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HOLE NO: BH BV 7 **SOIL LOG** PAGE: 1 OF 10 PROJECT: Brisbane Valley Grade Separation JOB NO: QB10200.4 POSITION : E: 470424, N: 6949695 (56 MGA94) LOCATION: Brisbane Valley Hwy SURFACE ELEVATION: 56.7 (AHD) RIG TYPE: Hydrapower Scout DIP / AZIMUTH : 90° CONTRACTOR: GeoDrill - T Partleton STANDARD: AS1736 DATE DRILLED: 17/5/11 to 18/5/11 LOGGED BY: LN CHECKED BY: VP LAB DATA SAMPLES & SPT DATA GRAPHIC LOG CONSISTENCY RELATIVE DENSITY DRILLING WATER DETAIL MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components MOISTURE COMMENTS Ξ Moisture Conten Atterberg Limits Dry Density % Fines Field Test Data 凒 & Other Observations S/L :/MD 0.00: FILL CLAY - sandy CLAY, high plasticity, dark brown, fine to medium sand, moist, soft to firm. М 0.30: FILL CLAY - sandy CLAY, high plasticity, grey brown streaked orange, some fine sand, moist, soft М CLAY - high plasticity, brown, trace fine sand, moist, stiff. 3, 3, 6 N=9 М 1.45m SKM SOIL LOG BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 11:40 1.80: FILL CLAY - gravelly CLAY, high plasticity, brown, trace fine sand, some white low plasticity silt, some fine to medium limestone gravel , moist, stiff. М CLAY - high plasticity, brown, moist, stiff. 4, 7, 12 N=19 SILT - sandy clayey SILT, high plasticity fines, yellow-grey brown, fine to medium sand, moist, stiff. М 2.45m SILT - sandy SILT, high plasticity fines, grey mottled orange, fine to coarse sand, moist, very stiff. М 7, 10, 12 N-22 Log SAMPLES & FIELD TESTS (WORKIN-BRISBANE) **DRILLING** CONSISTENCY (Su) {N-value} DENSITY (N-value) Disturbed Sample Env Soil Sample SPT SPT Sample U Undisturbed Tube Sample Hand Auger HQ **HQ** Coring VL Very Loose 0 - 4 ٧S Very Soft < 12 kPa {0-2} Auger Washbore NQ PQ NQ Coring PQ Coring Loose 4 - 10 S Soft 12 - 25 {2-4} EW Env Water Sample W Water Sample MD Medium Dense 10 - 30 25 - 50 {4-8} Firm Rock Rolling NMLC NMLC Coring D Dense 30 - 50 St Stiff 50 - 100 {8-15} **HP Hand Penetrometer** MOISTURE CONDITION
D = Dry M = Moist W = Wet **GROUNDWATER SYMBOLS** HV Hand Vane Shear D = Dry
(P: Peak Su R: Residual Su)
N SPT blows per 300mm
HW SPT penetration by hammer weight VD Very Dense 50 - 100 VSt Very Stiff 100 - 200 {15-30} ▼ = Water level (static)

▼ = Water level (during CO Compact >50/150mm Н Hard > 200 kPa {>30} = Water level (during drilling) AGS RW SPT penetration by rod weight SKN

