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BOREHOLE: BHUA-14

Project: Pioneer-Burdekin PHES

Location: Netherdale/Dalrymple Heights

Client: Queensland Hydro

Job No.: PS138693

Position: Upper Reservoir

Coords: 658262.7 m E 7666709.9 m N MGA2020-55

Surface RL: 874.20 m AHD

Contractor: Twin Hills Engineering & Drilling Drill Rig: TH11

Inclination: -85° Direction: 215°

Sheet 1 of 7

Date Started: 15/7/2024

Date Completed: 19/7/2024

Logged: LB

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
ADV	E-F		0	874.20	D 0.00-1.50 m			CI	CLAY: medium plasticity, red-brown, trace medium plasticity silt.	w<PL	St	RESIDUAL SOIL	
			1										
	F-H		2.50	871.71	CH			CLAY: high plasticity, red-brown.	w=PL	St to VSt			
			3	3.00				Continued as Cored Borehole					
			4										
			5										
			6										
			7										
			8										
			9										
			10										

Comments

CheckedGEM

Date2/12/2024



BOREHOLE: BHUA-14

Project:	Pioneer-Burdekin PHES	Position:	Upper Reservoir	Sheet	2 OF 7
Location:	Netherdale/Dalrymple Heights	Coords:	658262.7 m E 7666709.9 m N MGA2020-55	Date Started:	15/7/2024
Client:	Queensland Hydro	Surface RL:	874.20 m AHD	Date Completed:	19/7/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: TH11	Logged:	LB
		Inclination:	-85° Direction: 215°		

Drilling						Field Material Description				Defect Information			
METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa)	DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)		AVERAGE DEFECT SPACING (mm)	
									VL-2 L M H V - - - - 2 6 20 200 EH			0 20 100 300 1000 3000	
				0									
				1									
				2									
				3	3.00 871.21		Continuation from non-cored borehole						
				3			CH Silty CLAY: high plasticity, red brown, trace coarse grained gravel. stiff to very stiff.	RS					
		0	0	4									
		0	0	5									
		0	0	6									
		0	0	7									
		0	0	8									
		0	0	9									
		0	0	10									
				6.50 867.72			Red-brown mottled black, with coarse grained gravel; with medium grained sand.						
				9.00 865.23			Red brown mottled black and pale brown, trace fine grained sand.						
				10.00									



BOREHOLE: BHUA-14

Project:	Pioneer-Burdekin PHES	Position:	Upper Reservoir	Sheet	3 OF 7
Location:	Netherdale/Dalrymple Heights	Coords:	658262.7 m E 7666709.9 m N MGA2020-55		
Client:	Queensland Hydro	Surface RL:	874.20 m AHD	Date Started:	15/7/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: TH11	Date Completed:	19/7/2024
		Inclination:	-85° Direction: 215°	Logged:	LB

Drilling					Field Material Description				Defect Information			
METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa)	DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)		AVERAGE DEFECT SPACING (mm)
									VL-2 J M H VH EH	■ - UCS		10 30 100 300 1000 3000
HQ3		0	0	10	864.24		CH Sandy Gravelly CLAY: high plasticity, red-brown, gravel is fine to coarse grained; sand is fine to medium grained; trace high plasticity silt. very stiff.	RS				
		0	0									
		0	0	11	11.11							
					863.13		MIXED LAMPROPHYRE AND GRANITE: fine to medium grained, pale grey and dark grey, porphyritic, massive, pale grey alteration, granite is pale grey, pink, brown and white, medium to coarse grained, crystalline, highly altered, up to 100 mm sections.	MW		11.11-11.44: FZ, br VN, UN, RF, recovered as medium to coarse gravel		
		8	0		11.45		NO CORE 0.90m (11.45-12.35)					
					862.79							
				12	12.35							
		100	96		861.90		MIXED LAMPROPHYRE AND GRANITE: fine to medium grained, pale grey and dark grey, porphyritic, massive, pale grey alteration, granite is pale grey, pink, brown and white, fine to coarse grained, crystalline, highly altered, up to 600 mm sections.	MW - SW		12.64: J, 20°, CN, UN, RF		
				13						13.06: J, 55°, CN, PR, RF 13.10: J, 15°, CN, UN, RF 13.18: J, 25°, br-mi SN, PR, RF 13.25: J, 20°, CN, PR, RF		
		100	67	14						13.57: J, 25°, wh-mi SN, PR, RF 13.64: J, 0 - 45°, CN, ST, RF		
								SW - FR		14.63: J, 50°, br-mi SN, PR, RF		
	100	60								15.03: J, 5°, CN, PR, RF		
			15							15.51: J, 5°, CN, PR, RF		
										16.63: J, 5°, CN, PR, RF 16.70: J, 5°, CN, UN, VR		
			16							17.13-17.17: J x2, 10 - 20°, SN, UN, RF		
										18.48: J, 20°, CN, UN, RF 18.65: J, 35°, CN, PR, RF 18.78: J, 35°, CN, PR, VR 18.85: J, 10°, CN, UN, VR		
			17							19.43: J, 25°, CN, PR, RF		
										19.71: J, 10°, CN, UN, RF		
	97	97		19								
				20								

PEPHES LIB_REV0_GLB Log IS AU CORED BOREHOLE 3 BHUA-14_08122024 (1)GPJ <<DrawingFile>> 10/12/2024 11:26 10.03.00.09 Dargal Lab and In Situ Tool - DGD | Lib: WSP 5.07.2 2023-10-30 Ph: WSP 5.04.1 2023-06-14



BOREHOLE: BHUA-14

Project:	Pioneer-Burdekin PHES	Position:	Upper Reservoir	Sheet	4 OF 7
Location:	Netherdale/Dalrymple Heights	Coords:	658262.7 m E 7666709.9 m N MGA2020-55	Date Started:	15/7/2024
Client:	Queensland Hydro	Surface RL:	874.20 m AHD	Date Completed:	19/7/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: TH11	Logged:	LB
		Inclination:	-85° Direction: 215°		

Drilling					Field Material Description				Defect Information			
METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa)	DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)	AVERAGE DEFECT SPACING (mm)	
HQ3				20			MIXED LAMPROPHYRE AND GRANITE: fine to medium grained, pale grey and dark grey, porphyritic, massive, pale grey alteration, granite is pale grey, pink, brown and white, fine to coarse grained, crystalline, highly altered, up to 600 mm sections.	SW - FR		19.94: J, 5°, CN, PR, RF		
	97	97	21	20.18: J, 15°, yl-mi SN, UN, SM								
			22	20.55: J, 45°, CN, UN, RF								
	100	100	23	20.86-21.00: J x2, 0 - 20°, yl-mi, ST								
			24	21.09: J, 5°, CN, UN, RF								
			25	22.20: J, 30°, CN, UN, RF								
			26	22.87: J, 40°, CN, PR, RF								
	100	100	27	23.39: J, 35°, CN, PR, RF								
			28	23.87: J, 25°, CN, UN, RF								
			29	26.80: J, 10°, CN, IR, RF								
			30	27.07: J, 10°, CN, PR, RF								
				27.51: J, 45°, yl-mi CN, PR, RF								
				28.56: J, 0°, CN, PR, RF								

Comments

Checked GEM
Date 2/12/2024

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Sheet 5 OF 7

Date Started: 15/7/2024

Date Completed: 19/7/2024

Logged: LB

HQ3

Checked GEM

Date 2/12/2024



BOREHOLE: BHUA-14

Project:	Pioneer-Burdekin PHES	Position:	Upper Reservoir	Sheet	6 OF 7
Location:	Netherdale/Dalrymple Heights	Coords:	658262.7 m E 7666709.9 m N MGA2020-55		
Client:	Queensland Hydro	Surface RL:	874.20 m AHD	Date Started:	15/7/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: TH11	Date Completed:	19/7/2024
		Inclination:	-85° Direction: 215°	Logged:	LB

Drilling						Field Material Description				Defect Information		
METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa)	DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)	AVERAGE DEFECT SPACING (mm)	
								SW FR	VL-2 J M H VH EH		0 50 100 300 1000 3000	
HO3				40			MIXED LAMPROPHYRE AND GRANITE: medium to coarse grained, white, pale grey and dark grey, porphyritic, massive, pale grey alteration throughout, granite is pale grey, pink, brown and white, fine to coarse grained, crystalline, up to 500 mm sections.			39.98: J, 45°, CN, UN, RF 40.01-40.04: J x2, 45°, CN, UN, RF		
				41						40.38: J, 60°, CN, PR, RF 40.63: J, 20°, CN, UN, RF 40.80: J, 10 - 55°, CN, ST, RF		
	100		97	42						41.88-42.05: J, 75°, wh-mi SN, UN, RF 42.21-42.34: J x2, 5 - 10°, CN, UN, RF		
				43						42.34-42.80: J, 80°, CN, UN, RF, partially healed along defect 42.79: J, 40°, yl-mi SN, PR, RF 42.82: J, 40°, wh-mi SN, UN, RF 42.94-43.00: S, 50°, wh-mi, PR, displacement down 50mm		
				44						43.07: J, 0°, CN, IR, RF 43.41: J, 45°, CN, PR, RF		
	100		92	45						43.71: J, 5°, CN, PR, RF 44.07: J, 20°, wh mi CT, CU, SM		
				46						44.83: J, 25°, CN, PR, RF 44.89: J, 20°, CN, PR, RF 44.92: J, 10°, CN, PR, RF		
				47						46.41: J, 5°, CN, UN, RF 46.85: J, 15°, CN, PR, RF 47.12: J, 25°, CN, PR, RF		
	100		100	48						47.58: J, 5°, CN, PR, RF 47.94: J, 20°, CN, PR, RF 48.14: J, 20°, CN, PR, RF		
				49						48.48: J, 5°, CN, PR, VR 48.63: J, 5°, CN, PR, RF 48.91: J, 5°, dark gy CN-SN, PR-UN, RF 49.14: J, 5°, wh to dark gy mi CN-SN, PR-UN, RF		
				50	50.00					49.72: J, 40°, dark gy mi CN, PR-CU-UN, RF		

Comments	Checked	GEM
	Date	2/12/2024

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Inclination: -85° Direction: 215°

Sheet 7 OF 7

Date Started: 15/7/2024

Date Completed: 19/7/2024

Logged: LB

Drilling						Field Material Description				Defect Information			
METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa)	DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)		AVERAGE DEFECT SPACING (mm)	
								VL-2 J M H VH-200 EH	■ - UCS			0 100 200 300 1000 3000	
HQ3			100	100	50	824.39	MIXED LAMPROPHYRE AND GRANITE: medium to coarse grained, white, pale grey and dark grey, porphyritic, massive, pale grey alteration throughout, granite is pale grey, pink, brown and white, fine to coarse grained, crystalline, up to 500 mm sections. Increased lamprophyre content.	SW FR		50.07: J, 30°, bk mi SN, CU, RF 50.00-50.18: J, 75°, wh mi; up to 3mm CN-CT, PR-UN, RF-SM 50.48: J, 5°, dark gy and wh mi CN-SN, PR-UN, RF 50.76: J, 70°, dark gy and wh mi CN-VN, PR-UN, RF			
					51								
					52					51.96: J, 5°, wh and dark gy mi CN-SN, PR-UN, RF 52.47: J, 5°, dark gy/bk mi CN, PR-UN, RF 52.93: J, 10°, dark gy and wh mi CN, PR-UN, RF 53.23: J, 5°, wh and gy mi CN-SN, UN-IR, RF 53.47: J, 5°, dark gy and wh mi CN-SN, PR-UN, RF 53.71: J, 5°, wh and dark gy mi CN, PR-UN-IR, RF 53.82: J, 5°, wh and dark gy mi CN, PR-UN, RF			
			100	100	53								
					54	54.10 820.31 54.30 820.11	LAMPROPHYRE: fine to medium grained, dark grey and dark green, porphyritic, massive, rare phenocrysts to 2 mm diameter. Distinctive qz phenocrysts.						
			100	86	54	54.74 819.67	MIXED LAMPROPHYRE AND GRANITE: medium to coarse grained, white, pale grey and dark grey, porphyritic, massive, pale grey alteration throughout, granite is pale grey, pink, brown and white, fine to coarse grained, crystalline, up to 300 mm sections.			54.88: J, 25°, dark gy to wh/pale pk CN, PR-UN, RF			
					55	55.50 818.91	Lamprophyre intrusion.			55.66: J, 20°, dk gy and wh mi CN, PR-ST-IR, RF			
					56	55.80 818.61	Presence of phenocrysts (possibly qz or calcite) of up to 3mm.			56.18: J, 5°, dark gy mi CN-SN, PR, RF			
			100	97	57					57.12: J, 5°, wh and dark gy mi CN, PR-UN-IR, RF-VR 57.15: J, 0°, wh and dark gy mi CN, PR-UN, VR-RF 57.21: J, 5°, wh and dark gy mi CN, PR-UN, RF 57.43: J, 10°, wh and dark gy mi CN, PR-ST-UN, RF			
					58	58.00 816.42	Hole Terminated at 58.00 m Target depth. Standpipe Piezometer Installed.			57.78: J, 15°, wh and dark gy mi CN, ST, RF			
Comments													
												Checked GEM	
												Date 2/12/2024	

