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## **GEOTECHNICAL BOREHOLE LOG**

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 FINAL 18/03/2016

**BH256** BOREHOLE No

Sheet 1 of 4

H12265 REFERENCE No

Mackay Ring Road PROJECT Pioneer River Bridge, Pier 18 (CL) COORDINATES 721366.2 E; 7660628.1 N LOCATION FG6184 PLUNGE 90° DATE STARTED 15/07/2015 GRID DATUM GDA 94 / MGA Z55 SURFACE RL 5.56m PROJECT No 242/10G/906 DATE COMPLETED 16/07/2015 **DRILLER Saxon Drilling** JOB No HEIGHT DATUM A.H.D. BEARING USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING SAMPLES TESTS Ê LITHOLOGY AND TEST RESULTS STRENGTH RΙ DEPTH SAMP MATERIAL DESCRIPTION (m) CORE REC % ᅾᆂᆂᆂᆋᆛᅿᆲᅵᇊᆼᇅᄛᇂᇂᇕ Clayey Sandy SILT (Topsoil) (ML) SPT Dark brown, moist, firm. 5.16 Silty SAND (Alluvium) Pale grey, dry, loose. (SM) SPT Fine grained sand. 4.46 Silty Sandy CLAY (Alluvium) SPT Dark brown, moist, firm. N=5 (CI) 3.76 SPT Silty SAND (Alluvium) Pale grey, dry, loose. В SPT Fine grained sand. (SM) 2.50m: becomes very loose. Вх SPT 2.56 Clayey SAND (Alluvium) С SPT Orange brown, wet, very loose. Fine to medium grained sand. 3.5m: Becomes loose. SPT 1, 4, 5 (SC) 4.00m: becomes fine to medium D grained sand. Clay content SPT decreasing. Dx SPT 2. 3. 4 0.56 SAND (Alluvium) Ε SPT 3, 6, 11 N=17 Orange brown, wet, medium dense. Fine to coarse grained sand. SPT 3, 13, 8 6.00m: becomes coarse grained sand, trace fine to medium grained SPT gravel, rounded grains. N=13 (SP) 5, 8, 13 G SPT N=2: SPT 6. 8. 10 7.80m: fine to medium grained -2.44 gravel, rounded to subrounded Н SPT 8, 9, 10 Clayey SAND trace silt (Alluvium) N=19 Pale grey, moist, medium dense. (SC) Fine grained sand. SPT 6, 10, 11 -3.54 Silty SAND (Alluvium) SPT 9, 11, 12 (SM) Pale orange and grey, wet, medium N=23 -3.94dense. SPT fine to medium grained sand. (SC) Continued on next sheet REMARKS: Kgwu = Wundaru Granodiorite **REVIEWED BY LOGGED BY** S.Foley C.Boyes TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

### **GEOTECHNICAL BOREHOLE LOG**

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 FINAL 18/03/2016

**BH256** BOREHOLE No

Sheet 2 of 4

H12265 REFERENCE No

Mackay Ring Road PROJECT Pioneer River Bridge, Pier 18 (CL) COORDINATES 721366.2 E; 7660628.1 N LOCATION DATE STARTED 15/07/2015 FG6184 PLUNGE 90° GRID DATUM GDA 94 / MGA Z55 SURFACE RL 5.56m PROJECT No 242/10G/906 DATE COMPLETED 16/07/2015 **DRILLER Saxon Drilling** JOB No HEIGHT DATUM A.H.D. BEARING USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING SAMPLES TESTS Ê LITHOLOGY AND TEST RESULTS STRENGTH RΙ DEPTH SAMP MATERIAL DESCRIPTION CORE REC % ᅾᆃᆠᆠᄝᅩᆛᅿᆑᆝᆔᇰᄓᄝᇰᆘ Clayey SAND with gravel (Alluvium) 12, 14, 15 Clayey SAND with gravel (Alluvium) Mottled grey and pale orange, moist, medium dense. SPT 10, 10, 13 Fine grained sand, fine to medium N=23 rained gravel, rounded grains. (SC) 10.80m: becomes medium to SPT 9. 8. 10 coarse grained sand. Clay content N=18 decreasing 11.00m: fine to medium grained sand, trace fine grained gravel. SPT 12, 16, 13 N=27 -6.44CLAY trace sand (Residual) SPT Mottled grey and orange grey, 9, 10, 11 moist, very stiff. (CH) Fine to medium grained sand, SPT 10, 13, 18 medium to high plasticity. N=31 -7.44 12.80m: sand content increasing GRANODIORITE (Kgwu) SPT XW: Recovered as grey, dark grey and orange, moist, dense, silty clayey sand. Fine to medium grained sand, pyrite throughout. 14.00m: becomes very dense. SPT 21, 30/115 15 0 15.00m: becomes fine to coarse grained sand. Clay content 30/110 decreasing. 16 ΧW 17.00m: Recovered as grey, dark grey and pink, moist, very dense, Q SPT silty sand. Fine to coarse grained sand, pyrite throughout. 30/9 30/40 Continued on next sheet REMARKS: Kgwu = Wundaru Granodiorite **LOGGED BY REVIEWED BY** S.Foley C.Boyes TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

