SOIL LOG

HOLE NO: **BH BV 2**

PROJECT : Brisbane Valley Grade Separation	JOB NO : QB10200.4	PAGE : 1 OF 10
POSITION : E: 470437, N: 6949695 (56 MGA94)	SURFACE ELEVATION : 56.5 (AHD)	LOCATION : Brisbane Valley Hwy
RIG TYPE : Hydrapower Scout	CONTRACTOR : GeoDrill - T Partleton	DIP / AZIMUTH : 90°
DATE DRILLED : 12/5/11 to 13/5/11	LOGGED BY : LN CHECKED BY : VP	STANDARD : AS1736

DRILLING & WATER DETAIL	LAB DATA: 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 (S / L, F / MD, St / D, VSt / VD)	COMMENTS Field Test Data & Other Observations
									CLAY - sandy CLAY of high plasticity, dark brown in colour, some fine to medium sand, moist and firm.	M		0.00: FILL
						56.0	0.5		0.60m			
									CLAY - sandy CLAY, high plasticity, brown in colour, some fine to medium sand, moist, firm.	M		0.60: FILL
									0.90m			
					1.00m SPT 1, 5, 5 N=10	55.5	1.0		SAND - silty SAND, fine to coarse sand, orange brown, high plasticity fines, moist, loose.	M		0.90: FILL
									1.20m			
									SILT - clayey SILT, high plasticity fines, light grey, moist, firm.	M		
					1.45m	55.0	1.5					
					2.00m SPT 5, 8, 12 N=20	54.5	2.0		2.00m			
									SILT - sandy SILT, high plasticity fines, yellow orange mottled grey, trace fine to medium sand, moist, very stiff.	M		
									2.25m			
									SILT - high plasticity, white, moist, stiff to very stiff.	M		
					2.45m							
						54.0	2.5		2.50m			
									SILT - sandy SILT, high plasticity fines, orange mottled grey, fine to coarse sand, moist, stiff to very stiff.			
					3.00m SPT 6, 9, 14 N=23	53.5	3.0			M		
					3.45m							

Groundwater

DRILLING

HA	Hand Auger	HQ	HQ Coring
AS	Auger	NQ	NQ Coring
WB	Washbore	PQ	PQ Coring
RR	Rock Rolling		NMLC NMLC Coring

GROUNDWATER SYMBOLS
▼ = Water level (static)
▽ = Water level (during drilling)

SAMPLES & FIELD TESTS

D	Disturbed Sample	SPT	SPT Sample
ES	Env Soil Sample	U	Undisturbed Tube Sample
EW	Env Water Sample	W	Water Sample

HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)
N SPT blows per 300mm
HW SPT penetration by hammer weight
RW SPT penetration by rod weight

MOISTURE CONDITION
D = Dry M = Moist W = Wet

DENSITY (N-value)

VL	Very Loose	0 - 4
L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100
CO	Compact	>50/150mm

CONSISTENCY (Su) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}

SKM AGS REV02.1 (WORKIN-BRISBANE).GLB Log SKM SOIL LOG BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 10:52

SOIL LOG

HOLE NO: **BH BV 2**

PROJECT : Brisbane Valley Grade Separation	JOB NO : QB10200.4	PAGE : 2 OF 10
POSITION : E: 470437, N: 6949695 (56 MGA94)	SURFACE ELEVATION : 56.5 (AHD)	LOCATION : Brisbane Valley Hwy
RIG TYPE : Hydrapower Scout	CONTRACTOR : GeoDrill - T Partleton	DIP / AZIMUTH : 90°
DATE DRILLED : 12/5/11 to 13/5/11	LOGGED BY : LN CHECKED BY : VP	STANDARD : AS1736