PEPHES LIB_REV0.GLB Log IS AU CORED BOREHOLE 3 BHUA-14_09122024 (1)GPJ <<DrawingFile>> 10/12/2024 11:26 10.03.00.09 Dalrymple Lab and In Situ Tool - DGD | Lib: WSP 5.07.2 2023-10-30 Pj: WSP 5.04.1 2023-06-14



Pioneer Burdekin Pumped Hydro Energy Storage: Tranche 2 – BHUA-14
Defects List

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
BHUA-14	11.11	11.44			FZ				br	VN	UN	RF					recovered as medium to coarse gravel
BHUA-14	12.45	12.60			hJ	x3	40		wh-mi		PR	RF					
BHUA-14	12.64				J		20			CN	UN	RF					
BHUA-14	12.68				hJ		20		wh-mi		PR	RF					
BHUA-14	12.68	12.90			hJ	x6	60		wh-mi		PR	RF					
BHUA-14	13.01				hJ		20		yl-mi		CU	RF					
BHUA-14	13.03	13.07			hJ	x2	75		yl-mi		CU	RF					
BHUA-14	13.06				J		55			CN	PR	RF					
BHUA-14	13.08				hJ		60				PR	RF					
BHUA-14	13.10				J		15			CN	UN	RF					
BHUA-14	13.12	13.15			hJ	x3	35				PR	RF					
BHUA-14	13.18				J		25		br-mi	SN	PR	RF					
BHUA-14	13.25				J		20			CN	PR	RF					
BHUA-14	13.28	13.57			hJ	x5	45		yl-mi		PR-UN	RF					
BHUA-14	13.57				J		25		wh-mi	SN	PR	RF					
BHUA-14	13.62				hJ		75		yl		UN	RF					
BHUA-14	13.63				hJ		30		yl-mi		PR	RF					
BHUA-14	13.64				J		0	45		CN	ST	RF					
BHUA-14	13.66				hJ		45		yl-mi		UN	RF					
BHUA-14	13.67				hJ		40				PR	RF					
BHUA-14	13.69	13.89			hJ	x7	40		yl-mi		PR-UN	RF					
BHUA-14	13.91				hJ		35		yl-mi		UN	RF					
BHUA-14	14.04	14.09			hJ	x3	65		yl-mi		PR	RF					
BHUA-14	14.23				hJ		65		yl-mi		PR	RF					
BHUA-14	14.35				hJ		85		yl-mi		PR	RF					
BHUA-14	14.41				hJ		45		yl		PR	RF					
BHUA-14	14.46				hJ		5		yl-mi		PR	RF					
BHUA-14	14.53				hJ		75		yl-mi		IR	RF					
BHUA-14	14.62				hJ		55		yl-mi		PR						
BHUA-14	14.63				J		50		br-mi	SN	PR	RF					
BHUA-14	14.68				MB												
BHUA-14	14.83				hJ		80		yl-mi		PR						
BHUA-14	14.91				HB												
BHUA-14	14.94				hJ		35		yl-mi		IR	RF					
BHUA-14	15.01				hJ		50		yl-mi		PR	RF					
BHUA-14	15.03				J		5			CN	PR	RF					
BHUA-14	15.10	15.15			hJ	x2	60		yl-mi		PR	RF					
BHUA-14	15.19	15.21			hJ	x2	5		yl-mi		PR	RF					
BHUA-14	15.22	15.25			hJ	x2	55		yl-mi		PR	RF					
BHUA-14	15.39				hJ	x2	85		yl-mi		PR	RF					
BHUA-14	15.41				hJ		10		yl-mi		UN	RF					
BHUA-14	15.45				hJ		20		yl-mi		PR	RF					
BHUA-14	15.49				hJ		75		yl-mi		PR	RF					
BHUA-14	15.51				J		5			CN	PR	RF					
BHUA-14	15.67				hJ		25				PR	SM					
BHUA-14	15.68	15.69			hJ	x2	10		yl-mi		PR-CU	RF					
BHUA-14	15.78				hJ		65		yl-mi		PR-UN	RF					
BHUA-14	15.81				hJ		60		yl-mi		CU	SM					
BHUA-14	15.83				hJ		50		yl-mi		CU	RF					
BHUA-14	15.90				MB												
BHUA-14	15.96				hJ		70		wh-mi		PR	RF					
BHUA-14	16.04				hJ		40		yl-mi		PR	RF					
BHUA-14	16.05	16.20			hJ		85		yl-mi		CU	RF					
BHUA-14	16.38				hJ		50		yl-mi		CU	RF					
BHUA-14	16.50				hJ		80		yl		CU	RF					
BHUA-14	16.56				hJ		45		yl-mi		PR	RF					
BHUA-14	16.63				J		5			CN	PR	RF					
BHUA-14	16.66				hJ		70		yl-mi		PR	SM					
BHUA-14	16.68				hJ		40		yl-mi		PR	RF					
BHUA-14	16.70				J		5			CN	UN	VR					
BHUA-14	16.71				hJ		10		yl-mi		PR	RF					
BHUA-14	16.76				hJ		15		yl-mi		PR	RF					
BHUA-14	16.83				hJ		5		yl-mi		PR	RF					
BHUA-14	16.90				hJ		5				PR	RF					
BHUA-14	16.92				HB												
BHUA-14	16.98				hJ		25		yl-mi		PR	SM					
BHUA-14	17.07	17.11			hJ		20		yl-mi		UN						
BHUA-14	17.13	17.17			J	x2	10	20		SN	UN	RF					
BHUA-14	17.24	17.26			HB	x2											
BHUA-14	17.26				hJ		5				PR	RF					
BHUA-14	17.29				hJ		60		yl-mi		PR	RF					
BHUA-14	17.33				hJ		50				PR	RF					
BHUA-14	17.38				hJ		60		yl-mi		UN	RF					
BHUA-14	17.41	17.45			hJ	x3	10		yl-mi		PR	RF					
BHUA-14	17.49	17.51			hJ	x3	25		yl-mi		CU	SM					
BHUA-14	17.55	17.56			hJ	x2	10		yl-mi		PR	RF					
BHUA-14	17.60	17.64			hJ	x2	30		yl-mi		PR	SM					
BHUA-14	17.66				hJ		90		yl-mi		PR	SM					
BHUA-14	17.75				hJ		50		yl-mi		CU	RF					



Pioneer Burdekin Pumped Hydro Energy Storage: Tranche 2 – BHUA-14
Defects List

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
BHUA-14	17.78				hJ		90				CU	RF					
BHUA-14	17.89				hJ		50		yl-mi		PR	RF					
BHUA-14	17.94				hJ		70		yl-mi		PR	RF					
BHUA-14	18.00	18.05			hJ	x5	15		yl-mi		PR	SM					
BHUA-14	18.18	18.30			hJ	x6	30		yl-mi		PR	RF					
BHUA-14	18.38	18.44			hJ	x2	30		yl-mi		PR	RF					
BHUA-14	18.42				hJ		75		wh-mi		UN	SM					
BHUA-14	18.48				J		20			CN	UN	RF					
BHUA-14	18.53	18.70			hJ	x5	20		wh-mi		PR	RF					
BHUA-14	18.65				J		35			CN	PR	RF					
BHUA-14	18.78				J		35			CN	PR	VR					
BHUA-14	18.80	18.81			hJ	x2	20		wh-mi		PR	RF					
BHUA-14	18.85				J		10			CN	UN	VR					
BHUA-14	18.86				hJ		5		yl-mi		IR	RF					
BHUA-14	18.88	18.92			hJ	x2	15		yl-mi		PR	SM					
BHUA-14	18.89	18.93			hJ	x2	65		yl-mi		PR	RF					
BHUA-14	18.95				hJ		5		yl, gr-mi		IR	RF					
BHUA-14	19.18				hJ		45		yl-mi		PR	RF					
BHUA-14	19.20				hJ		35		yl-mi		PR	SM					
BHUA-14	19.43				J		25			CN	PR	RF					
BHUA-14	19.47				hJ		25		yl-mi		PR	SM					
BHUA-14	19.50				hJ		65		yl-mi		UN	RF					
BHUA-14	19.52	19.87			hJ	x5	45		yl-mi		PR	SM-RF					
BHUA-14	19.58				hJ		85		yl-mi		UN	RF					
BHUA-14	19.70				hJ		90		yl-mi		UN	SM					
BHUA-14	19.71				J		10			CN	UN	RF					
BHUA-14	19.80				hJ		55		yl-mi		PR	RF					
BHUA-14	19.94				J		5			CN	PR	RF					
BHUA-14	20.02	20.04			hJ	x2	15		yl-mi		PR	RF					
BHUA-14	20.13				hJ	x2	5		yl-mi		UN	SM					
BHUA-14	20.18				J		15		yl-mi	SN	UN	SM					
BHUA-14	20.19				hJ		40		yl-mi		CU	RF					
BHUA-14	20.20				hJ		40		yl-mi		PR	RF					
BHUA-14	20.26				hJ		10		yl-mi		PR	SM					
BHUA-14	20.34	20.36			hJ	x2	30		yl-mi		UN	SM					
BHUA-14	20.40				hJ		60		wh-mi		UN	SM					
BHUA-14	20.47				hJ		55		yl-mi		UN	SM					
BHUA-14	20.48	20.49			hJ	x2	15		yl-mi		PR	RF					
BHUA-14	20.51				hJ		65		yl-mi		IR	RF					
BHUA-14	20.52				hJ		35				PR	SM					
BHUA-14	20.55				J		45			CN	UN	RF					
BHUA-14	20.60				hJ		25		yl-mi		PR	RF					
BHUA-14	20.64				hJ		55		br, wh, yl-mi		PR-IR	RF					
BHUA-14	20.71				hJ		35		wh-mi		UN	SM					
BHUA-14	20.75				hJ		0		yl-mi		CU						
BHUA-14	20.84				hJ		50		yl-mi		PR	RF					
BHUA-14	20.86	21.00			J	x2	0	20	yl-mi		ST						
BHUA-14	21.03				hJ		90		yl-mi		PR	RF					
BHUA-14	21.06	21.11			hJ	x7	5		yl-mi		PR	RF					
BHUA-14	21.09				J		5			CN	UN	RF					
BHUA-14	21.17	21.68			hJ	15	25		yl, wh-mi		PR	SM					
BHUA-14	21.67				hJ	x2	80		yl-mi		PR	RF					
BHUA-14	21.69				hJ		75		yl-mi		PR	RF					
BHUA-14	21.82				hJ	x4	0.8		yl-mi		PR	RF					
BHUA-14	21.90	21.92			hJ	x2	10		yl-mi		PR	RF					
BHUA-14	21.95				hJ		20		yl-mi		PR	RF					
BHUA-14	21.96				hJ		90		yl-mi		PR	RF					
BHUA-14	22.05				hJ		70		yl-mi		PR	RF					
BHUA-14	22.08				hJ		55				PR	RF					
BHUA-14	22.11				hJ		25		gr-mi		UN	RF					
BHUA-14	22.16				hJ		45		gr-mi		PR	RF					
BHUA-14	22.17				hJ	x2	85		gr-mi		UN	RF					
BHUA-14	22.20				J		30			CN	UN	RF					
BHUA-14	22.22				hJ	x2	45		yl-mi		PR	RF					
BHUA-14	22.27	22.76			hJ	x6	35		yl-mi		PR	RF					
BHUA-14	22.32	22.45			hJ	x2	55		yl-mi		CU	RF					
BHUA-14	22.54				hJ		85		yl-mi		CU	RF					
BHUA-14	22.64				hJ		90		yl-mi		CU	RF					
BHUA-14	22.83				hJ		70		yl-mi		PR	RF					
BHUA-14	22.85				hJ		85		yl-mi		UN	RF					
BHUA-14	22.87				J		40			CN	PR	RF					
BHUA-14	22.93	23.08			AZ				wh mi		IR		<	1			multiple defects, various angles
BHUA-14	23.14				hJ		75		wh-mi		PR	RF					
BHUA-14	23.17				hJ		45				PR	RF					
BHUA-14	23.19				hJ		25		wh-mi		PR	RF					
BHUA-14	23.21	23.24			hJ	x2	15		yl-mi		PR	RF					
BHUA-14	23.27	23.28			hJ	x3	15		wh-mi		PR	RF					
BHUA-14	23.34	23.37			hJ	x3	65		yl-mi		PR	RF					
BHUA-14	23.39				J		35			CN	PR	RF					



