

Report Date: 11/07/2020

Week: 28-2020

Number: 007

Period: 4/07/2020 to 10/07/2020

Project : Dredging, Land Reclamation and Revetment Works at Gulhifalhu
 Contract number : AGR(471)-PIDS2/PRIV/2019/194
 Project number [MIAS] : 462.10042

Document number : 462.10062-WQR-7
 Contractor : Boskalis Westminster Contracting Ltd
 Client : Ministry of National Planning and Infrastructure
 Attention : shaana.farooq@planning.gov.mv

NTU - TSS Relationship	Correlation coefficient (NTU:TSS)	Monitoring equipment	TSS limit (mg/L)	Converted limit NTU	Limit applicability
	1.92	Eureka Manta	10	5.2	Maintain a threshold level for turbidity at all reefs within the atoll lagoon in proximity to the dredging site, measured as Total Suspended Solids (TSS) to a maximum of 10 mg/L not exceeding 20% of the measurements. Exceptions shall be made where background rates exceeded the threshold level and in reefs where extensive reclamation work has been undertaken (including e.g. Thilafushi, Gulhifalhu, Villigili, Malé, Hulhumalé). Considerations also shall be made to account for naturally elevated levels of turbidity which may occur during storm events or bad weather.

Activities	Activities and other observations
	Insitu waterquality measurements and sampling performed. No unexpected values or exceedances. Plume monitoring. TSS Analysis. Finalized Silt screen installation plan rev2 and submitted to MNPHI. Finalized Erosion and coastal changes report and submitted to MNPHI. Finalized Environmental report 06 rev01, submitted to MNPHI. Preparing Sedimentation report 01 rev02.

Mitigation	Corrective actions taken if necessary
	EcoCoast silt screens located inside northern end of the bund (Refer to document: "462-10042-BWC-SHE-QS-012 Gulhifalhu Reclamation - Silt screen installation plan rev02" for more information). Bund construction itself is a mitigating measure, to contain reclamation sediment.

Measurements	Measurements
	Measurements are taken using a Eureka Manta Multiparameter probe. The EIA requires measurements and water sample at the surface, at approximately 1 meter depth. For completeness, two additional depths are measured; 'bottom' and 'mid-water'. The 'bottom' measurement is taken at either: - The maximum depth the probe will go to on a 30m cable (dependent on currents), or 90% of the water column if water depth is < 30m The 'mid-water' measurement is taken at approximately 0.5 * the 'bottom' depth Eureka Manta Turbidity sensor has an accuracy of 2% of reading or 0.2 (https://www.waterprobes.com/water-quality-sensor-specifications). Therefore, negative readings of up until -0.2 NTU indicate no turbidity.

Calibration			
	Eureka Manta Multiparameter probe		
	S/N: MT12183556	Calibration Date: 01/07/2020	Status: Used for measurements
	S/N: MT12183554	Calibration Date: N/A	Status: Spare

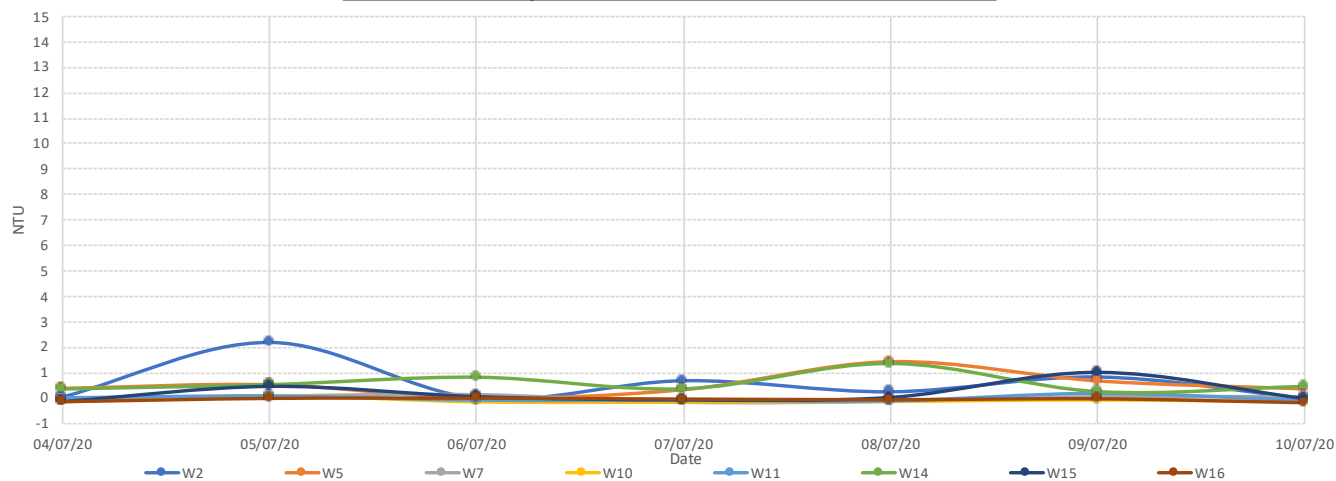
Locations

Location ID	Description
W2	Reclamation
W5	
W7	
W10	
W11	
W14	
W15	Villigili
W16	Reclamation
W19	Background
W20	Borrow area
W25	
W26	
W27	Background
W36	Borrow area
W45	
W46	
W47	
W51	



