BOREHOLE: BGL-05

		Position:	Lower Reservoir	Sheet	1 of 6
Project:	Pioneer-Burdekin PHES	Coords:	660370.0 m E 7661191.3 m N MGA2020-55		
Location:	Netherdale/Dalrymple Heights	Surface RL:	151.4 m AHD	Date Started:	5/3/2024
Client:	Queensland Hydro	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Hanjin D&B-8DTM	Date Completed:	15/3/2024
Job No.:	PS138693	Inclination:	-89° Direction: 201°	Logged:	JRG/SB

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/V	E		0	151.38	D 0.00-0.50 m PB-BGL-05-001			SC	Clayey Silty SAND: medium to fine grained, dark brown, clay is medium plasticity; with fine to coarse grained, rounded gravel; and cobbles (mixed geologic origin).	M	L	ALLUVIAL SOIL
				0.50								
				150.88	D 0.50-1.00 m PB-BGL-05-002			GW	Sandy Silty GRAVEL: fine to coarse, sub-angular to rounded, dark brown, silt is low plasticity; sand is fine to coarse grained; with rounded cobbles; decreasing silt content with depth.			
	H		1							M	L - MD	
					D 1.50-2.00 m PB-BGL-05-003							
HQ3			2		D 2.00-2.50 m PB-BGL-05-004							1.60-3.00m: Initially augered to 3.00m. Hole collapsed to 1.60m. Unable to advance with washboring. HQ3 coring used to advance hole.
				2.50								
				148.88				GP	MIXTURE OF Sandy GRAVEL AND COBBLES: gravel is coarse, sub-angular to rounded, dark brown, sand is medium grained; with rounded cobbles. cobbles is rounded.	W	MD	
				3.00								
			3						Continued as Cored Borehole			
			4									
			5									
			6									
			7									
			8									
			9									
			10									

Comments

Checked GEM

Date 16/10/2024

BOREHOLE: BGL-05

		Position:	Lower Reservoir	Sheet	2 OF 6
Project:	Pioneer-Burdekin PHES	Coords:	660370.0 m E 7661191.3 m N MGA2020-55		
Location:	Netherdale/Dalrymple Heights	Surface RL:	151.4 m AHD	Date Started:	5/3/2024
Client:	Queensland Hydro	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Hanjin D&B-8DTM	Date Completed:	15/3/2024
Job No.:	PS138693	Inclination:	-89° Direction: 201°	Logged:	JRG/SB

Drilling						Field Material Description				Defect Information	
METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa) ■ - UCS	DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)	AVERAGE DEFECT SPACING (mm)
				0					VL 2 L 6 M 20 H 60 VH 200 EH		10 30 100 300 1000 3000
				1							
				2							
				3	3.00		Continuation from non-cored borehole				
					148.38		GP Sandy GRAVEL: coarse, sub-angular to rounded, dark brown, sand is medium grained; with rounded, medium dense cobbles.				
		100	0	4							
	10/10/2024	100	0		4.30						
					147.08		GRANODIORITE: fine to coarse grained, white, pale grey, black, and pink, crystalline, massive.	FR		4.16: J, 30°, CN, PR, SM	
		100	100	5						4.64: J, bk mi CT, PR, RF 4.67: J, 40°, or-br and bk mi CT, PR, RF 4.90: J, 85°, or-br mi CT, UN, RF 4.98: J, 10°, gr, bk, and or-br mi CT, UN, RF 4.99: J, 10°, gr and rd mi VN, UN, RF 5.08: J, 40°, or-br and bk mi SN, PR, RF 5.17: J, 80°, gr, wh, and bk mi CT, PR, RF 5.19: J, 15°, CN, ST, RF 5.50: J, 15°, gr and rd-br mi VN, PR, RF	
		57	0		5.50						
					145.88		NO CORE 0.30m (5.50-5.80)				
					5.80						
HQ3					145.58		GRANODIORITE: fine to coarse grained, white, pale grey, black, and pink, crystalline, massive.	FR		5.85: J, 65°, gr and or-br mi VN, PR, SM	
		100	81	6				SW		6.15: J, 5°, Fe SN, PR, RF 5.90-6.60: J /hJ, 80 - 90°, wh and bk mi, Fe, UN-ST, RF, partially healed 6.44: J, 25°, or mi SN, PR, RF 6.51: J, 40°, bk and or mi VN, UN, RF 6.63: J, 30°, or mi SN, PR, RF 6.76: J, 20°, CN, UN, RF	
							moderately altered pink	FR			
				7			white, pale grey, black and pink				
		100	89	8						6.50-9.28: J /hJ, 80 - 90°, wh and bk mi, Fe, PR-ST, RF, partially healed 8.09: J, 80°, wh mi, UN 8.13-8.16: CS, 10°, sub-rounded gravel, <5 mm, bk mi VN, IR, RF 8.19: J, 5°, or mi VN, UN 8.37: J, 30°, CN, PR, RF 8.59: J, 15°, CN, UN, RF 8.70: J, 45°, CN, PR, RF	
				9							
		100	99							9.37: J, 20°, CN, UN, RF	
				10						9.90: J, 85°, or and gr mi CN, UN, RF	

Comments

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Date 16/10/2024

BOREHOLE: BGL-05

Project:	Pioneer-Burdekin PHES	Position:	Lower Reservoir	Sheet	3 OF 6
Location:	Netherdale/Dalrymple Heights	Coords:	660370.0 m E 7661191.3 m N MGA2020-55		
Client:	Queensland Hydro	Surface RL:	151.4 m AHD	Date Started:	5/3/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Hanjin D&B-8DTM	Date Completed:	15/3/2024
		Inclination:	-89° Direction: 201°	Logged:	JRG/SB

Drilling						Field Material Description				Defect Information	
METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa) ■ - UCS VL .2 L .6 M 2 H 6 VH 20 EH 200	DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)	AVERAGE DEFECT SPACING (mm) 10 30 100 300 1000 3000
HQ3		100	99	10			GRANODIORITE: fine to coarse grained, white, pale grey, black, and pink, crystalline, massive.	FR			
		100	100	11						10.73: J, 15°, CN, PR, RF 11.14: J, 45°, CN, PR, SM 11.15: J, 10°, CN, PR, RF 11.28: J, 35°, br and wh VN, PR, RF 11.53: J, 35°, rd and gr mi VN, PR, RF	
		100	100	12							
		100	99	13			moderately altered, red			13.06: J, 25°, gr and rd mi SN, PR	
		100	59	14			white, pale grey, black and pink			13.82: J, 50°, CN, PR, RF 13.83: J, 5°, CN, CU, RF 14.49: J, 40°, CN, ST, RF 14.57: J, 0°, CN, IR, RF 14.73: J, 20°, gr and bk mi VN, PR, RF 14.86: J, 40°, CN, ST, RF 14.84-15.25: SZ, 75°, gr and wh mi, GRAVEL sub-rounded <5 mm clasts CT, PR, RF, significant	
		100	85	15			slightly altered			15.83: J, 50°, CN, PR, RF 15.97: J, 45°, gr and or mi SN, UN, RF 16.06: J, 60°, CN, PR, RF 16.23: J, 60°, bk mi VN, PR, RF	
		100	67	16			moderately altered			16.40: J, 35°, CN, PR, RF 16.62: J, 25°, CN, UN, RF 16.77: J, CN, ST, RF 16.88: J, 15°, CN, PR, RF	
		100	89	17			white, pale grey, black and pink			17.14: J, 20°, CN, ST, RF 17.43: J, 70°, gr mi, UN, RF, 2 mm 17.67: J, 80°, wh mi, UN, RF 17.70-17.79: J /MB x3, 0 - 30°, wh mi SN, UN, RF, multiple defects, MB on end of run possibly on hJ 17.83-17.86: J x2, 30°, wh mi, UN 17.72-18.32: J, 90°, wh mi SN, UN, RF 18.02: J, 0°, bk mi, UN, RF 18.23: J, 15°, CN, UN, RF 18.52: J, 80°, CN, PR, RF 18.50-18.55: J x2, 30 - 40°, CN, PR, RF	
				18							
				19			slightly altered				
				20			white, pale grey, black and pink			19.51: J, 35°, CN, PR, RF	

Comments

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BOREHOLE: BGL-05

Project:	Pioneer-Burdekin PHES	Position:	Lower Reservoir	Sheet	4 OF 6
Location:	Netherdale/Dalrymple Heights	Coords:	660370.0 m E 7661191.3 m N MGA2020-55		
Client:	Queensland Hydro	Surface RL:	151.4 m AHD	Date Started:	5/3/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Hanjin D&B-8DTM	Date Completed:	15/3/2024
		Inclination:	-89° Direction: 201°	Logged:	JRG/SB

Drilling						Field Material Description				Defect Information	
METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa) ■ - UCS	DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)	AVERAGE DEFECT SPACING (mm)
HQ3		100	89	20			GRANODIORITE: fine to coarse grained, white, pale grey, black, and pink, crystalline, massive.	FR		20.01: J, 40°, CN, UN, RF 20.05: J, 45°, CN, UN, RF 20.24: J, 50°, bk and wh mi CT, UN, RF	
		100	87	21						20.54: J, 20°, CN, PR-UN, RF 20.93: J, 20°, CN, PR, RF 21.40: J, 60°, gy-gr mi CT, UN, RF 21.59: J, 60°, or SN, UN, RF	
		100	91	22			mafic inclusion slightly altered, orange white, pale grey, black and pink			21.98: J, 60°, CN, ST, RF 22.03: J, 60°, bk mi SN, PR, RF 22.14: J, 75°, bk and gr mi VN, UN, RF 22.53: J, 30°, CN, ST, RF 22.85: J, 40°, CN, PR, RF	
		100	97	23						23.11: J, 50°, gr and bk mi SN, RF 23.13: J, 90°, CN, UN, RF 23.15: J, 10°, gr mi SN, PR, RF	
		100	97	24						24.20: J, 40°, bk and gr mi CT, PR, RF 24.55: J, 35°, gr SN, UN, RF	
		100	92	25						25.35-26.00: PLT(A) Is50 = 7.7MPa (M); PLT(D) Is50 = 9.9MPa (M) 25.36: J, 40°, CN, PR, RF 25.78: J, 0°, gr mi SN, UN, RF, 4 mm gr alt halo	
		100	97	26						26.34: J, 40°, gr SN, PR, RF 26.35: J, 35°, rd and gr SN, PR, RF, 25 mm gr alt halo 26.65: J, 30°, CN, RF 26.70: J, 75°, wh and bk mi CT, PR, SM 26.93: J, 50°, bk mi VN, PR, RF, 40 mm gr alt halo	
		100	97	27						27.70: J, 50°, or SN, UN, RF 27.75: J, 60°, bk VN, PR, RF	
		100	100	28			slightly altered white, pale grey, black and pink			28.47: J, 15°, bk SN, PR, RF 28.83: J, 5°, bk SN, PR, RF	
		100	63	29						29.60: J, 10°, CN, UN, RF 29.61: J, 30°, CN, UN, RF 29.84: J, 25°, CN, PR, RF	
				30							

Comments

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Date 16/10/2024

BOREHOLE: BGL-05

Project:	Pioneer-Burdekin PHES	Position:	Lower Reservoir	Sheet	5 OF 6
Location:	Netherdale/Dalrymple Heights	Coords:	660370.0 m E 7661191.3 m N MGA2020-55		
Client:	Queensland Hydro	Surface RL:	151.4 m AHD	Date Started:	5/3/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Hanjin D&B-8DTM	Date Completed:	15/3/2024
		Inclination:	-89° Direction: 201°	Logged:	JRG/SB