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Defects List

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
BHUA-14	23.46	23.98			hJ	x12	40		yl-mi		PR	RF					
BHUA-14	23.56	23.80			hJ	x4	65		yl-mi		PR	RF					
BHUA-14	23.87				J		25			CN	UN	RF					
BHUA-14	23.90				hJ		85		wh-mi		PR	SM					
BHUA-14	24.01				hJ		60		wh-mi		PR	RF					
BHUA-14	24.08				hJ		15		yl-mi		PR	SM					
BHUA-14	24.09				hJ		80				PR	RF					
BHUA-14	24.10	24.14			hJ	x4	50		yl-mi		PR	RF					
BHUA-14	24.15	24.21			hJ	x2	40		yl-mi		PR	RF					
BHUA-14	24.25				hJ		20		wh-mi		PR	RF					
BHUA-14	24.33				hJ	x2	45		wh-mi		PR	SM					
BHUA-14	24.38				hJ		65		yl-mi		PR	RF					
BHUA-14	24.40				hJ		30		yl-mi		PR	RF					
BHUA-14	24.46	24.72			hJ	x12	35		yl-mi		PR	RF					
BHUA-14	24.58	24.70			hJ	x3	30		yl-mi		PR	SM					
BHUA-14	24.77				MB												
BHUA-14	25.07				hJ		40				PR	RF					
BHUA-14	25.11				hJ		65		wh-mi		PR	RF					
BHUA-14	25.12				hJ		35		yl-mi		PR	SM					
BHUA-14	25.17	25.19			hJ	x2	40		yl-mi		PR	RF					
BHUA-14	25.30				hJ		40		yl-mi		PR	RF					
BHUA-14	25.40	25.48			hJ	x3	25		yl-mi		PR	SM					
BHUA-14	25.50				hJ		85		wh-mi		UN	RF					
BHUA-14	25.70				hJ		45		yl-mi		PR	RF					
BHUA-14	25.81				hJ		45		yl-mi		PR	RF					
BHUA-14	25.93	26.00			hJ	x4	55		yl-mi		PR	RF					
BHUA-14	26.03	26.09			hJ	x3	25		yl-mi		PR	RF					
BHUA-14	26.37	26.60			hJ	x4	70		yl-mi		PR	RF					
BHUA-14	26.40				hJ		85		yl-mi		PR-ST	RF					
BHUA-14	26.77				hJ		20		yl-mi		PR	RF					
BHUA-14	26.80				J		10			CN	IR	RF					
BHUA-14	26.83				hJ		55		wh-mi		IR	RF					
BHUA-14	26.84				hJ	x2	75		yl-mi		PR	VR					
BHUA-14	26.90				hJ		20		yl-mi		PR	RF					
BHUA-14	26.90	27.00			hJ				yl-mi								
BHUA-14	27.02	27.05			hJ	x2	50		yl-mi		PR	RF					
BHUA-14	27.07				J		10			CN	PR	RF					
BHUA-14	27.08	27.12			hJ	x4	55		yl-mi		PR	RF					
BHUA-14	27.22				hJ		45		wh-mi		PR						
BHUA-14	27.25				hJ		30		wh-mi		CU						
BHUA-14	27.27				hJ		40		wh-mi		CU						
BHUA-14	27.31	27.54			hJ	x4	45		yl-mi		PR-UN	RF					
BHUA-14	27.35				hJ		60				IR	RF					
BHUA-14	27.51				J		45		yl-mi	CN	PR	RF					
BHUA-14	27.51	27.55			hJ	x6	20	45	wh-mi		CU-PR						
BHUA-14	27.65				hJ	x3	85		wh-mi		IR-PR	RF					
BHUA-14	27.73				MB												
BHUA-14	27.76	27.80			hJ	x2	45		wh-mi		PR	SM					
BHUA-14	27.77				hJ		5		wh-mi		PR	RF					
BHUA-14	27.89				hJ		40				PR	RF					
BHUA-14	27.96				hJ		30		yl-mi		PR	SM					
BHUA-14	27.97				hJ		60		wh-mi		PR	RF					
BHUA-14	28.06	28.09			hJ	x2	80		wh-mi		UN	RF					
BHUA-14	28.15	28.24			hJ	x2	75		wh-mi		CU	RF					
BHUA-14	28.18				hJ		80		wh-mi		CU	RF					
BHUA-14	28.30	28.37			hJ	x3	5		yl-mi		PR	RF					
BHUA-14	28.40	28.56			hJs		45		wh-mi		IR						multiple defects, generally sub-horizontal, 10-30mm spacing
BHUA-14	28.56				J		0			CN	PR	RF					
BHUA-14	28.58	28.62			hJ	x2	20		yl-mi		PR	RF					
BHUA-14	28.60				hJ		45		gr, yl-mi		PR	RF					
BHUA-14	28.62	28.65			hJ				yl-mi								
BHUA-14	28.71	28.80			hJs		20				PR	RF					multiple defects, generally sub-horizontal
BHUA-14	28.83	28.87			hJ	x2	70		yl-mi		PR	RF					
BHUA-14	28.84				hJ		75		yl-mi		UN	RF					
BHUA-14	28.89	28.97			hJ	x3	15		wh-mi		PR	RF					
BHUA-14	28.91				hJ		80		wh-mi		UN	RF					
BHUA-14	28.95				MB												
BHUA-14	29.00	29.19			hJs		15		wh-mi								multiple defects, various angles, generally sub-horizontal, 0-10mm spacing
BHUA-14	29.26				hJ		25		yl-mi		PR	RF					
BHUA-14	29.33				hJ		20		yl-mi		PR	RF					
BHUA-14	29.36				hJ		15		yl-mi		PR	RF					
BHUA-14	29.44	29.75			hJ	x11	25		yl-mi		PR	RF					
BHUA-14	29.51				hJ		60		yl-mi		CU	RF					
BHUA-14	29.95				J		0		yl-mi	SN	PR	RF					
BHUA-14	30.05				hJ		75		yl-mi		PR	RF					
BHUA-14	30.06				hJ	x2	80		wh-mi		UN-CU	RF					
BHUA-14	30.11	30.16			hJ	x6	5		yl-mi		PR	RF					
BHUA-14	30.23				hJ		85		yl-mi		UN	RF					
BHUA-14	30.27	30.72			hJ	x11	40		yl-mi		PR	RF					



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Defects List

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
BHUA-14	30.45				hJ		85		wh-mi		UN	RF					
BHUA-14	30.67				J		30		wh, gr-mi	SN	PR	RF					
BHUA-14	30.67	30.76			hJ				yl-mi								
BHUA-14	30.75				MB												
BHUA-14	30.87				hJ	x2	85		yl-mi		PR-UN	RF					
BHUA-14	30.89				hJ	x2	55		yl-mi		PR-CU	RF					
BHUA-14	30.93				hJ		70		yl-mi		CU	RF					
BHUA-14	30.97				J		10			CN	PR	RF					
BHUA-14	31.01	31.23			hJ	x10	25		yl-mi		PR	RF					
BHUA-14	31.16				J		25			CN	PR	SM					
BHUA-14	31.26				J		0			CN	PR	VR					
BHUA-14	31.28				hJ		0		wh-mi		UN	RF					
BHUA-14	31.35				J		0		wh-mi	SN	UN	RF					
BHUA-14	31.48	31.56			hJ	x3	80		yl-mi		PR-CU-UN	RF					
BHUA-14	31.49	31.53			hJ	x3	20		yl-mi		PR						
BHUA-14	31.55	31.58			hJ		20		wh-mi		PR	SM					
BHUA-14	31.57				hJ	x2	30		yl-mi		CU	RF					
BHUA-14	31.61	31.63			hJ	x2			wh-mi		CU	RF					
BHUA-14	31.69				hJ		35		yl-mi		PR	RF					
BHUA-14	31.71				J		10			CN	PR	RF					
BHUA-14	31.77				hJ		35		yl-mi		PR						
BHUA-14	31.83				J		10			CN	PR	RF					
BHUA-14	31.84				hJ		20		yl-mi		PR	RF					
BHUA-14	31.87				hJ		85		yl-mi		PR	RF					
BHUA-14	31.91				hJ		30		yl-mi		PR	RF					
BHUA-14	31.93	31.95			hJ	x4	10		yl-mi		PR	RF					
BHUA-14	32.00	32.30			hJ	x2	20		yl-mi		PR	RF					
BHUA-14	32.09				J		30			CN	ST	RF					
BHUA-14	32.11				hJ		55		wh-mi		ST	RF					
BHUA-14	32.20				J		15			CN	UN	RF					
BHUA-14	32.28				J		15			CN	CU	RF					
BHUA-14	32.35	32.45			hJ	x3	65		x3, yl-mi		PR	RF					
BHUA-14	32.38				hJ		30		yl-mi		PR	RF					
BHUA-14	32.47				J		30			CN	PR	RF					
BHUA-14	32.55	32.62			hJ	x2	75		yl		CU	RF					
BHUA-14	32.74				hJ		60		yl-mi		PR	RF					
BHUA-14	32.78				hJ		5				UN	RF					
BHUA-14	32.81	32.84			hJ	x3	45		yl-mi		PR	RF					
BHUA-14	32.85				J		45			CN	PR	RF					
BHUA-14	32.87				hJ		55		yl-mi		PR	RF					
BHUA-14	32.95				J		60			CN	ST	RF					
BHUA-14	32.96				hJ		90		yl-mi		IR	RF					
BHUA-14	33.00	33.10			J		80		wh mi	CT	UN	RF					
BHUA-14	33.01	33.10			J		80			SN	UN	RF					
BHUA-14	33.10	33.19			FZ				or-pk mi	SN		RF					multiple defects, various angles, recovered as gravel
BHUA-14	33.22	33.25			hJ	x4	65		wh-mi		CU	RF					
BHUA-14	33.29	33.34			hJ		5		x4, yl		PR	RF					
BHUA-14	33.33	33.36			hJ	x2	35		x2, yl-mi		PR	RF					
BHUA-14	33.39				J		40			CN	PR	RF					
BHUA-14	33.57	33.61			AZ		70	90	wh-mi		UN						multiple defects, generally sub-vertical to vertical, 0-10mm spacing
BHUA-14	33.61				J		30			CN	PR	RF					
BHUA-14	33.62	33.71			hJ	x5	20		yl-mi		PR	RF					
BHUA-14	33.68				hJ		70		wh-mi		CU	RF					
BHUA-14	33.76				J	/CO	0			CN	PR	RF					
BHUA-14	33.82				hJ		80		wh-mi		CU	RF					
BHUA-14	33.83				hJ		5		yl-mi		PR	RF					
BHUA-14	33.84				J		40	90		CN	ST	RF					open becoming healed, possibly opened by drilling
BHUA-14	33.85				hJs		90		yl-mi		CU	RF					
BHUA-14	33.91	33.92			hJ	x2	45		yl-mi		PR	RF					
BHUA-14	33.94				hJ		5		yl-mi		IR	RF					
BHUA-14	33.96				hJ		35		yl-mi		PR	RF					
BHUA-14	34.02				J		30			CN	PR	RF					
BHUA-14	34.08	34.12			hJ	x2	10		yl-mi		PR	SM					
BHUA-14	34.16				hJ		75		wh-mi		UN	RF					
BHUA-14	34.20				hJ		20		yl-mi		PR	RF					
BHUA-14	34.22				hJ		50		yl-mi		PR	RF					
BHUA-14	34.24	34.38			hJ	x6	25		yl-mi		PR	RF					
BHUA-14	34.51				hJ		90		yl-mi		PR	RF					
BHUA-14	34.61				hJ		60		yl-mi		PR	RF					
BHUA-14	34.71				J		40			UN	RF						
BHUA-14	34.79	34.82			hJ	x3	30		yl-mi		PR	RF					
BHUA-14	35.06				hJ		80		or-mi		UN	RF					
BHUA-14	35.12				hJ		10		yl-mi		PR	SM					
BHUA-14	35.13	35.17			hJ	x2	70		yl-mi		PR	RF					
BHUA-14	35.27				hJ		5		yl		PR	RF					
BHUA-14	35.40				hJ		30		yl-mi		PR	RF					
BHUA-14	35.51	35.52			hJ		45				PR	RF					
BHUA-14	35.53	35.54			hJ		20		yl		PR	RF					
BHUA-14	35.55	35.60			hJ		80		yl-mi		PR	RF					



