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BOREHOLE: BHUA-22

Project:	Pioneer-Burdekin PHES	Position:	Upper Reservoir	Sheet	1 of 5
Location:	Netherdale/Dalrymple Heights	Coords:	658198.1 m E 7667948.9 m N MGA2020-55		
Client:	Queensland Hydro	Surface RL:	887.27 m AHD	Date Started:	25/6/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Desco 7000	Date Completed:	4/7/2024
		Inclination:	~~-85°~~ -86° Direction: 256°	Logged:	PL

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	Groundwater Not Encountered	0	0.10 887.17				CL-CI	TOPSOIL Sandy CLAY: low to medium plasticity, dark brown, sand is fine to coarse grained; trace organic material.		F	TOPSOIL 0.00-4.20: Groundwater Not Encountered TOPSOIL
				0.30 886.97				CI	CLAY: medium plasticity, brown, with fine to coarse grained sand; trace organic material.			RESIDUAL SOIL
	F			1.00 886.27					Brown red, trace fine to coarse grained sand.			
	H		1					CL-CI	CLAY: low to medium plasticity, brown.	w≈PL	St	
			2									
			3	3.20 884.08					Low to medium plasticity, orange pale brown.	w<PL-w≈PL	St - VSt	
			4	4.20								
									Continued as Cored Borehole			
			5									
			6									
			7									
			8									
			9									
			10									

Comments

Checked GEM

Date 3/12/2024

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BOREHOLE: BHUA-22

Project:	Pioneer-Burdekin PHES	Position:	Upper Reservoir	Sheet	2 OF 5
Location:	Netherdale/Dalrymple Heights	Coords:	658198.1 m E 7667948.9 m N MGA2020-55		
Client:	Queensland Hydro	Surface RL:	887.27 m AHD	Date Started:	25/6/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Desco 7000	Date Completed:	4/7/2024
		Inclination:	-85° Direction: 256°	Logged:	PL

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 -5 M -20 H -60 VH -200 EH	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
				0							
				1							
				2							
				3							
				4	4.20		Continuation from non-cored borehole				
HQ3	100% Water Return	75	0		4.35		NO CORE 0.15m (4.20-4.35)				
					882.94		CL-CI CLAY: low to medium plasticity, orange pale brown. very stiff.	RS			
					4.60						
					882.69		CL Sandy CLAY: low plasticity, pale brown pale orange, sand is fine to coarse grained; trace; sub-angular quartz gravel. very stiff.				
					4.80						
					882.49		NO CORE 3.40m (4.80-8.20)				
		0	0	5							
				6							
		0	0								
				7							
		0	0								
				8						7.80-23.40: 20% Water Return	
	20% Water Return	56	0		8.20						
					879.10		SC Clayey SAND: fine to coarse grained, pale brown mottled black and white, sub-angular gravel. dense to very dense.	RS			
					8.70						
					878.60		NO CORE 2.10m (8.70-10.80)				
		0	0	9							
		0	0	10							

Comments

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Date 3/12/2024

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BOREHOLE: BHUA-22

		Position:	Upper Reservoir	Sheet	3 OF 5
Project:	Pioneer-Burdekin PHES	Coords:	658198.1 m E 7667948.9 m N MGA2020-55		
Location:	Netherdale/Dalrymple Heights	Surface RL:	887.27 m AHD	Date Started:	25/6/2024
Client:	Queensland Hydro	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Desco 7000	Date Completed:	4/7/2024
Job No.:	PS138693	Inclination:	-85° Direction: 256°	Logged:	PL

Drilling

METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL
HQ3	20% Water Return	0	0	10	10.80
		100	17	11	876.51
		100	67	12	
		100	38	13	
		100	80	14	
		100	27	15	15.64
		82	0	16	15.80
		92	0	17	871.53
		100	0	18	16.80
		50	19	19	17.00
				20	17.14
					870.20
					17.90
					18.00
					869.34
					18.70
					868.64
					19.80
					867.55

Field Material Description

GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING
	NO CORE 2.10m (8.70-10.80)	
	METAGRANITE: medium to coarse grained, white, pale grey and pale brown, pink, crystalline, massive, fabric shows metamorphic crystal reorientation, highly altered.	HW
		XW
		HW
	Sandy CLAY: medium plasticity, brown, sand is fine to coarse grained; trace fine to medium grained, sub-angular gravel.	XW
	METAGRANITE: medium to coarse grained, white, pale grey and pale brown, pink, crystalline, massive, fabric shows metamorphic crystal reorientation, highly altered.	
	NO CORE 0.20m (16.80-17.00)	
	METAGRANITE: medium to coarse grained, pale grey, white and orange, brown, crystalline, massive, fabric shows metamorphic crystal reorientation, highly altered.	HW
	Gravelly Clayey SAND: fine to coarse grained, brown, clay is medium plasticity; gravel is fine grained, sub-angular; RS metagranite.	RS
	NO CORE 0.10m (17.90-18.00)	
	Sandy CLAY: medium to high plasticity, brown and red, sand is fine to medium grained; trace fine grained, sub-angular, RS (lamprophyre).	RS
	Clayey SAND: fine to coarse grained, pale grey and purple, clay is medium plasticity; with fine to medium grained, sub-angular, RS metagranite gravel.	
	NO CORE 0.30m (19.80-20.10)	

INFERRED STRENGTH (MPa) ■ - UCS: VL <2, L 2-5, M 5-20, H 20-60, VH 60-200, EH >200

Defect Information

DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)

- 10.80-11.00: FZ, Fe SN, PR, RF, recovered as gravel
- 11.05: J, 60°, SN, PR, RF
- 11.10: J, 70°, PR, RF
- 11.18: J, 10°, SN, PR, RF
- 11.25: J, 30°, PR, RF
- 11.20-11.35: J x4, 5°, SN, PR, RF
- 11.30-11.33: J x2, 20 - 25°, SN, UN, RF
- 11.36-11.44: J, 85°, PR, RF
- 11.45-11.47: J /FZ, 50°, SN, PR, RF, recovered as sandy gravel
- 11.52: J, 30°, CN, PR, SM
- 11.65-11.90: J, 80°, Fe SN, UN, RF
- 11.82: J, 30°, Fe VN, PR, RF
- 12.00-12.10: J, 50°, Fe SN, UN, RF
- 12.20: J, 0°, Fe SN, PR, RF
- 12.34: J, 80°, Fe SN, UN, RF
- 12.44: J, 80°, Fe SN, PR, RF
- 12.60: J, 45°, Fe SN, PR, SM
- 12.73: J, 30°, Fe SN, PR, RF
- 12.78: J, 20°, Fe SN, UN, RF
- 12.90: J, 45°, Fe SN, PR, RF
- 12.71-13.15: J, 90°, Fe SN, PR, RF
- 13.36-13.46: J, 60°, PR, RF
- 13.57: J, 60°, PR, RF
- 13.60-14.00: EW, 5°, bk mi SN, PR, RF
- 14.05: J, 0°, CU, RF
- 14.54: J, 40°, CN, UN, RF
- 14.85: J, 50°, UN, PR
- 14.99-15.10: J, 75°, Fe SN, PR, SM
- 15.10: J, 0°, CN, PR, RF
- 15.35-15.40: J, 40°, PR
- 15.36-15.40: J, 75°, dk gy, pl br/or mi, PR
- 15.57: J, 5°, sand, gravel, UN, RF
- 15.64-15.80: EW, bk mi
- 16.10-16.22: J x2, 5 - 10°, Fe SN, PR, RF
- 16.45-16.65: J, 70 - 85°

AVERAGE DEFECT SPACING (mm): 10, 30, 100, 300, 1000, 3000

Comments

Checked GEM

Date 3/12/2024

Preliminary

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BOREHOLE: BHUA-22

Project:	Pioneer-Burdekin PHES	Position:	Upper Reservoir	Sheet	4 OF 5
Location:	Netherdale/Dalrymple Heights	Coords:	658198.1 m E 7667948.9 m N MGA2020-55		
Client:	Queensland Hydro	Surface RL:	887.27 m AHD	Date Started:	25/6/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Desco 7000	Date Completed:	4/7/2024
		Inclination:	-85° Direction: 256°	Logged:	PL

Drilling

METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL
HQ3	20% Water Return	50	19	20	20.10
					867.25
					20.60
		0	0	21	866.75
		20	0	22	22.50
					864.86
					22.80
		17	0	23	864.56
					23.30
	80% Water Return	80	0		23.50
					863.86
		100	64	24	
		100	33	25	
		100	10	26	26.00
					861.37
				27	
		80	0		27.30
					860.07
					27.60
				28	859.78
		100	0	29	29.22
					858.16
					29.65
					857.73
				30	30.00

