderate	17:42	12	Surface	1	2	28	8	31.4	6.2	4.6	5.9
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)5	Cloudy	Moderate	17:42	12	Middle	2	1	28.9	7.9	30.2	5.9	6.6	7.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)5	Cloudy	Moderate	17:42	12	Middle	2	2	28	7.9	31.5	5.9	6.4	7.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)5	Cloudy	Moderate	17:42	12	Bottom	3	1	28.9	8	30.4	5.9	11	7.3
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)5	Cloudy	Moderate	17:42	12	Bottom	3	2	27.9	8	31.7	5.8	11.1	7.2
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	16:46	7	Surface	1	1	29.4	8.1	24.5	10	4.3	8.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	16:46	7	Surface	1	2	28.4	8.2	25.5	10	4.7	8.8
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	16:46	7	Middle	2	1	29.3	8.1	26.4	8.9	7.6	9.9
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	16:46	7	Middle	2	2	28.3	8.2	27.5	8.9	7.7	9.8
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	16:46	7	Bottom	3	1	29.2	8.1	26.8	8.4	10.1	8.1
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	16:46	7	Bottom	3	2	28.2	8.2	28	8.4	10.8	8.2
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)16	Cloudy	Moderate	16:10	5.2	Surface	1	1	29.2	8	29.5	7.1	8.6	11.7
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)16	Cloudy	Moderate	16:10	5.2	Surface	1	2	28.2	8	30.7	7.1	8.6	12
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)16	Cloudy	Moderate	16:10	5.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)16	Cloudy	Moderate	16:10	5.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)16	Cloudy	Moderate	16:10	5.2	Bottom	3	1	29	8	29.5	6.4	7.8	25.8
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)16	Cloudy	Moderate	16:10	5.2	Bottom	3	2	28	8	30.8	6.4	8	26.1
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4a	Cloudy	Moderate	16:01	4.5	Surface	1	1	28.9	7.9	29.5	5.9	8.9	9.8
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4a	Cloudy	Moderate	16:01	4.5	Surface	1	2	27.9	7.9	30.8	5.9	9	10
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4a	Cloudy	Moderate	16:01	4.5	Middle	2	1						

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4a	Cloudy	Moderate	16:01	4.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4a	Cloudy	Moderate	16:01	4.5	Bottom	3	1	28.8	7.9	29.7	5.2	7.7	13.9
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4a	Cloudy	Moderate	16:01	4.5	Bottom	3	2	27.8	7.9	30.9	5.2	7.8	13.7
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4(N2)	Cloudy	Moderate	15:56	3.5	Surface	1	1	29.4	8	28.8	6.8	7.5	12.7
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4(N2)	Cloudy	Moderate	15:56	3.5	Surface	1	2	28.4	7.8	30	6.8	7.4	12.6
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4(N2)	Cloudy	Moderate	15:56	3.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4(N2)	Cloudy	Moderate	15:56	3.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4(N2)	Cloudy	Moderate	15:56	3.5	Bottom	3	1	28.9	7.9	29.4	6.1	7.6	16.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR4(N2)	Cloudy	Moderate	15:56	3.5	Bottom	3	2	27.9	7.8	30.7	6	7.3	16
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS8(N)	Cloudy	Moderate	15:50	3.2	Surface	1	1	29.4	8	29.3	7.5	7	11.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS8(N)	Cloudy	Moderate	15:50	3.2	Surface	1	2	28.4	7.9	30.5	7.5	7.6	11.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS8(N)	Cloudy	Moderate	15:50	3.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS8(N)	Cloudy	Moderate	15:50	3.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS8(N)	Cloudy	Moderate	15:50	3.2	Bottom	3	1	29.2	8	29.4	7	8.6	17.2
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS8(N)	Cloudy	Moderate	15:50	3.2	Bottom	3	2	28.2	7.9	30.6	6.9	8.1	17.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)9	Cloudy	Moderate	15:42	3.1	Surface	1	1	29.2	8	29.4	6.9	8.9	15.1
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)9	Cloudy	Moderate	15:42	3.1	Surface	1	2	28.2	7.9	30.7	6.8	8.8	15.3
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)9	Cloudy	Moderate	15:42	3.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)9	Cloudy	Moderate	15:42	3.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)9	Cloudy	Moderate	15:42	3.1	Bottom	3	1	29	8	29.5	6.3	9.2	16.7
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)9	Cloudy	Moderate	15:42	3.1	Bottom	3	2	28	7.9	30.8	6.3	9.3	16.5
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:11	12	Surface	1	1	29.1	8	29.4	7.2	6.8	10.3
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:11	12	Surface	1	2	28.1	8.1	30.7	7.2	6.3	9.9
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:11	12	Middle	2	1	29	8	29.5	6.8	8.7	9
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:11	12	Middle	2	2	28	8.1	30.7	6.8	8.2	9.3
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:11	12	Bottom	3	1	28.9	8	29.6	6.3	8.9	9.7
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:11	12	Bottom	3	2	27.9	8.1	30.8	6.4	8.4	9.9
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR7	Cloudy	Moderate	17:17	4.6	Surface	1	1	28.9	8	29.5	7.4	10.1	11.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR7	Cloudy	Moderate	17:17	4.6	Surface	1	2	27.9	8.1	30.8	7.2	10.4	11.7
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR7	Cloudy	Moderate	17:17	4.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR7	Cloudy	Moderate	17:17	4.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR7	Cloudy	Moderate	17:17	4.6	Bottom	3	1	28.9	8	29.6	7.1	8.7	12.8
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	SR7	Cloudy	Moderate	17:17	4.6	Bottom	3	2	27.9	8	30.8	7.1	8.5	13.1
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS17	Cloudy	Moderate	16:16	7.8	Surface	1	1	29	8.1	29.4	7.5	11.2	12.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS17	Cloudy	Moderate	16:16	7.8	Surface	1	2	28.1	8.2	30.7	7.5	11.6	12.5
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS17	Cloudy	Moderate	16:16	7.8	Middle	2	1	29	8	29.5	7.2	7.3	14.3
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS17	Cloudy	Moderate	16:16	7.8	Middle	2	2	28	8.1	30.8	7.2	7.5	14.1
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS17	Cloudy	Moderate	16:16	7.8	Bottom	3	1	28.9	8	29.8	6.2	10.2	13.4
TMCLKL	HY/2012/08	2019-09-25	Mid-Flood	IS17	Cloudy	Moderate	16:16	7.8	Bottom	3	2	27.9	8	31.1	6.3	10.9	13
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:03	12.8	Surface	1	1	29.1	8	28.9	6.2	3.6	12.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:03	12.8	Surface	1	2	29.1	8	30.1	6.3	3.6	12.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:03	12.8	Middle	2	1	29	8	29.2	5.9	5.5	12.5
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:03	12.8	Middle	2	2	29	8	30.4	5.9	5.8	12.7
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:03	12.8	Bottom	3	1	29	8	29.7	5.7	7.7	14.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)5	Fine	Moderate	11:03	12.8	Bottom	3	2	29	8	31	5.8	7.8	14.3
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	12:16	7.2	Surface	1	1	29.3	7.9	27.7	6.8	5.3	13.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	12:16	7.2	Surface	1	2	29.2	8.1	29	6.8	5.5	13.5
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	12:16	7.2	Middle	2	1	29.1	7.9	28	6.5	9	12.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	12:16	7.2	Middle	2	2	29.1	8	29.4	6.6	9.4	12.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	12:16	7.2	Bottom	3	1	29	7.9	28.2	6.4	17.5	11.5
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	12:16	7.2	Bottom	3	2	28.9	8	29.6	6.6	17.5	11.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:52	5.8	Surface	1	1	29.2	8	28.6	6.6	12	13.5
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:52	5.8	Surface	1	2	29.2	8.1	29.8	6.6	12.2	13.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:52	5.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:52	5.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:52	5.8	Bottom	3	1	29.1	8	28.6	6.6	16.2	13.3
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:52	5.8	Bottom	3	2	29.1	8.1	29.8	6.7	16.3	12.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4a	Cloudy	Calm	13:01	4.3	Surface	1	1	29.4	8.1	28.2	6.8	2.5	7.3
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4a	Cloudy	Calm	13:01	4.3	Surface	1	2	29.4	8.1	29.3	6.9	2.4	7.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4a	Cloudy	Calm	13:01	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4a	Cloudy	Calm	13:01	4.3	Middle	2	2						

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4a	Cloudy	Calm	13:01	4.3	Bottom	3	1	28.8	8	28.4	6.3	6.3	8.2
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4a	Cloudy	Calm	13:01	4.3	Bottom	3	2	28.8	8.1	29.6	6.3	6.7	8.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:05	3.5	Surface	1	1	29.2	8	28.1	6.9	3.6	8.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:05	3.5	Surface	1	2	29.2	8.1	29.3	6.9	3.5	8.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:05	3.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:05	3.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:05	3.5	Bottom	3	1	29	7.9	28.2	6.8	6.2	9.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR4(N2)	Cloudy	Calm	13:05	3.5	Bottom	3	2	28.9	8.1	29.3	6.8	6.3	9.7
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS8(N)	Cloudy	Calm	13:11	3.2	Surface	1	1	29.1	7.9	28.2	6.6	7.4	13.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS8(N)	Cloudy	Calm	13:11	3.2	Surface	1	2	29.1	8.1	29.4	6.7	7.5	13.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS8(N)	Cloudy	Calm	13:11	3.2	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS8(N)	Cloudy	Calm	13:11	3.2	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS8(N)	Cloudy	Calm	13:11	3.2	Bottom	3	1	28.8	8	28.3	6.7	7.1	14.7
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS8(N)	Cloudy	Calm	13:11	3.2	Bottom	3	2	28.8	8.1	29.4	6.8	6.9	14.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:18	2.8	Surface	1	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:18	2.8	Surface	1	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:18	2.8	Middle	2	1	29.4	8	28.5	6.7	3.7	12
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:18	2.8	Middle	2	2	29.4	8.1	29.7	6.7	3.6	12.2
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:18	2.8	Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)9	Cloudy	Calm	13:18	2.8	Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	12:39	11.1	Surface	1	1	29	8	27.9	6.6	10.5	18
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	12:39	11.1	Surface	1	2	29	8.1	29	6.5	10.6	17.7
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	12:39	11.1	Middle	2	1	28.9	8.1	28	6.5	12	18.5
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	12:39	11.1	Middle	2	2	28.9	8.1	29.2	6.5	12.2	18.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	12:39	11.1	Bottom	3	1	28.9	8.1	28	6.5	14.2	18.2
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	12:39	11.1	Bottom	3	2	28.9	8.1	29.2	6.5	14.6	18.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR7	Cloudy	Moderate	11:40	4.4	Surface	1	1	29	8	28	6.5	6	13.8
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR7	Cloudy	Moderate	11:40	4.4	Surface	1	2	29	8.1	29.4	6.6	6.3	13.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR7	Cloudy	Moderate	11:40	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR7	Cloudy	Moderate	11:40	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR7	Cloudy	Moderate	11:40	4.4	Bottom	3	1	29	8	28.1	6.5	7	16.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	SR7	Cloudy	Moderate	11:40	4.4	Bottom	3	2	29	8.1	29.6	6.5	7	17
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS17	Cloudy	Moderate	12:46	8.8	Surface	1	1	29.1	7.9	28.4	6.4	5.5	16.3
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS17	Cloudy	Moderate	12:46	8.8	Surface	1	2	29.1	8.1	29.6	6.5	5.6	16.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS17	Cloudy	Moderate	12:46	8.8	Middle	2	1	29.1	7.9	28.4	6.4	6.1	14.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS17	Cloudy	Moderate	12:46	8.8	Middle	2	2	29.1	8.1	29.6	6.5	6.1	14.2
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS17	Cloudy	Moderate	12:46	8.8	Bottom	3	1	29.1	7.9	28.5	6.5	7	13.8
TMCLKL	HY/2012/08	2019-09-27	Mid-Ebb	IS17	Cloudy	Moderate	12:46	8.8	Bottom	3	2	29.1	8.1	29.7	6.6	7.2	14.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:58	12.9	Surface	1	1	29	8.1	28.9	6	3.4	10.8
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:58	12.9	Surface	1	2	29	8	30.2	5.9	3.6	10.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:58	12.9	Middle	2	1	29.1	8.1	29.2	5.7	5.6	8.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:58	12.9	Middle	2	2	29.1	8.1	30.5	5.8	5.8	8.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:58	12.9	Bottom	3	1	29.1	8.1	29.2	5.9	10.4	8.3
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)5	Cloudy	Moderate	18:58	12.9	Bottom	3	2	29.1	8.1	30.5	5.9	10.5	8
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	17:59	7.4	Surface	1	1	29.5	8.1	26.1	6.6	3.6	9.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	17:59	7.4	Surface	1	2	29.5	8.1	27.2	6.7	3.4	9.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	17:59	7.4	Middle	2	1	29.5	8.1	26.5	6.7	6.5	10.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	17:59	7.4	Middle	2	2	29.5	8.1	27.7	6.8	6.3	10.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	17:59	7.4	Bottom	3	1	29.5	8.1	27	6.7	8	12.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	17:59	7.4	Bottom	3	2	29.5	8.1	28.1	6.7	8.1	12.8
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:24	5.8	Surface	1	1	29.2	8	28.1	6.6	10.8	20.5
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:24	5.8	Surface	1	2	29.2	8.1	29.3	6.7	11	20.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:24	5.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:24	5.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:24	5.8	Bottom	3	1	29.2	8	28.2	6.6	15.1	17.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)16	Cloudy	Moderate	17:24	5.8	Bottom	3	2	29.2	8.1	29.5	6.7	15.3	18
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4a	Cloudy	Calm	17:16	4.5	Surface	1	1	29.5	8	28.2	6.5	5.2	7.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4a	Cloudy	Calm	17:16	4.5	Surface	1	2	29.4	8.1	29.4	6.6	5.1	6.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4a	Cloudy	Calm	17:16	4.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4a	Cloudy	Calm	17:16	4.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4a	Cloudy	Calm	17:16	4.5	Bottom	3	1	28.9	8	28.3	6.3	7.6	8.7

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4a	Cloudy	Calm	17:16	4.5	Bottom	3	2	28.9	8.1	29.5	6.4	7.6	8.8
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4(N2)	Cloudy	Calm	17:11	3.6	Surface	1	1	29.4	8	28.1	7.1	4	13.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4(N2)	Cloudy	Calm	17:11	3.6	Surface	1	2	29.4	8.1	29.3	7.1	4.3	14
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4(N2)	Cloudy	Calm	17:11	3.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4(N2)	Cloudy	Calm	17:11	3.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4(N2)	Cloudy	Calm	17:11	3.6	Bottom	3	1	29.3	8	28.1	6.9	6	12.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR4(N2)	Cloudy	Calm	17:11	3.6	Bottom	3	2	29.3	8.1	29.4	7	6.2	12.5
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS8(N)	Cloudy	Calm	17:04	3.4	Surface	1	1	29.3	8	28.3	6.8	16.8	12.2
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS8(N)	Cloudy	Calm	17:04	3.4	Surface	1	2	29.4	8	29.5	6.9	16.6	11.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS8(N)	Cloudy	Calm	17:04	3.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS8(N)	Cloudy	Calm	17:04	3.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS8(N)	Cloudy	Calm	17:04	3.4	Bottom	3	1	29.4	8	28.2	6.9	13.6	13.8
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS8(N)	Cloudy	Calm	17:04	3.4	Bottom	3	2	29.4	8.1	29.5	7	13.4	14
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)9	Cloudy	Calm	16:53	2.6	Surface	1	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)9	Cloudy	Calm	16:53	2.6	Surface	1	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)9	Cloudy	Calm	16:53	2.6	Middle	2	1	29.5	8	28.4	7.2	18.7	20.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)9	Cloudy	Calm	16:53	2.6	Middle	2	2	29.5	8	29.6	7.3	18.7	21.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)9	Cloudy	Calm	16:53	2.6	Bottom	3	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)9	Cloudy	Calm	16:53	2.6	Bottom	3	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11	Surface	1	1	29.3	8	27.8	6.8	5.1	14
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11	Surface	1	2	29.3	8.1	29	6.8	5.4	13.8
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11	Middle	2	1	29.3	8	27.8	6.7	5.5	15
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11	Middle	2	2	29.3	8.1	29	6.8	5.9	14.8
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11	Bottom	3	1	29.3	8	27.9	6.7	6.6	15.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS(Mf)11	Cloudy	Moderate	17:36	11	Bottom	3	2	29.3	8.1	29.1	6.8	6.8	16.2
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.6	Surface	1	1	29.1	8.2	28.1	6.3	8.7	15.4
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.6	Surface	1	2	29.1	8	29.3	6.4	8.6	15.1
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.6	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.6	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.6	Bottom	3	1	29.1	8.2	28.1	6.5	11.2	13.6
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	SR7	Cloudy	Moderate	18:33	4.6	Bottom	3	2	29.1	8.1	29.3	6.5	10.9	14.2
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS17	Cloudy	Moderate	17:31	9.6	Surface	1	1	29.2	8	27.8	6.5	4.8	11.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS17	Cloudy	Moderate	17:31	9.6	Surface	1	2	29.2	8.1	29	6.6	5.1	11.7
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS17	Cloudy	Moderate	17:31	9.6	Middle	2	1	29.2	8	28	6.4	8.2	13.2
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS17	Cloudy	Moderate	17:31	9.6	Middle	2	2	29.2	8.1	29.2	6.3	8.1	12.9
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS17	Cloudy	Moderate	17:31	9.6	Bottom	3	1	29.2	8	28.2	6.3	16.2	14.7
TMCLKL	HY/2012/08	2019-09-27	Mid-Flood	IS17	Cloudy	Moderate	17:31	9.6	Bottom	3	2	29.2	8.1	29.5	6.4	16.4	15
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:24	12.5	Surface	1	1	28.4	7.7	25.4	5.7	9.5	14.9
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:24	12.5	Surface	1	2	29.4	7.8	27.4	5.5	9.3	15.2
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:24	12.5	Middle	2	1	28.3	7.7	25.6	5.5	13	16.7
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:24	12.5	Middle	2	2	29.2	7.8	27.7	5.4	13.3	16.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:24	12.5	Bottom	3	1	28.2	7.7	25.7	5.5	12.8	17.8
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)5	Cloudy	Moderate	14:24	12.5	Bottom	3	2	29.1	7.8	27.4	5.3	12.2	18.2
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:33	7.3	Surface	1	1	28.2	7.7	26.5	5.8	11.2	17.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:33	7.3	Surface	1	2	29.2	7.8	28.9	5.6	11	17.3
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:33	7.3	Middle	2	1	28.2	7.7	26.4	5.8	10.6	17.4
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:33	7.3	Middle	2	2	29.2	7.8	28.9	5.6	10.2	17.3
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:33	7.3	Bottom	3	1	28.2	7.7	26.8	5.8	10.9	17.5
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	CS(Mf)3(N)	Cloudy	Moderate	13:33	7.3	Bottom	3	2	29.2	7.8	29	5.6	10.3	17.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:51	5.8	Surface	1	1	28.2	7.6	25.6	5.8	11.4	
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:51	5.8	Surface	1	2	29.2	7.8	27.3	5.6	11.2	
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:51	5.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:51	5.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:51	5.8	Bottom	3	1	28.1	7.6	25.8	5.5	11.9	
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)16	Cloudy	Moderate	12:51	5.8	Bottom	3	2	29.1	7.8	27.6	5.3	11.7	
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4a	Cloudy	Moderate	12:41	4.3	Surface	1	1	28.6	7.7	25.1	6.1	3.5	8
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4a	Cloudy	Moderate	12:41	4.3	Surface	1	2	29.6	7.8	27.2	5.9	3.7	7.7
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4a	Cloudy	Moderate	12:41	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4a	Cloudy	Moderate	12:41	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4a	Cloudy	Moderate	12:41	4.3	Bottom	3	1	28.5	7.7	25.1	6.1	3.4	9
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4a	Cloudy	Moderate	12:41	4.3	Bottom	3	2	29.5	7.8	27	5.9	3.6	9.4

