Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/5-2009

BOREHOLE No **BH15**
SHEET 1 of 3
REFERENCE No **H10444**

PROJECT Gateway Upgrade North (GUN)
LOCATION At Survey Peg — COORDINATES 509517.9 E; 6972258.2 N
PROJECT No FP5249 — SURFACE R.L. 6.54 m — PLUNGE -90 ° — DATE STARTED 22/10/08 — GRID DATUM MGA94 Zone 56J
JOB No — HEIGHT DATUM AHD — BEARING — DATE COMPLETED 24/10/08 — DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	6.54				**GRAVELLY SILTY CLAY (FILL?)** Grey to mottled red, dry, stiff to very stiff. Low to medium plasticity; gravel fraction consists of iron concretions <10mm and quartzitic particles <10mm.							
1				A		(CL-CI)					2,8,8 N=16	SPT
2	4.04											
3				B	**RESIDUAL SILTY CLAY** Yellow-grey to mottled red, dry to slightly moist, stiff to very stiff. Low to medium plasticity; occasional partly decomposed plant fragments.						2,5,7 N=12	SPT
4				C		(CL-CI)					4,8,11 N=19	SPT
5	1.04											
6				D	**RESIDUAL SILT** Pale orange, dry, very stiff. Low plasticity; moderately ferrogenised.						6,11,13 N=24	SPT
7				E		(ML)					7,9,15 N=24	SPT
8	-1.36				**BASALT** **FINE GRAINED TO MEDIUM GRAINED, EXTRUSIVE IGNEOUS ROCK** **XW:**							
9				F	Exhibits the engineering properties of reddish brown, dry to slightly moist, hard silt with some gravels present. (See next page)	XW					Harder zone 30/100 N=>50	SPT
10	-3.46											

REMARKS

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BOREHOLE No **BH15**
SHEET 2 of 3
REFERENCE No **H10444**

PROJECT Gateway Upgrade North (GUN)
LOCATION At Survey Peg — COORDINATES 509517.9 E; 6972258.2 N
PROJECT No FP5249 — SURFACE R.L. 6.54 m — PLUNGE -90 ° — DATE STARTED 22/10/08 — GRID DATUM MGA94 Zone 56J
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DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
10	-3.46			G	**XW BASALT** (Cont) Low plasticity, occasional medium strength, ferrogenised angular relic basaltic fragments sizing up to 30mm; occasional very stiff zones.						14,28,25 N>50		SPT
11				H							17,30,30/100 N=>50		SPT
12											hard and soft zones present (drilling records)		
13				J		XW					25,30/100 N=>50		SPT
14													
15				K							11,14,14 N=28 Very stiff zone		SPT
16				L	Becoming sandy silt. Sand fraction consists of green, low strength, relic basaltic fragments which are highly altered to chlorite.						18,27,30/90 N=>50		SPT
17	-10.46										Difficult drilling (drilling records)		
18	-11.46		(0)	M	**HW:** Exhibits the engineering properties of brown, moist, dense silty gravel. Gravel fraction consists of highly weathered medium to high strength angular basalt fragments sizing up to and possibly over 40mm.	HW					30/70 N=>50		SPT
					HW-MW: Brown-grey, fine grained, low to medium strength with occasioal high strength basalt corestones in a sandy gravel matrix.						Is(50) = 1.13MPa Is(50) = 1.59MPa		x o
			100								Is(50) = 0.14MPa Is(50) = 0.09MPa		x o
19			(0)		Spheroidal weathering features throughout. (See next page)	HW-MW					Is(50) = 0.08MPa		x
											Major water loss between 18.98-20.4m		
20	-13.46												

REMARKS

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SHEET 3 of 3
REFERENCE No **H10444**

PROJECT Gateway Upgrade North (GUN)
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PROJECT No FP5249 — SURFACE R.L. 6.54 m — PLUNGE -90 ° — DATE STARTED 22/10/08 — GRID DATUM MGA94 Zone 56J
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DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
20	-13.46												
			100 (0)		**MW-HW BASALT** (Cont) Defects: - Open planar smooth calcite infilled joints at 50° (2/m) - Open ironstained spheroidal weathering related defects (10/m) - Open Ironstained mainly smooth to occasionally rough irregular joints/ defects (30/m) - Crushed zones <80mm (1/m)		HW-MW				Major water loss between 18.98-20.4m		
21	-14.96										XW Basalt zone		
					Probable XW Basalt (?)						Possible interface between two basalt flows Core loss - 21.5-22.7m No weight on rods, very little cuttling required with blade (drilling records)		
22			(0) 0 (0)				XW						
	-16.16				Borehole terminated at 22.7m						Borhole collapsed, no time to clean out and drill further due to night time traffic control restrictions (drilling records)		
23													
24													
25													
26													
27													
28													
29													
30													

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REMARKS

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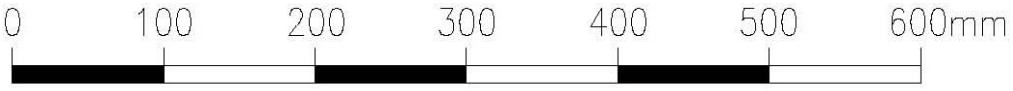
Project: **GATEWAY NORTH UPGRADE**

Borehole No: **BH 15**

Start Depth: 18.00m
Finish Depth: 22.70m
Project No: FP5249
H No: 10346



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