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CLIENT : TRANSPORT AND MAIN ROADS

POSITION : E: 358642, N: 8137284 (56 MGA94)

PAGE : 1 OF 3

PROJECT : TNRP

SURFACE ELEVATION : 336.7 (AHD)

DATE DRILLED : 11/2/12 TO 11/2/12




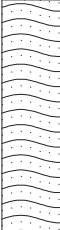
JOB NO : CB27000.F687

DIP / AZIMUTH : 90°

LOGGED BY : KMF

LOCATION : KENNEDY HWY (CAIRNS - MAREEBA)

CHECKED BY : AJ

DRILLING					MATERIAL							
PROGRESS		PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	STRUCTURE & Other Observations
DRILLING & CASING	WATER											
<div>AD/V</div>		H		<div>1.00m SPT 1/5mm HB N=R 1.01m</div>	336.7	0.0			0.08m ASPHALT: (0.08 m).	D		FILL
		F			GP	0.70m SANDY GRAVEL (GP): Grey, fine to medium gravel, angular, fine to coarse grained sand, with fines.						
					CI-CH	1.00m SANDY CLAY (CI-CH): Red brown, medium to high plasticity, medium to coarse grained sand.		RESIDUAL SOIL				
<div>WB</div>					335.7	1.0			QUARTZITE: Red brown, grey brown, extremely weathered, extremely low strength, appears as . CLAYEY GRAVEL (GC), fine to coarse gravel, angular.		VD	EXTREMELY WEATHERED ROCK
					334.7	2.0		2.00m	Continued as Cored Drill Hole			
			NOT OBSERVED		333.7	3.0						
					332.7	4.0						
					331.7	5.0						
					330.7	6.0						

DRILLING				SAMPLES & FIELD TESTS				DENSITY (SPT N-value)		CONSISTENCY (Su) {N-value}			
HA	Hand Auger	RR	Rock Rolling	DS	Disturbed Sample	SPT Standard Penetration Test		VL	Very Loose	0 - 4	VS	Very Soft	< 12 kPa {0-2}
AS	Auger Screw	AT	Air Track	ES	Env Soil Sample	U Undisturbed Tube Sample		L	Loose	4 - 10	S	Soft	12 - 25 {2-4}
AD/T	Auger Drill TC-bit	HQ	HQ Coring	EW	Env Water Sample	W Water Sample		MD	Medium Dense	10 - 30	F	Firm	25 - 50 {4-8}
AD/V	Auger Drill V-bit	NQ	NQ Coring					D	Dense	30 - 50	St	Stiff	50 - 100 {8-15}
WB	Washbore	NMLC	NMLC Coring					VD	Very Dense	50 - 100	VSt	Very Stiff	100 - 200 {15-30}
DRILLING PENETRATION				MOISTURE CONDITION				CO	Compact	>50/150mm	H	Hard	> 200 kPa {>30}
VE	Very Easy	F	Firm	VE	Very Easy	D = Dry M = Moist W = Wet							
E	Easy	H	Hard										
GROUNDWATER SYMBOLS													
▼ = Water level (static)													
▽ = Water level (during drilling)													



CORED BOREHOLE ENGINEERING LOG HOLE NO : N071B_BH01

CLIENT : TRANSPORT AND MAIN ROADS POSITION : E: 358642, N: 8137284 (56 MGA94) PAGE : 2 OF 3
PROJECT : TNRP SURFACE ELEVATION : 336.7 (AHD) DATE DRILLED : 2/11/12 TO 2/11/12
JOB NO : CB27000.F687 DIP / AZIMUTH : 90° LOGGED BY : KMF
LOCATION : KENNEDY HWY (CAIRNS - MAREEBA) CONTRACTOR : SAXON DRILLING CHECKED BY : AJ

DRILLING					MATERIAL		DEFECTS & COMMENTS				
DRILLING	WATER DETAIL	TCR/RQD DEPTH	RL (m)	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	Weathering	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral	DEFECT SPACING (mm)	COMMENTS Description of joints, seams, defects, additional observations and comments	GENERAL
			336.7	0.0				EL -0.03 VL -0.1 L -0.3 M -1 H -3 VH -10 EH	20 60 200 600 2000		
				335.7	1.0						

DRILLING				SAMPLES & FIELD TESTS				DEFECT ABBREVIATIONS				ROCK STRENGTH (Is50 MPa)			
NMLC	NMLC Coring	HQ	HQ Coring	D	Disturbed Sample	ES	Env Soil Sample	CS	Crushed Seam	CN	Clean	Cu	Curved	0-0.03	Extremely Low
NQ	NQ Coring	PQ	PQ Coring	W	Water Sample	EW	Env Water Sample	CZ	Crushed Zone	CT	Coating	IR	Irregular	0.03-0.1	Very Low
				SPT	SPT Sample			DB	Drill Break	SN	Stain	PR	Planar	0.1-0.3	Low
				U	Undisturbed Tube Sample			FZ	Fractured Zone	VR	Veneer	ST	Stepped	0.3-1.0	Medium
								JT	Joint			Un	Undulated	1.0-3.0	High
								IS	Infilled Seam	POL	Polished			3.0-10	Very High
								SZ	Shear Zone	RF	Rough				
								VN	Vein	S	Smooth				
										SL	Slickensided				


TCR

% core run recovered


RQD

% core run > 100mm long
(rock fraction only measured)

GROUNDWATER SYMBOLS



= Water level (static)



= Water level (during drilling)

CLIENT : TRANSPORT AND MAIN ROADS

POSITION : E: 358642, N: 8137284 (56 MGA94)