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4(N2)	Cloudy	Moderate	12:36	4.4	Surface	1	1	28.4	7.7	25.2	6	4.9	8.4
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4(N2)	Cloudy	Moderate	12:36	4.4	Surface	1	2	29.4	7.8	27.5	5.8	4.3	8.2
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4(N2)	Cloudy	Moderate	12:36	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4(N2)	Cloudy	Moderate	12:36	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4(N2)	Cloudy	Moderate	12:36	4.4	Bottom	3	1	28.4	7.6	25.2	6	4.3	9
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR4(N2)	Cloudy	Moderate	12:36	4.4	Bottom	3	2	29.4	7.8	27.5	5.9	4.3	9.3
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS8(N)	Cloudy	Moderate	12:27	3.5	Surface	1	1	28.5	7.7	25.1	6.1	4.9	12.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS8(N)	Cloudy	Moderate	12:27	3.5	Surface	1	2	29.5	7.8	27.3	5.9	4.8	12.9
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS8(N)	Cloudy	Moderate	12:27	3.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS8(N)	Cloudy	Moderate	12:27	3.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS8(N)	Cloudy	Moderate	12:27	3.5	Bottom	3	1	28.2	7.7	25.2	6.1	13.6	14.4
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS8(N)	Cloudy	Moderate	12:27	3.5	Bottom	3	2	29.2	7.8	27.6	6	13.4	14.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	12:19	3.1	Surface	1	1	28.3	7.7	26.5	6	5.8	10.8
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	12:19	3.1	Surface	1	2	29.3	7.8	27.4	5.8	5.6	10.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	12:19	3.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	12:19	3.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	12:19	3.1	Bottom	3	1	28.3	7.7	26.3	6	5.9	14.3
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)9	Cloudy	Moderate	12:19	3.1	Bottom	3	2	29.3	7.8	27.2	5.9	5.9	14.2
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:56	11.4	Surface	1	1	28.4	7.7	26.6	5.9	11.5	17.8
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:56	11.4	Surface	1	2	29.4	7.8	28.5	5.7	11.2	17.5
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:56	11.4	Middle	2	1	28.3	7.7	26.9	5.8	17.5	17.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:56	11.4	Middle	2	2	29.3	7.8	28.7	5.7	18	18
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:56	11.4	Bottom	3	1	28.3	7.7	26.4	5.9	13.7	18.4
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS(Mf)11	Cloudy	Moderate	13:56	11.4	Bottom	3	2	29.3	7.8	28.8	5.7	13.2	18.5
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR7	Cloudy	Moderate	14:06	4.5	Surface	1	1	28.3	7.7	26.2	5.8	11.6	17.4
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR7	Cloudy	Moderate	14:06	4.5	Surface	1	2	29.3	7.8	28.8	5.7	11.3	17
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR7	Cloudy	Moderate	14:06	4.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR7	Cloudy	Moderate	14:06	4.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR7	Cloudy	Moderate	14:06	4.5	Bottom	3	1	28.3	7.7	26.4	5.8	14.3	20.4
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	SR7	Cloudy	Moderate	14:06	4.5	Bottom	3	2	29.3	7.8	28.9	5.7	15	20
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS17	Cloudy	Moderate	12:58	7.2	Surface	1	1	28.4	7.6	25.4	5.8	5.7	6.3
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS17	Cloudy	Moderate	12:58	7.2	Surface	1	2	29.4	7.8	27.7	5.5	5.9	6.5
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS17	Cloudy	Moderate	12:58	7.2	Middle	2	1	28.2	7.6	25.7	5.5	11.1	8.9
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS17	Cloudy	Moderate	12:58	7.2	Middle	2	2	29.2	7.8	27.5	5.3	11.7	8.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS17	Cloudy	Moderate	12:58	7.2	Bottom	3	1	28.2	7.6	25.8	5.7	13.8	12
TMCLKL	HY/2012/08	2019-09-30	Mid-Ebb	IS17	Cloudy	Moderate	12:58	7.2	Bottom	3	2	29.1	7.8	27.5	5.5	13.4	12.4
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:10	11.9	Surface	1	1	29.1	7.8	26.1	5.6	6.6	8.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:10	11.9	Surface	1	2	28.1	7.6	25.3	5.7	6.5	8.7
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:10	11.9	Middle	2	1	29.1	7.7	26.2	5.6	10.4	8.8
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:10	11.9	Middle	2	2	28.1	7.6	25.8	5.4	10.8	9
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:10	11.9	Bottom	3	1	29.1	7.7	26.2	5.6	16.5	9
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)5	Cloudy	Moderate	07:10	11.9	Bottom	3	2	28.1	7.6	26	5.4	16	9
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:02	7.2	Surface	1	1	29.1	7.8	28.5	5.7	14.6	19.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:02	7.2	Surface	1	2	29.1	7.8	28.5	5.7	14.7	20.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:02	7.2	Middle	2	1	29.1	7.8	28.5	5.6	17.6	23.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:02	7.2	Middle	2	2	29.1	7.8	28.5	5.6	17.3	22.8
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:02	7.2	Bottom	3	1	29.1	7.8	28.5	5.7	14.2	23
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	CS(Mf)3(N)	Cloudy	Moderate	08:02	7.2	Bottom	3	2	29	7.8	28.6	5.7	14.9	23.3
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:47	5.8	Surface	1	1	29.1	7.8	26.2	5.6	8.4	13.9
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:47	5.8	Surface	1	2	28.1	7.6	25.2	5.8	8.5	13.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:47	5.8	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:47	5.8	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:47	5.8	Bottom	3	1	29.1	7.8	26.3	5.7	12.9	20.5
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)16	Cloudy	Moderate	08:47	5.8	Bottom	3	2	28.1	7.6	25.3	5.8	12.3	20.4
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4a	Cloudy	Moderate	08:57	4.4	Surface	1	1	29	7.8	26.5	5.5	7.5	11.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4a	Cloudy	Moderate	08:57	4.4	Surface	1	2	28	7.6	25.3	5.7	7.2	10.8
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4a	Cloudy	Moderate	08:57	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4a	Cloudy	Moderate	08:57	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4a	Cloudy	Moderate	08:57	4.4	Bottom	3	1	29	7.8	26.1	5.5	8	12.5
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4a	Cloudy	Moderate	08:57	4.4	Bottom	3	2	28	7.6	25.3	5.7	7.5	12.8
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4(N2)	Cloudy	Moderate	09:02	4.4	Surface	1	1	29	7.8	26.2	5.5	11.3	12.1

Project	Contract	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4(N2)	Cloudy	Moderate	09:02	4.4	Surface	1	2	28	7.6	25.3	5.6	11.7	11.9
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4(N2)	Cloudy	Moderate	09:02	4.4	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4(N2)	Cloudy	Moderate	09:02	4.4	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4(N2)	Cloudy	Moderate	09:02	4.4	Bottom	3	1	29	7.8	26.3	5.6	14.7	15.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR4(N2)	Cloudy	Moderate	09:02	4.4	Bottom	3	2	28	7.6	25.4	5.7	14.5	14.7
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS8(N)	Cloudy	Moderate	09:09	3.7	Surface	1	1	29.1	7.8	26.4	5.7	7.1	10.9
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS8(N)	Cloudy	Moderate	09:09	3.7	Surface	1	2	28.5	7.6	25.2	5.9	7.5	10.5
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS8(N)	Cloudy	Moderate	09:09	3.7	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS8(N)	Cloudy	Moderate	09:09	3.7	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS8(N)	Cloudy	Moderate	09:09	3.7	Bottom	3	1	29	7.8	26.3	5.8	8.2	12.5
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS8(N)	Cloudy	Moderate	09:09	3.7	Bottom	3	2	28	7.6	25.3	6	8.3	12.7
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)9	Cloudy	Moderate	09:16	3.1	Surface	1	1	29.1	7.8	26.5	5.6	8.5	13.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)9	Cloudy	Moderate	09:16	3.1	Surface	1	2	28.1	7.6	25.4	5.8	8.8	13.3
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)9	Cloudy	Moderate	09:16	3.1	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)9	Cloudy	Moderate	09:16	3.1	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)9	Cloudy	Moderate	09:16	3.1	Bottom	3	1	29	7.8	26.5	5.7	8.8	13.9
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)9	Cloudy	Moderate	09:16	3.1	Bottom	3	2	28	7.6	25.4	5.9	8.9	13.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:40	11.7	Surface	1	1	29.1	7.8	29.1	5.6	12.6	17.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:40	11.7	Surface	1	2	29.1	7.8	29.1	5.6	12.6	16.9
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:40	11.7	Middle	2	1	29	7.8	29.2	5.6	14.3	19.6
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:40	11.7	Middle	2	2	29	7.8	29.2	5.6	14.3	19.8
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:40	11.7	Bottom	3	1	29	7.8	29.2	5.7	14.1	21.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS(Mf)11	Cloudy	Moderate	07:40	11.7	Bottom	3	2	29	7.8	29.2	5.7	14.2	21.3
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR7	Cloudy	Moderate	07:30	4.5	Surface	1	1	29.1	7.7	29	5.7	11.6	15.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR7	Cloudy	Moderate	07:30	4.5	Surface	1	2	29.1	7.7	29	5.7	11.1	14.8
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR7	Cloudy	Moderate	07:30	4.5	Middle	2	1						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR7	Cloudy	Moderate	07:30	4.5	Middle	2	2						
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR7	Cloudy	Moderate	07:30	4.5	Bottom	3	1	29.1	7.7	29	5.8	15.2	17.7
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	SR7	Cloudy	Moderate	07:30	4.5	Bottom	3	2	29.1	7.7	29	5.8	15.6	18.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS17	Cloudy	Moderate	08:41	7.6	Surface	1	1	29.1	7.8	26.3	5.5	7.8	13.4
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS17	Cloudy	Moderate	08:41	7.6	Surface	1	2	28.2	7.6	25.3	5.7	7.2	13.1
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS17	Cloudy	Moderate	08:41	7.6	Middle	2	1	29.1	7.8	26.2	5.5	9	13.8
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS17	Cloudy	Moderate	08:41	7.6	Middle	2	2	28.1	7.6	25.3	5.7	8.7	14
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS17	Cloudy	Moderate	08:41	7.6	Bottom	3	1	29.1	7.8	26.3	5.6	12.3	16.9
TMCLKL	HY/2012/08	2019-09-30	Mid-Flood	IS17	Cloudy	Moderate	08:41	7.6	Bottom	3	2	28.1	7.6	25.3	5.8	12.6	17.1

Appendix K

Event and Action Plan

Event and Action Plan for Impact Air Monitoring

	Action			
	ET (a)	IEC (a)	SOR (a)	Contractor(s)
Action Level Exceedance				
1. Identify the source.	1. Check monitoring data submitted by the ET.	1. Confirm receipt of notification of failure in writing.	1. Rectify any unacceptable practice	
2. Repeat measurement to confirm finding. If two consecutive measurements exceed Action Level, the exceedance is then confirmed.	2. Check the Contractor's working method.	2. Notify the Contractor.	2. Amend working methods if appropriate	
3. Inform the IEC and the SOR.	3. If the exceedance is confirmed to be Project related after investigation, discuss with the ET and the Contractor on possible remedial measures.	3. Ensure remedial measures properly implemented.	3. If the exceedance is confirmed to be Project related, submit proposals for remedial actions to IEC within 3 working days of notification	
4. Investigate the cause of exceedance and check Contractor's working procedures to determine possible mitigation to be implemented.	4. Advise the SOR on the effectiveness of the proposed remedial measures.		4. Implement the agreed proposals	
5. If the exceedance is confirmed to be Project related after investigation, increase monitoring frequency to daily.	5. Supervise implementation of remedial measures.		5. Amend proposal if appropriate	
6. Discuss with the IEC and the Contractor on remedial actions required.				
7. If exceedance continues, arrange meeting with the IEC and the SOR.				
8. If exceedance stops, cease additional monitoring.				

	Action			
	ET (a)	IEC (a)	SOR (a)	Contractor(s)
Limit Level Exceedance				
	<ol style="list-style-type: none"> 1. Identify the source. 2. Repeat measurement to confirm finding. If two consecutive measurements exceed Limit Level, the exceedance is then confirmed. 3. Inform the IEC, the SOR, the DEP and the Contractor. 4. Investigate the cause of exceedance and check Contractor’s working procedures to determine possible mitigation to be implemented. 5. If the exceedance is confirmed to be Project related after investigation, increase monitoring frequency to daily. 6. Carry out analysis of the Contractor’s working procedures to determine possible mitigation to be implemented. 7. Arrange meeting with the IEC and the SOR to discuss the remedial actions to be taken. 8. Assess effectiveness of the Contractor’s remedial actions and keep the IEC, the DEP and the SOR informed of the results. 9. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET. 2. Check Contractor’s working method. 3. If the exceedance is confirmed to be Project related after investigation, discuss with the ET and the Contractor on possible remedial measures. 4. Advise the SOR on the effectiveness of the proposed remedial measures. 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. If the exceedance is confirmed to be Project related after investigation, in consultation with the IEC, agree with the Contractor on the remedial measures to be implemented. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance. 2. If the exceedance is confirmed to be Project related after investigation, submit proposals for remedial actions to IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Amend proposal if appropriate. 5. Stop the relevant activity of works as determined by the SOR until the exceedance is abated.

Note: (a) ET – Environmental Team; IEC – Independent Environmental Checker; SOR – Supervising Officer’s Representative

Event & Action Plan for Impact Water Quality Monitoring

Event	ET Leader	IEC	SOR	Contractor
Action level being exceeded by one sampling day	<ol style="list-style-type: none"> Repeat <i>in situ</i> measurement on next day of exceedance to confirm findings; Identify source(s) of impact; Inform IEC, contractor and SOR; Check monitoring data, all plant, equipment and Contractor's working methods. 	<ol style="list-style-type: none"> Check monitoring data submitted by ET and Contractor's working methods. 	<ol style="list-style-type: none"> Confirm receipt of notification of non-compliance in writing; Notify Contractor. 	<ol style="list-style-type: none"> Inform the SOR and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Amend working methods if appropriate.
Action level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> Repeat measurement on next day of exceedance to confirm findings; Identify source(s) of impact; Inform IEC, Contractor, SOR and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, SOR and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Action level; 	<ol style="list-style-type: none"> Check monitoring data submitted by ET and Contractor's working method; Discuss with ET and Contractor on possible remedial actions; Review the proposed mitigation measures submitted by Contractor and advise the SOR accordingly; Supervise the implementation of mitigation measures. 	<ol style="list-style-type: none"> Discuss with IEC on the proposed mitigation measures; Ensure mitigation measures are properly implemented; Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> Inform the Supervising Officer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Submit proposal of additional mitigation measures to SOR within 3 working days of notification and discuss with ET, IEC and SOR; Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> Repeat measurement on next day of exceedance to confirm findings; 	<ol style="list-style-type: none"> Check monitoring data submitted by ET and 	<ol style="list-style-type: none"> Confirm receipt of notification of failure in 	<ol style="list-style-type: none"> Inform the SOR and confirm notification of the

Event	ET Leader	IEC	SOR	Contractor
	<ol style="list-style-type: none"> 2. Identify source(s) of impact; 3. Inform IEC, Contractor, SOR and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, SOR and Contractor; 	<ol style="list-style-type: none"> Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the SOR accordingly. 	<ol style="list-style-type: none"> writing; 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to review the working methods. 	<ol style="list-style-type: none"> non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Submit proposal of mitigation measures to SOR within 3 working days of notification and discuss with ET, IEC and SOR.
Limit level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> 1. Repeat measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, SOR and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, SOR and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days; 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the Contractor's mitigation measures whenever necessary to assure their effectiveness and advise the SOR accordingly; 4. Supervise the implementation of mitigation measures. 	<ol style="list-style-type: none"> 1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Ensure mitigation measures are properly implemented; 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposal of mitigation measures to SOR within 3 working days of notification and discuss with ET, IEC and SOR; 3. Implement the agreed mitigation measures; 4. Resubmit proposals of mitigation measures if problem still not under control; 5. As directed by the Supervising Officer, to slow down or to stop all or part of the construction activities until no exceedance of Limit level.

Note: ET – Environmental Team, IEC – Independent Environmental Checker, SOR – Supervising Officer's Representative

Event/Action Plan for Impact Dolphin Monitoring

EVENT	ACTION			
	ET	IEC	SOR	Contractor
Action Level	<ol style="list-style-type: none"> 1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, SOR and Contractor; 5. Check monitoring data. 6. Review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and finding with the ET and the Contractor. 	<ol style="list-style-type: none"> 1. Discuss monitoring with the IEC and any other measures proposed by the ET; 2. If SOR is satisfied with the proposal of any other measures, SOR to signify the agreement in writing on the measures to be implemented. 	<ol style="list-style-type: none"> 1. Inform the SOR and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the SOR; 3. Implement the agreed measures.
Limit Level	<ol style="list-style-type: none"> 1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and findings with the ET and the Contractor; 3. Attend the meeting to discuss with ET, SOR and 	<ol style="list-style-type: none"> 1. Attend the meeting to discuss with ET, IEC and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures. 2. If SOR is satisfied with the 	<ol style="list-style-type: none"> 1. Inform the SOR and confirm notification of the non-compliance in writing; 2. Attend the meeting to discuss with ET, IEC and SOR the necessity of additional dolphin monitoring and any other

EVENT	ACTION			
	ET	IEC	SOR	Contractor
	<ol style="list-style-type: none"> 3. Identify source(s) of impact; 4. Inform the IEC, SOR and Contractor of findings; 5. Check monitoring data; 6. Repeat review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary. 7. If ET proves that the source of impact is caused by any of the construction activity by the works contract, ET to arrange a meeting to discuss with IEC, SOR and Contractor the necessity of additional dolphin monitoring and/or any other potential mitigation measures (e.g., consider to modify the perimeter silt curtain or consider to control/temporarily stop relevant construction activity etc.) and submit to IEC a proposal of additional dolphin monitoring and/or mitigation measures where necessary. 	<p>Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures.</p> <ol style="list-style-type: none"> 4. Review proposals for additional monitoring and any other mitigation measures submitted by ET and Contractor and advise SOR of the results and findings accordingly. 5. Supervise / Audit the implementation of additional monitoring and/or any other mitigation measures and advise SOR the results and findings accordingly. 	<p>proposals for additional dolphin monitoring and/or any other mitigation measures submitted by ET and Contractor and verified by IEC, SOR to signify the agreement in writing on such proposals and any other mitigation measures.</p> <ol style="list-style-type: none"> 3. Supervise the implementation of additional monitoring and/or any other mitigation measures. 	<p>potential mitigation measures.</p> <ol style="list-style-type: none"> 3. Jointly submit with ET to IEC a proposal of additional dolphin monitoring and/or any other mitigation measures when necessary. 4. Implement the agreed additional dolphin monitoring and/or any other mitigation measures.

Note: ET – Environmental Team, IEC – Independent Environmental Checker, SOR – Supervising Officer’s Representative

Appendix L

Cumulative Statistics on
Exceedances, Complaints,
Notifications of Summons
and Successful Prosecutions

Table L1 *Cumulative Statistics on Exceedances*

Parameters	Level of Exceedance	Total No. recorded in this reporting month	Total No. recorded since Contract commencement
1-hr TSP	Action	0	93
	Limit	1	8
24-hr TSP	Action	0	10
	Limit	0	4
Water Quality	Action	36	164
	Limit	0	19
Impact Dolphin Monitoring	Action	0	11
	Limit	0	16

Table L2 *Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions*

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This Reporting Month (September 2019)	0	0	0
Total No. received since Contract commencement	17	1	0

Email
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**Environmental
Resources
Management**

To Ramboll Hong Kong, Limited (ENPO)

From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Air Quality
Impact Monitoring

Date 27 September 2019

2507, 25/F One Harbourfront
18 Tak Fung Street
Hunghom, Kowloon
Hong Kong
Telephone: (852) 2271 3000
Facsimile: (852) 2723 5660



ERM

Dear Sir or Madam,

Please find attached the Notification of Exceedance (NOE) of the following
Log no.:

0212330_20September2019_1hrTSP_Station ASR1

One Limit Level Exceedance was recorded on 20 September 2019.

Regards,

A handwritten signature in black ink, appearing to read 'Jasmine'.

Dr Jasmine Ng
Environmental Team Leader

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
 TUEN MUN – CHEK LAP KOK LINK –
 NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring
 Notification of Exceedance

Log No.	<u>Limit Level Exceedance</u> 0212330_20September2019_1hrTSP_Station ASR1 [Total No. of Exceedances = 1]	
Date	20 September 2019 (Measured) 26 September 2019 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	24-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	500
	24-hr TSP ($\mu\text{g}/\text{m}^3$)	260
Measured Levels	Limit Level Exceedance for 1-hr TSP is observed at ASR1 ($539 \mu\text{g}/\text{m}^3$) during 1049 - 1149 hrs.	
Works Undertaken (at the time of monitoring event)	On 20 September 2019, Road and Drainage Works were carried out on site.	
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedance is unlikely to be due to this Contract, in view of the following:</p> <ul style="list-style-type: none"> • According to the construction information provided by the Contractor, only Road and Drainage Works were carried out on site on 20 September 2019 • The exceedance is unlikely to be due to this Contract as dust suppression measures were implemented properly on site. Water spraying was applied on site to prevent dust. Water spraying was also applied on exposed soil within the Project site and associated works areas. • With reference to the recorded wind direction (ranged between 2° and 5°, blowing from a northerly direction) and wind speed (ranged between 0.5 and 0.7 m/s) during the works period, Stations ASR1 are located downstream to the construction works at Portion N-A. However, the exceedance was only recorded in the third hour of 1-hour TSP monitoring with the same construction works and dust mitigation measures being carried out. Road & Drainage Works carried out at Portion N-A are unlikely to cause significant dust impact. <p>Based on the above, the exceedance is unlikely to be due to this Contract.</p>	

Actions Taken/ To Be Taken	The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site throughout the construction period.
Remarks	The monitoring results and the locations of air quality monitoring stations are attached.