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Defects List

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
BHUA-14	35.66				hJ		30		gr-mi		PR	RF					
BHUA-14	35.71				J		25			CN	UN	RF					
BHUA-14	35.74	35.77			hJ	x2	20		yl-mi		PR	RF					
BHUA-14	35.74	35.90			hJ		70	85	wh-mi		CU						
BHUA-14	35.94				hJ		70		wh-mi		CU	RF					
BHUA-14	35.96				J		30		gr-mi	SN		RF					
BHUA-14	36.03				hJ		70		wh-mi		PR	RF					
BHUA-14	36.06				hJ		60		yl-mi		PR	SM					
BHUA-14	36.07	36.08			hJ	x2	10		yl-mi		PR	RF					
BHUA-14	36.12				hJ	x2	20		yl-mi		PR	RF					
BHUA-14	36.20				hJ		15		yl-mi		PR	RF					
BHUA-14	36.22				hJ		20		yl		PR	RF					
BHUA-14	36.24				hJ		30		yl-mi		PR	SM					
BHUA-14	36.28				hJ		90		wh-mi		UN	RF					
BHUA-14	36.36	36.37			hJ	x2	20		yl-mi		PR	RF					
BHUA-14	36.45	36.53			hJ	x5	80		yl-mi		PR	RF					
BHUA-14	36.56				hJ		40		yl-mi		UN	RF					
BHUA-14	36.57				hJ	x2	20		yl-mi		PR	RF					
BHUA-14	36.66				J		20		gr-mi	SN	PR	RF					
BHUA-14	36.67	36.69			hJ	x2	20		gr-mi		PR	RF					
BHUA-14	36.71				hJ	x2	80		wh-mi		PR	RF					
BHUA-14	36.77				hJ		45		yl-mi		PR	RF					
BHUA-14	36.78	36.95			J		70			SN	UN	RF					
BHUA-14	36.82				hJ		75		yl-mi		PR	RF					
BHUA-14	36.85	36.90			J	x3	5	20		CN	PR-UN	RF					
BHUA-14	36.95				hJ		90		yl-mi		UN	RF					
BHUA-14	36.96				hJ		5		yl-mi		PR	RF					
BHUA-14	36.97	36.98			hJ	x2	55		wh-mi		PR	RF					
BHUA-14	37.02	37.97			hJ	x17	40		wh, yl, bl-mi		PR	RF					
BHUA-14	37.07	37.09			hJ		90		wh-mi		UN	RF					
BHUA-14	37.11				hJ		45		yl-mi		PR	RF					
BHUA-14	37.18				hJ		10		wh-mi		CU	SM					
BHUA-14	37.25				hJ		75		yl		PR	RF					
BHUA-14	37.36				J		35			CN	PR						
BHUA-14	37.55				hJ		30		wh-mi		PR	SM					
BHUA-14	37.57	37.61			hJ	x2	60		wh-mi		PR	RF					
BHUA-14	37.77				J		40		wh-mi	SN	PR	RF					
BHUA-14	37.86				J		40		wh-mi	SN	PR	RF					
BHUA-14	37.94				hJ		60				PR	RF					
BHUA-14	38.00	38.04			hJ	x3	10		yl-mi		PR	RF					
BHUA-14	38.19				hJ		40		yl-mi		PR	RF					
BHUA-14	38.20				J		20			CN	PR	RF					
BHUA-14	38.22	38.47			hJ	x18	20		yl-mi		PR	RF					
BHUA-14	38.35				hJ		15		yl-mi		PR	RF					
BHUA-14	38.48	38.49			hJ	x2	80		wh-mi		PR	RF					
BHUA-14	38.52				J		45			CN	UN	RF					
BHUA-14	38.63	38.88			hJ	x13	15		yl-mi		PR	RF					
BHUA-14	38.86	38.91			hJ	x2	80		yl-mi		CU	RF					
BHUA-14	38.96	38.97			hJ	x2	90		yl-mi		CU	RF					
BHUA-14	38.99				hJ		45		yl-mi		PR	RF					
BHUA-14	39.15	39.28			hJ	x6	40		yl-mi		PR	RF					
BHUA-14	39.26				J		65			CN	PR	RF					
BHUA-14	39.38	39.48			hJ	x3	25		yl-mi		PR	SM					
BHUA-14	39.53				hJ		75		wh-mi		PR	RF					
BHUA-14	39.60				J		85			CN	UN	RF					
BHUA-14	39.62	39.68			hJ	x8	25		yl-mi		PR	RF					
BHUA-14	39.75				MB												
BHUA-14	39.77	39.95			hJ	x6	35		yl-mi		PR	RF					
BHUA-14	39.98				J		45			CN	UN	RF					
BHUA-14	40.01	40.04			J	x2	45			CN	UN	RF					
BHUA-14	40.04	40.05			hJ	x2	50		wh-mi		PR	RF					
BHUA-14	40.11				hJ		70		yl-mi		UN	RF					
BHUA-14	40.38				J		60			CN	PR	RF					
BHUA-14	40.46				hJ		80		wh-mi		CU	RF					
BHUA-14	40.54				hJ		75		wh-mi		PR	RF					
BHUA-14	40.56				hJ		5		yl-mi		PR	SM					
BHUA-14	40.63				J		20			CN	UN	RF					
BHUA-14	40.64				hJ		45		wh-mi			RF					
BHUA-14	40.64	40.66			hJ	x2	55	55	yl-mi		PR	RF					
BHUA-14	40.80				J		10			CN	ST	RF					
BHUA-14	40.89				hJ				wh-mi		ST	RF					
BHUA-14	40.93				hJ		70		wh-mi		UN	RF					
BHUA-14	41.07				hJ		90		wh-mi		PR	RF					
BHUA-14	41.12				hJ		90		yl-mi		UN	RF					
BHUA-14	41.16				CO		45		wh-mi		UN						partially open along contact
BHUA-14	41.21	41.44			hJ	x12	30		yl-mi		PR	RF					
BHUA-14	41.33	41.35			hJ	x3	10		yl-mi		PR	RF					
BHUA-14	41.39	41.41			hJ	x5	50		yl-mi		PR	RF					
BHUA-14	41.51				hJ		70		yl-mi		UN	RF					



Pioneer Burdekin Pumped Hydro Energy Storage: Tranche 2 – BHUA-14
Defects List

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
BHUA-14	41.70				hJ		90		wh-mi		UN	SM					
BHUA-14	41.71				hJ		5		yl-mi		PR	RF					
BHUA-14	41.73				hJ		5				UN	RF					
BHUA-14	41.82	41.88			hJ	x3	10		yl-mi		PR-UN	RF					
BHUA-14	41.88	42.05			J		75		wh-mi	SN	UN	RF					
BHUA-14	41.93	41.95			hJ	x2	10		wh-mi		PR	RF					
BHUA-14	42.00				hJ				yl-mi		IR	RF					
BHUA-14	42.04	42.17			hJ	x7	25		yl-mi		PR	RF					
BHUA-14	42.21	42.34			J	x2	5	10		CN	UN	RF					
BHUA-14	42.25	42.31			hJ	x3	20		yl-mi		PR	RF					
BHUA-14	42.34	42.80			J		80			CN	UN	RF					partially healed along defect
BHUA-14	42.35	42.57			hJ	x3			wh-mi		UN						
BHUA-14	42.68				hJ		90		wh, yl-mi		UN	RF					
BHUA-14	42.75	42.81			hJ	x4	45		yl-mi		PR	RF					
BHUA-14	42.79				J		40		yl-mi	SN	PR	RF					
BHUA-14	42.79	42.80			hJ	x2	40		yl-mi		PR	RF					
BHUA-14	42.82				J		40		wh-mi	SN	UN	RF					
BHUA-14	42.94	43.00			S		50		wh-mi		PR						displacement down 50mm
BHUA-14	43.00	43.15			hJ		70	90	wh-mi		UN						DB 43.07-43.10m
BHUA-14	43.07				J		0			CN	IR	RF					
BHUA-14	43.15	43.20			hJ		80		wh-mi		UN						
BHUA-14	43.21	43.44			hJ	x3	70	90	wh mi		UN-PR						
BHUA-14	43.31	43.37			MB												
BHUA-14	43.41				J		45			CN	PR	RF					
BHUA-14	43.44				hJ		15		wh-mi		UN	RF					
BHUA-14	43.45				hJ		35		wh-mi		UN	RF					
BHUA-14	43.48				hJ	x3	10		yl-mi		PR	RF					
BHUA-14	43.50				hJ		10		yl-mi		PR	RF					
BHUA-14	43.51	43.62			hJ	x12	60		yl-mi		PR	RF					
BHUA-14	43.71				J		5			CN	PR	RF					
BHUA-14	43.78	43.90			hJ	x2	85		yl-mi		PR	RF					
BHUA-14	43.84				hJ		40		bl-mi		PR	SM					
BHUA-14	44.02	44.04			hJ	x2	10		yl-mi	CN	PR	RF					
BHUA-14	44.07				J		20		wh mi	CT	CU	SM					
BHUA-14	44.07	44.30			hJ		90		wh-mi	CT	UN	SM					opened by drilling
BHUA-14	44.19	44.23			hJ	x3	30		yl-mi	SN	PR	RF					
BHUA-14	44.21	44.24			hJ	x2	70		yl-mi		PR	RF					
BHUA-14	44.40				hJ	x2	80		wh-mi	SN	UN-ST	SM					
BHUA-14	44.55	44.88			hJ	x11	55		yl-mi	SN	PR	RF					
BHUA-14	44.70				hJ	x2	80		wh-mi	SN	CU	RF					
BHUA-14	44.77				hJ		65		yl-mi	SN	PR	RF					
BHUA-14	44.83				J		25			CN	PR	RF					
BHUA-14	44.89				J		20			CN	PR	RF					
BHUA-14	44.92				J		10			CN	PR	RF					
BHUA-14	44.93	44.97			hJ		50		bl, wh-mi	SN	PR	RF					
BHUA-14	44.97	44.98			hJ	x2	20		yl-mi	SN	PR	SM					
BHUA-14	45.01	45.03			hJ	x3	20		yl-mi	SN	PR	RF					
BHUA-14	45.37	45.70			hJ	x7	45		yl-mi	SN	PR	SM					
BHUA-14	45.58	45.63			hJ	x3	5		yl-mi	SN	PR	RF					
BHUA-14	45.89	48.91			hJ	x3	5		yl-mi	SN	PR	RF					
BHUA-14	45.99				hJ	x2	70		yl-mi	SN	PR	RF					
BHUA-14	46.04	46.30			hJ	x7	65		yl-mi	SN	PR-UN	RF					
BHUA-14	46.39				hJ		90		wh-mi	SN	UN	RF					
BHUA-14	46.39	46.46			hJ	x2	30		yl-mi	SN	PR	RF					
BHUA-14	46.41				J		5			CN	UN	RF					
BHUA-14	46.43	46.60			hJs				yl, wh-mi		PR						multiple healed defects, generally sub-vertical, 10-30mm spacing
BHUA-14	46.56	46.61			hJ	x5	75		yl, wh-mi	SN	UN-PR	RF					
BHUA-14	46.65	46.70			hJ		5		x6, yl-mi	SN	PR	RF					
BHUA-14	46.74	46.77			hJ		60			CN	PR	RF					
BHUA-14	46.83				hJ		85		wh-mi	SN	UN	RF					
BHUA-14	46.85				J		15			CN	PR	RF					
BHUA-14	46.93	46.96			hJ	x2	35		yl-mi	SN	PR-UN	RF					
BHUA-14	46.96				hJ		80		yl-mi	SN	UN	RF					
BHUA-14	47.04				hJ		90		yl-mi	SN	CU	RF					
BHUA-14	47.07				hJ		15			CN	PR	RF					
BHUA-14	47.12				J		25			CN	PR	RF					
BHUA-14	47.18				hJ		50		yl-mi	SN	CU	RF					
BHUA-14	47.33				hJ		10			CN	UN	RF					
BHUA-14	47.48	47.53			hJ	x2	30		yl-mi	SN	CU	RF					
BHUA-14	47.58				J		5			CN	PR	RF					
BHUA-14	47.66	47.81			hJ	x3	10		yl-mi	SN	PR	RF					
BHUA-14	47.67				hJ		5		yl-mi	SN	UN	RF					
BHUA-14	47.77	47.83			hJ	x2	90		yl-mi	SN	UN	RF					
BHUA-14	47.94				J		20			CN	PR	RF					
BHUA-14	48.03	48.05			hJ	x2	20		wh-mi	SN	PR	RF					
BHUA-14	48.14				J		20			CN	PR	RF					
BHUA-14	48.23				hJ		80		wh-mi	SN	PR	RF					
BHUA-14	48.27	48.28			hJ	x2	15		yl-mi	SN	PR	RF					
BHUA-14	48.29				hJ		20		yl-mi	SN	PR	RF					