		M	L						SOIL LOG			, LL 110.	BH BV
PROJE	СТ	: Br	isban	ie Vall	ey Gra	ıde (Sep	aration	JOB NO: QB10200.4		PAGE : 2	2 OF 10	
POSITION: E: 470424, N: 6949695 (56 MGA RIG TYPE: Hydrapower Scout				695	(56	MGA94)	SURFACE ELEVATION : 56.7 (AHD)		LOCATION: Brisbane Valley Hwy				
DATE D						11			CONTRACTOR: GeoDrill - T Partleton LOGGED BY: LN CHECKED BY: VP			MUTH : 90° RD : AS173	
~*			B DA										
DRILLING & WATER DETAIL	Moisture Content	Dry Density	% Fines	Atterberg Limits	SAMPLES & SPT DATA	RL (m)	DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE	CONSISTENCY/ RELATIVE DENSITY QM/1S/ Q1/1S/	Field	MMENTS Test Data Observations
							-		SILT - sandy SILT, high plasticity fines, grey mottled orange, fine to coarse sand, moist, very stiff. (continued)	м			
					4.00m SPT 8, 9, 11 N=20	- 52.7-	4.0		oom SILT - sandy SILT, high plasticity fines, grey mottled orange, fine to medium sand in thin layers at 4.2 m, moist, very stiff.				
					N=20		- - -		said ii tiiii layeis at 4.2 II, Iilost, very stiii.				
						52.2-	4.5			М			
5.00m 51.7 5.0		5.0	5.1	IRONSTONE - red brown, extremely weathered, extremel low strength, mois medium dense. Sim SILT - sandy SILT, high plasticity fines, orange mottled grey, fine to coarse	i, M								
			sand in thin layers, moist, very stiff.	М									
					6.00m SPT	- 50.7-	6.0	1 11111111	^{00m} SILT - sandy SILT, high plasticity fines, grey mottled orange, fine to coarse				
					7, 9, 14 N=23		-		sand, moist, very stiff to hard.				
					6.45m	50.2-	6.5			М			
AS AU VB W	land A uger /ashbo	uger ore	RILLIN	HQ NQ PQ	HQ Cor NQ Cor PQ Cor	ing ing		D Distr ES Env EW Env	ribed Sample SPI SPI Sample VL Very Loos Soil Sample U Undisturbed Tube Sample L Loose Water Sample	4 -	4 VS 10 S	Very Soft Soft	' (Su) {N-value} < 12 kPa {0- 12 - 25 {2-4
Ţ	Z = V	OUNI /ater	DWAT level (NMLC ER SY (static)	NMLC MBOLS drilling)	Cori	ng	HV Hand (P: Peak N SPT b HW SPT	Penetrometer MOISTURE CONDITION D Dense VD Very Dens Su R: Residual Su) lows pen 300mm penetration by hammer weight penetration by rod weight	30 e 50	- 30 F - 50 St - 100 VSt)/150mm H	Firm Stiff Very Stiff Hard	25 - 50 {4-8 50 - 100 {8-1 100 - 200 {15 > 200 kPa {>

HOLE NO: BH BV 7 **SOIL LOG** PAGE: 3 OF 10 PROJECT: Brisbane Valley Grade Separation JOB NO: QB10200.4 POSITION : E: 470424, N: 6949695 (56 MGA94) LOCATION: Brisbane Valley Hwy SURFACE ELEVATION: 56.7 (AHD) RIG TYPE: Hydrapower Scout DIP / AZIMUTH : 90° CONTRACTOR: GeoDrill - T Partleton STANDARD: AS1736 DATE DRILLED: 17/5/11 to 18/5/11 LOGGED BY: LN CHECKED BY: VP LAB DATA SAMPLES & SPT DATA GRAPHIC LOG DEPTH (m) DRILLING WATER DETAIL MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components MOISTURE COMMENTS Ξ Moisture Conten Atterberg Limits Dry Density Field Test Data % Fines చ & Other Observations S / L F / MD St / D VSt / VD SILT - sandy SILT, high plasticity fines, grey mottled orange, fine to coarse sand, moist, very stiff to hard. *(continued)* 28AND - silty SAND, fine to medium sand, orange, moist, dense. М SILT - sandy SILT, high plasticity fines, grey mottled orange, fine to medium sand, moist, hard. SILT - sandy SILT, high plasticity fines, grey mottled orange, fine to medium sand, trace of fine to medium extremely weathered and extremely low strength ironstone, moist, hard. 8.39m М SKM SOIL LOG BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 11:40 SILT - high plasticity fines, grey mottled orange, moist, hard. 12, 20, 24 N=4 9.45m 10.00m Log SAMPLES & FIELD TESTS **DRILLING** CONSISTENCY (Su) {N-value} DENSITY (N-value) Disturbed Sample Env Soil Sample SPT SPT Sample U Undisturbed Tube Sample Hand Auger HQ **HQ** Coring VL Very Loose 0 - 4 ٧S Very Soft < 12 kPa {0-2} Auger Washbore NQ PQ NQ Coring PQ Coring Loose 4 - 10 S Soft 12 - 25 {2-4} EW Env Water Sample W Water Sample MD Medium Dense 10 - 30 25 - 50 {4-8} Firm Rock Rolling NMLC NMLC Coring D Dense 30 - 50 St Stiff 50 - 100 {8-15} **HP Hand Penetrometer** MOISTURE CONDITION
D = Dry M = Moist W = Wet **GROUNDWATER SYMBOLS** HV Hand Vane Shear D = Dry
(P: Peak Su R: Residual Su)
N SPT blows per 300mm
HW SPT penetration by hammer weight VD Very Dense 50 - 100 VSt Very Stiff 100 - 200 {15-30} = Water level (static) CO Compact >50/150mm Н Hard > 200 kPa {>30} = Water level (during drilling) RW SPT penetration by rod weight