Field Material Description

GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING
	METAGRANITE: medium to coarse grained, pale grey, pale brown and grey, crystalline, massive, fabric shows metamorphic crystal reorientation, highly altered, brown alteration.	HW
	NO CORE 1.90m (20.60-22.50)	
	METAGRANITE: medium to coarse grained, grey mottled pale brown-orange, crystalline, massive, fabric shows metamorphic crystal reorientation, highly altered, green/yellow alteration.	HW
	NO CORE 0.50m (22.80-23.30)	
	METAGRANITE: medium to coarse grained, grey mottled pale brown-orange, crystalline, massive, with numerous healed microfractures, fabric shows metamorphic crystal reorientation, highly altered.	HW
	NO CORE 0.10m (23.40-23.50)	
	METAGRANITE: medium to coarse grained, grey mottled pale brown-orange, crystalline, massive, with numerous healed microfractures, fabric shows metamorphic crystal reorientation, highly altered.	MW
	Orange, grey and pale grey.	SW
		HW
	NO CORE 0.30m (27.30-27.60)	
	METAGRANITE: medium to coarse grained, pale brown to red brown, pale grey, grey, crystalline, massive, fabric shows metamorphic crystal reorientation, highly altered.	HW
	Grey, pale grey, pale pink, slightly altered.	

INFERRED STRENGTH (MPa) ■ - UCS: VL <2, L 2-5, M 5-20, H 20-60, VH 60-200, EH >200

Defect Information

DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)

20.10-20.60: Sections of core recovered as fragmented rock

22.50-24.10: Recovered as fragmented rock
22.60: J, 90°, red halo 2mm SN, CU

23.30-23.40: J x3, 90°, Fe SN, PR, SM
23.40-31.00: 80% Water Return
23.65: J, 45°, Fe SN, PR, RF
23.50-23.90: Js, 45 - 70°, Fe SN, PR, RF, multiple defects, various angles, generally horizontal to sub-vertical, rubbled by drilling
23.72: J, 70°, Fe SN, PR, RF
23.76-23.83: J x3, 5 - 10°, Fe SN, UN, RF, 10-30mm spacing
24.00-24.10: Js, Fe SN, PR, RF
24.47: J, 60°, bk, PR
24.51-24.54: J x2, 30°, PR
24.72-24.85: J x3, 50 - 60°, PR, RF
25.17: J, 20°, bk, PR
25.23: J, 5°, PR
25.48-25.49: J x2, 5°, bk, PR
25.54-25.61: SZ, multiple defects, various angles, rubbled host rock
25.67: J, 5°, pale yl, PR
26.13: J, 15°, UN, RF
26.33: J, 30°, Fe SN, UN, RF
26.06-26.75: J, 85°, Fe SN, PR, RF
26.50: J, 50°, Fe SN, PR, SM
26.66-26.80: Js, CN, UN, RF, multiple defects, varioous angles, generally sub-vertical, 10-30mm spacing
26.70-27.30: J, 90°, Fe SN, PR, RF
26.90-27.15: Js, Fe SN, UN, RF, multiple defects, varioous angles, generally sub-vertical, 30-100mm spacing
27.00-27.20: J x3, 10 - 20°, rd mi, Fe VN, UN, RF
27.82-27.86: Jx4, 20°, PR
27.85-29.25: Js, multiple defects, likely open and healed defects rubbled by drilling, sub-vertical open SN Fe J approx ~600mm length 28.27-28.90m, generally spacing 10-30mm across interval, significant
29.18: J x2, 60°, PR, SM
29.22-29.33: J, 80°, dk gy mi SN, CU
29.37-29.47: J x3, 25°, PR
29.36-29.50: Js, multiple defects, likely open and healed defects rubbled by drilling, SN Fe, 10-30mm spacing
29.54-29.61: EW, gy mi SN, significant

AVERAGE DEFECT SPACING (mm): 10, 30, 100, 300, 1000, 3000

Comments

Checked GEM
Date 3/12/2024

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BOREHOLE: BHUA-22

Project:	Pioneer-Burdekin PHES	Position:	Upper Reservoir	Sheet	5 OF 5
Location:	Netherdale/Dalrymple Heights	Coords:	658198.1 m E 7667948.9 m N MGA2020-55		
Client:	Queensland Hydro	Surface RL:	887.27 m AHD	Date Started:	25/6/2024
Job No.:	PS138693	Contractor:	Twin Hills Engineering & Drilling Drill Rig: Desco 7000	Date Completed:	4/7/2024
		Inclination:	-85° Direction: 256°	Logged:	PL

Drilling

METHOD	WATER	TCR	RQD	DEPTH (metres)	DEPTH RL
HQ3	80% Water Return	100	0	30	857.38
		100	30		
		100	0	31	
	70% Water Return	100	32		
		100	36	32	32.00 / 855.39
		100	0		
		100	27		
		100	100	33	
		100	100		
		100	0	34	
		100	74		
		100	85	35	
		100	84	36	35.50 / 851.91
		100	0	37	
		100	49	38	
		100	38	39	
		100	94	40	39.45 / 847.97 / 40.00

Field Material Description

GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH (MPa) ■ - UCS
	METAGRANITE: medium to coarse grained, pale brown to red brown, pale grey, grey, crystalline, massive, fabric shows metamorphic crystal reorientation, highly altered.	HW - MW	
	Dark grey, pale orange to pink, moderately altered.	MW	
	Highly altered.		
	BASALT: fine grained, dark green with black, massive.	MW - SW	

Defect Information

DEFECT DESCRIPTION & Additional Observations (Core partings shown - refer to Detailed Defect Descriptions table for all logged features)

29.67: J, 35°, Fe SN, UN, RF
30.00-30.10: J, Fe, bk mi SN, IR, RF, multiple defects, rubbled by drilling
30.23: J, 0 - 70°, bk mi SN, ST, RF
30.47: J, 20°, bk mi SN, UN, RF
30.55: J, 10°, bk mi SN, UN, RF
30.67: J, 10°, bk mi SN, UN, RF
30.77: J, 20°, bk mi SN, UN, RF
30.86: J, 15°, bk mi SN, UN, RF
30.92: J, 10°, bk mi SN, UN, RF
31.00-40.00: 70% Water Return
30.88-31.05: J, 80°, bk mi SN, UN, RF
31.08: J, 20°, bk mi SN, UN, RF
31.12: J, 30°, bk mi SN, UN, RF
31.25: J, 45°, bk mi SN, PR, RF
31.32-31.39: J, 85°, bk mi SN, PR, SM
31.39-31.45: J x4, 0 - 20°, bk mi SN, UN, RF
31.51: J, 10°, bk mi SN, UN, RF
31.60: J, 10°, UN, RF
31.72: J, 15°, bk mi SN, UN, RF
31.82-31.85: J, 80°, bk mi SN, PR, RF
31.90: J, 65°, br mi SN, PR, RF
32.00-33.30: attempting short runs (100-300mm) due to drilling difficulties
32.05-32.31: J x5, 5 - 30°, bk mi SN, UN, RF
32.30-34.10: attempting short 100-200mm runs. struggling with drilling progress (very slow) after water pump issue.
32.60-32.72: J, 60°, dk gy-pl gn mi SN, UN, RF
32.42-32.91: J x4, 5°, pl gn mi SN, PR, SM
32.71: J, 0°, dk gy-pl gn mi SN, UN, RF
32.72-32.98: J x4, 5°, pale gn mi SN, PR, RF
32.85-33.04: J, 75°, pale gn mi SN, PR, RF
33.73: J, 40°, pl yl mi SN, ST, RF
33.91: J, 55°, dk gy, pl pk mi, UN, RF
34.05: J, 30°, RF
34.08: J, 35°, gn-dk gy, pl br-pk mi, RF
34.11: J, 25°, dk gy, pl pk mi, RF
34.27: J, 30°, pl yl mi, RF
34.34: J, 20°, pale gn mi, PR, RF
34.54: J, 15°, RF
34.69: J, 10°, pl yl mi, RF
34.74: J, 35°, pl yl mi, RF
35.08-35.29: J, 70 - 90°, pl yl mi SN, UN, closed
35.42: J, 30°, pl yl mi SN, PR
35.80: J, 60°, bk mi, PR
36.02-36.35: J x2, 75°, PR
36.26: J, 0°, CN, UN, RF
36.38: J, 20°, bk mi SN, UN, RF, disturbed by drilling
36.55: J, 5°, PR, RF
36.54-36.70: J, 70°, CN, PR, RF
36.65-36.82: J, 80°, CN, PR, RF
36.91: J, 20°, bk mi SN, PR
36.84-37.06: J, 80°, CN, PR, RF
37.11: J, 20°, CN, ST, RF
37.08-37.30: J, 70°, bk mi SN, UN
37.32-37.51: J, 80 - 90°, bk mi SN, UN, RF
37.36-37.49: J, 70°, bk mi SN, PR, RF
37.56-37.62: J x2, 5°, bk mi, PR
37.68-37.93: J, 70°, bk mi SN, PR, SM
37.91: J, 60°, CN, PR
38.28-38.40: J, 60°, bk mi SN, UN, SM
38.44: J, 30°, bk mi SN, ST, RF
38.46: J, 5°, bk mi SN, PR, RF
38.60-38.77: Js, 0 - 45°, bk mi SN, CU, multiple defects, generally sub-horizontal 10-30mm spacing
39.10-39.17: J, 45°, CN, ST, SM
39.18: J, 5°, bk mi SN, UN, RF
39.41-39.54: CZ, 70°, basalt host rock fragmented at chilled margin below granite
39.66: J, 25°, wh mi VN, UN, RF

