

Appendix 2 - Core logs and photos, and grab sample photos

- Guardian core logs
- Guardian core photos
- Guardian grab sample photos (tray photos only, not sieve photos)


Deck Core Description

Client: Guardian Geomatics Project: AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK
 Project No.: P20015_05 Date: 27.08.22 Time (Local): 6:45

Sample Site ID	AUS-MUR-VC-S1B		Easting	647675.82	Northing	8646789.41	Sample Method	
			Lat °S	12° 14' 15.76592" S	Long ° E	130° 21' 27.58556" E	PC	VC
Core section	0.00-1.00m						X	X
Penetration (m)	2.54	Recovery (m)	1.92		Vibe Time (min)	1:00	Grab	X
Comments: Water depth 39m					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
						Moisture content (g)	10	9.6
						$\frac{\text{Wet Wt} - \text{Dry Wt}}{\text{Dry Wt}} * 100$	1.82	142.66
						$\frac{\text{Nett Dry}}{\text{Dry Wt}} * 100$	41.50	141.49

Depth	Description / Notes	
0.0		0.00-0.10m CARBONATE SAND. Grayish brown (10YR 5/2), medium sand to very coarse sand, loose, massive, moderately sorted to poorly sorted. angular to rounded, clean washed. Dominated by comminuted bioclastic material (bivalves, gastropods, echinoderms, foraminifera) and rounded quartz (clear and stained) with abundant red-brown limestones to medium sand. No odour.
0.1		0.10-0.54m CARBONATE SAND. Grayish brown (10YR 5/2), medium sand to very coarse sand, decrease to fine sand downcore, loose, massive, moderately sorted to poorly sorted. angular to rounded, clean washed. Dominated by comminuted bioclastic material (bivalves, gastropods, echinoderms, foraminifera), rounded quartz (clear and stained) and red-brown limestones to medium sand. Occasional black lithics.
0.2		
0.3		
0.4		
0.5		
0.6	0.54-1.00m Sandy CARBONATE CLAY. Gray (2.5Y 5/1-4/1), soft, massive, clay to small pebbles, common bioclasts and sub rounded sub speherical brown limestone clasts. Clay slightly greasy. No odour.	
0.7		
0.8		
0.9		
1.0		

Deck Core Description

Client Guardian Geomatics Project AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK
 Project No. P20015_05 Date 28.08.22 Time (Local) 0:00


Sample Site ID	AUS-MUR-VC-S2B	Easting	647659.43	Northing	8646794.42	Sample Method	
		Lat °S	12° 14' 15.60555" S	Long ° E	130° 21' 27.04238" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	2.51	Recovery (m)	1.84	Vibe Time (min)	3:15	Grab	X
Comments: Water depth 40m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	10.7	11.5
					(Wet Wt - Dry Wt) *100 Dry Wt	40.62	46.86
					Nett Dry *100 Dry Wt	140.62	146.86

Depth	Description / Notes
0.0	0.00-0.14m CARBONATE SAND. Grayish brown (10YR 5/2), fine to coarse, loose, massive, moderately sorted, angular to rounded, clean washed. Dominated by comminuted bioclastic material (bivalves, gastropods, echinoderms, foraminifera), common very coarse sand to small pebble bioclasts often red-stained. No odour
0.1	
0.2	0.14-0.80m CARBONATE SAND. Grayish brown (10YR 5/2), medium sand to very coarse sand, decrease to fine sand downcore, loose, massive, moderately sorted to poorly sorted. angular to rounded, clean washed. Dominated by comminuted bioclastic material (bivalves, gastropods, echinoderms, foraminifera), rounded quartz (clear and stained) and red-brown limestones to medium sand. Occasional black lithics.
0.3	
0.4	
0.5	0.80-1.00m Calcareous CLAY - clayey calcareous GRAVEL. Olive gray (5Y 5/2-6/2), mixed gravel/clay, very well compacted-semi-lithified. bedded laminated common light yellow streaks. Gravel comprises in situ lithified clays, angular platy up to 70mm, occasional concretions and nodules to 50mm.
0.6	
0.7	
0.8	
0.9	
1.0	

Deck Core Description

Client Guardian Geomatics Project AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK
 Project No. P20015_05 Date 28.08.22 Time (Local) 10:12

Sample Site ID	AUS-MUR-VC-S3		Easting	646421.33	Northing	8647111.5	Sample Method	
			Lat °S	12° 14' 5.48723" S	Long ° E	130° 20' 46.02104" E	PC	VC
Core section	0.00-1.00m						X	X
Penetration (m)	2.57	Recovery (m)	2.02		Vibe Time (min)	0:59	Grab	X
Comments: Water depth 39m. Split core AUS-MUR-VC-S3AS & AUS-MUR-VC-S3BS (two sets of moisture etc)					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
						Moisture content (g)	7.6 5.9	11.1 10.5
						(Wet Wt - Dry Wt) *100 Dry Wt	31.61 29.74	36.61 38.55
						Nett Dry *100 Dry Wt	131.61 129.74	136.61 138.55

Depth	Description / Notes
0.0	 0.00-1.00m CARBONATE SAND. Grayish brown (10YR 5/2), medium to very coarse, loose, massive-slightly bedded, moderately sorted, angular to rounded, clean washed. Dominated by comminuted bioclastic material (bivalves, gastropods, echinoderms, coral, foraminifera), common broken shells to 3mm, common red-stained rounded limestones and quartz (stained and translucent).
0.1	
0.2	
0.3	
0.4	
0.5	
0.6	
0.7	
0.8	
0.9	
1.0	

Deck Core Description

Client Guardian Geomatics Project AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK
 Project No. P20015_05 Date 28.08.22 Time (Local) 12:39


Sample Site ID	AUS-MUR-VC-S4	Easting	646393.5	Northing	8647119.31	Sample Method	
		Lat °S	12° 14' 5.23755" S	Long ° E	130° 20' 45.09886" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	1.79	Recovery (m)	1.31	Vibe Time (min)	1:15	Grab	X
Comments: Water depth 37m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	17.7	10.9
					(Wet Wt - Dry Wt) *100 Dry Wt	47.02	35.46
					Nett Dry *100 Dry Wt	147.02	135.46

Depth	Description / Notes
0.0	0.00-0.10m CARBONATE SAND. Slightly clayey CARBONATE SAND - sandy GRAVEL. Gray (5Y 5/1). Loose, massive, very fine sand to small granules. Clean washed, dominated broken comminuted bioclasts, including foraminifera, with abundant brown rounded spherical limestone clasts to 4mm. No odour.
0.1	0.10-0.70m Slightly clayey CARBONATE SAND - sandy GRAVEL. Gray (5Y 5/1). Loose, massive, very fine sand to small granules. Clean washed, dominated broken comminuted bioclasts, including foraminifera, with abundant brown rounded spherical limestone clasts to 4mm. No odour.
0.2	
0.3	
0.4	
0.5	
0.6	
0.7	0.70-1.00m CARBONATE CLAY. Dark greenish gray (G1 5/10GY), very stiff - lithified in sections to CLAYSTONE, bedded, fissile to microshattered, occasionally white or slightly yellow, well sorted, minor silt layers.
0.8	
0.9	
1.0	

Deck Core Description

Client: Guardian Geomatics Project: AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK
 Project No.: P20015_05 Date: 28.08.22 Time (Local): 14:15


Sample Site ID	AUS-MUR-VC-S5A	Easting	641328.95	Northing	8648421.24	Sample Method	
		Lat °S	12° 13' 23.66983" S	Long ° E	130° 17' 57.30422" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	2.83	Recovery (m)	2.30	Vibe Time (min)	1:15	Grab	X
Comments: Water depth 34m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	13.7	11.7
					(Wet Wt - Dry Wt) *100 Dry Wt	46.54	39.21
					Nett Dry *100 Dry Wt	146.54	139.21

Depth	Description / Notes
0.0	 <p>0.00-1.00m CARBONATE SAND. Grayish brown (10YR 5/2), medium to very coarse, loose, massive-slightly bedded, moderately sorted (sorted in beds) , angular to rounded, clean washed. Dominated by comminuted bioclastic material (bivalves, gastropods, echinoderms, coral, foraminifera, broken epibionts), common broken shells to 3mm, common red-stained rounded platy limestones and quartz (stained and translucent).</p>
0.1	
0.2	
0.3	
0.4	
0.5	
0.6	
0.7	
0.8	
0.9	
1.0	

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
Project No. P20015_05 **Date 28.08.22** **Time (Local) 15:38**

Sample	Site ID	AUS-MUR-VC-S6	Easting	641317.31	Northing	8648422.08	Sample Method			
			Lat °S	12° 13' 23.64431" S	Long ° E	130° 17' 56.91893" E	PC	VC		
Core section		0.00-1.00m					X	X		
Penetration (m)		2.65	Recovery (m)		2.30	Vibe Time (min)	1:40	Grab	X	
Comments: Water depth 34m					Moisture		Homogenised sections		0.0 - 0.5m	0.5 - 1.0m
							Moisture content (g)		15.1	8.3
							(Wet Wt - Dry Wt) *100 Dry Wt		50.10	41.21
							Nett Dry *100 Dry Wt		150.10	141.21

Depth		Description / Notes
0.0		0.00-0.16m CARBONATE SAND. Light brownish gray-light gray (10YR 5/2 to 10YR 6/2). Very coarse to small granules, loose, massive, clean washed. Dominated by comminuted bioclastic material (bivalves, gastropods, echinoderms, coral, foraminifera, broken epibionts), rare fine to medium rounded well sorted red-stained rounded-platey limestones and quartz (stained and translucent). No odour.
0.1		
0.2		0.16-0.82m CARBONATE SAND. Brown (10YR 5/3). Medium to coarse, loose, bedded, clean washed. Dominated red-stained rounded-platey limestones and quartz (stained and translucent) and bioclasts, well sorted, rounded to angular. No odour.
0.3		
0.4		
0.5		
0.6		
0.7		
0.8		0.82-1.00m Clayey CARBONATE SAND. Greyish brown (2.5Y 5/1-5/2). Clay to coarse, compacted, poorly sorted, massive, as above with increase in rounded brown limestone lithics to 2mm. No odour.
0.9		
1.0		

Deck Core Description

Client: Guardian Geomatics Project: AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK
 Project No. P20015_05 Date: 28.08.22 Time (Local): 17:00


Sample Site ID	AUS-MUR-VC-S7	Easting	640968.85	Northing	8648511.58	Sample Method	
		Lat °S	12° 13' 20.78571" S	Long ° E	130° 17' 45.37447" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	3.13	Recovery (m)	2.50	Vibe Time (min)	1:40	Grab	X
Comments: Water depth 34m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	13.3	14.9
					(Wet Wt - Dry Wt) *100 Dry Wt	39.77	42.04
					Nett Dry *100 Dry Wt	139.77	142.04

Depth	Description / Notes
0.0	0.00-0.08m CARBONATE SAND. Light brownish gray-light gray (10YR 5/2 to 10YR 6/2). Fine to very coarse, loose, massive, clean washed. Dominated by well rounded - slightly angular comminuted bioclastic material (bivalves, gastropods, echinoderms, coral, foraminifera, broken epibionts), common lithoclastic component brown limestones.
0.1	0.08-0.20m CARBONATE SAND. Light brownish gray-light gray (10YR 5/2 to 10YR 6/2). Fine to very coarse, loose, massive, clean washed. Dominated by well rounded - slightly angular, well sorted comminuted bioclastic material (bivalves, gastropods, echinoderms, coral, foraminifera, broken epibionts) and brown limestone lithoclasts. Traces/rare clay
0.2	0.20-0.80m CARBONATE SAND. Light brownish gray-light gray (10YR 5/2 to 10YR 6/2). Fine to very coarse, loose, massive, clean washed. Dominated by well rounded - slightly angular, well sorted comminuted bioclastic material (bivalves, gastropods, echinoderms, coral, foraminifera, broken epibionts) and common brown limestone lithoclasts. Traces/rare clay
0.3	
0.4	
0.5	
0.6	
0.7	
0.8	0.80-1.00m Clayey CARBONATE SAND-sandy CARBONATE CLAY. Gray (2.5Y 5/1). Clay to very coarse, slightly plastic, poorly sorted, massive, as above. Slightly greasy. No odour.
0.9	
1.0	

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
Project No. P20015_05 **Date 28.08.22** **Time (Local) 18:10**


Sample	Site ID	AUS-MUR-VC-S8-1	Easting	640932.15	Northing	8648521.66	Sample Method		
			Lat °S	12° 13' 20.46336 " S	Long ° E	130° 17' 44.15851 " E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		3.90	Recovery (m)		3.90	Vibe Time (min)	1:40	Grab	X
Comments: Water depth 38m. Triple site					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
						Moisture content (g)	10.7	15.5	
						(Wet Wt - Dry Wt) *100 Dry Wt	27.34	38.91	
						Nett Dry *100 Dry Wt	127.34	138.91	

Depth		Description / Notes
0.0		0.00-0.70m CARBONATE SAND. Brown (10YR 5/3). Very coarse to small granules, poorly sorted, massive, loose, dominated with comminuted bioclastics, clean washed, abundant rounded spherical brown limestones. No odour.
0.1		
0.2		
0.3		0.30m increase in brown stained and reworked bioclastic material.
0.4		
0.5		0.48m as above, with decrease in grain size to coarse, well sorted rounded, slightly less lithic component and increase in bioclasts. Abundant foraminifera.
0.6		
0.7		0.70-0.80m CARBONATE SAND. Gray (10YR 5/1). Very coarse to small granules, poorly - well sorted , massive, loose, dominated with comminuted bioclastics, clean washed, abundant rounded spherical brown limestones. No odour.
0.8		0.80-1.00m CARBONATE SAND. Brown (10YR 5/3). Very coarse to small granules, poorly sorted, massive, loose, dominated with comminuted bioclastics, clean washed, abundant rounded spherical brown limestones. No odour.
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **28.08.22** Time (Local) **20:31**