DRILLING & WATER DETAIL	LAB DATA: 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 S / L · F / MD · St / D · VSt / VD	COMMENTS Field Test Data & Other Observations
Groundwater					4.00m SPT 13, 14, 19 N=33	52.5	4.0		SILT - sandy SILT, high plasticity fines, orange mottled grey, fine to coarse sand, moist, stiff to very stiff. *(continued)*	M		
							4.20m		SAND - silty SAND, fine to medium sand, orange grey in colour, low plasticity silts, moist, dense.	M		
							4.30m		IRONSTONE - red brown, moist,extremely weathered and of extremely low strength, moist, hard .	M		
					4.45m	52.0	4.5		SILT - sandy SILT, high plasticity fines, orange mottled grey, some fine sand, moist, stiff to very stiff.	M		
							4.60m		SILT - gravelly sandy SILT, high plasticity fines, orange mottled grey, fine to coarse sand, some fine to medium gravels (extremely weathered, very low strength red brown ironstone), moist, stiff to very stiff.	M		
							4.80m		SILT - high plasticity fines, grey mottled orange and brown, trace of fine sand, moist, very stiff to hard.			
					5.00m SPT 6, 9, 12 N=21	51.5	5.0					
					5.45m	51.0	5.5			M		
					6.00m SPT 12, 20, 30/140mm N=R	50.5	6.0					
							6.20m		SILT - sandy SILT, high plasticity fines, orange, fine to medium sand, moist, hard.	M		
							6.38m		SILT - high plasticity fines, grey mottled orange and brown, trace of fine sand, moist, very stiff to hard.	M		
					6.44m	50.0	6.5					
							6.50m		IRONSTONE - red brown, moist, extremely weathered, extremely low strength, moist, dense..	M		
							6.70m		SILT - high plasticity fines, grey mottled orange and brown, trace of fine sand, moist, very stiff to hard.	M		
					7.00m		7.00m					

SKM AGS REV02.1 (WORKIN-BRISBANE).GLB Log SKM SOIL LOG BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 10:52

DRILLING

HA	Hand Auger	HQ	HQ Coring
AS	Auger	NQ	NQ Coring
WB	Washbore	PQ	PQ Coring
RR	Rock Rolling		NMLC NMLC Coring

GROUNDWATER SYMBOLS
▼ = Water level (static)
▽ = Water level (during drilling)

SAMPLES & FIELD TESTS

D	Disturbed Sample	SPT	SPT Sample
ES	Env Soil Sample	U	Undisturbed Tube Sample
EW	Env Water Sample	W	Water Sample

HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)
N SPT blows per 300mm
HW SPT penetration by hammer weight
RW SPT penetration by rod weight

MOISTURE CONDITION
D = Dry M = Moist W = Wet

DENSITY (N-value)

VL	Very Loose	0 - 4
L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100
CO	Compact	>50/150mm

CONSISTENCY (Su) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}

SOIL LOG

HOLE NO: **BH BV 2**

PROJECT : Brisbane Valley Grade Separation | JOB NO : QB10200.4 | PAGE : 3 OF 10

POSITION : E: 470437, N: 6949695 (56 MGA94) | SURFACE ELEVATION : 56.5 (AHD) | LOCATION : Brisbane Valley Hwy

RIG TYPE : Hydrapower Scout | CONTRACTOR : GeoDrill - T Partleton | DIP / AZIMUTH : 90°

DATE DRILLED : 12/5/11 to 13/5/11 | LOGGED BY : LN | CHECKED BY : VP | STANDARD : AS1736

DRILLING & WATER DETAIL	LAB DATA: 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 (S / L, F / MD, St / D, VSt / VD)	COMMENTS (Field Test Data & Other Observations)
Groundwater					SPT 15, 23, 29 N=52				SILT - high plasticity fines, orange grey, some fine sand, moist, hard.			
					7.45m	49.0	7.5					
					8.00m	48.5	8.0			M		
					SPT 20, 30/100mm N=R							
					8.25m							
						48.0	8.5					
					9.00m	47.5	9.0		9.00m			
					SPT 14, 19, 23 N=42				SILT - high plasticity fines, grey mottled orange, trace of sand, moist, hard.			
					9.45m	47.0	9.5			M		
					10.00m	46.5	10.0		10.00m			
					SPT 14, 11, 30/100mm N=R				SILT - high plasticity fines, grey, trace of sand, moist, hard.			
					10.40m					M		