Drilling						Field Material Description				Defect Information	
METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa) ■ - UCS	DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)	AVERAGE DEFECT SPACING (mm)
HQ3		100	63	30			GRANODIORITE: fine to coarse grained, white, pale grey, black, and pink, crystalline, massive.	FR		29.85: J, 40°, bk SN, UN, RF 30.03-30.57: J, 90°, wh, gr, and rd mi, UN, RF 30.08-30.57: J x5, 35°, gr CT, UN, RF, 20-50mm spacing	
				31						30.83: J, 60°, wh and gr mi CT, UN, RF, 3 mm, 50-100 mm alt halo 31.09: J, 60°, PR, RF, HB 31.17: J, 80°, gr SN, ST, RF	
		100	53	32						31.56: J, 50°, CN, ST, RF	
					32.70 118.69		White, grey, and black, slightly altered brown, green, and red.			31.90: J, 75°, bk and or VN, PR, SM 31.99: J, 70°, bk VN, PR, RF 32.06: J, 40°, gr and rd SN, ST, RF 32.10: J, 45°, rd SN, UN, RF 32.13: J, 70°, bk VN, PR 32.23: J, 25°, bk and gr VN, UN, RF 32.32: J, 10°, gr SN, ST, RF 32.35: J, 10°, or VN, PR, RF 32.36: J, 65°, bk SN, ST, RF 32.43: J, 20°, bk and gr SN, PR, RF 32.53: J, 20°, wh SN, ST, RF	
		100	65	33						32.63: J, 10°, CN, UN, RF 32.96: J, 15°, CN, IR, RF 33.00: J, 20°, CN, IR, RF 33.02: J, 60°, CN, CV, RF 33.09: J, 30°, VN, PR, RF 33.22: J, 10°, CN, IR, RF 33.46: J, 40°, CN, IR, RF 33.58: J, 10°, CN, IR, RF 33.59: J, 45°, CN, PR, RF 33.60: J, 50°, VN, PR, RF 33.78: J, 40°, VN, IR, RF 33.84: J, 20°, CN, IR, RF 33.88: J, 20°, CN, PR, RF 33.93: J, 20°, CN, PR, RF 33.97: J, 10°, CN, IR, RF	
							moderately altered, dark red				
		100	73	34						34.11: J, 0°, CN, PR, RF 34.19: J, 10°, gr mi, PR	
				35				SW		34.22: J, 30°, CN, PR, RF 34.24: J, 30°, CN, PR, RF 34.28: J, 10°, CN, IR, RF 34.29: J, 0°, CN, IR, RF 34.30: J, 10°, CN, IR, RF 34.35: J, 5°, CN, PR, RF 34.41: J, 10°, CN, UN, RF 34.47: J, 10°, CN, UN, RF 34.64: J, 5°, CN, IR, RF 34.82: J, 25°, CN, PR, RF 34.85: J, 10°, CN, IR, RF 35.03: J, 10°, CN, IR, RF 35.04: J, 20°, CN, IR, RF 35.19: J, 50°, CN, IR, RF 35.70: J, 60°, CN, IR, RF	
								FR		36.16: J, 80°, qz and CLAY VN, IR, RF	
		100	100	36							
					37.00 114.39		White, grey, and black, slightly altered brown and red.			36.96: J, 75°, CN, IR, RF 37.00: J, 70°, CN, PR, SM	
							slightly altered, orange and pale grey 37.67-37.71m: 40mm mafic inclusion, dark grey				
		100	100	38							
							white, grey and black				
		100	89	39						39.19: J, 75°, gr mi VN, IR, RF 39.22: J, 60°, gr mi VN, IR, RF 39.22: J, 60°, CN, IR, RF 39.32: J, 55°, gr mi VN, IR, RF	
										39.72: J, 60°, wh mi VN, IR, RF 39.73: J, 60°, CN, IR, RF	
				40	40.00						

Comments

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Date 16/10/2024

BOREHOLE: BGL-05

Project:	Pioneer-Burdekin PHES	Position:	Lower Reservoir	Sheet	6 OF 6
Location:	Netherdale/Dalrymple Heights	Coords:	660370.0 m E 7661191.3 m N MGA2020-55		
Client:	Queensland Hydro	Surface RL:	151.4 m AHD	Date Started:	5/3/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Hanjin D&B-8DTM	Date Completed:	15/3/2024
		Inclination:	-89° Direction: 201°	Logged:	JRG/SB

Drilling						Field Material Description				Defect Information	
METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa) ■ - UCS VL .2 L .6 M 2 H 6 VH 20 EH 200	DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)	AVERAGE DEFECT SPACING (mm) 10 30 100 300 1000 3000
HQ3		100	89	40	111.39		GRANODIORITE: medium to coarse grained, white, grey, and black, crystalline, massive, slightly altered brown, green, and red.	FR		39.78: J, 70°, wh mi VN, IR, RF 39.92: J, 90°, gr mi VN, IR, RF 40.34: J, 20°, CN, IR, RF	
		100	100	41	*40.95* 110.44		Green and white, brecciated, highly to moderately altered clay and quartz veneer on defect surfaces, 70-80 degree contact.	SW		41.02: J, 60°, qz and CLAY VN, IR, RF	
					41.52 109.87		White, grey and black, slightly altered brown, green and red.	FR		41.55: J, 60°, qz and CLAY VN, IR, RF	
		100	100	42						42.00: J, 30°, CN, IR, RF 42.17: J, 40°, CN, IR, RF 42.49: J, 40°, CN, IR, RF 42.70: J, 30°, CN, IR, RF	
				43						42.97: J, 40°, CN, PR, RF	
		100	100	44						43.80: J, 60°, qz and CLAY VN, PR, SM 44.00: J, 45°, CN, IR, RF 44.26: J, 10°, CN, IR, RF 44.54: J, 30°, CN, PR, SM	
		100	94	45						44.80: J, 70°, CT, PR, SM 45.00: J, 45°, CN, PR, SM 45.20: J, 30°, VN, IR, RF	
				46						45.64: J, 20°, qz and ca? VN, CU, RF 45.86: J, 70°, qz VN, IR, RF 45.87: J, 15°, qz VN, PR, RF 46.08: J, 30°, CN, IR, RF 46.45: J, 10°, CN, IR, RF	
		100	100	47						46.98: J, 10°, CN, IR, RF 47.17: J, 45°, CN, IR, RF 47.35-48.00: PLT(A) Is50 = 8.5MPa (M); PLT(D) Is50 = 8.6MPa (M) 47.35: J, 20°, CN, PR, SM	
		100	100	48						48.39: J, 20°, CN, PR, RF 48.57: J, 60°, qz and ch VN, PR, 2 mm 48.83: J, 30°, CN, IR, RF	
		100	100	49						49.05: J, 75°, qz and ch? VN, PR, RF	
				50	*50.00*		Hole Terminated at 50.00 m Target depth. Standpipe Installed				

Comments

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Date 16/10/2024

Pioneer-Burdekin Pumped Hydro Energy Scheme: Tranche 1 – BGL-05 Defects List

Refer to Explanatory Notes sheets for abbreviation definitions

PointID	Depth	Bottom	Fracture Set	Defect Number	Type	Type Suffix	Dip Minimum (degrees)	Dip Maximum (degrees)	Infilling Material	Aperture Observation	Planarity	Roughness	Aperture Measurement Sign	Aperture Measurement	Aperture	Spacing	Remark
BGL-05	4.16				J		30			CN	PR	SM					
BGL-05	4.21				CO		40			CN	PR	RF					possible DB
BGL-05	4.27				hJ		40		rd-br and or mi		UN						
BGL-05	4.30				hJ		75		rd-br and wh mi		UN						
BGL-05	4.45				V		90		wh mi		UN			2			2 mm or, br, and gr alt halo
BGL-05	4.64				J				bk mi	CT	PR	RF					
BGL-05	4.67				J		40		or-br and bk mi	CT	PR	RF					
BGL-05	4.78	4.89			hJ	x2	20		rd-br mi / wh mi		UN						1-2 mm alt halo
BGL-05	4.90				J		85		or-br mi	CT	UN	RF					
BGL-05	4.98				J		10		gr, bk, and or-br mi	CT	UN	RF					
BGL-05	4.99				J		10		gr and rd mi	VN	UN	RF					
BGL-05	5.08				J		40		or-br and bk mi	SN	PR	RF					
BGL-05	5.17				J		80		gr, wh, and bk mi	CT	PR	RF					
BGL-05	5.19				J		15			CN	ST	RF					
BGL-05	5.50				J		15		gr and rd-br mi	VN	PR	RF					
BGL-05	5.85				J		65		gr and or-br mi	VN	PR	SM					
BGL-05	5.87				hJ		60		bk mi		UN						
BGL-05	5.90	6.60			J	/hJ	80	90	wh and bk mi, Fe		UN-ST	RF					partially healed
BGL-05	6.15				J		5		Fe	SN	PR	RF					
BGL-05	6.27	6.42			hJ	x2	30	50	wh mi		UN-PR						
BGL-05	6.36				hJ		70		wh and rd-br mi		UN						2 mm wh alt halo
BGL-05	6.44				J		25		or mi	SN	PR	RF					
BGL-05	6.46				hJ		20		bk mi		PR						
BGL-05	6.50	9.28			J	/hJ	80	90	wh and bk mi, Fe		PR-ST	RF					partially healed
BGL-05	6.51				J		40		bk and or mi	VN	UN	RF					
BGL-05	6.55				hJ		50		bk mi		PR			3			
BGL-05	6.63				J		30		or mi	SN	PR	RF					
BGL-05	6.76				J		20			CN	UN	RF					
BGL-05	6.86	7.12			hJ	x4	75	88	rd/wh/bk mi		UN						
BGL-05	7.13				hJ		60		bk and wh mi		UN						
BGL-05	7.33				hJ		50		wh mi		ST						
BGL-05	7.49				V		85		wh mi		PR			4			10 mm gr, or, and rd alt halo
BGL-05	7.76				hJ		50		bk mi		UN						
BGL-05	7.81				hJ		90		or mi		PR						
BGL-05	7.85				hJ		65		or mi		UN						
BGL-05	8.07				hJ		25		wh mi		UN			2			
BGL-05	8.08				hJ		90		bk, wh, and gr mi		PR						
BGL-05	8.09				J		80		wh mi		UN						
BGL-05	8.13	8.16			CS		10		sub-rounded gravel, <5 mm, bk mi	VN	IR	RF					
BGL-05	8.19				J		5		or mi	VN	UN						
BGL-05	8.22				hJ		5		rd mi		PR						
BGL-05	8.26				hJ		40		wh mi		PR						1 mm rd alt halo
BGL-05	8.37				J		30			CN	PR	RF					
BGL-05	8.39				hJ		20		bk and gr mi		UN						
BGL-05	8.59				J		15			CN	UN	RF					
BGL-05	8.70				J		45			CN	PR	RF					
BGL-05	8.76	8.78			hJ	x2	30	50	wh/gr mi		UN						1 mm gr alt halo
BGL-05	9.37				J		20			CN	UN	RF					
BGL-05	9.38				hJ	x2	20	25	gr/wh mi		UN-PR						
BGL-05	9.42				hJ		15		rd and gr mi		PR						
BGL-05	9.42				hJ		40		rd and gr mi		UN						
BGL-05	9.45				hJ		25		wh mi		UN						
BGL-05	9.81				hJ		90		wh mi		UN						
BGL-05	9.90				J		85		or and gr mi	CN	UN	RF					
BGL-05	9.96				hJ		85		or and gr mi		UN						
BGL-05	9.97				hJ		65		wh mi		UN						
BGL-05	10.41				hJ		15		wh and gr mi		UN						
BGL-05	10.43	10.50			hJ	x2	15		wh and gr mi		UN						
BGL-05	10.51				hJ		75		wh and gr mi		PR						
BGL-05	10.61				V		50		bk mi		UN			1			10 mm gr alt halo some mica phenocrysts <4 mm
BGL-05	10.73				J		15			CN	PR	RF					
BGL-05	10.80				hJ		25		gr mi		PR						
BGL-05	10.87				hJ		75		wh mi		UN			2			4 mm gr and or alt halo
BGL-05	10.92				hJ		65		wh mi		UN						1 mm pk alt halo
BGL-05	10.94				hJ		30		wh mi		ST						
BGL-05	11.11				hJ		85		rd and wh mi		UN						
BGL-05	11.14				J		45			CN	PR	SM					
BGL-05	11.15				J		10			CN	PR	RF					
BGL-05	11.17				hJ		90		gr mi		UN						
BGL-05	11.18	13.20			hJ		65		wh, rd and or mi		UN						
BGL-05	11.28				J		35		br and wh	VN	PR	RF					
BGL-05	11.29	11.33			hJ	x2	0		dk gr/wh mi		UN						
BGL-05	11.32				hJ		45		bk mi		UN						
BGL-05	11.50				hJ		30		wh mi		PR						
BGL-05	11.53				J		35		rd and gr mi	VN	PR	RF					
BGL-05	11.69				hJ		80		wh mi		ST						
BGL-05	12.06				hJ		90		wh and rd mi		PR						
BGL-05	12.15	12.17			hJ	x2	25		wh and gr mi		UN-PR						
BGL-05	12.37				hJ		20		wh mi		UN						