Sample Site ID	AUS-MUR-VC-S8-2		Easting	640932.7	Northing	8648518.89	Sample Method	
			Lat °S	12° 13' 20.55343 " S	Long ° E	130° 17' 44.17714 " E	PC	VC
Core section	0.00-1.00m						X	X
Penetration (m)	2.00	Recovery (m)	1.05		Vibe Time (min)	2:00	Grab	X
Comments: Water depth 38m. Triple site					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
						Moisture content (g)	15.8	15.2
						(Wet Wt - Dry Wt) *100 Dry Wt	44.71	41.83
						Nett Dry *100 Dry Wt	144.71	141.83

Depth	Description / Notes	
0.0		0.00-0.70m CARBONATE SAND. Brown (10YR 5/3). Very coarse to small granules, poorly sorted, massive, loose, dominated with comminuted bioclastics, clean washed, abundant rounded spherical brown limestones. No odour.
0.1		
0.2		
0.3		0.30m increase in brown stained and reworked bioclastic material.
0.4	0.48m as above, with decrease in grain size to coarse, well sorted rounded, slightly less lithic component and increase in bioclasts. Abundant foraminifera.	
0.5		
0.6	0.70-0.80m CARBONATE SAND. Gray (10YR 5/1). Very coarse to small granules, poorly - well sorted , massive, loose, dominated with comminuted bioclastics, clean washed, abundant rounded spherical brown limestones. No odour.	
0.7		
0.8	0.80-1.00m CARBONATE SAND. Brown (10YR 5/3). Very coarse to small granules, poorly sorted, massive, loose, dominated with comminuted bioclastics, clean washed, abundant rounded spherical brown limestones. No odour.	
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **28.08.22** Time (Local) **22:12**

Sample	Site ID	AUS-MUR-VC-S8-3B	Easting	640938.75	Northing	8648507.27	Sample Method		
			Lat °S	12° 13' 20.93068 " S	Long ° E	130° 17' 44.37917 " E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		3.85	Recovery (m)		3.45	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 38m. Triple site					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
						Moisture content (g)	12.3	10.7	
						(Wet Wt - Dry Wt) *100 Dry Wt	38.37	34.92	
						Nett Dry *100 Dry Wt	138.37	134.92	

Depth		Description / Notes
0.0		0.00-0.70m CARBONATE SAND. Brown (10YR 5/3). Very coarse to small granules, poorly sorted, massive, loose, dominated with comminuted bioclastics, clean washed, abundant rounded spherical brown limestones. No odour.
0.1		
0.2		
0.3		0.30m increase in brown stained and reworked bioclastic material.
0.4		
0.5		0.48m as above, with decrease in grain size to coarse, well sorted rounded, slightly less lithic component and increase in bioclasts. Abundant foraminifera.
0.6		
0.7		0.70-0.80m CARBONATE SAND. Gray (10YR 5/1). Very coarse to small granules, poorly - well sorted , massive, loose, dominated with comminuted bioclastics, clean washed, abundant rounded spherical brown limestones. No odour.
0.8		0.80-1.00m CARBONATE SAND. Brown (10YR 5/3). Very coarse to small granules, poorly sorted, massive, loose, dominated with comminuted bioclastics, clean washed, abundant rounded spherical brown limestones. No odour.
0.9		
1.0		

Deck Core Description

Client Guardian Geomatics Project AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK
 Project No. P20015_05 Date 28.08.22 Time (Local) 23:32

Sample Site ID	AUS-MUR-VC-S9	Easting	640897.25	Northing	8648531.14	Sample Method	
		Lat °S	12° 13' 20.16025 " S	Long ° E	130° 17' 43.00219" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	2.50	Recovery (m)	2.35	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 38m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	11	9.3
					(Wet Wt - Dry Wt) *100 Dry Wt	40.68	42.01
					Nett Dry *100 Dry Wt	140.68	142.01

Depth	Description / Notes
0.0	0.00-0.12m Clayey CARBONATE SAND. Gray (2.5Y 5/1). Fine, loose, well sorted, rounded, massive, dominated by comminuted bioclasts (predominantly thin-walled bivalves) with traces of rounded spherical brown limestone lithics. Clean washed. No odour.
0.1	0.12-0.60m Clayey silty CARBONATE SAND. Gray (2.5Y 5/1). very coarse, poorly sorted, loose, rounded to angular, as above with marked increase in rounded brown limestone clasts up to small pebble. Sediment becomes more clean washed downcore. Massive but weakly defined 100mm thick beds.
0.2	
0.3	
0.4	
0.5	
0.6	0.60-1.00m Clayey silty CARBONATE SAND. Gray (2.5Y 5/1). Very coarse, poorly sorted, loose, rounded to angular, as above with marked increase in rounded brown limestone clasts up to small pebble. Bands of grey clayey sands present. Traces of quartz. Slight increase in clay at base of section.
0.7	
0.8	
0.9	
1.0	



Deck Core Description

Client Guardian Geomatics Project AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK
 Project No. P20015_05 Date 29.08.22 Time (Local) 2:05

Sample Site ID	AUS-MUR-VC-S10	Easting	640345.14	Northing	8648672.02	Sample Method					
		Lat °S	12° 12' 15.66082 " S	Long ° E	130° 17' 24.71111" E	PC	VC				
Core section	0.00-1.00m					X	X				
Penetration (m)	2.43	Recovery (m)	1.42	Vibe Time (min)	1:00	Grab	X				
Comments: Water depth 35m				Moisture		Homogenised sections					
						0.0 - 0.5m		0.5 - 1.0m			
						Moisture content (g)		7.4		9.2	
						(Wet Wt - Dry Wt) *100 Dry Wt		34.84		43.31	
				Nett Dry *100 Dry Wt		134.84		143.31			

Depth	Description / Notes
0.0	0.00-0.07m Silty CARBONATE SAND. Gray (2.5Y 5/1). Slightly clayey. Fine-medium, loose, well sorted, rounded-angular, massive, dominated by comminuted bioclasts. Occasional broken bivalves to 2mm. No odour.
0.1	0.07-0.32m CARBONATE SAND. Reddish brown (5Y 5/3). Medium to very coarse, well sorted, loose, rounded, spherical to oblate, clean washed, dominantly rounded brown limestone lithoclasts and stained comminuted bioclasts. Traces of quartz and black lithics. No odour.
0.2	
0.3	
0.4	0.32-0.54m CARBONATE SAND. Gray (5Y 5/1). Very fine to very coarse, bedded, well sorted in beds ~100mm, loose, angular to rounded, dominantly rounded, clean washed, dominantly comminuted bioclasts with common broken shells to 4mm. No odour.
0.5	
0.6	0.54-0.75m CARBONATE SAND. Light brownish gray (10Y 6/2). Medium to very coarse to small pebbles, downcore increase in grain size, poorly sorted, loose, massive, clean washed, rounded, dominantly comminuted bioclasts and common rounded spherical very coarse to small granules brown limestone. No odour.
0.7	
0.8	0.75-1.00m Clayey CARBONATE SAND. Dark greenish gray (G1 4/1). Soft, massive, very fine, well sorted, well rounded, as above with common broken shell to 50mm. Abundant clay.
0.9	
1.0	

Deck Core Description

Client Guardian Geomatics Project AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK
 Project No. P20015_05 Date 29.08.22 Time (Local) 3:05


Sample Site ID	AUS-MUR-VC-S11-1	Easting	640339.83	Northing	8648671.88	Sample Method	
		Lat °S	12° 13' 15.66620 " S	Long ° E	130° 17' 24.53543 " E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	2.02	Recovery (m)	1.00	Vibe Time (min)	1:00	Grab	X
Comments: Water depth 36m, Triple site				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	9.5	8.2
					(Wet Wt - Dry Wt) *100 Dry Wt	38.40	35.90
					Nett Dry *100 Dry Wt	138.40	135.90

Depth	Description / Notes
0.0	0.00-0.10m Clayey silty CARBONATE SAND. Gray (10YR 5/1), very fine to medium, occasionally very coarse, poorly sorted, angular, massive, loose, dominantly comminuted bioclasts, traces of broken shell to 2mm.
0.1	0.10-0.26m Gravelly CARBONATE SAND. Reddish brown (5YR 5/3). Medium to coarse, occasionally very coarse to small pebbles, poorly sorted, angular to rounded, dominantly rounded, speherical brown limestone clasts and comminuted bioclasts with rare black lithics, rare rounded very coarse quartz, loose, massive, clean washed. Occasional broken shell to 4mm. No odour.
0.2	0.26-0.33m As above with common foraminifera.
0.3	0.33-0.68m CARBONATE SAND. Gray (10YR 5/1), medium to very coarse, loose, slightly bedded-massive, rounded, well sorted, clean washed, dominantlty comminuted bioclasts with common rounded well sorted very coarse brown limestone clasts. Common broken bivalves angular and platey to 4mm. Marked downcore increase in limestone clasts with grain size increasing to very coarse at base of unit. No odour.
0.4	
0.5	
0.6	
0.7	0.68-0.80m Clayey CARBONATE SAND. As above with gray clay, abundant sponge spicules, occasional rounded fine black lithics and occasional broken shells to 2mm.
0.8	0.80-1.00m Clayey CARBONATE GRAVEL / CARBONATE CLAY. Greenish gray (G1 6/1). Clay and claystone gravel. Gravel clasts platey angular to 100mm with weak microshattering in clay. Massive. No odour.
0.9	
1.0	

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **29.08.22** Time (Local) **6:05**


Sample	Site ID	AUS-MUR-VC-S11-2	Easting	640337.08	Northing	8648673.43	Sample Method		
			Lat °S	12° 13' 15.61618 " S	Long ° E	130° 17' 24.44419 " E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		2.02	Recovery (m)		1.00	Vibe Time (min)	1:00	Grab	X
Comments: Water depth 37m, triple site					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
						Moisture content (g)	9.8	9.85	
						(Wet Wt - Dry Wt) *100 Dry Wt	36.93	47.84	
						Nett Dry *100 Dry Wt	136.93	147.84	

Depth		Description / Notes
0.0		0.00-0.26m Gravelly CARBONATE SAND. Reddish brown (5YR 5/3). Medium to coarse, occasionally very coarse to small pebbles, poorly sorted, angular to rounded, dominantly rounded, speherical brown limestone clasts and comminuted bioclats with rare black lithics, rare
0.1		
0.2		
0.3		0.26-0.33m As above with common foraminifera.
0.4		0.33-0.66m CARBONATE SAND. Gray (10YR 5/1), medium to very coarse, loose, slightly bedded-massive, rounded, well sorted, clean washed, dominantlty comminuted bioclats with common rounded well sorted very coarse brown limestone clasts. Common broken bivalves angular and platey to 4mm. Marked downcore increase in limestone clasts with grain size increasing to very coarse at base of unit. No odour.
0.5		
0.6		
0.7		0.66-1.00m Clayey silty CARBONATE SAND. As above with gray clay, abundant sponge spicules, occasional rounded fine black lithics and occasional broken shells to 2mm.
0.8		
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **29.08.22** Time (Local) **7:43**



Sample Site ID	AUS-MUR-VC-S11-3	Easting	640339.31	Northing	8648675.92	Sample Method	
		Lat °S	12° 13' 15.53479 " S	Long ° E	130° 17' 24.51758 " E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	4.00	Recovery (m)	1.03	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 37/38m, triple site				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	10.9	18.1
					(Wet Wt - Dry Wt) *100 Dry Wt	35.34	
					Nett Dry *100 Dry Wt	135.34	180.66

Depth		Description / Notes
0.0		0.00-0.10m Clayey silty CARBONATE SAND. Gray (10YR 5/1), very fine to medium, occasionally very coarse, poorly sorted, angular, massive, loose, dominantly comminuted bioclasts, traces of broken shell to 2mm.
0.1		0.10-0.26m Gravelly CARBONATE SAND. Reddish brown (5YR 5/3). Medium to coarse, occasionally very coarse to small pebbles, poorly sorted, angular to rounded, dominantly rounded, speherical brown limestone clasts and comminuted bioclasts with rare black lithics.
0.2		0.26-0.33m As above with common foraminifera.
0.3		
0.4		0.33-0.75m CARBONATE SAND. Gray (10YR 5/1), medium to very coarse, loose, slightly bedded-massive, rounded, well sorted, clean washed, dominantlty comminuted bioclasts with common rounded well sorted very coarse brown limestone clasts. Common broken bivalves angular
0.5		
0.6		
0.7		
0.8		0.75-1.00m Clayey CARBONATE GRAVEL / CARBONATE CLAY. Greenish gray (G1 6/1). Clay and claystone gravel. Gravel clasts platey angular to 100mm with weak microshattering in clay. Massive. No odour. One large 100mm claystone angular clast with abundant epibionts on all surfaces with black staining and surface pitting.
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **29.08.22** Time (Local) **9:30**

Sample	Site ID	AUS-MUR-VC-S12A	Easting	640315.9	Northing	8648678.81	Sample Method		
			Lat °S	12° 13' 15.44436 " S	Long ° E	130° 17' 23.74251 " E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		4.25	Recovery (m)		3.52	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 39m					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
						Moisture content (g)	8.1	11.9	
						$\frac{\text{Wet Wt} - \text{Dry Wt}}{\text{Dry Wt}} * 100$	37.26	46.59	
						$\frac{\text{Nett Dry}}{\text{Dry Wt}} * 100$	137.26	146.59	

Depth		Description / Notes
0.0		0.00-0.05m Silty CARBONATE SAND. Gray (2.5Y 5/1). Slightly clayey. Fine-medium, loose, well sorted, rounded-angular, massive, dominated by comminuted bioclasts. Occasional broken bivalves to 2mm. No odour.
0.1		0.05-0.26m CARBONATE SAND. Reddish brown (5Y 5/3). Medium to very coarse, well sorted in beds ~10mm thick, loose, rounded, spherical to oblate, clean washed, bedded, dominantly rounded brown limestone lithoclasts and stained comminuted bioclasts. Traces of quartz and black lithics. Occasional small pebbles of rounded spherical-oblate brown limestones. No odour.
0.2		
0.3		0.26-0.60m CARBONATE SAND. Gray (10Y 5/1). Very fine to very coarse, bedded, well sorted in beds ~100mm, loose, angular to rounded, dominantly rounded, clean washed, dominantly comminuted bioclasts. Increase in rounded spherical-oblate brown limestone and black lithics downcore. No odour.
0.4		
0.5		
0.6		0.60-1.00m Clayey silty CARBONATE SAND. Dark greenish gray (G1 4/1). Very fine to occasionally medium, well sorted, loose/very soft-soft, massive, clean washed, rounded, dominantly comminuted bioclasts, with occasional broken shells to 40mm. Abundant clay and common brown and black lithics. No odour.
0.7		
0.8		
0.9		
1.0		

Deck Core Description

Client

Guardian Geomatics

Project

AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK

Project No.