File: QB10200.4 BH BV 7 Page 3 OF 10

(WORKIN-BRISBANE)

AGS

SKN

HOLE NO: BH BV 7 **SOIL LOG** PAGE: 4 OF 10 PROJECT: Brisbane Valley Grade Separation JOB NO: QB10200.4 POSITION : E: 470424, N: 6949695 (56 MGA94) LOCATION: Brisbane Valley Hwy SURFACE ELEVATION: 56.7 (AHD) RIG TYPE: Hydrapower Scout DIP / AZIMUTH : 90° CONTRACTOR: GeoDrill - T Partleton STANDARD: AS1736 DATE DRILLED: 17/5/11 to 18/5/11 LOGGED BY: LN CHECKED BY: VP LAB DATA SAMPLES & SPT DATA GRAPHIC LOG DEPTH (m) DRILLING WATER DETAIL MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components MOISTURE COMMENTS Ξ Atterberg Limits Dry Density Field Test Data % Fines 닕 & Other Observations S/L F/MD St/D VSt/VD SILT - high plasticity fines, grey mottled orange, moist, hard. (continued) 30/105m N=R \11.11m SILT - high plasticity fines, grey mottled orange, some orange brown extremely weathered, extremely low strength fine to medium ironstone gravel at 12.3 m, moist, hard. 30, 30/110m N=R SKM SOIL LOG BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 11:40 12.26m SPT 30/110m N=R 13.11m Log (WORKIN-BRISBANE).GLB SAMPLES & FIELD TESTS **DRILLING** CONSISTENCY (Su) {N-value} DENSITY (N-value) Disturbed Sample Env Soil Sample SPT SPT Sample U Undisturbed Tube Sample Hand Auger HQ **HQ** Coring VL Very Loose 0 - 4 ٧S Very Soft < 12 kPa {0-2} Auger Washbore NQ PQ NQ Coring PQ Coring Loose 4 - 10 S Soft 12 - 25 {2-4} EW Env Water Sample W Water Sample MD Medium Dense 10 - 30 25 - 50 {4-8} Firm Rock Rolling NMLC NMLC Coring D Dense 30 - 50 St Stiff 50 - 100 {8-15} **HP Hand Penetrometer** MOISTURE CONDITION
D = Dry M = Moist W = Wet **GROUNDWATER SYMBOLS** HV Hand Vane Shear D = Dry
(P: Peak Su R: Residual Su)
N SPT blows per 300mm
HW SPT penetration by hammer weight VD Very Dense 50 - 100 VSt Very Stiff 100 - 200 {15-30} ▼ = Water level (static)

▼ = Water level (during > 200 kPa {>30} CO Compact >50/150mm Н Hard REV02. = Water level (during drilling) AGS RW SPT penetration by rod weight SKN