Pioneer-Burdekin Pumped Hydro Energy Scheme: Tranche 1 – BGL-05 Defects List

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PointID	Depth	Bottom	Fracture Set	Defect Number	Type	Type Suffix	Dip Minimum (degrees)	Dip Maximum (degrees)	Infilling Material	Aperture Observation	Planarity	Roughness	Aperture Measurement Sign	Aperture Measurement	Aperture	Spacing	Remark
BGL-05	12.57				hJ		90		wh and or mi		PR						
BGL-05	12.58	12.60			hJ	x2	55		wh and or mi		PR						
BGL-05	12.69	12.72			hJ	x2	65	70	wh mi		PR						1 mm or alt halo
BGL-05	12.75				hJ		90		wh mi		PR			1			1 mm rd alt halo
BGL-05	13.06				J		25		gr and rd mi	SN	PR						
BGL-05	13.08				hJ		60		wh mi		PR						
BGL-05	13.18				hJ		70		wh mi		PR			1			1 mm or alt halo
BGL-05	13.20				hJ		35		dk gr mi		UN						
BGL-05	13.24				hJ		60		dk gr mi		PR			3			
BGL-05	13.39	13.41			hJ	x2	0	10	wh mi		UN-PR						
BGL-05	13.44				hJ		65		wh mi		PR						1 mm or alt halo
BGL-05	13.51	13.59			hJ	x4	25	40	wh mi		UN-PR						3 mm spacing
BGL-05	13.61	13.96			hJ	x5	40	60	wh mi		PR-UN						5-10 mm spacing
BGL-05	13.82				J		50			CN	PR	RF					
BGL-05	13.83				J		5			CN	CU	RF					
BGL-05	13.93				hJ		90		wh mi		PR			1			
BGL-05	13.98	14.11			hJ	x2	10	15	wh mi		PR						
BGL-05	14.29				hJ		80		bk mi		UN						2 mm wh alt halo
BGL-05	14.40				hJ		50		bk mi								
BGL-05	14.41				hJ		80		bk mi		UN						2 mm gr alt halo
BGL-05	14.49				J		40			CN	ST	RF					
BGL-05	14.57				J		0			CN	IR	RF					
BGL-05	14.66	14.68			hJ	x2	35		wh mi		PR						
BGL-05	14.67	14.71			hJ	x2	90		wh mi		UN-ST						
BGL-05	14.73				J		20		gr and bk mi	VN	PR	RF					
BGL-05	14.75				hJ		25		wh mi		PR						
BGL-05	14.78				V		90		wh mi		UN			1			1 mm gr alt halo
BGL-05	14.84	15.25			SZ		75		gr and wh mi, GRAVEL sub-rounded <5 mm clasts	CT	PR	RF					significant
BGL-05	14.86				J		40			CN	ST	RF					
BGL-05	15.10				V		65		bk, wh, and gr mi		PR	RF		4			
BGL-05	15.37				hJ		70		gr mi		UN						
BGL-05	15.42	15.59			hJ	x3	90		bk and wh mi		UN-PR						
BGL-05	15.61				hJ		40		wh mi		PR						
BGL-05	15.67				V		50		bk mi		UN						
BGL-05	15.71	15.72			hJ	x2	70	75	bk mi		CU-UN						1 mm wh alt halo
BGL-05	15.83				J		50			CN	PR	RF					
BGL-05	15.90				hJ		20		bk mi		PR						
BGL-05	15.94				V		90		wh mi		PR			2			
BGL-05	15.97				J		45		gr and or mi	SN	UN	RF					
BGL-05	16.06				J		60			CN	PR	RF					
BGL-05	16.10				hJ		40		wh mi		UN						
BGL-05	16.12				hJ		10		bk mi		PR			2			
BGL-05	16.13				hJ		75		wh mi		UN			2			
BGL-05	16.21				hJ		0		wh mi		PR						
BGL-05	16.23				J		60		bk mi	VN	PR	RF					
BGL-05	16.27				hJ		55		bk mi		UN						
BGL-05	16.36				hJ		90		wh mi		PR						
BGL-05	16.37				hJ		90		wh mi		UN			2			
BGL-05	16.40				J		35			CN	PR	RF					
BGL-05	16.45				hJ		45		qu		PR						
BGL-05	16.56				hJ		85		wh mi		UN						
BGL-05	16.62				J		25			CN	UN	RF					
BGL-05	16.65	16.71			hJ	x3	75	80	wh mi		UN			2			
BGL-05	16.73				hJ		90		wh mi		UN			2			1 mm bk alt halo
BGL-05	16.75				hJ					CN	UN	RF					
BGL-05	16.77				J					CN	ST	RF					
BGL-05	16.80				hJ		30		bk mi		PR			2			
BGL-05	16.85				hJ		85		wh mi		ST						
BGL-05	16.88				J		15			CN	PR	RF					
BGL-05	16.92				V		65		wh mi		PR			3			
BGL-05	16.95				hJ		30		wh mi		PR						2 mm bk alt halo
BGL-05	16.97				hJ		90		wh mi		ST						
BGL-05	17.12				hJ		30		bk and wh mi		UN						
BGL-05	17.14				J		20			CN	ST	RF					
BGL-05	17.19				hJ		70		wh mi		UN						
BGL-05	17.32				hJ		90		bk mi		UN			1			
BGL-05	17.43				J		70		gr mi		UN	RF		2			
BGL-05	17.50				V		0		wh mi					4			
BGL-05	17.63				hJ		20				UN						
BGL-05	17.67				J		80		wh mi		UN	RF					
BGL-05	17.70	17.79			J	/MB x3	0	30	wh mi	SN	UN	RF					multiple defects, MB on end of run possibly on hJ
BGL-05	17.72	18.32			J		90		wh mi	SN	UN	RF					
BGL-05	17.83	17.86			J	x2	30		wh mi		UN						
BGL-05	18.02				J		0		bk mi		UN	RF					
BGL-05	18.07	18.08			hJ	x2	60		bk/wh mi		UN-PR						
BGL-05	18.13	18.15			hJ	x2	15	30	wh mi		PR						
BGL-05	18.23				J		15			CN	UN	RF					
BGL-05	18.27	18.36			V	x2	80	90	wh mi		PR-UN			3			

Pioneer-Burdekin Pumped Hydro Energy Scheme: Tranche 1 – BGL-05 Defects List

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PointID	Depth	Bottom	Fracture Set	Defect Number	Type	Type Suffix	Dip Minimum (degrees)	Dip Maximum (degrees)	Infilling Material	Aperture Observation	Planarity	Roughness	Aperture Measurement Sign	Aperture Measurement	Aperture	Spacing	Remark
BGL-05	18.47	18.48			hJ	x2	20	30	wh mi		PR						
BGL-05	18.50	18.55			J	x2	30	40		CN	PR	RF					
BGL-05	18.52				J		80			CN	PR	RF					
BGL-05	18.56	18.62			hJ	x2	80	90	wh mi		UN-PR						1 mm or alt halo
BGL-05	18.58				hJ		20		wh mi		PR						
BGL-05	18.67	18.86			hJ	x5	40	65	wh mi		PR-UN						sporadic 1 mm or alt halo
BGL-05	18.77	18.95			hJ	x3	20		wh mi		PR-UN						
BGL-05	18.96				hJ		45		wh mi		UN			2			
BGL-05	18.98				hJ		70		wh and gr mi		PR			2			
BGL-05	19.03				hJ		30		wh mi		PR						
BGL-05	19.04	19.20			hJ	x2	0		wh mi		PR-UN						
BGL-05	19.14	19.30			hJ	x2	90		wh/bk mi		PR-UN						1 mm or alt halo
BGL-05	19.21				hJ		65		wh mi		UN			2			
BGL-05	19.22				hJ		60		bk mi		UN						
BGL-05	19.35	19.50			hJ	x6	15	45	wh mi		PR						
BGL-05	19.51				J		35			CN	PR	RF					
BGL-05	19.65	19.84			hJ	x4	50	80	rd/wh/bk mi		PR-UN						
BGL-05	19.88				hJ		60		bk mi		PR						
BGL-05	19.93				hJ		90		rd mi		UN						
BGL-05	20.01				J		40			CN	UN	RF					
BGL-05	20.04				hJ		70		wh mi		UN						
BGL-05	20.05				J		45			CN	UN	RF					
BGL-05	20.06				hJ		45		bk mi		UN						
BGL-05	20.09				hJ		30		gr, or, and wh mi		PR						
BGL-05	20.11				hJ		25		wh mi		PR						
BGL-05	20.16	20.19			hJ		80	90	wh mi		PR-UN						2 mm rd/1mm or alt halo
BGL-05	20.17				hJ		55		bk mi		UN						
BGL-05	20.24				J		50		bk and wh mi	CT	UN	RF					
BGL-05	20.26				hJ		55		bk and wh mi		PR						
BGL-05	20.31				hJ		75				PR						
BGL-05	20.36	21.05			hJ	x5	70	80	wh mi		UN-PR						
BGL-05	20.40				hJ		70		wh mi		UN						3 mm rd alt halo
BGL-05	20.54				J		20			CN	PR-UN	RF					
BGL-05	20.93				J		20			CN	PR	RF					
BGL-05	21.09	21.15			hJ	x5	40	50	wh/wh gr mi		PR						sporadic 1 mm or alt halo
BGL-05	21.12				hJ		0		wh mi		PR						
BGL-05	21.19				hJ		20		gr and or mi		PR						
BGL-05	21.23	21.27			hJ	x2	55	65	wh mi		PR						
BGL-05	21.40				J		60		gy-gr mi	CT	UN	RF					
BGL-05	21.48	21.52			hJ	x2	55	70	bk/wh mi		UN						
BGL-05	21.59				J		60		or	SN	UN	RF					
BGL-05	21.71	21.81			hJ	x2	60	64	wh mi		UN						
BGL-05	21.76				hJ		40		wh mi		PR						
BGL-05	21.87	21.94			hJ	x2	80		wh mi		UN						
BGL-05	21.91				hJ		20		wh mi		UN			2			
BGL-05	21.96				hJ		20		wh mi		UN						
BGL-05	21.98				J		60			CN	ST	RF					
BGL-05	22.03				J		60		bk mi	SN	PR	RF					
BGL-05	22.14				J		75		bk and gr mi	VN	UN	RF					
BGL-05	22.16				hJ		70		wh mi		UN			3			3 mm or alt halo
BGL-05	22.23				hJ		90		wh mi		UN						
BGL-05	22.28				hJ		10		wh mi		ST			2			
BGL-05	22.44				hJ		50		rd-br mi		PR			2			
BGL-05	22.45				V		90		wh mi		UN						
BGL-05	22.53				J		30			CN	ST	RF					
BGL-05	22.54	22.59			hJ	x2	30	45	wh mi		PR						2-3 mm bk alt halo
BGL-05	22.64				hJ		70		wh mi		UN						
BGL-05	22.69				hJ		10		wh mi		PR						
BGL-05	22.83				hJ		50		wh mi		UN			2			
BGL-05	22.85				J		40			CN	PR	RF					
BGL-05	22.92	22.94			hJ	x2	40	50	bk and wh mi		PR-UN						
BGL-05	22.95				hJ		70		bk and wh mi		UN						
BGL-05	23.11				J		50		gr and bk mi	SN		RF					
BGL-05	23.13				J		90			CN	UN	RF					
BGL-05	23.15				J		10		gr mi	SN	PR	RF					
BGL-05	23.27				hJ		80		gr and wh mi		UN						3 mm or alt halo
BGL-05	23.30				hJ		90		wh mi		PR						
BGL-05	23.44				hJ		35		bk mi		PR			2			
BGL-05	23.50	23.69			hJ	x2	65		rd and wh mi		PR						
BGL-05	23.71				hJ				wh mi		ST						
BGL-05	23.74				hJ		50		gr mi		PR						
BGL-05	23.77	23.78			hJ	x3	70		gr mi		PR						
BGL-05	23.87				hJ		35		gr mi		PR						
BGL-05	23.93	24.06			hJ	x3	5	20	wh mi		PR-ST						
BGL-05	24.09				hJ		90		gr and wh mi		UN			2			
BGL-05	24.11				hJ				gr mi		PR						
BGL-05	24.20				J		40		bk and gr mi	CT	PR	RF					
BGL-05	24.37	24.50			hJ	x2	25		gr mi		PR						
BGL-05	24.45				hJ		60		bk and gr mi		PR						

