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REMARKS

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ENGINEERING BOREHOLE LOG

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

__<u>BH16</u>__ BOREHOLE No <u>1</u> of <u>3</u> SHEET **REFERENCE No** <u>____H10445__</u>

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LOGGED BY

AS/SAB

PRC	JECT	Gate	way Up	grad	e North (GUN)					·
LOC	ATION	Offs	<u>et 2.5 ea</u>	<u>ist o</u>	<u>f survey peg</u>			CO	OORDINATES <u>509563.4 E; 6972262</u> .	<u>5 N</u>
PRC	JECT No	_ <u>FP5</u>	<u>249</u>		SURFACE R.L. <u>8.50 m</u> PLUNGE <u>-90 °</u>		DATE STARTED	<u>19/10</u>	0/08 GRID DATUM MGA94 Zone	<u>56J</u>
JOB	No				HEIGHT DATUM <u>AHD</u> BEARING		DATE COMPLETED	21/10	0/08 DRILLER Drillsure Pty L	<u>_td</u>
o DEPTH (m)	R.L. (m) 8.50	AUGER CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	USC WEATHERING	INTACT DEFECT STRENGTH SPACING (mm) 표풍포로그렇며 응용응용	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES
				A	GRAVELLY SILTY CLAY (FILL?) Grey to mottled red, dry, stiff. Low plasticity; gravel fraction consists of iron concretions <5mm and quartzitic particles <5mm.	(CL)			3,7,5 N=12	SDT
	6.20			в	RESIDUAL SILTY CLAY Pale grey to mottled orange-red, moist, stiff. Low to medium plasticity with occasional high plastic zones; occasional concretions sizing up to 10mm present.				2,3,6 N=9	SPT
- - - - - - - - - - - - - - - - - - -				С					3,4,5 N=9	SPT
- 15 1 6 				D		(CL- CH)			4,4,6 ⊒– Soft high plasiticity zone N=10	SPT
- - - - - - - - - - - - - - - - -				E					4,4,7 N=11	SPT
				F					3,4,8 N=12	SPT

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Gateway Upgrade North (GUN)

PROJECT

ENGINEERING BOREHOLE LOG

BOREHOLE No	<u>BH16</u>
SHEET	_2_ of _3_
REFERENCE No	<u>H10445</u>

AS/SAB

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

PROJECT No FP5249 SURFACE R.L. 8.50m. PLUNGE 90°. DATE STARTED 19/19/08. GRID DATUM MGA9 JOB No HEIGHT DATUM AHD. BEARING DATE COMPLETED 2/11/008. DRILLER Drillsur Image: Complexity of the started in the sta		DOCATION Offset 2.5 east of survey peg COORDINATES 509563.4 E; 6972262.5 N											
R.L. (m) RQD (1)% MATERIAL DESCRIPTION INTACT (m) DEFECT STRENGTH OFFECT SPACING (m) OP OFFECT SPACING (m) ADDITIONAL DATA AND 10 -1.50 CORE G RESIDUAL SILTY CLAY Pale yellowish grey, moist, very stiff. Image: Comparison of the structures present. Image: Comparison	4 <u>Zone</u> 56			 FARTED	DATE ST								PRO
Image: Big b	JOB No HEIGHT DATUM AHD BEARING DATE COMPLETED 21/10/08 DRILLER Drillsure Pty Ltd												
Image: General content of the second content of t		AND	A APHIC LOG	DEFECT SPACING (mm)		JSC VEATHERING			SAMPLE	RQD ()%	NUGER SASING VASH BORING SORE DRILLING	R.L. (m)	
	6,9,12 N=21						ey, moist, very stiff. lasticity; relic ironstained joint	Pale yellowish grey, moist, v Low to medium plasticity; re	G P	REC 70		-1.50	
	,11,12 N=23	13,1 N				(CL- CH)			Н				12
14	,12,12 N=24	8,1 N						-				-5.65	
	,30,25 N>50					XW	neering properties of brown, y gravelly silt. avel fraction consists of trength ferrogenised angular	FINE TO MEDIUM GRAINED IGNEOUS ROCK XW: Exhibits the engineering pro moist, hard clayey gravelly s Low plasticity; gravel fraction medium to high strength fer	к К П П П				15
over 40mm.	,30/70 N=>50	22,3 N=						over 40mm.	0			-8.50	
HW: Reddish brown, moist, very dense silty sandy gravel gradually grading into low strength rock.	30/70 N=>50					нw	noist, very dense silty sandy grading into low strength rock.	Reddish brown, moist, very gravel grading into	R g				
-10.70 -10.90 (0) Core loss 19.2-19.4m Possible interface between tw basalt flows	30/40 N=>50 /0	Core loss 19.2-19.4m Possible interface between two	- Possible	 			<u>.4m</u>	Core loss 19.2-19.4m	Х с Н	(0)			19
20 -11.50 Image Image <t< td=""><td></td><td></td><td>1 1</td><td></td><td></td><td>HW-</td><td></td><td>(See next page)</td><td>(\$</td><td></td><td></td><td></td><td></td></t<>			1 1			HW-		(See next page)	(\$				