Signed by Contractor

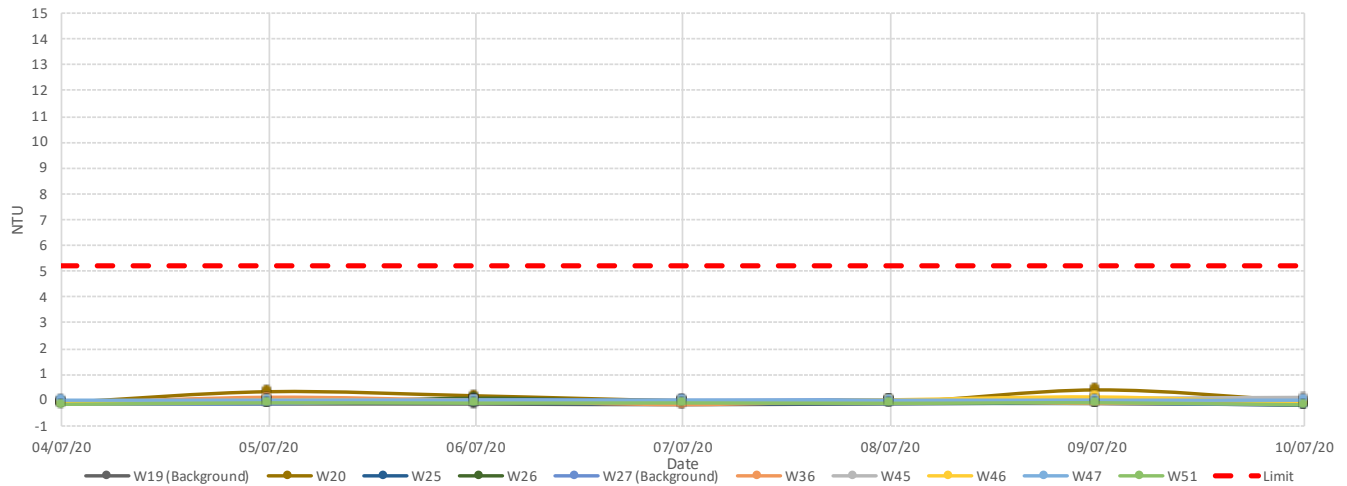
Signed by Client



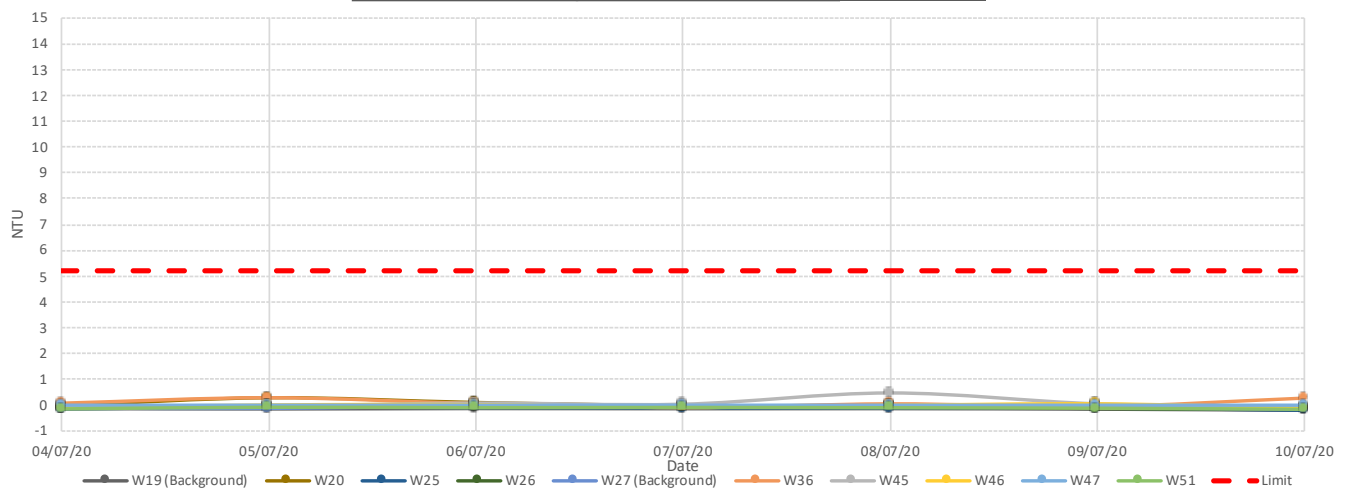
Report Date: 11/07/2020 Week: 28-2020 Period: 04/07/2020 to 10/07/2020

Project : Dredging, Land Reclamation and Revetment Works at Gulhifalhu	Document number : 462.10062-WQR-7.3
Contract number : AGR(471)-PIDS2/PRIV/2019/194	Contractor : Boskalis Westminster Contracting Ltd
Project number [MIAS] : 462.10042	Client : Ministry of National Planning and Infrastructure
	Attention : shaana.farooq@planning.gov.mv

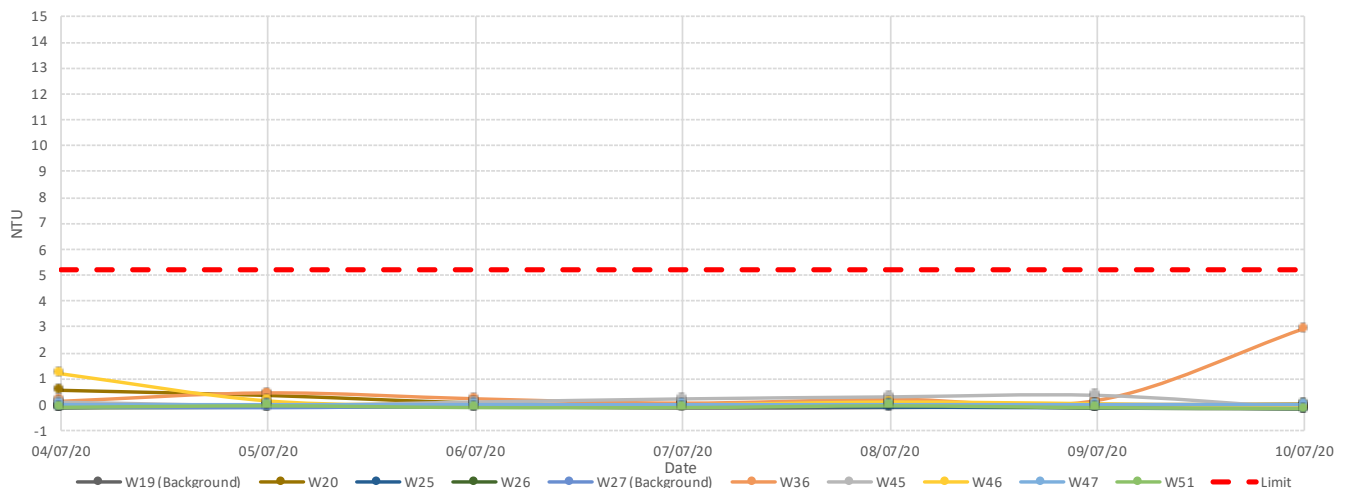
Surface Turbidity Measurements at the Borrow Area



Mid Water Turbidity Measurements at the Borrow Area



Bottom Turbidity Measurements at the Borrow Area



Date: 04/07/2020

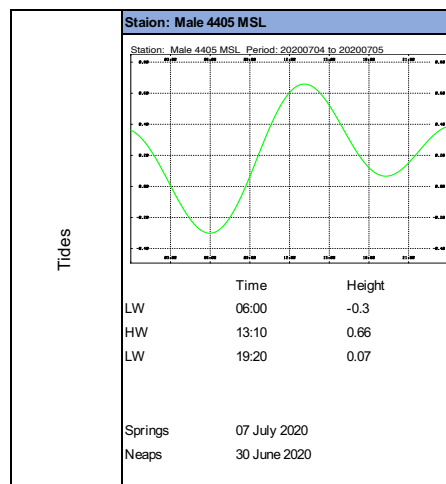
Time: 08:40-13:38

Project : Dredging, Land Reclamation and Revetment Works at Gulhifalhu
 Contract number : AGR(471)-PIDS2/PRIV/2019/194
 Project number [MIAS] : 462.10042

Document number : 462.10062-WQR-7.4
 Contractor : Boskalis Westminster Contracting Ltd
 Client : Ministry of National Planning and Infrastructure
 Attention : shaana.farooq@planning.gov.mv