P20015_05

Date

29.08.22

Time (Local)

10:13

Sample Site ID	AUS-MUR-VC-S13	Easting	640304.99	Northing	8648681.76	Sample Method	
		Lat °S	12° 13' 15.35004" S	Long ° E	130° 17' 23.38105 " E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	4.00	Recovery (m)	1.60	Vibe Time (min)	2:10	Grab	X
Comments: Water depth 39m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	7.9	10
					(Wet Wt - Dry Wt) *100 Dry Wt	36.68	47.08
					Nett Dry *100 Dry Wt	136.68	147.08

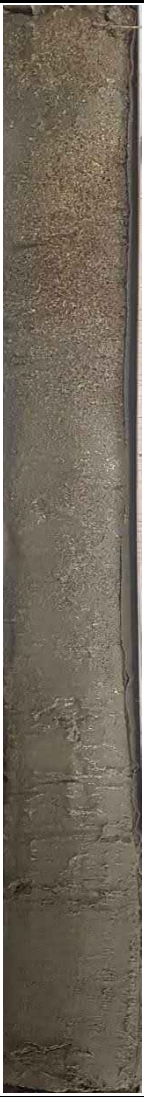


Depth	Description / Notes
0.0	0.00-0.10m Clayey CARBONATE SAND. Gray (10Y 5/2). Coarse to very coarse, occasionally very fine to fine, loose, moderately sorted, rounded, massive, dominated by comminuted bioclasts and rounded spherical to oblate brown limestone clasts. Occasional angular broken bivalves and black lithics. No odour.
0.1	0.10-0.40m CARBONATE SAND. Alternating beds of reddish brown (5Y 5/3) and gray (10YR 5/2). Fine to very coarse to small pebbles, well sorted in beds ~100mm thick, loose, rounded, spherical to oblate, clean washed, bedded, dominantly rounded brown limestone lithoclasts and stained comminuted bioclasts. Traces of quartz and black lithics. Occasional small pebbles of rounded spherical-oblate brown limestones. No odour.
0.2	
0.3	
0.4	0.40-0.63m CARBONATE SAND. as above with downcore increase in clay
0.5	
0.6	
0.7	0.63-1.00m Clayey CARBONATE SAND. Dark greenish gray (G1 4/1). Very fine, well sorted, loose/soft, massive, clean washed, rounded, dominantly comminuted bioclasts, with occasional broken shells to 50mm. Abundant clay and common brown and black lithics. Rare in situ bivalves whole. Rare disaggregated bivalves. No odour.
0.8	
0.9	
1.0	



Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **01.09.22** Time (Local) **7:29**

Sample Site ID	AUS-MUR-VC-S14	Easting	692474.47	Northing	8642005.84	Sample Method			
		Lat °S	12° 16' 42.98877" S	Long ° E	130° 46' 10.87431 " E	PC	VC		
Core section	0.00-1.00m					X	X		
Penetration (m)	3.58	Recovery (m)	2.70	Vibe Time (min)	2:00	Grab	X		
Comments: Water depth 19m				Moisture		Homogenised sections		0.0 - 0.5m	0.5 - 1.0m
						Moisture content (g)		10.5	11.5
						(Wet Wt - Dry Wt) *100 Dry Wt		43.86	55.18
						Nett Dry *100 Dry Wt		143.86	155.18

Depth	Description / Notes	
0.0		0.00-0.45m CARBONATE SAND. Olive gray (5Y 5/2), fine, well sorted, well rounded, massive, clean washed, abundant comminuted bioclasts, common broken shell to 10mm, common rounded spherical brown limestone clasts, rare spherical small pebbles. Bedded with ~20mm thick with alternating beds of clayey CARBONATE SAND.
0.1		
0.2		
0.3		
0.4		0.45-0.91m As above with alternating beds of CARBONATE SAND / clayey CARBONATE SAND Olive gray (2.5Y 5/2) and occasionally gray (2.5Y 5/1). Generally very fine to fine, with rare broken shell s to 2mm. Beds are 20-30mm-thick. soft/loose, common black lithics.
0.5		
0.6		
0.7		
0.8		0.91-1.00m Silty CARBONATE CLAY. Olive gray (5Y 4/2), very soft, massive well sorted, well rounded.
0.9		
1.0		

Deck Core Description

Client

Guardian Geomatics

Project

AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK

Project No.

P20015_05



Date

01.09.22

Time (Local)

6:32

Sample Site ID	AUS-MUR-VC-S15	Easting	692184.79	Northing	8641990.2	Sample Method			
		Lat °S	12° 16' 43.55959" S	Long ° E	130° 46' 1.29254 " E	PC	VC		
Core section	0.00-1.00m					X	X		
Penetration (m)	3.50	Recovery (m)	2.20	Vibe Time (min)	2:00	Grab	X		
Comments: Water depth 19m				Moisture		Homogenised sections		0.0 - 0.5m	0.5 - 1.0m
						Moisture content (g)		11.6	3.9
						(Wet Wt - Dry Wt) *100 Dry Wt		43.06	11.26
						Nett Dry *100 Dry Wt		143.06	111.26

Depth	Description / Notes	
0.0		0.00-0.40m CARBONATE SAND. Light yellowish brown-speckled (10YR 6/4), medium to very coarse, moderately sorted, rounded to angular, massive, clean washed, dominantly comminuted bioclasts, with common broken shells to 5mm, common foraminifera and rounded brown limestone lithoclasts. Rare rounded quartz. No odour.
0.1		
0.2		
0.3		
0.4	0.40-0.67m Silty clayey CARBONATE SAND. Grayish brown (2.5Y 5/2) with black sections (G1 2.5/N-2.5/10Y). Clay to medium, moderately sorted, angular to rounded, massive, dominated by fine comminuted bioclasts (as above) and common broken shells to 50mm.	
0.5		0.67-1.00m CARBONATE SAND / Clayey CARBONATE SAND. Alternating beds ~20-30mm thick. Olive gray (5Y 5/2-5/1) occasional gray (2.5Y 5/1), very fine to fine, well sorted, rounded, loose/soft, dominantly comminuted bioclasts and brown rounded limestone lithoclasts, common black lithics, occasional broken shells to 20mm. Grades downwards to grayish brown (10YR 3/2) at base.
0.6		
0.7		
0.8		
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **01.09.22** Time (Local) **5:36**

Sample Site ID	AUS-MUR-VC-S16	Easting	691986.77	Northing	8641979.88	Sample Method	
		Lat °S	12° 16' 43.93766 " S	Long ° E	130° 46' 54.74252 " E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	4.00	Recovery (m)	1.44	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 19m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	18	14.3
					<u>(Wet Wt - Dry Wt) *100</u> Dry Wt	54.64	57.80
					<u>Nett Dry</u> *100 Dry Wt	154.64	157.80


Depth	Description / Notes
0.0	0.00-0.05m CARBONATE SAND. Grayish brown (2.5Y 5/1), fine, moderately sorted, rounded to angular, massive, slightly clayey. Dominated by fine comminuted bioclasts
0.1	0.05-0.11m CARBONATE SAND. Light yellowish brown-speckled (10YR 6/4), medium to very coarse, massive, clean washed, well sorted, rounded-angular, dominated by comminuted bioclasts and rounded brown limestone lithics. Common foraminifera.
0.2	0.11-0.75m Silty clayey CARBONATE SAND. Alternating beds ~100mm-thick of clayey sands with clean washed sands. Light gray to olive gray (10YR 7/2-5Y 5/2). Fine to medium, grain size decreases downcore to very fine, well sorted, rounded, dominated by brown rounded limestone lithoclasts and comminuted bioclasts, soft/loose, massive, occasional black shells to 2mm. No odour.
0.3	
0.4	
0.5	
0.6	
0.7	
0.8	0.75-1.00m Silty sandy CARBONATE CLAY. Dark gray (5Y 5/1). Massive- slightly layered with occasional claystone lithoclasts (infilled lithified worm burrows) to 80mm. Common dark brown clay partings to 2mm thick, soft, common foraminifera. No odour.
0.9	
1.0	



Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **01.09.22** Time (Local) **4:30**


Sample Site ID	AUS-MUR-VC-S17A		Easting	691777.79	Northing	8641978.01	Sample Method	
			Lat °S	12° 16' 44.04305 " S	Long ° E	130° 45' 47.82801" E	PC	VC
Core section	0.00-1.00m						X	X
Penetration (m)	2.64	Recovery (m)	2.16		Vibe Time (min)	2:00	Grab	X
Comments: Water depth 16m					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
						Moisture content (g)	9.85	10.9
						(Wet Wt - Dry Wt) *100 Dry Wt	40.22	44.42
						Nett Dry *100 Dry Wt	140.22	142.42

Depth	Description / Notes	
0.0		0.00-0.25m CARBONATE SAND. Light yellowish brown (10YR 6/4), medium to very coarse, moderately sorted in ~100mm beds, rounded to angular (dominantly rounded), massive, loose, clean washed, dominated by comminuted bioclasts and brown rounded limestone lithoclasts, common black lithics and broken shells up to 5mm, rare quartz. No odour.
0.1		
0.2		
0.3		0.25-1.00m CARBONATE SAND. As above, with colour change to light gray (10YR 7/2). Alternating beds coarse to very coarse at 20mm intervals.
0.4		
0.5		
0.6		
0.7		
0.8		
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **01.09.22** Time (Local) **0:33**


Sample	Site ID	AUS-MUR-VC-S18-1	Easting	691627.6	Northing	8641960.82	Sample Method		
			Lat °S	12° 16' 44.63440" S	Long ° E	130° 45' 42.86210" E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		2.67	Recovery (m)		2.23	Vibe Time (min)	3:00	Grab	X
Comments: Water depth 19m. Triple site					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
						Moisture content (g)	13.5	16.7	
						(Wet Wt - Dry Wt) *100 Dry Wt	58.85	86.80	
						Nett Dry *100 Dry Wt	158.85	186.80	

Depth		Description / Notes
0.0		0.00-0.50m Clayey silty CARBONATE SAND. Olive gray (5Y 5/2), clay to medium, soft - firmer at base, massive, poorly sorted, rounded to angular, dominantly comminuted bioclasts and foraminifera with common brown limestone and black lithoclasts. Occasional thin-shelled angular bivalve fragments to 2mm. No odour
0.1		
0.2		
0.3		
0.4		
0.5		0.50-1.00m Calcareous CLAY. Gray (G1 5/1). Laminated coaly/woody beds ~3mm thick. Alternating soft/firm beds.
0.6		
0.7		
0.8		
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **01.09.22** Time (Local) **2:11**

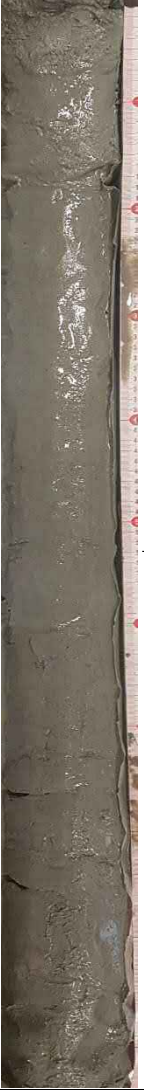
Sample Site ID	AUS-MUR-VC-S18-2A		Easting	691627.16	Northing	8641957.83	Sample Method	
			Lat °S	12° 16' 44.73179" S	Long ° E	130° 45' 42.84819" E	PC	VC
Core section	0.00-1.00m						X	X
Penetration (m)	1.92	Recovery (m)	1.38		Vibe Time (min)	2:00	Grab	X
Comments: Water depth 19m. Triple site				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
					Moisture content (g)	16.1	15.7	
					(Wet Wt - Dry Wt) *100 Dry Wt	59.32	69.96	
					Nett Dry *100 Dry Wt	159.32	169.96	

Depth	Description / Notes
0.0	 <p>0.00-0.50m Clayey silty CARBONATE SAND. Olive gray (5Y 5/2), clay to medium, soft - firmer at base, massive, poorly sorted, rounded to angular, dominantly comminuted bioclasts and foraminifera with common brown limestone and black lithoclasts. Occasional thin-shelled angular bivalve fragments to 2mm. No odour</p>
0.1	
0.2	
0.3	
0.4	
0.5	0.50-1.00m Calcareous CLAY. Gray (G1 5/1). Laminated coaly/woody beds ~3mm thick. Alternating soft/firm beds.
0.6	
0.7	
0.8	
0.9	
1.0	

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **01.09.22** Time (Local) **3:25**

Sample	Site ID	AUS-MUR-VC-S18-3	Easting	691627.05	Northing	8641969.74	Sample Method		
			Lat °S	12° 16' 44.34426 " S	Long ° E	130° 45' 42.84197" E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		2.28	Recovery (m)		1.78	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 19m. Triple site					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
						Moisture content (g)	11.8	17.25	
						(Wet Wt - Dry Wt) *100 Dry Wt	60.70	91.32	
						Nett Dry *100 Dry Wt	160.70	191.32	



Depth		Description / Notes
0.0		0.00-0.50m Clayey silty CARBONATE SAND. Olive gray (5Y 5/2), clay to medium, soft - firmer at base, massive, poorly sorted, rounded to angular, dominantly comminuted bioclasts and foraminifera with common brown limestone and black lithoclasts. Occasional thin-shelled angular bivalve fragments to 2mm. No odour
0.1		
0.2		
0.3		
0.4		
0.5		0.50-1.00m Calcareous CLAY. Gray (G1 5/1). Laminated coaly/woody beds ~3mm thick. Alternating soft/firm beds.
0.6		
0.7		
0.8		
0.9		
1.0		



Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **23:25AM**

Sample Site ID	AUS-MUR-VC-S19	Easting	691556.35	Northing	8641955.88	Sample Method	
		Lat °S	12° 16' 44.81031 " S	Long ° E	130° 45' 40.50558" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	2.35	Recovery (m)	1.45	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 20m.				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	14.2	23.7
					(Wet Wt - Dry Wt) *100 Dry Wt	47.91	58.03
					Nett Dry *100 Dry Wt	147.91	158.03

Depth	Description / Notes
0.0	 0.00-0.15m CARBONATE SAND. Grayish brown (10YR 5/2), very fine, well sorted, rounded, massive, loose, clean washed, dominated by rounded brown limestone lithoclasts and common comminuted bioclasts.
0.1	
0.2	0.15-0.30m As above with very coarse - small granules, poorly sorted, angular with broken shells to 15mm
0.3	0.30-0.80m Clayey silty CARBONATE SAND. Greenish gray (G1 5/10Y), very fine to fine, well sorted, angular, as above, with decrease in shell content downcore with CARBONATE CLAY at base.
0.4	
0.5	
0.6	 0.80-1.00m Calcareous CLAY. Greenish gray (G1 5/1). Massive, soft.
0.7	
0.8	
0.9	
1.0	



Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **22:22**


Sample Site ID	AUS-MUR-VC-S20A	Easting	691429.23	Northing	8641949.04	Sample Method	
		Lat °S	12° 16' 45.05993" S	Long ° E	130° 45' 36.30079" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	3.60	Recovery (m)	3.00	Vibe Time (min)	1:45	Grab	X
Comments: Water depth 22m.				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	13.1	17
					<u>(Wet Wt - Dry Wt) *100</u> Dry Wt	54.49	86.56
					<u>Nett Dry *100</u> Dry Wt	154.49	186.56

Depth	Description / Notes
0.0	0.00-0.10m CARBONATE SAND. Grayish brown (10YR 5/2), very fine, well sorted, rounded, massive, loose, clean washed, dominated by rounded brown limestone lithoclasts and common comminuted bioclasts.
0.1	0.10-0.63m Clayey silty gravelly CARBONATE SAND / CARBONATE GRAVEL. Greenish brown (2.5 5/12), very fine to fine, poorly sorted, rounded, as above, massive, gravel dominated by broken shells up to 50mm and lithified claystone infilled burrow tubes. High level of reworking indicated.
0.2	
0.3	
0.4	
0.5	
0.6	
0.7	0.63-1.00m Calcareous CLAY. Greenish gray (G1 5/1). Massive, soft.
0.8	
0.9	
1.0	

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **20:34**


Sample	Site ID	AUS-MUR-VC-S21	Easting	691367.43	Northing	8641947.9	Sample Method		
			Lat °S	12° 16' 45.11016" S	Long ° E	130° 45' 34.25613 " E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		1.73	Recovery (m)		1.20	Vibe Time (min)	2:30	Grab	X
Comments: Water depth 23m.					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
						Moisture content (g)	14	12.3	
						(Wet Wt - Dry Wt) *100 Dry Wt	62.95	76.21	
						Nett Dry *100 Dry Wt	162.95	176.21	

Depth		Description / Notes
0.0		0.00-0.20m CARBONATE SAND. Gray-light brownish gray (2.5Y 5/1-6/2), very fine, well sorted, rounded, massive, loose, clean washed, dominated by comminuted bioclasts. Common broken shell to 10mm.
0.1		
0.2		0.20-0.40m clayey CARBONATE SAND. Gray-light brownish gray (2.5Y 5/1-6/2), very fine, well sorted, rounded, massive, loose, clean washed, dominated by comminuted bioclasts. Common broken shell to 10mm.
0.3		
0.4		0.40-0.70m CARBONATE CLAY. Dark greenish gray (G1 4/10Y). Very soft-soft, massive
0.5		
0.6		
0.7		0.70-1.00m Calcareous CLAY. Light olive brown (2.5Y 5/3). Stiff, massive (palaeosol)
0.8		
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **19:22**


Sample	Site ID	AUS-MUR-VC-S22	Easting	691367.43	Northing	8641947.9	Sample Method		
			Lat °S	12° 16' 45.11016" S	Long ° E	130° 45' 34.25613 " E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		1.80	Recovery (m)		1.10	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 21m. Split core					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
						Moisture content (g)	10 & 13.9	11.1 & 12.4	
						(Wet Wt - Dry Wt) *100 Dry Wt	59.7, 45.0	45.98 & 57.30	
						Nett Dry *100 Dry Wt	159.7, 145.0	145.98 & 157.30	

Depth		Description / Notes
0.0		0.00-0.34m Clayey CARBONATE SAND. Greenish gray (G1 5/10Y), very fine-fine, well sorted, rounded, massive, loose, clean washed, dominated by comminuted bioclasts.
0.1		
0.2		
0.3		
0.4		0.34-0.70m CARBONATE SAND. Grayish brown (10YR 5/2), speckled, very fine - fine, poorly sorted, massive, clean washed, dominated by rounded brown limestone and comminuted bioclasts. Occasional broken shells to 3mm. No odour.
0.5		
0.6		
0.7		0.70-1.00m Calcareous CLAY. Light olive brown (2.5Y 5/3). Stiff, massive (palaeosol).
0.8		
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **17:16**

Sample	Site ID	AUS-MUR-VC-S23	Easting	690919.14	Northing	8641923.11	Sample Method		
			Lat °S	12° 16' 46.01203 " S	Long ° E	130° 45' 19.42798 " E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		2.61	Recovery (m)		1.95	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 20m. Split core					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
						Moisture content (g)	15.9 & 10.2	14.7 & 10.8	
						(Wet Wt - Dry Wt) *100 Dry Wt	47.27 & 43.28	72.99 & 79.76	
						Nett Dry *100 Dry Wt	147.27 & 143.28	172.99 & 179.76	

Depth		Description / Notes
0.0		0.00-0.24m CARBONATE SAND. Yellowish brown (10YR 5/4), very fine to very coarse, poorly sorted, rounded to angular, massive, clean washed, dominated by rounded brown limestone clasts. No odour.
0.1		
0.2		
0.3		0.34-0.70m Clayey CARBONATE SAND. Grayish brown (G2.5Y 5/2), very fine-fine, well sorted, rounded, massive, loose, clean washed, dominated by comminuted bioclasts and rounded brown limestones. Common broken shell to 40mm and increase in clay downcore. No odour.
0.4		
0.5		
0.6		
0.7		0.70-1.00m CARBONATE CLAY. Gray (5Y 5/1). Firm (soft at top), massive. Slightly silty at tip with occasional-rare in situ calcareous tube worms (coiled).
0.8		
0.9		
1.0		

Deck Core Description

Client

Guardian Geomatics

Project

AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK

Project No.

P20015_05


Date

31.08.22

Time (Local)

16:14


Sample Site ID	AUS-MUR-VC-S24	Easting	690919.14	Northing	8641923.11	Sample Method	
		Lat °S	12° 16' 46.01203 " S	Long ° E	130° 45' 19.42798 " E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	3.90	Recovery (m)	3.10	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 18m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	2.2	16.3
					(Wet Wt - Dry Wt) *100 Dry Wt	5.65	52.51
					Nett Dry *100 Dry Wt	52.51	152.51

Depth	Description / Notes
0.0	 <p>0.00-0.90m CARBONATE SAND. Yellowish brown (10YR 5/4), very fine to very coarse, well sorted in beds ~100mm, rounded to angular, massive, clean washed, dominated by rounded brown limestone clasts. No odour.</p>
0.1	
0.2	
0.3	
0.4	
0.5	
0.6	
0.7	
0.8	<p>0.90-1.00m CARBONATE CLAY. Gray (5Y 5/1). Firm (soft at top), massive. Slightly silty at top.</p>
0.9	
1.0	

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **15:31**


Sample Site ID	AUS-MUR-VC-S25	Easting	690657.32	Northing	8641908.29	Sample Method	
		Lat °S	12° 16' 46.54976 " S	Long ° E	130° 45' 34.25613 " E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	3.44	Recovery (m)	2.02	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 17m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	6.9	13.3
					(Wet Wt - Dry Wt) *100 Dry Wt	43.56	42.57
					Nett Dry *100 Dry Wt	143.56	142.57

Depth		Description / Notes
0.0		0.00-0.95m CARBONATE SAND. Yellowish brown (10YR 5/4), very fine to very coarse, rounded to angular, massive-well sorted in beds ~100mm thick, clean washed, dominated by rounded brown limestone clasts. Common broken shells to 10mm. No odour.
0.1		
0.2		
0.3		
0.4		
0.5		
0.6		
0.7		
0.8		
0.9		0.95-1.00m CARBONATE CLAY / clayey CARBONATE SAND. Gray (5Y 5/1), very fine, massive, firm.
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **14:29**


Sample	Site ID	AUS-MUR-VC-S26B	Easting	690655.58	Northing	8641889.26	Sample Method		
			Lat °S	12° 16' 47.16937 " S	Long ° E	130° 45' 10.71429 " E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		1.95	Recovery (m)		2.60	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 19.5m					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
						Moisture content (g)	11.7	16	
						(Wet Wt - Dry Wt) *100 Dry Wt	37.69	63.14	
						Nett Dry *100 Dry Wt	137.69	163.14	

Depth		Description / Notes
0.0		0.00-0.50m CARBONATE SAND. Yellowish brown (10YR 5/4), very fine to very coarse, well sorted in beds ~100mm, rounded to angular, massive, clean washed, dominated by rounded brown limestone clasts. Common broken shells to 5mm. Very strong H2S odour.
0.1		
0.2		
0.3		
0.4		
0.5		0.50-1.00m CARBONATE CLAY. Gray (5Y 5/1). Firm, massive.
0.6		
0.7		
0.8		
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **12:33**

Sample Site ID	AUS-MUR-VC-S27	Easting	690468.45	Northing	8641899.57	Sample Method	
		Lat °S	12° 16' 46.87350 " S	Long ° E	130° 45' 4.52009 " E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	3.11	Recovery (m)	2.40	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 17.0m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	12	8.6
					(Wet Wt - Dry Wt) *100 Dry Wt	43.57	62.14
					Nett Dry *100 Dry Wt	143.57	162.14

Depth		Description / Notes
0.0		0.00-0.90m CARBONATE SAND. Light grayish brown speckled (10YR 5/2), fine, well sorted, rounded-angular (dominantly rounded), massive, loose, clean washed, dominated by rounded brown limestones with common broken shells to 2mm.
0.1		
0.2		
0.3		
0.4		
0.5		
0.6		
0.7		
0.8		
0.9		
1.0		

Deck Core Description

Client

Guardian Geomatics

Project

AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK

Project No.

P20015_05

Date

31.08.22

Time (Local)

11:25


Sample Site ID	AUS-MUR-VC-S28	Easting	690458.24	Northing	8641899.03	Sample Method	
		Lat °S	12° 16' 46.89323 " S	Long ° E	130° 45' 4.18236 " E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	2.40	Recovery (m)	1.25	Vibe Time (min)	1:50	Grab	X
Comments: Water depth 23.0m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	8.6	11.1
					(Wet Wt - Dry Wt) *100 Dry Wt	46.39	50.36
					Nett Dry *100 Dry Wt	146.39	150.36

Depth	Description / Notes
0.0	0.00-0.10m CARBONATE SAND. Brown (10YR 5/3), fine, rounded, massive, clean washed, dominated by rounded brown limestone clasts occasionally up to small gravel. Common broken shells to 2mm.
0.1	0.10-0.75m CARBONATE SAND. Greenish gray (G1 5/10Y), fine, well sorted, rounded, loose, massive dominated by comminuted bioclasts with common quartz and black lithics, minor rounded brown limestone, rare broken shells to 2mm. Dominantly clean washed but occasionally slightly silty.
0.2	
0.3	
0.4	
0.5	
0.6	
0.7	
0.8	0.75-0.90m Clayey silty CARBONATE SAND. Dark greenish gray (G1 4/5GY), very fine to very coarse in clay matrix, angular, massive, as above, Common small pebbles angular reworked brown calcarenite and broken shells.
0.9	0.90-1.00m CARBONATE CLAY. Dark gray (10YR 4/1), massive, soft-firm, slightly greasy.
1.0	

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **10:41**


Sample	Site ID	AUS-MUR-VC-S29	Easting	690208.65	Northing	8641886.65	Sample Method		
			Lat °S	12° 16' 47.34886 " S	Long ° E	130° 44' 55.92627" E	PC	VC	
Core section		0.00-1.00m					X	X	
Penetration (m)		2.72	Recovery (m)		1.97	Vibe Time (min)		1:34	
						Grab		X	
Comments: Water depth 23.0m					Moisture	Homogenised sections		0.0 - 0.5m	0.5 - 1.0m
						Moisture content (g)		8.5	7.7
						(Wet Wt - Dry Wt) *100 Dry Wt		45.36	43.16
						Nett Dry *100 Dry Wt		145.36	143.16

Depth		Description / Notes
0.0		0.00-0.95m CARBONATE SAND. Yellowish brown (10YR 5/3), fine to medium, well sorted, rounded, massive, clean washed, loose, dominated by quartz and brown limestone clasts, common broken shells to 2mm, rare black lithics. No odour.
0.1		Gradational downcore change to grayish brown (10YR 5/2)
0.2		
0.3		
0.4		
0.5		0.75m increase in broken shells to 40mm sediment as above
0.6		
0.7		
0.8		
0.9		
1.0		0.95-1.00m Clayey CARBONATE SAND. Grayish brown (10YR 5/2), very fine, high clay in matrix, soft, massive, as above with comminuted bioclasts. No odour.