HOLE NO: BH BV 7 **SOIL LOG** PAGE: 5 OF 10 PROJECT: Brisbane Valley Grade Separation JOB NO: QB10200.4 POSITION : E: 470424, N: 6949695 (56 MGA94) LOCATION: Brisbane Valley Hwy SURFACE ELEVATION: 56.7 (AHD) RIG TYPE: Hydrapower Scout DIP / AZIMUTH : 90° CONTRACTOR: GeoDrill - T Partleton STANDARD: AS1736 DATE DRILLED: 17/5/11 to 18/5/11 LOGGED BY: LN CHECKED BY: VP LAB DATA SAMPLES & SPT DATA GRAPHIC LOG DRILLING WATER DETAIL MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components MOISTURE COMMENTS Ξ Atterberg Limits Dry Density Field Test Data % Fines 凒 & Other Observations S/L F/MD St/D VSt/VD SILT - high plasticity fines, grey mottled orange, some orange brown extremely weathered, extremely low strength fine to medium ironstone gravel at 12.3 m, moist, hard. (continued) М Continued as Cored Borehole SKM SOIL LOG BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 11:40 I I I ILog (WORKIN-BRISBANE), GLB SAMPLES & FIELD TESTS **DRILLING** CONSISTENCY (Su) {N-value} DENSITY (N-value) Disturbed Sample Env Soil Sample SPT SPT Sample U Undisturbed Tube Sample Hand Auger HQ **HQ** Coring VL Very Loose 0 - 4 ٧S Very Soft < 12 kPa {0-2} Auger Washbore NQ PQ NQ Coring PQ Coring Loose 4 - 10 S Soft 12 - 25 {2-4} EW Env Water Sample W Water Sample MD Medium Dense 10 - 30 25 - 50 {4-8} Firm Rock Rolling NMLC NMLC Coring D Dense 30 - 50 St Stiff 50 - 100 {8-15} **HP Hand Penetrometer** MOISTURE CONDITION
D = Dry M = Moist W = Wet **GROUNDWATER SYMBOLS** HV Hand Vane Shear D = Dry
(P: Peak Su R: Residual Su)
N SPT blows per 300mm
HW SPT penetration by hammer weight VD Very Dense 50 - 100 VSt Very Stiff 100 - 200 {15-30} ▼ = Water level (static)

▼ = Water level (during CO Compact >50/150mm Н Hard > 200 kPa {>30} REV02. = Water level (during drilling) AGS RW SPT penetration by rod weight SKN

	3	K	N					ROC	CK LOG				HOI	E NO: B	BH BV 7
PROJE	CT	· Briel	าลท	. Va	llev Gra	ade Separati	on JOB NO	: QB10200.4					PAGE: 6	OF 10	
						695 (56 MG/		E ELEVATION	· 56.7 (AHD))				I : Brisbane	Valley Hwy
RIG TY	/PΕ :	Hydra	apov	ver S	Scout			CTOR : GeoD					DIP / AZIM	UTH : 90°	
DATE	DRILL	ED:	17/5	/11	to 18/5/	11	LOGGED	BY: LN	CHECK	(ED	BY : VP		STANDAR	D : AS1736	
DF	RILLIN	Ģ					N	MATERIAL					CTS & COM		
DRILLING & WATER	DELIN TOR/ROD	FIELD TESTS	RL (m)	DEPTH (m)	GRAPHIC LOG	(texture,	DESCRIP TYPE : Colour, C fabric, mineral co ion, cementation	Grain size, Struc omposition, hard	ness	Weathering	ESTIMATED STRENGTH Is(50) ● - Axial O - Diametral	DEFECT SPACING (mm)	Description of defects,	MENTS joints, seams, additional and comments	INSTALLATION DETAIL
	DRILL		41.7-			SILTSTONE weathered. SILTSTONE slightly weathered. SANDSTONI strength, mod	iNG AT 14.50m - faintly layered, grey	brown, very low to low structure of the	ength, slightly ow strength,	sw 	The state of the s		14.50: ROC	- - - -	
SKM AGS REVOZ.1 (WORKIN-BRISBANE), GLB. Log. SKM ROCK(BRISBANE); BRISBANE VALLEY GRADE SEPARATION TP.AH.AND BH.LOGS.GPJ. <-Drawing-Files> 29/11/2011 11:42 SEM SEM SEM SEM SEM SEM SEM SE	1 1 69% RQD	16.70m	40.2-			fine gravels, SANDSTON	E - massive, fine to m low to medium stren E - massive, coarse s medium quartz grave	gth, moderately wea	orange brown,	MW			— CN IR RF J60(op)(ro) — 16.85: COF = 0.45	-	
LB Log SKM ROCK(BRISBANI	17.30 100% TCR 83% RQD			_ _ _ _			E - massive, coarse s tz gravel, medium sti			MW				- - - -	
SKM AGS REV02.1 (WORKIN-BRISBANE).GI	NQ Co	Coring core cock fra ROUNE	run run ction DWA	recor > 100 only TER (stat	HQ I PQ I Vered Omm long measure SYMBO	ed) LS	D Disturbed S W Water Sam SPT SPT Sampl	ple EW Er	rESTS v Soil Sample v Water Sample	# C F J !!	S Crushed Seam (2 Crushed Zone (4 B Drill Break (5 Z Fractured Zone (7 Joint (5 Infilled Seam (7 Shear Zone (7 N Vein (7 Sear Sear (7 Shear Zone (7 Shear Zo	CT Coating SN Stain VR Veneer	Cu Curved IR Irregular PR Planar ST Stepped Un Undulated	0-0.03 E 0.03-0.1 V 0.1-0.3 L 0.3-1.0 M 1.0-3.0 H	AGTH (Is50 MPa) xtremely Low ery Low ow ledium igh ery High