Location	Section	Depth (m)	Temperature	pH	Conductivity (uS/cm)	Turbidity (NTU)
W2	Surface	1	29.7	7.8	53525	-0.12
	Mid-water	10	29.6	7.9	53490	-0.09
	Bottom	23	29.6	7.9	53420	0.05
W5	Surface	2	29.6	7.8	53365	0.19
	Mid-water	12	29.6	7.8	53376	0.17
	Bottom	23	29.6	7.9	53351	0.39
W7	Surface	0	29.7	7.8	53349	0.22
	Mid-water	11	29.7	7.8	53340	0.37
	Bottom	24	29.6	7.8	53295	-0.09
W10	Surface	2	29.7	8.0	53286	-0.15
	Mid-water	12	29.7	8.1	53274	-0.15
	Bottom	25	29.6	8.1	53323	-0.14
W11	Surface	1	29.6	7.9	53543	-0.04
	Mid-water	10	29.6	8.0	53519	-0.04
	Bottom	24	29.6	8.0	53520	0.02
W14	Surface	1	29.8	8.0	53512	0.05
	Mid-water	9	29.8	8.0	53510	0.12
	Bottom	17	29.8	8.0	53492	0.36
W15	Surface	1	29.6	7.9	53443	-0.15
	Mid-water	11	29.6	7.9	53436	-0.13
	Bottom	24	29.6	8.0	53397	-0.13
W16	Surface	1	29.7	8.0	53554	-0.12
	Mid-water	11	29.6	8.1	53511	-0.12
	Bottom	22	29.6	8.1	53503	-0.14
W19	Surface	1	29.8	8.0	53644	-0.14
	Mid-water	12	29.7	8.0	53590	-0.13
	Bottom	23	29.7	8.0	53572	-0.10
W20	Surface	1	29.8	8.0	53640	-0.09
	Mid-water	11	29.6	8.1	53579	-0.02
	Bottom	22	29.6	8.1	53514	0.55
W25	Surface	1	29.9	7.9	53587	-0.12
	Mid-water	12	29.6	8.1	53598	-0.14
	Bottom	24	29.6	8.1	53553	-0.12
W26	Surface	1	29.7	7.9	53547	-0.06
	Mid-water	11	29.4	8.2	53471	-0.13
	Bottom	23	29.4	8.3	53453	-0.09
W27	Surface	1	29.7	8.1	53553	-0.13
	Mid-water	12	29.6	8.2	53525	-0.11
	Bottom	21	29.5	8.1	53495	-0.09
W36	Surface	1	29.8	8.1	53464	-0.12
	Mid-water	10	29.5	8.1	53515	0.08
	Bottom	19	29.5	8.1	53484	0.13
W45	Surface	1	29.8	8.1	53547	-0.09
	Mid-water	10	29.6	8.1	53508	-0.04
	Bottom	23	29.5	8.1	53480	0.09
W46	Surface	1	29.7	8.2	53561	-0.09
	Mid-water	10	29.7	8.2	53530	-0.08
	Bottom	22	29.6	8.2	53488	1.19
W47	Surface					
	Mid-water					
	Bottom					
W51	Surface	1	29.9	8.0	53614	-0.16
	Mid-water	11	29.6	8.2	53539	-0.14
	Bottom	24	29.6	8.2	53537	-0.10

Stoppages	Vessel	Stop	Start



Remarks
Unable to complete location W47, informed by the Marine Police that the environmental boat doesn't have permission to be in the area. A permit is currently being looked into.

Weather

Meteo Group Forecast for Gulhifalhu Project Maldives																		
Time	WX	Winds						Waves						Vis	Clouds	Temp		
		10m			50m		Wind Wave		Swell			Wave			10m	Lowest	Air	
UTC		Dir	Spd (kts)	Gust (kts)	Risk (kts)	Spd (kts)	Gust (kts)	Hgt (m)	Per (sec)	Dir	Hgt (m)	Per (sec)	Hsig (m)	Max (m)	Risk (m)	(nm)	(ft)	(degC)
Saturday, 04 Jul 2020 - Maldives Project 04°11'N 073°28'E																		
03	NSW	SSW	5	8	-	5	8	0.0		WSW	1.2	10	1.2	2.1	-	>5	3500	28
06	NSW	S	5	8	-	5	8	0.0		SW	1.2	10	1.2	2.0	-	>5	3500	29
09	SHRA	SSW	4	7	-	5	8	0.0		SW	1.2	10	1.2	2.0	-	3-5	3500	29
12	SHRA	SSW	5	8	-	5	8	0.1	1	SW	1.2	10	1.2	2.0	-	3-5	3500	29
15	NSW	SSE	6	9	-	6	9	0.1	1	SW	1.1	10	1.1	1.9	-	>5	3500	29
18	SHRA	SSE	6	9	-	6	10	0.1	1	SW	1.1	10	1.1	1.9	-	3-5	3500	29
21	TS	S	5	13	25	4	11	0.0		SW	1.1	10	1.1	1.9	-	3-5	3500	28

Date: 05/07/2020

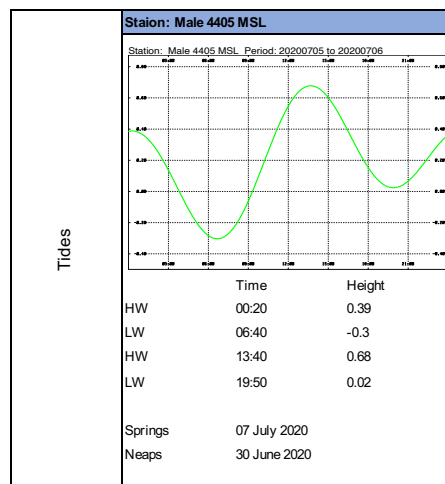
Time: 08:29:13:40

Project : Dredging, Land Reclamation and Revetment Works at Gulhifalhu
 Contract number : AGR(471)-PIDS2/PRIV/2019/194
 Project number [MIAS] : 462.10042

Document number : 462.10062-WQR-7.5
 Contractor : Boskalis Westminster Contracting Ltd
 Client : Ministry of National Planning and Infrastructure
 Attention : shaana.farooq@planning.gov.mv