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **9:48**

Sample Site ID	AUS-MUR-VC-S30B	Easting	690151.93	Northing	8641877.98	Sample Method	
		Lat °S	12° 16' 47.64297 " S	Long ° E	130° 44' 54.05131" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	3.00	Recovery (m)	1.44	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 23.0m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	7.4	8.1
					<u>(Wet Wt - Dry Wt) *100</u> Dry Wt	41.71	43.69
					<u>Nett Dry *100</u> Dry Wt	141.71	143.69

Depth	Description / Notes
0.0	 <p>0.00-1.00m CARBONATE SAND. Dark grayish brown (10YR 4/2), medium, well sorted through core, massive, loose, dominated by dark brown rounded spherical limestones and comminuted bioclasts, slightly clayey dominantly clean washed, common foraminifera, common broken shells to 2mm, rare black lithics.</p>
0.1	
0.2	
0.3	
0.4	
0.5	
0.6	
0.7	
0.8	
0.9	
1.0	

Deck Core Description

Client

Guardian Geomatics

Project

AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK

Project No.

P20015_05

Date

31.08.22

Time (Local)

5:40

Sample Site ID	AUS-MUR-VC-S31-1	Easting	689647.96	Northing	8641856.83	Sample Method	
		Lat °S	12° 16' 48.43752 " S	Long ° E	130° 44' 4.18236" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	2.61	Recovery (m)	1.50	Vibe Time (min)	1:09	Grab	X
Comments: Water depth 21.0m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	5.5	8.4
					(Wet Wt - Dry Wt) *100 Dry Wt	35.39	43.43
					Nett Dry *100 Dry Wt	135.39	143.43

Depth	Description / Notes
0.0	0.00-0.26m CARBONATE SAND. Yellowish brown (10YR 5/4), medium, well sorted, rounded, massive, loose, clean washed, dominantly brown limestone with abundant comminuted bioclasts and broken shells to 5mm. Common foraminifera (very fine to fine). Occasional coral fragments to 20mm. Grain size and sorting decrease downcore, with increase in broken shells.
0.1	
0.2	
0.3	0.26-0.45m CARBONATE SAND. Dark yellowish brown (10YR 6/3), very coarse to granules, well sorted, rounded, massive, loose, clean washed, dominantly brown limestone with abundant comminuted bioclasts and broken shells to 15mm.
0.4	0.45-0.90m CARBONATE SAND. Pale brown (10YR 6/3), very coarse to granules, well sorted, rounded, massive, loose, clean washed, dominantly brown limestone with abundant comminuted bioclasts and broken shells to 15mm. No staining on shells.
0.5	
0.6	
0.7	0.90-1.00m CARBONATE SAND. Grayish brown (2.5 5/2), fine to medium, poorly sorted, rounded, massive, loose, clean washed, dominantly brown limestone with abundant comminuted bioclasts and broken shells to 15mm. No staining on shells.
0.8	
0.9	
1.0	

Deck Core Description

Client

Guardian Geomatics

Project

AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK

Project No.

P20015_05





Date

31.08.22

Time (Local)

6:30

Sample Site ID	AUS-MUR-VC-S31-2	Easting	689647.73	Northing	8641851.57	Sample Method	
		Lat °S	12° 16' 48.60873" S	Long ° E	130° 44' 37.37331" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	3.81	Recovery (m)	2.14	Vibe Time (min)	0:56	Grab	X
Comments: Water depth 20.0m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	7.3	
					(Wet Wt - Dry Wt) *100 Dry Wt	43.35	
					Nett Dry *100 Dry Wt	143.35	

Depth	Description / Notes	
0.0		0.00-0.30m CARBONATE SAND. Yellowish brown (10YR 5/4-7.5YR 6/3), fine-medium, well sorted, rounded, massive-slightly bedded, loose, clean washed, dominantly brown limestone with abundant comminuted bioclasts and broken shells to 5mm. Common foraminifera (very fine to fine)
0.1		
0.2		
0.3		0.30-0.60m CARBONATE SAND. Dark yellowish brown (10YR 6/3), medium to very coarse, well sorted, rounded, massive, loose, clean washed, dominantly brown limestone with foraminifera. Alternating ~50mm thick, clayey bands, grayish brown (2.5Y 5/2). Broken shells to 4mm.
0.4		
0.5		
0.6		0.60-0.86m CARBONATE SAND. Light yellowish brown - speckled (10YR 6/4), very coarse to granules, well sorted, rounded, massive, loose, clean washed, dominantly brown limestone with abundant comminuted bioclasts and broken shells to 15mm. No staining on shells.
0.7		
0.8		
0.9		0.86-1.00m CARBONATE SAND. Grayish brown (2.5 5/2), fine to medium, poorly sorted, rounded, massive, loose, clean washed, dominantly brown limestone with abundant comminuted bioclasts and broken shells to 25mm. No staining on shells.
1.0		

Deck Core Description

Client

Guardian Geomatics

Project

AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK

Project No.

P20015_05





Date

31.08.22

Time (Local)

7:55

Sample Site ID	AUS-MUR-VC-S31-3A	Easting	689653.69	Northing	8641860.5	Sample Method	
		Lat °S	12° 16' 48.31689 " S	Long ° E	130° 44' 37.56861" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	2.32	Recovery (m)	1.37	Vibe Time (min)	1:47	Grab	X
Comments: Water depth 21m Split core				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	7.6 & 18.0	7.8 & 7.9
					(Wet Wt - Dry Wt) *100 Dry Wt	45.95 & 99.78	51.86 & 54.71
					Nett Dry *100 Dry Wt	145.95 & 199.78	151.86 & 154.71

Depth	Description / Notes	
0.0		0.00-0.30m CARBONATE SAND. Yellowish brown (10YR 5/4-7.5YR 6/3), fine-medium, well sorted, rounded, massive-slightly bedded, loose, clean washed, dominantly brown limestone with abundant comminuted bioclasts and broken shells to 5mm. Common foraminifera (very fine to fine)
0.1		
0.2		
0.3		0.30-0.60m CARBONATE SAND. Dark yellowish brown (10YR 6/3), medium to very coarse, well sorted, rounded, massive, loose, clean washed, dominantly brown limestone with foraminifera. Alternating ~50mm thick, clayey bands, grayish brown (2.5Y 5/2). Broken shells to 4mm.
0.4		
0.5		
0.6		0.60-0.86m CARBONATE SAND. Light yellowish brown - speckled (10YR 6/4), very coarse to granules, well sorted, rounded, massive, loose, clean washed, dominantly brown limestone with abundant comminuted bioclasts and broken shells to 15mm. No staining on shells.
0.7		
0.8		
0.9		0.86-1.00m CARBONATE SAND. Grayish brown (2.5 5/2), fine to medium, poorly sorted, rounded, massive, loose, clean washed, dominantly brown limestone with abundant comminuted bioclasts and broken shells to 25mm. No staining on shells.
1.0		

Deck Core Description

Client

Guardian Geomatics

Project

AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK

Project No.

P20015_05


Date

30.08.22

Time (Local)

22:47


Sample Site ID	AUS-MUR-VC-S32A-1	Easting	666535.61	Northing	8643758.82	Sample Method	
		Lat °S	12° 15' 51.11284 " S	Long ° E	130° 31' 52.20422 " E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	2.16	Recovery (m)	1.41	Vibe Time (min)	2:12	Grab	X
Comments: Water depth 30m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	9.5	10.2
					(Wet Wt - Dry Wt) *100 Dry Wt	44.94	48.25
					Nett Dry *100 Dry Wt	144.94	148.25

Depth	Description / Notes	
0.0		0.00-0.73m CARBONATE SAND. Brown (10YR 6.5/2), medium to very coarse, well sorted in beds ~20mm thick, rounded, massive-slightly bedded, loose, clean washed, dominantly brown limestone and comminuted bioclasts and broken shells to 5mm.
0.1		
0.2		
0.3		
0.4		
0.5		
0.6		
0.7	0.73-0.95m Clayey sandy CARBONATE GRAVEL. Greenish gray (G1 5/10Y), rounded clasts claystone up to 250mm, massive/imbricated, soft, poorly sorted, subrounded, common broken shells and small pebbles rounded limestone. Very strong H2S odour.	
0.8		
0.9	0.95-1.00m CARBONATE CLAY. Greenish gray (G1 7/10GY). Firm, lamminated to 2mm. Microshattered.	
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **1:56**


Sample Site ID	AUS-MUR-VC-S32-2B		Easting	666530.46	Northing	8643751.34	Sample Method	
			Lat °S	12° 15' 51.35722 " S	Long ° E	130° 31' 52.03521 " E	PC	VC
Core section	0.00-1.00m						X	X
Penetration (m)	1.73	Recovery (m)	1.19		Vibe Time (min)	1:35	Grab	X
Comments: Water depth 27m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m	
					Moisture content (g)	6.9	8.9	
					(Wet Wt - Dry Wt) *100 Dry Wt	40.26	40.75	
					Nett Dry *100 Dry Wt	140.26	140.75	

Depth	Description / Notes	
0.0		0.00-0.40m CARBONATE SAND. Brown - light brownish gray speckled (10YR 6/27-5/3), medium to very coarse, well sorted in beds, rounded, massive-slightly bedded, loose, clean washed, dominantly brown limestone and comminuted bioclasts and broken shells to 5mm.
0.1		
0.2		
0.3		
0.4	0.40-0.70m Clayey silty CARBONATE SAND becoming gravelly at base of section. Gray green (G1 5/10Y), medium, poorly sorted, rounded, massive, soft/plastic, clean washed, dominantly brown limestone. Occasional small pebbles of rounded limestone.	
0.5	Common clay at base of section	
0.6		
0.7	0.70-1.0m CARBONATE CLAY. Greenish gray (G1 6/5GY). Firm, laminated to 2mm, banded, occasional yellow sections. Microshattered.	
0.8		
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **31.08.22** Time (Local) **3:09**

Sample Site ID	AUS-MUR-VC-S32-3		Easting	666542.05	Northing	8643752.13	Sample Method	
			Lat °S	12° 15' 51.32937 " S	Long ° E	130° 31' 52.41858 " E	PC	VC
Core section	0.00-1.00m						X	X
Penetration (m)	3.12	Recovery (m)	2.24		Vibe Time (min)	1:30	Grab	X
Comments: Water depth 28m					Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
						Moisture content (g)	10.7	
						(Wet Wt - Dry Wt) *100 Dry Wt	46.65	
						Nett Dry *100 Dry Wt	146.65	

Depth	Description / Notes
0.0	 <p>0.00-1.00m CARBONATE SAND. Brown (10YR 6.5/2), medium to very coarse, small pebbles, well sorted in beds ~20mm thick, rounded-angular, massive-slightly bedded, loose, clean washed, dominantly brown limestone and comminuted bioclasts and broken shells to 5mm.</p>
0.1	
0.2	
0.3	
0.4	
0.5	
0.6	
0.7	
0.8	
0.9	
1.0	

Deck Core Description

Client

Guardian Geomatics

Project

AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK

Project No.

P20015_05


Date

30.08.22

Time (Local)

21:08



Sample Site ID	AUS-MUR-VC-S33	Easting	666441.58	Northing	8643707.23	Sample Method	
		Lat °S	12° 15' 52.80915 " S	Long ° E	130° 31' 49.10236" E	PC	VC
Core section	0.00-1.00m					X	X
Penetration (m)	2.15	Recovery (m)	1.27	Vibe Time (min)	2:00	Grab	X
Comments: Water depth 29m				Moisture	Homogenised sections	0.0 - 0.5m	0.5 - 1.0m
					Moisture content (g)	13.5	14
					(Wet Wt - Dry Wt) *100 Dry Wt	39.54	45.69
					Nett Dry *100 Dry Wt	139.54	145.94

Depth	Description / Notes	
0.0		0.00-0.70m CARBONATE SAND. Brown (10YR 6.5/2), medium to very coarse, small pebbles, well sorted in beds ~20mm thick, rounded-angular, massive-slightly bedded, loose, clean washed, dominantly brown limestone and comminuted bioclasts and broken shells to 5mm.
0.1		
0.2		
0.3		
0.4		
0.5		
0.7	0.70-0.95m Gravelly clayey CARBONATE SAND. Greenish gray (G1 5/10Y), very fine to medium, massive, soft to firm (increasing to firm at base), poorly sorted, rounded, as above with angular gravel bioclasts to 40mm, common oblate clasts of gray calcarenite to 50mm.	
0.8	0.95-1.00m CARBONATE CLAY. Greenish gray (G1 5/10GY). Stiff, clay massive with in situ claystone sections.	
0.9		
1.0		

Deck Core Description

Client **Guardian Geomatics** Project **AUSTRALIA – ASIAN POWER LINK (AAPL) CABLE ROUTE SURVEY - MURRUMUJUK**
 Project No. **P20015_05** Date **30.08.22** Time (Local) **19:59**

Sample Site ID	AUS-MUR-VC-S34	Easting	663253.67	Northing	8642790.77	Sample Method			
		Lat °S	12° 16' 23.21786 " S	Long ° E	130° 30' 3.77922" E	PC	VC		
Core section	0.00-1.00m					X	X		
Penetration (m)	1.50	Recovery (m)	1.00	Vibe Time (min)	2:00	Grab	X		
Comments: Water depth 34m				Moisture		Homogenised sections			
						Moisture content (g)		0.0 - 0.5m	0.5 - 1.0m
						(Wet Wt - Dry Wt) *100 Dry Wt		13.2	14.4
						Nett Dry *100 Dry Wt		29.24	40.07
						129.24	140.07		

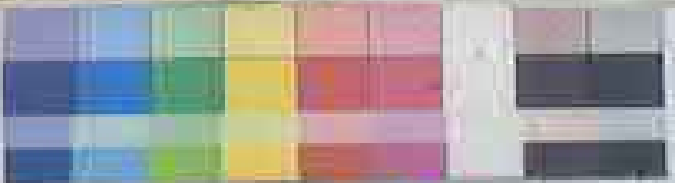
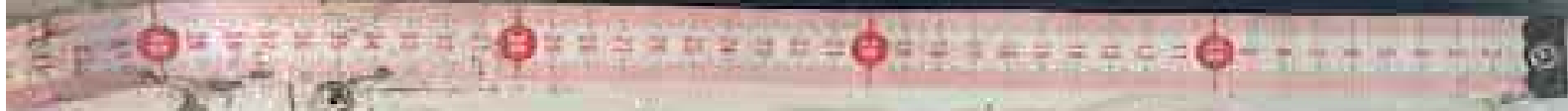
Depth	Description / Notes
0.0	 <p>0.00-0.30m CARBONATE SAND. Brown (10YR 5/2), medium to very coarse, , well sorted in beds ~50mm thick, rounded, loose, clean washed, dominantly brown limestone and comminuted bioclasts and red-stained broken shells to 5mm.</p>
0.1	
0.2	
0.3	 <p>0.30-0.99m Gravelly clayey CARBONATE SAND. Greenish gray (G1 5/10Y), as above, very fine to medium, massive, soft to firm (increasing to firm at base), poorly sorted, rounded, as above with angular gravel bioclasts to 50mm occasionally to 100mm, common oblate clasts of gray calcarenite to 50mm.</p>
0.4	
0.5	
0.6	
0.7	
0.8	
0.9	<p>0.99-1.00m CARBONATE CLAY. Light Greenish gray (G1 5/10GY). Stiff, clay massive with in situ claystone sections.</p>
1.0	