Pioneer Burdekin Pumped Hydro Energy Storage: Tranche 2 – BHUA-14
Defects List

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
BHUA-14	48.48				J		5			CN	PR	VR					
BHUA-14	48.55				hJ		80		yl-mi	SN	PR	RF					
BHUA-14	48.58	48.59			hJ	x2	20		yl-mi	SN	PR	RF					
BHUA-14	48.60				hJ		20		yl-mi	SN	PR	RF					
BHUA-14	48.63				J		5			CN	PR	RF					
BHUA-14	48.73				hJ		90		yl-mi	SN	UN	RF					
BHUA-14	48.80	49.10			hJ	x5	80		yl-mi	VN	PR-UN-IR						
BHUA-14	48.91				J		5		dark gy	CN-SN	PR-UN	RF					
BHUA-14	48.93	49.60			hJ	x15	10		dark red and pale yl/gr mi	VN-CT	PR-UN			3			
BHUA-14	48.98				HB												
BHUA-14	49.01				HB												
BHUA-14	49.14				J		5		wh to dark gy mi	CN-SN	PR-UN	RF					
BHUA-14	49.56				hJ		65		pale yl/gr mi	VN	PR-UN						
BHUA-14	49.72				J		40		dark gy mi	CN	PR-CU-UN	RF					
BHUA-14	49.82	50.45			hJ	x12	75		pale yl mi	VN	PR-UN-IR						
BHUA-14	50.00	50.18			J		75		wh mi; up to 3mm	CN-CT	PR-UN	RF-SM					
BHUA-14	50.07				J		30		bk mi	SN	CU	RF					
BHUA-14	50.08	50.76			hJ	x15	15		wh and pale yl	VN-CT	PR-UN			2			
BHUA-14	50.25	51.15			hJ	x15	65		wh and pale yl	VN-CT	PR-UN			3			
BHUA-14	50.29				V		55		wh mi	VN-CT	PR-UN-IR			3			
BHUA-14	50.34				V		65		wh mi	VN-CT	PR-UN			2			
BHUA-14	50.48				J		5		dark gy and wh mi	CN-SN	PR-UN	RF					
BHUA-14	50.76				J		70		dark gy and wh mi	CN-VN	PR-UN	RF					
BHUA-14	50.77				V		70		wh mi	CT	PR-UN			3			
BHUA-14	50.80	51.05			AZ				pale gn/yl mi	VN-CT	UN-IR-CU						
BHUA-14	50.80	51.19			hJ	x10	50		wh and pale gn mi	CT-VN	PR-UN-IR			2			
BHUA-14	50.95	51.54			hJ		5		wh mi	VN	PR-UN						
BHUA-14	51.00	51.72			hJ	x10	70		wh and pale gr/yl	VN-CT	PR-UN			2			
BHUA-14	51.07	51.39			hJ	x6	40		pale yl/gn mi	VN-CT	PR-UN						
BHUA-14	51.13				HB												
BHUA-14	51.52				hJ		35		pale gn mi	CT	PR-UN						
BHUA-14	51.80	51.95			AZ				pale gr mi	VN-CT	CU-UN-IR						
BHUA-14	51.96				J		5		wh and dark gy mi	CN-SN	PR-UN	RF					
BHUA-14	52.04	53.03			hJ	x20	5		wh and dark gy mi	VN	PR-UN						
BHUA-14	52.18	52.86			hJ	x12	25		wh and pale yl	VN-CT	PR-UN						
BHUA-14	52.47				J		5		dark gy/bk mi	CN	PR-UN	RF					
BHUA-14	52.80	53.27			hJ	x10	15		wh and pale gr mi	VN-CT	PR-UN-IR			2			
BHUA-14	52.93				J		10		dark gy and wh mi	CN	PR-UN	RF					
BHUA-14	53.07	53.65			hJ	x10	10		wh and pale gr mi	VN-CT	PR-UN			2			
BHUA-14	53.23				J		5		wh and gy mi	CN-SN	UN-IR	RF					
BHUA-14	53.47				J		5		dark gy and wh mi	CN-SN	PR-UN	RF					
BHUA-14	53.71				J		5		wh and dark gy mi	CN	PR-UN-IR	RF					
BHUA-14	53.82				J		5		wh and dark gy mi	CN	PR-UN	RF					
BHUA-14	53.87				MB												
BHUA-14	53.89				hJ		80		pale yl	VN-CT	PR-UN			2			
BHUA-14	54.15				CO				dark gy to pale gn	VN	CU-UN-IR						
BHUA-14	54.35				MB												
BHUA-14	54.44	54.75			hJ	x5	65		wh mi	VN-CT	PR-UN			2			
BHUA-14	54.79				CO		70		wh-mi	CT	UN	SM					
BHUA-14	54.82	55.10			hJ	x5	35		wh to pale pink mi	VN	PR-UN						
BHUA-14	54.85				CO		70		wh and dark gy mi	VN	PR-UN						
BHUA-14	54.87				hJ		75		wh mi	VN-CT	PR-UN						
BHUA-14	54.88				J		25		dark gy to wh/pale pk	CN	PR-UN	RF					
BHUA-14	54.93				hJ		60		wh mi	VN	PR-UN						
BHUA-14	55.00	55.10			hJ	x4	20		pale yl mi	VN-CT	PR-UN						
BHUA-14	55.10	55.14			AZ				wh and pale yl mi	VN-CT	CU-PR-UN						
BHUA-14	55.25	55.50			hJ	x5	40		wh and pale yl mi	VN-CT	PR-UN			2			
BHUA-14	55.28	55.90			hJ	x12	75		wh mi	VN	PR-UN						
BHUA-14	55.30	55.80			hJ	x10	15		wh mi	VN	PR-UN						
BHUA-14	55.50	55.62			CO		55		lamprophyre/altered granite contact; wh and dark gr mi	VN	CU-UN						
BHUA-14	55.66				J		20		dk gy and wh mi	CN	PR-ST-IR	RF					
BHUA-14	55.85				V		90		wh mi	CT-VN	PR-UN						
BHUA-14	55.88				V		75		wh mi	VN-CT	PR-UN						
BHUA-14	56.00	57.00			V	x5	90		wh mi	VN-CT	PR-UN			2			
BHUA-14	56.04	56.48			hJ	x12	55		pale yl	VN-CT	PR-UN			2			
BHUA-14	56.10	56.70			hJ	x10	10		wh and pale yl mi	VN-CT	PR-UN			2			
BHUA-14	56.18				J		5		dark gy mi	CN-SN	PR	RF					
BHUA-14	56.32	56.46			AZ				pale yl mi	VN-CT	UN-PR-IR						
BHUA-14	56.74				hJ		5		pale yl mi	VN-CT	PR-UN			2			
BHUA-14	56.94				hJ		25		wh and pale yl mi	VN	PR-UN						
BHUA-14	57.02				hJ		75		pale yl mi	VN	PR-UN						
BHUA-14	57.12				J		5		wh and dark gy mi	CN	PR-UN-IR	RF-VR					
BHUA-14	57.15				J		0		wh and dark gy mi	CN	PR-UN	VR-RF					
BHUA-14	57.21				J		5		wh and dark gy mi	CN	PR-UN	RF					
BHUA-14	57.38	57.97			hJ	x15	10		wh and pale yl mi	VN-CT	PR-UN			3			
BHUA-14	57.42	57.47			hJs		35		pale yl mi	VN-CT	CU-UN-IR						multiple defect sets, various angles
BHUA-14	57.43				J		10		wh and dark gy mi	CN	PR-ST-UN	RF					
BHUA-14	57.62				hJ		45		pale yl mi	VN-CT	PR-UN						