HOLE NO: BH BV 7 **ROCK LOG** PAGE: 7 OF 10 PROJECT: Brisbane Valley Grade Separation JOB NO: QB10200.4 POSITION : E: 470424, N: 6949695 (56 MGA94) LOCATION: Brisbane Valley Hwy SURFACE ELEVATION: 56.7 (AHD) RIG TYPE: Hydrapower Scout DIP / AZIMUTH : 90° CONTRACTOR: GeoDrill - T Partleton DATE DRILLED: 17/5/11 to 18/5/11 LOGGED BY: LN CHECKED BY: VP STANDARD: AS1736 **DRILLING** MATERIAL **DEFECTS & COMMENTS** ESTIMATED STRENGTH DEFECT COMMENTS DESCRIPTION Weathering SPACING GRAPHIC TCR/RQD $\widehat{\mathbb{E}}$ Description of joints, seams. ROCK TYPE: Colour, Grain size, Structure INSTALLATION DEPTH Log (mm) defects, additional observations and comments DRILLI WAT DET, F (texture, fabric, mineral composition, hardness DETAIL 0.03 -0.3 alteration, cementation, etc as applicable) 2 2 2 2 2 SANDSTONE - massive, coarse sand, light grey , trace fine to medium quartz gravel, medium strength, moderately weathered. (continued) ΜW SANDSTONE - massive, coarse sand, orange grey , trace fine to MW medium quartz gravel, medium strength, moderately weathered. MW SANDSTONE - massive, coarse sand, orange, some fine to medium quartz gravels, low to medium strength, moderately weathered. SANDSTONE - massive, medium to coarse sand, grey , high strength, slightly weathered. SW 100% TCR SKM POCK(BRISBANE) BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 11:45 83% ROD SANDSTONE - massive, coarse sand, some fine to medium quartz gravel, orange, medium strength, moderately weathered. MW - CN IR RF J70(op)(ro)W 20.30 SANDSTONE - massive, coarse sand, trace fine to medium quartz gravel, orange, medium strength, moderately weathered. 100% TCR 20.68 86% RQD Log SAMPLES & FIELD TESTS **DEFECT ABBREVIATIONS** ROCK STRENGTH (Is50 MPa) CS Crushed Seam CN Clean 0-0.03 Extremely Low HQ PQ HQ Coring PQ Coring ES Env Soil Sample EW Env Water Sample Cu Curved NMLC NMLC Coring Disturbed Sample CZ Crushed Zone CT Coating DB Drill Break SN Stain IR Irregular PR Planar Water Sample 0.03-0.1 Very Low NQ NQ Coring 0.1-0.3 0.3-1.0 1.0-3.0 3.0-10 Low SPT SPT Sample TCR % core run recovered RQD % core run > 100mm long FZ Fractured Zone VR Veneer Medium ST Stepped Undisturbed Tube Sample JT Joint IS Infilled Seam High Very High Un Undulated (rock fraction only measured) POL Polished RF Rough S Smooth SZ Shear Zone S Smooth SL Slickensided VN Vein **GROUNDWATER SYMBOLS** ▼ = Water level (static)

