



Port Expansion Project EIS

Appendix J1
Sediment Stratigraphy and
Subsurface Cross Sections

SEDIMENT TYPE DEPTH PROFILES

Stratigraphy at four representative boreholes in the Outer Harbour and sediment surface cross sections for boreholes collected along two transects across the Outer Harbour

Diagrams provided courtesy of Golder Associates Pty Ltd. All diagrams show data collected during borehole drilling during a geotechnical investigation undertaken for the Port of Townsville. *From: Golder (2008) Offshore Geotechnical Investigation and Acid Sulfate Soils Investigation. Prepared for Port of Townsville Limited by Golder Associates, Townsville.*

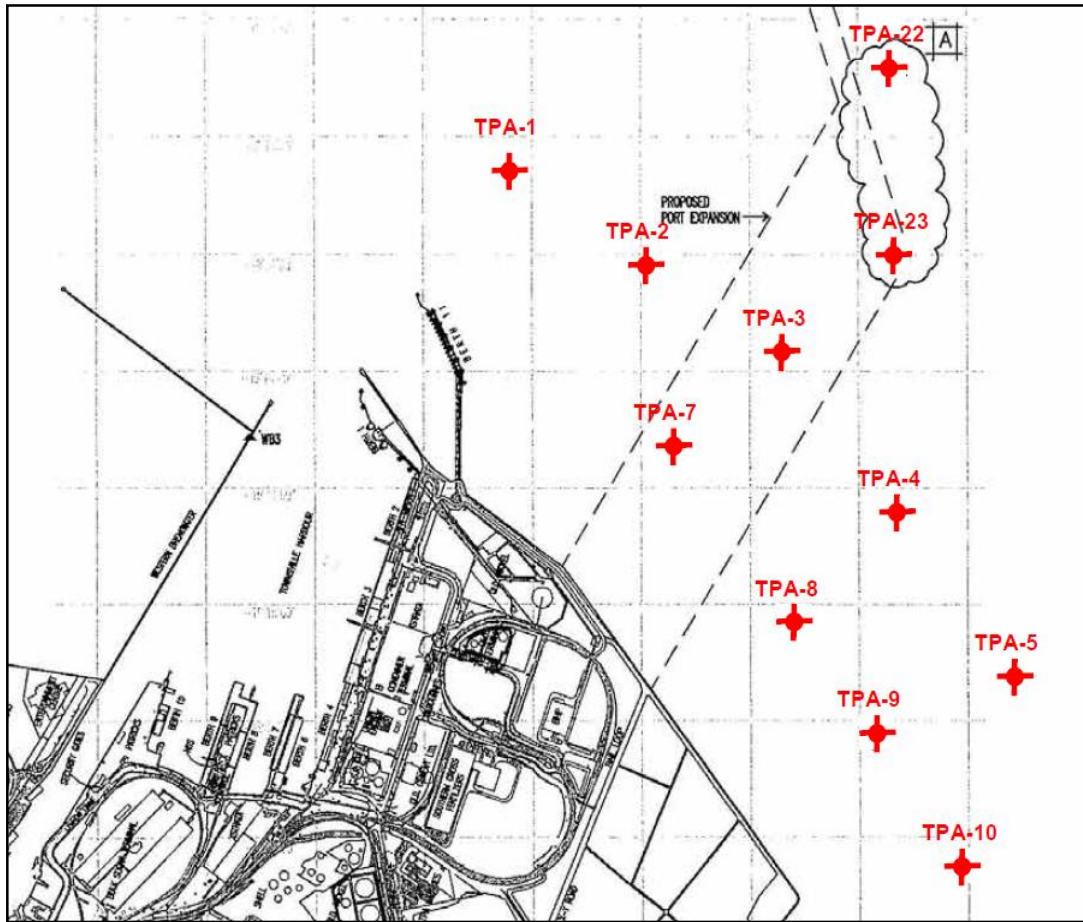


Figure 1 Locations of Golder (2008) boreholes tested within the Outer Harbour area



REPORT OF BOREHOLE: TPA04

CLIENT: Townsville Port Authority
 PROJECT: Offshore Drilling Project
 LOCATION: Townsville Port - Cleveland Bay
 JOB NO: 077692009

COORDS: 484059 m E 7871715 m N 55 AMG66
 SURFACE RL: -3.00 m DATUM: LAT
 INCLINATION: -90°
 HOLE DIA: 100 mm HOLE DEPTH: 12.45 m

SHEET: 1 OF 1
 DRILL RIG: Rason
 DRILLER: Double J Drilling
 LOGGED: KSR DATE: 13/12/07
 CHECKED: SE/SA-BDATE: 14/3/08