DRILLING

HA	Hand Auger	HQ	HQ Coring
AS	Auger	NQ	NQ Coring
WB	Washbore	PQ	PQ Coring
RR	Rock Rolling		NMLC NMLC Coring

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SAMPLES & FIELD TESTS

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(P: Peak Su R: Residual Su)
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MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100
CO	Compact	>50/150mm

CONSISTENCY (Su) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}

SKM AGS REV02.1 (WORKIN-BRISBANE).GLB Log SKM SOIL LOG BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 10:52

SOIL LOG

HOLE NO: **BH BV 2**

PROJECT : Brisbane Valley Grade Separation | JOB NO : QB10200.4 | PAGE : 4 OF 10

POSITION : E: 470437, N: 6949695 (56 MGA94) | SURFACE ELEVATION : 56.5 (AHD) | LOCATION : Brisbane Valley Hwy

RIG TYPE : Hydrapower Scout | CONTRACTOR : GeoDrill - T Partleton | DIP / AZIMUTH : 90°

DATE DRILLED : 12/5/11 to 13/5/11 | LOGGED BY : LN | CHECKED BY : VP | STANDARD : AS1736

DRILLING & WATER DETAIL	LAB DATA: 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 (S / L, F / MD, St / D, VSt / VD)	COMMENTS (Field Test Data & Other Observations)
Groundwater					11.00m SPT 30/120mm N=R 11.12m	45.5	11.0		SILT - high plasticity fines, grey, trace of sand, moist, hard. *(continued)*	M		
						45.0	11.5					
					12.00m SPT 30/70mm N=R 12.07m	44.5	12.0		12.00m SILT - sandy SILT, high plasticity fines, orange brown, fine to medium sand, moist, hard.			
						44.0	12.5			M		
					13.00m SPT 30/70mm N=R 13.07m	43.5	13.0		13.00m SILT - sandy SILT, high plasticity fines, orange grey, fine to medium sand, moist, hard.			
						43.0	13.5			M		
					14.00m							

DRILLING

HA	Hand Auger	HQ	HQ Coring
AS	Auger	NQ	NQ Coring
WB	Washbore	PQ	PQ Coring
RR	Rock Rolling		NMLC NMLC Coring

GROUNDWATER SYMBOLS
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SAMPLES & FIELD TESTS

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VS	Very Soft	< 12 kPa	{0-2}
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H	Hard	> 200 kPa	{>30}

SKM AGS REV02.1 (WORKIN-BRISBANE).GLB Log SKM SOIL LOG BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 10:52

SOIL LOG

HOLE NO: **BH BV 2**

PROJECT : Brisbane Valley Grade Separation | JOB NO : QB10200.4 | PAGE : 5 OF 10

POSITION : E: 470437, N: 6949695 (56 MGA94) | SURFACE ELEVATION : 56.5 (AHD) | LOCATION : Brisbane Valley Hwy

RIG TYPE : Hydrapower Scout | CONTRACTOR : GeoDrill - T Partleton | DIP / AZIMUTH : 90°

DATE DRILLED : 12/5/11 to 13/5/11 | LOGGED BY : LN | CHECKED BY : VP | STANDARD : AS1736

DRILLING & WATER DETAIL	LAB DATA: 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: S / L	F / MD	St / D	VSt / VD	COMMENTS Field Test Data & Other Observations
					SPT 30/60mm N=R 14.06m				SILT - sandy SILT, high plasticity fines, orange grey, fine to medium sand, moist, hard. *(continued)*	M					
						42.0	14.5		14.50m Continued as Cored Borehole						
						41.5	15.0								
						41.0	15.5								
						40.5	16.0								
						40.0	16.5								
						39.5	17.0								

DRILLING

HA	Hand Auger	HQ	HQ Coring
AS	Auger	NQ	NQ Coring
WB	Washbore	PQ	PQ Coring
RR	Rock Rolling		NMLC NMLC Coring

GROUNDWATER SYMBOLS
▼ = Water level (static)
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SAMPLES & FIELD TESTS

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HV Hand Vane Shear
(P: Peak Su R: Residual Su)
N SPT blows per 300mm
HW SPT penetration by hammer weight
RW SPT penetration by rod weight