## **GEOTECHNICAL BOREHOLE LOG**

FOR GEOTECHNICAL TERMS AND

FINAL 18/03/2016

**BH256** BOREHOLE No

Sheet 3 of 4

H12265 REFERENCE No SYMBOLS REFER FORM F:GEOT 017/8-2014 Mackay Ring Road PROJECT Pioneer River Bridge, Pier 18 (CL) COORDINATES 721366.2 E; 7660628.1 N LOCATION FG6184 PLUNGE 90° DATE STARTED 15/07/2015 GRID DATUM GDA 94 / MGA Z55 SURFACE RL 5.56m PROJECT No 242/10G/906 DRILLER Saxon Drilling HEIGHT DATUM A.H.D. DATE COMPLETED 16/07/2015 JOB No BEARING USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING SAMPLES TESTS Ê LITHOLOGY AND TEST RESULTS STRENGTH RΙ MATERIAL DESCRIPTION CORE REC % ᅾᆃᆠᆂᆈᅴᅿᆿᅵᇚᆼᄓᄫᇂᇂᇦ + XW 30/35 -14.64 (0) GRANODIORITE (Kgwu) XW: Recovered as grey and dark XW grey, moist, very dense, sandy 15.34 gravel trace clay. Medium to coarse grained sand, fine grained gravel, angular grains. CORE LOSS -15.89 GRANODIORITE (Kgw) XW: (Cont'd) xw -16.44 HW GRANODIORITE (Kgwu) 22.10m-22.40m: MICRODIORITE Is(50)=6.40 MPa I (22.13m) (0) HW: Dark grey, pale grey and pink, MW (MW) 22.30m: Total water loss 100 massive, fine to coarse grained, (0)extremely low to high strength HW Js: 5° to 15°; (~10/m); PI-Un/Ro; OP; -17.59 \s: 70° to 80°; (<3/m); PI/Sm-Ro; OP; XW some Ca Vn; 23.38m-23.50m: MICRODIORITE 100 SW GRANODIORITE (Kgwu) Is(50)=8.50 MPa I (23.50m)-(0) XW: Recovered as grey and dark XW grey, moist, very dense, sandy gravel trace clay. Medium to coarse grained sand, fine grained gravel, HW angular grains. XW -19.32 Is(50)=8.70 MPa A (24.88m)-(98) GRANODIORITE (Kgwu) 25 UCS=112.00 MPa (25.02m) E=55.8 GPa SW: Speckled grey, dark grey and v= 0.16 pink, massive, coarse grained, very D (25.35m) Is(50)=9.60 MPa high strength Js: 5° to 10°; (<3/m); PI/Sm; OP; some Ca Vn; 26 Js: 70° to 80°; (<1/m); PI/Sm; CD; Ca Is(50)=8.50 MPa A (26.23m) Is(50)=14.00 MPa D (26.30m)-100 27 Is(50)=11.00 MPa D (27.00m) SW Is(50)=8.30 MPa A (27.87m)-Is(50)=12.00 MPa D (28.00m)\_ 28.35m: J, 60°, SInf, Op, Fe St Is(50)=0.70 MPa A (28.85m)\_ D (28.95m) (98) UCS=124.00 MPa (29.15m) Continued on next sheet REMARKS: Kgwu = Wundaru Granodiorite **LOGGED BY REVIEWED BY** C.Boyes S.Foley TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

# GEOTECHNICAL BOREHOLE LOG

**FINAL** 18/03/2016

BOREHOLE No BH256

Sheet 4 of 4

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 H12265 REFERENCE No Mackay Ring Road PROJECT COORDINATES 721366.2 E; 7660628.1 N Pioneer River Bridge, Pier 18 (CL) LOCATION DATE STARTED 15/07/2015 FG6184 SURFACE RL 5.56m PLUNGE 90° GRID DATUM GDA 94 / MGA Z55 PROJECT No 242/10G/906 BEARING ° DRILLER Saxon Drilling HEIGHT DATUM A.H.D. DATE COMPLETED 16/07/2015 JOB No USCS WEATHERING ADDITIONAL DATA AND TEST RESULTS INTACT STRENGTH DEFECT SPACING LITHOLOGY SAMPLES TESTS Ξ SAMPLE DEPTH ( RΙ MATERIAL DESCRIPTION CORE REC % ᇁᆂᆂᆂᅿᅿᅿᆿᆸᆔᇬᄓᄫᇂᇂᇦ GRANODIORITE (Kgwu) Is(50)=9.30 MPa Is(50)=11.00 MPa A (30.10m) SW: (Cont'd) D (30.20m) 31.00m: Js: 0° to 10°; (<1/m); PI/ Is(50)=15.00 MPa D (31.21m) Is(50)=5.50 MPa A (31.28m)-100 32 SW Is(50)=7.50 MPa A (32.23m) Is(50)=9.50 MPa D (32.36m) 33 33.00m: occasional calcite veining Is(50)=9.50 MPa Is(50)=15.00 MPa A (33.82m) D (33.92m<del>)</del> A (34.40m) 100 Is(50)=7.80 MPa -28.99 Borehole completed at 34.55m 37 REMARKS: Kgwu = Wundaru Granodiorite **LOGGED BY REVIEWED BY** C.Boyes S.Foley TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

### **CORE PHOTO LOG**

DEPARTMENT OF TRANSPORT AND MAIN ROADS Geotechnical Section 35 Butterfield Street, Herston Qld 4006 Phone 07 3066 3336



Project Name	Mackay – Ring Road (Stage 2)		
Project No.	FG6184	Date	15/07/15
Borehole No.	BH 256	TMR H No.	H12265
Location	Pioneer River Bridge	Start Depth (m)	20.20
Detail	Pier 18, centreline	Finish Depth (m)	34.55
Chainage		Submitted By	M.Ensor
Remarks			
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