



Borehole No.

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BOREHOLE LOG

Client: HELM PTY LTD
Project: PROPOSED RESIDENTIAL DEVELOPMENT
Location: 177 RUSSELL AVENUE, DOLLS POINT, NSW

Job No.: 29353S **Method:** SPIRAL AUGER & CASING ADVANCER **R.L. Surface:** ~1.3 m
Date: 3/5/16 **Datum:** AHD
Plant Type: JK308 **Logged/Checked By:** A.B./P.S.

Groundwater Record	SAMPLES				Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
	ES	U50	DB	DS										
							-13			SAND: fine to medium grained, grey. (continued)	W	D		
					N = 38 17,28,10		15							
							-14							
							16		SC	CLAYEY SAND: fine to medium grained, light grey and yellow brown, trace of shell fragments.	W	(MD - D)		
							-15							
							17							
							-16							
					N = 18 3,7,11		18					MD		
							-17							
							19							
							-18							
							20							
							-19							



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Groundwater Record	SAMPLES			Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
	ES	U50	DB	DS									
						-20			CLAYEY SAND: fine to medium grained, light grey.	W	MD		ATTEMPTED CORING BUT STOPPED DUE TO LOOSE MATERIAL (NOT ROCK)
						22							
						-21							
						23					(D)		HIGH CASING ADVANCER RESISTANCE
						-22							
						24							
						-23			REFER TO CORED BOREHOLE LOG				
						25							
						-24							
						26							
						-25							
						27							
						-26							

CORED BOREHOLE LOG

Client: HELM PTY LTD
Project: PROPOSED RESIDENTIAL DEVELOPMENT
Location: 177 RUSSELL AVENUE, DOLLS POINT, NSW

Job No.: 0 **Core Size:** NMLC **R.L. Surface:** ~1.3 m
Date: 3/5/16 **Inclination:** VERTICAL **Datum:** AHD
Plant Type: JK308 **Bearing:** N/A **Logged/Checked By:** A.B./P.S.

Water Level Loss/Lift	Barrel Lift	RL (m AHD)	Depth (m)	Graphic Log	CORE DESCRIPTION Rock Type, grain characteristics, colour, structure, minor components.	Weathering	Strength	POINT LOAD STRENGTH INDEX $I_p(50)$	DEFECT DETAILS	
									DEFECT SPACING (mm)	DESCRIPTION Type, inclination, thickness, planarity, roughness, coating.
								EL-0.03 VL-0.1 L-0.3 M-1 H-3 VH-10 EH	500 300 100 50 30 10	Specific General
		-22								
			24		START CORING AT 24.04m					
		-23			CLAYEY SAND: fine to medium grained, grey.		(D)			
					SANDSTONE: fine to coarse grained, light grey.	SW	L			(24.44m) XWS, 0°, 5 mm.t
					SANDSTONE: fine to coarse grained, light grey, orange brown and red brown, trace of fine grained quartz gravel, cross bedded at 20°.		H			(25.10m) Be, 20°, P, S, CLAY INFILL
		-25								
			26							(26.03m) Be, 20°, P, S, CLAY INFILL
		-26								
			27		END OF BOREHOLE AT 26.60 m					
		-28								
			29							
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		-100								

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BOREHOLE LOG

Logged/Checked By: A.B./P.S.

Groundwater Record	SAMPLES				Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
	ES	U50	DB	DS										
					REFER TO EFCP TEST RESULTS				-	FILL: Silty sand, fine grained, brown, trace of roots and root fibres.	M			GRASS COVER
									SP	FILL: Sand, fine to medium grained, grey brown, trace of fine grained sandstone gravel. SAND: fine to medium grained, grey.	M W	VL - L		MARINE
												L - MD		CASING ADVANCER
												MD		

Borehole No.

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BOREHOLE LOG

Client: HELM PTY LTD
Project: PROPOSED RESIDENTIAL DEVELOPMENT
Location: 177 RUSSELL AVENUE, DOLLS POINT, NSW

Job No.: 29353S

Method: SPIRAL AUGER & CASING ADVANCER

R.L. Surface: ~1.6 m

Date: 5/5/16

Datum: AHD

Plant Type: JK308

Logged/Checked By: A.B./P.S.

Groundwater Record	SAMPLES				Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
	ES	U50	DB	DS										
					N = 14 3,6,8	-6			SM	SILTY SAND: fine grained, dark grey.	W	MD		CASING ADVANCER
							8		SP	SAND: fine grained, grey, with silt.				CUTTING HEAD CLEAN
					N = 11 1,4,7	-9						MD - D		LITTLE TO NO CHANGE IN FLUSH RETURN TO 14.7m DEPTH
						-10								
						-11								
						-12								
												D - VD		
												VL - L		
												MD - D		
												VD		

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Borehole No.
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BOREHOLE LOG

Client: HELM PTY LTD
Project: PROPOSED RESIDENTIAL DEVELOPMENT
Location: 177 RUSSELL AVENUE, DOLLS POINT, NSW

Job No.: 29353S **Method:** SPIRAL AUGER & CASING ADVANCER **R.L. Surface:** ~1.6 m
Date: 5/5/16 **Datum:** AHD
Plant Type: JK308 **Logged/Checked By:** A.B./P.S.

