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ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No **BH118**
SHEET **1** of **4**
REFERENCE No **12064**

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION Peak Downs Hwy Overpass Pier 2; CH: 5612m; COORDINATES 720972.9 E; 7657966.6 N
PROJECT No FG6184 SURFACE R.L. 12.86m PLUNGE _____ DATE STARTED 24/9/14 GRID DATUM GDA 94 /MGA Zone 55
JOB No _____ HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 1/10/14 DRILLER Saxon Drilling

| DEPTH (m) | R.L. (m) | ALGER WASH BORING CORE DRILLING | RQD () % | CORE REC % | SAMPLE | MATERIAL DESCRIPTION | LITHOLOGY | USC WEATHERING | INTACT STRENGTH | DEFECT SPACING (mm) | GRAPHIC LOG | ADDITIONAL DATA AND TEST RESULTS | SAMPLES TESTS |
|-----------|----------|---------------------------------|-----------|------------|--------|---|-----------|----------------|-----------------|---------------------|-------------|----------------------------------|---------------|
| 0 | 12.86 | | | | | Silty CLAY (TOPSOIL) Dark brown, dry to moist, stiff. High plasticity. | (CH) | | | | | | |
| 0.70 | 12.16 | | | | A | Silty CLAY (ALLUVIUM) Pale orange-brown, moist, stiff. High plasticity. | (CH) | | | | | 6,7,7 N=14 | SPT |
| 1.70 | 11.16 | | | | B | Sandy Clayey SILT (ALLUVIUM) Pale orange-brown, moist, stiff. High plasticity. | (MH) | | | | | 4,4,8 N=12 | SPT |
| 2.80 | 10.06 | | | | C | Silty CLAY (ALLUVIUM) Pale grey-brown, moist, stiff to very stiff. High plasticity. | (CH) | | | | | 5,5,8 N=13 | SPT |
| 4.70 | 8.16 | | | | D | Sandy Silty CLAY (ALLUVIUM) Pale grey-brown, moist, stiff to very stiff. High plasticity. | (CH) | | | | | 4,7,9 N=16 | SPT |
| 6.20 | 6.66 | | | | E | Silty CLAY (ALLUVIUM) Pale grey, moist, stiff to very stiff. Trace fine gravel. Trace fine grained sand. | (CH) | | | | | 5,7,8 N=15 | SPT |
| 7 | | | | | F | | | | | | | 4,5,6 N=11 | SPT |
| 8 | | | | | G | | | | | | | 5,7,9 N=16 | SPT |
| 9 | | | | | H | | (CH) | | | | | 5,6,8 N=14 | SPT |
| 10 | 2.86 | | | | J | | | | | | | 4,7,8 N=15 | SPT |

REMARKS Kgwu - Wundaru Granodiorite;

Sample failed along existing defect surface.

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ME

ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No BH118
SHEET 2 of 4
REFERENCE No 12064

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
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| DEPTH (m) | R.L. (m) | AUGER WASH BORING CORE DRILLING | RQD () % | CORE REC % | SAMPLE | MATERIAL DESCRIPTION | LITHOLOGY | USC WEATHERING | INTACT STRENGTH | DEFECT SPACING (mm) | GRAPHIC LOG | ADDITIONAL DATA AND TEST RESULTS | SAMPLES TESTS |
|-----------|----------|---------------------------------|-----------|------------|--------|--|-----------|----------------|-----------------|---------------------|-------------|----------------------------------|---------------|
| 10 | 2.86 | | | | K | Silty CLAY (ALLUVIUM) (Cont'd) | | | | | | 4,6,8 N=14 | SPT |
| 11 | | | | | L | | (CH) | | | | | 5,6,8 N=14 | SPT |
| 11.90 | 0.96 | | | | M | Sandy Silty CLAY (ALLUVIUM) Pale grey and brown, moist, stiff to very stiff. High plasticity. | | | | | | 5,6,8 N=14 | SPT |
| 12 | | | | | N | 12.80-13.70m: Reduction in sand content. | (CH) | | | | | 7,8,10 N=18 | SPT |
| 13 | | | | | P | | | | | | | 5,6,7 N=13 | SPT |
| 14.80 | -1.94 | | | | Q | Silty SAND (ALLUVIUM) Pale grey and brown, moist, medium dense. | (SM) | | | | | 10,11,15 N=26 | SPT |
| 15.70 | -2.84 | | | | R | Silty Sandy CLAY (ALLUVIUM) Pale grey and brown, moist, very stiff. High plasticity. | (CH) | | | | | 8,10,13 N=23 | SPT |
| 16.60 | -3.74 | | | | S | Silty SAND (ALLUVIUM) Brown and pale grey, moist, dense. Medium to coarse grained sand. Trace fine to medium gravel. | (SM) | | | | | 16,18,25 N=43 | SPT |
| 17 | | | | | T | Silty CLAY (ALLUVIUM) Pale brown and grey, moist, very stiff. High plasticity. | | | | | | 10,11,15 N=26 | SPT |
| 18.70 | -5.24 | | | | U | | (CH) | | | | | 6,7,11 N=18 | SPT |
| 20.20 | -7.14 | | | | | | | | | | | | |