Location	Section	Depth (m)	Temperature	pH	Conductivity (uS/cm)	Turbidity (NTU)
W2	Surface	1	29.6	8.2	53265	-0.02
	Mid-water	10	29.5	8.2	53467	-0.01
	Bottom	20	29.5	8.2	53443	2.19
W5	Surface	1	29.6	8.0	53458	0.38
	Mid-water	11	29.5	8.0	53421	0.49
	Bottom	24	29.5	8.1	53423	0.53
W7	Surface	1	29.7	8.1	53401	-0.05
	Mid-water	12	29.7	8.0	53384	-0.03
	Bottom	23	29.6	8.0	53360	0.08
W10	Surface	1	29.9	8.0	53458	0.26
	Mid-water	12	29.6	8.1	53403	0.07
	Bottom	24	29.6	8.1	53365	0.10
W11	Surface	1	29.7	8.1	53395	0.01
	Mid-water	12	29.6	8.0	53397	0.04
	Bottom	24	29.6	8.0	53392	0.09
W14	Surface	1	29.8	8.2	53418	0.03
	Mid-water	8	29.7	8.2	53565	0.13
	Bottom	18	29.6	8.2	53484	0.53
W15	Surface	1	29.5	8.0	53447	0.32
	Mid-water	11	29.4	8.0	53417	0.33
	Bottom	23	29.3	8.0	53377	0.46
W16	Surface	1	29.8	8.2	53529	0.00
	Mid-water	10	29.6	8.1	53507	0.00
	Bottom	20	29.6	8.1	53491	-0.01
W19	Surface	2	29.8	8.0	53579	-0.15
	Mid-water	12	29.6	8.0	53531	-0.15
	Bottom	23	29.6	8.0	53517	-0.09
W20	Surface	1	29.5	8.0	53416	0.33
	Mid-water	13	29.5	7.9	53400	0.29
	Bottom	23	29.5	8.0	53380	0.35
W25	Surface	1	29.6	7.9	53507	-0.09
	Mid-water	13	29.6	7.9	53493	-0.08
	Bottom	24	29.6	8.0	53493	-0.07
W26	Surface	1	29.5	7.9	53321	-0.12
	Mid-water	12	29.4	7.9	53360	-0.10
	Bottom	23	29.4	7.9	53336	-0.10
W27	Surface	1	29.7	7.9	53256	-0.14
	Mid-water	12	29.5	7.9	53264	-0.12
	Bottom	22	29.3	7.9	53253	-0.12
W36	Surface	1	29.5	7.6	53419	0.11
	Mid-water	11	29.5	7.6	53403	0.29
	Bottom	20	29.5	7.6	53372	0.45
W45	Surface	2	29.5	7.8	53351	0.00
	Mid-water	10	29.4	7.8	53348	-0.03
	Bottom	22	29.3	7.8	53321	-0.03
W46	Surface	1	29.5	7.8	53358	0.00
	Mid-water	12	29.5	7.8	53335	0.01
	Bottom	23	29.5	7.9	53331	0.14
W47	Surface					
	Mid-water					
	Bottom					
W51	Surface	1	29.6	8.1	53500	-0.10
	Mid-water	12	29.5	8.1	53443	-0.08
	Bottom	23	29.5	8.1	53409	-0.05

Stoppages	Vessel	Stop	Start



Unable to complete location W47, informed by the Marine Police that the environmental boat doesn't have permission to be in the area. A permit is currently being looked into.

Weather

Meteo Group Forecast for Gulhifalhu Project Maldives																		
Time	WX	Winds						Waves						Vis	Clouds	Temp		
UTC		10m				50m		Wind Wave		Swell			Wave			10m	Lowest	Air
		Dir	Spd (kts)	Gust (kts)	Risk (kts)	Spd (kts)	Gust (kts)	Hgt (m)	Per (sec)	Dir	Hgt (m)	Per (sec)	Hsig (m)	Max (m)	Risk (m)	(nm)	(ft)	(degC)
Sunday, 05 Jul 2020 - Maldives Project 04°11'N 073°28'E																		
03	SHRA	SSW	6	9	-	6	8	0.1	1	SW	1.2	10	1.2	2.0	-	3-5	3500	28
06	NSW	S	6	9	-	6	10	0.1	2	SW	1.2	10	1.2	2.0	-	>5	3500	28
09	SHRA	SSE	6	10	-	7	10	0.2	2	SW	1.2	10	1.2	2.1	-	3-5	3500	29
12	SHRA	S	5	10	-	5	11	0.1	2	SW	1.3	10	1.3	2.2	-	3-5	3500	29
15	TS	SW	5	12	25	5	12	0.1	1	SW	1.3	10	1.3	2.2	-	3-5	3500	28
18	SHRA	SSE	3	6	-	3	6	0.0		SW	1.3	10	1.3	2.2	-	3-5	3500	28
21	NSW	SSE	6	9	-	6	9	0.1	2	SW	1.2	10	1.2	2.1	-	>5	3500	28

Date: 07/07/2020

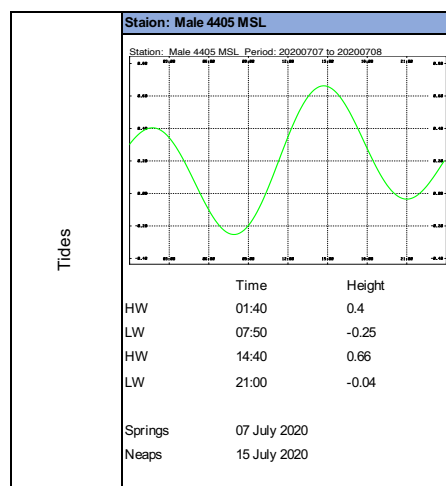
Time: 09:40 - 14:35

Project : Dredging, Land Reclamation and Revetment Works at Gulhifalhu
 Contract number : AGR(471)-PIDS2/PRIV/2019/194
 Project number [MIAS] : 462.10042

Document number : 462.10062-WQR-7.7
 Contractor : Boskalis Westminster Contracting Ltd
 Client : Ministry of National Planning and Infrastructure
 Attention : shaana.farooq@planning.gov.mv

Location	Section	Depth (m)	Temperature	pH	Conductivity (uS/cm)	Turbidity (NTU)
W2	Surface	1	30.1	8.1	53676	0.88
	Mid-water	11	29.8	8.1	53656	0.35
	Bottom	21	29.8	8.1	53660	0.69
W5	Surface	1	29.8	7.8	53603	-0.04
	Mid-water	10	29.7	7.7	53559	0.08
	Bottom	24	29.6	7.6	53536	0.34
W7	Surface	1	30.0	7.9	53526	-0.16
	Mid-water	11	29.9	7.9	53496	-0.16
	Bottom	23	29.9	7.8	53467	-0.16
W10	Surface	1	30.1	7.9	53535	-0.18
	Mid-water	11	30.0	7.9	53534	-0.18
	Bottom	24	30.0	7.9	53534	-0.16
W11	Surface	1	30.1	7.9	53566	-0.18
	Mid-water	11	29.9	8.0	53514	-0.18
	Bottom	25	29.8	7.9	53529	-0.09
W14	Surface	1	30.3	8.2	53679	0.50
	Mid-water	6	29.7	8.1	53555	0.23
	Bottom	14	29.5	8.1	53545	0.37
W15	Surface	1	29.9	7.8	53540	-0.16
	Mid-water	10	29.8	7.9	53541	-0.13
	Bottom	24	29.7	7.9	53492	-0.07
W16	Surface	1	29.9	8.0	53590	-0.04
	Mid-water	11	29.7	8.0	53539	-0.09
	Bottom	22	29.7	8.0	53511	-0.04
W19	Surface	1	29.8	8.0	53635	-0.18
	Mid-water	10	29.7	8.0	53597	-0.14
	Bottom	17	29.7	8.0	53586	-0.13
W20	Surface	1	30.2	7.8	53703	-0.02
	Mid-water	11	29.9	8.0	53655	-0.02
	Bottom	23	29.7	8.0	53638	-0.04
W25	Surface	1	30.0	7.9	53636	-0.14
	Mid-water	11	29.6	7.9	53551	-0.11
	Bottom	25	29.6	7.9	53565	-0.05
W26	Surface	1	29.7	8.0	53609	-0.06
	Mid-water	11	29.4	8.0	53567	-0.07
	Bottom	20	29.4	7.9	53554	-0.07
W27	Surface	1	29.7	7.8	53603	0.00
	Mid-water	11	29.4	7.7	53545	-0.08
	Bottom	21	29.4	7.7	53518	-0.06
W36	Surface	1	30.2	8.1	53759	-0.17
	Mid-water	10	29.9	8.1	53698	-0.09
	Bottom	24	29.7	8.1	53662	0.06
W45	Surface	1	30.0	8.0	53719	-0.04
	Mid-water	11	29.8	8.1	53672	0.04
	Bottom	23	29.6	8.1	53623	0.22
W46	Surface	1	30.0	8.0	53707	-0.08
	Mid-water	11	30.0	8.1	53708	-0.09
	Bottom	24	29.8	8.1	53661	-0.01
W47	Surface					
	Mid-water					
	Bottom					
W51	Surface	2	30.1	7.8	53699	-0.11
	Mid-water	10	29.7	7.8	53625	-0.09
	Bottom	24	29.6	7.8	53618	-0.11

Stoppages	Vessel	Stop	Start



Remarks

Unable to complete location W47, informed by the Marine Police that the environmental boat doesn't have permission to be in the area. A permit is currently being looked into.