AVERAGE DEFECT SPACING (mm)

Comments: Hole Terminated at 40.00 m
Target depth. Backfilled with grout.

Checked: GEM
Date: 3/12/2024

Preliminary

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Pioneer Burdekin Pumped Hydro Energy Storage: Tranche 2 – BHUA-22
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-22	10.80	11.00			FZ				Fe	SN	PR	RF					recovered as gravel
BHUA-22	11.05				J		60			SN	PR	RF					
BHUA-22	11.10				J		70				PR	RF					
BHUA-22	11.12				hJ		60		Fe		PR	RF					
BHUA-22	11.15				hJ		80				IR	RF					
BHUA-22	11.18				J		10			SN	PR	RF					
BHUA-22	11.20	11.35			J	x4	5			SN	PR	RF					
BHUA-22	11.22				hJ		35				UN	RF					
BHUA-22	11.25				J		30				PR	RF					
BHUA-22	11.30	11.33			J	x2	20	25		SN	UN	RF					
BHUA-22	11.31				hJ		10				PR	RF					
BHUA-22	11.36	11.44			J		85				PR	RF					
BHUA-22	11.45	11.47			J	/FZ	50			SN	PR	RF					recovered as sandy gravel
BHUA-22	11.52				J		30			CN	PR	SM					
BHUA-22	11.54				hJ		60				PR	RF					
BHUA-22	11.60				hJ		70		gy, yl mi		PR	RF					
BHUA-22	11.65	11.90			J		80		Fe	SN	UN	RF					
BHUA-22	11.67	11.69			hJ		65				PR						
BHUA-22	11.74				hJ		30				PR	RF					
BHUA-22	11.75				hJ	x2	0		bk mi		IR	RF					
BHUA-22	11.82				J		30		Fe	VN	PR	RF					
BHUA-22	11.88	11.93			hJ		70				PR	RF					
BHUA-22	12.00	12.10			J		50		Fe	SN	UN	RF					
BHUA-22	12.05				hJ		60				PR						
BHUA-22	12.10	12.13			hJ		80		bk mi		UN						
BHUA-22	12.15	12.40			hJ	x3	60	70	Fe		PR						
BHUA-22	12.20				J		0		Fe	SN	PR	RF					
BHUA-22	12.34				J		80		Fe	SN	UN	RF					
BHUA-22	12.40				hJ		25		bk mi		PR	RF					
BHUA-22	12.44				J		80		Fe	SN	PR	RF					
BHUA-22	12.50	12.60			DB	x2											
BHUA-22	12.60				J		45		Fe	SN	PR	SM					
BHUA-22	12.71	13.15			J		90		Fe	SN	PR	RF					
BHUA-22	12.73				J		30		Fe	SN	PR	RF					
BHUA-22	12.78				J		20		Fe	SN	UN	RF					
BHUA-22	12.90				J		45		Fe	SN	PR	RF					
BHUA-22	13.16				hJ		30				PR						
BHUA-22	13.25				hJ	x2	60				PR						
BHUA-22	13.36	13.46			J		60				PR	RF					
BHUA-22	13.45	13.55			hJ		0				PR	RF					
BHUA-22	13.57				J		60				PR	RF					
BHUA-22	13.60	14.00			EW		5		bk mi	SN	PR	RF					
BHUA-22	14.05				J		0				CU	RF					
BHUA-22	14.10	14.12			hJ	x3	5				PR						
BHUA-22	14.21				hJ		20		gn mi		PR						
BHUA-22	14.23				hJ		5		bk mi		PR						
BHUA-22	14.25	14.28			hJ	x10	20		dk gy to pl gn mi		PR						
BHUA-22	14.30	14.32			hJ		60				PR						
BHUA-22	14.41	14.43			hJ	x4	60				PR						
BHUA-22	14.48	14.51			hJ		20		bk mi		PR						
BHUA-22	14.50				hJ		45		dk rd, pl gn mi		PR						
BHUA-22	14.54				J		40			CN	UN	RF					
BHUA-22	14.63				hJ		75				CU						
BHUA-22	14.75				V		0		wh mi		UN						
BHUA-22	14.85				J		50			UN	PR						
BHUA-22	14.91	15.00			HB												
BHUA-22	14.99	15.10			J		75		Fe	SN	PR	SM					
BHUA-22	15.05				hJ	x4	60		bk mi		PR						
BHUA-22	15.10				J		0			CN	PR	RF					
BHUA-22	15.12				hJ		10		bk mi		PR						
BHUA-22	15.21				hJ	x3	60				PR						
BHUA-22	15.35	15.40			J		40				PR						
BHUA-22	15.36	15.40			J		75		dk gy, pl br/or mi		PR						
BHUA-22	15.57				J		5		sand, gravel		UN	RF					
BHUA-22	15.64	15.80			EW				bk mi								
BHUA-22	16.00	16.10			HB												
BHUA-22	16.10	16.22			J	x2	5	10	Fe	SN	PR	RF					
BHUA-22	16.13				hJ		50				PR						
BHUA-22	16.35	16.60			hJ	x4	60		or mi		CU						
BHUA-22	16.45	16.65			J		70	85									
BHUA-22	16.73				HB	x2											
BHUA-22	17.05				HB												
BHUA-22	22.60				J		90		red halo 2mm	SN	CU						
BHUA-22	23.30	23.40			J	x3	90		Fe	SN	PR	SM					
BHUA-22	23.50	23.90			Js		45	70	Fe	SN	PR	RF					multiple defects, various angles, generally horizontal to sub-vertical, rubbled by drilling
BHUA-22	23.65				J		45		Fe	SN	PR	RF					
BHUA-22	23.72				J		70		Fe	SN	PR	RF					
BHUA-22	23.76	23.83			J	x3	5	10	Fe	SN	UN	RF					10-30mm spacing
BHUA-22	24.00	24.10			Js				Fe	SN	PR	RF					