MOISTURE CONDITION
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DENSITY (N-value)

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L	Loose	4 - 10
MD	Medium Dense	10 - 30
D	Dense	30 - 50
VD	Very Dense	50 - 100
CO	Compact	>50/150mm

CONSISTENCY (Su) {N-value}

VS	Very Soft	< 12 kPa {0-2}
S	Soft	12 - 25 {2-4}
F	Firm	25 - 50 {4-8}
St	Stiff	50 - 100 {8-15}
VSt	Very Stiff	100 - 200 {15-30}
H	Hard	> 200 kPa {>30}

SKM AGS REV02.1 (WORKIN-BRISBANE).GLB Log SKM SOIL LOG BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 10:52

ROCK LOG

HOLE NO: **BH BV 2**

PROJECT : Brisbane Valley Grade Separation	JOB NO : QB10200.4	PAGE : 6 OF 10
POSITION : E: 470437, N: 6949695 (56 MGA94)	SURFACE ELEVATION : 56.5 (AHD)	LOCATION : Brisbane Valley Hwy
RIG TYPE : Hydrapower Scout	CONTRACTOR : GeoDrill - T Partleton	DIP / AZIMUTH : 90°
DATE DRILLED : 12/5/11 to 13/5/11	LOGGED BY : LN CHECKED BY : VP	STANDARD : AS1736

DRILLING			MATERIAL					DEFECTS & COMMENTS		
DRILLING & WATER DETAIL	TCR/RQD DRILL DEPTH	FIELD TESTS	RL (m)	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	Weathering	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral (EL -0.03, VL -0.1, L -0.3, M -1, H -3, VH -10, EH)	DEFECT SPACING (mm) (20, 60, 200, 600, 2000)	COMMENTS Description of joints, seams, defects, additional observations and comments	INSTALLATION DETAIL
						START CORING AT 14.50m					
			42.0	14.5		SILTSTONE - Fine grain, layered, orange brown to grey, moderately weathered, very low strength.	MW				
		14.63m				SILTSTONE - Fine grain, layered, grey, moderately weathered, very low strength.	MW				
		14.77m				SILTSTONE - Fine grain, layered, orange brown to grey, moderately weathered, very low strength.	MW				
						SANDSTONE - massive, medium to coarse sand, grey , medium stength, slightly to moderately weathered.	MW				
			41.5	15.0							
						SANDSTONE - medium to coarse sand, orange mottled grey, with some fine to medium gravel, medium strength, slightly to moderately weathered.	SW - MW				
		15.50m	41.0	15.5							
		15.63m									
Run 1	100% TCR 84% RQD										
			40.5	16.0		SANDSTONE - coarse sand, grey mottled orange, medium strength, fractured, moderately weathered.	SW - MW			— CN IR RF J85(op)(ro)W	
						SANDSTONE - medium to coarse sand, orange grey, some fine to medium quartz and bluestone like gravel, medium to high strength, slightly to moderately weathered.	MW				
		16.30m									
						SANDSTONE - massive, medium to coarse sand, some fine to medium quartz like gravel, light grey with some yellow staining, high strength, slightly weathered.	SW - MW				
		16.54m	40.0	16.5							
		16.67m									
						SANDSTONE - medium to coarse sand, light grey, high to very high strength, slightly weathered.	SW				
			39.5	17.0							
	17.10										
	100% TCR 59% RQD					SANDSTONE - massive, medium to coarse sand, orange grey, very high strength, slightly weathered.	SW				

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (rock fraction only measured)

GROUNDWATER SYMBOLS
▼ = Water level (static)
▽ = Water level (during drilling)

SAMPLES & FIELD TESTS

D Disturbed Sample
W Water Sample
SPT SPT Sample
U Undisturbed Tube Sample
ES Env Soil Sample
EW Env Water Sample

PHOTOGRAPHS NOTES ☐ YES ☒ NO

DEFECT ABBREVIATIONS

CS Crushed Seam
CZ Crushed Zone
DB Drill Break
FZ Fractured Zone
JT Joint
IS Infilled Seam
SZ Shear Zone
VN Vein
CN Clean
CT Coating
SN Stain
VR Veneer
POL Polished
RF Rough
S Smooth
SL Slickensided
Cu Curved
IR Irregular
PR Planar
ST Stepped
Un Undulated