Meteo Group Forecast for Gulhifalhu Project Maldives

Weather	Time		WX		Winds				Waves							Vis	Clouds	Temp	
	UTC		Dir	10m			50m		Wind Wave		Swell			Wave			10m	Lowest	Air
				Spd	Gust	Risk	Spd	Gust	Hgt	Per	Dir	Hgt	Per	Hsig	Max	Risk	(nm)	(ft)	(degC)
				(kts)	(kts)	(kts)	(kts)	(kts)	(m)	(sec)	(m)	(sec)	(m)	(m)	(m)				
Tuesday, 07 Jul 2020 - Maldives Project 04°11'N 073°28'E																			
03	NSW	SSE	5	8	-	4	7	0.0		SSW	1.1	9	1.1	1.8	-	>5	3500	29	
06	NSW	SSE	4	7	-	3	6	0.0		SSW	1.1	9	1.1	1.8	-	>5	3500	29	
09	NSW	SSE	5	8	-	5	8	0.0		SSW	1.1	9	1.1	1.8	-	>5	3500	29	
12	NSW	SSE	7	10	-	7	10	0.2	1	SSW	1.1	9	1.1	1.9	-	>5	3500	29	
15	NSW	S	7	10	-	8	12	0.2	1	SSW	1.1	9	1.1	1.9	-	>5	3500	29	
18	NSW	SSE	8	12	-	9	13	0.2	1	SSW	1.1	9	1.1	1.8	-	>5	3500	29	
21	NSW	S	9	13	-	10	14	0.4	2	SSW	1.1	9	1.2	1.9	-	>5	3500	29	

Date: 08/07/2020

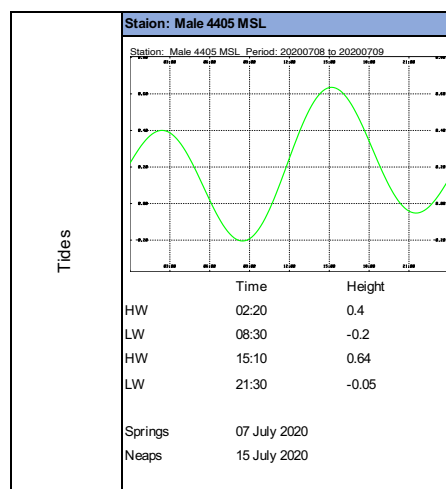
Time: 11:00 - 16:20

Project : Dredging, Land Reclamation and Revetment Works at Gulhifalhu
 Contract number : AGR(471)-PIDS2/PRIV/2019/194
 Project number [MIAS] : 462.10042

Document number : 462.10062-WQR-7.8
 Contractor : Boskalis Westminster Contracting Ltd
 Client : Ministry of National Planning and Infrastructure
 Attention : shaana.farooq@planning.gov.mv

Location	Section	Depth (m)	Temperature	pH	Conductivity (uS/cm)	Turbidity (NTU)
W2	Surface	1	30.2	7.6	53568	0.92
	Mid-water	10	29.8	7.6	53527	0.14
	Bottom	25	29.7	7.6	53538	0.25
W5	Surface	1	29.9	7.7	53484	0.11
	Mid-water	11	29.8	7.6	53443	0.20
	Bottom	24	29.6	7.4	53430	1.44
W7	Surface	1	30.3	7.8	53411	-0.14
	Mid-water	11	29.9	7.8	53336	-0.13
	Bottom	24	29.9	7.7	53322	-0.13
W10	Surface	1	30.5	7.8	53444	-0.14
	Mid-water	11	30.1	7.8	53404	-0.13
	Bottom	25	29.9	7.8	53407	-0.12
W11	Surface	1	30.2	7.8	53498	-0.11
	Mid-water	11	29.9	7.8	53533	-0.11
	Bottom	20	29.9	7.8	53533	-0.10
W14	Surface	1	30.4	7.6	53630	0.93
	Mid-water	11	29.8	7.5	53542	0.57
	Bottom	19	29.6	7.4	53469	1.36
W15	Surface	1	30.0	7.6	53498	-0.03
	Mid-water	11	29.9	7.6	53460	-0.03
	Bottom	25	29.8	7.6	53447	0.03
W16	Surface	2	30.4	7.8	53705	0.05
	Mid-water	11	29.9	7.7	53614	-0.10
	Bottom	24	29.8	7.7	53589	-0.06
W19	Surface	1	30.5	7.9	53737	-0.14
	Mid-water	11	29.9	7.9	53662	-0.13
	Bottom	24	29.8	7.9	53587	-0.11
W20	Surface	1	30.4	7.8	53719	-0.08
	Mid-water	11	29.8	7.8	53598	0.00
	Bottom	25	29.7	7.8	53582	0.07
W25	Surface	1	30.7	7.8	53681	-0.13
	Mid-water	11	29.8	7.8	53576	-0.11
	Bottom	25	29.7	7.7	53504	-0.10
W26	Surface	2	30.5	7.8	53716	-0.01
	Mid-water	11	29.7	7.7	53626	-0.02
	Bottom	24	29.7	7.8	53647	0.00
W27	Surface	1	30.7	7.9	53784	0.01
	Mid-water	12	29.8	7.8	53655	0.00
	Bottom	23	29.6	7.7	53647	0.04
W36	Surface	1	30.3	7.9	53448	-0.03
	Mid-water	12	29.8	7.9	53576	0.05
	Bottom	22	29.7	7.9	53572	0.21
W45	Surface	1	30.1	7.8	53626	0.00
	Mid-water	11	29.8	7.8	53613	0.47
	Bottom	24	29.7	7.8	53586	0.30
W46	Surface	1	30.3	7.7	53692	0.01
	Mid-water	11	29.8	7.7	53623	0.00
	Bottom	25	29.6	7.7	53600	0.10
W47	Surface					
	Mid-water					
	Bottom					
W51	Surface	1	30.0	7.8	53631	-0.12
	Mid-water	11	29.9	7.8	53615	-0.10
	Bottom	25	29.7	7.8	53545	-0.05

Stoppages	Vessel	Stop	Start



Remarks
Unable to complete location W47, informed by the Marine Police that the environmental boat doesn't have permission to be in the area. A permit is currently being looked into.