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FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No **BH118**
SHEET **3** of **4**
REFERENCE No **12064**

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION Peak Downs Hwy Overpass Pier 2; CH: 5612m; COORDINATES 720972.9 E; 7657966.6 N
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| DEPTH (m) | R.L. (m) | AUGER WASH BORING CORE DRILLING | RQD () % | CORE REC % | SAMPLE | MATERIAL DESCRIPTION | LITHOLOGY | USC WEATHERING | INTACT STRENGTH | DEFECT SPACING (mm) | GRAPHIC LOG | ADDITIONAL DATA AND TEST RESULTS | SAMPLES TESTS |
|-----------|----------|---------------------------------|-----------|------------|--------|--|-----------|----------------|-----------------|---------------------|-------------|--------------------------------------|--------------------------|
| 20 | -7.14 | | | | V | Silty CLAY (ALLUVIUM) (Cont'd) | | | | | | 6,7,8 N=15 | SPT |
| 21 | -8.44 | | | | W | SAND (RESIDUAL) Pale grey, wet, medium dense. | | | | | | 5,11,13 N=24 | SPT |
| 22 | -9.04 | | | | X | Sandy Gravelly CLAY (RESIDUAL) Brown, moist, hard. High plasticity. Fine to coarse grained sand. Fine to medium gravel. | | | | | | 8,12,30 N=42 | SPT |
| 23 | -10.74 | | | | Y | | | | | | | 13,24,30 N=54 | SPT |
| 24 | -12.89 | | | | Z | SAND (RESIDUAL) Brown, wet, medium dense. Trace fine gravel. Trace fines. | | | | | | 10,13,13 N=26 | SPT |
| 25 | | | | | AA | | | | | | | 11,13,16 N=29 | SPT |
| 26 | | | | | AB | GRANODIORITE (Kgwu) HW: Brown and grey, medium to coarse grained, extremely low to very low strength. | | | | | | 30/90 | SPT |
| 27 | | | | | AC | | | | | | | 30/70 | SPT |
| 28 | | | | | AD | 28.00m: Becoming low to medium strength. | | | | | | 30/55 | SPT |
| 29 | -16.14 | | | | | | | | | | | Is(50) = 0.43MPa Is(50) = 0.77MPa | D (29.15m) A (29.63m) |
| 30 | -17.00 | | | | | GRANODIORITE (Kgwu) MW: Brown and grey, medium to coarse grained, medium strength. Defects: - Js; 0°-30° (10/m); Pl/Sm, OP, Cly Vr; - Js; 60°-70° (1/m); Pl/Sm, OP, Cly Vr; | | | | | | 29.86m: Dolerite contact at 60°; Pl. | |

REMARKS Kgwu - Wundaru Granodiorite;

Sample failed along existing defect surface.

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BOREHOLE No BH118
SHEET 4 of 4
REFERENCE No 12064

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION Peak Downs Hwy Overpass Pier 2; CH: 5612m; COORDINATES 720972.9 E; 7657966.6 N
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JOB No _____ HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 1/10/14 DRILLER Saxon Drilling

| DEPTH (m) | R.L. (m) | AUGER WASH BORING CORE DRILLING | RQD () % | CORE REC % | SAMPLE | MATERIAL DESCRIPTION | LITHOLOGY | USC | WEATHERING | INTACT STRENGTH | DEFECT SPACING (mm) | GRAPHIC LOG | ADDITIONAL DATA AND TEST RESULTS | SAMPLES TESTS |
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| 30 | -17.14 | | | | | <<ListBuildSepTrim(| | | | | | | Is(50) = 3.08MPa; # | D (30.00m) |
| 31 | | | | 100 (77) | | | | | | | | | UCS=80.3MPa Is(50) = 7.23MPa Is(50) = 3.55MPa | D (31.75m) A (31.78m) |
| 32 | | | | | | | | | SW | | | | 32.07m: Clay seam, 5°, 10mm. 32.20m: Clay seam, 10°, 10mm. 32.25m: Clay seam, 10°, 5mm. | |
| 33 | | | | 100 (100) | | | | | | | | | Is(50) = 5.44MPa Is(50) = 8.10MPa | A (33.17m) D (33.24m) |
| 34 | -21.14 | | | 100 | | Borehole terminated at 34m . | | | | | | | | |
| 35 | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | |

REMARKS Kgwu - Wundaru Granodiorite;

Sample failed along existing defect surface.

LOGGED BY
ME

CORE PHOTO LOG

DEPARTMENT OF TRANSPORT & MAIN ROADS
Geotechnical Branch
35 Butterfield Street, HERSTON Qld 4006
Phone 07 3066 3336



Department of
Transport and Main Roads

| | | | |
|--------------|-----------------------------|------------------|----------|
| Project Name | Mackay – Ring Road | | |
| Project No | FG6184 | Date | 01/10/14 |
| Borehole No | BH 118 | TMR H No | 12064 |
| Location | Peak Downs Highway Overpass | Start Depth (m) | 28.05 |
| Detail | Pier 2 | Finish Depth (m) | 34.0 |
| Chainage | 5612 | Submitted By | M.Ensor |
| Remarks | | | |