Annex A Photos provided by the Contractor

*Note: Photos taken on 20/9/2019



Water truck was used for water spraying to prevent dust. (Works Area Portion N-C)



Water spraying was applied on main haul road to prevent dust. (Works Area Portion N-A)

Air quality monitoring results on 20/9/2019

Project	Contract	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	20/9/2019	AQMS1	Sunny	8:56	1-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	20/9/2019	AQMS1	Sunny	9:58	1-hour TSP	116	ug/m3
TMCLKL	HY/2012/08	20/9/2019	AQMS1	Sunny	11:00	1-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR1	Sunny	8:45	1-hour TSP	220	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR1	Sunny	9:47	1-hour TSP	214	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR1	Sunny	10:49	1-hour TSP	539	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR10	Sunny	8:11	1-hour TSP	107	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR10	Sunny	9:13	1-hour TSP	93	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR10	Sunny	10:15	1-hour TSP	58	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR5	Sunny	8:33	1-hour TSP	141	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR5	Sunny	9:35	1-hour TSP	188	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR5	Sunny	10:37	1-hour TSP	144	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR6	Sunny	8:23	1-hour TSP	152	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR6	Sunny	9:25	1-hour TSP	163	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR6	Sunny	10:27	1-hour TSP	131	ug/m3
TMCLKL	HY/2012/08	20/9/2019	AQMS1	Sunny	12:02	24-hour TSP	67	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR1	Sunny	11:51	24-hour TSP	114	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR10	Sunny	11:17	24-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR5	Sunny	11:39	24-hour TSP	107	ug/m3
TMCLKL	HY/2012/08	20/9/2019	ASR6	Sunny	11:29	24-hour TSP	101	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/09/20	0:00	0.5	274
19/09/20	1:00	0.6	285
19/09/20	2:00	1.2	291
19/09/20	3:00	1	288
19/09/20	4:00	1.1	251
19/09/20	5:00	0.5	322
19/09/20	6:00	0.4	288
19/09/20	7:00	0.3	351
19/09/20	8:00	0.5	350
19/09/20	9:00	0.6	347
19/09/20	10:00	0.7	5
19/09/20	11:00	0.5	2
19/09/20	12:00	0.5	347
19/09/20	13:00	0.3	322
19/09/20	14:00	0.8	21
19/09/20	15:00	0.2	24
19/09/20	16:00	0.1	3
19/09/20	17:00	0.1	357
19/09/20	18:00	0.2	344
19/09/20	19:00	0.3	351
19/09/20	20:00	0.5	352
19/09/20	21:00	0.6	287
19/09/20	22:00	1.1	295
19/09/20	23:00	0.4	354
19/09/20	0:00	0.3	305



Contract No. HY/2012/08
Tuen Mun – Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section

Weekly Water Spraying Record
每週灑水檢查記錄

Site Location 地盤位置: Northern Landfall
Date 日期: 16 Sep 2019 to 至 22 Sep 2019

	Time 時間	Monday 星期一	Tuesday 星期二	Wednesday 星期三	Thursday 星期四	Friday 星期五	Saturday 星期六	Sunday 星期日
1	8:00 – 8:45	/	/	/	/	/	/	/
2	8:45 – 9:30	/	/	/	/	/	/	/
3	9:30 – 10:15	/	/	/	/	/	/	/
4	10:15 – 11:00	/	/	/	/	/	/	/
5	11:00 – 11:45	/	/	/	/	/	/	/
6	11:45 – 12:30	/	/	/	/	/	/	/
7	12:30 – 13:15	/	/	/	/	/	/	/
8	13:15 – 14:00	/	/	/	/	/	/	/
9	14:00 – 14:45	/	/	/	/	/	/	/
10	14:45 – 15:30	/	/	/	/	/	/	/
11	15:30 – 16:45	/	/	/	/	/	/	/
12	16:45 – 17:30	/	/	/	/	/	/	/
	Verified by Site Foreman 地盤科文簽署確認	7	7	7	7	7	7	7

Night shift 夜間工作 (if necessary 如需要)								
	17:30 – 19:00							
	19:00 – 20:30							
	20:30 – 22:00							
	22:00 – 23:00							

*Please - tick (√) in the box if complete the spraying of water.
circle (O) in the box if it is raining.

*如果 - 已經完成灑水, 請於方格內加上剔號(√)。
是下雨天, 請於方格內加上圓圈(O)。

Remarks:

- Pursuant to EP Clause 3.15, the Permit Holder shall undertake watering at least 12 times per day on all exposed soil within the Project site and associated work areas in Tuen Mun area throughout the construction phase.
- Spraying position includes the main haul road, open area, slopes, stockpiles and any other dusty materials.
- If it is raining, no water spraying is needed.
- The no of spraying will be increased due to site condition.

備註:

- 根據環境許可證 3.15 條例, 在整個施工階段內, 許可證持有人須每天至少 12 次在屯門區項目工地和相關的工作區域內的所有暴露土壤灑水。
- 灑水位置包括主要運輸道路, 空曠地帶, 斜坡, 存料堆, 以及任何其他產生塵埃物料。
- 當下雨時, 地盤將不需要灑水。
- 如果地盤情況更改或有需要時, 灑水次數會相應增加。

Email
message

Environmental
Resources
Management

To Ramboll Hong Kong Limited (ENPO)

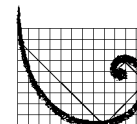
From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Water Quality
Impact Monitoring

Date 16 September 2019

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com



ERM

Dear Sir or Madam,

Please find the Notification of Exceedance (NOE) of the following Log no.:
Action Level Exceedance
0212330_6 September 2019_ Bottom DO_F_Station SR4a

A total of one Action Level exceedance was recorded on 6 September 2019.

Regards,

A handwritten signature in blue ink that reads "Jasmine".

Dr Jasmine Ng
Environmental Team Leader

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08

TUEN MUN - CHEK LAP KOK LINK -
NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Marine Water Quality Impact Monitoring
Notification of Exceedance

Log No.	<u>Action Level Exceedance</u> 0212330_6 September 2019_ Bottom DO_F_Station SR4a [Total No. of Exceedances = 1]		
Date	6 September 2019 (Measured) 9 September 2019 (<i>In situ</i> results received by ERM) 17 September 2019 (Laboratory results received by ERM)		
Monitoring Station	CS(Mf)5, SR4a, SR4(N2), IS8(N), IS(Mf)16, IS(Mf)9, CS(Mf)3(N), SR7, IS17, IS(Mf)11		
Parameter(s) with Exceedance(s)	Dissolved Oxygen (mg/L)		
Action Levels	DO	Surface and Middle 5.0 mg/L	Bottom 4.7 mg/L
Limit Levels	DO	Surface and Middle 4.2 mg/L	Bottom 3.6 mg/L
Measured Levels	<u>Action Level Exceedance</u> 1. Mid-flood at SR4a (Bottom-depth DO = 4.5 mg/L)		
Works Undertaken (at the time of monitoring event)	According to the information provided by the Contractor, Seawall Modification Works was carried out on 6 September 2019.		
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedances are unlikely to be due to the Contract, in view of the following:</p> <ul style="list-style-type: none"> All monitored parameters, except DO, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. SR4a is far away (>2 km) from the Seawall Modification Works Area (<i>Figure 1</i>), thus the observed exceedance should not be affected by the marine works under this Contract. Therefore, the exceedance is unlikely to be related to this Contract. The DO pattern at SR4a during mid-flood tide was similar to their corresponding control station where the bottom-depth DO levels were generally lower. Lower bottom-depth DO levels may be possibly caused by the stratification of seawater during summer when the freshwater discharged from the Pearl River tended to form a surface layer of lower salinity water, which is probably responsible for the lower Salinity recorded at the surface and middle levels compared to the higher Salinity recorded at the bottom level of the monitoring stations. The stratification of seawater in the water column is likely a contributing factor to the results of lower levels of DO at the bottom level. As reported by the marine mammal observer, no discharge of organic matters into waters from landside works area was recorded. Moreover, no exceedance was recorded at IS(Mf)16 which is the closest station to the Seawall Modification Works Area during both mid-ebb and mid-flood tide. Therefore, exceedances recorded at SR4a during mid-flood tide are unlikely to be caused by the marine works of this Contract. 		
Actions Taken/To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.		
Remarks	The monitoring results on 6 September 2019 and locations of water quality monitoring stations are attached.		

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)5	18:40	Surface	1	1	28.0	7.9	25.8	5.5	5.2	1.0	1.4	3.2	2.7	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)5	18:40	Surface	1	2	28.1	7.9	25.6	5.6		1.0		3.2		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)5	18:40	Middle	2	1	27.5	7.9	27.8	4.9		1.6		3.2		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)5	18:40	Middle	2	2	27.5	7.9	27.7	4.9		1.5		3.5		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)5	18:40	Bottom	3	1	27.5	7.9	27.7	4.9		4.9		1.7		1.6
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)5	18:40	Bottom	3	2	27.5	7.9	27.8	4.9	4.9	1.7	1.3			
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)3(N)	17:53	Surface	1	1	28.4	7.9	19.7	5.6	5.4	2.5	3.2	3.5	4.8	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)3(N)	17:53	Surface	1	2	28.5	7.9	19.8	5.5		2.7		3.7		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)3(N)	17:53	Middle	2	1	28.0	7.9	22.9	5.3		2.7		4.3		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)3(N)	17:53	Middle	2	2	28.0	7.9	22.9	5.3		2.5		3.8		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)3(N)	17:53	Bottom	3	1	28.0	7.9	25.2	5.4		5.4		6.4		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	CS(Mf)3(N)	17:53	Bottom	3	2	28.0	7.9	25.1	5.4	5.4	4.2	7.0			
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)16	17:18	Surface	1	1	28.0	7.9	24.9	5.5	5.6	5.2	5.2	7.1	5.1	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)16	17:18	Surface	1	2	28.1	7.9	24.7	5.6		5.3		6.7		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)16	17:18	Middle	2	1										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)16	17:18	Middle	2	2										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)16	17:18	Bottom	3	1	27.6	7.8	25.8	5.0		5.0		5.2		3.2
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)16	17:18	Bottom	3	2	27.6	7.8	25.8	5.0	5.0	5.2	3.5			
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4a	17:09	Surface	1	1	28.1	7.8	24.6	5.7	5.7	9.4	12.3	4.0	4.7	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4a	17:09	Surface	1	2	28.2	7.8	24.4	5.7		9.2		3.9		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4a	17:09	Middle	2	1										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4a	17:09	Middle	2	2										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4a	17:09	Bottom	3	1	27.9	7.8	24.9	4.9		4.9		15.2		5.4
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4a	17:09	Bottom	3	2	27.9	7.8	24.9	4.9	4.9	15.4	5.3			
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4(N2)	17:04	Surface	1	1	28.4	7.9	24.1	5.9	5.9	4.1	6.4	5.6	4.6	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4(N2)	17:04	Surface	1	2	28.4	7.9	24.1	5.9		4.2		5.2		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4(N2)	17:04	Middle	2	1										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4(N2)	17:04	Middle	2	2										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4(N2)	17:04	Bottom	3	1	28.4	7.8	24.2	6.0		6.0		8.5		3.7
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR4(N2)	17:04	Bottom	3	2	28.3	7.8	24.2	6.0	6.0	8.8	3.7			
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS8(N)	17:01	Surface	1	1	28.3	7.9	24.4	5.6	5.6	9.1	9.6	4.5	4.0	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS8(N)	17:01	Surface	1	2	28.3	7.9	24.4	5.6		8.8		4.6		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS8(N)	17:01	Middle	2	1										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS8(N)	17:01	Middle	2	2										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS8(N)	17:01	Bottom	3	1	28.3	7.8	24.4	5.6		5.6		10.1		3.6
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS8(N)	17:01	Bottom	3	2	28.3	7.8	24.4	5.6	5.6	10.2	3.3			
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)9	16:58	Surface	1	1	28.8	7.9	24.6	6.1	6.1	11.8	12.5	7.2	11.4	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)9	16:58	Surface	1	2	28.8	7.9	24.6	6.1		11.7		7.6		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)9	16:58	Middle	2	1										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)9	16:58	Middle	2	2										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)9	16:58	Bottom	3	1	28.6	7.8	24.6	6.1		6.1		13.4		16.1
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)9	16:58	Bottom	3	2	28.6	7.8	24.6	6.1	6.1	13.0	14.5			
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)11	18:15	Surface	1	1	28.5	7.9	23.1	6.1	5.6	5.2	7.5	5.2	8.4	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)11	18:15	Surface	1	2	28.7	7.9	22.9	6.1		5.5		4.7		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)11	18:15	Middle	2	1	27.6	7.9	26.0	5.0		8.9		6.7		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)11	18:15	Middle	2	2	27.6	7.9	25.9	5.0		8.9		7.3		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)11	18:15	Bottom	3	1	27.5	7.9	26.2	4.8		4.8		8.3		12.9
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS(Mf)11	18:15	Bottom	3	2	27.5	7.9	26.3	4.8	4.8	8.2	13.6			
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR7	18:22	Surface	1	1	28.3	7.9	24.7	5.7	5.8	2.7	4.0	5.5	4.7	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR7	18:22	Surface	1	2	28.4	7.9	24.6	5.8		2.3		5.5		
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR7	18:22	Middle	2	1										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR7	18:22	Middle	2	2										
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR7	18:22	Bottom	3	1	28.2	7.9	24.9	5.6		5.7		5.5		4.0
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	SR7	18:22	Bottom	3	2	28.2	7.9	24.9	5.7	5.7	5.3	3.7			
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS17	17:24	Surface	1	1	28.1	7.9	25.1	5.7	5.3	1.7	4.4	6.6	4.4	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS17	17:24	Surface	1	2	28.2	7.9	24.9	5.7		5.3		1.5		6.1
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS17	17:24	Middle	2	1	27.5	7.9	26.4	4.8		4.8		5.6		3.5
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS17	17:24	Middle	2	2	27.5	7.9	26.3	4.9		4.9		5.0		3.4

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS17	17:24	Bottom	3	1	27.5	7.9	26.6	4.9	4.9	6.1		3.5	
TMCLKL	HY/2012/08	2019/09/06	Mid-Ebb	IS17	17:24	Bottom	3	2	27.4	7.9	26.7	4.9		6.5		3.2	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)5	11:50	Surface	1	1	27.8	7.8	24.7	5.4	5.3	1.8	3.5	2.0	3.3
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)5	11:50	Surface	1	2	27.9	7.9	24.3	5.5		1.6		2.1	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)5	11:50	Middle	2	1	27.5	7.8	25.8	5.0		2.1		3.3	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)5	11:50	Middle	2	2	27.6	7.8	25.5	5.1		2.3		3.1	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)5	11:50	Bottom	3	1	27.3	7.8	27.1	4.8	4.8	6.6		4.8	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)5	11:50	Bottom	3	2	27.3	7.8	27.2	4.8		6.5		4.3	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)3(N)	12:47	Surface	1	1	28.9	7.8	18.0	6.1	5.8	2.2	3.2	9.9	5.3
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)3(N)	12:47	Surface	1	2	29.0	7.8	18.0	6.1		2.3		10.7	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)3(N)	12:47	Middle	2	1	28.3	7.8	19.8	5.6		3.7		3.9	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)3(N)	12:47	Middle	2	2	28.3	7.8	20.0	5.5		3.4		3.3	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)3(N)	12:47	Bottom	3	1	28.4	7.8	22.3	5.5	5.5	3.8		1.9	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	CS(Mf)3(N)	12:47	Bottom	3	2	28.3	7.8	22.4	5.5		3.9		1.8	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)16	13:27	Surface	1	1	28.1	7.8	24.4	5.6	5.6	5.5	6.1	7.5	6.6
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)16	13:27	Surface	1	2	28.1	7.8	24.3	5.6		5.7		7.6	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)16	13:27	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)16	13:27	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)16	13:27	Bottom	3	1	28.0	7.8	24.4	5.7	5.7	6.4		5.9	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)16	13:27	Bottom	3	2	28.0	7.8	24.4	5.7		6.6		5.3	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4a	13:36	Surface	1	1	28.4	7.8	24.1	5.7	5.7	8.4	8.2	2.9	3.2
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4a	13:36	Surface	1	2	28.5	7.8	23.9	5.7		8.2		2.5	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4a	13:36	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4a	13:36	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4a	13:36	Bottom	3	1	27.8	7.8	25.0	4.5	4.5	8.1		3.6	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4a	13:36	Bottom	3	2	27.7	7.8	25.0	4.5		8.1		3.8	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4(N2)	13:41	Surface	1	1	28.3	7.9	24.0	5.7	5.7	2.9	2.7	4.8	3.3
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4(N2)	13:41	Surface	1	2	28.4	7.9	23.9	5.7		2.7		4.5	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4(N2)	13:41	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4(N2)	13:41	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4(N2)	13:41	Bottom	3	1	28.5	7.9	23.7	5.7	5.7	2.5		1.8	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR4(N2)	13:41	Bottom	3	2	28.4	7.9	23.9	5.6		2.8		1.9	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS8(N)	13:48	Surface	1	1	28.6	7.9	24.0	5.9	5.9	2.7	3.4	3.5	3.1
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS8(N)	13:48	Surface	1	2	28.6	7.9	23.9	5.9		2.2		3.5	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS8(N)	13:48	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS8(N)	13:48	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS8(N)	13:48	Bottom	3	1	28.4	7.8	24.2	5.8	5.8	4.4		2.8	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS8(N)	13:48	Bottom	3	2	28.4	7.8	24.2	5.7		4.3		2.6	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)9	13:54	Surface	1	1	28.1	7.9	24.9	5.5	5.5	10.3	12.3	6.0	9.7
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)9	13:54	Surface	1	2	28.1	7.9	24.9	5.5		10.7		5.3	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)9	13:54	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)9	13:54	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)9	13:54	Bottom	3	1	28.2	7.9	24.9	5.5	5.5	14.2		13.0	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)9	13:54	Bottom	3	2	28.2	7.9	25.0	5.4		13.8		14.4	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)11	12:23	Surface	1	1	28.0	7.9	24.5	5.4	5.1	6.2	11.8	3.7	8.9
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)11	12:23	Surface	1	2	28.2	7.9	24.3	5.4		6.0		3.6	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)11	12:23	Middle	2	1	27.5	7.8	26.1	4.9		13.9		6.9	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)11	12:23	Middle	2	2	27.5	7.8	26.1	4.8		13.3		7.0	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)11	12:23	Bottom	3	1	27.6	7.8	26.1	5.1	5.1	15.9		15.7	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS(Mf)11	12:23	Bottom	3	2	27.6	7.8	26.1	5.0		15.7		16.5	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR7	12:15	Surface	1	1	28.1	7.8	24.6	5.4	5.4	7.5	9.6	6.7	7.1
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR7	12:15	Surface	1	2	28.2	7.8	24.3	5.4		7.9		6.5	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR7	12:15	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR7	12:15	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR7	12:15	Bottom	3	1	27.7	7.8	25.6	4.9	4.9	11.3		7.6	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	SR7	12:15	Bottom	3	2	27.7	7.8	25.7	4.9		11.6		7.7	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS17	13:19	Surface	1	1	27.8	7.9	24.8	5.2	5.2	3.3	5.9	7.0	5.7
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS17	13:19	Surface	1	2	27.8	7.9	24.8	5.2		3.7		6.6	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS17	13:19	Middle	2	1	27.6	7.8	25.6	5.1		4.4		5.2	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS17	13:19	Middle	2	2	27.6	7.8	25.4	5.1		4.4		5.4	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS17	13:19	Bottom	3	1	27.5	7.8	26.1	4.8	4.8	9.9		5.2	
TMCLKL	HY/2012/08	2019/09/06	Mid-flood	IS17	13:19	Bottom	3	2	27.5	7.8	26.3	4.8		9.9		4.9	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

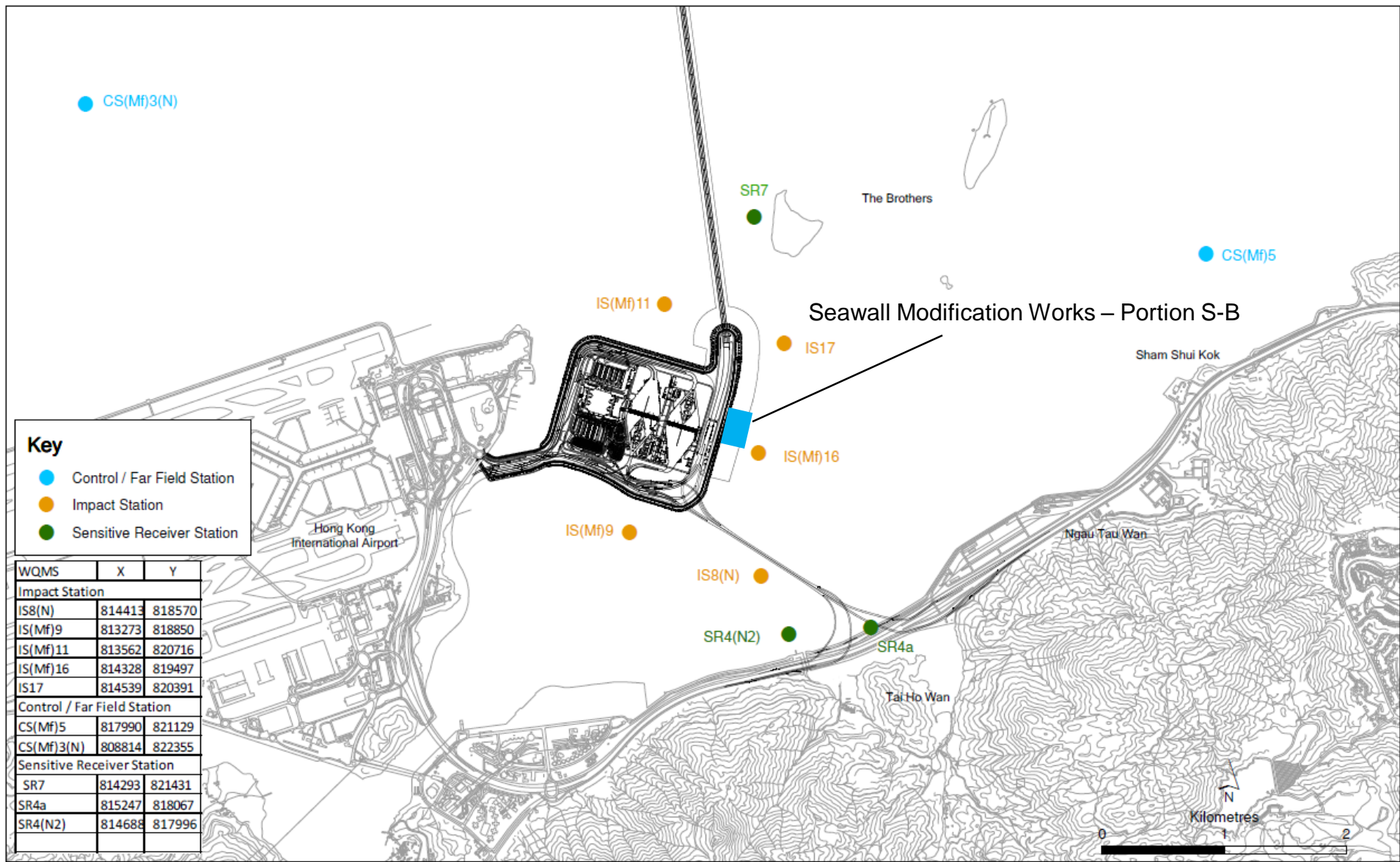


Figure 1

Email
message

Environmental
Resources
Management

To Ramboll Hong Kong Limited (ENPO)

From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Water Quality
Impact Monitoring

Date 23 September 2019

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com



ERM

Dear Sir or Madam,

Please find the Notification of Exceedance (NOE) of the following Log no.:
Action Level Exceedance
0212330_9 September 2019_Depth-averaged SS_E_Station IS(Mf)9

A total of one Action Level exceedance was recorded on 9 September 2019.