Groundwater Record	SAMPLES			Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/Weathering	Strength/Rel Density	Hand Penetrometer Readings (kPa)	Remarks
	ES	U50	DB	DS									
						-13		SP	SAND: fine grained, grey, with silt. (continued)	W	D - VD		LITTLE TO NO CHANGE IN FLUSH RETURN TO 14.7m DEPTH
						15							
						-14		CH	SILTY CLAY: high plasticity, grey, with fine grained sand.	MC>PL	F - St	90 70	CLAY RETURNED IN WATER FLUSH
						16							
						-15			as above, but red brown.		H		BROWN WATER FLUSH TO 16.8m DEPTH
						17		SC	CLAYEY SAND: fine to medium grained, light grey mottled yellow brown.	W	MD		
						-16							
						18							
						-17							
						19							
						-18							
						20		SP	SAND: fine to medium grained, light grey, trace of clay.		D		OBSERVATION BASED ON DRILLING RESISTANCE TO 20.7m DEPTH
						-19							

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BOREHOLE LOG

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Job No.: 29353S **Method:** SPIRAL AUGER & CASING ADVANCER **R.L. Surface:** ~1.6 m
Date: 5/5/16 **Datum:** AHD
Plant Type: JK308 **Logged/Checked By:** A.B./P.S.

Groundwater Record	SAMPLES				Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
	ES	U50	DB	DS										
							-20		SP	SAND: fine to medium grained, light grey, trace of clay. <i>(continued)</i>	W	D		
							22							
							-21							
							23		-	SANDSTONE: fine to medium grained, light grey.	SW	M		
							-22			REFER TO CORED BOREHOLE LOG				NOTE THAT SOIL STRENGTHS HAVE BEEN INTERPOLATED WITH REFERENCE TO ADJACENT EFCP TEST
							24							
							-23							
							25							
							-24							
							26							
							-25							
							27							
							-26							

CORED BOREHOLE LOG

Client: HELM PTY LTD
Project: PROPOSED RESIDENTIAL DEVELOPMENT
Location: 177 RUSSELL AVENUE, DOLLS POINT, NSW

Job No.: 0 **Core Size:** NMLC **R.L. Surface:** ~1.6 m
Date: 5/5/16 **Inclination:** VERTICAL **Datum:** AHD
Plant Type: JK308 **Bearing:** N/A **Logged/Checked By:** A.B./P.S.

Water Level	Barrel Lift	RL (m AHD)	Depth (m)	Graphic Log	CORE DESCRIPTION Rock Type, grain characteristics, colour, structure, minor components.	Weathering	Strength	POINT LOAD STRENGTH INDEX $I_p(50)$	DEFECT DETAILS	
									DEFECT SPACING (mm)	DESCRIPTION Type, inclination, thickness, planarity, roughness, coating.
								EL-0.03 VI-0.1 L-0.3 M-1 H-3 VH-10 EH	500 300 100 50 30 10	Specific General
		-21	23		START CORING AT 23.16m					
		-22	24		SANDSTONE: fine to medium grained, light grey, bedded at 5-10°.	SW	M - H			(23.45m) Be, 0°
		-23	25		as above, but bedded at 0-5°.	FR	H			(23.75m) Be, 0°, P, R, CLAY INFILL
		-24	26		SANDSTONE: fine to medium grained, light grey, orange brown and red brown, cross bedded at 15-20°.	SW				(24.51m) XWS, 0°, 70 mm.t, P, R
		-25	27		SANDSTONE: fine to medium grained, light grey with brown and grey bands, bedded at 15°.					(25.34m) CS, 0°, 5 mm.t
		-26	28		END OF BOREHOLE AT 26.10 m					(26.00m) Be, 15°, P, S, IS
		-27								



Borehole No.

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BOREHOLE LOG

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Location: 177 RUSSELL AVENUE, DOLLS POINT, NSW

Job No.: 29353S

Method: SPIRAL AUGER & CASING ADVANCER

R.L. Surface: ~1.6 m

Date: 2/5/16

Datum: AHD

Plant Type: JK308

Logged/Checked By: A.B./P.S.

Groundwater Record	SAMPLES			Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
	ES	U50	DB	DS									
									FILL: Silty sand, fine grained, grey brown.	M			GRASS COVER
						1		SP	SAND: fine to medium grained, light brown.	M	VL		APPEARS POORLY COMPACTED MARINE
						1							
						0			SAND: fine to medium grained, grey and grey brown, trace of organic material, roots and shell fragments.	W			
						2							
						-1							
						3							
						-2							
						4							
						-3							
						5							
						-4							
						6							
						-5							
													WASHBORING WITH CASING ADVANCER

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