PAGE : 3 OF 3

PROJECT : TNRP

SURFACE ELEVATION : 336.7 (AHD)

DATE DRILLED : 2/11/12 TO 2/11/12

JOB NO : CB27000.F687

DIP / AZIMUTH : 90°



LOGGED BY : KMF

LOCATION : KENNEDY HWY (CAIRNS - MAREEBA)


CONTRACTOR : SAXON DRILLING

CHECKED BY : AJ

DRILLING				MATERIAL				DEFECTS & COMMENTS			
DRILLING	WATER DETAIL	TCR/RQD DRILL DEPTH	RL (m)	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	Weathering	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral	DEFECT SPACING (mm)	COMMENTS Description of joints, seams, defects, additional observations and comments	GENERAL
NMLC ↓		100% TCR 100% RQD 6.65	330.7	6.0		QUARTZITE: Grey green, indistinct to distinct foliation at 30° to 40°. (continued)	MW - SW	EL -0.03 VI -0.1 L -0.3 M -1 H -3 VH -5 EH 10	30 60 90 120 150 180 210 240 270 300 330 360 390 420 450 480 510 540 570 600 630 660 690 720 750 780 810 840 870 900 930 960 990 1020 1050 1080 1110 1140 1170 1200 1230 1260 1290 1320 1350 1380 1410 1440 1470 1500 1530 1560 1590 1620 1650 1680 1710 1740 1770 1800 1830 1860 1890 1920 1950 1980 2010 2040 2070 2100 2130 2160 2190 2220 2250 2280 2310 2340 2370 2400 2430 2460 2490 2520 2550 2580 2610 2640 2670 2700 2730 2760 2790 2820 2850 2880 2910 2940 2970 3000 3030 3060 3090 3120 3150 3180 3210 3240 3270 3300 3330 3360 3390 3420 3450 3480 3510 3540 3570 3600 3630 3660 3690 3720 3750 3780 3810 3840 3870 3900 3930 3960 3990 4020 4050 4080 4110 4140 4170 4200 4230 4260 4290 4320 4350 4380 4410 4440 4470 4500 4530 4560 4590 4620 4650 4680 4710 4740 4770 4800 4830 4860 4890 4920 4950 4980 5010 5040 5070 5100 5130 5160 5190 5220 5250 5280 5310 5340 5370 5400 5430 5460 5490 5520 5550 5580 5610 5640 5670 5700 5730 5760 5790 5820 5850 5880 5910 5940 5970 6000 6030 6060 6090 6120 6150 6180 6210 6240 6270 6300 6330 6360 6390 6420 6450 6480 6510 6540 6570 6600 6630 6660 6690 6720 6750 6780 6810 6840 6870 6900 6930 6960 6990 7020 7050 7080 7110 7140 7170 7200 7230 7260 7290 7320 7350 7380 7410 7440 7470 7500 7530 7560 7590 7620 7650 7680 7710 7740 7770 7800 7830 7860 7890 7920 7950 7980 8010 8040 8070 8100 8130 8160 8190 8220 8250 8280 8310 8340 8370 8400 8430 8460 8490 8520 8550 8580 8610 8640 8670 8700 8730 8760 8790 8820 8850 8880 8910 8940 8970 9000 9030 9060 9090 9120 9150 9180 9210 9240 9270 9300 9330 9360 9390 9420 9450 9480 9510 9540 9570 9600 9630 9660 9690 9720 9750 9780 9810 9840 9870 9900 9930 9960 9990 10020 10050 10080 10110 10140 10170 10200 10230 10260 10290 10320 10350 10380 10410 10440 10470 10500 10530 10560 10590 10620 10650 10680 10710 10740 10770 10800 10830 10860 10890 10920 10950 10980 11010 11040 11070 11100 11130 11160 11190 11220 11250 11280 11310 11340 11370 11400 11430 11460 11490 11520 11550 11580 11610 11640 11670 11700 11730 11760 11790 11820 11850 11880 11910 11940 11970 12000	— JT 30° UN RF	
			329.7	7.0							
			328.7	8.0							
			327.7	9.0							
			326.7	10.0							
			325.7	11.0							
			324.7	12.0							

DRILLING				SAMPLES & FIELD TESTS				DEFECT ABBREVIATIONS				ROCK STRENGTH (Is50 MPa)			
NMLC	NMLC Coring	HQ	HQ Coring	D	Disturbed Sample	ES	Env Soil Sample	CS	Crushed Seam	CN	Clean	Cu	Curved	0-0.03	Extremely Low
NQ	NQ Coring	PQ	PQ Coring	W	Water Sample	EW	Env Water Sample	CZ	Crushed Zone	CT	Coating	IR	Irregular	0.03-0.1	Very Low
				SPT	SPT Sample			DB	Drill Break	SN	Stain	PR	Planar	0.1-0.3	Low
				U	Undisturbed Tube Sample			FZ	Fractured Zone	VR	Veneer	ST	Stepped	0.3-1.0	Medium
	TCR % core run recovered							JT	Joint			Un	Undulated	1.0-3.0	High
	RQD % core run > 100mm long (rock fraction only measured)							IS	Infilled Seam	POL	Polished			3.0-10	Very High
								SZ	Shear Zone	RF	Rough				
								VN	Vein	S	Smooth				
										SL	Slickensided				
GROUNDWATER SYMBOLS															
		= Water level (static)													
		= Water level (during drilling)													



		Client: Transport and Main Roads	
		Project: Transport Network Reconstruction Program	
drawn	KMF	Core Photograph – N071B_BH01	
date	08/11/2012	Project no. CB27000	
scale	NTS	Photo No: N071B_BH01 1 of 1	