Regards,

A handwritten signature in blue ink that reads "Jasmine". The signature is written in a cursive, flowing style.

Dr Jasmine Ng
Environmental Team Leader

CONFIDENTIALITY NOTICE

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08

TUEN MUN - CHEK LAP KOK LINK -
NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Marine Water Quality Impact Monitoring
Notification of Exceedance

Log No.	Action Level Exceedance 0212330_9 September 2019_ Depth-averaged SS_E_Station IS(Mf)9 [Total No. of Exceedances = 1]	
Date	9 September 2019 (Measured) 12 September 2019 (<i>In situ</i> results received by ERM) 19 September 2019 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4(N2), IS8(N), IS(Mf)16, IS(Mf)9, CS(Mf)3(N), SR7, IS17, IS(Mf)11	
Parameter(s) with Exceedance(s)	Suspended Solids (mg/L)	
Action Levels	SS	120% of upstream control station at the same tide of the same day and 95%-ile of baseline data, i.e., 23.5 mg/L
Limit Levels	SS	130% of upstream control station at the same tide of the same day and 10mg/L for WSD Seawater Intakes at Tuen Mun and 99%-ile of baseline data, i.e., 34.4 mg/L
Measured Levels	<u>Action Level Exceedance</u> 1. Mid-ebb at IS(Mf)9 (Depth-averaged SS = 24.2 mg/L)	
Works Undertaken (at the time of monitoring event)	According to the information provided by the Contractor, Seawall Modification Works was carried out on 9 September 2019.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Contract, in view of the following: <ul style="list-style-type: none"> All monitored parameters, except SS, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. For the exceedance of SS level at IS(Mf)9 during mid-ebb tide, IS(Mf)9 is far away (>1.5km) from the Seawall Modification Works Area (Figure 1), thus the observed exceedance should not be affected by the marine works under this Contract. Moreover, no exceedance of SS was recorded at IS(Mf)16 during mid-ebb tide, which are closer to the Seawall Modification Works Area than IS(Mf)9. Therefore, the exceedance is unlikely to be related to this Contract. 	
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.	
Remarks	The monitoring results on 9 September 2019 and locations of water quality monitoring stations are attached.	

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)5	8:55	Surface	1	1	29.4	7.8	19.2	7.8	6.4	1.0	2.9	5.3	4.6		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)5	8:55	Surface	1	2	29.4	8.0	18.8	7.8		1.1		5.6			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)5	8:55	Middle	2	1	28.4	7.8	26.9	5.0		2.2		4.4			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)5	8:55	Middle	2	2	28.4	7.8	26.4	5.0		2.5		4.4			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)5	8:55	Bottom	3	1	27.9	7.8	29.8	4.2	4.2	5.4	2.9	3.8	4.6		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)5	8:55	Bottom	3	2	27.9	7.8	29.3	4.2		5.1		4.1			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)3(N)	9:57	Surface	1	1	29.6	8.0	15.7	8.3	7.4	1.4	2.2	4.7	4.5		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)3(N)	9:57	Surface	1	2	29.6	8.0	15.4	8.3		1.2		4.6			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)3(N)	9:57	Middle	2	1	29.4	7.9	20.1	6.4		2.5		4.7			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)3(N)	9:57	Middle	2	2	29.4	7.8	19.6	6.4		2.0		4.0			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)3(N)	9:57	Bottom	3	1	28.3	7.7	26.2	4.9	4.9	3.3	2.2	4.2	4.5		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	CS(Mf)3(N)	9:57	Bottom	3	2	28.3	7.8	25.6	4.9		2.7		5.0			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)16	10:32	Surface	1	1	30.0	8.1	21.0	11.0	11.0	3.6	5.2	9.9	8.5		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)16	10:32	Surface	1	2	30.0	8.2	20.6	11.0		3.1		9.0			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)16	10:32	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)16	10:32	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)16	10:32	Bottom	3	1	28.8	8.0	25.7	5.7	5.8	7.2	3.8	7.0	5.8		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)16	10:32	Bottom	3	2	28.8	7.9	25.2	5.8		6.7		8.0			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4a	10:43	Surface	1	1	29.7	8.0	19.5	8.9	8.9	1.9	3.8	5.8	5.8		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4a	10:43	Surface	1	2	29.7	8.0	19.2	8.8		1.6		5.7			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4a	10:43	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4a	10:43	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4a	10:43	Bottom	3	1	28.7	7.8	24.1	5.1	5.1	6.1	3.8	5.8	5.8		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4a	10:43	Bottom	3	2	28.7	7.8	23.7	5.1		5.6		5.7			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4(N2)	10:50	Surface	1	1	29.9	8.0	19.2	9.1	9.1	4.1	6.0	6.3	7.2		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4(N2)	10:50	Surface	1	2	29.9	8.1	18.8	9.1		3.3		7.3			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4(N2)	10:50	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4(N2)	10:50	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4(N2)	10:50	Bottom	3	1	29.6	7.8	21.6	7.0	7.0	8.5	6.0	7.2	7.2		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR4(N2)	10:50	Bottom	3	2	29.6	7.9	21.2	7.0		8.0		8.0			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS8(N)	10:57	Surface	1	1	29.9	8.1	19.0	10.2	10.3	1.6	3.4	6.4	7.5		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS8(N)	10:57	Surface	1	2	29.9	8.2	18.6	10.3		1.3		5.9			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS8(N)	10:57	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS8(N)	10:57	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS8(N)	10:57	Bottom	3	1	29.9	8.0	20.4	10.1	10.1	5.5	3.4	9.4	7.5		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS8(N)	10:57	Bottom	3	2	29.9	8.1	20.0	10.1		5.1		8.4			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)9	11:05	Surface	1	1					10.1		10.6		24.2		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)9	11:05	Surface	1	2											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)9	11:05	Middle	2	1	30.1	8.1	22.2	10.0		10.6		22.8			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)9	11:05	Middle	2	2	30.1	8.1	21.7	10.1		10.5		25.6			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)9	11:05	Bottom	3	1					#DIV/0!						
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)11	9:29	Surface	1	1	29.7	7.9	18.7	8.0	6.6	2.5	2.4	5.7	5.6		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)11	9:29	Surface	1	2	29.6	8.0	18.3	8.0		2.1		5.3			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)11	9:29	Middle	2	1	28.7	7.8	23.5	5.2		2.7		5.8			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)11	9:29	Middle	2	2	28.7	7.8	23.0	5.2		2.2		4.7			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)11	9:29	Bottom	3	1	28.0	7.7	28.0	4.8	4.8	2.6	1.9	6.6	5.7		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS(Mf)11	9:29	Bottom	3	2	28.0	7.8	27.5	4.7		2.3		5.6			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR7	9:21	Surface	1	1	29.7	7.9	17.3	8.4	8.4	1.6	1.9	6.0	5.7		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR7	9:21	Surface	1	2	29.7	8.0	17.0	8.4		1.4		5.0			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR7	9:21	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR7	9:21	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR7	9:21	Bottom	3	1	29.4	7.8	19.2	7.2	7.2	2.1	1.9	5.4	5.7		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	SR7	9:21	Bottom	3	2	29.4	7.9	18.8	7.2		2.3		6.3			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS17	10:25	Surface	1	1	29.6	7.9	21.4	8.8	7.3	2.2	4.4	19.4	12.8		
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS17	10:25	Surface	1	2	29.6	8.0	20.9	8.8		2.0		17.1			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS17	10:25	Middle	2	1	28.7	7.8	23.8	5.9		4.1		5.4			
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS17	10:25	Middle	2	2	28.7	7.8	23.3	5.8		3.4		5.5			

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS17	10:25	Bottom	3	1	28.0	7.8	28.1	4.8	4.9	7.6		15.6	
TMCLKL	HY/2012/08	2019/09/09	Mid-Ebb	IS17	10:25	Bottom	3	2	28.0	7.7	27.5	4.9		6.9		14.0	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)5	18:04	Surface	1	1	29.2	7.9	22.0	7.9	6.5	1.2	3.8	6.0	6.1
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)5	18:04	Surface	1	2	29.2	7.9	21.6	7.9		1.0		6.7	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)5	18:04	Middle	2	1	28.3	7.9	28.1	5.0		2.0		6.6	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)5	18:04	Middle	2	2	28.3	7.8	27.6	5.0		1.9		5.9	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)5	18:04	Bottom	3	1	28.1	8.0	29.3	4.6	4.7	8.7		5.2	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)5	18:04	Bottom	3	2	28.1	7.8	28.7	4.7		7.8		6.2	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)3(N)	17:07	Surface	1	1	31.2	8.1	12.0	11.2	10.6	4.1	5.6	5.7	8.3
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)3(N)	17:07	Surface	1	2	31.2	8.1	11.7	11.2		3.3		4.7	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)3(N)	17:07	Middle	2	1	30.5	8.0	15.9	10.0		6.7		7.4	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)3(N)	17:07	Middle	2	2	30.4	8.0	15.7	9.9		5.9		8.2	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)3(N)	17:07	Bottom	3	1	28.7	8.0	23.5	5.2	5.2	6.9		11.7	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	CS(Mf)3(N)	17:07	Bottom	3	2	28.7	7.8	23.0	5.2		6.5		12.0	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)16	16:33	Surface	1	1	30.6	8.2	19.1	14.1	14.2	3.5	5.6	8.0	7.6
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)16	16:33	Surface	1	2	30.6	8.1	18.8	14.3		2.9		7.9	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)16	16:33	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)16	16:33	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)16	16:33	Bottom	3	1	29.5	7.9	22.1	8.7	8.7	8.5		6.7	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)16	16:33	Bottom	3	2	29.5	7.7	21.7	8.6		7.5		7.7	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4a	16:23	Surface	1	1	30.5	8.1	19.5	12.9	13.0	4.9	5.8	9.8	8.3
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4a	16:23	Surface	1	2	30.5	8.0	19.2	13.1		4.1		9.0	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4a	16:23	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4a	16:23	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4a	16:23	Bottom	3	1	29.6	7.8	21.3	8.2	8.3	7.6		7.4	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4a	16:23	Bottom	3	2	29.6	7.7	20.9	8.3		6.7		7.1	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4(N2)	16:17	Surface	1	1	30.8	8.2	19.2	14.7	14.8	2.4	3.8	6.4	5.8
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4(N2)	16:17	Surface	1	2	30.8	8.2	18.9	14.9		2.3		5.6	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4(N2)	16:17	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4(N2)	16:17	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4(N2)	16:17	Bottom	3	1	29.9	8.1	20.3	11.8	11.9	5.4		5.0	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR4(N2)	16:17	Bottom	3	2	29.9	7.9	19.9	11.9		4.9		6.0	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS8(N)	16:10	Surface	1	1	30.4	8.1	18.8	12.7	12.8	3.9	4.6	8.0	8.8
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS8(N)	16:10	Surface	1	2	30.4	8.0	18.5	12.8		3.8		8.9	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS8(N)	16:10	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS8(N)	16:10	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS8(N)	16:10	Bottom	3	1	30.3	8.0	19.2	12.1	12.2	5.9		9.6	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS8(N)	16:10	Bottom	3	2	30.3	8.0	18.8	12.2		4.9		8.6	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)9	16:00	Surface	1	1					10.2		5.5	8.0	7.8
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)9	16:00	Surface	1	2									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)9	16:00	Middle	2	1	29.8	7.9	20.8	10.1		5.8		7.5	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)9	16:00	Middle	2	2	29.9	7.8	20.3	10.3		5.2			
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)9	16:00	Bottom	3	1					#DIV/0!				
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)9	16:00	Bottom	3	2									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)11	17:35	Surface	1	1	30.2	8.0	19.0	11.0	8.3	4.1	8.7	6.0	8.6
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)11	17:35	Surface	1	2	30.2	8.1	18.6	11.0		3.3		5.0	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)11	17:35	Middle	2	1	28.4	7.8	26.0	5.5		11.2		6.7	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)11	17:35	Middle	2	2	28.4	7.8	25.4	5.5		10.6		7.5	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)11	17:35	Bottom	3	1	28.3	7.9	26.8	4.7	4.7	11.7		12.4	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS(Mf)11	17:35	Bottom	3	2	28.2	7.8	26.3	4.7		11.2		13.9	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR7	17:43	Surface	1	1	30.8	8.2	16.8	12.6	12.7	2.5	3.8	5.6	5.9
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR7	17:43	Surface	1	2	30.8	8.2	16.6	12.7		2.3		6.6	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR7	17:43	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR7	17:43	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR7	17:43	Bottom	3	1	29.8	8.1	20.6	9.3	9.3	5.5		6.0	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	SR7	17:43	Bottom	3	2	29.8	8.0	20.3	9.3		4.9		5.3	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS17	16:39	Surface	1	1	30.9	8.2	17.6	14.5	11.8	2.3	4.0	8.0	7.0
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS17	16:39	Surface	1	2	30.9	8.2	17.3	14.7		2.1		7.0	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS17	16:39	Middle	2	1	29.5	8.0	21.8	8.9		3.0		6.0	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS17	16:39	Middle	2	2	29.5	7.8	21.5	8.9		2.9		6.9	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS17	16:39	Bottom	3	1	28.2	7.9	27.4	4.6	4.7	7.0		7.4	
TMCLKL	HY/2012/08	2019/09/09	Mid-flood	IS17	16:39	Bottom	3	2	28.2	7.8	26.8	4.7		6.4		6.8	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

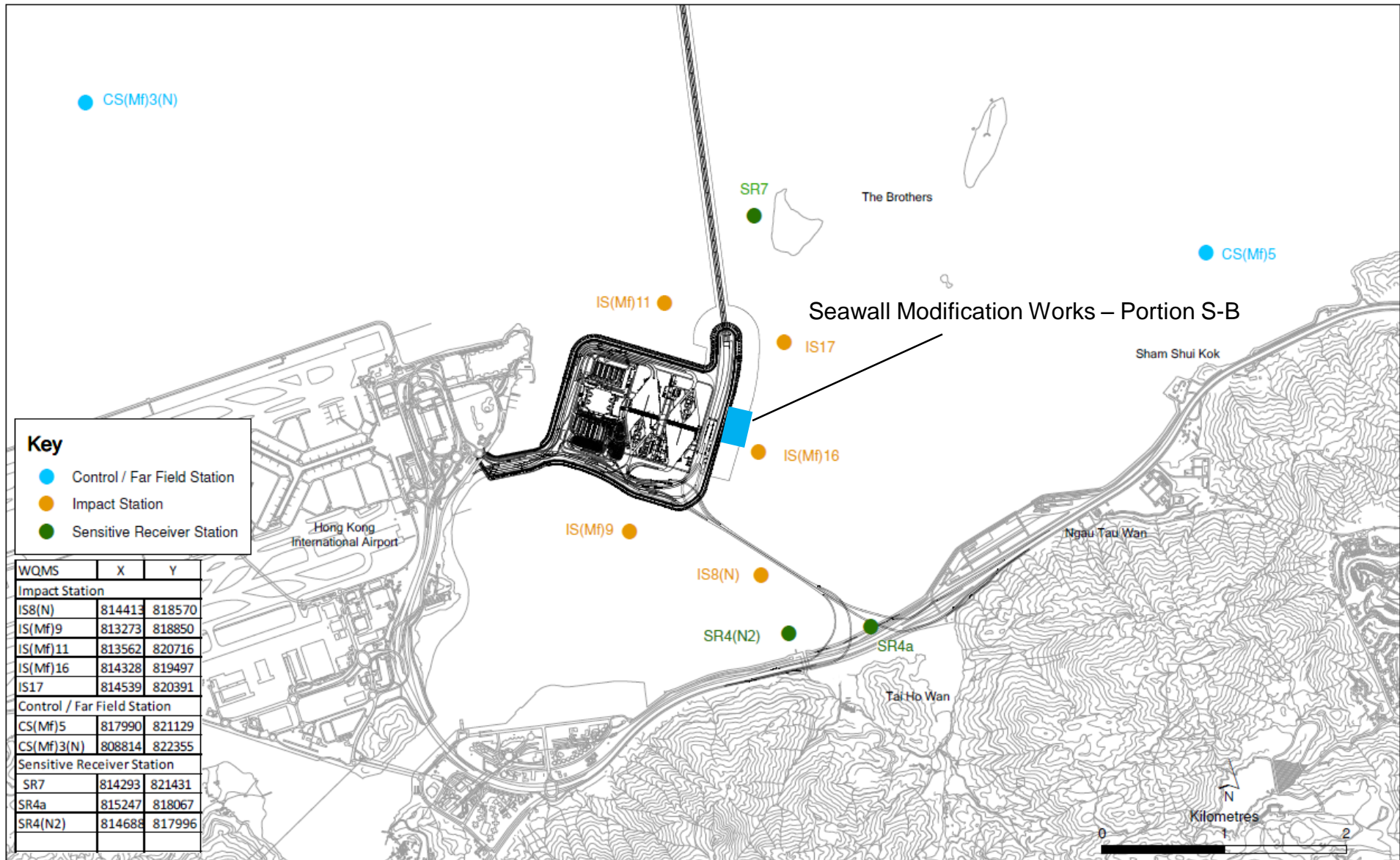


Figure 1

Email
message

Environmental
Resources
Management

To Ramboll Hong Kong Limited (ENPO)

From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Water Quality
Impact Monitoring

Date 23 September 2019

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com



ERM

Dear Sir or Madam,

Please find the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance

0212330_16 September 2019_ Bottom DO_E_Station SR4a
0212330_16 September 2019_ Surface & Middle DO_E_Station IS8(N)
0212330_16 September 2019_ Bottom DO_E_Station IS17
0212330_16 September 2019_ Surface & Middle DO_F_Station IS(Mf)11
0212330_16 September 2019_ Surface & Middle DO_F_Station SR7
0212330_16 September 2019_ Surface & Middle DO_F_Station IS17
0212330_16 September 2019_ Bottom DO_F_Station IS17

A total of seven Action Level exceedance was recorded on 16 September 2019.

Regards,

A handwritten signature in blue ink that reads "Jasmine". The signature is written in a cursive, flowing style.

Dr Jasmine Ng
Environmental Team Leader

CONFIDENTIALITY NOTICE

This facsimile transmission is intended only for the use of the addressee and is confidential. If you are not the addressee it may be unlawful for you to read, copy, distribute, disclose or otherwise use the information in this facsimile. If you are not the intended recipient, please telephone or fax us.



ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08

TUEN MUN - CHEK LAP KOK LINK -
NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Marine Water Quality Impact Monitoring
Notification of Exceedance

Log No.	<p align="center">Action Level Exceedance</p> <p align="center">0212330_16 September 2019_ Bottom DO_E_Station SR4a 0212330_16 September 2019_ Surface & Middle DO_E_Station IS8(N) 0212330_16 September 2019_ Bottom DO_E_Station IS17 0212330_16 September 2019_ Surface & Middle DO_F_Station IS(Mf)11 0212330_16 September 2019_ Surface & Middle DO_F_Station SR7 0212330_16 September 2019_ Surface & Middle DO_F_Station IS17 0212330_16 September 2019_ Bottom DO_F_Station IS17 [Total No. of Exceedances = 7]</p>		
Date	<p align="center">16 September 2019 (Measured) 18 September 2019 (<i>In situ</i> results received by ERM) 24 September 2019 (Laboratory results received by ERM)</p>		
Monitoring Station	<p align="center">CS(Mf)5, SR4a, SR4(N2), IS8(N), IS(Mf)16, IS(Mf)9, CS(Mf)3(N), SR7, IS17, IS(Mf)11</p>		
Parameter(s) with Exceedance(s)	<p align="center">Dissolved Oxygen (mg/L)</p>		
Action Levels	<p align="center">DO</p>	<p align="center">Surface and Middle 5.0 mg/L</p>	<p align="center">Bottom 4.7 mg/L</p>
Limit Levels	<p align="center">DO</p>	<p align="center">Surface and Middle 4.2 mg/L</p>	<p align="center">Bottom 3.6 mg/L</p>
Measured Levels	<p>Action Level Exceedance</p> <ol style="list-style-type: none"> 1. Mid-ebb at SR4a (Bottom-depth DO = 4.2 mg/L) 2. Mid-ebb at IS8(N) (Surface & Middle-depth DO = 4.9 mg/L) 3. Mid-ebb at IS17 (Bottom-depth DO = 4.4 mg/L) 4. Mid-flood at IS(Mf)11 (Surface & Middle-depth DO = 4.8 mg/L) 5. Mid-flood at SR7 (Surface & Middle-depth DO = 4.9 mg/L) 6. Mid-flood at IS17 (Surface & Middle-depth DO = 4.9 mg/L) 7. Mid-flood at IS17 (Bottom-depth DO = 4.6 mg/L) 		
Works Undertaken (at the time of monitoring event)	<p>According to the information provided by the Contractor, Seawall Modification Works was carried out on 16 September 2019.</p>		

Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedances are unlikely to be due to the Contract, in view of the following:</p> <ul style="list-style-type: none"> • All monitored parameters, except DO, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • SR4a, IS8(N), IS(Mf)11 and SR7 are far away (>2 km) from the Seawall Modification Works Area (<i>Figure 1</i>), thus the observed exceedance should not be affected by the marine works under this Contract. Therefore, the exceedance is unlikely to be related to this Contract. • The DO pattern at SR4a and IS17 during mid-ebb tide were similar to their corresponding control station where the bottom-depth DO levels were generally lower. Lower bottom-depth DO levels may be possibly caused by the stratification of seawater during summer when the freshwater discharged from the Pearl River tended to form a surface layer of lower salinity water, which is probably responsible for the lower Salinity recorded at the surface and middle levels compared to the higher Salinity recorded at the bottom level of the monitoring stations. The stratification of seawater in the water column is likely a contributing factor to the results of lower levels of DO at the bottom level. • Bottom-depth DO levels at IS17 was similar to the corresponding control stations, CS(Mf)5, during mid-flood tide, in which the recorded Bottom-depth DO levels at the corresponding control station were below Action Level. • Surface & Middle-depth DO levels at IS(Mf)11, SR7 and IS17 were similar to the corresponding control stations, CS(Mf)5, during mid-flood tide, in which the recorded Surface & Middle-depth DO levels at the corresponding control station were below Action Level. • As reported by the marine mammal observer, no discharge of organic matters into waters from landside works area was recorded. Moreover, no exceedance was recorded at IS(Mf)16 which is the closest station to the Seawall Modification Works Area during both mid-ebb and mid-flood tide. Therefore, exceedances recorded at IS8(N) during mid-ebb tide are unlikely to be caused by the marine works of this Contract.
Actions Taken / To Be Taken	<p>No immediate action is considered necessary. The ET will monitor for future trends in exceedances.</p>
Remarks	<p>The monitoring results on 16 September 2019 and locations of water quality monitoring stations are attached.</p>

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)5	14:54	Surface	1	1	28.8	7.8	24.7	5.1	4.8	7.6	10.2	10.6	11.4			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)5	14:54	Surface	1	2	29.7	7.9	24.3	5.1		7.9		10.0				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)5	14:54	Middle	2	1	28.3	7.9	26.5	4.6		9.4		12.0				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)5	14:54	Middle	2	2	29.3	7.9	26.0	4.5		9.3		12.2				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)5	14:54	Bottom	3	1	28.3	7.9	26.8	4.6	4.6	13.3		11.7				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)5	14:54	Bottom	3	2	29.2	7.9	26.3	4.5		13.9		12.0				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)3(N)	14:06	Surface	1	1	29.2	7.8	22.7	5.6	5.4	4.0	7.0	4.6	5.0			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)3(N)	14:06	Surface	1	2	30.1	7.9	22.3	5.6		4.1		5.0				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)3(N)	14:06	Middle	2	1	29.1	7.8	23.4	5.2		5.3		5.4				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)3(N)	14:06	Middle	2	2	30.1	7.9	23.0	5.3	4.9	5.3		4.9				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)3(N)	14:06	Bottom	3	1	28.4	7.9	23.2	5.0		11.8		5.0				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	CS(Mf)3(N)	14:06	Bottom	3	2	29.3	7.9	25.5	4.8	5.1	11.6		5.0				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)16	13:19	Surface	1	1	28.8	8.0	25.2	5.1		6.8		7.8				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)16	13:19	Surface	1	2	29.7	7.9	24.7	5.0	4.7	6.9	5.9	8.3	9.0			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)16	13:19	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)16	13:19	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)16	13:19	Bottom	3	1	28.1	8.0	27.4	4.7	4.7	4.8		10.4				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)16	13:19	Bottom	3	2	29.1	7.9	26.8	4.7		4.9		9.4				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4a	13:09	Surface	1	1	28.9	7.9	24.1	5.2	5.2	3.2	8.2	3.7	3.1			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4a	13:09	Surface	1	2	29.8	7.9	23.7	5.2		3.1		3.3				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4a	13:09	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4a	13:09	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4a	13:09	Bottom	3	1	28.6	7.9	25.2	4.2	4.2	13.1		2.5				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4a	13:09	Bottom	3	2	29.6	7.9	24.8	4.1		13.5		2.8				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4(N2)	13:02	Surface	1	1	28.9	8.0	24.1	5.2	5.2	5.9	7.6	4.2	4.2			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4(N2)	13:02	Surface	1	2	29.9	7.9	23.7	5.2		5.8		4.9				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4(N2)	13:02	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4(N2)	13:02	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4(N2)	13:02	Bottom	3	1	28.7	8.0	24.5	4.8	4.8	9.4		4.1				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR4(N2)	13:02	Bottom	3	2	29.7	8.0	24.1	4.8		9.2		3.4				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS8(N)	12:54	Surface	1	1	28.8	8.0	24.7	4.9	4.9	8.9	11.2	5.9	6.1			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS8(N)	12:54	Surface	1	2	29.8	8.0	24.2	4.9		9.0		6.9				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS8(N)	12:54	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS8(N)	12:54	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS8(N)	12:54	Bottom	3	1	28.8	8.0	24.9	4.9	4.9	13.5		6.3				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS8(N)	12:54	Bottom	3	2	29.7	8.1	24.5	4.8		13.4		5.3				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)9	12:46	Surface	1	1	29.5	8.0	24.4	5.5	5.5	5.0	5.6	5.1	5.5			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)9	12:46	Surface	1	2	30.5	8.0	24.0	5.4		4.9		5.1				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)9	12:46	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)9	12:46	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)9	12:46	Bottom	3	1	29.0	8.0	24.5	5.3	5.3	6.2		5.4				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)9	12:46	Bottom	3	2	30.0	8.0	24.1	5.3		6.2		6.3				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)11	14:27	Surface	1	1	29.1	7.8	23.6	5.4	5.2	5.4	8.0	4.1	4.3			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)11	14:27	Surface	1	2	30.1	7.8	23.2	5.3		5.3		3.9				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)11	14:27	Middle	2	1	28.8	7.8	24.4	5.0		7.8		4.2				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)11	14:27	Middle	2	2	29.8	7.7	24.0	5.0		8.1		4.9				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)11	14:27	Bottom	3	1	28.6	7.8	25.5	4.9	4.9	10.0		4.3				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS(Mf)11	14:27	Bottom	3	2	29.6	7.9	25.0	4.8		11.2		4.2				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR7	14:36	Surface	1	1	28.8	7.8	24.8	5.1	5.1	6.9	7.2	8.8	10.1			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR7	14:36	Surface	1	2	29.8	7.9	24.4	5.0		6.9		9.7				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR7	14:36	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR7	14:36	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR7	14:36	Bottom	3	1	28.8	7.8	24.9	5.2	5.2	7.4		10.3				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	SR7	14:36	Bottom	3	2	29.7	7.9	24.5	5.2		7.5		11.7				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS17	13:27	Surface	1	1	30.1	7.9	22.2	5.6	5.3	7.5	7.2	8.1	9.7			
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS17	13:27	Surface	1	2	30.0	7.9	23.8	5.6		7.5		7.1				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS17	13:27	Middle	2	1	28.7	7.9	25.4	4.9		7.4		10.4				
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS17	13:27	Middle	2	2	29.7	7.9	24.9	4.9		7.4		10.0				

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS17	13:27	Bottom	3	1	28.1	8.0	27.4	4.4	4.4	6.8		10.7	
TMCLKL	HY/2012/08	2019/09/16	Mid-Ebb	IS17	13:27	Bottom	3	2	29.1	7.8	26.9	4.4		6.8		12.1	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)5	7:11	Surface	1	1	28.6	7.8	24.4	5.1		4.2	5.3	5.7	5.0
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)5	7:11	Surface	1	2	29.6	8.0	24.0	5.0	4.9	4.1		5.4	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)5	7:11	Middle	2	1	28.4	7.8	25.8	4.7		4.3		4.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)5	7:11	Middle	2	2	29.3	7.9	25.5	4.7		4.2		4.8	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)5	7:11	Bottom	3	1	27.8	7.9	28.5	4.4	4.4	7.3		5.0	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)5	7:11	Bottom	3	2	28.7	8.0	28.1	4.4		7.5		4.8	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)3(N)	8:07	Surface	1	1	28.8	7.8	23.6	5.1		8.9		15.6	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)3(N)	8:07	Surface	1	2	29.8	7.9	23.2	5.1	5.1	9.8		16.0	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)3(N)	8:07	Middle	2	1	28.8	7.8	23.6	5.1		10.2	10.5	16.3	16.6
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)3(N)	8:07	Middle	2	2	29.8	7.9	23.2	5.1		10.1		17.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)3(N)	8:07	Bottom	3	1	28.8	7.8	23.6	5.1	5.1	12.1		17.0	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	CS(Mf)3(N)	8:07	Bottom	3	2	29.7	7.9	23.2	5.1		12.1		17.4	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)16	8:52	Surface	1	1	28.6	8.0	24.6	5.2		4.1		4.6	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)16	8:52	Surface	1	2	29.6	8.1	24.1	5.1	5.2	4.2		4.6	5.2
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)16	8:52	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)16	8:52	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)16	8:52	Bottom	3	1	28.6	8.0	24.9	5.0	5.0	6.8		5.9	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)16	8:52	Bottom	3	2	29.5	8.1	24.4	5.0		7.0		5.6	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4a	9:02	Surface	1	1	29.6	8.1	23.7	5.0		4.5		6.6	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4a	9:02	Surface	1	2	29.6	8.1	23.7	5.0	5.0	4.4		6.7	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4a	9:02	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4a	9:02	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4a	9:02	Bottom	3	1	29.6	8.1	24.0	4.7	4.7	5.0		4.7	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4a	9:02	Bottom	3	2	29.6	8.1	24.0	4.7		5.2		3.8	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4(N2)	9:09	Surface	1	1	29.6	8.1	23.8	5.0		4.9		3.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4(N2)	9:09	Surface	1	2	29.6	8.1	23.8	5.1	5.1	4.7		4.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4(N2)	9:09	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4(N2)	9:09	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4(N2)	9:09	Bottom	3	1	29.6	8.1	23.9	5.2	5.2	5.2		2.7	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR4(N2)	9:09	Bottom	3	2	29.6	8.1	23.9	5.1		5.2		3.6	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS8(N)	9:16	Surface	1	1	28.7	8.0	24.0	5.3		6.0		5.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS8(N)	9:16	Surface	1	2	29.7	8.1	23.5	5.3	5.3	5.9		6.2	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS8(N)	9:16	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS8(N)	9:16	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS8(N)	9:16	Bottom	3	1	28.7	8.0	24.2	5.4	5.4	9.8		4.8	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS8(N)	9:16	Bottom	3	2	29.7	8.1	23.7	5.3		9.7		5.8	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)9	9:24	Surface	1	1	28.7	8.0	24.3	5.2		6.4		8.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)9	9:24	Surface	1	2	29.7	8.2	23.8	5.1	5.2	6.6		7.7	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)9	9:24	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)9	9:24	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)9	9:24	Bottom	3	1	28.7	8.0	24.4	5.2	5.2	5.5		6.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)9	9:24	Bottom	3	2	29.6	8.2	24.0	5.2		5.3		5.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)11	7:44	Surface	1	1	28.6	7.9	24.6	4.9		9.6		10.1	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)11	7:44	Surface	1	2	29.6	8.0	24.2	4.9	4.8	9.9		10.1	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)11	7:44	Middle	2	1	28.4	7.9	25.8	4.7		9.4		11.0	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)11	7:44	Middle	2	2	29.4	8.0	25.3	4.6		9.3		12.0	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)11	7:44	Bottom	3	1	28.3	7.9	26.1	4.7	4.7	11.1		12.0	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS(Mf)11	7:44	Bottom	3	2	29.3	8.0	25.7	4.6		11.1		12.0	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR7	7:36	Surface	1	1	28.5	7.9	25.0	4.9		8.9		5.7	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR7	7:36	Surface	1	2	29.5	8.0	24.5	4.8	4.9	8.9		6.6	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR7	7:36	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR7	7:36	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR7	7:36	Bottom	3	1	28.4	7.9	25.6	4.7	4.7	11.0		7.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	SR7	7:36	Bottom	3	2	29.4	8.0	25.1	4.7		11.1		6.0	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS17	8:42	Surface	1	1	28.7	7.8	24.7	4.9		3.9		8.7	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS17	8:42	Surface	1	2	29.6	8.0	24.2	4.9	4.9	3.9		8.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS17	8:42	Middle	2	1	28.6	7.9	25.1	4.8		4.2		4.5	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS17	8:42	Middle	2	2	29.5	8.0	24.7	4.8		4.0		3.6	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS17	8:42	Bottom	3	1	28.1	7.8	27.2	4.6	4.6	7.8		2.6	
TMCLKL	HY/2012/08	2019/09/16	Mid-flood	IS17	8:42	Bottom	3	2	29.1	8.0	26.7	4.6		7.6		2.9	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

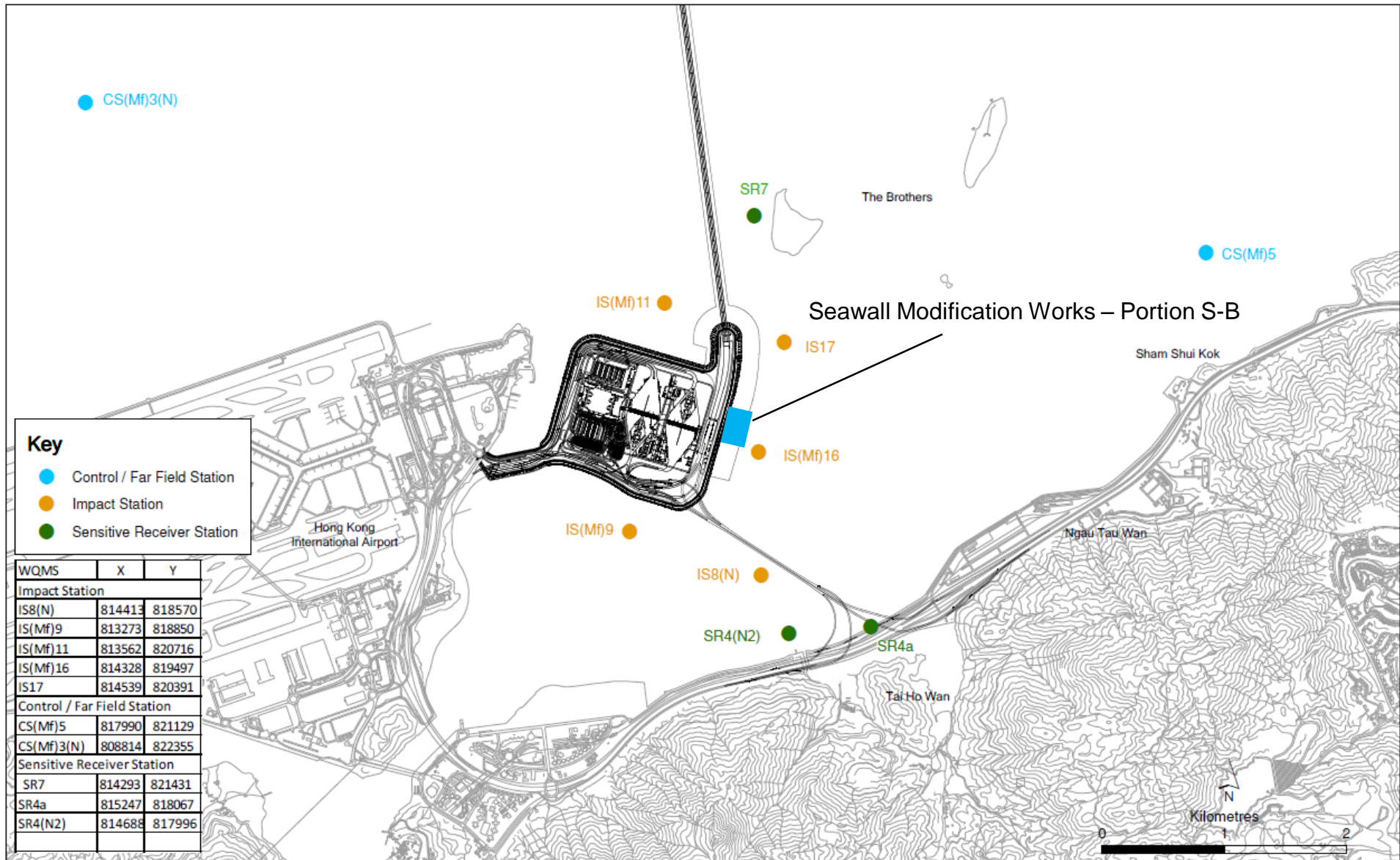


Figure 1

Email
message

Environmental
Resources
Management

To Ramboll Hong Kong Limited (ENPO)

From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Water Quality
Impact Monitoring

Date 23 September 2019

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com



ERM

Dear Sir or Madam,

Please find the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance

0212330_18 September 2019_ Surface & Middle DO_E_Station IS8(N)
0212330_18 September 2019_ Surface & Middle DO_E_Station IS(Mf)9
0212330_18 September 2019_ Surface & Middle DO_E_Station IS(Mf)11
0212330_18 September 2019_ Bottom DO_E_Station IS(Mf)11
0212330_18 September 2019_ Surface & Middle DO_E_Station IS17
0212330_18 September 2019_ Bottom DO_E_Station IS17
0212330_18 September 2019_ Surface & Middle DO_F_Station IS(Mf)16
0212330_18 September 2019_ Surface & Middle DO_F_Station SR4a
0212330_18 September 2019_ Surface & Middle DO_F_Station SR4(N2)
0212330_18 September 2019_ Bottom DO_F_Station SR4(N2)
0212330_18 September 2019_ Surface & Middle DO_F_Station IS(Mf)9
0212330_18 September 2019_ Surface & Middle DO_F_Station IS(Mf)11
0212330_18 September 2019_ Bottom DO_F_Station IS(Mf)11
0212330_18 September 2019_ Surface & Middle DO_F_Station SR7
0212330_18 September 2019_ Bottom DO_F_Station SR7
0212330_18 September 2019_ Surface & Middle DO_F_Station IS17
0212330_18 September 2019_ Bottom DO_F_Station IS17

A total of seventeen Action Level exceedance was recorded on 18 September 2019.

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Email
message

Regards,

A handwritten signature in blue ink, appearing to read "Jasmine". The signature is written in a cursive, flowing style.