▼ = Water level (during drilling) PHOTOGRAPHS NOTES NO NO YES

File: QB10200.4 BH BV 7 7 OF 10

(WORKIN-BRISBANE)

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	S	1	K	1				ROC	K LOG				HOL	E NO: E	BH BV 7
P	ROJE	СТ	Brisk	ane	. Va	lley Gra	de Separation	n JOB NO: QB10200.4					PAGE: 8	OF 10	
_							695 (56 MGA		56.7 (AHD)		LOCATION : Brisbane Valley Hwy				
	IG TYF		-					CONTRACTOR: GeoDrill	DIP / AZIMUTH : 90°						
				17/5/	/11	to 18/5/	11	LOGGED BY : LN	CHECK	(ED	BY : VP	1	STANDARD		<u> </u>
H		LLIN						MATERIAL			ESTIMATED STRENGTH	+			
	DRILLING & WATER DETAIL	TCR/RQD	FIELD TESTS	RL (m)	DEPTH (m)	GRAPHIC LOG	(texture, fa	DESCRIPTION TYPE: Colour, Grain size, Structu abric, mineral composition, hardn on, cementation, etc as applicable	ess	Weathering	S(50)	SPACING (mm)	Description of defects, a observations a	joints, seams, dditional	INSTALLATION DETAIL
2011 11:42	Run 4	100% TCR 86% RQD 21.60		34.7-	- - -21.5 - - - -22.0			- massive, coarse sand, trace fine to med, medium strength, moderately weathered		MW			— CN IR RF J70(op)(ro)V	-	
PARATION TP,AH AND BH LOGS.GPJ < <drawingfile>> 29/11/2011 11:42</drawingfile>		22.85	22.96m	33.7-	- - 23.0 - - - -			- coarse sand, trace fine to medium quart m strength, moderately weathered	iz gravel,	MW			— 22.60: CORI = 0.25	-	
SKM AGS REVOZ. 1 (WORKIN-BHISBANE).GLB LOG SKM ROCK(BRISBANE) BRISBANE VALLEY GRADE SEPARATION TP.AH AND BH LO 	Run 5	89% TCR 77% RQD	D	32.7– RILL	- - -24.0 - -		grey, medium s SANDSTONE red brown, med SANDSTONE	- coarse sand, trace fine to medium quar strength, moderately weathered coarse sand, trace fine to medium quart dium strength, moderately weathered coarse sands, trace fine to medium quarm strength, moderately weathered	iz gravel,	MW MW		ABBREVIATIO	J85(op)(ro)V	-	NGTH (Is50 MPa)
AGS HEV02.1 (WORKIN-BHISBANE	DRILLING NMLC NMLC Coring HQ HQ Coring NQ NQ Coring PQ PQ Coring TCR % core run recovered RQD % core run > 100mm long (rock fraction only measured) GROUNDWATER SYMBOLS W = Water level (static) U = Water level (during drilling)					PQ F vered Omm long measure SYMBO	PQ Coring g g ed)	D Disturbed Sample ES Env	STS Soil Sample Water Sample	F J	S Crushed Seam Z Crushed Zone B Drill Break Z Fractured Zone I Joint S Infilled Seam Z Shear Zone N Vein	CN Clean CT Coating SN Stain VR Veneer	Cu Curved IR Irregular PR Planar ST Stepped Un Undulated	0-0.03 F 0.03-0.1 N 0.1-0.3 F 0.3-1.0 F 1.0-3.0 F	Extremely Low Very Low
2													File: OD400	00 4 DI I D	3V 7 8 OF 10