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Pioneer Burdekin Pumped Hydro Energy Storage: Tranche 2 – BHUA-22
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-22	24.10	24.50			hJs		10	20	bk mi		PR						multiple defects, 10-30mm spacing
BHUA-22	24.27				DB		10				PR	RF					
BHUA-22	24.30				hJ		20				PR						
BHUA-22	24.33	24.37			hJ		5		pl yl mi		PR						
BHUA-22	24.40				hJ	x2	60				PR						
BHUA-22	24.40	24.45			hJ	x4	50				PR						
BHUA-22	24.47				J		60		bk		PR						
BHUA-22	24.51	24.54			J	x2	30				PR						
BHUA-22	24.58	24.92			hJ	x9	45	60			PR						
BHUA-22	24.72	24.85			J	x3	50	60			PR	RF					
BHUA-22	24.92				DB	x2					PR	RF					
BHUA-22	24.98				hJ		60				PR						
BHUA-22	25.07				hJ		65		bk		PR						
BHUA-22	25.08				DB	x4					PR	SM					
BHUA-22	25.17				J		20		bk		PR						
BHUA-22	25.20	25.21			hJ		5				PR						
BHUA-22	25.23				J		5				PR						
BHUA-22	25.24				hJ	x3	60				PR						
BHUA-22	25.28	25.39			hJ		5		bk		PR						
BHUA-22	25.29	25.30			hJ		60				PR						
BHUA-22	25.41				hJ		70				PR						
BHUA-22	25.44	25.48			hJ		30				PR						
BHUA-22	25.48	25.49			J	x2	5		bk		PR						
BHUA-22	25.50				hJ		5		wh,mi, carbonate, Qz		PR						
BHUA-22	25.51				hJ		45				PR						
BHUA-22	25.54	25.61			SZ												multiple defects, various angles, rubbled host rock
BHUA-22	25.62	25.73			hJ	x2	60		bk		PR						
BHUA-22	25.67				J		5		pale yl		PR						
BHUA-22	25.74	25.80			hJ		5		bk		PR						
BHUA-22	25.82				hJ		20				PR						
BHUA-22	25.85	25.95			hJ		30				PR						
BHUA-22	26.06	26.75			J		85		Fe	SN	PR	RF					
BHUA-22	26.13				J		15				UN	RF					
BHUA-22	26.26				hJ	x2	60		bk		PR						
BHUA-22	26.27	26.29			hJ		15				PR						
BHUA-22	26.33				J		30		Fe	SN	UN	RF					
BHUA-22	26.50				J		50		Fe	SN	PR	SM					
BHUA-22	26.54				DB												
BHUA-22	26.55	26.70			hJ		50				PR						
BHUA-22	26.66	26.80			Js					CN	UN	RF					multiple defects, variouos angles, generally sub-vertical, 10-30mm spacing
BHUA-22	26.70	27.30			J		90		Fe	SN	PR	RF					
BHUA-22	26.78				hJ		60		bk		PR						
BHUA-22	26.80				hJ		30				PR						
BHUA-22	26.84	26.85			hJ		60		rd		PR						
BHUA-22	26.90	27.15			Js				Fe	SN	UN	RF					multiple defects, variouos angles, generally sub-vertical, 30-100mm spacing
BHUA-22	27.00	27.20			J	x3	10	20	rd mi, Fe	VN	UN	RF					
BHUA-22	27.23				hJ		80				PR						
BHUA-22	27.58	27.66			MB												
BHUA-22	27.67	27.81			hJ	x4	60	90			PR						
BHUA-22	27.68	27.81			hJ	x4	20	25			PR						
BHUA-22	27.82	27.86			J	x4	20				PR						
BHUA-22	27.85	29.25			Js												multiple defects, likely open and healed defects rubbled by drilling, sub-vertical open SN Fe J approx ~600mm length 28.27-28.90m, generally spacing 10-30mm across interval, significant
BHUA-22	29.18				J	x2	60				PR	SM					
BHUA-22	29.22	29.33			J		80		dk gy mi	SN	CU						
BHUA-22	29.26				hJ		45				PR						
BHUA-22	29.36	29.50			Js												multiple defects, likely open and healed defects rubbled by drilling, SN Fe, 10-30mm spacing
BHUA-22	29.37	29.47			J	x3	25				PR						
BHUA-22	29.54	29.61			EW				gy mi	SN							significant
BHUA-22	29.67				J		35		Fe	SN	UN	RF					
BHUA-22	29.68	29.71			hJ	x4	30				PR						
BHUA-22	29.77				hJ		60		or mi		PR						
BHUA-22	29.82				hJ	x20	75		pale gy mi		PR						
BHUA-22	29.83				hJ		10				PR						
BHUA-22	29.86	29.96			MB		5					RF					
BHUA-22	30.00	30.10			J				Fe, bk mi	SN	IR	RF					multiple defects, rubbled by drilling
BHUA-22	30.10	30.22			hJ	x4	40	50			PR						
BHUA-22	30.23				J		0	70	bk mi	SN	ST	RF					
BHUA-22	30.32				MB												
BHUA-22	30.32	31.06			hJs		5	20	bk mi		UN						multiple defects, 0-10mm spacing
BHUA-22	30.47				J		20		bk mi	SN	UN	RF					
BHUA-22	30.55				J		10		bk mi	SN	UN	RF					
BHUA-22	30.67				J		10		bk mi	SN	UN	RF					
BHUA-22	30.77				J		20		bk mi	SN	UN	RF					
BHUA-22	30.86				J		15		bk mi	SN	UN	RF					
BHUA-22	30.88	31.05			J		80		bk mi	SN	UN	RF					
BHUA-22	30.92				J		10		bk mi	SN	UN	RF					
BHUA-22	31.06				HB												
BHUA-22	31.06	31.17			hJs		15	30	bk mi		UN						multiple defects, 0-10mm spacing

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Pioneer Burdekin Pumped Hydro Energy Storage: Tranche 2 – BHUA-22
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-22	31.08				J		20		bk mi	SN	UN	RF					
BHUA-22	31.12				J		30		bk mi	SN	UN	RF					
BHUA-22	31.19	31.26			AZ				bk mi		UN						multiple defects, various angles, 0-10mm spacing
BHUA-22	31.25				J		45		bk mi	SN	PR	RF					
BHUA-22	31.26				hJ		5		bk mi		CU			3			
BHUA-22	31.30	31.46			HB												
BHUA-22	31.32	31.39			J		85		bk mi	SN	PR	SM					
BHUA-22	31.39	31.45			J	x4	0	20	bk mi	SN	UN	RF					
BHUA-22	31.48	31.70			hJ	x8	0	20	pl yl-gn mi		UN						10-30mm spacing
BHUA-22	31.51				J		10		bk mi	SN	UN	RF					
BHUA-22	31.60				J		10				UN	RF					
BHUA-22	31.72				J		15		bk mi	SN	UN	RF					
BHUA-22	31.76				hJ	x2	60		bk mi		PR						
BHUA-22	31.77				hJ		25		pl yl-gn mi		PR						
BHUA-22	31.80				MB												
BHUA-22	31.80	31.94			HB												
BHUA-22	31.82	31.84			hJ		60		bk mi		PR						
BHUA-22	31.82	31.85			J		80		bk mi	SN	PR	RF					
BHUA-22	31.84				hJ		50		bk mi		PR						
BHUA-22	31.86	31.97			hJ	x4	20		pl yl-gn mi		PR						
BHUA-22	31.90				J		65		br mi	SN	PR	RF					
BHUA-22	32.02	32.30			hJ	x11	5	30	bk mi		UN						
BHUA-22	32.05	32.31			J	x5	5	30	bk mi	SN	UN	RF					
BHUA-22	32.30	32.50			hJ	x5	15		pl gn mi		UN						
BHUA-22	32.37				MB												
BHUA-22	32.42	32.91			J	x4	5		pl gn mi	SN	PR	SM					
BHUA-22	32.50				MB												
BHUA-22	32.60	32.72			J		60		dk gy-pl gn mi	SN	UN	RF					
BHUA-22	32.60	33.30			hJs		20		dk gy-pl gn mi		UN						multiple defects, generally sub-horizontal, 0-10mm spacing
BHUA-22	32.64				MB												
BHUA-22	32.65	33.30			hJs		70		dk gy-pl gn mi		PR						multiple defects, generally sub-vertical, 10-30mm spacing
BHUA-22	32.71				J		0		dk gy-pl gn mi	SN	UN	RF					
BHUA-22	32.72	32.98			J	x4	5		pale gn mi	SN	PR	RF					
BHUA-22	32.85	33.04			J		75		pale gn mi	SN	PR	RF					
BHUA-22	33.10				MB												
BHUA-22	33.25				hJ		20		pale gn mi		UN						
BHUA-22	33.27				hJ	x2	30		pl yl mi								
BHUA-22	33.31				DB												
BHUA-22	33.36	34.85			hJs		0	40	pl yl-wh mi								multiple defects, generally sub-horizontal, 0-10mm spacing
BHUA-22	33.42	34.26			hJs		45	70	pl yl-wh mi								multiple defects, generally sub-vertical, 10-30mm spacing
BHUA-22	33.73				J		40		pl yl mi	SN	ST	RF					
BHUA-22	33.91				J		55		dk gy, pl pk mi		UN	RF					
BHUA-22	34.00	34.15			hJ		75		bk mi								
BHUA-22	34.05				J		30					RF					
BHUA-22	34.08				J		35		gn-dk gy, pl br-pk mi			RF					
BHUA-22	34.11				J		25		dk gy, pl pk mi			RF					
BHUA-22	34.26	35.05			hJs		45	70	pl yl-wh mi								multiple defects, generally sub-vertical, 100-300mm spacing
BHUA-22	34.27				J		30		pl yl mi			RF					
BHUA-22	34.34				J		20		pale gn mi		PR	RF					
BHUA-22	34.54				J		15					RF					
BHUA-22	34.69				J		10		pl yl mi			RF					
BHUA-22	34.74				J		35		pl yl mi			RF					
BHUA-22	34.85	35.25			hJs		0	40	pl yl-wh mi								multiple defects, generally sub-horizontal, 10-30mm spacing
BHUA-22	34.95	35.02			HB												
BHUA-22	35.07				hJ	x2	30				PR						
BHUA-22	35.08				hJ	x2	30				PR						
BHUA-22	35.08	35.29			J		70	90	pl yl mi	SN	UN						closed
BHUA-22	35.15	35.20			hJ		20				PR						
BHUA-22	35.17	35.21			hJ	x5	5		pl yl mi		PR						
BHUA-22	35.23				DB				bk mi								
BHUA-22	35.28	35.29			hJ	x3	5		pl yl mi		PR						
BHUA-22	35.29				DB												
BHUA-22	35.31				hJ		5				PR						
BHUA-22	35.33	35.36			hJ		60				PR						
BHUA-22	35.35	35.65			hJ		30				PR						
BHUA-22	35.38				hJ		20				PR						
BHUA-22	35.42				J		30		pl yl mi	SN	PR						
BHUA-22	35.45	35.46			hJ		40				PR						
BHUA-22	35.50	35.60			hJ		30		pl yl mi		PR						
BHUA-22	35.64				hJ		25				PR						
BHUA-22	35.69	35.97			hJ	x4	60		bk mi		PR						
BHUA-22	35.80				J		60		bk mi		PR						
BHUA-22	35.87	35.94			hJ	x2	40				PR						
BHUA-22	36.02	36.35			J	x2	75				PR						
BHUA-22	36.05	36.18			hJ	x3	60		bk mi		PR						
BHUA-22	36.11				hJ		50		dk gy, pl br-or		PR						
BHUA-22	36.15	36.30			hJ	x5	5		pl yl mi		PR						
BHUA-22	36.26				J		0			CN	UN	RF					
BHUA-22	36.31	36.40			hJ	x2	70		bk mi		PR						