Dr Jasmine Ng
Environmental Team Leader



ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08

TUEN MUN – CHEK LAP KOK LINK –
NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

**Marine Water Quality Impact Monitoring
Notification of Exceedance**

Log No.	<p style="text-align: center;"><u>Action Level Exceedance</u></p> <p>0212330_18 September 2019_ Surface & Middle DO_E_Station IS8(N) 0212330_18 September 2019_ Surface & Middle DO_E_Station IS(Mf)9 0212330_18 September 2019_ Surface & Middle DO_E_Station IS(Mf)11 0212330_18 September 2019_ Bottom DO_E_Station IS(Mf)11 0212330_18 September 2019_ Surface & Middle DO_E_Station IS17 0212330_18 September 2019_ Bottom DO_E_Station IS17 0212330_18 September 2019_ Surface & Middle DO_F_Station IS(Mf)16 0212330_18 September 2019_ Surface & Middle DO_F_Station SR4a 0212330_18 September 2019_ Surface & Middle DO_F_Station SR4(N2) 0212330_18 September 2019_ Bottom DO_F_Station SR4(N2) 0212330_18 September 2019_ Surface & Middle DO_F_Station IS(Mf)9 0212330_18 September 2019_ Surface & Middle DO_F_Station IS(Mf)11 0212330_18 September 2019_ Bottom DO_F_Station IS(Mf)11 0212330_18 September 2019_ Surface & Middle DO_F_Station SR7 0212330_18 September 2019_ Bottom DO_F_Station SR7 0212330_18 September 2019_ Surface & Middle DO_F_Station IS17 0212330_18 September 2019_ Bottom DO_F_Station IS17</p> <p style="text-align: center;">[Total No. of Exceedances = 17]</p>		
Date	<p style="text-align: center;">18 September 2019 (Measured) 20 September 2019 (<i>In situ</i> results received by ERM) 25 September 2019 (Laboratory results received by ERM)</p>		
Monitoring Station	<p style="text-align: center;">CS(Mf)5, SR4a, SR4(N2), IS8(N), IS(Mf)16, IS(Mf)9, CS(Mf)3(N), SR7, IS17, IS(Mf)11</p>		
Parameter(s) with Exceedance(s)	<p style="text-align: center;">Dissolved Oxygen (mg/L)</p>		
Action Levels	<p style="text-align: center;">DO</p>	<p style="text-align: center;">Surface and Middle 5.0 mg/L</p>	<p style="text-align: center;">Bottom 4.7 mg/L</p>
Limit Levels	<p style="text-align: center;">DO</p>	<p style="text-align: center;">Surface and Middle 4.2 mg/L</p>	<p style="text-align: center;">Bottom 3.6 mg/L</p>

Measured Levels	<p>Action Level Exceedance</p> <ol style="list-style-type: none"> 1. Mid-ebb at IS8(N) (Surface & Middle-depth DO = 4.9 mg/L) 2. Mid-ebb at IS(Mf)9 (Surface & Middle-depth DO = 4.9 mg/L) 3. Mid-ebb at IS(Mf)11 (Surface & Middle-depth DO = 4.8 mg/L) 4. Mid-ebb at IS(Mf)11 (Bottom-depth DO = 4.4 mg/L) 5. Mid-ebb at IS17 (Surface & Middle-depth DO = 4.7 mg/L) 6. Mid-ebb at IS17 (Bottom-depth DO = 4.3 mg/L) 7. Mid-flood at IS(Mf)16 (Surface & Middle-depth DO = 4.8 mg/L) 8. Mid-flood at SR4a (Surface & Middle-depth DO = 4.8 mg/L) 9. Mid-flood at SR4(N2) (Surface & Middle-depth DO = 4.8 mg/L) 10. Mid-flood at SR4(N2) (Bottom-depth DO = 4.6 mg/L) 11. Mid-flood at IS(Mf)9 (Surface & Middle-depth DO = 4.9 mg/L) 12. Mid-flood at IS(Mf)11 (Surface & Middle-depth DO = 4.6 mg/L) 13. Mid-flood at IS(Mf)11 (Bottom-depth DO = 4.4 mg/L) 14. Mid-flood at SR7 (Surface & Middle-depth DO = 4.6 mg/L) 15. Mid-flood at SR7 (Bottom-depth DO = 4.6 mg/L) 16. Mid-flood at IS17 (Surface & Middle-depth DO = 4.8 mg/L) 17. Mid-flood at IS17 (Surface & Middle-depth DO = 4.2 mg/L)
Works Undertaken (at the time of monitoring event)	<p>According to the information provided by the Contractor, Seawall Modification Works was carried out on 18 September 2019.</p>
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedances are unlikely to be due to the Contract, in view of the following:</p> <ul style="list-style-type: none"> • All monitored parameters, except DO, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • IS8(N), IS(Mf)9, IS(Mf)11, SR4a, SR4(N2) and SR7 are far away (>2 km) from the Seawall Modification Works Area (<i>Figure 1</i>), thus the observed exceedance should not be affected by the marine works under this Contract. Therefore, the exceedance is unlikely to be related to this Contract. • Bottom-depth DO levels at IS(Mf)11 and IS17 was similar to the corresponding control stations, CS(Mf)3(N), during mid-ebb tide, in which the recorded Bottom-depth DO levels at the corresponding control station were below Action Level. • Surface & Middle-depth DO levels at IS8(N), IS(Mf)9, IS(Mf)11 and IS17 were similar to the corresponding control stations, CS(Mf)3(N), during mid-ebb tide, in which the recorded Surface & Middle-depth DO levels at the corresponding control station were below Action Level. • Bottom-depth DO levels at SR4(N2), IS(Mf)11, SR7 and IS17 was similar to the corresponding control stations, CS(Mf)5, during mid-flood tide, in which the recorded Bottom-depth DO levels at the corresponding control station were below Action Level. • Surface & Middle-depth DO levels at IS(Mf)16, SR4a, SR4(N2), IS(Mf)9, IS(Mf)11, SR7 and IS17 were similar to the corresponding control stations, CS(Mf)5, during mid-flood tide, in which the recorded Surface & Middle-depth DO levels at the corresponding control station were below Action Level. • As reported by the marine mammal observer, no discharge of organic matters into waters from landside works area was recorded. Therefore, the recorded exceedances are unlikely to be caused by the marine works of this Contract.
Actions Taken / To Be Taken	<p>No immediate action is considered necessary. The ET will monitor for future trends in exceedances.</p>
Remarks	<p>The monitoring results on 18 September 2019 and locations of water quality monitoring stations are attached.</p>

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)5	15:25	Surface	1	1	29.7	8.2	25.7	4.7	4.6	4.6	6.7	5.4	4.9			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)5	15:25	Surface	1	2	28.7	8.1	26.2	4.8		4.6		4.8				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)5	15:25	Middle	2	1	29.2	8.1	26.3	4.4		5.5		4.2				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)5	15:25	Middle	2	2	28.2	8.1	26.8	4.4		5.4		5.1				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)5	15:25	Bottom	3	1	28.8	8.2	27.9	4.3	4.3	9.9		5.3				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)5	15:25	Bottom	3	2	27.9	8.2	28.5	4.3		10.1		4.6				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)3(N)	14:44	Surface	1	1	29.8	8.1	23.5	4.9	4.8	4.8	6.6	6.1	6.6			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)3(N)	14:44	Surface	1	2	28.8	8.1	24.0	5.0		5.0		6.7				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)3(N)	14:44	Middle	2	1	29.4	8.0	24.7	4.6		7.1		6.2				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)3(N)	14:44	Middle	2	2	28.4	8.1	25.3	4.6		7.1		6.8				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)3(N)	14:44	Bottom	3	1	29.3	8.0	25.4	4.5	4.6	7.7		6.7				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	CS(Mf)3(N)	14:44	Bottom	3	2	28.3	8.1	25.9	4.6		7.6		7.0				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)16	13:57	Surface	1	1	30.2	8.1	24.5	5.0	5.1	8.0	9.2	5.6	5.2			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)16	13:57	Surface	1	2	29.2	8.1	25.0	5.1		8.0		4.8				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)16	13:57	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)16	13:57	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)16	13:57	Bottom	3	1	29.3	8.1	26.1	4.7	4.7	10.4		5.1				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)16	13:57	Bottom	3	2	28.3	8.1	26.6	4.7		10.4		5.3				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4a	13:48	Surface	1	1	30.3	8.1	23.6	5.5	5.5	4.2	6.9	3.7	3.1			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4a	13:48	Surface	1	2	29.2	8.1	24.2	5.5		4.1		3.7				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4a	13:48	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4a	13:48	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4a	13:48	Bottom	3	1	29.5	8.1	24.4	4.6	4.7	9.7		2.0				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4a	13:48	Bottom	3	2	28.5	8.1	24.8	4.7		9.6		2.8				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4(N2)	13:44	Surface	1	1	30.3	8.0	21.9	5.6	5.6	4.4	7.3	3.5	3.9			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4(N2)	13:44	Surface	1	2	29.3	8.0	22.4	5.6		4.4		3.5				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4(N2)	13:44	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4(N2)	13:44	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4(N2)	13:44	Bottom	3	1	29.5	8.1	24.4	4.7	4.7	10.3		4.4				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR4(N2)	13:44	Bottom	3	2	28.5	8.0	24.9	4.7		10.1		4.3				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS8(N)	13:37	Surface	1	1	29.8	8.0	24.0	4.9	4.9	10.2	10.6	15.7	14.5			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS8(N)	13:37	Surface	1	2	28.8	7.9	24.5	4.9		9.9		14.2				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS8(N)	13:37	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS8(N)	13:37	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS8(N)	13:37	Bottom	3	1	29.8	8.1	24.1	4.8	4.8	11.1		13.7				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS8(N)	13:37	Bottom	3	2	28.8	8.0	24.6	4.8		11.3		14.4				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)9	13:30	Surface	1	1	29.9	8.0	23.7	4.9	4.9	6.5	9.4	15.0	14.2			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)9	13:30	Surface	1	2	28.9	8.0	24.2	4.9		6.7		13.1				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)9	13:30	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)9	13:30	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)9	13:30	Bottom	3	1	29.7	8.0	24.3	4.9	4.9	12.1		13.9				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)9	13:30	Bottom	3	2	28.7	8.0	24.8	4.9		12.2		14.7				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)11	14:11	Surface	1	1	30.0	8.1	23.6	5.0	4.8	4.5	5.8	4.5	4.0			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)11	14:11	Surface	1	2	29.1	8.1	24.1	5.1		4.6		4.0				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)11	14:11	Middle	2	1	29.5	8.1	25.1	4.5		6.6		4.3				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)11	14:11	Middle	2	2	28.5	8.0	25.6	4.6		6.6		4.0				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)11	14:11	Bottom	3	1	29.0	8.2	27.1	4.4	4.4	6.1		3.8				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS(Mf)11	14:11	Bottom	3	2	28.0	8.0	27.6	4.4	4.4	6.2		3.2				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR7	15:08	Surface	1	1	29.9	8.1	22.8	5.2	5.2	3.9	5.2	4.3	3.5			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR7	15:08	Surface	1	2	28.9	8.2	23.3	5.2		3.9		3.4				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR7	15:08	Middle	2	1												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR7	15:08	Middle	2	2												
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR7	15:08	Bottom	3	1	29.5	8.1	25.5	4.8	4.9	6.5		3.2				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	SR7	15:08	Bottom	3	2	28.6	8.1	26.0	4.9		6.6		3.0				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS17	14:02	Surface	1	1	30.0	8.2	25.1	5.0	4.7	7.2	9.6	5.6	5.2			
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS17	14:02	Surface	1	2	29.0	8.2	25.6	5.0		7.3		4.6				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS17	14:02	Middle	2	1	29.2	8.1	26.3	4.3		7.2		5.8				
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS17	14:02	Middle	2	2	28.3	8.1	26.8	4.3		7.2		4.8				

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS17	14:02	Bottom	3	1	29.0	8.1	26.9	4.3	4.3	14.2		4.9	
TMCLKL	HY/2012/08	2019/09/18	Mid-Ebb	IS17	14:02	Bottom	3	2	28.1	8.1	27.4	4.3		14.3		5.7	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)5	8:06	Surface	1	1	29.5	8.1	24.2	4.9		3.8	4.4	9.5	8.8
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)5	8:06	Surface	1	2	28.5	7.9	24.7	4.9	4.8	3.7		9.5	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)5	8:06	Middle	2	1	29.4	8.0	24.9	4.6		4.5		8.0	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)5	8:06	Middle	2	2	28.4	8.0	25.4	4.7		4.4		9.0	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)5	8:06	Bottom	3	1	28.8	8.1	27.7	4.1	4.2	4.9		8.1	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)5	8:06	Bottom	3	2	27.9	8.0	28.2	4.2		5.0		8.6	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)3(N)	8:52	Surface	1	1	29.7	7.9	23.6	4.9		7.0	8.8	9.6	10.1
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)3(N)	8:52	Surface	1	2	28.7	8.1	24.0	4.9	5.0	6.8		8.6	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)3(N)	8:52	Middle	2	1	29.6	8.2	23.6	5.0		9.3		9.0	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)3(N)	8:52	Middle	2	2	28.7	8.1	24.1	5.0		9.4		9.9	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)3(N)	8:52	Bottom	3	1	29.3	8.2	23.7	5.1	5.2	10.1		10.9	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	CS(Mf)3(N)	8:52	Bottom	3	2	28.4	8.1	24.2	5.2		10.2		12.8	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)16	9:44	Surface	1	1	29.5	8.1	24.4	4.7	4.8	9.8	9.9	2.5	3.3
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)16	9:44	Surface	1	2	28.6	8.0	24.8	4.8		9.7		2.4	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)16	9:44	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)16	9:44	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)16	9:44	Bottom	3	1	29.5	8.1	24.5	4.8	4.8	10.2		4.3	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)16	9:44	Bottom	3	2	28.5	8.0	25.0	4.8		10.0		4.0	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4a	9:53	Surface	1	1	29.6	8.1	23.7	4.8	4.8	4.2	5.4	4.3	3.7
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4a	9:53	Surface	1	2	28.6	8.1	24.2	4.8		4.0		3.4	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4a	9:53	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4a	9:53	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4a	9:53	Bottom	3	1	29.4	8.1	24.3	4.9	4.9	6.8		3.9	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4a	9:53	Bottom	3	2	28.4	8.1	24.8	4.8		6.6		3.1	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4(N2)	9:58	Surface	1	1	29.5	8.1	23.9	4.8	4.8	5.4	6.4	7.2	6.8
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4(N2)	9:58	Surface	1	2	28.5	8.1	24.4	4.8		5.4		7.2	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4(N2)	9:58	Middle	2	1					4.8				
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4(N2)	9:58	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4(N2)	9:58	Bottom	3	1	29.4	8.1	24.2	4.6	4.6	7.2		5.9	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR4(N2)	9:58	Bottom	3	2	28.5	8.1	24.7	4.6		7.4		6.9	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS8(N)	10:04	Surface	1	1	29.7	8.1	23.6	5.1		4.5	4.6	5.6	5.2
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS8(N)	10:04	Surface	1	2	28.7	8.1	24.1	5.1	5.1	4.9		4.6	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS8(N)	10:04	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS8(N)	10:04	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS8(N)	10:04	Bottom	3	1	29.7	8.1	23.6	5.2	5.2	4.4		5.2	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS8(N)	10:04	Bottom	3	2	28.7	8.1	24.1	5.2		4.7		5.5	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)9	10:10	Surface	1	1	29.5	8.2	24.2	4.9	4.9	10.3	11.2	12.4	12.7
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)9	10:10	Surface	1	2	28.5	8.1	24.7	4.9		10.2		10.7	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)9	10:10	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)9	10:10	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)9	10:10	Bottom	3	1	29.5	8.2	24.2	5.0	5.0	12.0		13.5	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)9	10:10	Bottom	3	2	28.5	8.1	24.7	5.0		12.1		14.2	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)11	9:27	Surface	1	1	29.5	8.1	24.2	4.8	4.6	6.0	9.9	7.6	6.1
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)11	9:27	Surface	1	2	28.5	8.1	24.7	4.9		6.0		15.7	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)11	9:27	Middle	2	1	29.3	8.0	25.3	4.4		7.4		4.5	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)11	9:27	Middle	2	2	28.3	8.1	25.8	4.4		7.7		3.5	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)11	9:27	Bottom	3	1	29.2	8.0	25.5	4.4	4.4	16.2		2.9	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS(Mf)11	9:27	Bottom	3	2	28.3	8.1	26.0	4.4		16.2		2.1	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR7	8:27	Surface	1	1	29.4	8.1	24.9	4.6	4.6	7.2	11.2	14.6	13.4
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR7	8:27	Surface	1	2	28.4	8.2	25.4	4.6		7.0		14.0	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR7	8:27	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR7	8:27	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR7	8:27	Bottom	3	1	29.3	8.0	25.3	4.6	4.6	15.2		12.6	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	SR7	8:27	Bottom	3	2	28.3	8.1	25.8	4.6		15.2		12.4	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS17	9:36	Surface	1	1	29.6	8.1	23.8	5.0	4.8	3.0	5.8	2.5	3.7
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS17	9:36	Surface	1	2	28.7	7.9	24.3	5.1		3.0		3.5	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS17	9:36	Middle	2	1	29.4	8.1	24.9	4.6		3.9		3.6	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS17	9:36	Middle	2	2	28.4	8.0	25.4	4.6		4.1		3.9	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS17	9:36	Bottom	3	1	29.1	8.1	26.5	4.2	4.2	10.2		4.1	
TMCLKL	HY/2012/08	2019/09/18	Mid-flood	IS17	9:36	Bottom	3	2	28.1	8.0	27.0	4.2		10.3		4.3	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

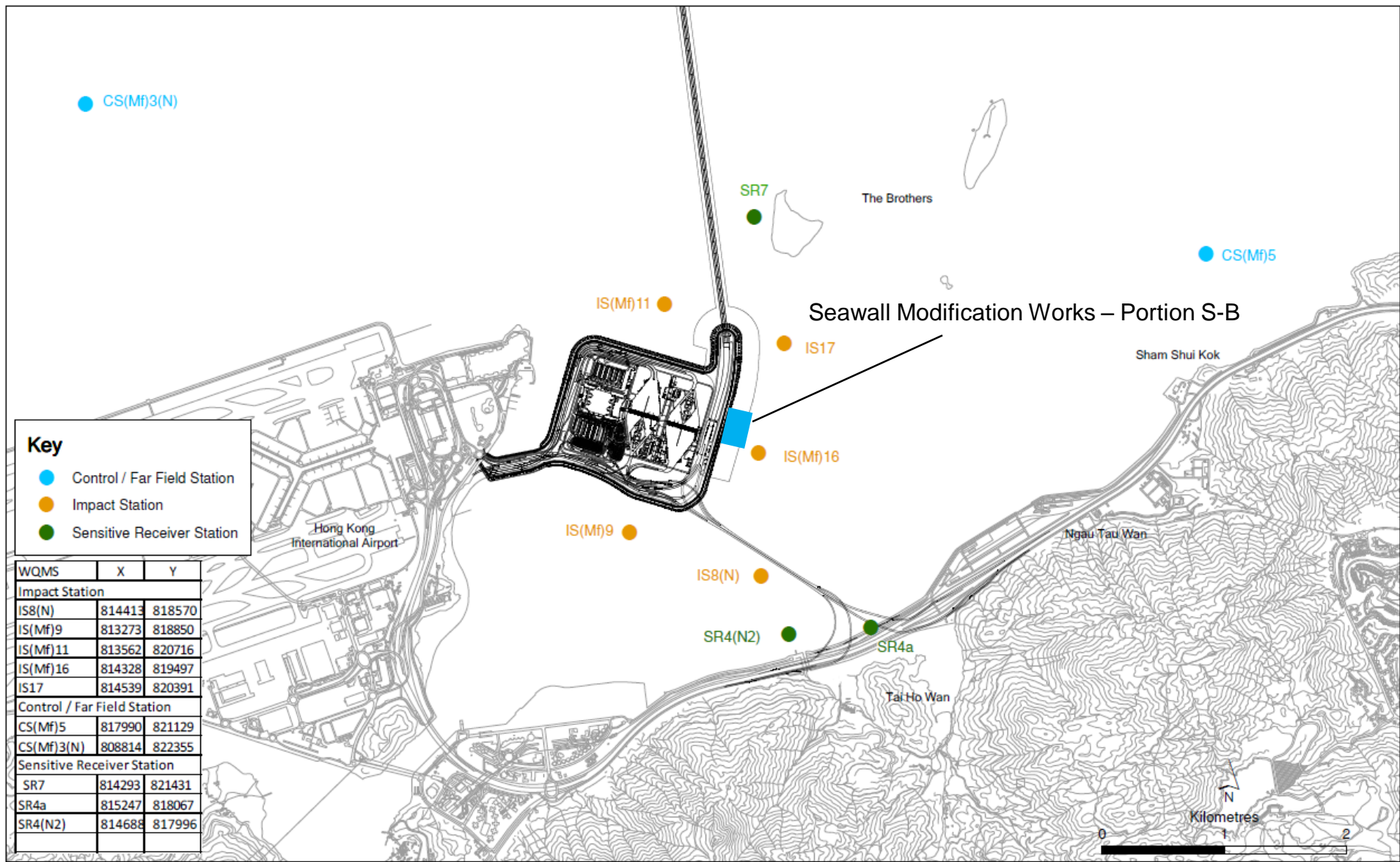


Figure 1

Email
message

Environmental
Resources
Management

To Ramboll Hong Kong Limited (ENPO)

From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Water Quality
Impact Monitoring

Date 24 September 2019

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com



ERM

Dear Sir or Madam,

Please find the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance

0212330_20 September 2019_ Surface & Middle DO_E_Station IS17
0212330_20 September 2019_ Bottom DO_E_Station IS17
0212330_20 September 2019_ Bottom DO_F_Station SR4(N2)
0212330_20 September 2019_ Surface & Middle DO_F_Station IS(Mf)11
0212330_20 September 2019_ Bottom DO_F_Station IS(Mf)11
0212330_20 September 2019_ Surface & Middle DO_F_Station SR7
0212330_20 September 2019_ Surface & Middle DO_F_Station IS17
0212330_20 September 2019_ Bottom DO_F_Station IS17

A total of eight Action Level exceedances were recorded on 20 September 2019.