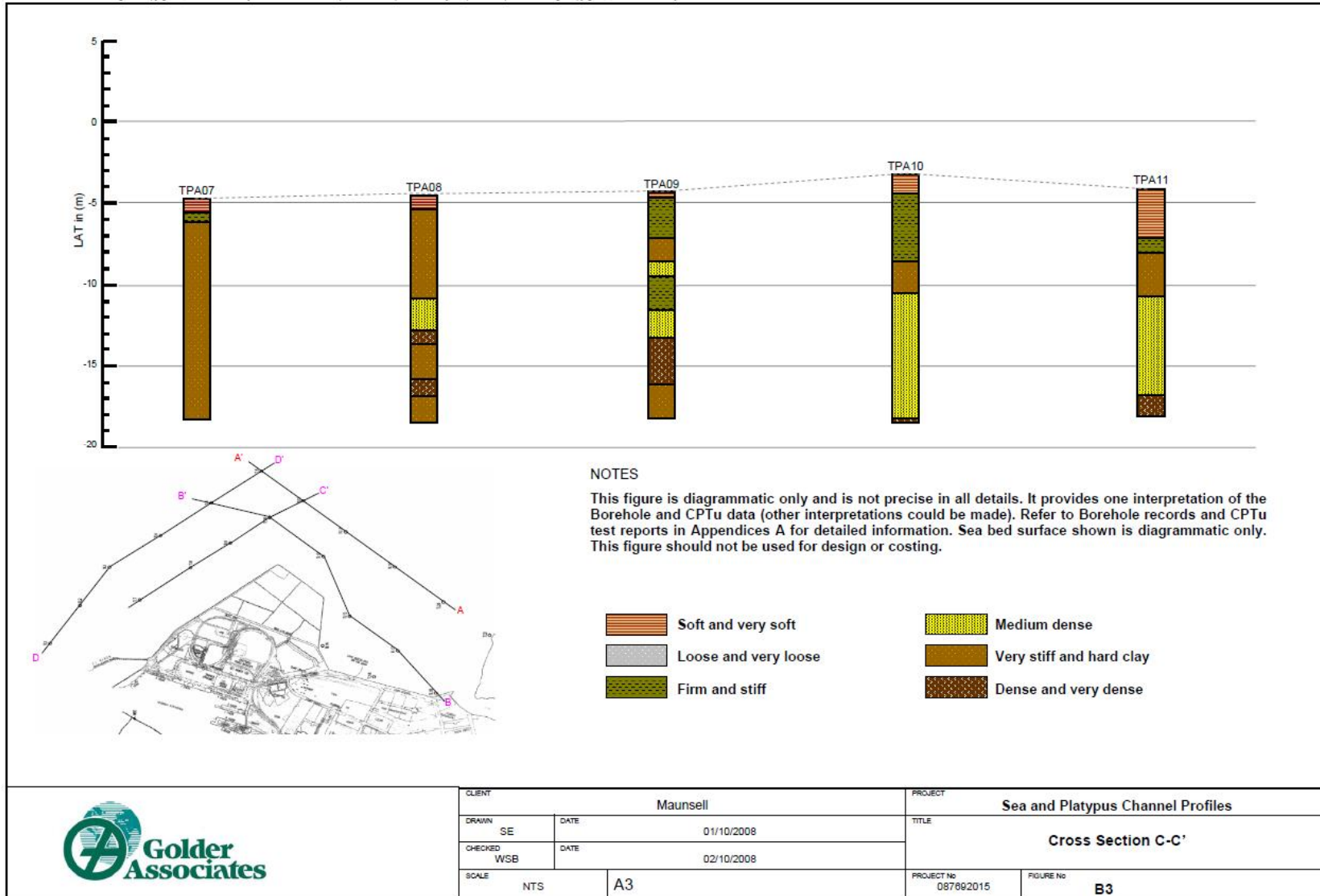
Drilling		Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE WATER	DEPTH (meters)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS
		0	-3.00			CI	Sandy CLAY Medium to high plasticity, dark grey, fine to coarse sand	W	SL
		1	-4.40	US0 1.50-1.75 m PP = 280 kPa		SC	Grading to clayey SAND at 1.2m depth Clayey SAND Fine to coarse sand, dark grey, medium plasticity, wet, medium dense	W	SL
		2	-5.80	SPT 3.00-3.45 m 9,8,8 N = 16			Grading to SAND with some clay		
		3	-7.20	SPT 4.50-4.95 m 7,8,8 N = 16		SW	SAND Fine to coarse sand, grey, wet, medium dense with some clay and fine to medium gravel Grading to clayey SAND at 5.0m depth Grading to SAND at 5.5m depth	W	MD
		4	-8.60	SPT 6.00-6.45 m 7,8,12 N = 20		SW	Grading to brown/orange, grey with some clay at 6.0m depth Layer of fine to medium gravel at 6.3m depth		
		5	-10.00	SPT 7.50-7.95 m 9,9,8 N = 17		SC	Clayey SAND/SAND Fine to coarse sand, brown, medium plasticity, wet, medium dense with some bands of fine to medium gravel Band of fine to medium gravel at 7.8m depth		
		6	-11.40	SPT 9.00-9.45 m 10,10,9 N = 19		SC	Clayey Gravelly SAND Fine to coarse sand, grey and brown, medium plasticity, fine to medium gravel, wet, medium dense		
		7	-12.80	SPT 10.50-10.95 m 11,13,20 N = 33			Grading to dense at 10.5m depth	M	D
		8	-14.20	SPT 12.00-12.45 m 8,11,16 N = 27		SC	Clayey SAND Fine to coarse sand, grey, high plasticity, wet, medium dense	W	MD
		9	-15.60				END OF BOREHOLE @ 12.45 m		