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BGL-05	24.51				hJ		20		wh mi		ST						
BGL-05	24.52				hJ		60		wh mi		PR			1			
BGL-05	24.55				J		35		gr	SN	UN	RF					
BGL-05	24.76				hJ		30		wh mi		PR						
BGL-05	24.93				hJ		40		gr mi		UN						
BGL-05	25.06				hJ		40		gr mi		PR			1			
BGL-05	25.25				hJ		20		wh and gr mi		PR						
BGL-05	25.36				J		40			CN	PR	RF					
BGL-05	25.53				V		65		wh mi		PR			4			3 mm pk alt halo
BGL-05	25.65				hJ		40		gr and wh mi		PR						
BGL-05	25.74				hJ		30		bk mi		PR			1			
BGL-05	25.78				J		0		gr mi	SN	UN	RF					4 mm gr alt halo
BGL-05	26.34				J		40		gr	SN	PR	RF					
BGL-05	26.35				J		35		rd and gr	SN	PR	RF					25 mm gr alt halo
BGL-05	26.38	26.58			hJ	x4	55	60	bk mi		PR-UN			1			10-12 mm gr alt halo
BGL-05	26.62				hJ		60		bk mi		UN						2 mm wh alt halo
BGL-05	26.65				J		30			CN		RF					
BGL-05	26.70				J		75		wh and bk mi	CT	PR	SM					
BGL-05	26.72				hJ		30		wh mi		PR						
BGL-05	26.75				hJ				wh mi		ST						
BGL-05	26.91				hJ		60		wh mi		UN						
BGL-05	26.92				hJ		80		bk and wh mi		UN			2			
BGL-05	26.93				J		50		bk mi	VN	PR	RF					40 mm gr alt halo
BGL-05	27.05				hJ		70		bk and wh mi		UN			3			5 mm gr alt halo
BGL-05	27.27				V		90		wh mi		UN			3			3 mm rd alt halo
BGL-05	27.37				V		90		wh mi		UN			2			
BGL-05	27.39				hJ		60		wh mi		PR						
BGL-05	27.55	27.57			hJ	x2	60		wh/gr mi		UN						
BGL-05	27.66				hJ		50		bk mi		PR			2			
BGL-05	27.70				J		50		or	SN	UN	RF					
BGL-05	27.75				J		60		bk	VN	PR	RF					
BGL-05	27.82				hJ		45		bk mi		PR						
BGL-05	27.95				hJ		70		wh mi		UN			1			1 mm gr alt halo
BGL-05	28.00				hJ		35		wh mi		PR			8			7 mm rd alt halo
BGL-05	28.10				hJ		35		bk mi		PR						
BGL-05	28.11				hJ		35		wh mi		UN						1 mm gr alt halo
BGL-05	28.27				hJ		70		wh mi		PR						
BGL-05	28.28				hJ		30		bk mi								
BGL-05	28.44				hJ		90		wh mi		UN						
BGL-05	28.47				J		15		bk	SN	PR	RF					
BGL-05	28.50				V		90		wh mi		UN			2			2 mm gr alt halo
BGL-05	28.69	28.71			hJ	x2	40		bk mi		PR						
BGL-05	28.74				hJ		60		bk mi		PR						
BGL-05	28.77				V		40		wh mi		PR			3			3 mm or alt halo
BGL-05	28.81				V		25		gy mi		PR			3			8 mm rd alt halo
BGL-05	28.83				J		5		bk	SN	PR	RF					
BGL-05	28.90				hJ		0		wh mi		UN			2			
BGL-05	28.95				hJ		65		bk mi		UN						
BGL-05	28.98				hJ		60		wh mi		PR	RF		2			11 mm rd alt halo
BGL-05	29.01	29.04			hJ	x3	70	80	wh/bk mi		PR-UN						
BGL-05	29.03				hJ		50		bk mi		UN			1			
BGL-05	29.20				hJ		20		gr mi		PR						
BGL-05	29.23				hJ		55		wh and rd mi		PR			6			
BGL-05	29.35				hJ		15		wh mi		UN						2 mm gr alt halo
BGL-05	29.43				hJ		35		wh and gr mi		PR						
BGL-05	29.57				hJ		65		wh mi								
BGL-05	29.60				J		10			CN	UN	RF					
BGL-05	29.61				J		30			CN	UN	RF					
BGL-05	29.62				hJ		60		wh and gr mi		PR						
BGL-05	29.64				hJ				wh and gr mi		PR						
BGL-05	29.65				hJ		45		wh mi		UN						
BGL-05	29.67				hJ				wh mi		PR						
BGL-05	29.68				hJ		65		wh and rd mi		UN						
BGL-05	29.71				hJ		20		wh mi		PR						
BGL-05	29.74				hJ		65		bk mi		UN						
BGL-05	29.81				hJ		45		bk mi		PR						
BGL-05	29.83				hJ		25		wh mi		UN						
BGL-05	29.84				J		25			CN	PR	RF					
BGL-05	29.85				J		40		bk	SN	UN	RF					
BGL-05	29.88				hJ		80		wh mi		UN			2			
BGL-05	29.89	30.30			hJs		15		wh mi		UN						
BGL-05	29.91				hJ		60		bk mi		PR			1			
BGL-05	29.96				hJ		80		bk mi		UN						
BGL-05	29.97				hJ		55		bk mi		PR						
BGL-05	30.03	30.57			J		90		wh, gr, and rd mi		UN	RF					
BGL-05	30.08	30.57			J	x5	35		gr	CT	UN	RF					20-50mm spacing
BGL-05	30.33	30.46			hJ	x4	30	45	wh mi		UN-PR						sporadic 1 mm wh alt halo
BGL-05	30.50				V		90		wh mi		PR						2 mm rd alt halo
BGL-05	30.51	30.88			hJ	x8	20	60	wh mi		UN						2 mm gr and bk alt halo

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BGL-05	30.55				CO		40				PR						
BGL-05	30.59				hJ		75		wh mi		PR						
BGL-05	30.83				J		60		wh and gr mi	CT	UN	RF		3			50-100 mm alt halo
BGL-05	30.86				hJ		80		wh mi		UN			2			1 mm gr alt halo
BGL-05	31.01				hJ		40	70	or		PR						
BGL-05	31.02				hJ		70		wh mi		UN						
BGL-05	31.06				hJ		80		wh mi		PR						
BGL-05	31.09				J		60				PR	RF					HB
BGL-05	31.15				hJ		45		wh mi		PR						
BGL-05	31.17				J		80		gr	SN	ST	RF					
BGL-05	31.48				hJ				gr mi		PR						
BGL-05	31.49				hJ		35		dk gy mi		PR						
BGL-05	31.50				CO		40				PR			35			
BGL-05	31.54				hJ		50		wh mi		ST						
BGL-05	31.56				J		50			CN	ST	RF					
BGL-05	31.60				hJ		90		bk and wh mi		PR						
BGL-05	31.69				hJ		75		wh mi		UN						
BGL-05	31.76				hJ		90		bk mi		UN						
BGL-05	31.78				hJ		20		rd and wh mi		PR			2			
BGL-05	31.80				hJ		20		wh mi		PR						
BGL-05	31.86				hJ		40		bk mi		PR			1			1 mm wh alt halo
BGL-05	31.87				hJ		75		wh mi		UN						
BGL-05	31.88				hJ		20		gr mi		PR						
BGL-05	31.90				J		75		bk and or	VN	PR	SM					
BGL-05	31.96				hJ		50		bk mi		UN						
BGL-05	31.99				J		70		bk	VN	PR	RF					
BGL-05	32.06				J		40		gr and rd	SN	ST	RF					
BGL-05	32.08				hJ		70		bk mi		PR						
BGL-05	32.09				hJ		20		wh mi		PR						
BGL-05	32.10				J		45		rd	SN	UN	RF					
BGL-05	32.13				J		70		bk	VN	PR						
BGL-05	32.18				hJ		5		bk mi								
BGL-05	32.23				J		25		bk and gr	VN	UN	RF					
BGL-05	32.31				hJ		65		bk		UN						
BGL-05	32.32				J		10		gr	SN	ST	RF					
BGL-05	32.34				hJ		65		wh mi		PR	RF		2			5 mm or, gr, and wh alt halo
BGL-05	32.35				J		10		or	VN	PR	RF					
BGL-05	32.36				J		65		bk	SN	ST	RF					
BGL-05	32.38				hJ		35		gr		ST						
BGL-05	32.43				J		20		bk and gr	SN	PR	RF					
BGL-05	32.53				J		20		wh	SN	ST	RF					
BGL-05	32.56				hJ		65		wh mi		UN	SM		2			2 mm or alt halo
BGL-05	32.60				hJ		15		wh mi		UN						
BGL-05	32.62				hJ		70		wh mi		UN	RF		2			4 mm or alt halo
BGL-05	32.63				J		10			CN	UN	RF					
BGL-05	32.66				hJ		30		bk mi		PR			2			
BGL-05	32.67				hJ		60		bk mi		PR			1			
BGL-05	32.69				V		70		wh mi		PR			3			2 mm bk and gr alt halo
BGL-05	32.71				hJ		0		gr and or mi		PR						
BGL-05	32.74				hJ		75		bk		UN						
BGL-05	32.81				hJ		65		bk, wh, and gr mi		UN	RF		2			possible DB
BGL-05	32.84				hJ		65		wh mi		UN						
BGL-05	32.88				hJ		40		wh mi		IR			4			
BGL-05	32.96				J		15			CN	IR	RF					
BGL-05	33.00				J		20			CN	IR	RF					
BGL-05	33.02				J		60			CN	CV	RF					
BGL-05	33.09				J		30			VN	PR	RF					
BGL-05	33.15				hJ		65		gr mi		IR						
BGL-05	33.16				hJ		60		wh mi		PR						
BGL-05	33.20				hJ		10		wh mi		PR						
BGL-05	33.22				J		10			CN	IR	RF					
BGL-05	33.26				hJ		70		wh-mi		IR						
BGL-05	33.27				hJ		50		gr mi		IR						
BGL-05	33.27				hJ		60		wh mi		IR						
BGL-05	33.30				hJ		50		wh mi		IR						
BGL-05	33.34				hJ		80		wh mi		PR						
BGL-05	33.37				hJ		20		gr mi		IR						
BGL-05	33.39				hJ		25		wh mi		PR						
BGL-05	33.46				J		40			CN	IR	RF					
BGL-05	33.47				hJ		20		gr mi		PR						
BGL-05	33.58				J		10			CN	IR	RF					
BGL-05	33.59				J		45			CN	PR	RF					
BGL-05	33.60				J		50			VN	PR	RF					
BGL-05	33.66				hJ		60		wh mi		PR						
BGL-05	33.70				hJ		60		wh mi		PR						
BGL-05	33.78				J		40			VN	IR	RF					
BGL-05	33.84				J		20			CN	IR	RF					
BGL-05	33.88				J		20			CN	PR	RF					
BGL-05	33.93				J		20			CN	PR	RF					

Pioneer-Burdekin Pumped Hydro Energy Scheme: Tranche 1 – BGL-05 Defects List

Refer to Explanatory Notes sheets for abbreviation definitions

PointID	Depth	Bottom	Fracture Set	Defect Number	Type	Type Suffix	Dip Minimum (degrees)	Dip Maximum (degrees)	Infilling Material	Aperture Observation	Planarity	Roughness	Aperture Measurement Sign	Aperture Measurement	Aperture	Spacing	Remark
BGL-05	33.97				J		10			CN	IR	RF					
BGL-05	34.05				hJ		30		wh mi		PR						pk alt
BGL-05	34.11				J		0			CN	PR	RF					
BGL-05	34.12				hJ		35		gr mi		IR						
BGL-05	34.19				J		10		gr mi		PR						
BGL-05	34.22				J		30			CN	PR	RF					
BGL-05	34.24				J		30			CN	PR	RF					
BGL-05	34.28				J		10			CN	IR	RF					
BGL-05	34.29				J		0			CN	IR	RF					
BGL-05	34.30				J		10			CN	IR	RF					
BGL-05	34.35				J		5			CN	PR	RF					
BGL-05	34.41				J		10			CN	UN	RF					
BGL-05	34.46				hJ		50		gr mi		IR						
BGL-05	34.47				J		10			CN	UN	RF					
BGL-05	34.50				hJ		90		gr mi		IR						
BGL-05	34.56				hJ		80		gr mi		IR						
BGL-05	34.57				hJ		90		gr mi		IR						
BGL-05	34.61				hJ		90		gr mi		IR						
BGL-05	34.64				J		5			CN	IR	RF					
BGL-05	34.68				hJ		25		gr mi		IR						
BGL-05	34.70				hJ		60		wh mi		PR						
BGL-05	34.70				hJ		45		qz		IR						
BGL-05	34.70				hJ		90		wh mi		IR						
BGL-05	34.82				J		25			CN	PR	RF					
BGL-05	34.85				J		10			CN	IR	RF					
BGL-05	34.91				hJ		30		bk and gr mi		IR						pk alt
BGL-05	35.03				J		10			CN	IR	RF					
BGL-05	35.04				J		20			CN	IR	RF					
BGL-05	35.04				hJ		90		gr mi		IR						
BGL-05	35.18				MB		0			CN	IR	RF					
BGL-05	35.19				J		50			CN	IR	RF					
BGL-05	35.28				hJ		90		wh and gr mi		IR						
BGL-05	35.29				hJ		35		gr mi		IR						
BGL-05	35.30				hJ		35		gr mi		IR						
BGL-05	35.37				hJ		85		wh and gr mi		IR						
BGL-05	35.53				hJ		90		wh and gr mi		IR						
BGL-05	35.70				J		60			CN	IR	RF					
BGL-05	35.85				hJ		90		gr mi		IR						
BGL-05	36.16				J		80		qz and CLAY	VN	IR	RF					
BGL-05	36.22				hJ		80		wh mi		IR						
BGL-05	36.28				hJ		60		wh and gr mi		IR						
BGL-05	36.33				hJ		80		wh and gr mi		IR						
BGL-05	36.34				hJ		60		wh and gr mi		IR						
BGL-05	36.36				hJ		90		bk and gr mi		IR						
BGL-05	36.38				hJ		70		wh and gr mi		IR						
BGL-05	36.41				hJ		20		wh and gr mi		IR						
BGL-05	36.50				hJ		70		bk and gr mi								
BGL-05	36.57				hJ		65		bk and gr mi								
BGL-05	36.62				hJ		90		wh mi								
BGL-05	36.63				hJ		60		bk and gr mi								
BGL-05	36.74				hJ		80		wh mi								
BGL-05	36.77				hJ		60		bk and gr mi								
BGL-05	36.84				V		75		qz and ch					3			
BGL-05	36.92				hJ		70		bk and gr mi								
BGL-05	36.96				J		75			CN	IR	RF					
BGL-05	37.00				J		70			CN	PR	SM					
BGL-05	37.03				hJ		70		bk and gr mi								
BGL-05	37.17				hJ		85		wh mi								
BGL-05	37.18				hJ		90		bk and gr mi								
BGL-05	37.20				hJ		45		rd mi								
BGL-05	37.25				hJ		90		wh mi								
BGL-05	37.36				hJ		60		bk and gr mi								
BGL-05	37.39				hJ		40		bk and gr mi								
BGL-05	37.50				hJ		90		wh mi								
BGL-05	37.57				hJ		85		wh mi								
BGL-05	37.59				hJ		85		wh mi								
BGL-05	38.58				hJ		75		bk and gr mi								
BGL-05	38.65				V		85		qz					3			
BGL-05	38.71				hJ		85		wh mi								
BGL-05	38.80				hJs	x3	90		wh mi								
BGL-05	38.87				hJ		90		qz					2			
BGL-05	39.04				hJ		45		gr mi								
BGL-05	39.19				J		75		gr mi	VN	IR	RF					
BGL-05	39.22				J		60		gr mi	VN	IR	RF					
BGL-05	39.22				J		60			CN	IR	RF					
BGL-05	39.32				J		55		gr mi	VN	IR	RF					
BGL-05	39.47				hJ		65		wh mi								
BGL-05	39.53				hJ		45		gr mi								
BGL-05	39.57				hJ		65		wh mi								