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Pioneer Burdekin Pumped Hydro Energy Storage: Tranche 2 – BHUA-22
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-22	36.32				hJ		30				PR						
BHUA-22	36.38				J		20		bk mi	SN	UN	RF					disturbed by drilling
BHUA-22	36.42				hJ		60		bk mi		UN						
BHUA-22	36.42	36.45			hJ	x3	30		bk mi		PR						
BHUA-22	36.45	36.56			hJ	x3	40		gn mi		UN		<	10			
BHUA-22	36.46				hJ		5		wh mi		PR						
BHUA-22	36.50	36.52			hJ		40		wh mi		PR						
BHUA-22	36.54	36.70			J		70			CN	PR	RF					
BHUA-22	36.55				J		5				PR	RF					
BHUA-22	36.57	36.63			hJ	x5	20	30	gn mi		CU		<	5			
BHUA-22	36.65	36.82			J		80			CN	PR	RF					
BHUA-22	36.68	36.90			DB	x4			bk mi								
BHUA-22	36.84	37.06			J		80			CN	PR	RF					
BHUA-22	36.86				hJ		25		wh mi		PR			2			yl min alt halo 2mm
BHUA-22	36.87	36.90			hJ	x3	20	25	pl yl mi		PR			5			
BHUA-22	36.91				J		20		bk mi	SN	PR						
BHUA-22	36.91	37.40			hJ	x11	70	90	bk mi		IR						multiple defects, 30-100mm spacing
BHUA-22	36.95	36.98			hJ	x2	20		bk mi		PR						
BHUA-22	37.04	37.07			hJ	x4	10	15	bk mi		PR						
BHUA-22	37.08	37.30			J		70		bk mi	SN	UN						
BHUA-22	37.11				J		20			CN	ST	RF					
BHUA-22	37.17				DB												
BHUA-22	37.31				DB												
BHUA-22	37.32	37.51			J		80	90	bk mi	SN	UN	RF					
BHUA-22	37.35				hJ		30				PR						
BHUA-22	37.36	37.49			J		70		bk mi	SN	PR	RF					
BHUA-22	37.38				hJ		15		dk gy mi		PR						
BHUA-22	37.43	37.58			hJ		85		bk mi		CU						
BHUA-22	37.47				hJ		10		bk mi		PR						
BHUA-22	37.51	37.53			hJ	x2	25		bk mi		PR						
BHUA-22	37.56	37.62			J	x2	5		bk mi		PR						
BHUA-22	37.58	38.00			hJ	x10	75		bk mi		PR						multiple defects, 10-30mm spacing
BHUA-22	37.62	37.75			hJ	x2	60		rd and gn mi		PR						
BHUA-22	37.65	37.93			hJ	x4	80		br mi		PR						multiple defects, 10-30mm spacing
BHUA-22	37.68	37.93			J		70		bk mi	SN	PR	SM					
BHUA-22	37.81	37.86			hJ	x3	5		bk mi		PR						
BHUA-22	37.91				J		60			CN	PR						
BHUA-22	37.95	38.05			HB												
BHUA-22	38.09	38.15			hJ	x5	5		bk mi		PR						
BHUA-22	38.15	38.35			hJ	x11	60		bk mi		PR						multiple defects, 10-30mm spacing
BHUA-22	38.28	38.40			J		60		bk mi	SN	UN	SM					
BHUA-22	38.33	38.40			hJ		45		dk gr-yl mi		UN						
BHUA-22	38.36	38.42			hJ	x4	20		br mi		PR						
BHUA-22	38.44				J		30		bk mi	SN	ST	RF					
BHUA-22	38.46				J		5		bk mi	SN	PR	RF					
BHUA-22	38.49	38.54			hJ	x6	5		bk mi		PR						
BHUA-22	38.51	38.55			hJ	x2	50	60	bk mi		PR						
BHUA-22	38.57				MB												
BHUA-22	38.60	38.77			Js		0	45	bk mi	SN	CU						multiple defects, generally sub-horizontal 10-30mm spacing
BHUA-22	38.80	38.92			hJ		55		wh mi		UN						
BHUA-22	38.82	39.50			hJs		0	20	bk mi		PR						multiple defects, 0-10mm spacing
BHUA-22	38.83	39.50			hJs		70	80	bk mi		PR						multiple defects, 0-10mm spacing
BHUA-22	39.01	39.09			HB												
BHUA-22	39.10	39.17			J		45			CN	ST	SM					
BHUA-22	39.18				J		5		bk mi	SN	UN	RF					
BHUA-22	39.23				DB												
BHUA-22	39.40	39.53			CO		70		wh mi	CT	UN						
BHUA-22	39.41	39.54			CZ		70										basalt host rock fragmented at chilled margin below granite
BHUA-22	39.53	40.00			hJ	x8	60	80	wh mi		UN		<	2			multiple defects, 30-100mm spacing
BHUA-22	39.65	39.72			hJ	x4	0	15	bk mi		UN						
BHUA-22	39.66				J		25		wh mi	VN	UN	RF					
BHUA-22	39.72	39.78			DB												
BHUA-22	39.87	39.92			hJ	x5	0	20	bk mi		ST						

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PointID : BHUA-22 Depth Range: 4.00 - 8.00 m

PointID : BHUA-22 Depth Range: 8.00 - 12.00 m

wsp	TITLE Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core photo - BHUA-22	DRAWN RC	DATE 18/11/2024
		CHECKED GEM	DATE 4/12/2024
		SCALE Not To Scale	A4
		PROJECT No PS138693	FIGURE No 1/5

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PointID : BHUA-22 Depth Range: 12.00 - 16.00 m

PointID : BHUA-22 Depth Range: 16.00 - 20.00 m

wsp	TITLE Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core photo - BHUA-22	DRAWN RC	DATE 18/11/2024
		CHECKED GEM	DATE 4/12/2024
		SCALE Not To Scale	A4
		PROJECT No PS138693	FIGURE No 2/5

PBPHES LIB_REVC.GLB GrfcTbl PHOTO CORE 2 PER PAGE VERT A4L BHUA-22_241107_RC.GPJ <<DrawingFile>> 2024/12/4 13:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.07.2 2023-10-30 Prj: WSP 5.04.1 2023-06-14