	S	3	K	N				ROO	CK LOG				HOI	LE NO: B	BH BV 7	
Ī	PROJE	СТ	: Brisk	oane	e Va	llev G	irade Separat	ion JOB NO: QB10200.4					PAGE: 9	OF 10		
- 1							19695 (56 MG		: 56.7 (AHD)				LOCATION: Brisbane Valley Hwy			
	RIG TYI	PE :	Hydra	ιpov	ver S	Scout		CONTRACTOR: GeoD	rill - T Partleton	1			DIP / AZIMUTH : 90°			
	DATE D			17/5	/11	to 18/	5/11	LOGGED BY: LN	CHECKE	ΞD	BY : VP	•	STANDAR	D : AS1736	T	
-	DRI	ILLIN	G T					MATERIAL				-	CTS & COM			
	DRILLING & WATER DETAIL	TCR/RQD	FIELD TESTS	RL (m)	DEPTH (m)	GRAPHIC	ROCk (texture altera	DESCRIPTION TYPE: Colour, Grain size, Struc, fabric, mineral composition, hard tion, cementation, etc as application.	sture dness ble)	Weathering	ESTIMATED STRENGTH Is(50) O - Diametral SOO - Diametral	DEFECT SPACING (mm)	Description o defects,	MENTS f joints, seams, additional and comments	INSTALLATION DETAIL	
			24.54m		_		orange, me	NE - coarse sands, trace fine to medium q dium strength, moderately weathered (c	continued)	/W				-		
			24.82m		- -		grey, mediu	m strength, moderately weathered						-		
				31.7-	- 25.0			NE - coarse sand, some fine to medium qui m strength, moderately weathered	uartz gravel, N	ИW				-		
			25.15m		_									-		
		89% TCR 77% RQD			-									-		
			25.39m	31.2-	_ _ 25.5									-		
					_		CORE LOS	S					25.55: COF = 0.43	RE LOSS		
					-									-		
11:42		25.90		30.7-				NE - coarse sand, some fine to medium qu		ИW				-		
29/11/2011					-			d brown, low strength, moderately weathe E - faintly layered, grey, very low to low st	IS	SW				-		
awingFile>>					_		grey stained	NE - coarse sand, some fine to medium questions to be strength, moderately weathe E - low to medium strength faintly layered,	red. S	SW SW				-		
GS.GPJ < <drawingfile>> 29/11/2011 11:42</drawingfile>				30.2-	- 26.5		very low to	low strength, slightly weathered, with very grain sandstone low to medium strength	thinly to thinly					_		
ND BH LOG			26.73m		-									-		
A HA, AL NC		97%	26.88m		-		SII TSTONI	E - faintly layered, dark grey, low strength	elighthy	SW				-		
SEPARATI		97% TCR 91% RQD		29.7-	 27.0		weathered,	with very thinly to thinly layered fine grain um strength.	n sandstone	,,,				_		
LEY GRADE					_									-		
SBANE VAL	Run 6				-									-		
BANE) BR				29.2-	 27.5									-		
ROCK(BRI					-									-		
SKM AGS REV02.1 (WORKIN-BRISBANE).GLB LOG SKM ROCK(BRISBANE) BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LO					_											
RISBANE).G	NMLC NQ 1	NMLC	Coring	RILL	ING	HQ PQ	HQ Coring PQ Coring		TESTS nv Soil Sample nv Water Sample		DEFECT / S Crushed Seam (Z Crushed Zone (ABBREVIATION Clean CT Coating	ONS Cu Curved IR Irregular		NGTH (Is50 MPa) xtremely Low ery Low	
(WORKIN-E	7	TCR RQD	% core % core ock fra	run :	> 10	vered Omm lo	ong	SPT SPT Sample U Undisturbed Tube Sample		D F2 J1	B Drill Break Σ Fractured Zone \ Γ Joint	SN Stain VR Veneer	PR Planar ST Stepped Un Undulated	0.1-0.3 Lo 0.3-1.0 M 1.0-3.0 H	ow ledium igh ery High	
3S REV02.1	,	G ▼ =	ROUNE Water I)WA evel	TER (stat	SYME	OLS	PHOTOGRAPHS YES	≥ NO	S	Z Shear Zone F N Vein S	RF Rough S Smooth SL Slickensid	led		, J	
SKM A	▼ = Water level (static) ▼ = Water level (during drilling)					ing dril	ling)		_							