Regards,

A handwritten signature in blue ink that reads "Jasmine". The signature is written in a cursive, flowing style.

Dr Jasmine Ng
Environmental Team Leader

CONFIDENTIALITY NOTICE

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08

TUEN MUN – CHEK LAP KOK LINK –
NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Marine Water Quality Impact Monitoring
Notification of Exceedance

Log No.	<p align="center">Action Level Exceedance</p> <p align="center">0212330_20 September 2019_ Surface & Middle DO_E_Station IS17 0212330_20 September 2019_ Bottom DO_E_Station IS17 0212330_20 September 2019_ Bottom DO_F_Station SR4(N2) 0212330_20 September 2019_ Surface & Middle DO_F_Station IS(Mf)11 0212330_20 September 2019_ Bottom DO_F_Station IS(Mf)11 0212330_20 September 2019_ Surface & Middle DO_F_Station SR7 0212330_20 September 2019_ Surface & Middle DO_F_Station IS17 0212330_20 September 2019_ Bottom DO_F_Station IS17</p> <p align="center">[Total No. of Exceedances = 8]</p>		
Date	<p align="center">20 September 2019 (Measured) 23 September 2019 (<i>In situ</i> results received by ERM) 2 October 2019 (Laboratory results received by ERM)</p>		
Monitoring Station	<p align="center">CS(Mf)5, SR4a, SR4(N2), IS8(N), IS(Mf)16, IS(Mf)9, CS(Mf)3(N), SR7, IS17, IS(Mf)11</p>		
Parameter(s) with Exceedance(s)	<p align="center">Dissolved Oxygen (mg/L)</p>		
Action Levels	<p align="center">DO</p>	<p align="center">Surface and Middle 5.0 mg/L</p>	<p align="center">Bottom 4.7 mg/L</p>
Limit Levels	<p align="center">DO</p>	<p align="center">Surface and Middle 4.2 mg/L</p>	<p align="center">Bottom 3.6 mg/L</p>
Measured Levels	<p>Action Level Exceedance</p> <ol style="list-style-type: none"> 1. Mid-ebb at IS17 (Surface & Middle -depth DO = 4.5 mg/L) 2. Mid-ebb at IS17 (Bottom-depth DO = 4.5 mg/L) 3. Mid-flood at SR4(N2) (Bottom-depth DO = 4.6 mg/L) 4. Mid-flood at IS(Mf)11 (Surface & Middle-depth DO = 4.7 mg/L) 5. Mid-flood at IS(Mf)11 (Bottom-depth DO = 4.5 mg/L) 6. Mid-flood at SR7 (Surface & Middle-depth DO = 4.7 mg/L) 7. Mid-flood at IS17 (Surface & Middle -depth DO = 4.8 mg/L) 8. Mid-flood at IS17 (Bottom-depth DO = 4.6 mg/L) 		
Works Undertaken (at the time of monitoring event)	<p>According to the information provided by the Contractor, Seawall Modification Works was carried out on 20 September 2019.</p>		

Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedances are unlikely to be due to the Contract, in view of the following:</p> <ul style="list-style-type: none"> • All monitored parameters, except DO, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • SR4(N2), IS(Mf)11 and SR7 are far away (>2 km) from the Seawall Modification Works Area (<i>Figure 1</i>), thus the observed exceedance should not be affected by the marine works under this Contract. Therefore, the exceedance is unlikely to be related to this Contract. • Bottom-depth DO levels at SR4(N2), IS(Mf)11 and IS17 were similar to the corresponding control stations, CS(Mf)5, during mid-flood tide, in which the recorded Bottom-depth DO levels at the corresponding control station were below Action Level. • Surface & Middle-depth DO levels at IS(Mf)11, SR7 and IS17 were similar to the corresponding control stations, CS(Mf)5, during mid-flood tide, in which the recorded Surface & Middle-depth DO levels at the corresponding control station were below Action Level. • As reported by the marine mammal observer, no discharge of organic matters into waters from landside works area was recorded. Moreover, no exceedance was recorded at IS(Mf)16 which is the closest station to the Seawall Modification Works Area during both mid-ebb and mid-flood tide. Therefore, exceedances recorded at IS17 during mid-ebb tide are unlikely to be caused by the marine works of this Contract.
Actions Taken / To Be Taken	<p>No immediate action is considered necessary. The ET will monitor for future trends in exceedances.</p>
Remarks	<p>The monitoring results on 20 September 2019 and locations of water quality monitoring stations are attached.</p>

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)5	16:44	Surface	1	1	28.9	7.8	26.8	5.6	5.3	2.1	3.1	3.3	4.1		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)5	16:44	Surface	1	2	28.9	7.8	26.7	5.6		2.1		4.0			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)5	16:44	Middle	2	1	28.4	7.8	28.5	5.0		3.4		3.1			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)5	16:44	Middle	2	2	28.4	7.8	28.2	5.0		3.4		4.0			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)5	16:44	Bottom	3	1	28.1	7.8	29.5	4.6	4.6	3.8	3.1	4.7	4.1		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)5	16:44	Bottom	3	2	28.1	7.8	29.5	4.6		3.9		5.4			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)3(N)	16:02	Surface	1	1	28.9	7.9	22.9	6.2	5.7	2.7	5.5	3.7	4.4		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)3(N)	16:02	Surface	1	2	29.0	7.9	22.8	6.2		2.7		4.5			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)3(N)	16:02	Middle	2	1	28.7	8.0	24.5	5.2		4.0		3.8			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)3(N)	16:02	Middle	2	2	28.7	8.0	24.5	5.1		4.0		4.7			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)3(N)	16:02	Bottom	3	1	28.3	8.0	27.0	5.1	5.1	9.7	5.5	5.0	4.4		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	CS(Mf)3(N)	16:02	Bottom	3	2	28.3	8.0	27.0	5.1		9.7		4.4			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)16	15:21	Surface	1	1	28.5	7.9	26.3	5.0	5.0	7.5	7.4	10.6	10.1		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)16	15:21	Surface	1	2	28.5	7.9	26.3	5.0		7.4		9.7			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)16	15:21	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)16	15:21	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)16	15:21	Bottom	3	1	28.5	8.0	26.4	5.2	5.2	7.4	7.4	9.8	10.1		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)16	15:21	Bottom	3	2	28.5	8.0	26.5	5.2		7.3		10.2			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4a	15:13	Surface	1	1	29.0	7.9	25.6	5.8	5.8	3.4	4.0	5.0	4.8		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4a	15:13	Surface	1	2	29.0	7.9	25.6	5.8		3.4		4.7			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4a	15:13	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4a	15:13	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4a	15:13	Bottom	3	1	28.7	7.9	26.0	5.0	5.1	4.6	7.1	4.7	7.3		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4a	15:13	Bottom	3	2	28.7	7.9	26.0	5.1		4.5		4.6			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4(N2)	15:09	Surface	1	1	28.9	7.9	25.7	5.6	5.6	4.6	7.1	8.0	7.3		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4(N2)	15:09	Surface	1	2	28.9	7.9	25.7	5.6		4.6		7.0			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4(N2)	15:09	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4(N2)	15:09	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4(N2)	15:09	Bottom	3	1	28.5	7.9	26.2	4.9	4.9	9.7	7.1	6.8	7.3		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR4(N2)	15:09	Bottom	3	2	28.6	7.9	26.2	4.9		9.5		7.3			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS8(N)	15:04	Surface	1	1	29.0	8.1	25.9	6.6	6.6	8.4	8.3	11.5	11.8		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS8(N)	15:04	Surface	1	2	29.0	8.1	25.9	6.6		8.4		11.8			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS8(N)	15:04	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS8(N)	15:04	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS8(N)	15:04	Bottom	3	1	28.9	8.1	26.0	6.3	6.4	8.2	8.3	11.6	11.8		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS8(N)	15:04	Bottom	3	2	28.9	8.1	26.0	6.4		8.2		12.4			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)9	14:57	Surface	1	1	28.9	8.1	26.1	5.6	5.6	5.7	5.9	9.5	8.9		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)9	14:57	Surface	1	2	28.9	8.1	26.1	5.6		5.8		9.0			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)9	14:57	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)9	14:57	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)9	14:57	Bottom	3	1	28.9	8.0	26.1	5.7	5.7	6.0	5.6	8.8	6.6		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)9	14:57	Bottom	3	2	28.9	8.0	26.1	5.6		6.0		8.2			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)11	15:35	Surface	1	1	28.9	7.9	25.9	5.5	5.3	4.7	5.6	5.0	6.6		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)11	15:35	Surface	1	2	28.9	7.9	25.9	5.5		4.7		4.0			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)11	15:35	Middle	2	1	28.7	7.9	26.4	5.1		5.3		7.5			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)11	15:35	Middle	2	2	28.7	7.9	26.4	5.1		5.2		7.5			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)11	15:35	Bottom	3	1	28.3	7.9	27.6	4.7	4.7	7.0	5.6	8.0	6.6		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS(Mf)11	15:35	Bottom	3	2	28.3	7.9	27.6	4.7		6.9		7.5			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR7	16:27	Surface	1	1	28.9	7.9	24.5	6.1	6.1	3.1	3.4	3.4	4.3		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR7	16:27	Surface	1	2	28.9	7.9	24.5	6.1		3.1		4.4			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR7	16:27	Middle	2	1											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR7	16:27	Middle	2	2											
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR7	16:27	Bottom	3	1	28.7	7.9	24.9	5.7	5.8	3.8	6.0	4.0	9.1		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	SR7	16:27	Bottom	3	2	28.7	7.9	24.8	5.9		3.7		5.5			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS17	15:27	Surface	1	1	28.4	7.9	27.5	4.5	4.5	6.7	6.0	7.6	9.1		
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS17	15:27	Surface	1	2	28.4	7.9	27.5	4.5		6.6		8.5			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS17	15:27	Middle	2	1	28.2	8.0	28.6	4.5		4.6		9.8			
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS17	15:27	Middle	2	2	28.2	8.0	28.6	4.5		4.6		9.6			

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS17	15:27	Bottom	3	1	28.1	8.0	29.2	4.5	4.5	6.9		9.0	
TMCLKL	HY/2012/08	2019/09/20	Mid-Ebb	IS17	15:27	Bottom	3	2	28.1	8.0	29.2	4.5		6.8		10.0	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)5	10:09	Surface	1	1	28.4	7.9	26.6	4.9		3.3	3.3	3.3	4.8
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)5	10:09	Surface	1	2	28.4	7.9	26.5	4.9	4.7	3.3		3.6	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)5	10:09	Middle	2	1	28.3	7.9	27.9	4.5		3.4	3.3	4.7	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)5	10:09	Middle	2	2	28.3	7.9	27.8	4.5		3.4		5.7	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)5	10:09	Bottom	3	1	28.3	7.9	28.1	4.6	4.6	3.2		6.0	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)5	10:09	Bottom	3	2	28.3	7.9	28.1	4.5		3.1		5.5	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)3(N)	11:00	Surface	1	1	28.7	7.9	23.4	5.5		3.2	6.1	4.0	7.3
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)3(N)	11:00	Surface	1	2	28.7	7.9	23.4	5.5	5.4	3.2		4.9	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)3(N)	11:00	Middle	2	1	28.6	8.0	24.7	5.2		7.4		6.5	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)3(N)	11:00	Middle	2	2	28.5	8.0	24.8	5.2		7.4		6.0	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)3(N)	11:00	Bottom	3	1	28.5	7.9	25.1	5.1	5.1	7.7		11.0	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	CS(Mf)3(N)	11:00	Bottom	3	2	28.5	7.9	25.1	5.1		7.7		11.5	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)16	11:44	Surface	1	1	28.5	7.8	25.9	5.0		8.2	8.2	9.1	9.4
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)16	11:44	Surface	1	2	28.5	7.8	25.9	5.0	5.0	8.2		8.1	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)16	11:44	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)16	11:44	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)16	11:44	Bottom	3	1	28.4	7.9	26.1	5.0	5.0	8.1		10.2	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)16	11:44	Bottom	3	2	28.4	7.9	26.1	5.0		8.1		10.1	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4a	11:55	Surface	1	1	28.6	7.8	25.9	5.1		4.3	4.6	6.2	7.0
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4a	11:55	Surface	1	2	28.7	7.8	25.8	5.1	5.1	4.3		5.2	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4a	11:55	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4a	11:55	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4a	11:55	Bottom	3	1	28.5	7.8	26.0	5.0	5.0	4.9		7.8	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4a	11:55	Bottom	3	2	28.5	7.8	26.0	5.0		4.9		8.7	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4(N2)	11:59	Surface	1	1	28.6	7.8	25.9	5.1		4.6	6.2	6.4	7.5
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4(N2)	11:59	Surface	1	2	28.6	7.8	25.9	5.1	5.1	4.6		5.4	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4(N2)	11:59	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4(N2)	11:59	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4(N2)	11:59	Bottom	3	1	28.4	7.8	26.2	4.6	4.6	7.9		8.7	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR4(N2)	11:59	Bottom	3	2	28.4	7.8	26.2	4.6	4.6	7.8		9.6	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS8(N)	12:06	Surface	1	1	28.7	7.7	25.5	5.3		4.5	5.1	7.9	7.7
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS8(N)	12:06	Surface	1	2	28.7	7.7	25.5	5.3	5.3	4.5		8.4	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS8(N)	12:06	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS8(N)	12:06	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS8(N)	12:06	Bottom	3	1	28.6	7.7	25.6	5.2	5.2	5.8		7.7	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS8(N)	12:06	Bottom	3	2	28.6	7.7	25.6	5.2		5.7		6.8	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)9	12:14	Surface	1	1	28.6	7.8	26.0	5.1		6.3	7.0	7.7	10.3
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)9	12:14	Surface	1	2	28.6	7.8	26.0	5.1	5.1	6.3		8.2	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)9	12:14	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)9	12:14	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)9	12:14	Bottom	3	1	28.7	7.9	26.0	5.3	5.3	7.7		12.6	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)9	12:14	Bottom	3	2	28.6	7.9	26.0	5.3		7.7		12.8	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)11	10:35	Surface	1	1	28.4	8.0	25.8	4.9		6.4	13.3	10.1	16.4
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)11	10:35	Surface	1	2	28.4	8.0	25.7	4.9	4.7	6.4		9.1	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)11	10:35	Middle	2	1	28.3	7.9	27.4	4.4		16.3		18.0	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)11	10:35	Middle	2	2	28.3	7.9	27.3	4.4		16.2		17.1	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)11	10:35	Bottom	3	1	28.3	7.8	27.4	4.5	4.5	17.1		21.1	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS(Mf)11	10:35	Bottom	3	2	28.3	7.8	27.4	4.4		17.1		22.8	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR7	10:28	Surface	1	1	28.4	7.8	26.8	4.7		9.1	11.2	9.5	10.2
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR7	10:28	Surface	1	2	28.4	7.8	26.8	4.7	4.7	9.0		9.6	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR7	10:28	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR7	10:28	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR7	10:28	Bottom	3	1	28.4	7.7	27.2	4.7		13.4		11.2	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	SR7	10:28	Bottom	3	2	28.3	7.7	27.2	4.7	4.7	13.4		10.3	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS17	11:37	Surface	1	1	28.5	7.9	26.2	4.9		3.5	3.8	4.0	5.0
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS17	11:37	Surface	1	2	28.5	7.9	26.1	4.9	4.8	3.5		4.2	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS17	11:37	Middle	2	1	28.4	7.9	26.5	4.7		3.6		4.7	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS17	11:37	Middle	2	2	28.4	7.9	26.4	4.8		3.5		5.7	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS17	11:37	Bottom	3	1	28.3	7.9	27.3	4.6	4.6	4.3		6.1	
TMCLKL	HY/2012/08	2019/09/20	Mid-flood	IS17	11:37	Bottom	3	2	28.3	7.9	27.2	4.6		4.3		5.2	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

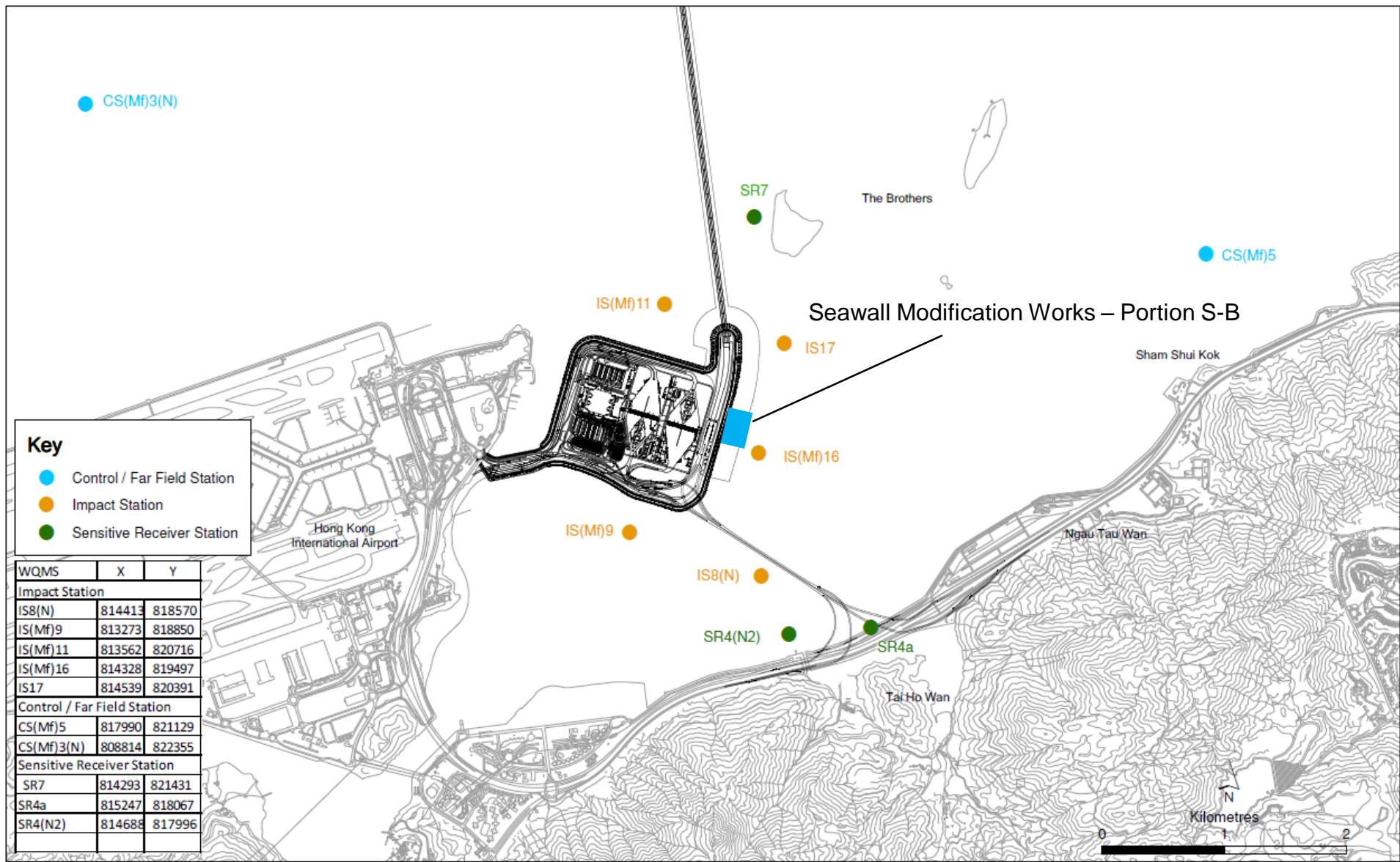


Figure 1

Email
message

Environmental
Resources
Management

To Ramboll Hong Kong Limited (ENPO)

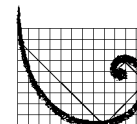
From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Water Quality
Impact Monitoring

Date 26 September 2019

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com



ERM

Dear Sir or Madam,

Please find the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance

0212330_23 September 2019_ Surface & Middle DO_E_Station SR4(N2)

0212330_23 September 2019_ Bottom DO_E_Station SR4(N2)

A total of two Action Level exceedances were recorded on 23 September 2019.

Regards,

A handwritten signature in blue ink that reads "Jasmine".