Pioneer-Burdekin Pumped Hydro Energy Scheme: Tranche 1 – BGL-05 Defects List

Refer to Explanatory Notes sheets for abbreviation definitions

PointID	Depth	Bottom	Fracture Set	Defect Number	Type	Type Suffix	Dip Minimum (degrees)	Dip Maximum (degrees)	Infilling Material	Aperture Observation	Planarity	Roughness	Aperture Measurement Sign	Aperture Measurement	Aperture	Spacing	Remark
BGL-05	39.58				hJ		45		gr mi								
BGL-05	39.65				hJ		65		wh mi								
BGL-05	39.72				J		60		wh mi	VN	IR	RF					
BGL-05	39.73				J		60			CN	IR	RF					
BGL-05	39.78				J		70		wh mi	VN	IR	RF					
BGL-05	39.87				hJ		90		wh mi								
BGL-05	39.92				J		90		gr mi	VN	IR	RF					
BGL-05	40.10				hJ		70		wh mi								
BGL-05	40.22				hJ		70		wh and gr mi								
BGL-05	40.31				hJ		90		gr mi								
BGL-05	40.34				J		20			CN	IR	RF					
BGL-05	40.42				hJ		40		wh mi								
BGL-05	40.55				hJ		90		wh mi								
BGL-05	40.60				hJ		65		wh and gr mi								
BGL-05	40.66				hJ		80		wh and gr mi								
BGL-05	40.86				hJ		60		gr mi								
BGL-05	40.95					BX	90		qz clasts, clay matrix		IR	RF					
BGL-05	41.02				J		60		qz and CLAY	VN	IR	RF					
BGL-05	41.11				hJ		60		gr mi								
BGL-05	41.52				V		60		qz and ch?					100			
BGL-05	41.55				J		60		qz and CLAY	VN	IR	RF					
BGL-05	41.78				hJ		60		gr mi								
BGL-05	41.86				hJ		60		gr mi								
BGL-05	41.89				hJ		40		gr mi								
BGL-05	41.94				hJ		90		qz								
BGL-05	41.96				hJ		30		gr mi								
BGL-05	42.00				J		30			CN	IR	RF					
BGL-05	42.03				hJ		20		wh mi								
BGL-05	42.10				hJ		90		qz								
BGL-05	42.13				hJ		45		gr mi								
BGL-05	42.17				J		40			CN	IR	RF					
BGL-05	42.25				hJ		40		gr mi								
BGL-05	42.26				hJ		85		qz					3			
BGL-05	42.40				hJ		60		qz								
BGL-05	42.48				V		90		qz					5			
BGL-05	42.49				J		40			CN	IR	RF					
BGL-05	42.70				J		30			CN	IR	RF					
BGL-05	42.89				hJ		90		wh mi								
BGL-05	42.90				hJ		90		wh and gr mi								
BGL-05	42.91				hJ		40		wh mi								
BGL-05	42.93				hJ		45		wh mi								
BGL-05	42.97				hJ		90		wh and gr mi								
BGL-05	42.97				J		40			CN	PR	RF					
BGL-05	43.02				hJ		60		gr mi								
BGL-05	43.30				hJ		85		wh mi								
BGL-05	43.55				hJ		70		gr mi								
BGL-05	43.58				hJ		90		gr mi								
BGL-05	43.75				V		45		qz and ca?					15			
BGL-05	43.80				J		60		qz and CLAY	VN	PR	SM					
BGL-05	44.00				J		45			CN	IR	RF					
BGL-05	44.00				V		80		qz					2			
BGL-05	44.00				hJ		85		qz		PR						
BGL-05	44.26				J		10			CN	IR	RF					
BGL-05	44.30				hJ		20		wh mi								
BGL-05	44.35				hJ		75		bk and gr mi								
BGL-05	44.41				hJ		85		wh mi								
BGL-05	44.48				hJ		85		wh mi								
BGL-05	44.54				J		30			CN	PR	SM					
BGL-05	44.59				hJ		30		bk and gr mi								
BGL-05	44.63				hJ		30		bk and gr mi								
BGL-05	44.73				hJ		30		wh mi								
BGL-05	44.80				J		70			CT	PR	SM					
BGL-05	44.90				hJ		90		bk and gr mi								
BGL-05	45.00				J		45			CN	PR	SM					
BGL-05	45.00				hJ		80		qz								
BGL-05	45.05				hJ		20		wh mi		PR						
BGL-05	45.13				hJ		30		wh mi		PR						
BGL-05	45.20				J		30			VN	IR	RF					
BGL-05	45.23				hJ		30		wh mi		PR						
BGL-05	45.26				hJ		30		wh mi		PR						
BGL-05	45.31				hJ		35		wh mi		PR						
BGL-05	45.54				hJ		25		wh mi		PR						
BGL-05	45.64				J		20		qz and ca?	VN	CU	RF					
BGL-05	45.71				hJ		20		bk and gr mi								
BGL-05	45.86				J		70		qz	VN	IR	RF					
BGL-05	45.87				J		15		qz	VN	PR	RF					
BGL-05	45.95				hJ		30		wh mi								
BGL-05	46.01				hJ		30		wh mi								
BGL-05	46.08				J		30			CN	IR	RF					

Pioneer-Burdekin Pumped Hydro Energy Scheme: Tranche 1 – BGL-05 Defects List

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PointID	Depth	Bottom	Fracture Set	Defect Number	Type	Type Suffix	Dip Minimum (degrees)	Dip Maximum (degrees)	Infilling Material	Aperture Observation	Planarity	Roughness	Aperture Measurement Sign	Aperture Measurement	Aperture	Spacing	Remark
BGL-05	46.24				hJ		60		wh mi		PR						
BGL-05	46.36				hJ		20		wh mi								
BGL-05	46.42				hJ		60		wh mi								
BGL-05	46.45				J		10			CN	IR	RF					
BGL-05	46.50				hJ		5		wh mi								
BGL-05	46.62				hJ		90		wh mi								
BGL-05	46.63				hJ		40		wh mi								
BGL-05	46.72				hJ		65		wh mi								
BGL-05	46.84				hJ		90		wh and gr mi								
BGL-05	46.88				hJ		90		wh and gr mi								
BGL-05	46.98				J		10			CN	IR	RF					
BGL-05	47.08				V		90		qz					2			
BGL-05	47.17				J		45			CN	IR	RF					
BGL-05	47.35				J		20			CN	PR	SM					
BGL-05	47.92				hJ		20		bk and gr mi								
BGL-05	48.05				hJ		20		wh mi								
BGL-05	48.08				hJ		90		gr mi								
BGL-05	48.30				hJ		75		wh mi								
BGL-05	48.37				hJ		70		bk and gr mi								
BGL-05	48.39				J		20			CN	PR	RF					
BGL-05	48.40				hJ		85		bk and gr								
BGL-05	48.57				J		60		qz and ch	VN	PR			2			
BGL-05	48.73				hJ		60		wh mi								
BGL-05	48.83				J		30			CN	IR	RF					
BGL-05	49.05				J		75		qz and ch?	VN	PR	RF					
BGL-05	49.08				hJ		5		bk and gr mi								
BGL-05	49.22				hJ		90		wh and gr mi								
BGL-05	49.23				hJ		90		wh and gr mi								
BGL-05	49.30				hJ		80		wh and gr mi								
BGL-05	49.37				hJ		90		wh mi								
BGL-05	49.41				hJ		5		wh mi								
BGL-05	49.62				hJ		40		wh and gr mi								
BGL-05	49.70				hJ		55		bk and gr mi								
BGL-05	49.84				hJ		5		wh mi								
BGL-05	49.85				hJ		60		bk and gr mi								
BGL-05	49.88				hJ		60		bk and gr mi								
BGL-05	49.90				hJ		70		qz					2			

PointID : BGL-05 Depth Range: 1.60 - 5.00 m

PointID : BGL-05 Depth Range: 5.00 - 9.00 m

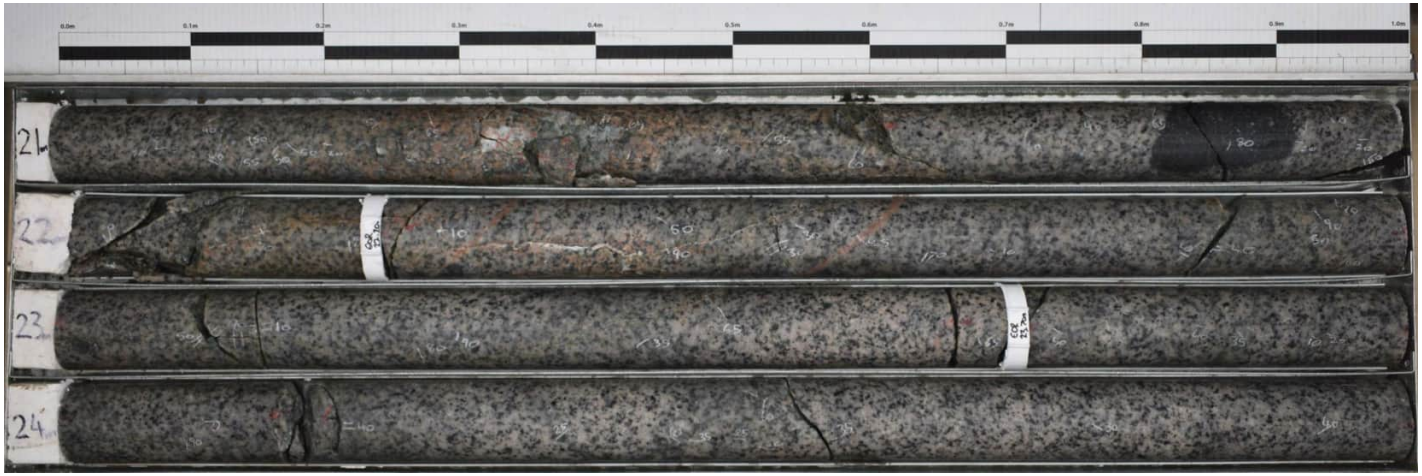
wsp	TITLE: Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core Photo - BGL-05	DRAWN: RC/PL	DATE: 23/08/2024
		CHECKED: GEM	DATE: 7/10/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS138693	FIGURE No: 1/7

PointID : BGL-05 Depth Range: 9.00 - 13.00 m

PointID : BGL-05 Depth Range: 13.00 - 17.00 m

wsp	TITLE: Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core Photo - BGL-05	DRAWN: RC/PL	DATE: 23/08/2024
		CHECKED: GEM	DATE: 7/10/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS138693	FIGURE No: 2/7