Weather

Meteo Group Forecast for Gulhifalhu Project Maldives																			
UTC	WX	Winds								Waves						Vis	Clouds	Temp	
		10m				50m		Wind Wave		Swell			Wave			10m	Lowest	Air	
		Dir	Spd	Gust	Risk	Spd	Gust	Hgt	Per	Dir	Hgt	Per	Hsig	Max	Risk	(nm)	(ft)	(degC)	
		(kts)	(kts)	(kts)	(kts)	(kts)	(kts)	(m)	(sec)	(m)	(m)	(sec)	(m)	(m)	(m)				
Wednesday, 08 Jul 2020 - Maldives Project 04°11'N 073°28'E																			
03	SHRA	SSW	5	8	-	5	8	0.1	2	SSW	0.7	9	0.7	1.1	-	3-5	3500	29	
06	DZ	WSW	6	9	-	7	10	0.1	2	SSW	0.6	9	0.6	1.0	-	3-5	3500	28	
09	NSW	W	6	9	-	7	10	0.1	2	SSW	0.6	9	0.6	1.0	-	>5	3500	28	
12	NSW	WNW	6	9	-	6	9	0.1	2	SSW	0.6	9	0.6	1.0	-	>5	3500	29	
15	NSW	W	4	6	-	3	6	0.1	1	S	0.7	9	0.7	1.1	-	>5	3500	29	
18	NSW	W	3	6	-	3	5	0.0		S	0.7	9	0.7	1.1	-	>5	3500	29	
21	DZ	WSW	6	10	-	7	10	0.1	2	S	0.7	10	0.7	1.1	-	3-5	3500	28	

Date: 09/07/2020

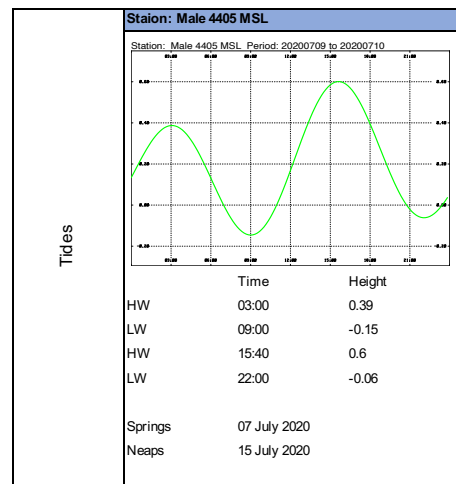
Time: 10:45 - 14:45

Project : Dredging, Land Reclamation and Revetment Works at Gulhifalhu
 Contract number : AGR(471)-PIDS2/PRIV/2019/194
 Project number [MIAS] : 462.10042

Document number : 462.10062-WQR-7.9
 Contractor : Boskalis Westminster Contracting Ltd
 Client : Ministry of National Planning and Infrastructure
 Attention : shaana.farooq@planning.gov.mv

Location	Section	Depth (m)	Temperature	pH	Conductivity (uS/cm)	Turbidity (NTU)
W2	Surface	1	30.1	7.8	53490	0.25
	Mid-water	11	29.8	7.8	53450	0.35
	Bottom	24	29.8	7.8	53477	0.83
W5	Surface	1	30.1	7.7	53457	0.91
	Mid-water	12	29.7	7.8	53389	0.16
	Bottom	24	29.7	7.8	53446	0.68
W7	Surface	1	29.9	7.8	53433	-0.01
	Mid-water	12	29.9	7.8	53397	0.01
	Bottom	23	29.8	7.8	53407	0.05
W10	Surface	1	30.0	7.7	53403	-0.10
	Mid-water	10	30.0	7.8	53397	-0.10
	Bottom	25	30.0	7.8	53378	-0.07
W11	Surface	2	30.0	7.8	53521	0.05
	Mid-water	10	30.0	7.9	53543	0.15
	Bottom	24	29.8	7.8	53525	0.19
W14	Surface	1	30.3	7.8	53479	0.18
	Mid-water	6	30.0	7.8	53409	0.63
	Bottom	14	29.8	7.7	53412	0.26
W15	Surface	1	29.7	7.7	53439	0.49
	Mid-water	11	29.6	7.7	53417	0.65
	Bottom	24	29.5	7.6	53425	1.02
W16	Surface	1	30.1	7.9	53625	-0.03
	Mid-water	10	29.9	7.9	53577	-0.05
	Bottom	19	29.8	7.9	53529	-0.02
W19	Surface	2	30.0	7.9	53646	-0.12
	Mid-water	11	29.9	8.0	53543	-0.15
	Bottom	21	29.7	8.0	53600	-0.09
W20	Surface	1	30.4	7.8	51803	0.40
	Mid-water	10	29.9	7.8	53486	0.01
	Bottom	23	29.9	7.8	53469	0.01
W25	Surface	2	30.2	7.9	53678	-0.13
	Mid-water	11	30.1	7.9	53606	-0.11
	Bottom	25	29.9	7.9	53569	-0.12
W26	Surface	1	30.0	7.8	53472	-0.11
	Mid-water	11	29.7	7.8	53453	-0.13
	Bottom	24	29.6	7.8	53435	-0.08
W27	Surface	1	30.0	7.8	53450	-0.12
	Mid-water	12	29.8	7.8	53479	-0.09
	Bottom	22	29.6	7.8	53451	-0.12
W36	Surface	1	30.0	7.8	53419	-0.13
	Mid-water	11	29.8	7.9	53458	-0.05
	Bottom	22	29.7	7.9	53476	0.16
W45	Surface	1	29.9	7.8	53438	0.07
	Mid-water	11	29.8	7.8	53437	0.05
	Bottom	25	29.6	7.8	53434	0.36
W46	Surface	1	30.0	7.8	53546	0.13
	Mid-water	11	29.9	7.8	53487	0.05
	Bottom	23	29.9	7.9	53473	0.03
W47	Surface					
	Mid-water					
	Bottom					
W51	Surface	1	30.0	7.9	53568	-0.10
	Mid-water	11	29.8	7.9	53557	-0.12
	Bottom	24	29.6	7.8	53566	-0.12

Stoppages	Vessel	Stop	Start



Remarks

Unable to complete location W47, informed by the Marine Police that the environmental boat doesn't have permission to be in the area. A permit is currently being looked into.