01208-27 14 AC
10024-PUR-0001A
00 - LOW

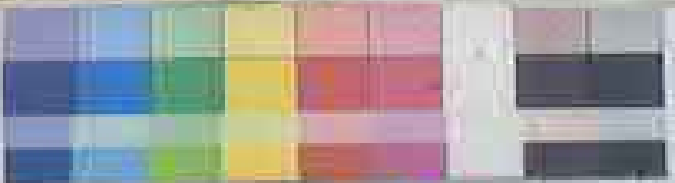
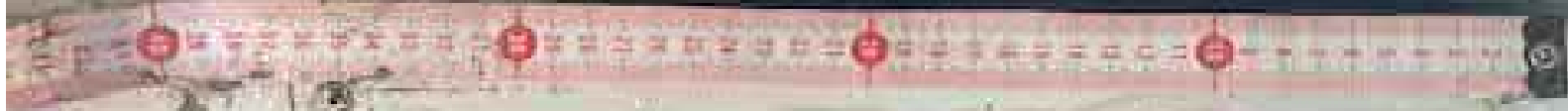


PROFANE & MORTUARIUM
DATE: 01-08-21 14:45
Lieu: AULPUC VC - 001A
PROFANE: 10/20



P20015-SUN_1.5 MURRUMBUJUK Guardian Geomatics - M.V. Estherson Sciterra

DATE	01-09-22	14:15
SITE ID	AUS-MUR-VE 001A	
DEPTH RANGE	200 - 230M	



P20015-SUN_1.5 MURRUMBUK Guardian Geomatics - M.V. Esthère Scifren

DATE	01-09-22 14:15
SITE ID	AUS-MUR-VE 001A
DEPTH RANGE	200-230m



UNIVERSITY OF CALIFORNIA
DIAGNOSTIC LABORATORY
101 SHALER HALL
DURHAM, NC 27708
TEL: 919-687-7000
FAX: 919-687-7001
WWW.DL.DUCI.EDU

DATE: 02-09-11 11:50
TIME: 10:30 AM
USER: DL
OPERATOR: DL

02-09-11 11:50
10:30 AM
DL
DL



PHOTOGRAPHED BY: [unreadable]

DATE: 01-04-11 18:15

BY: A. J. [unreadable]

JOB NO: 10-306



RODAS-SUN, S.A. MANUFACTURER

DATE	01-09-21 14:55
SITE ID	A01-100-10-2
DEPTH RANGE	100-300m







2000-D50N 2.1 METER RULER

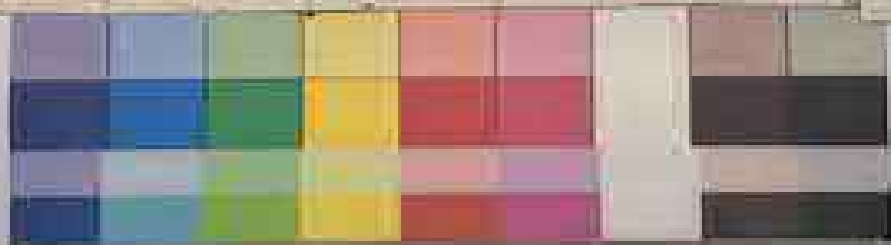
DATE	27-08-23	08:20
REF ID	R03-MU4-VE-003a	
PHOTO RANGE	0.0-1.0m	



Color calibration chart with a grid of color patches and a grayscale strip.

DATE: 07-08-22 09:20
FILE: AVS HUS-UC-003a
SERIAL: 10-2005



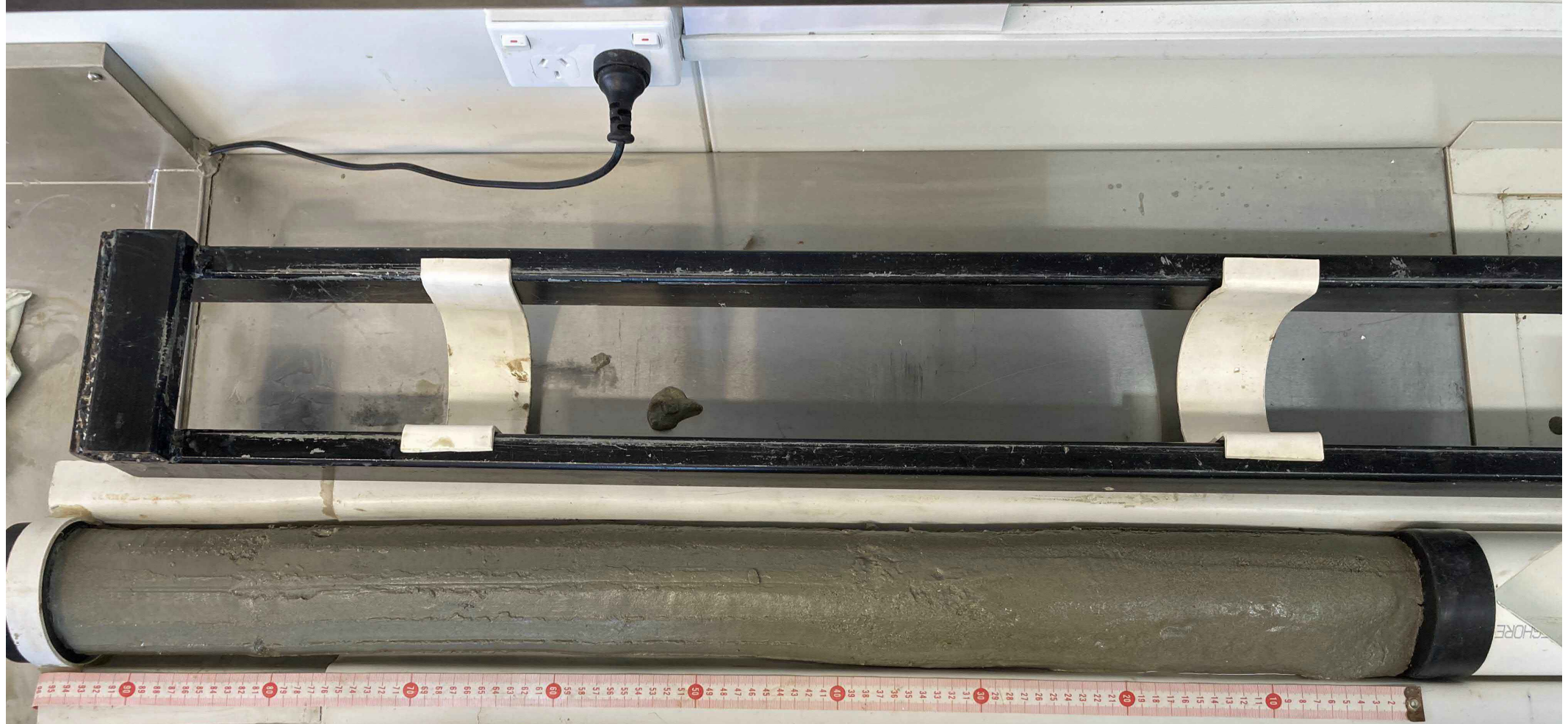


Kodak Easy Share



P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

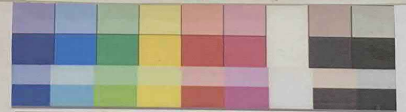
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P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

DATE	27-08-22	08:20
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DEPTH RANGE	0.0 - 1.0m	

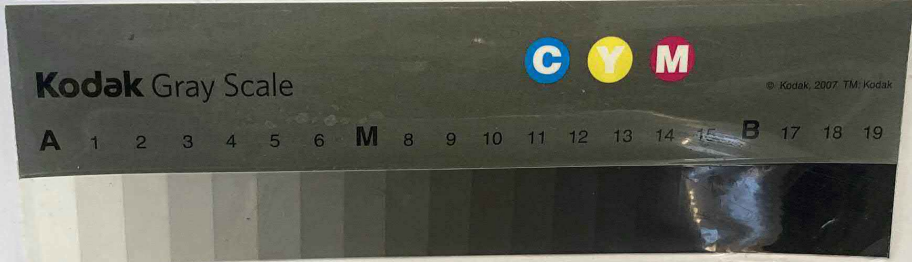
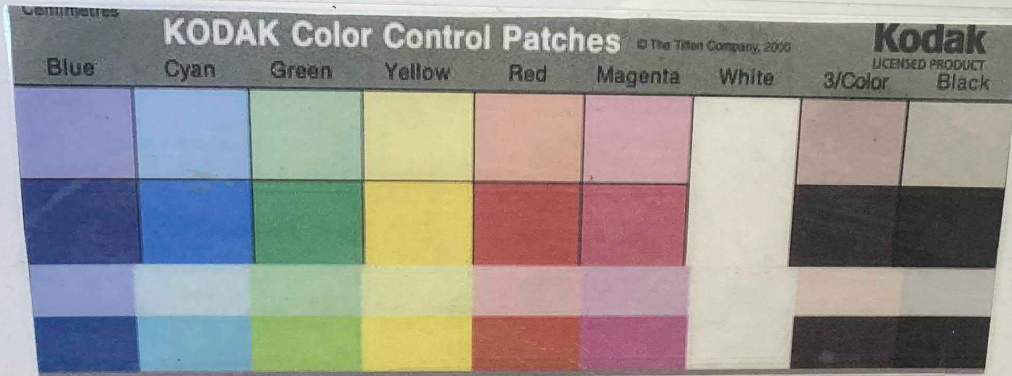




P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

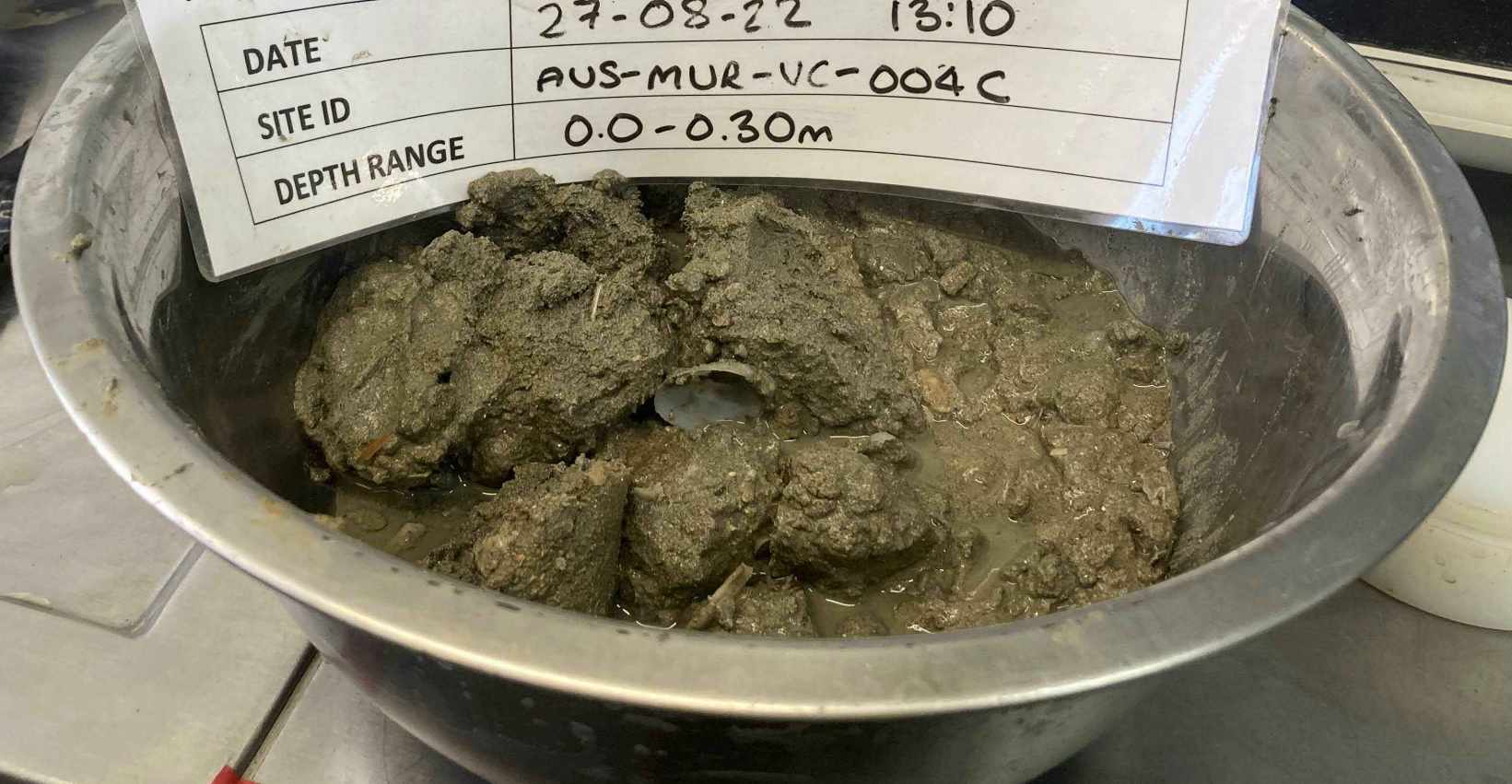
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DEPTH RANGE	1.0-2.0m	