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ENGINEERING BOREHOLE LOG

BOREHOLE No	<u>BH16</u>
SHEET	<u>3</u> of <u>3</u>
REFERENCE No	<u>H10445</u>

AS/SAB

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

DCATION DBME 2 5 escience 10 survey pdg. COORDINATE SUBFACE L SUB	PRO	ROJECT Gateway Upgrade North (GUN)									
108 No	LOC	ATION Offset 2.5 east of survey peg COORDINATES 509								ORDINATES <u>509563.4 E; 6972262.5</u>	<u>N</u>
N.L. B MACT PROT NOT MATERIAL STATUS MATERIAL DESCRIPTION MATERIAL STATUS MATERIAL STATUS<	PROJECT № <u>FP5249</u>					SURFACE R.L. <u>8.50 m</u> PLUNGE <u>-90</u>	°	DATE STARTED	<u>19/10</u>	0/08 GRID DATUM MGA94 Zone 5	56 <u>J</u>
End (m) Sector ADDITION ADDITIO	JOB	No				HEIGHT DATUM <u>AHD</u> BEARING		DATE COMPLETED	21/10	0/08 DRILLER Drillsure Pty Lte	d
-14.82 100 Probable XW Basalt (?) XW -Core loss 23.32.24.07m -16.62 -16.64 - highly weblered bands <50mm (2/m)		(m)	AUGER CASING WASH BORING	()%	SAMPLE		JSC		SRAPHIC LOG		SAMPLES FESTS
Image: strength. SW: Dark grey, fine grained, medium to mainly high strength. SW Image: strength.		-14.82	-	85 (0) 100 (0) 100		Pale brown becoming grey with depth, fine grained, mainly low to medium strength with occasional high strength basalt corestones in a moderate sandy gravel matrix. Spheroidal weathering throughout. Defects: - Open, planar, ferrogenised, generally smooth joints at 20-40° (5/m) - Healed spheroidal ironstained joints / defects (30/m) - Irregular, open, rough, ironstained joints (8/m) - Crushed zones generally 40mm and up to 150mm (1/m) - Healed, ironstained, cemented, irregular joints (15/m)	HW MV			Is(50) = 0.14MPa Is(50) = 0.22MPa Is(50) = 0.52MPa	X -
25 Defects: - highly weathered bands <50mm (2/m)	- 24 			40	/`	Dark grey, fine grained, medium to mainly high	sw			ls(50) = 2.40MPa ls(50) = 1.71MPa	0
	<u>п</u> . <u>п</u> . <u>т</u> <u>п</u> .					- highly weathered bands <50mm (2/m) - Drilling Induced Breaks (2/m)				IS(30) - 2.30WP a	
					<u> </u>						

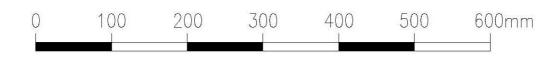
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Project: <u>GATEWAY NORTH UPGRADE</u>

Borehole	No:	BH	16

Start Depth:	19.20m
Finish Depth:	24.58m
Project No:	FP5249
H No:	10345





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