Weather

Meteo Group Forecast for Gulhifalhu Project Maldives																				
UTC	WX	Winds									Waves						Vis	Clouds	Temp	
		10m			50m			Wind Wave		Swell			Wave			10m	Lowest	Air		
		Dir	Spd (kts)	Gust (kts)	Risk (kts)	Spd (kts)	Gust (kts)	Hgt (m)	Per (sec)	Dir	Hgt (m)	Per (sec)	Hsig (m)	Max (m)	Risk (m)	(nm)	(ft)	(degC)		
		Thursday, 09 Jul 2020 - Maldives Project 04°11'N 073°28'E																		
		03	NSW	WSW	8	11	-	8	12	0.2	2	S	0.7	10	0.7	1.2	-	>5	3500	28
		06	NSW	WSW	7	11	-	8	11	0.2	2	S	0.7	10	0.7	1.2	-	>5	3500	29
09	SHRA	WSW	7	11	-	7	11	0.2	2	S	0.7	10	0.7	1.2	-	3-5	3500	29		
12	SHRA	WSW	8	12	-	8	12	0.2	2	S	0.7	10	0.7	1.2	-	3-5	3500	29		
15	SHRA	WSW	6	10	-	7	10	0.1	2	S	0.7	10	0.7	1.1	-	3-5	3500	29		
18	SHRA	WSW	7	10	-	7	10	0.1	2	S	0.6	10	0.6	1.0	-	3-5	3500	29		
21	SHRA	SW	8	12	-	8	12	0.1	2	S	0.6	10	0.6	1.1	-	3-5	3500	29		

Date: 10/07/2020

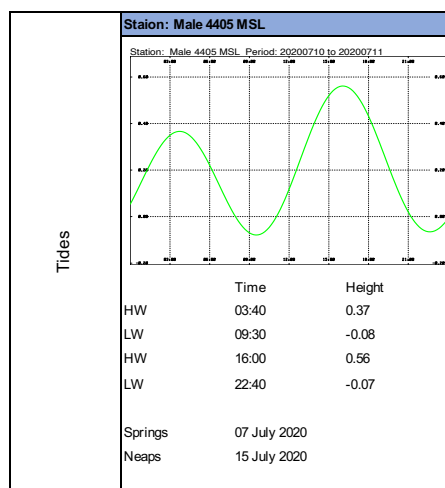
Time: 09:40 - 14:02

Project : Dredging, Land Reclamation and Revetment Works at Gulhifalhu
Contract number : AGR(471)-PIDS2/PRIV/2019/194
Project number [MIAS] : 462.10042

Document number : 462.10062-WQR-7.10
Contractor : Boskalis Westminster Contracting Ltd
Client : Ministry of National Planning and Infrastructure
Attention : shaana.farooq@planning.gov.mv

Location	Section	Depth (m)	Temperature	pH	Conductivity (uS/cm)	Turbidity (NTU)
W2	Surface	1	29.8	7.6	53453	-0.04
	Mid-water	11	29.8	7.7	53431	-0.03
	Bottom	22	29.8	7.7	53448	-0.01
W5	Surface	1	29.8	7.6	53419	0.19
	Mid-water	10	29.8	7.7	53406	0.14
	Bottom	22	29.8	7.7	53397	0.36
W7	Surface	1	29.8	7.6	53476	0.00
	Mid-water	10	29.8	7.6	53426	0.03
	Bottom	25	29.7	7.6	53434	0.06
W10	Surface	1	29.9	7.6	53372	-0.14
	Mid-water	11	29.9	7.6	53345	-0.13
	Bottom	25	29.9	7.6	53365	-0.14
W11	Surface	1	29.9	7.6	53514	-0.18
	Mid-water	12	29.9	7.7	53487	-0.15
	Bottom	22	29.8	7.7	53480	-0.09
W14	Surface	1	29.9	7.6	53398	0.73
	Mid-water	8	29.8	7.6	53364	0.08
	Bottom	17	29.8	7.6	53354	0.46
W15	Surface	1	29.8	7.6	53391	-0.11
	Mid-water	11	29.7	7.6	53414	-0.04
	Bottom	24	29.7	7.5	53366	-0.02
W16	Surface	1	29.9	7.7	53525	-0.19
	Mid-water	11	29.8	7.7	53458	-0.20
	Bottom	22	29.8	7.7	53526	-0.18
W19	Surface	1	29.9	7.7	53556	-0.19
	Mid-water	11	29.8	7.7	53552	-0.20
	Bottom	24	29.8	7.7	53527	-0.17
W20	Surface	1	29.9	7.5	53521	-0.03
	Mid-water	11	29.9	7.6	53490	-0.06
	Bottom	24	29.9	7.7	53487	0.02
W25	Surface	1	29.9	7.7	53584	-0.19
	Mid-water	11	29.9	7.7	53561	-0.20
	Bottom	25	29.6	7.6	53510	-0.14
W26	Surface	1	29.7	7.8	53459	-0.17
	Mid-water	11	29.6	7.8	53435	-0.16
	Bottom	25	29.5	7.7	53421	-0.14
W27	Surface	1	29.8	7.8	53463	-0.16
	Mid-water	11	29.7	7.7	53447	-0.16
	Bottom	22	29.7	7.7	53433	-0.15
W36	Surface	1	29.8	7.8	53451	-0.08
	Mid-water	11	29.8	7.8	53448	0.28
	Bottom	22	29.7	7.8	53453	2.94
W45	Surface	1	29.9	7.8	53467	0.11
	Mid-water	11	29.8	7.8	53497	-0.04
	Bottom	24	29.7	7.8	53456	-0.13
W46	Surface	1	29.9	7.8	53507	-0.10
	Mid-water	12	29.9	7.8	53488	-0.10
	Bottom	23	29.9	7.8	53450	-0.11
W47	Surface					
	Mid-water					
	Bottom					
W51	Surface	1	29.9	7.7	53621	-0.18
	Mid-water	11	29.8	7.7	53545	-0.16
	Bottom	24	29.6	7.7	53511	-0.15

Stoppages	Vessel	Stop	Start



Remarks
Unable to complete location W47, informed by the Marine Police that the environmental boat doesn't have permission to be in the area. A permit is currently being looked into.

Weather

Meteo Group Forecast for Gulhifalhu Project Maldives																			
UTC	WX	Winds									Waves						Vis	Clouds	Temp
		10m			50m			Wind Wave		Swell			Wave			10m	Lowest	Air	
		Dir	Spd (kts)	Gust (kts)	Risk (kts)	Spd (kts)	Gust (kts)	Hgt (m)	Per (sec)	Dir	Hgt (m)	Per (sec)	Hsig (m)	Max (m)	Risk (m)	(nm)	(ft)	(degC)	
		Friday, 10 Jul 2020 - Maldives Project 04°11'N 073°28'E																	
		03	NSW	SW	11	15	-	11	15	0.4	3	SSW	1.1	10	1.2	2.0	-	>5	3500
06	NSW	SW	10	14	-	10	14	0.3	3	SSW	1.1	11	1.1	1.9	-	>5	3500	29	
09	NSW	SW	10	14	-	11	15	0.4	3	SSW	1.1	11	1.2	2.0	-	>5	3500	29	
12	NSW	SW	9	13	-	10	14	0.4	3	SSW	1.1	11	1.2	2.0	-	>5	3500	29	
15	NSW	SW	10	14	-	10	14	0.3	3	SSW	1.1	11	1.1	1.9	-	>5	3500	29	
18	NSW	SSW	9	13	-	9	13	0.3	3	S	1.1	11	1.1	1.9	-	>5	3500	29	
21	NSW	SSW	9	13	-	10	14	0.3	3	S	1.0	11	1.0	1.8	-	>5	3500	29	

Male' Water & Sewerage Company Pvt Ltd**Water Quality Assurance Laboratory**

Quality Assurance Building, 1st Floor, Male' Hingun, Vilimale', Male' City, Maldives
Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