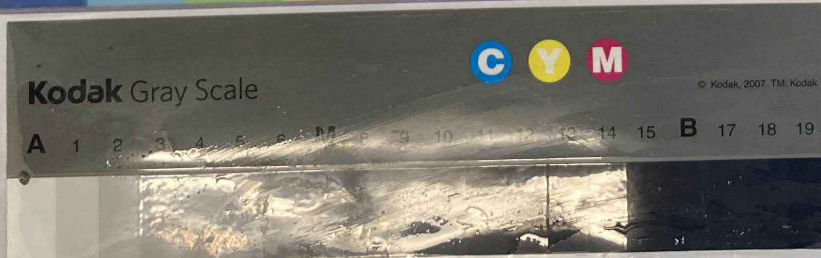
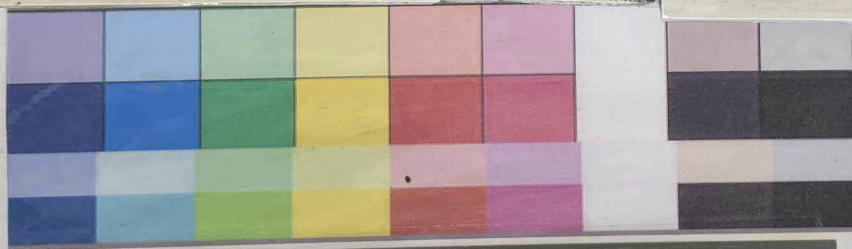




P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics – M.V. Offshore Solution

DATE	27-08-22 13:10
SITE ID	AUS-MUR-VC-004C
DEPTH RANGE	0.0-0.30m





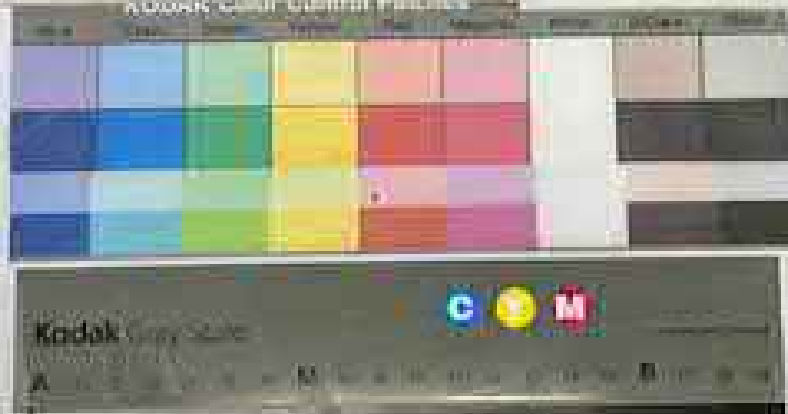
P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics – M.V. Offshore Solution

DATE	27-08-22 13:10
SITE ID	AUS-MUR-VC-004D
DEPTH RANGE	0.0-0.33m



P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

DATE	27-08-22	13:10
SITE ID	AUS-MUR-VS-004D	
DEPTH	0.0 - 0.33m	



P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

DATE	27-08-22	13:10
SITE ID	AUS-MUR-VS-004D	
DEPTH	0.0 - 0.33m	



P20015-SUN_1.5 MURRUMJUK Guardian Geomatics - M.V. Offshore Solution

DATE	27-08-22 15:10
SITE ID	AUS-MUR-VC-005
DEPTH RANGE	0.0-1.0m



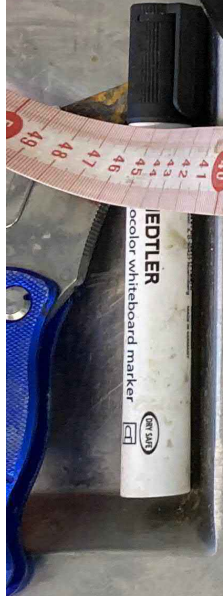
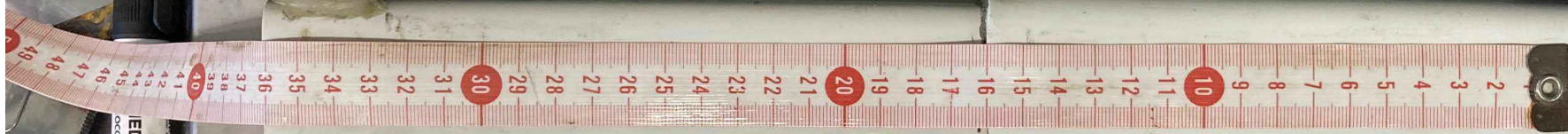


P20015-SUN_1.5 MURRUMJUK Guardian Geomatics - M.V. Offshore Solution

DATE	27-08-22	15:10
SITE ID	AUS-MUR-VC-005	
DEPTH RANGE	0.0 - 1.0m	



157
158
159
160
161



P20015-SUN_1 MURRUMBUJUK Guardian Geomatics - M.V. Offshore Solution

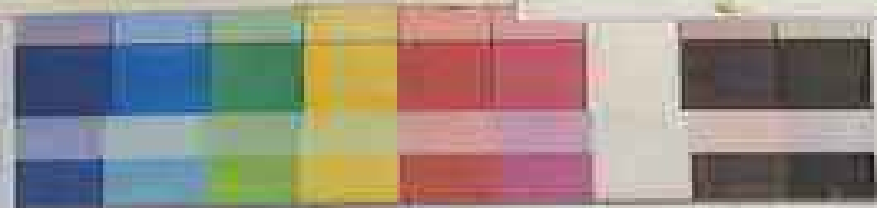
DATE	27-08-22 15:10
SITE ID	AUS-MUR-VC-005
DEPTH RANGE	1.00 - 1.35m



PRODIGY 4.5 MEGAPICHEL

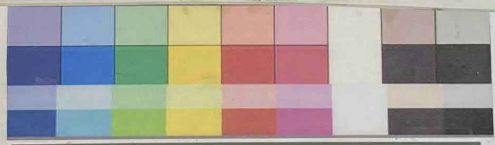
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SHOT:	AUS-PLA-VI-005	
FILE NAME:	0.2-1.0m	





P2001 MURRUMUJUK Gardian Geomatics - M.V. Offshore Solution

DATE	27-08-22 15:10
SITE ID	AUS-MUR-VC-005
DEPTH RANGE	1.00 - 1.35m



Kodak Gray Scale
A 1 2 3 4 5 6 M 8 9 10 11 12 13 14 15 B 17 18 19

P20015-SUN_1.5 MURRUMJUK Guardian Geomatics - M.V. Offshore Solution

DATE	27-08-22 16:15
SITE ID	AUS-MUR-VC-005A
DEPTH RANGE	0.00 - 1.76m





Color calibration chart with a grid of color patches and a grayscale strip.

FOODS CORPORATION

DATE	27-05-22 16:15
SITE ID	MUS-MUS-VE-005A
DEPTH RANGE	0.00 - 1.00m



FOODSUSUN, L.A. MICROSCOPE



DATE 27-08-12 16:15
SITE ID AUS-MUE-UC-005A
DEPTH RANGE 0.00 - 1.76M





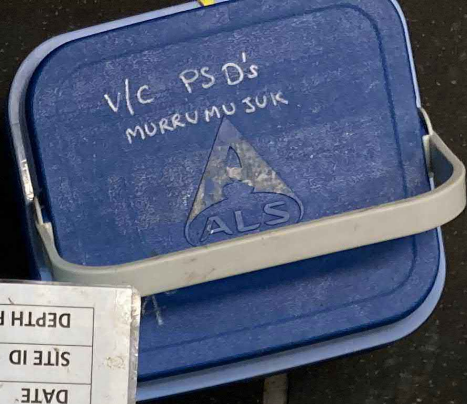
P20015-SUN_1.5 MURRUMJUK Guardian Geomatics - M.V. Offshore Solution

DEPTH RANGE	0.00 - 1.00m
SITE ID	AUS-MUR-VC-005A
DATE	27-08-22 16:15

Kodak Gray Scale
A 1 2 3 4 5 6 M 8 9 10 11 12 13 14 15 B 17 18 19

KODAK Color Control Patches
Blue Cyan Green Yellow Red Magenta White 2/Color Black





P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

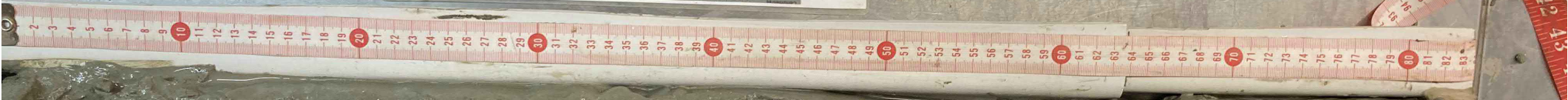
DEPTH RANGE	0.00 - 1.00m
SITE ID	AUS-MUR-VC-005A
DATE	27-08-22 16:15

Kodak Color Control Patches

Kodak Gray Scale

Color patches: Blue, Cyan, Green, Yellow, Red, Magenta, White, Black

Gray scale: A 1 2 3 4 5 6 M 8 9 10 11 12 13 14 15 B 17 18 19





P20015-SUN_1.5 MURRUMUJUK Gardian Geomatics - M.V. Offshore Solution

DEPTH RANGE	0.00 - 1.00m
SITE ID	AUS-MUR-VC-005A
DATE	27-08-22 16:15

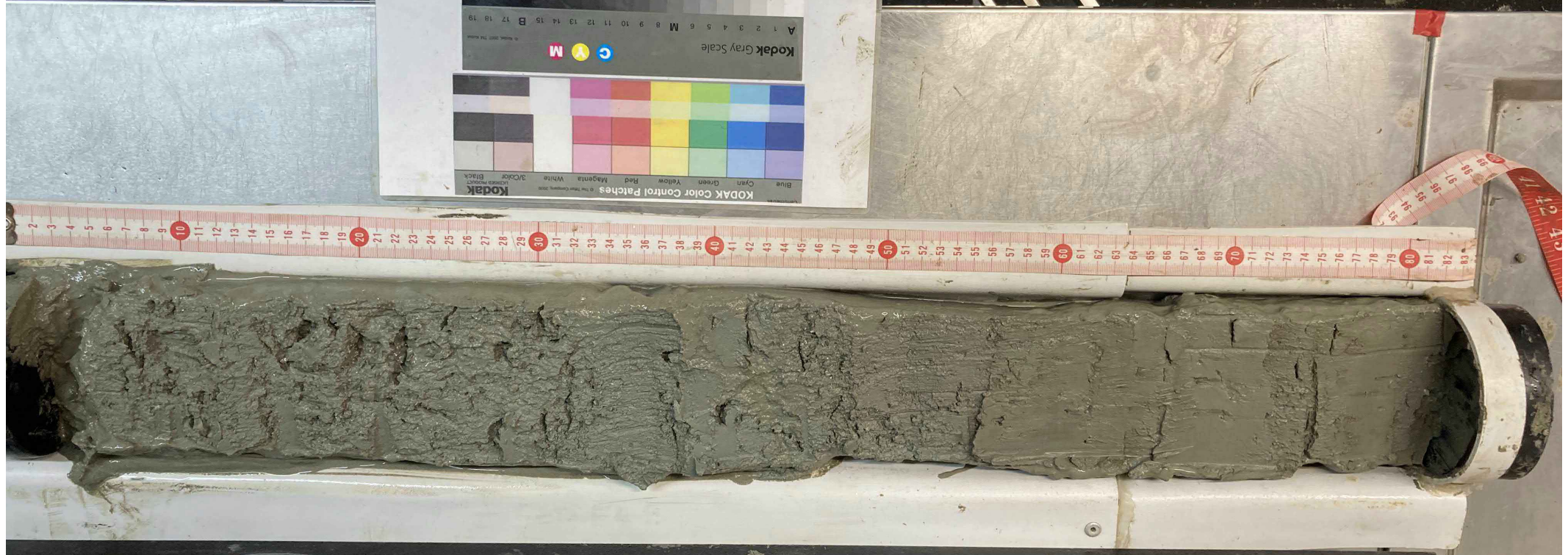
Kodak Gray Scale

A 1 2 3 4 5 6 M 8 9 10 11 12 13 14 15 B 17 18 19

KODAK Color Control Patches

Blue Cyan Green Yellow Red Magenta White Black

3/COLOR

A Kodak color control chart and gray scale. The chart includes a grid of color patches labeled Blue, Cyan, Green, Yellow, Red, Magenta, White, and Black. Above the grid is a "Kodak Gray Scale" with 19 steps labeled A through S. The chart also includes the text "KODAK Color Control Patches" and "3/COLOR".