PointID : BGL-05 Depth Range: 17.00 - 21.00 m

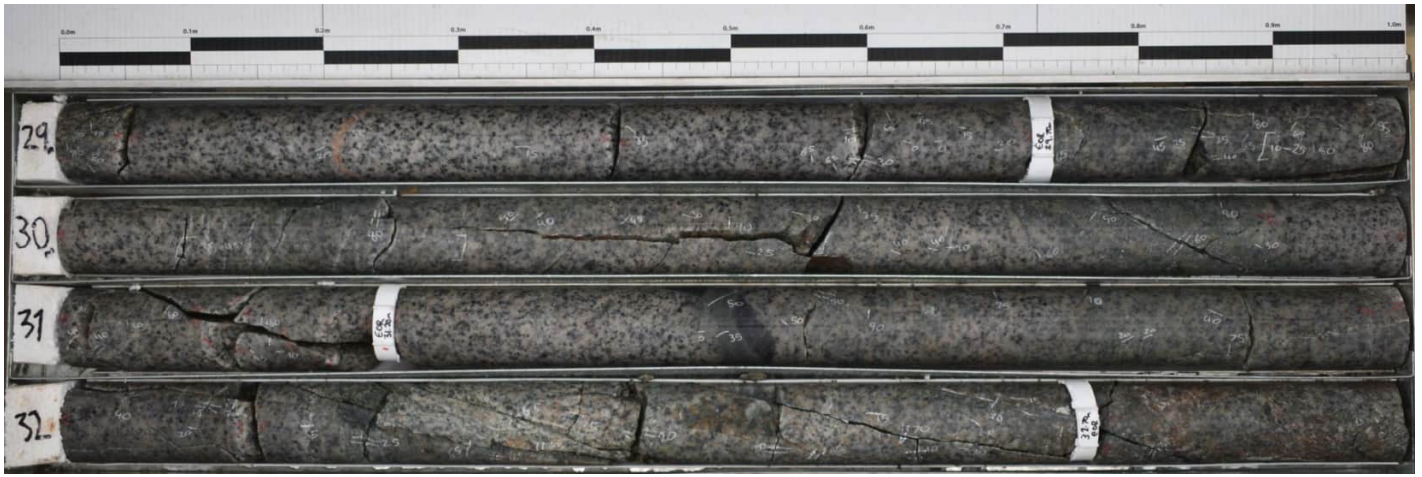


PointID : BGL-05 Depth Range: 21.00 - 25.00 m

wsp	TITLE: Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core Photo - BGL-05	DRAWN: RC/PL	DATE: 23/08/2024
		CHECKED: GEM	DATE: 7/10/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS138693	FIGURE No: 3/7

WSP-AU 5.07.3 LIB.GLB GrfcTbl PHOTO CORE 2 PER PAGE VERT A4L PIONEER_NIP_MASTER_20240718_BGL-05.GPJ <<DrawingFile>> 2024/8/23 10:41 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.07.3 2023-12-04 Prj: WSP 5.04.1 2023-06-14

PointID : BGL-05 Depth Range: 25.00 - 29.00 m



PointID : BGL-05 Depth Range: 29.00 - 33.00 m

wsp	TITLE: Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core Photo - BGL-05	DRAWN: RC/PL	DATE: 23/08/2024
		CHECKED: GEM	DATE: 7/10/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS138693	FIGURE No: 4/7

PointID : BGL-05 Depth Range: 33.00 - 37.00 m

PointID : BGL-05 Depth Range: 37.00 - 41.00 m

wsp	TITLE: Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core Photo - BGL-05	DRAWN: RC/PL	DATE: 23/08/2024
		CHECKED: GEM	DATE: 7/10/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS138693	FIGURE No: 5/7

PointID : BGL-05 Depth Range: 41.00 - 45.00 m

PointID : BGL-05 Depth Range: 45.00 - 49.00 m

wsp	TITLE: Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core Photo - BGL-05	DRAWN: RC/PL	DATE: 23/08/2024
		CHECKED: GEM	DATE: 7/10/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS138693	FIGURE No: 6/7

PointID : BGL-05 Depth Range: 49.00 - 50.00 m

wsp	TITLE: Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core Photo - BGL-05	DRAWN: RC/PL	DATE: 23/08/2024
		CHECKED: GEM	DATE: 7/10/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS138693	FIGURE No: 7/7

BGL-05 Structural Log

WSP Australia Pty Limited
Level 12, 900 Ann Street
Fortitude Valley
QLD 4006
Australia

GEOPHYSICAL RECORD OF BOREHOLE: BGL-05

PROJECT: Pioneer-Burdekin PHES JOB # PS138693

CLIENT: Queensland Hydro DATE: 19/06/2024

BOREHOLE DETAILS

LOCATION:	Lower Reservoir	BH DEPTH:	50.00 m
EASTING:	660370.041 m E	BH DIAMETER:	96 mm (HQ)
NORTHING:	7661191.292 m N	BH AZIMUTH:	201° TN
ELEVATION:	151.381 m	BH PLUNGE:	-89°
COORD SYSTEM:	MGA2020-55	CASING DEPTH:	3.84 m
LOGGING DATUM:	Ground Level	CASING TYPE:	HWT

DOCUMENT DETAILS

LOGGED BY:	JH
LOGGED DATE:	28/03/2024
DRAWN BY:	SB
REVIEWED BY:	GH
FILE:	BGL-05_Structure_RevC
LOGGED DEPTH:	49.55 m

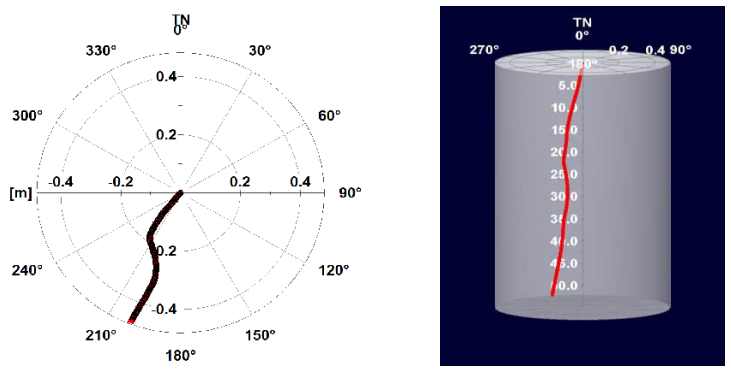
NOTES

Image logs are oriented relative to magnetic north. Final structures corrected to true north using magnetic declination of 8.2 deg East.

Mechanical calliper log used for structure dip corrections.

All logs zeroed to ground level. Cased section assumed straight for deviation calculations.

BOREHOLE DEVIATION



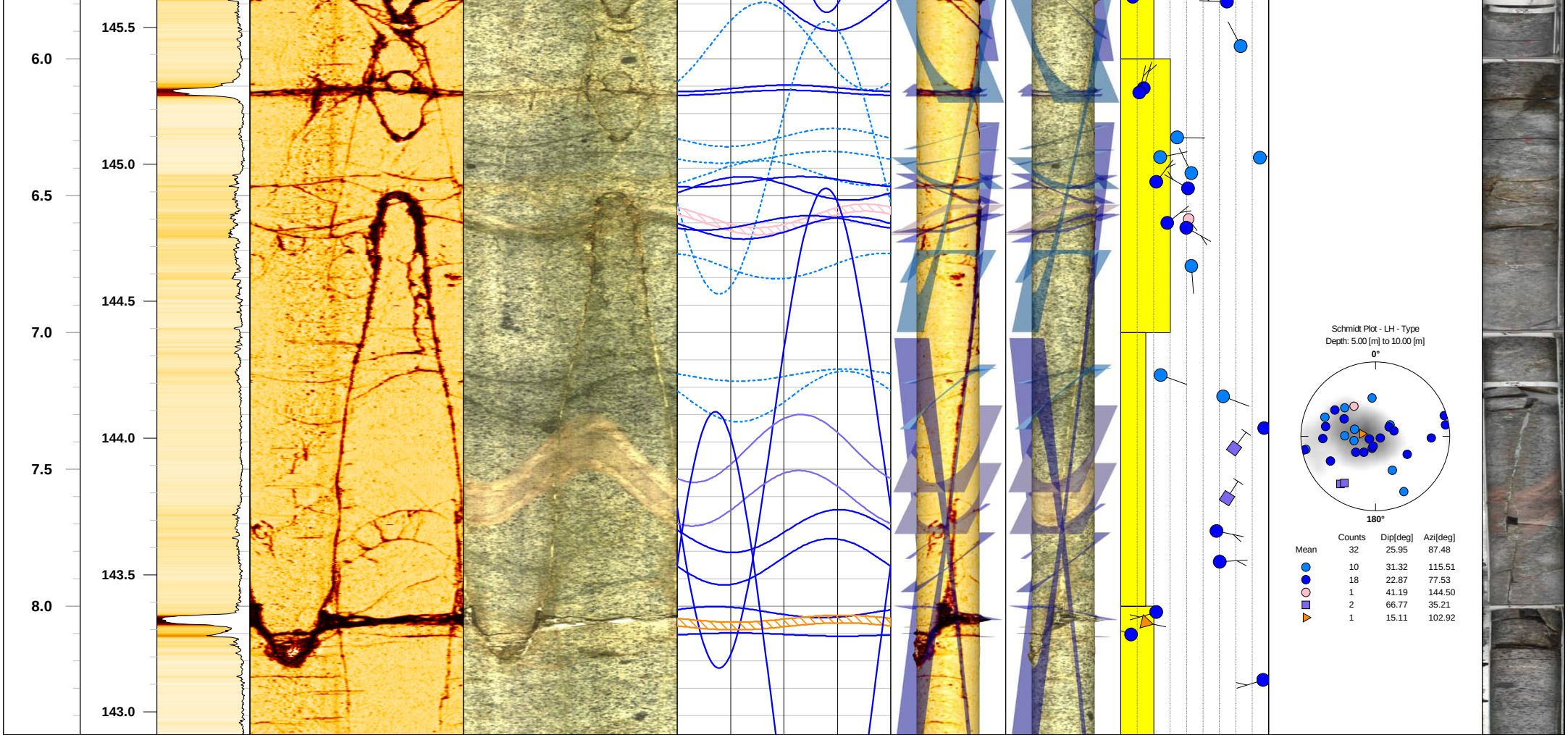
INTERPRETED STRUCTURES

Contact · Crushed Seam · Extremely Weathered Seam · Fracture Zone · Joint · Shear Seam

Shear Zone · Vein · Healed Joint

BGL-05

Depth		Image Logs			Structural Data					Core
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN / Freq/metre	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000 0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 / 0 counts/m 18	Schmidt Plot - LH - Type	

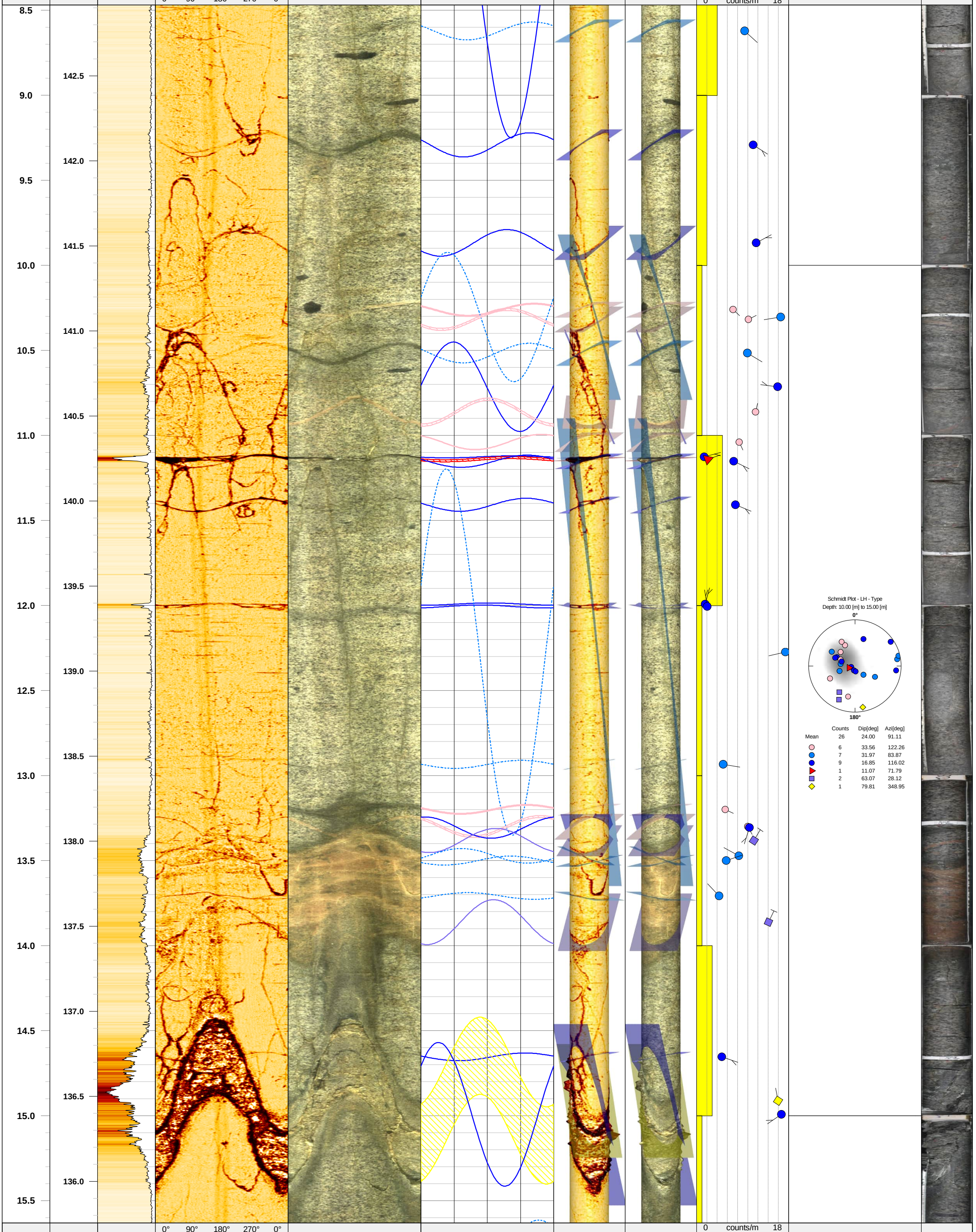


Depth		Image Logs			Structural Data					Core
1m:20m	AHD	0 9000	0 6000 0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 / 0 counts/m 18	Schmidt Plot - LH - Type	
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN / Freq/metre	Stereoplots	Core Photo