Dr Jasmine Ng
Environmental Team Leader

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08

TUEN MUN – CHEK LAP KOK LINK –
NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Marine Water Quality Impact Monitoring
Notification of Exceedance

Log No.	<p align="center">Action Level Exceedance 0212330_23 September 2019_ Surface & Middle DO_E_Station SR4(N2) 0212330_23 September 2019_ Bottom DO_E_Station SR4(N2) [Total No. of Exceedances = 2]</p>		
Date	<p align="center">23 September 2019 (Measured) 24 September 2019 (<i>In situ</i> results received by ERM) 4 October 2019 (Laboratory results received by ERM)</p>		
Monitoring Station	<p align="center">CS(Mf)5, SR4a, SR4(N2), IS8(N), IS(Mf)16, IS(Mf)9, CS(Mf)3(N), SR7, IS17, IS(Mf)11</p>		
Parameter(s) with Exceedance(s)	<p align="center">Dissolved Oxygen (mg/L)</p>		
Action Levels	DO	Surface and Middle 5.0 mg/L	Bottom 4.7 mg/L
Limit Levels	DO	Surface and Middle 4.2 mg/L	Bottom 3.6 mg/L
Measured Levels	<p>Action Level Exceedance</p> <ol style="list-style-type: none"> Mid-ebb at SR4(N2) (Surface & Middle -depth DO = 4.7 mg/L) Mid-ebb at SR4(N2) (Bottom-depth DO = 4.6 mg/L) 		
Works Undertaken (at the time of monitoring event)	<p>According to the information provided by the Contractor, Seawall Modification Works was carried out on 23 September 2019.</p>		
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedances are unlikely to be due to the Contract, in view of the following:</p> <ul style="list-style-type: none"> All monitored parameters, except DO, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. SR4(N2) is far away (>2 km) from the Seawall Modification Works Area (<i>Figure 1</i>), thus the observed exceedance should not be affected by the marine works under this Contract. Therefore, the exceedance is unlikely to be related to this Contract. As reported by the marine mammal observer, no discharge of organic matters into waters from landside works area was recorded. Moreover, no exceedance was recorded at IS(Mf)16 which is the closest station to the Seawall Modification Works Area during both mid-ebb and mid-flood tide. Therefore, exceedances recorded at SR4(N2) during mid-ebb tide are unlikely to be caused by the marine works of this Contract. 		
Actions Taken / To Be Taken	<p>No immediate action is considered necessary. The ET will monitor for future trends in exceedances.</p>		
Remarks	<p>The monitoring results on 23 September 2019 and locations of water quality monitoring stations are attached.</p>		

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)5	5:48	Surface	1	1	26.8	8.2	28.2	6.5	5.8	2.5	2.8	5.1	6.4
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)5	5:48	Surface	1	2	27.8	8.1	27.1	6.5		2.7		5.4	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)5	5:48	Middle	2	1	28.2	8.1	31.9	5.0		2.2		5.8	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)5	5:48	Middle	2	2	29.1	8.1	30.7	5.0		2.4		6.3	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)5	5:48	Bottom	3	1	28.1	8.0	32.3	5.4	5.4	3.5	2.8	7.9	6.4
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)5	5:48	Bottom	3	2	29.1	8.1	31.1	5.3		3.2		7.6	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)3(N)	6:49	Surface	1	1	27.1	8.1	28.7	6.3	6.3	2.0	3.6	7.9	9.5
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)3(N)	6:49	Surface	1	2	28.0	8.2	27.6	6.3		2.1		8.2	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)3(N)	6:49	Middle	2	1	27.2	8.1	28.9	6.3		2.3		9.1	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)3(N)	6:49	Middle	2	2	28.1	8.2	27.8	6.3	6.2	2.3	3.6	9.4	9.5
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)3(N)	6:49	Bottom	3	1	27.5	8.1	30.3	6.2		6.6		11.4	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	CS(Mf)3(N)	6:49	Bottom	3	2	28.4	8.2	29.0	6.1	5.1	6.5	3.7	11.0	17.3
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)16	7:26	Surface	1	1	27.9	8.1	30.5	5.1		3.5		15.9	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)16	7:26	Surface	1	2	28.9	8.1	29.2	5.1	5.1	3.7	3.7	16.3	17.3
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)16	7:26	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)16	7:26	Middle	2	2					5.4		3.7		18.5
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)16	7:26	Bottom	3	1	28.0	8.1	31.5	5.4		3.7		18.6	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)16	7:26	Bottom	3	2	29.0	8.1	30.3	5.3	5.3	3.7	6.1	18.6	11.3
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4a	7:36	Surface	1	1	27.5	8.0	28.4	5.3		4.0		10.9	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4a	7:36	Surface	1	2	28.5	8.1	27.3	5.2	5.3	4.2	6.1	11.1	11.3
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4a	7:36	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4a	7:36	Middle	2	2					4.9		6.1		11.7
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4a	7:36	Bottom	3	1	28.0	8.0	30.4	4.8		8.1		11.7	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4a	7:36	Bottom	3	2	28.9	8.1	29.2	5.0	4.7	8.1	9.1	11.5	10.0
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4(N2)	7:40	Surface	1	1	28.0	8.0	29.6	4.7		7.6		9.2	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4(N2)	7:40	Surface	1	2	28.9	8.1	28.4	4.7	4.7	7.7	9.1	9.4	10.0
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4(N2)	7:40	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4(N2)	7:40	Middle	2	2					4.6		9.1		10.6
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4(N2)	7:40	Bottom	3	1	28.0	8.0	30.4	4.5		10.5		10.6	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR4(N2)	7:40	Bottom	3	2	28.9	8.1	29.2	4.7	5.9	10.4	5.9	10.9	12.6
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS8(N)	7:46	Surface	1	1	27.6	8.1	28.7	5.9		5.7		12.4	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS8(N)	7:46	Surface	1	2	28.5	8.1	27.5	5.9	5.9	5.4	5.9	12.1	12.6
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS8(N)	7:46	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS8(N)	7:46	Middle	2	2					4.9		5.9		13.1
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS8(N)	7:46	Bottom	3	1	27.8	8.0	29.7	4.9		6.2		12.7	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS8(N)	7:46	Bottom	3	2	28.8	8.1	28.5	4.9	6.4		4.4		17.3
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)9	7:55	Surface	1	1									
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)9	7:55	Surface	1	2					6.4		4.4		17.3
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)9	7:55	Middle	2	1	27.1	8.2	27.8	6.4		4.3		17.3	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)9	7:55	Middle	2	2	28.1	8.2	26.7	6.4	#DIV/0!	4.4	4.4	17.2	17.3
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)9	7:55	Bottom	3	1									
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)9	7:55	Bottom	3	2					5.5		3.2		8.6
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)11	6:20	Surface	1	1	27.1	8.1	28.9	6.1		2.4		8.7	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)11	6:20	Surface	1	2	28.1	8.1	27.8	6.0	5.5	2.5	3.2	9.1	8.6
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)11	6:20	Middle	2	1	28.1	8.1	31.1	5.0		3.0		8.8	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)11	6:20	Middle	2	2	29.0	8.1	29.9	5.0	5.0	3.0	3.2	8.5	8.6
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)11	6:20	Bottom	3	1	28.1	8.2	31.6	5.0		4.4		8.1	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS(Mf)11	6:20	Bottom	3	2	29.1	8.1	30.3	5.0	6.2	4.0	2.3	8.3	8.3
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR7	6:13	Surface	1	1	27.2	8.1	29.2	6.2		2.2		6.7	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR7	6:13	Surface	1	2	28.1	8.2	28.1	6.1	6.2	2.1	2.3	6.2	8.3
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR7	6:13	Middle	2	1									
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR7	6:13	Middle	2	2					6.2		2.3		10.4
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR7	6:13	Bottom	3	1	27.2	8.2	29.4	6.2		2.4		10.4	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	SR7	6:13	Bottom	3	2	28.1	8.1	28.3	6.2	5.9	2.3	4.3	9.7	13.9
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS17	7:19	Surface	1	1	27.1	8.1	28.9	5.9		3.3		12.3	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS17	7:19	Surface	1	2	28.1	8.1	27.8	5.9	5.9	3.2	4.3	12.6	13.9
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS17	7:19	Middle	2	1	27.2	8.1	29.1	5.8		3.6		14.5	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS17	7:19	Middle	2	2	28.1	8.1	27.9	5.8	3.6	14.7			

Project	Contract	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS17	7:19	Bottom	3	1	28.0	8.1	31.5	5.2	5.3	6.1		14.7	
TMCLKL	HY/2012/08	2019/09/23	Mid-Ebb	IS17	7:19	Bottom	3	2	29.0	8.1	30.3	5.3		6.1		14.3	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)5	20:18	Surface	1	1	27.9	8.2	31.6	5.5	5.4	3.9	4.6	3.5	4.1
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)5	20:18	Surface	1	2	28.9	8.1	30.4	5.5		3.7		3.8	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)5	20:18	Middle	2	1	28.0	8.2	32.2	5.3	5.5	4.7		4.1	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)5	20:18	Middle	2	2	28.9	8.1	30.9	5.4		4.4		4.3	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)5	20:18	Bottom	3	1	28.0	8.1	32.3	5.4	5.5	5.5		4.2	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)5	20:18	Bottom	3	2	28.9	8.1	31.0	5.5		5.5		4.4	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)3(N)	19:24	Surface	1	1	27.7	8.1	29.5	6.6	6.4	3.3	8.1	10.1	9.1
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)3(N)	19:24	Surface	1	2	28.7	8.2	28.3	6.6		3.3		10.5	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)3(N)	19:24	Middle	2	1	27.8	8.2	30.5	6.1	6.1	9.9		8.1	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)3(N)	19:24	Middle	2	2	28.8	8.2	29.2	6.1		10.0		8.2	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)3(N)	19:24	Bottom	3	1	27.8	8.1	30.7	6.1	6.1	11.1		8.6	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	CS(Mf)3(N)	19:24	Bottom	3	2	28.8	8.2	29.5	6.1		11.1		9.1	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)16	18:43	Surface	1	1	27.9	8.3	29.6	8.1	8.1	5.1	7.9	21.5	22.4
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)16	18:43	Surface	1	2	28.9	8.3	28.3	8.1		5.3		21.8	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)16	18:43	Middle	2	1					5.8				
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)16	18:43	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)16	18:43	Bottom	3	1	27.9	8.1	30.6	5.8	5.8	10.7		22.9	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)16	18:43	Bottom	3	2	28.8	8.1	29.4	5.7		10.4		23.2	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4a	18:33	Surface	1	1	27.9	8.2	29.5	6.6	6.6	5.2	5.7	7.7	7.8
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4a	18:33	Surface	1	2	28.8	8.2	28.3	6.6		5.0		8.1	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4a	18:33	Middle	2	1					6.2				
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4a	18:33	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4a	18:33	Bottom	3	1	27.8	8.2	29.7	6.2	6.2	6.3		7.7	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4a	18:33	Bottom	3	2	28.7	8.2	28.4	6.2		6.2		7.5	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4(N2)	18:29	Surface	1	1	27.9	8.2	29.3	6.8	6.8	6.7	8.2	8.7	9.1
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4(N2)	18:29	Surface	1	2	28.9	8.2	28.1	6.8		6.6		8.6	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4(N2)	18:29	Middle	2	1					6.5				
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4(N2)	18:29	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4(N2)	18:29	Bottom	3	1	27.9	8.1	29.4	6.5	6.5	9.5		9.5	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR4(N2)	18:29	Bottom	3	2	28.8	8.2	28.2	6.5		9.8		9.5	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS8(N)	18:24	Surface	1	1	27.8	8.1	29.6	7.2	7.3	10.0	10.1	12.2	12.4
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS8(N)	18:24	Surface	1	2	28.8	8.1	28.3	7.3		10.3		11.9	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS8(N)	18:24	Middle	2	1					7.1				
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS8(N)	18:24	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS8(N)	18:24	Bottom	3	1	27.8	8.2	29.6	7.0	7.1	10.1		12.5	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS8(N)	18:24	Bottom	3	2	28.8	8.2	28.3	7.1		10.1		12.9	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)9	18:19	Surface	1	1					8.2		4.4		13.8
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)9	18:19	Surface	1	2									
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)9	18:19	Middle	2	1	28.0	8.1	29.4	8.2	8.2	4.4		14.0	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)9	18:19	Middle	2	2	28.9	8.2	28.1	8.2		4.3		13.5	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)9	18:19	Bottom	3	1					#DIV/0!				
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)9	18:19	Bottom	3	2									
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)11	18:56	Surface	1	1	27.9	8.2	30.1	6.1	5.6	4.2	6.3	6.4	6.6
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)11	18:56	Surface	1	2	28.9	8.1	28.9	6.1		4.3		6.1	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)11	18:56	Middle	2	1	28.0	8.1	31.0	5.0	5.1	7.1		6.7	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)11	18:56	Middle	2	2	28.9	8.1	29.8	5.0		7.2		6.9	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)11	18:56	Bottom	3	1	28.0	8.1	31.1	5.1	5.1	7.5		6.6	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS(Mf)11	18:56	Bottom	3	2	28.9	8.1	29.8	5.1		7.4		6.8	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR7	19:54	Surface	1	1	27.6	8.2	30.1	7.8	7.8	2.4	3.8	9.2	9.2
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR7	19:54	Surface	1	2	28.6	8.2	28.9	7.8		2.6		9.4	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR7	19:54	Middle	2	1					6.7				
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR7	19:54	Middle	2	2									
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR7	19:54	Bottom	3	1	27.8	8.2	30.5	6.7	6.7	5.1		9.0	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	SR7	19:54	Bottom	3	2	28.8	8.2	29.2	6.7		5.1		9.0	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS17	18:49	Surface	1	1	27.7	8.2	29.9	7.1	6.7	3.1	3.3	11.7	12.8
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS17	18:49	Surface	1	2	28.7	8.2	28.7	7.2		3.1		11.5	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS17	18:49	Middle	2	1	27.7	8.1	30.7	6.2	5.4	2.6		12.0	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS17	18:49	Middle	2	2	28.6	8.2	29.4	6.2		2.7		12.3	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS17	18:49	Bottom	3	1	27.8	8.1	31.5	5.4	5.4	4.2		14.9	
TMCLKL	HY/2012/08	2019/09/23	Mid-flood	IS17	18:49	Bottom	3	2	28.8	8.1	30.2	5.4		4.0		14.6	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

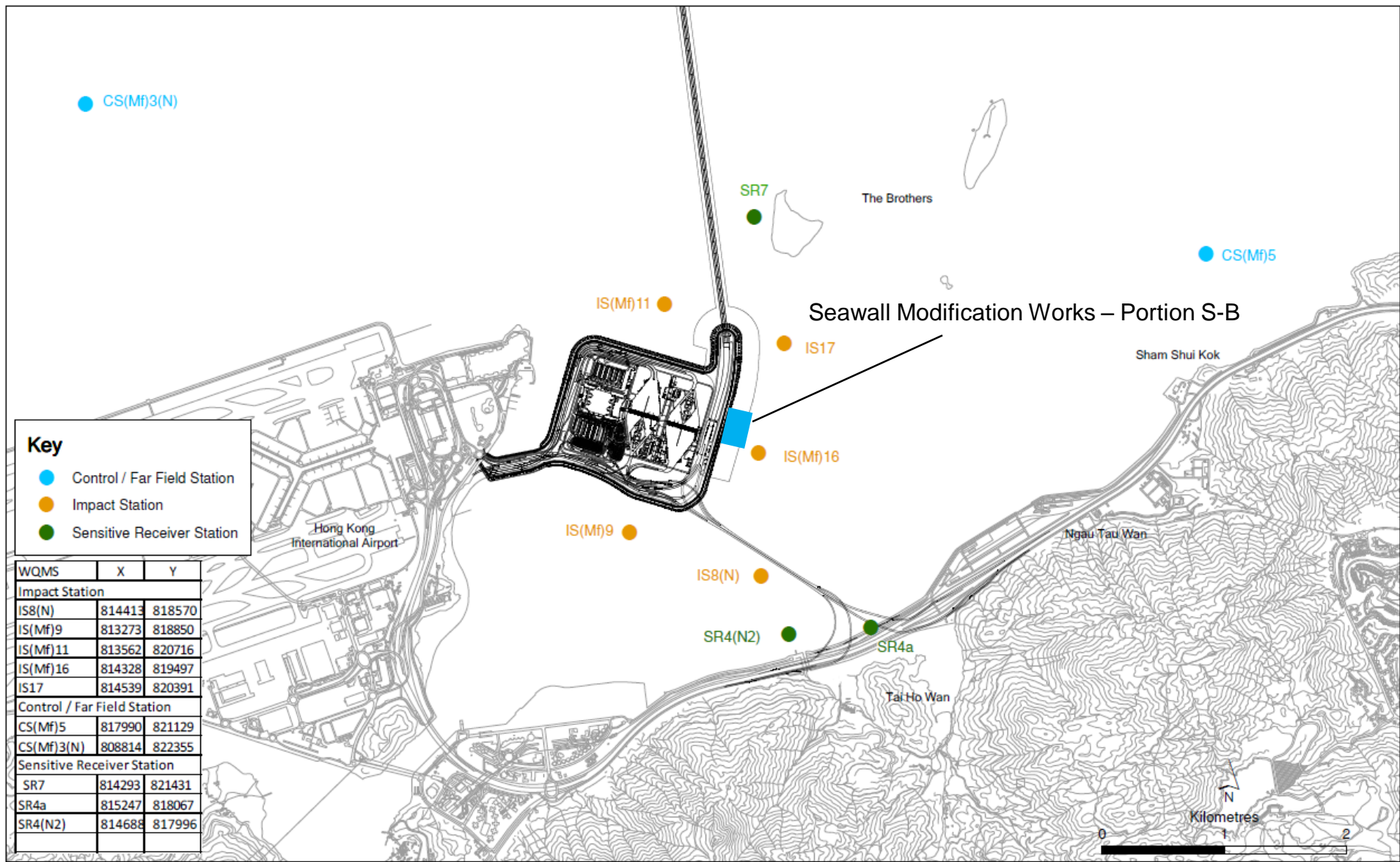


Figure 1

Appendix M

Waste Flow Table

Monthly Summary Waste Flow Table

Name of Department: HyD

Contract No. / Works Order No.: HY/2012/08

Monthly Summary Waste Flow Table for September 2019 [to be submitted not later than the 15th day of each month following reporting month] (All quantities shall be rounded off to 3 decimal places.)

Month	Monthly Break-down of <u>Inert</u> Construction & Demolition Materials (i.e. Public Fill Materials)				
	(a)=(b)+(c)+(d)+(e) Total Quantity Generated	(b) Hard Rock and Large Broken Concrete	(c) Reused in the Contract	(d) Reused in other Projects	(e) Disposed of as Public Fill
	(in '000 ton)	(in '000 ton)	(in '000 ton)	(in '000 ton)	(in '000 ton)
Sub-total	2224.407	0.000	76.754	585.369	1562.284
Jan-2019	299.831	0.000	53.419	215.427	30.985
Feb-2019	133.335	0.000	46.021	67.707	19.607
Mar-2019	120.224	0.000	50.455	20.964	48.805
Apr-2019	130.329	0.000	58.956	0.000	71.373
May-2019	67.355	0.000	51.297	0.000	16.058
Jun-2019	4.134	0.000	0.000	0.000	4.134
Half Year Sub-total	755.208	0.000	260.148	304.098	190.962
Jul-2019	3.821	0.000	0.000	0.000	3.821
Aug-2019	2.388	0.000	0.000	0.000	2.388
Sep-2019	3.610	0.000	0.000	0.000	3.610
Oct-2019					
Nov-2019					
Dec-2019					
Project Total Quantities	2989.434	0.000	336.902	889.467	1763.065

Month	Actual Quantities of <u>Non-inert</u> Construction Waste Generated Monthly								
	Metals		Paper/ cardboard packaging		Plastics (see Note 3)		Chemical Waste		Others, e.g. General Refuse disposed at Landfill
	(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000ton)
	generated	recycled	generated	recycled	generated	recycled	generated	Disposed	generated
Sub-total	6763.82	6763.82	7.74	7.74	8.70	8.70	60.35	60.35	13.989
Jan-2019	394.55	394.55	0.00	0.00	0.00	0.00	0.00	0.00	0.538
Feb-2019	103.72	103.72	0.62	0.62	0.00	0.00	1.672	1.672	0.578
Mar-2019	88.20	88.20	0.46	0.46	0.00	0.00	0.00	0.00	0.692
Apr-2019	260.89	260.89	0.00	0.00	3.90	3.90	1.045	1.045	0.707
May-2019	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00	0.798
Jun-2019	136.75	136.75	0.80	0.80	0.00	0.00	4.14	4.14	0.751
Half Year Sub-total	848.02	848.02	2.54	2.54	3.90	3.90	6.857	6.857	4.064
Jul-2019	444.37	444.37	1.20	1.20	0.00	0.00	0.00	0.00	0.730
Aug-2019	505.93	505.93	0.00	0.00	1.58	1.58	3.80	3.80	0.703
Sep-2019	397.10	397.10	0.60	0.60	1.62	1.62	8.00	8.00	0.711
Oct-2019									
Nov-2019									
Dec-2019									
Project Total Quantities	9095.99	9095.99	12.08	12.08	15.80	15.80	79.007	79.007	20.197

Forecast of Total Quantities of Construction and Demolition Materials to be Generated from the Contract*				
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed of as Public Fill
(in '000 ton)	(in '000 ton)	(in '000 ton)	(in '000 ton)	(in '000 ton)
3200.000	0.000	300.000	1000.000	2000.000

Forecast of Total Quantities of Construction and Demolition Materials to be Generated from the Contract*				
Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	General Refuse disposed of at Landfill
(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 ton)
9500.00	15.00	15.00	80.00	30.000

- Notes:
- (1) The performance targets are given in the **ER Appendix 8J Clause 14** and the EM & A Manual(s).
 - (2) The waste flow table shall also include C&D materials to be imported for use at the Site.
 - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
 - (4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m³. (**ER Part 8 Clause 8.8.5 (d) (ii)** refers).