TESTING

KODAK Color Control Patches

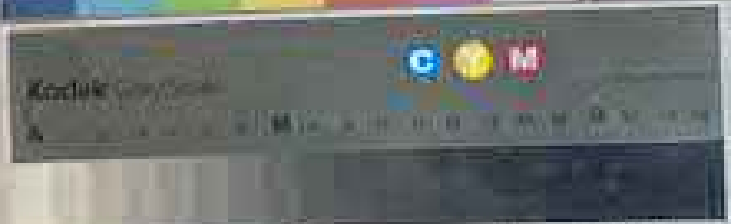
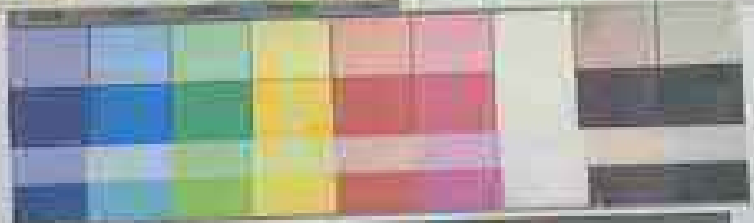
Blue	Cyan	Green	Yellow	Red	Magenta	White	Kodak
[Color Patches]							Delta

Kodak Gray Scale

P20015-SUN_1.5 MURRUMJUK Guardian Geomatics - M.V. Offshore Solution

DATE	02/09/22	0544
SITE ID	AUS-MUR-VL-6-b	
DEPTH RANGE	0 -> 1.0 m	





P20015-SUN_1.5 MURRUMDIJK Guardian Geomatics - M.V. Offshore Solution

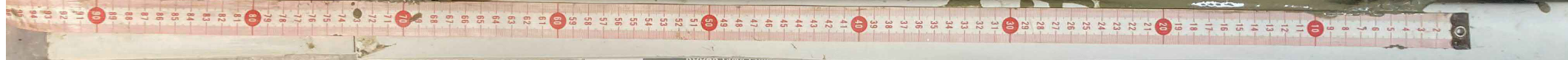
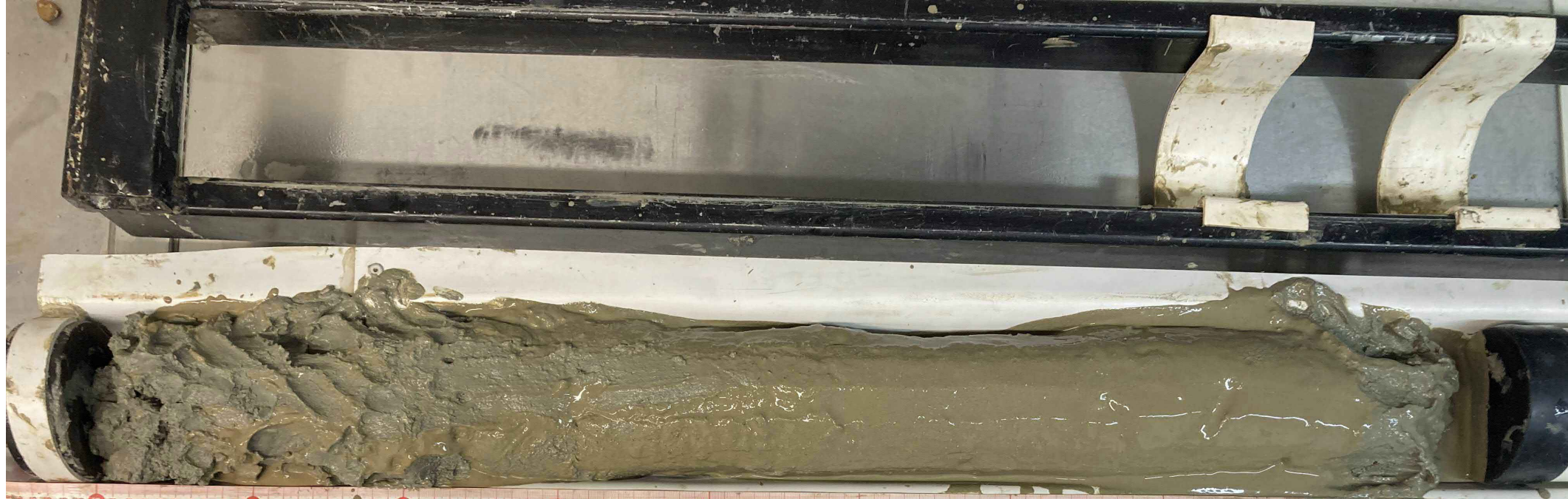
DATE	27-08-22 19:30
SITE ID	AUS-MUR-VC-006A
DEPTH RANGE	1.00 - 1.38



PORES-AUS 1.3 ARMBURG

DATE	27-05-22	19:30
SITE ID	AUS-AUS-INT-0064	
CORE NAME	G.0-1.0m	

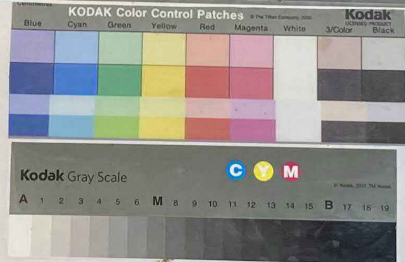




P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

DATE	27-08-22	19:30
SITE ID	AUS-MUR-VC-006A	
DEPTH RANGE	0.0-1.0M	





P20015-SUN_1.5 MURRUMJUK Guardian Geomatics - M.V. Offshore Solution

DATE	27-08-22	19:30
SITE ID	AUS-MUR-VC-006A	
DEPTH RANGE	0.0 - 1.0m	





P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics – M.V. Offshore Solution

DATE	27-08-22 19:30
SITE ID	AUS-MUR-VC-006A
DEPTH RANGE	1.00-1.38

KODAK Color Control Patches

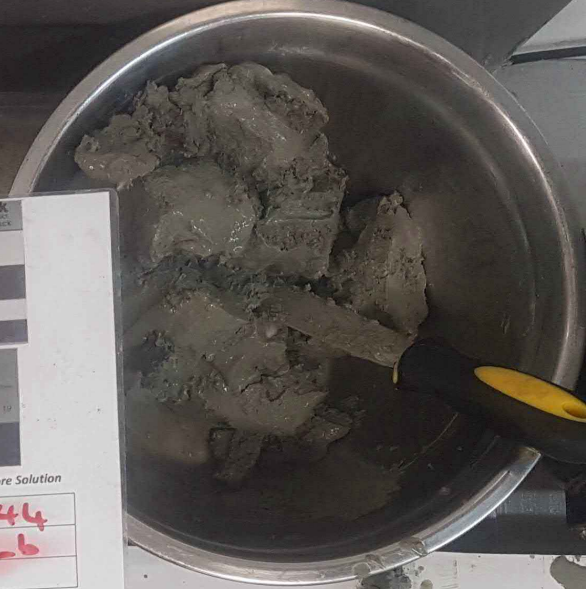
Blue	Cyan	Green	Yellow	Red	Magenta	White	3029	Black
------	------	-------	--------	-----	---------	-------	------	-------

Kodak Gray Scale

A	1	2	3	4	5	6	M	8	9	10	11	12	13	14	15	B	17	18	19
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P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

DATE	02/09/22	0544
SITE ID	AUS-MUR-V6-6-6	
DEPTH RANGE	0 → 1.0 m	



TESTING
CORRECTION

KODAK Color Control Patches

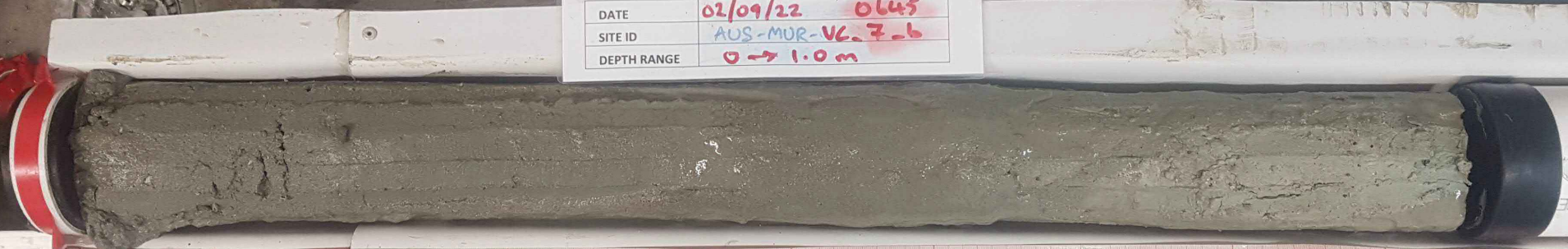
Blue	Green	Yellow	Red	White	Black
1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18

Kodak Gray Scale

A	1	2	3	4	5	6	7	8	9	10	B
---	---	---	---	---	---	---	---	---	---	----	---

P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

DATE	02/09/22	0645
SITE ID	AUS-MUR-VL-7-b	
DEPTH RANGE	0 → 1.0 m	



10 08 86



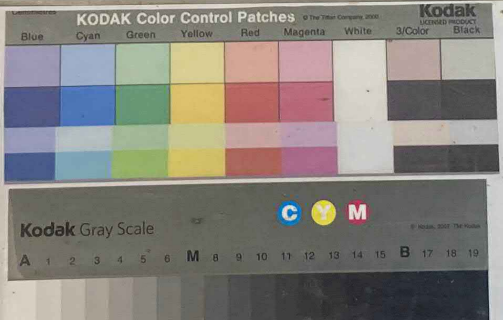
PROJECT: SUN / L.V. MURRUMUIWA / Coastal Processes / M.C. O'Brien / 2012

DATE:	27-05-12	21125
SITE ID:	AUS-MUR-VC-007	
DEPTH RANGE:	0.00 - 0.70m	

6 06 65



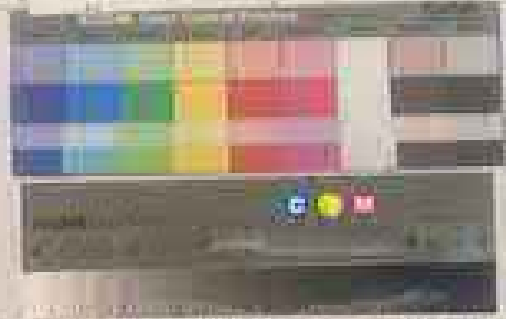
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P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

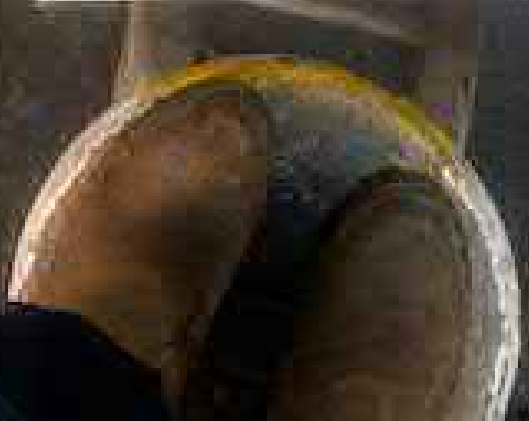
DATE	27-08-22 21:23
SITE ID	AUS-MUR-VC-007
DEPTH RANGE	0.00 - 0.70m

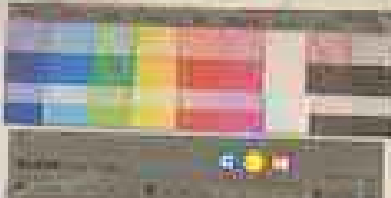
SDs
MURRUMUJUK



FORESUN 3.5 MARECHAUZE

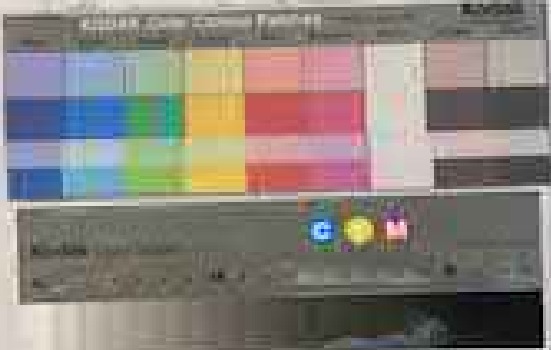
DATE	22-08-22
SITE ID	BUN-MAR-NE-007A
DEPTH RANGE	1.00 - 1.60m





FORSTNER, L.E. MUSEUM OF GEOL. & MINER. SCI., UNIVERSITY OF CALIF., BERKELEY, CALIF.

DATE 7-68-23
SITE ID Butte Mountain - core #1
DEPTH RANGE 0.0 - 1.00m



F200045-00A LS MUSEUM/UNIV

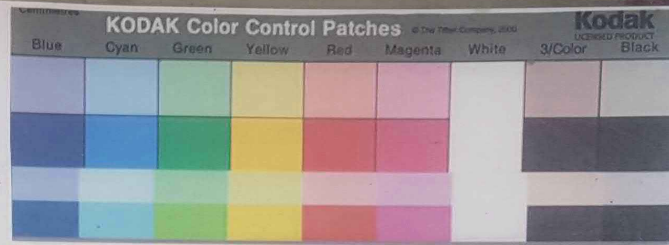
DATE:	28-08-22
SITE ID:	AUS-MUR-NC-008
DEPTH RANGE:	0.0-0.58m



007A
5.

MI A/G P

SEAS OFFSHORE 10



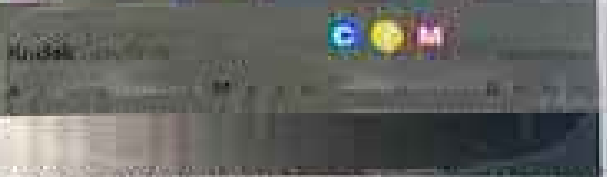
P20015-SUN_1.5 MURRUMJUK Guardian Geomatics - M.V. Offshore Solution

DATE	28-08-22	0218
FILE ID	AUS-MUR-UC-008A	
DEPTH RANGE	0.00 - 1.00m	

AUS-MUR-UC-08A

TOP





P20015-SUN_1-5 MURUMUJUK Gunung Geomatics - M.V. Othman 500 200

DATE	28-08-22
SITE ID	AUS-MUR-NC-003A
DEPTH RANGE	0.0 - 0.50m

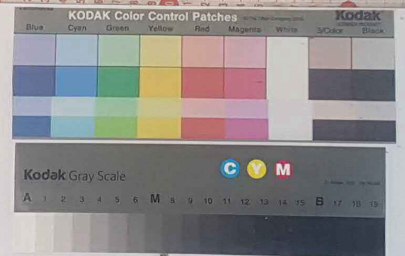
SEAS OFFSHORE 100mm PIPE 19-01-09
MT A/G P
0.5m
SEAS OFFSHORE 100mm PIPE 19-01-09
MT A/G P
0.5m

AUS-MUR-UC-08

AUS-MUR-UC-08

0.2

1.0



P20015-SUN_1.5 MURRUMJUK Guardian Geomatics - M.V. Offshore Solution

DATE	28-08-22	0648
SITE ID	AUS-MUR-UC-51-B	
DEPTH RANGE	0.00 - 1.00m	



KODAK Color Control Patches

Blue	Cyan	Green	Yellow	Red	Magenta	White	30°C	Black
1	2	3	4	5	6	7	8	9

Kodak Gray Scale

A	1	2	3	4	5	6	M	8	10	11	12	13	14	15	B	17	18	19
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P20015-SUN_1.5 MURRUMUJUK Guardian Geomatics - M.V. Offshore Solution

DATE	28-08-12
SITE ID	AUS-MUR-VC-51-B
DEPTH RANGE	0.00 - 1.00m