BGL-05

BGL-05

Depth		Image Logs			Structural Data					Core
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000 0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	



	Counts	Dip[deg]	Azi[deg]
Mean	26	24.00	91.11
	6	33.56	122.26
	7	31.97	83.87
	9	16.85	116.02
	1	11.07	71.79
	2	63.07	28.12
	1	79.81	348.95

Depth		Image Logs			Structural Data					Core
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000 0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	

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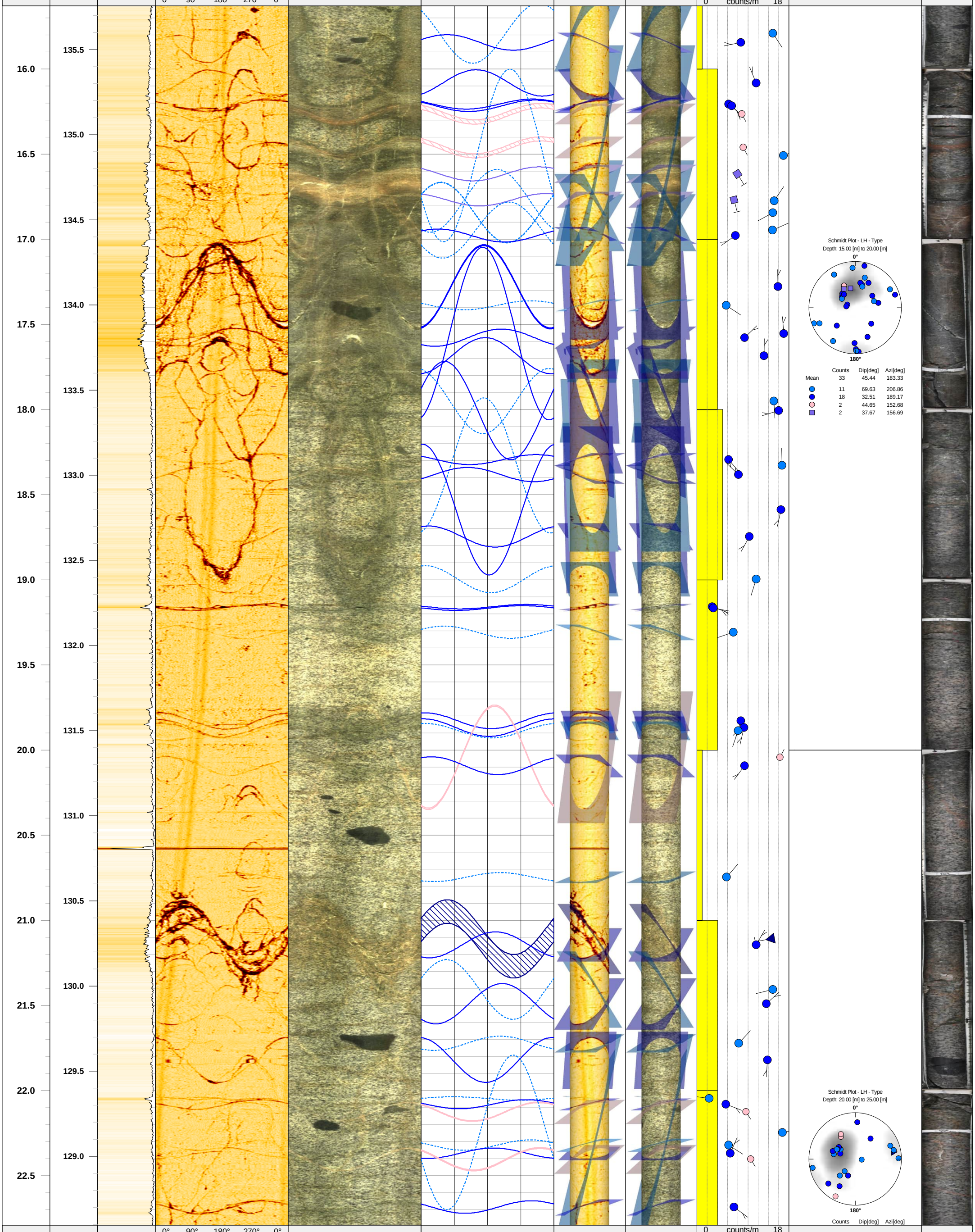
Depth		Image Logs			Structural Data					Core
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	

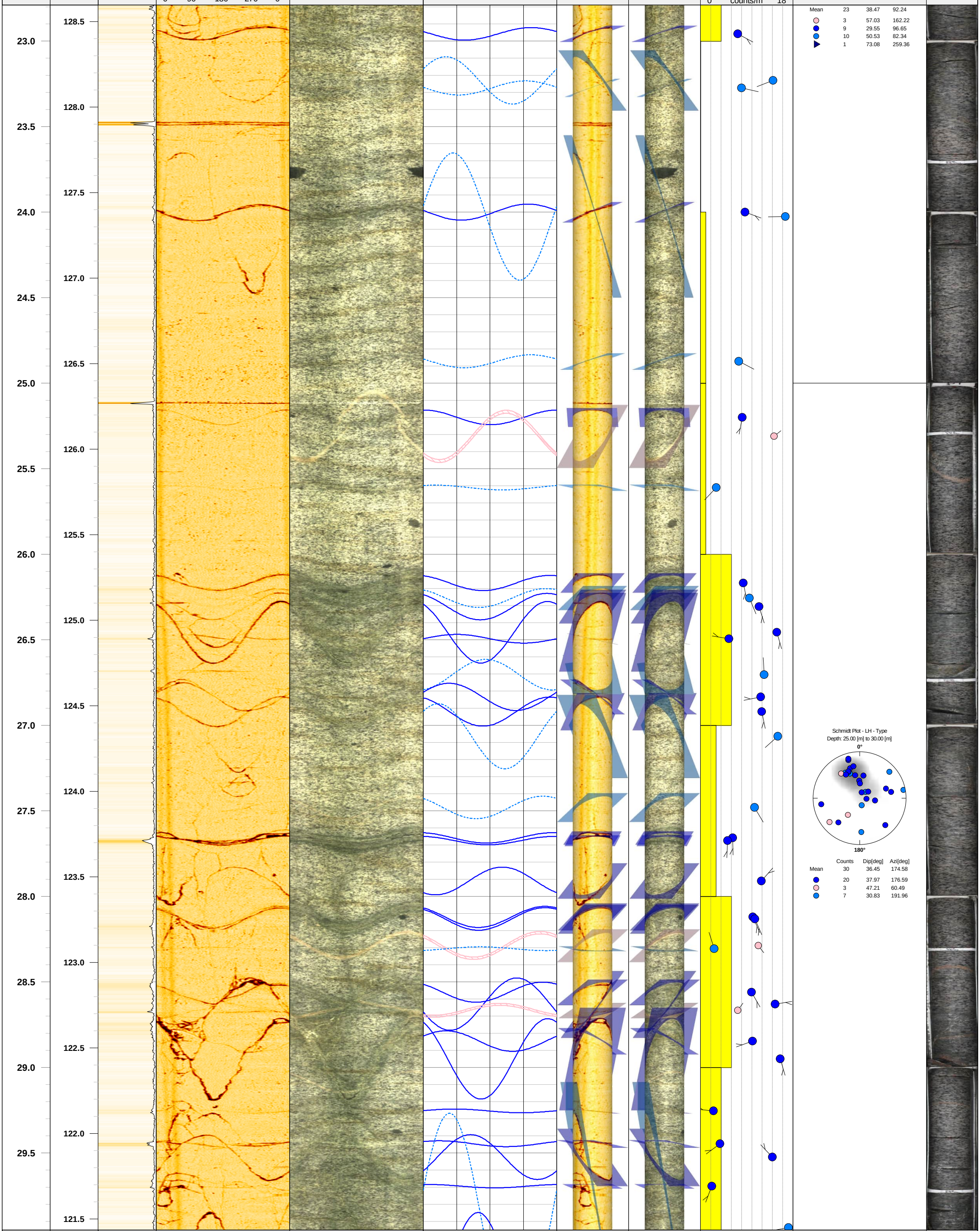


Depth		Image Logs			Structural Data					Core
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	

BGL-05

BGL-05

Depth		Image Logs			Structural Data					Core
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	



Depth		Image Logs			Structural Data					Core
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	

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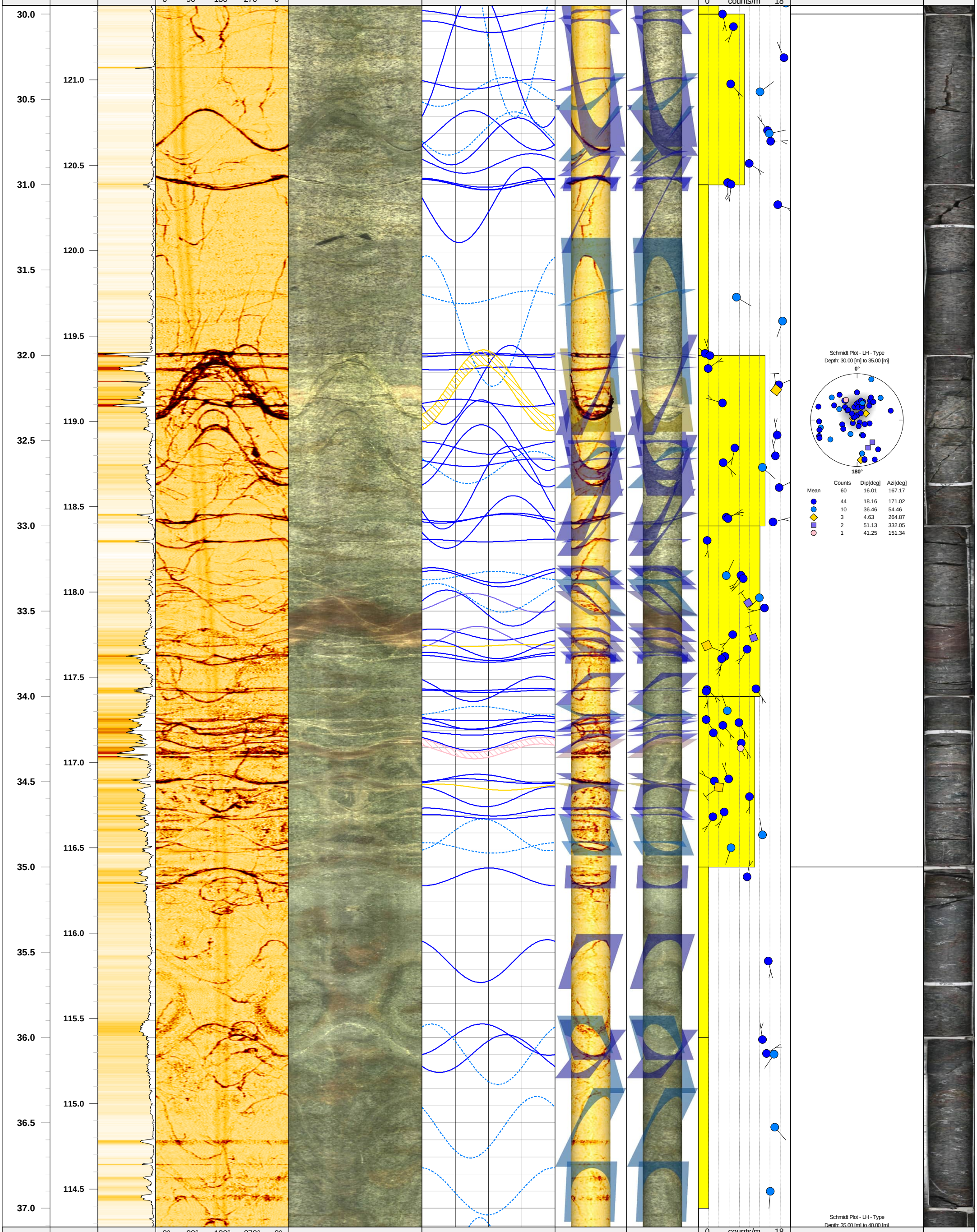
BGL-05

Depth		Image Logs			Structural Data					Core
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000 0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	