**WATER QUALITY TEST REPORT****Report No: 500184705****Customer Information:**

CDE Pvt Ltd
H.Orchidmaage, 4th Floor
Ameeru Ahmed Magu
Male K

Report date: **09/07/2020**Test Requisition Form No: **900190157**Sample(s) Received Date: **06/07/2020**Date of Analysis: **06/07/2020 - 06/07/2020**

Sample Description ~	GF_REC-W14	GF_REC-W02	GF_REC-W05	TEST METHOD	UNIT
Sample Type ~	Sea Water	Sea Water	Sea Water		
Sample No	83212707	83212708	83212709		
Sampled Date ~	04/07/2020	04/07/2020	04/07/2020		
PARAMETER	ANALYSIS RESULT				
Physical Appearance	Clear	Clear	Clear	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Total Suspended Solids	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)		

Keys: mg/L : Milligram Per Liter**Checked by**

Aminath Sofa
Laboratory Executive

Approved by

Mohamed Eyman
Manager, Quality

Notes: Sampling Authority: Sampling was not done by MWSC Laboratory

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~ Information provided by the customer

Male' Water & Sewerage Company Pvt Ltd**Water Quality Assurance Laboratory**

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Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

**WATER QUALITY TEST REPORT**

Report No: 500184705

Customer Information:

CDE Pvt Ltd
H.Orchidmaage, 4th Floor
Ameeru Ahmed Magu
Male K

Report date: 09/07/2020

Test Requisition Form No: 900190157

Sample(s) Recieved Date: 06/07/2020

Date of Analysis: 06/07/2020 - 06/07/2020

Sample Description ~	GF_REC-W15	Villingili SW	GF_REC-W07	TEST METHOD	UNIT
Sample Type ~	Sea Water	Sea Water	Sea Water		
Sample No	83212710	83212711	83212712		
Sampled Date ~	04/07/2020	04/07/2020	04/07/2020		
PARAMETER	ANALYSIS RESULT				
Physical Appearance	Clear	Clear	Clear	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Total Suspended Solids	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)		

Keys: mg/L : Milligram Per Liter

Checked by

Aminath Sofa
Laboratory Executive

Approved by

Mohamed Eyman
Manager, Quality

Notes: Sampling Authority: Sampling was not done by MWSC Laboratory

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Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

**WATER QUALITY TEST REPORT****Report No: 500184705****Customer Information:**

CDE Pvt Ltd
H.Orchidmaage, 4th Floor
Ameeru Ahmed Magu
Male K

Report date: **09/07/2020**Test Requisition Form No: **900190157**Sample(s) Received Date: **06/07/2020**Date of Analysis: **06/07/2020 - 06/07/2020**

Sample Description ~	GF_REC-W10	GF_REC-W11	GF_REC-W16	TEST METHOD	UNIT
Sample Type ~	Sea Water	Sea Water	Sea Water		
Sample No	83212713	83212714	83212715		
Sampled Date ~	04/07/2020	04/07/2020	04/07/2020		
PARAMETER	ANALYSIS RESULT				
Physical Appearance	Clear	Clear	Clear	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Total Suspended Solids	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)		

Keys: mg/L : Milligram Per Liter**Checked by**

Aminath Sofa
Laboratory Executive

Approved by

Mohamed Eyman
Manager, Quality

Notes: Sampling Authority: Sampling was not done by MWSC Laboratory

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Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

**WATER QUALITY TEST REPORT**
Report No: 500184705**Customer Information:**

CDE Pvt Ltd
H.Orchidmaage, 4th Floor
Ameeru Ahmed Magu
Male K

Report date: **09/07/2020**Test Requisition Form No: **900190157**Sample(s) Recieved Date: **06/07/2020**Date of Analysis: **06/07/2020 - 06/07/2020**

Sample Description ~	GF_REC-W19	GF_REC-W25	GF_REC-W53	TEST METHOD	UNIT
Sample Type ~	Sea Water	Sea Water	Sea Water		
Sample No	83212716	83212717	83212718		
Sampled Date ~	04/07/2020	04/07/2020	04/07/2020		
PARAMETER	ANALYSIS RESULT				
Physical Appearance	Clear	Clear	Clear	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Total Suspended Solids	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)		

Keys: mg/L : Milligram Per Liter

Checked by

Aminath Sofa
Laboratory Executive

Approved by

Mohamed Eyman
Manager, Quality

Notes: Sampling Authority: Sampling was not done by MWSC Laboratory

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~ Information provided by the customer

Male' Water & Sewerage Company Pvt Ltd**Water Quality Assurance Laboratory**

Quality Assurance Building, 1st Floor, Male' Hingun, Vilimale', Male' City, Maldives
Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

**WATER QUALITY TEST REPORT**

Report No: 500184705

Customer Information:

CDE Pvt Ltd
H.Orchidmaage, 4th Floor
Ameeru Ahmed Magu
Male K

Report date: 09/07/2020

Test Requisition Form No: 900190157

Sample(s) Recieved Date: 06/07/2020

Date of Analysis: 06/07/2020 - 06/07/2020

Sample Description ~	GF_REC-W20	GF_REC-W26	GF_REC-W27	TEST METHOD	UNIT
Sample Type ~	Sea Water	Sea Water	Sea Water		
Sample No	83212719	83212720	83212721		
Sampled Date ~	04/07/2020	04/07/2020	04/07/2020		
PARAMETER	ANALYSIS RESULT				
Physical Appearance	Clear	Clear	Clear	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Total Suspended Solids	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)		

Keys: mg/L : Milligram Per Liter

Checked by

Aminath Sofa
Laboratory Executive

Approved by

Mohamed Eyman
Manager, Quality

Notes: Sampling Authority: Sampling was not done by MWSC Laboratory

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~ Information provided by the customer

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Tel: +9603323209, Fax: +9603324306, Email: wqa@mwsc.com.mv

**WATER QUALITY TEST REPORT****Report No: 500184705****Customer Information:**

CDE Pvt Ltd
H.Orchidmaage, 4th Floor
Ameeru Ahmed Magu
Male K

Report date: **09/07/2020**Test Requisition Form No: **900190157**Sample(s) Received Date: **06/07/2020**Date of Analysis: **06/07/2020 - 06/07/2020**

Sample Description ~	GF_REC-W46	GF_REC-W45	GF_REC-W36	TEST METHOD	UNIT
Sample Type ~	Sea Water	Sea Water	Sea Water		
Sample No	83212722	83212723	83212724		
Sampled Date ~	04/07/2020	04/07/2020	04/07/2020		
PARAMETER	ANALYSIS RESULT				
Physical Appearance	Clear	Clear	Clear	Method 8006 (Adapted from HACH DR5000 Spectrophotometer procedure Manual)	mg/L
Total Suspended Solids	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)	<5 (LoQ 5 mg/L)		

Keys: mg/L : Milligram Per Liter**Checked by**

Aminath Sofa
Laboratory Executive

Approved by

Mohamed Eyman
Manager, Quality

Notes: Sampling Authority: Sampling was not done by MWSC Laboratory

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This test report is ONLY FOR THE SAMPLES TESTED.

~ Information provided by the customer

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