ROCK STRENGTH (Is50 MPa)

0-0.03	Extremely Low
0.03-0.1	Very Low
0.1-0.3	Low
0.3-1.0	Medium
1.0-3.0	High
3.0-10	Very High

SKM AGS REV02.1 (WORKIN-BRISBANE).GLB Log SKM ROCK(BRISBANE) BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 10:54

ROCK LOG

HOLE NO: **BH BV 2**

PROJECT : Brisbane Valley Grade Separation	JOB NO : QB10200.4	PAGE : 7 OF 10
POSITION : E: 470437, N: 6949695 (56 MGA94)	SURFACE ELEVATION : 56.5 (AHD)	LOCATION : Brisbane Valley Hwy
RIG TYPE : Hydrapower Scout	CONTRACTOR : GeoDrill - T Partleton	DIP / AZIMUTH : 90°
DATE DRILLED : 12/5/11 to 13/5/11	LOGGED BY : LN CHECKED BY : VP	STANDARD : AS1736

DRILLING			MATERIAL					DEFECTS & COMMENTS		
DRILLING & WATER DETAIL	TCR/RQD DRILL DEPTH	FIELD TESTS	RL (m)	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	Weathering	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral EL VL L M H VH EH -0.03 -0.1 -0.3 -1 -3 -10	DEFECT SPACING (mm) 20 60 200 600 2000	COMMENTS Description of joints, seams, defects, additional observations and comments	INSTALLATION DETAIL
		17.74m				SANDSTONE - massive, medium to coarse sand, orange grey, very high strength, slightly weathered. *(continued)*	SW				
						SANDSTONE -massive, medium to coarse sand, orange with dark brown silt layering, low stength, moderately weathered.	SW				
						SANDSTONE - massive, medium to coarse sand, light orange grey, medium strength, moderately weathered.	MW				
Run 2			38.5	18.0		SANDSTONE - faintly layered, massive, medium to coarse sand, orange, medium strength, modertely weathered.	MW				
		18.12m									
	100% TCR 59% RQD	18.22m				SANDSTONE - faintly layered to massive, medium to coarse sand, red orange brown, medium to high strength, moderately weathered.	MW			— CN IR RF J85(op)(ro)W	
			38.0	18.5							
		18.62m									
		18.72m									
	18.80									— CN IR RF J70(op)(ro)W,dkbrown	
						SANDSTONE - massive, medium to coarse sand, orange brown, medium strength, moderately weathered. (Note some quartz gravel at 19.6 to 19.7m)	MW				
			37.5	19.0							
Run 3	100% TCR 88% RQD		37.0	19.5							
						SANDSTONE - massive, medium to coarse sand, orange brown, medium strength, moderately weathered.	MW			— CN IR RF J50(op)(ro)W	
			36.5	20.0							
		20.10m									
	20.20	20.20m									
						SANDSTONE - medium to coarse sand, some fine to medium quartz like gravel, orange brown, low strength strength, moderately weathered.	MW				
						SANDSTONE - medium to coarse sand, some fine quartz gravel, orange, medium strength, moderately weathered. Fractured.	MW				
			36.0	20.5							
	100% TCR 31% RQD										
		20.75m									
Run 4		20.85m									

SKM AGS REV02.1 (WORKIN-BRISBANE).GLB Log SKM ROCK(BRISBANE) BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 10:54

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (rock fraction only measured)

GROUNDWATER SYMBOLS
▼ = Water level (static)
▽ = Water level (during drilling)

SAMPLES & FIELD TESTS

D Disturbed Sample
W Water Sample
ES Env Soil Sample
EW Env Water Sample
SPT SPT Sample
U Undisturbed Tube Sample

PHOTOGRAPHS NOTES ☐ YES ☒ NO

DEFECT ABBREVIATIONS

CS Crushed Seam
CZ Crushed Zone
DB Drill Break
FZ Fractured Zone
JT Joint
IS Infilled Seam
SZ Shear Zone
VN Vein
CN Clean
CT Coating
SN Stain
VR Veneer
POL Polished
RF Rough
S Smooth
SL Slickensided
Cu Curved
IR Irregular
PR Planar
ST Stepped
Un Undulated