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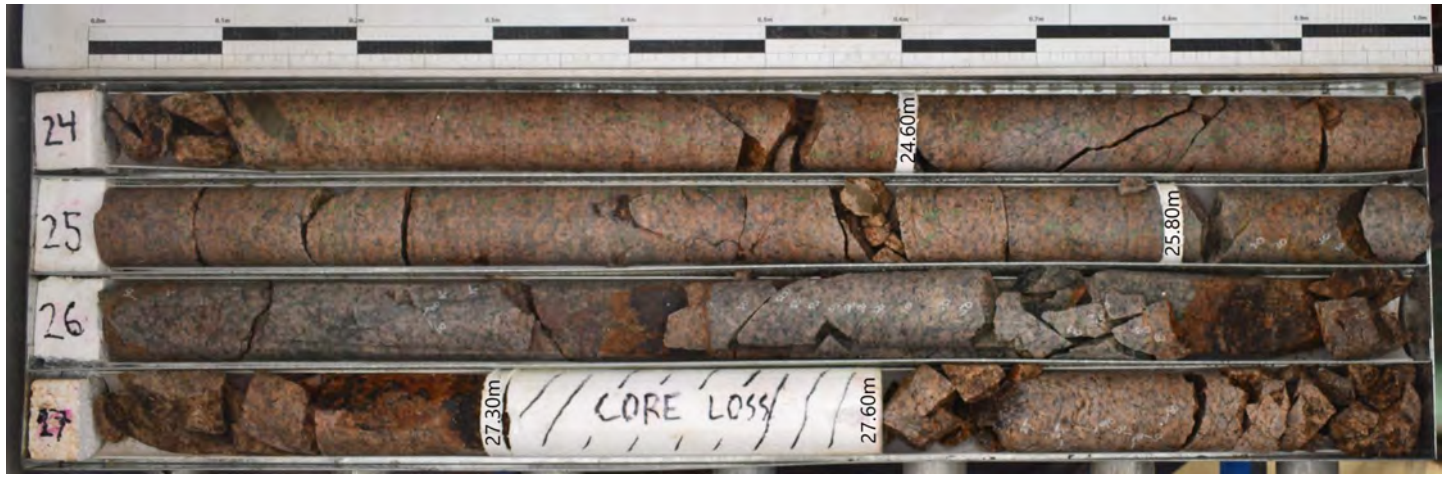
PointID : BHUA-22 Depth Range: 20.00 - 24.00 m



PointID : BHUA-22 Depth Range: 24.00 - 28.00 m

wsp	TITLE Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core photo - BHUA-22	DRAWN RC	DATE 18/11/2024
		CHECKED GEM	DATE 4/12/2024
		SCALE Not To Scale	A4
		PROJECT No PS138693	FIGURE No 3/5

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PointID : BHUA-22 Depth Range: 28.00 - 32.00 m

PointID : BHUA-22 Depth Range: 32.00 - 36.00 m

wsp	TITLE Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core photo - BHUA-22	DRAWN RC	DATE 18/11/2024
		CHECKED GEM	DATE 4/12/2024
		SCALE Not To Scale	A4
		PROJECT No PS138693	FIGURE No 4/5

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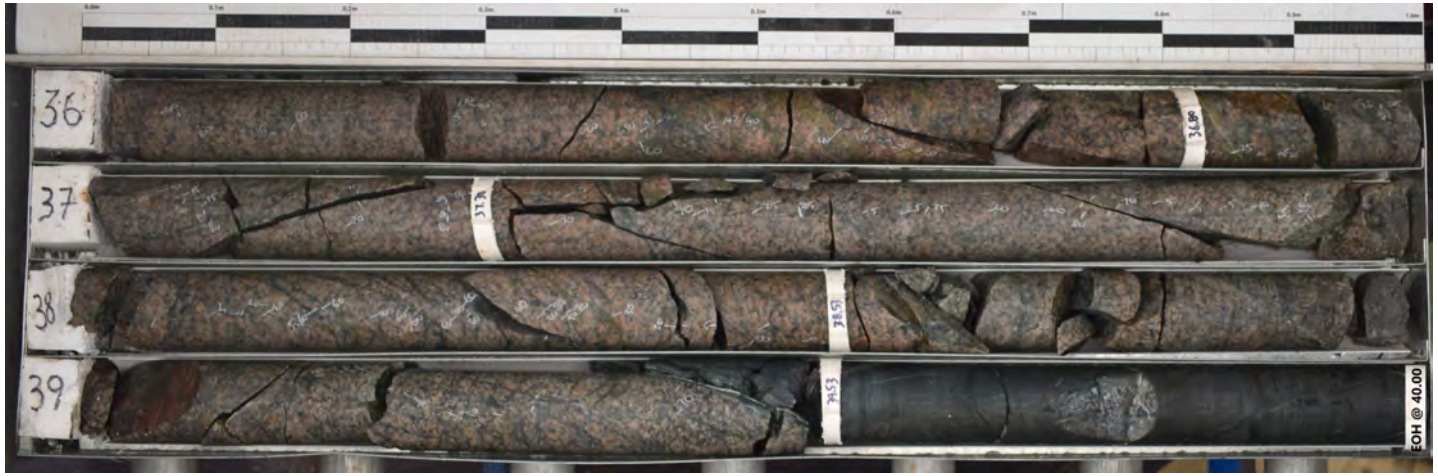

PointID : BHUA-22 Depth Range: 36.00 - 40.00 m

wsp	TITLE Queensland Hydro Netherdale/Dalrymple Heights Pioneer-Burdekin PHES Core photo - BHUA-22	DRAWN RC	DATE 18/11/2024
		CHECKED GEM	DATE 4/12/2024
		SCALE Not To Scale	A4
		PROJECT No PS138693	FIGURE No 5/5

BHUA-22 Structural Logs

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

GEOPHYSICAL RECORD OF BOREHOLE: BHUA-22

PROJECT:	Pioneer-Burdekin PHES	JOB #	PS138693
CLIENT:	Queensland Hydro	DATE:	19/11/2024

BOREHOLE DETAILS

LOCATION:	Upper Reservoir A	BH DEPTH:	40 m
EASTING:	658187 m E	BH DIAMETER:	HQ
NORTHING:	7667952 m N	BH AZIMUTH:	256° TN
ELEVATION:	889.38 m	BH PLUNGE:	-86° TN
COORD SYSTEM:	MGA2020	CASING DEPTH:	10.7 m
LOGGING DATUM:	Ground Level	CASING TYPE:	HWT Steel

DOCUMENT DETAILS

LOGGED BY:	JH
LOGGED DATE:	6-8/7/2024
DRAWN BY:	JH
REVIEWED BY:	GH
FILE:	BHUA-22_Struct_RevB
LOGGED DEPTH:	36.3 m

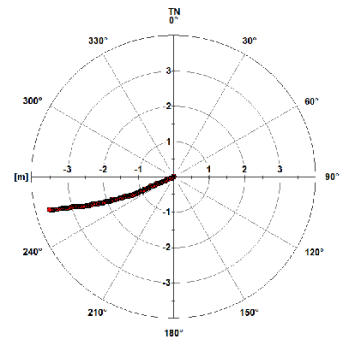
NOTES

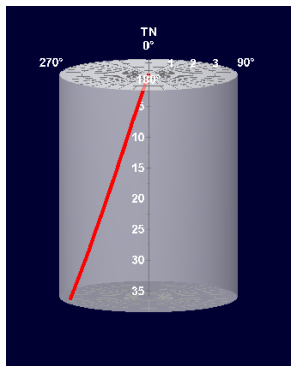
Image logs are oriented relative to borehole high side. Final structure log is oriented relative to true north using magnetic declination of 8.2° East.

Mechanical calliper log used for structure dip corrections.