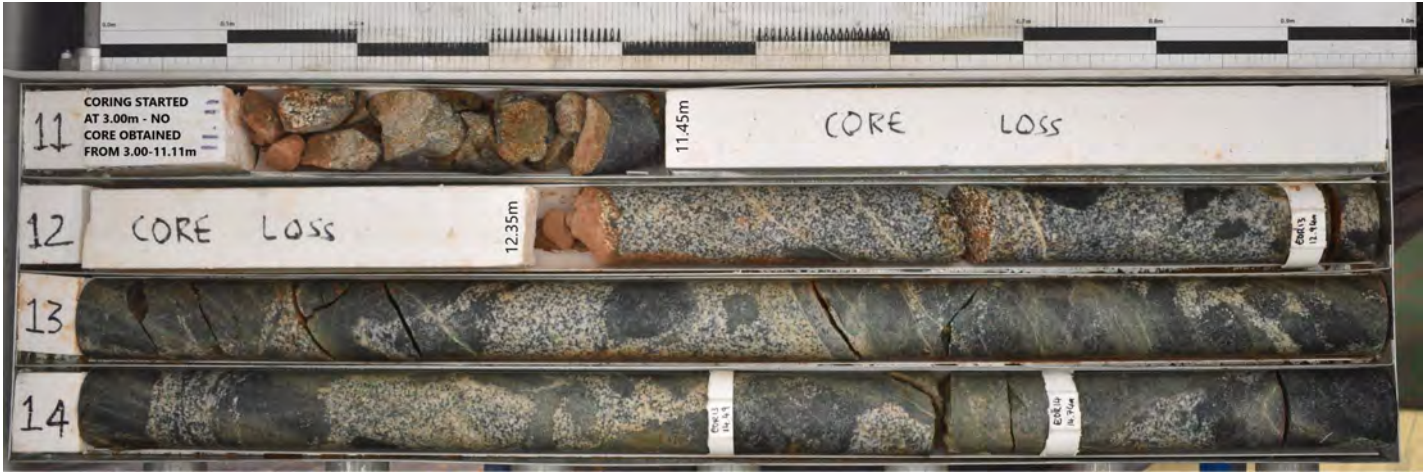


Pioneer Burdekin Pumped Hydro Energy Storage: Tranche 2 – BHUA-14
Defects List

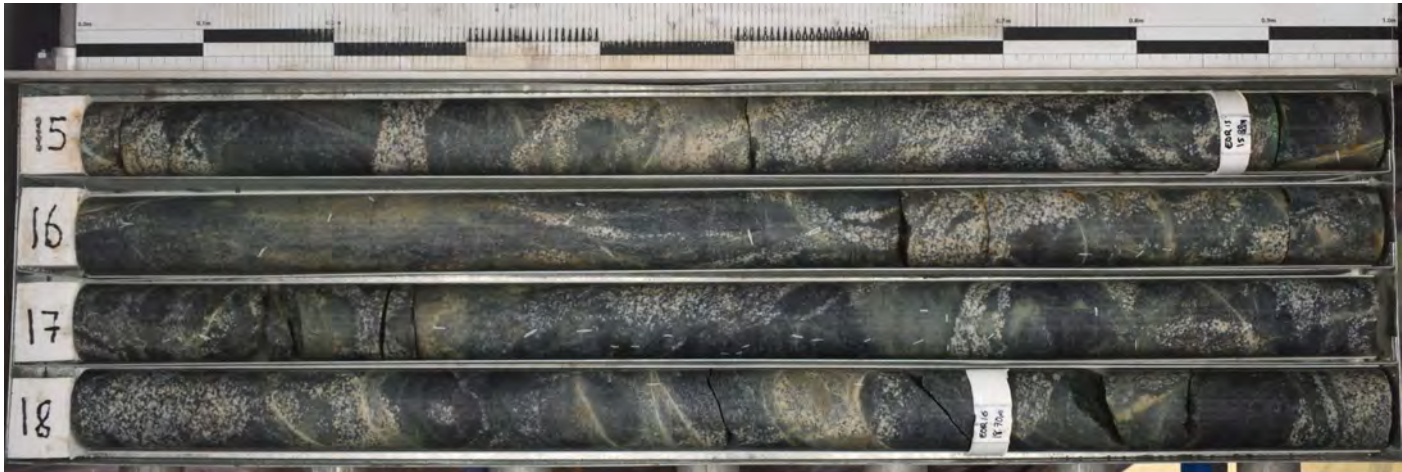
PointID	Depth	Bottom	Fracture Set	Defect Number	Type	Type Suffix	Dip Minimum (degrees)	Dip Maximum (degrees)	Infilling Material	Aperture Observation	Planarity	Roughness	Aperture Measurement Sign	Aperture Measurement	Aperture	Spacing	Remark
BHUA-14	57.68				hJ		85		pale yl mi	VN-CT	PR-CU-UN						
BHUA-14	57.78				J		15		wh and dark gy mi	CN	ST	RF					

Preliminary

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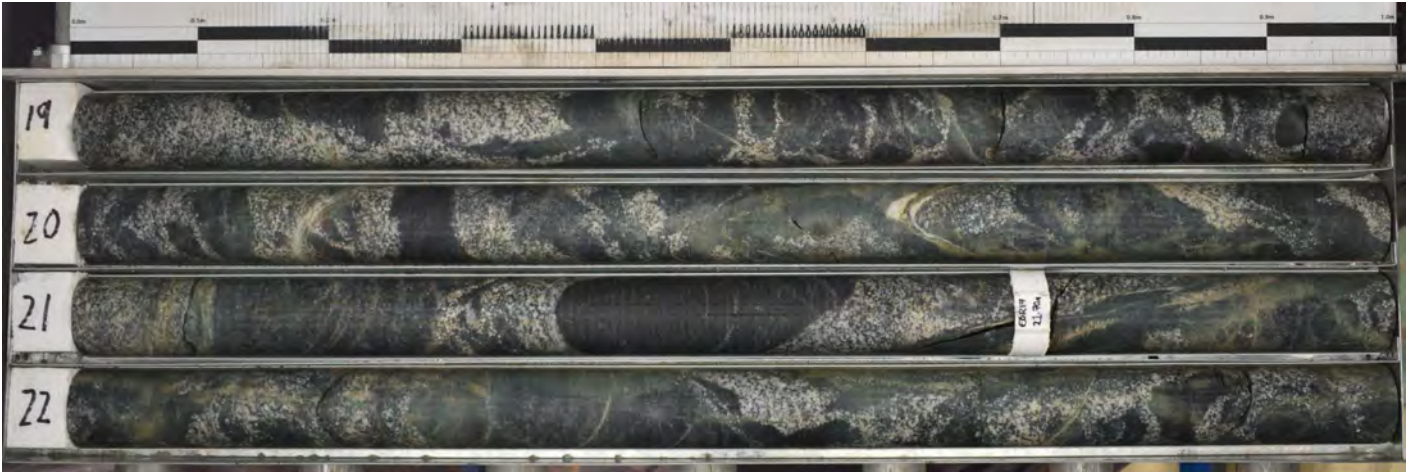
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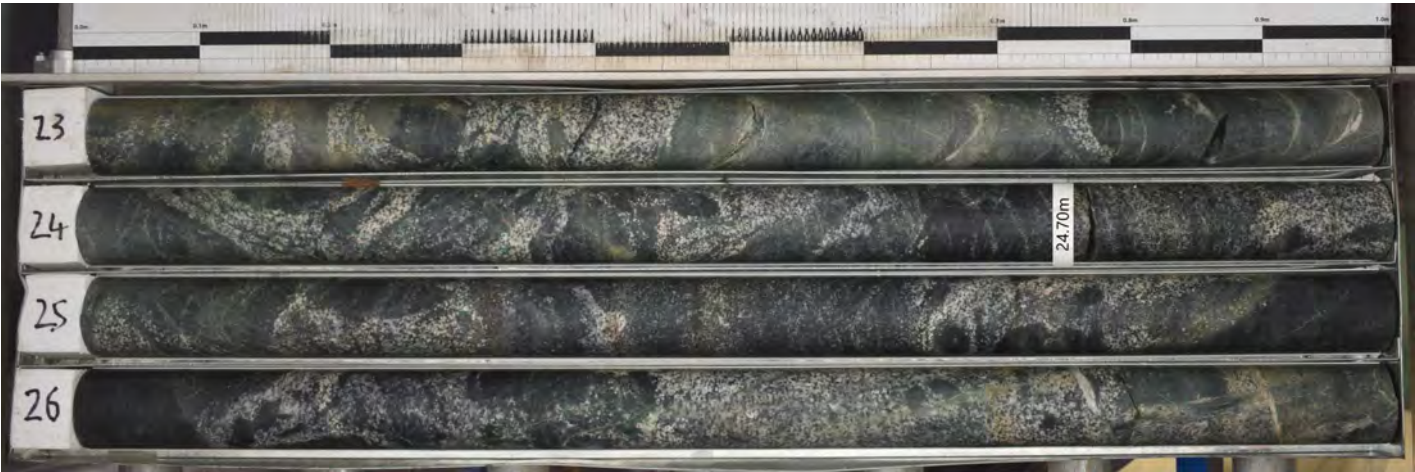
PointID : BHUA-14 Depth Range: 15.00 - 19.00 m

	TITLE Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core photo - BHUA-14	DRAWN	RC	DATE	12/11/2024
		CHECKED	GEM	DATE	4/12/2024
		SCALE	Not To Scale		A4
		PROJECT No	PS138693		FIGURE No 1/6

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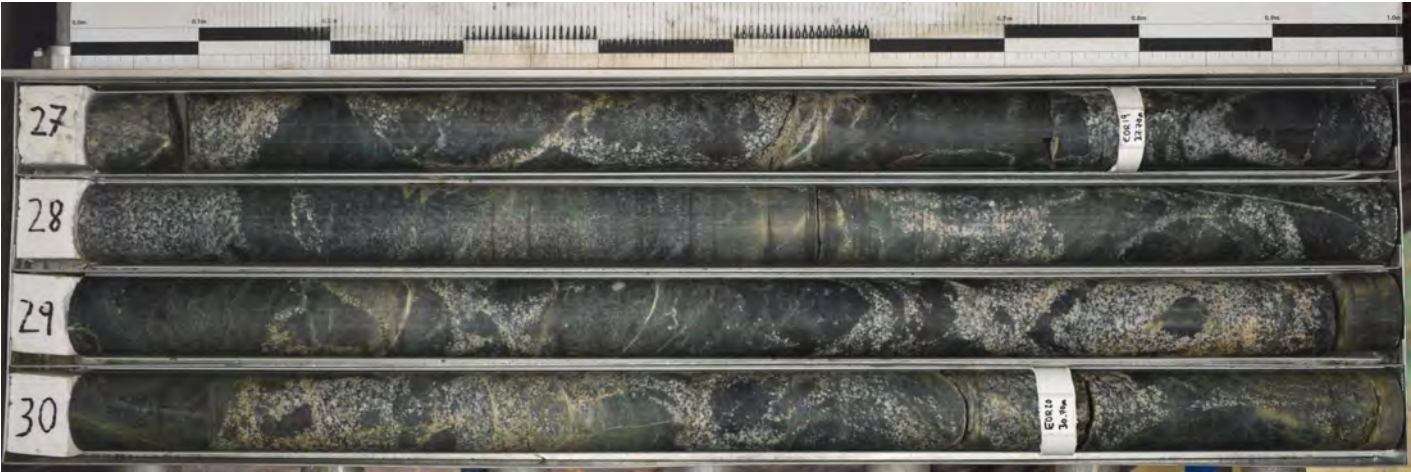
PointID : BHUA-14 Depth Range: 19.00 - 23.00 m



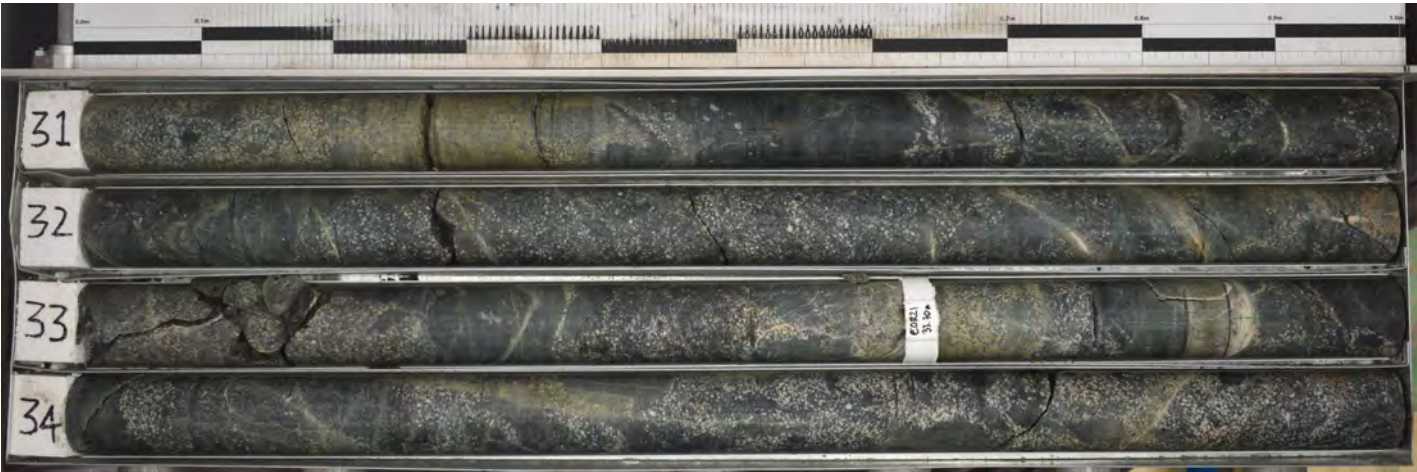
PointID : BHUA-14 Depth Range: 23.00 - 27.00 m

	TITLE Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core photo - BHUA-14		DRAWN RC	DATE 12/11/2024
			CHECKED GEM	DATE 4/12/2024
			SCALE Not To Scale	A4
			PROJECT No PS138693	FIGURE No 2/6