ROCK STRENGTH (Is50 MPa)

0-0.03	Extremely Low
0.03-0.1	Very Low
0.1-0.3	Low
0.3-1.0	Medium
1.0-3.0	High
3.0-10	Very High

ROCK LOG

HOLE NO: **BH BV 2**

PROJECT : Brisbane Valley Grade Separation	JOB NO : QB10200.4	PAGE : 8 OF 10
POSITION : E: 470437, N: 6949695 (56 MGA94)	SURFACE ELEVATION : 56.5 (AHD)	LOCATION : Brisbane Valley Hwy
RIG TYPE : Hydrapower Scout	CONTRACTOR : GeoDrill - T Partleton	DIP / AZIMUTH : 90°
DATE DRILLED : 12/5/11 to 13/5/11	LOGGED BY : LN CHECKED BY : VP	STANDARD : AS1736

DRILLING			MATERIAL					DEFECTS & COMMENTS		
DRILLING & WATER DETAIL	TCR/RQD / DRILL DEPTH	FIELD TESTS	RL (m)	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	Weathering	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral EL VL L M H VH EH	DEFECT SPACING (mm)	COMMENTS Description of joints, seams, defects, additional observations and comments	INSTALLATION DETAIL
						SANDSTONE - medium to coarse sand, some fine quartz gravel, orange, medium strength, moderately weathered. Fractured. *(continued)*	MW				
	100% TCR 31% RQD					SANDSTONE - medium to coarse sand, orange, low strength, moderately weathered. Heavily fractured.	MW				
						CORE LOSS	MW			— 21.40: Core Loss	
	21.60		35.0	21.5							
						SANDSTONE - medium to coarse sand, light orange, medium strength, moderately weathered. Heavily fractured.					
		22.04m	34.5	22.0							
		22.22m									
Run 5	96% TCR 57% RQD										
			34.0	22.5							
	23.00		33.5	23.0		CORE LOSS	MW			— 23.00: Core Loss	
			33.0	23.5							
	50% TCR 25% RQD										
			32.5	24.0							
Run 6						SANDSTONE - medium to coarse sand, some fine quartz gravel, light red brown, low stength, moderately weathered, heavily fractured.					
		24.48m									

SKM AGS REV02.1 (WORKIN-BRISBANE).GLB Log SKM ROCK(BRISBANE) BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 10:54

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (rock fraction only measured)

GROUNDWATER SYMBOLS
▼ = Water level (static)
▽ = Water level (during drilling)

SAMPLES & FIELD TESTS

D Disturbed Sample
W Water Sample
ES Env Soil Sample
EW Env Water Sample
SPT SPT Sample
U Undisturbed Tube Sample

PHOTOGRAPHS NOTES ☐ YES ☒ NO

DEFECT ABBREVIATIONS

CS Crushed Seam
CZ Crushed Zone
DB Drill Break
FZ Fractured Zone
JT Joint
IS Infilled Seam
SZ Shear Zone
VN Vein
CN Clean
CT Coating
SN Stain
VR Veneer
POL Polished
RF Rough
S Smooth
SL Slickensided
Cu Curved
IR Irregular
PR Planar
ST Stepped
Un Undulated

ROCK STRENGTH (Is50 MPa)

0-0.03	Extremely Low
0.03-0.1	Very Low
0.1-0.3	Low
0.3-1.0	Medium
1.0-3.0	High
3.0-10	Very High

ROCK LOG

HOLE NO: **BH BV 2**

PROJECT : Brisbane Valley Grade Separation	JOB NO : QB10200.4	PAGE : 9 OF 10
POSITION : E: 470437, N: 6949695 (56 MGA94)	SURFACE ELEVATION : 56.5 (AHD)	LOCATION : Brisbane Valley Hwy
RIG TYPE : Hydrapower Scout	CONTRACTOR : GeoDrill - T Partleton	DIP / AZIMUTH : 90°
DATE DRILLED : 12/5/11 to 13/5/11	LOGGED BY : LN CHECKED BY : VP	STANDARD : AS1736