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

BOREHOLE DEVIATION

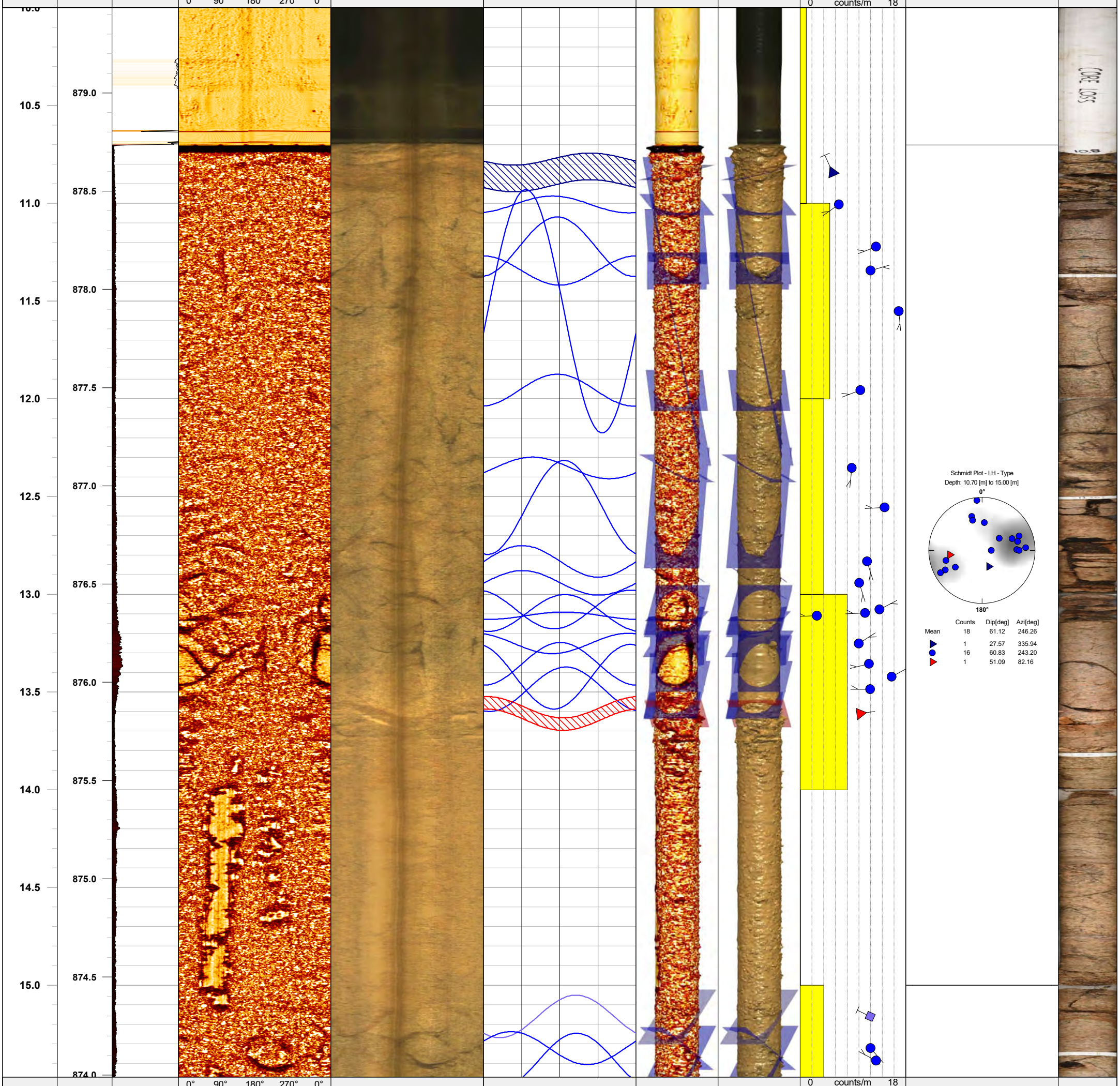




INTERPRETED STRUCTURES

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

BHUA-22



BHUA-22

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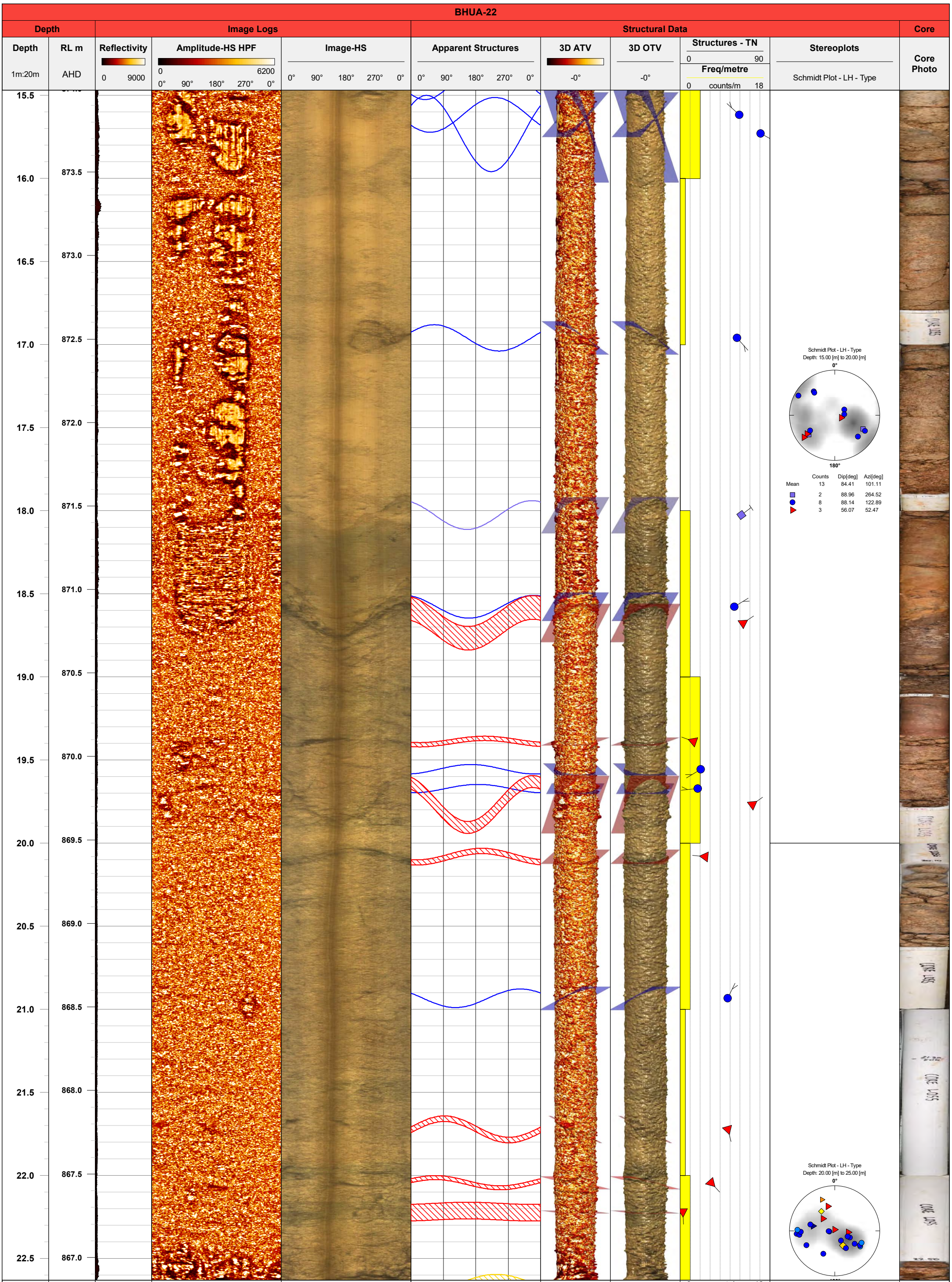

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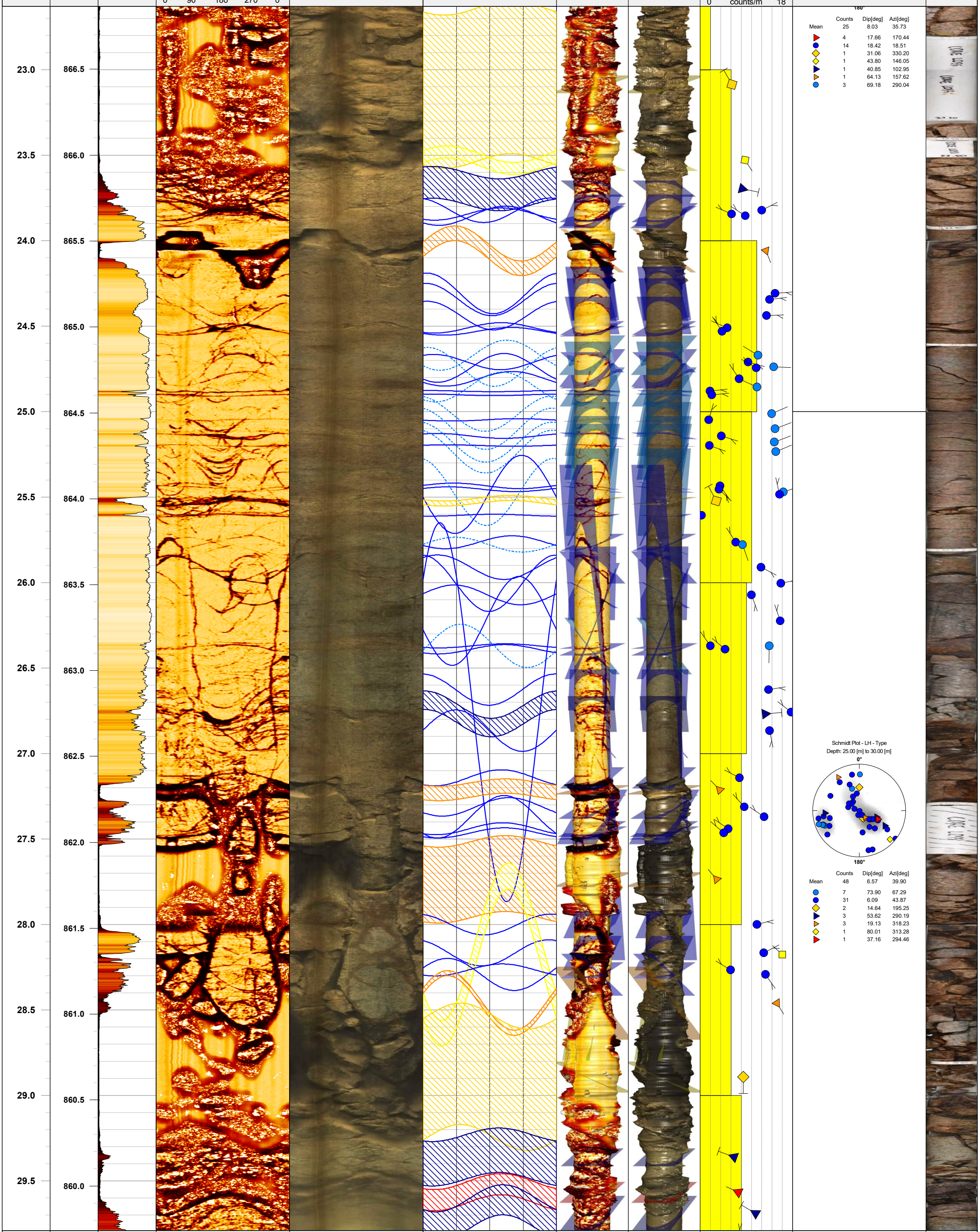
BHUA-22