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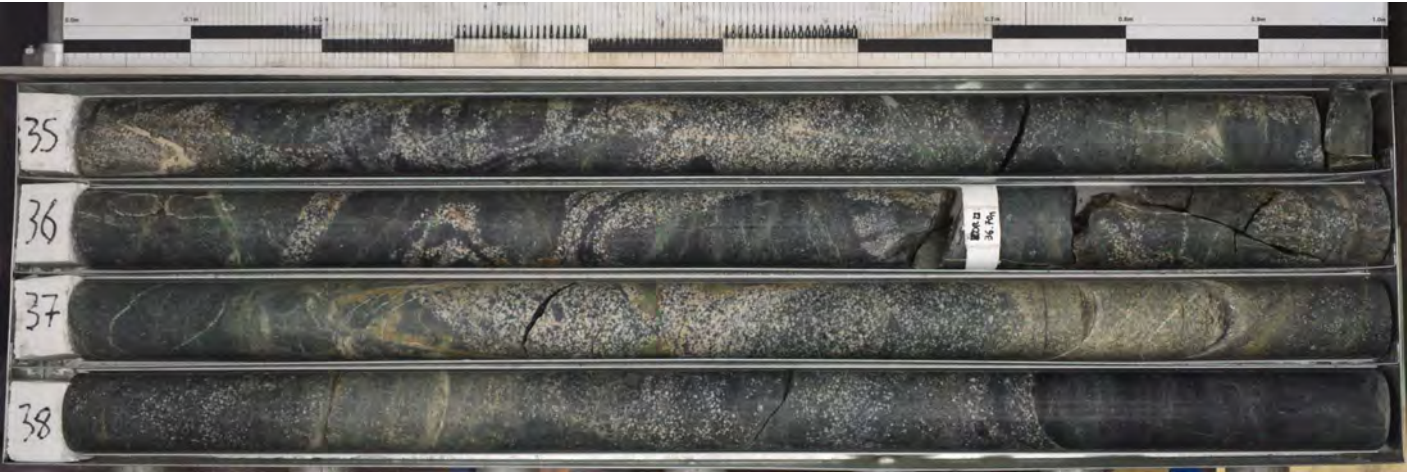
PointID : BHUA-14 Depth Range: 27.00 - 31.00 m



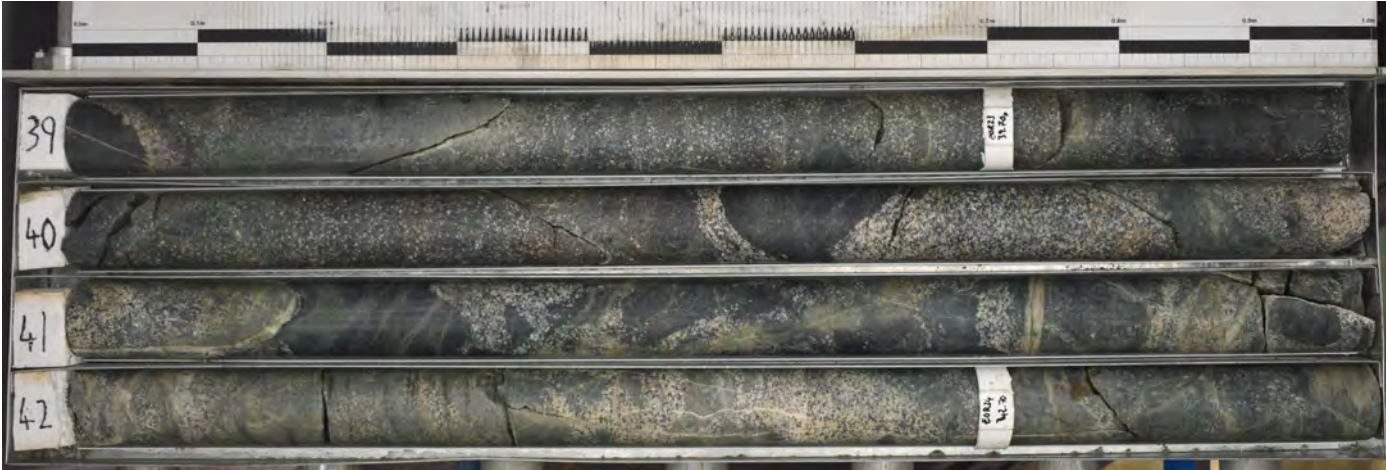
PointID : BHUA-14 Depth Range: 31.00 - 35.00 m

	TITLE Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core photo - BHUA-14		DRAWN RC	DATE 12/11/2024
			CHECKED GEM	DATE 4/12/2024
			SCALE Not To Scale	A4
			PROJECT No PS138693	FIGURE No 3/6

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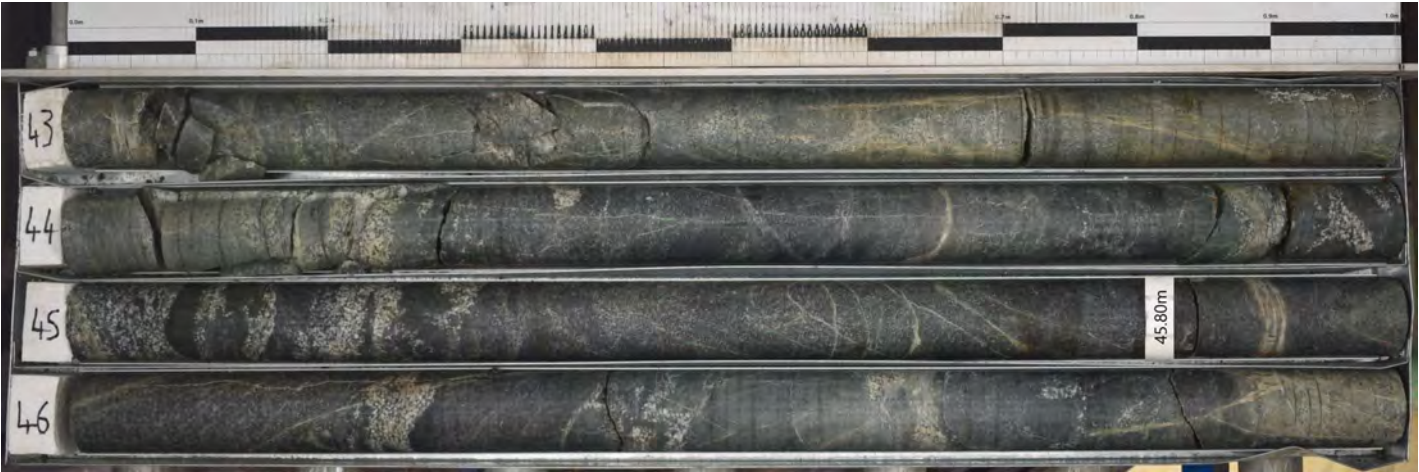
PointID : BHUA-14 Depth Range: 35.00 - 39.00 m



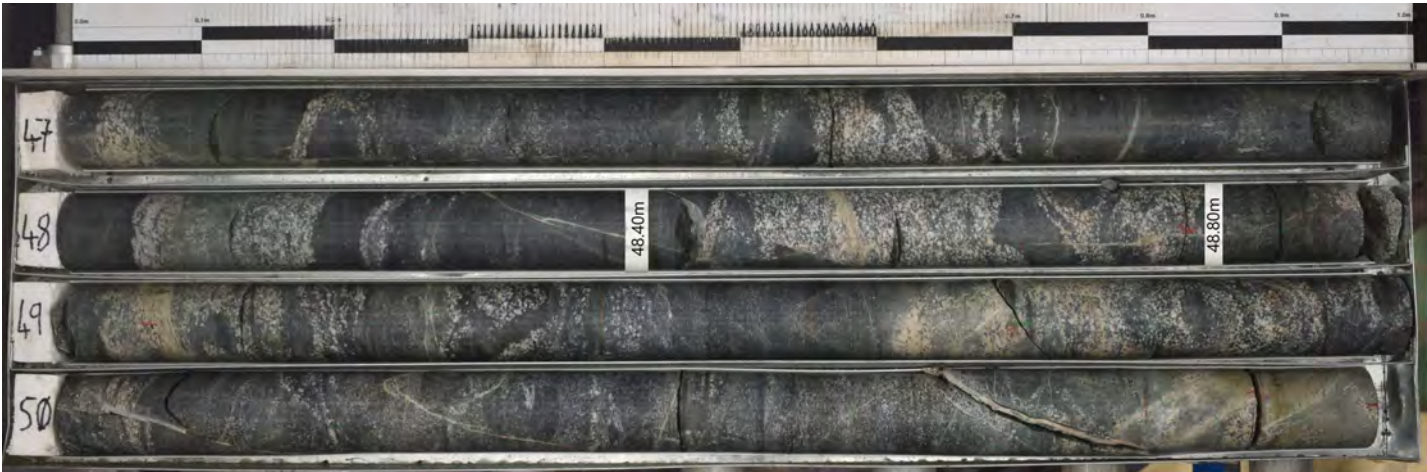
PointID : BHUA-14 Depth Range: 39.00 - 43.00 m

	TITLE Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core photo - BHUA-14	DRAWN RC	DATE 12/11/2024		
		CHECKED GEM	DATE 4/12/2024		
		SCALE Not To Scale			A4
		PROJECT No PS138693		FIGURE No 4/6	

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PointID : BHUA-14 Depth Range: 43.00 - 47.00 m



PointID : BHUA-14 Depth Range: 47.00 - 51.00 m



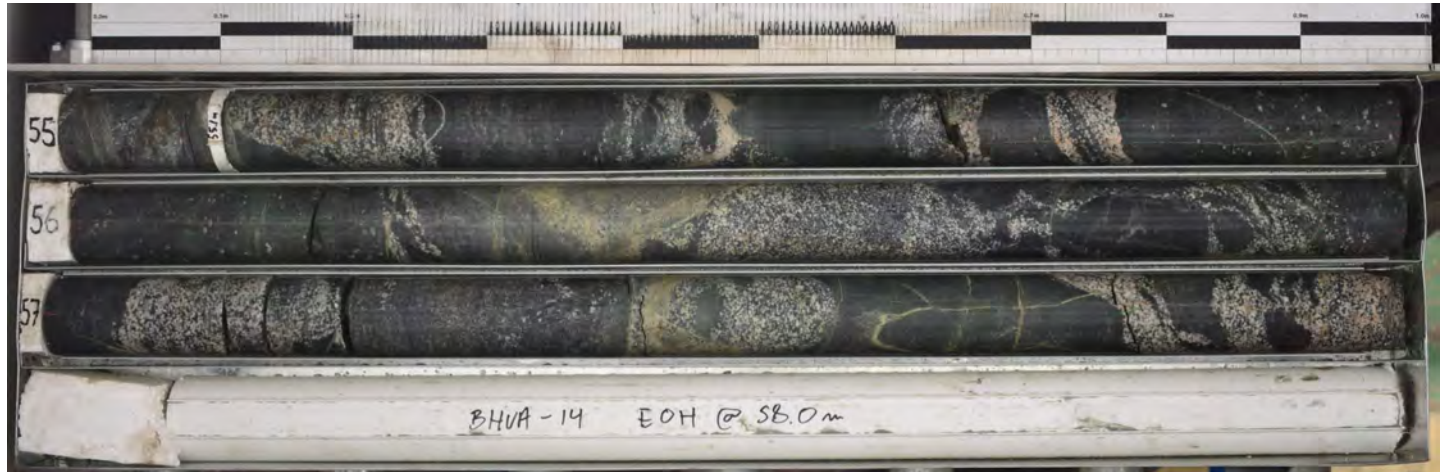
TITLE
Queensland Hydro
Netherdale/Dalrymple Heights
Pioneer-Burdekin PHES
Core photo - BHUA-14

DRAWN	RC	DATE	12/11/2024
CHECKED	GEM	DATE	4/12/2024
SCALE	Not To Scale		A4
PROJECT No	PS138693		FIGURE No 5/6

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PointID : BHUA-14 Depth Range: 51.00 - 55.00 m



PointID : BHUA-14 Depth Range: 55.00 - 58.00 m

	TITLE Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core photo - BHUA-14	DRAWN RC	DATE 12/11/2024
		CHECKED GEM	DATE 4/12/2024
		SCALE Not To Scale	A4
		PROJECT No PS138693	FIGURE No 6/6

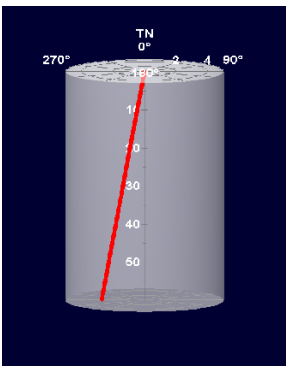
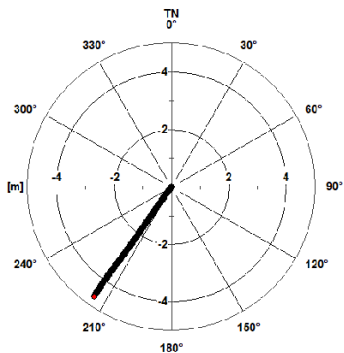


BHUA-14 Structural Logs



PROJECT:	Pioneer-Burdekin PHES	JOB #	PS138693
CLIENT:	Queensland Hydro	DATE:	21/11/2024

BOREHOLE DEVIATION



BOREHOLE DETAILS

DOCUMENT DETAILS

NOTES

LOCATION:	Upper Reservoir A	BH DEPTH:	58 m
EASTING:	658262.68 m E	BH DIAMETER:	HQ
NORTHING:	7666709.86 m N	BH AZIMUTH:	215° TN
ELEVATION:	874.196 m	BH PLUNGE:	-85° TN
COORD SYSTEM:	MGA2020	CASING DEPTH:	13.5 m
LOGGING DATUM:	Ground Level	CASING TYPE:	HWT

LOGGED BY: JH

LOGGED DATE: 24/7/2024

DRAWN BY: JH

REVIEWED BY: GH

FILE: BHUA-14 Struct RevB

LOGGED DEPTH: 57.61 m

Image logs are oriented relative to borehole high side. Final structure log is oriented relative to true north using magnetic declination of 8.2° East.