DRILLING			MATERIAL					DEFECTS & COMMENTS		
DRILLING & WATER DETAIL	TCR/RQD DRILL DEPTH	FIELD TESTS	RL (m)	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	Weathering	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral EL VL L M H VH EH (-0.03, -0.1, -0.3, -1, -3, -10)	DEFECT SPACING (mm) 20 60 200 600 2000	COMMENTS Description of joints, seams, defects, additional observations and comments	INSTALLATION DETAIL
		24.74m				SANDSTONE - medium to coarse sand, some fine quartz gravel, light red brown, low stength, moderately weathered, heavily fractured. *(continued)*					
		24.80m				SANDSTONE - medium to coarse sand, grey, medium stength, moderately weathered.	MW				
		24.91m				SANDSTONE - medium to coarse sand, some fine quartz gravel, red brown to dark orange grey, medium strength, moderately weathered.	MW				
	50% TCR 25% RQD	25.04m	31.5	25.0							
		25.40				SANDSTONE - medium to coarse sand, some fine quartz gravel, orange grey, medium strength, moderately weathered.	MW				
						SILTSONE - fine grain, grey, very low strength, moderately weathered.	MW				
			31.0	25.5		SANDSTONE - layered, medium to coarse sand, light brown grey, medium strength, moderately weathered.	MW				
Run 7	94% TCR 57% RQD					SILTSTONE - faintly layered, with very thinly to thinly layered medium to coarse sand light grey sandstone layers, fine grain, grey, very low to low stength, slightly weathered.	SW				
		26.10	30.5	26.0							
			30.0	26.5							
	100% TCR 94% RQD		29.5	27.0							
Run 8			29.0	27.5		SILTSTONE - faintly layered, dark grey, very low to low stength, slightly weathered.	SW				
		27.89m				SILTSTONE - faintly layered, grey, very low to low stength, slightly weathered. Heavily fractured 28.85 to 28.96.	SW				

DRILLING

NMLC NMLC Coring
NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

TCR % core run recovered
RQD % core run > 100mm long (rock fraction only measured)

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SAMPLES & FIELD TESTS

D Disturbed Sample
W Water Sample
ES Env Soil Sample
EW Env Water Sample
SPT SPT Sample
U Undisturbed Tube Sample

PHOTOGRAPHS NOTES ☐ YES ☒ NO

DEFECT ABBREVIATIONS

CS Crushed Seam, CZ Crushed Zone, DB Drill Break, FZ Fractured Zone, JT Joint, IS Infilled Seam, SZ Shear Zone, VN Vein
CN Clean, CT Coating, SN Stain, VR Veneer
POL Polished, RF Rough, S Smooth, SL Slickensided
Cu Curved, IR Irregular, PR Planar, ST Stepped, Un Undulated

ROCK STRENGTH (Is50 MPa)

0-0.03	Extremely Low
0.03-0.1	Very Low
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SKM AGS REV02.1 (WORKIN-BRISBANE).GLB Log SKM ROCK(BRISBANE) BRISBANE VALLEY GRADE SEPARATION TP,AH AND BH LOGS.GPJ <<DrawingFile>> 29/11/2011 10:54

ROCK LOG

HOLE NO: **BH BV 2**

PROJECT : Brisbane Valley Grade Separation	JOB NO : QB10200.4	PAGE : 10 OF 10
POSITION : E: 470437, N: 6949695 (56 MGA94)	SURFACE ELEVATION : 56.5 (AHD)	LOCATION : Brisbane Valley Hwy
RIG TYPE : Hydrapower Scout	CONTRACTOR : GeoDrill - T Partleton	DIP / AZIMUTH : 90°
DATE DRILLED : 12/5/11 to 13/5/11	LOGGED BY : LN CHECKED BY : VP	STANDARD : AS1736