	S	}		N					HOLE NO: BH BV				BH BV 7			
PRO	DJEC	CT :	Brisl	bane	e Va	lley G	rade Separati	on JOB NO:Q	B10200.4					PAGE : 10	0 OF 10	
						_	9695 (56 MG/		LEVATION :	56.7 (AHD)			LOCATION	l : Brisbane	Valley Hwy
RIG	TYP	E:	Hydra	apov	ver S	Scout		CONTRACTO	OR : GeoDrill	- T Partlet						
				17/5	/11	to 18/	5/11	LOGGED BY		CHEC	KED	BY : VP	1		D : AS1736	T
	DKIL	LLING		\vdash					ERIAL			ESTIMATED STRENGT		CTS & COM	MENTS MENTS	
DRILLING &	WATER	HEAD TOR/ROD	FIELD TESTS	RL (m)	DEPTH (m)	GRAPHIC LOG	ROCK (texture, alterat	DESCRIPTIC TYPE: Colour, Grain fabric, mineral comp tion, cementation, etc	n size, Structur position, hardne	ess	Weathering	Is(50)	SPACING (mm)	Description of defects,	f joints, seams, additional and comments	INSTALLATION DETAIL
011 1142	Run 6	97% RQD	28.56m 28.73m 28.74m	27.2-26.7-			SILTSTONE extremely lov SILTSTONE extremely lov SILTSTONE organics, bla slightly weatl SILTSTONE extremely lov	- clayey siltstone, fine graw to very low strength, slig - clayey siltstone, fine graw to very low strength, slig - o very low strength, slig	wered fine grain sa ain, faintly layered, yhtly weathered. ain, faintly layered, ly low to very low s ain, faintly layered, htly weathered.	dark grey, with some strength, dark grey,	sw sw sw			- 30.27: COF = 0.03	RELOSS	
AS REVOZ.1 (WORKIN-BRISBANE), GLB	Q N T R	IQ Co CR (RQD (r (r	Coring ring % core % core ock fra	run run ction	recov > 100 only TER	HQ PQ vered omm lo measu SYMB	ired)	D Disturbed Samp W Water Sample SPT SPT Sample U Undisturbed Tul	EW Env \	STS Soil Sample Water Sampl	e C F J	DEFECT CS Crushed Seam CZ Crushed Zone B Drill Break Z Fractured Zone T Joint S Infilled Seam CZ Shear Zone N Vein	CT Coating SN Stain VR Veneer	Cu Curved IR Irregular PR Planar ST Stepped Un Undulated	0-0.03 E 0.03-0.1 V 0.1-0.3 L 0.3-1.0 N 1.0-3.0 H	NGTH (Is50 MPa) Extremely Low ery Low ow ledium ligh ery High
Μ A A	<u>-</u>	<u>√</u> =	Water	level	(duri	ing drill	ng)	NOTES L		۔ لاے						
ω <u> </u>								<u>I</u>					F	ile: QB1020	00.4 BH BV	7 10 OF 10



CORE PHOTOGRAPHS JOB NO.: QB10200.4 BOREHOLE: BH BV 7

COORDS:

PROJECT: Brisbane Valley Grade Separation LOCATION: Warrego – Brisbane Valley Hwy Intersection

DEPTH:30.3 m RL:56.7

DRILL RIG: Hydra Scout CONTRACTOR: Geodrill

CHECKED BY:VP DATE:18/5/11

CORE:BH BV 7, 14.5 m to 19.85 m



CORE:BH BV 7, 19.85 m to 24.82 m



CORE: 24.82 m to 29.92 m





CORE PHOTOGRAPHS JOB NO.: QB10200.4 BOREHOLE: BH BV 7

COORDS:

PROJECT: Brisbane Valley Grade Separation

LOCATION: Warrego – Brisbane Valley Hwy Intersection

DEPTH:30.3 m RL:56.7

DRILL RIG: Hydra Scout CONTRACTOR: Geodrill

LOGGED BY:LN	CHECKED BY:VP	DATE:18/5/11
CORE: BH BV 7, 29.92 m to 30.3 m		
BH (8V) > BOX 4	to 1000 to End Coming 10.03.	
CORE/ FIGURE:		
CORE / FIGURE		