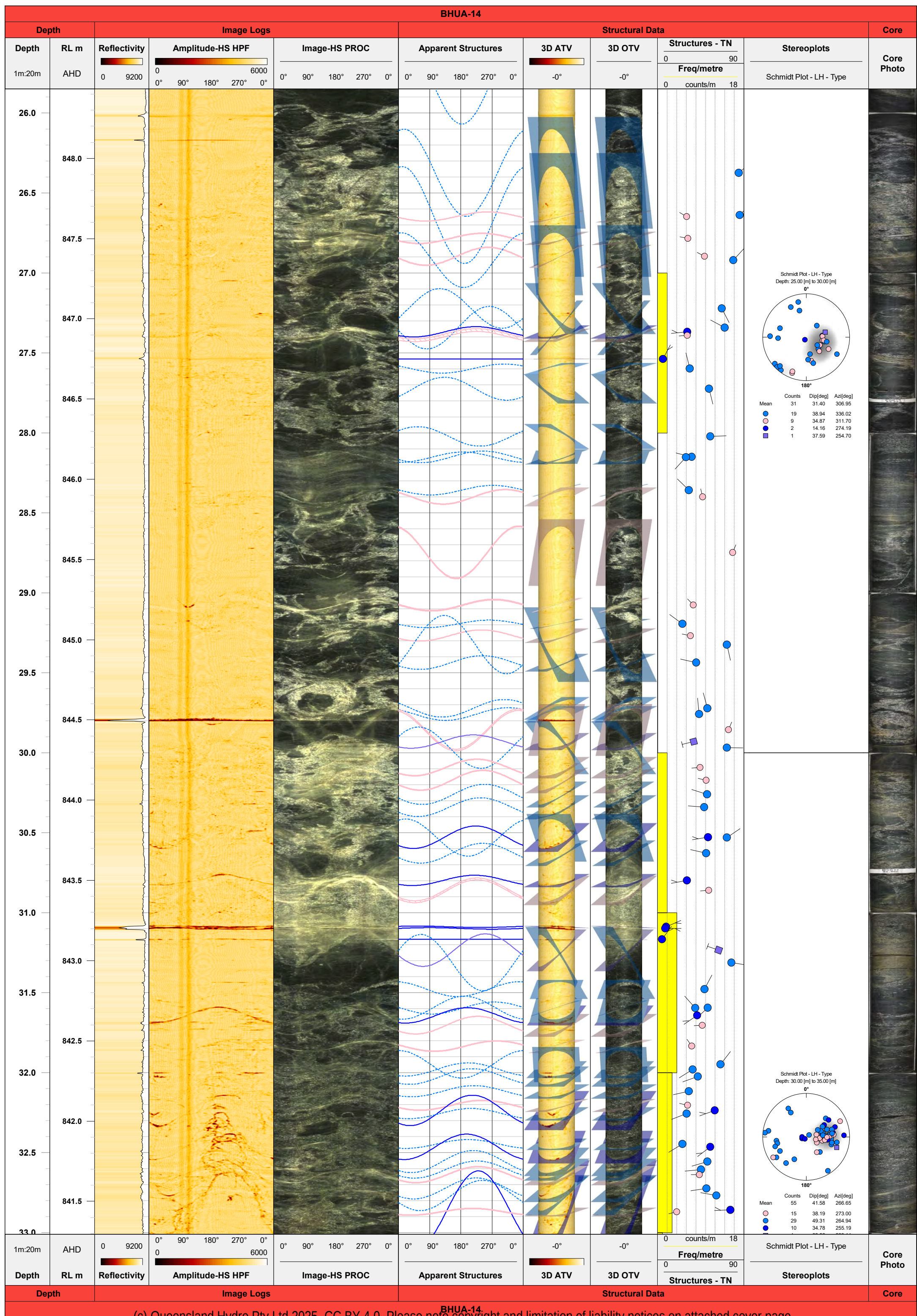
Mechanical calliper log used for structure dip corrections.

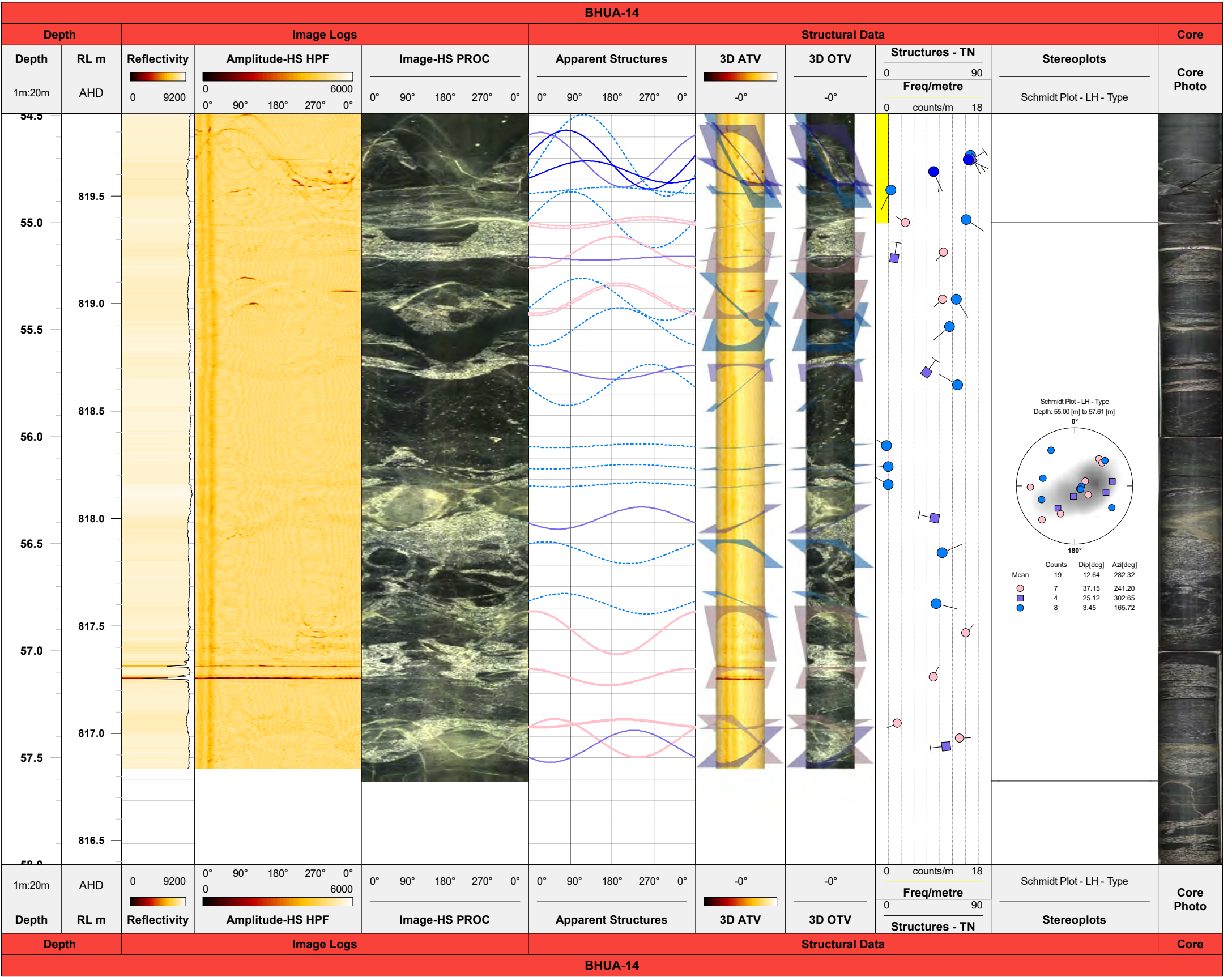
All logs zeroed to ground level. Cased section assumed straight for deviation calculations.

INTERPRETED STRUCTURES



Depth		Image Logs			BHUA-14							Structural Data		Core
Depth	RL m	Reflectivity	Amplitude-HS HPF	Image-HS PROC	Apparent Structures		3D ATV	3D OTV	Structures - TN	Stereoplots	Core Photo			
1m:20m	AHD	09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type				
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270°0°	-0°	-0°	Freq/metre 090	Schmidt Plot - LH - Type	Core Photo			
		09200	06000	0°90°180°270°0°	0°90°180°270°0°	0°90°180°270								







BHUA-14 Composite Logs

WSP WSP Australia Pty Limited Level 12, 900 Ann Street Fortitude Valley QLD 4006 Australia GEOPHYSICAL RECORD OF BOREHOLE: BHUA-14 PROJECT: Pioneer-Burdekin PHES JOB # PSI38693 CLIENT: Queensland Hydro DATE: 22/11/2024		BOREHOLE DEVIATION										
BOREHOLE DETAILS LOCATION: Upper Reservoir A BH DEPTH: 58 m EASTING: 658262.68 m E BH DIAMETER: HQ NORTHING: 7666709.86 m N BH AZIMUTH: 215° TN ELEVATION: 874.196 m BH PLUNGE: -85° TN COORD SYSTEM: MGA2020 CASING DEPTH: 13.5 m LOGGING DATUM: Ground Level CASING TYPE: HWT		DOCUMENT DETAILS LOGGED BY: JH LOGGED DATE: 24/7/2024 DRAWN BY: JH REVIEWED BY: GH FILE: BHUA-14_Comp_RevB LOGGED DEPTH: 57.61 m	NOTES Image logs are oriented relative to borehole high side. Final structure log is oriented relative to true north using magnetic declination of 8.2° East. Mechanical calliper log used for structure dip corrections. All logs zeroed to ground level. Cased section assumed straight for deviation calculations.									
INTERPRETED STRUCTURES Contact Joint Vein Healed Joint												
BHUA-14												
Depth	Image Logs		Calliper	Structural Logs		Sonic Logs	Gamma Logs		Electrical Logs			
Depth	Amplitude-HS HPF	Image-HS PROC	Reflectivity	CAL	Structures - TN	3D ATV	Core	Vs	GR	U	N16	Ma16
1m:50m	5006000 0° 90° 180° 270° 0°	0° 90° 180° 270° 0°	09000 0° 90° 180° 270° 0°	80mm160	090 Freq/metre 0 counts/m18	-0°		1000 m/s7000 Vp 1000 m/s7000	0API250	0ppm10 K 0%10 Th 0ppm20	200 Ohm.m20000 N32 200 Ohm.m20000 N8 200 Ohm.m20000	0ms50 Ma64 0ms50
0												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
1m:50m	0° 90° 180° 270° 0° 5006000	0° 90° 180° 270° 0°	09000	80mm160	0 counts/m18 Freq/metre 090	-0°		1000 m/s7000 Vp 1000 m/s7000	0API250	0ppm10 Th 0%10 K 0ppm10 U	200 Ohm.m20000 N8 200 Ohm.m20000 N32 200 Ohm.m20000 N16	0ms50 Ma64 0ms50
Depth	Amplitude-HS HPF	Image-HS PROC	Reflectivity	CAL	Structures - TN	3D ATV	Core	Vs	GR	U	N16	Ma16
Depth	Image Logs		Calliper	Structural Logs		Sonic Logs	Gamma Logs		Electrical Logs			
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