DRILLING			MATERIAL					DEFECTS & COMMENTS		
DRILLING & WATER DETAIL	TCR/RQD DRILL DEPTH	FIELD TESTS	RL (m)	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	Weathering	ESTIMATED STRENGTH Is(50) ● - Axial ○ - Diametral EL VL L M H VH EH	DEFECT SPACING (mm)	COMMENTS Description of joints, seams, defects, additional observations and comments	INSTALLATION DETAIL
		28.02m				SILTSTONE - faintly layered, grey, very low to low stength, slightly weathered. Heavily fractured 28.85 to 28.96. *(continued)*	SW				
	100% TCR 94% RQD		28.0	28.5							
		28.75m									
		28.85m								— Clay IR RF J65(op)(ro)sandy clay infill	
	28.96										
			27.5	29.0		SILTSTONE - organic clayey siltstone with pseudo fibrous organics layered, dark grey, extremely low strength, slightly weathered.	SW				
						SILTSTONE -organic clayey siltstone, fine grain, dark grey to black, organic odour, pseudo fibrous organics, extremely low strength, moderately weathered.	MW				
						SILTSTONE - clayey siltstone, laminated dark grey, extemely low to very low strength, slightly weathered.	SW				
			27.0	29.5							
Run 9	97% TCR 78% RQD										
			26.5	30.0							
		30.35m								— 30.45: CORE LOSS	
	30.50		26.0	30.5		CORE LOSS					
						Terminated @ 30.5 m. No water encountered.					
			25.5	31.0							

DRILLING

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NQ NQ Coring
HQ HQ Coring
PQ PQ Coring

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RQD % core run > 100mm long (rock fraction only measured)

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PHOTOGRAPHS NOTES ☐ YES ☒ NO

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File: QB10200.4 BH BV 2 10 OF 10

CORE PHOTOGRAPHS	PROJECT: Brisbane Valley Grade Separation	
JOB NO.: QB10200.4	LOCATION: Warrego – Brisbane Valley Hwy Intersection	
BOREHOLE: BH BV 2	DEPTH:30.5 m	RL:56.5
CLIENT:TMR	COORDS:	DRILL RIG: Hydra Scout	CONTRACTOR: Geodrill
LOGGED BY:LN	CHECKED BY:VP	DATE:13/5/11

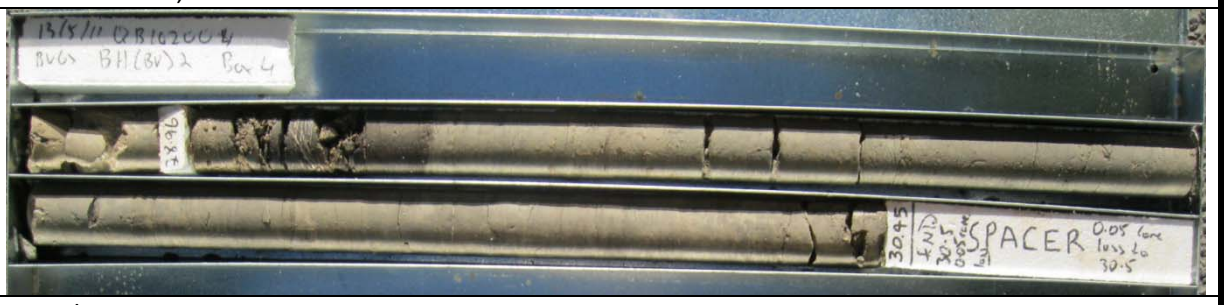
CORE: BH BV 2 14.5 m to 18.8 m

CORE: BH BV 2, 18.8 m to 23.0 m

CORE: BH BV 2, 24.2 m to 28.85 m

CORE PHOTOGRAPHS	PROJECT: Brisbane Valley Grade Separation	
JOB NO.: QB10200.4	LOCATION: Warrego – Brisbane Valley Hwy Intersection	
BOREHOLE: BH BV 2	DEPTH:30.5 m	RL:56.5
CLIENT:TMR	COORDS:	DRILL RIG: Hydra Scout	CONTRACTOR: Geodrill
LOGGED BY:LN	CHECKED BY:VP	DATE:13/5/11

CORE: BH BV 2, 28.85m to 30.45 m



CORE/ FIGURE:

CORE / FIGURE