Depth		Image Logs			Structural Data					Core
1m:20m	AHD	0 9000	0 6000 0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo

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Depth		Image Logs			Structural Data					Core
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000 0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	

Depth: 37.5 38.0 38.5 39.0 39.5 40.0 40.5 41.0 41.5 42.0 42.5 43.0 43.5 44.0

RL m: 114.0 113.5 113.0 112.5 112.0 111.5 111.0 110.5 110.0 109.5 109.0 108.5 108.0 107.5

Stereoplots:

	Counts	Dip[deg]	Azi[deg]
Mean	21	66.79	354.58
	11	62.10	8.05
	10	72.94	344.76

Schmidt Plot - LH - Type
Depth: 40.00 [m] to 45.00 [m]

	Counts	Dip[deg]	Azi[deg]
Mean	26	66.95	346.78
	9	64.79	342.43
	13	76.90	164.87
	1	54.23	5.47
	3	43.46	352.46

Depth		Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000 0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
Depth		Image Logs			Structural Data					Core
BGL-05										

BGL-05

Depth		Image Logs			Structural Data					Core
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
1m:20m	AHD	0 9000	0 6000	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	

Depth: 44.5, 45.0, 45.5, 46.0, 46.5, 47.0, 47.5, 48.0, 48.5, 49.0, 49.5

RL m: 107.0, 106.5, 106.0, 105.5, 105.0, 104.5, 104.0, 103.5, 103.0, 102.5, 102.0, 101.5

Schmidt Plot - LH - Type
Depth: 45.00 [m] to 50.00 [m]

	Counts	Dip[deg]	Azi[deg]
Mean	28	29.07	348.45
	10	31.21	339.74
	12	35.33	1.63
	4	10.34	113.34
	2	42.10	344.70

Depth		Image Logs			Structural Data					Core
1m:20m	AHD	0 9000	0 6000	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	-0°	-0°	0 90 Freq/metre 0 counts/m 18	Schmidt Plot - LH - Type	
Depth	RL m	Reflectivity	Amplitude-NM HPF	Image-NM	Apparent Structures	3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo
Depth		Image Logs			Structural Data					Core
BGL-05										

BGL-05 Composite Log

WSP Australia Pty Limited
Level 12, 900 Ann Street
Fortitude Valley
QLD 4006
Australia

GEOPHYSICAL RECORD OF BOREHOLE: BGL-05

PROJECT: Pioneer-Burdekin PHES
JOB #: PS138693
CLIENT: Queensland Hydro
DATE: 19/06/2024

BOREHOLE DETAILS

LOCATION:	Lower Reservoir	BH DEPTH:	50.00 m
EASTING:	660370.041 m E	BH DIAMETER:	96 mm (HQ)
NORTHING:	7661191.292 m N	BH AZIMUTH:	201° TN
ELEVATION:	151.381 m	BH PLUNGE:	-89°
COORD SYSTEM:	MGA2020-55	CASING DEPTH:	3.84 m
LOGGING DATUM:	Ground Level	CASING TYPE:	HWT

DOCUMENT DETAILS

LOGGED BY: JH
LOGGED DATE: 28/03/2024
DRAWN BY: SB
REVIEWED BY: GH
FILE: BGL-05_Composite_RevC
LOGGED DEPTH: 49.65 m

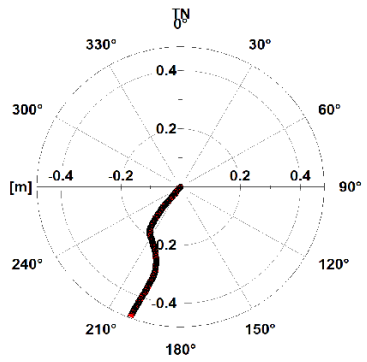
NOTES

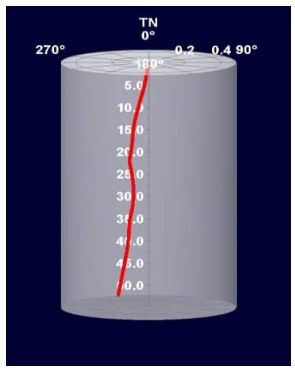
Image logs are oriented relative to magnetic north. Final structures corrected to true north using magnetic declination of 8.2 deg East.

Mechanical calliper log used for structure dip corrections.

All logs zeroed to ground level. Cased section assumed straight for deviation calculations.

BOREHOLE DEVIATION



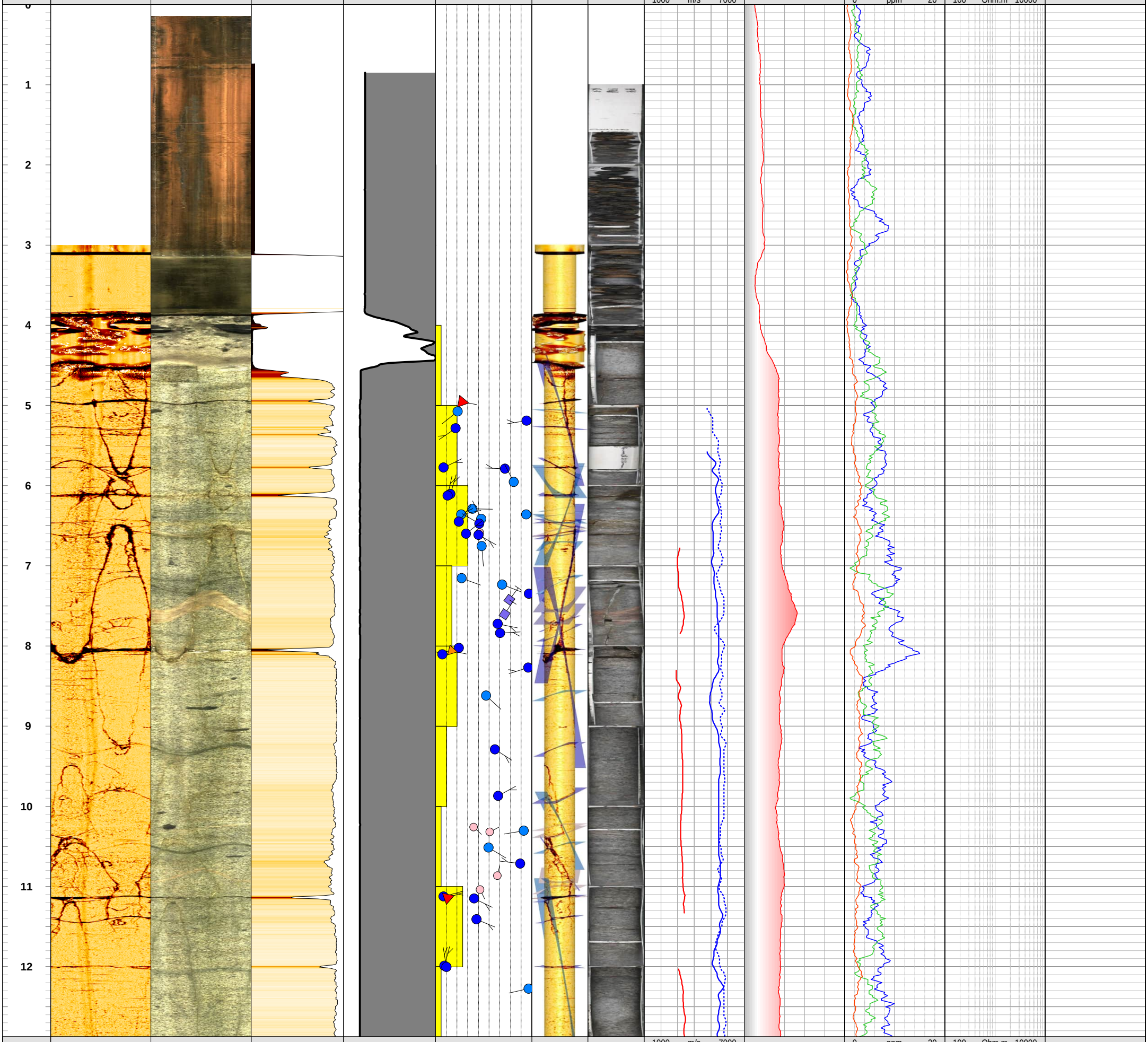


INTERPRETED STRUCTURES

Contact
Crushed Seam
Extremely Weathered Seam
Fracture Zone
Joint
Shear Seam
Shear Zone
Vein
Healed Joint

BGL-05

Depth	Image Logs			Calliper	Structural Logs			Sonic Logs	Gamma Logs	Electrical Logs		
Depth	Amplitude-NM HPF	Image-NM	Reflectivity	CAL	Structures - TN	3D ATV	Core	Vp Vp (Rx1-Rx4) Vs	GR	U K Th	N16 N32 N8	Ma16 Ma64
1m:50m	500 6000 0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	0 9000	80 mm 180	0 90 Freq/metre 0 counts/m 18	-0°		1000 m/s 7000	0 API 250	0 ppm 20 0 % 10	100 Ohm.m 10000	0 ms 50



Depth	Image Logs			Calliper	Structural Logs			Sonic Logs	Gamma Logs	Electrical Logs		
Depth	Amplitude-NM HPF	Image-NM	Reflectivity	CAL	Freq/metre Structures - TN	3D ATV	Core	Vs Vp (Rx1-Rx4) Vp	GR	Th K U	N8 N32 N16	Ma64 Ma16
1m:50m	0° 90° 180° 270° 0° 500 6000	0° 90° 180° 270° 0°	0 9000	80 mm 180	0 counts/m 18 0 90	-0°		1000 m/s 7000	0 API 250	0 ppm 20 0 % 10	100 Ohm.m 10000	0 ms 50

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Depth	Image Logs			Calliper	Structural Logs			Sonic Logs	Gamma Logs		Electrical Logs	
Depth	Amplitude-NM HPF	Image-NM	Reflectivity	CAL	Structures - TN	3D ATV	Core	Vp	GR	U	N16	Ma16
	500 6000		0 9000	80 mm 180	0 90	-0°		1000 m/s 7000	0 API 250	0 ppm 10	100 Ohm.m 10000	0 ms 50
1m:50m	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°			Freq/metre			Vp (Rx1-Rx4)		K	N32	Ma64
					0 counts/m 18			1000 m/s 7000		0 % 10	100 Ohm.m 10000	0 ms 50
								Vs		Th	N8	
								1000 m/s 7000		0 ppm 20	100 Ohm.m 10000	

13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

Depth	Image Logs			Calliper	Structural Logs			Sonic Logs	Gamma Logs		Electrical Logs	
Depth	Amplitude-NM HPF	Image-NM	Reflectivity	CAL	Structures - TN	3D ATV	Core	Vp	GR	U	N16	Ma16
	500 6000		0 9000	80 mm 180	0 90	-0°		1000 m/s 7000	0 API 250	0 ppm 10	100 Ohm.m 10000	0 ms 50
1m:50m	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°			Freq/metre			Vp (Rx1-Rx4)		K	N32	Ma64
					0 counts/m 18			1000 m/s 7000		0 % 10	100 Ohm.m 10000	0 ms 50
								Vs		Th	N8	
								1000 m/s 7000		0 ppm 20	100 Ohm.m 10000	
Depth	Image Logs			Calliper	Structural Logs			Sonic Logs	Gamma Logs		Electrical Logs	

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Depth	Image Logs			Calliper	Structural Logs			Sonic Logs	Gamma Logs		Electrical Logs	
Depth	Amplitude-NM HPF	Image-NM	Reflectivity	CAL	Structures - TN	3D ATV	Core	Vp	GR	U	N16	Ma16
	500 6000		0 9000	80 mm 180	0 90	-0°		1000 m/s 7000	0 API 250	0 ppm 10	100 Ohm.m 10000	0 ms 50
1m:50m	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°			Freq/metre			Vp (Rx1-Rx4)		K	N32	Ma64
					0 counts/m 18			1000 m/s 7000		0 % 10	100 Ohm.m 10000	0 ms 50
								Vs		Th	N8	
								1000 m/s 7000		0 ppm 20	100 Ohm.m 10000	

30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47

Depth	Image Logs			Calliper	Structural Logs			Sonic Logs	Gamma Logs		Electrical Logs	
Depth	Amplitude-NM HPF	Image-NM	Reflectivity	CAL	Structures - TN	3D ATV	Core	Vp	GR	U	N16	Ma16
	500 6000		0 9000	80 mm 180	0 90	-0°		1000 m/s 7000	0 API 250	0 ppm 10	100 Ohm.m 10000	0 ms 50
1m:50m	0° 90° 180° 270° 0°	0° 90° 180° 270° 0°			Freq/metre			Vp (Rx1-Rx4)		K	N32	Ma64
					0 counts/m 18			1000 m/s 7000		0 % 10	100 Ohm.m 10000	0 ms 50
								Vs		Th	N8	
								1000 m/s 7000		0 ppm 20	100 Ohm.m 10000	
Depth	Image Logs			Calliper	Structural Logs			Sonic Logs	Gamma Logs		Electrical Logs	
BGL-05