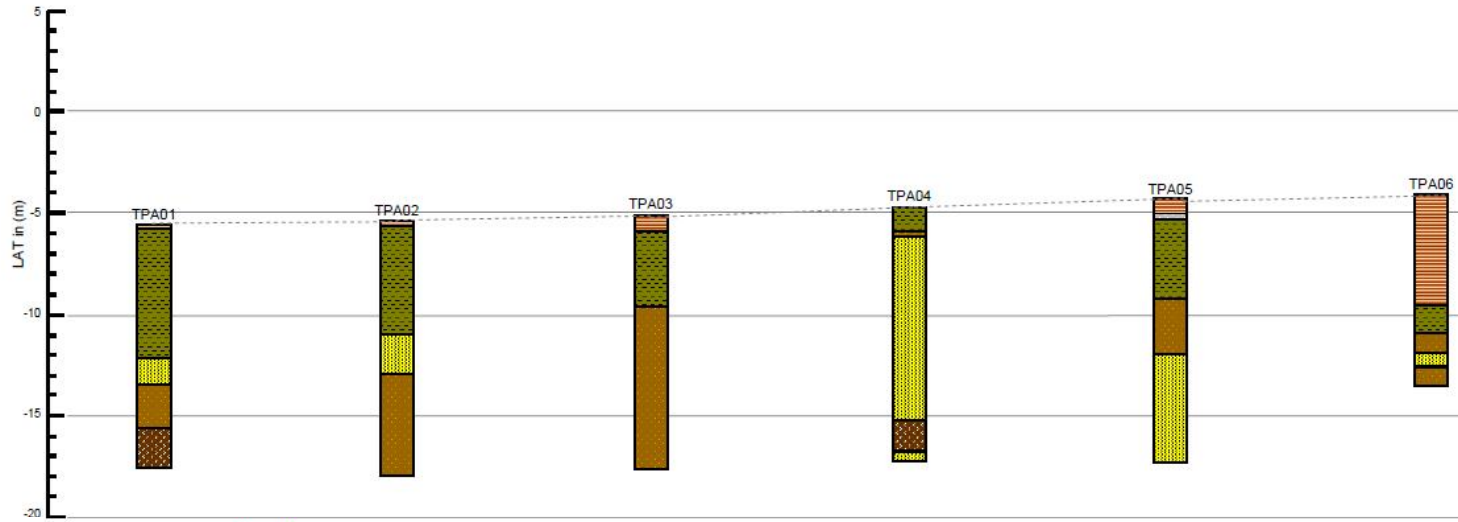
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This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

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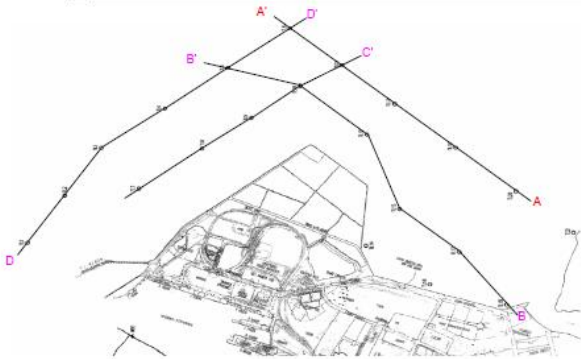
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NOTES

This figure is diagrammatic only and is not precise in all details. It provides one interpretation of the Borehole and CPTu data (other interpretations could be made). Refer to Borehole records and CPTu test reports in Appendices A for detailed information. Sea bed surface shown is diagrammatic only. This figure should not be used for design or costing.



- Soft and very soft
- Loose and very loose
- Firm and stiff
- Medium dense
- Very stiff and hard clay
- Dense and very dense



CLIENT Maunsell		PROJECT Sea and Platypus Channel Profiles	
DRAWN SE	DATE 01/10/2008	TITLE Cross Section D-D'	
CHECKED WSB	DATE 02/10/2008		
SCALE NTS	A3	PROJECT No 087092015	FIGURE No B4