Depth		Image Logs			Structural Data					Core
Depth 1m:20m	RL m AHD	Reflectivity 0 9000	Amplitude-HS HPF 0 6200 0° 90° 180° 270° 0°	Image-HS 0° 90° 180° 270° 0°	Apparent Structures 0° 90° 180° 270° 0°	3D ATV -0°	3D OTV -0°	Structures - TN 0 90 Freq/metre 0 counts/m 18	Stereoplots Schmidt Plot - LH - Type	Core Photo



Depth 1m:20m	RL m AHD	Reflectivity 0 9000	Amplitude-HS HPF 0° 90° 180° 270° 0° 0 6200	Image-HS 0° 90° 180° 270° 0°	Apparent Structures 0° 90° 180° 270° 0°	3D ATV -0°	3D OTV -0°	Structures - TN 0 90 Freq/metre 0 counts/m 18	Stereoplots Schmidt Plot - LH - Type	Core Photo
Depth		Image Logs			Structural Data					Core

BHUA-22

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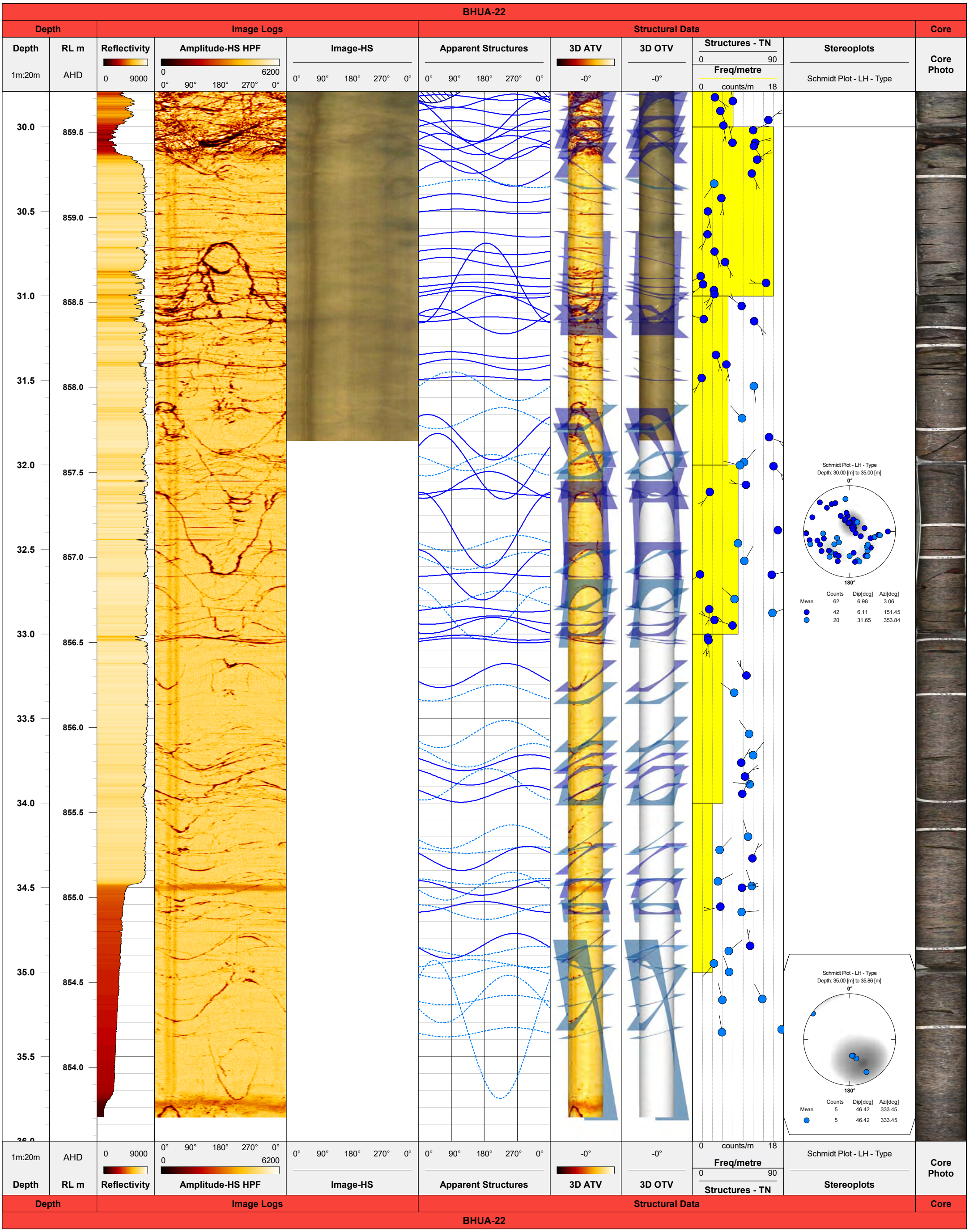

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BHUA-22 Composite Logs

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Fortitude Valley
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Australia

GEOPHYSICAL RECORD OF BOREHOLE: BHUA-22

PROJECT:	Pioneer-Burdekin PHES	JOB #	PS138693
CLIENT:	Queensland Hydro	DATE:	20/11/2024

BOREHOLE DETAILS

LOCATION:	Upper Reservoir A	BH DEPTH:	40 m
EASTING:	658187 m E	BH DIAMETER:	HQ
NORTHING:	7667952 m N	BH AZIMUTH:	256° TN
ELEVATION:	889.38 m	BH PLUNGE:	-86° TN
COORD SYSTEM:	MGA2020	CASING DEPTH:	10.7 m
LOGGING DATUM:	Ground Level	CASING TYPE:	HWT Steel

DOCUMENT DETAILS

LOGGED BY:	JH
LOGGED DATE:	6-8/7/2024
DRAWN BY:	JH
REVIEWED BY:	GH
FILE:	BHUA-22_Comp_RevB
LOGGED DEPTH:	36.3 m

NOTES

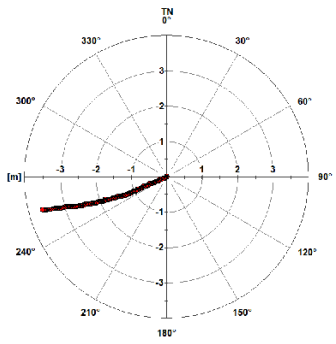
Image logs are oriented relative to borehole high side. Final structure log is oriented relative to true north using magnetic declination of 8.2° East.

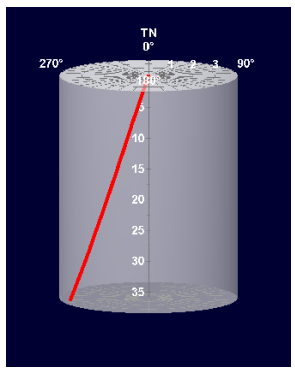
Mechanical calliper log used for structure dip corrections.

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

No FWS or ELOG-IP logs due to progressive borehole caving during logging.

BOREHOLE DEVIATION

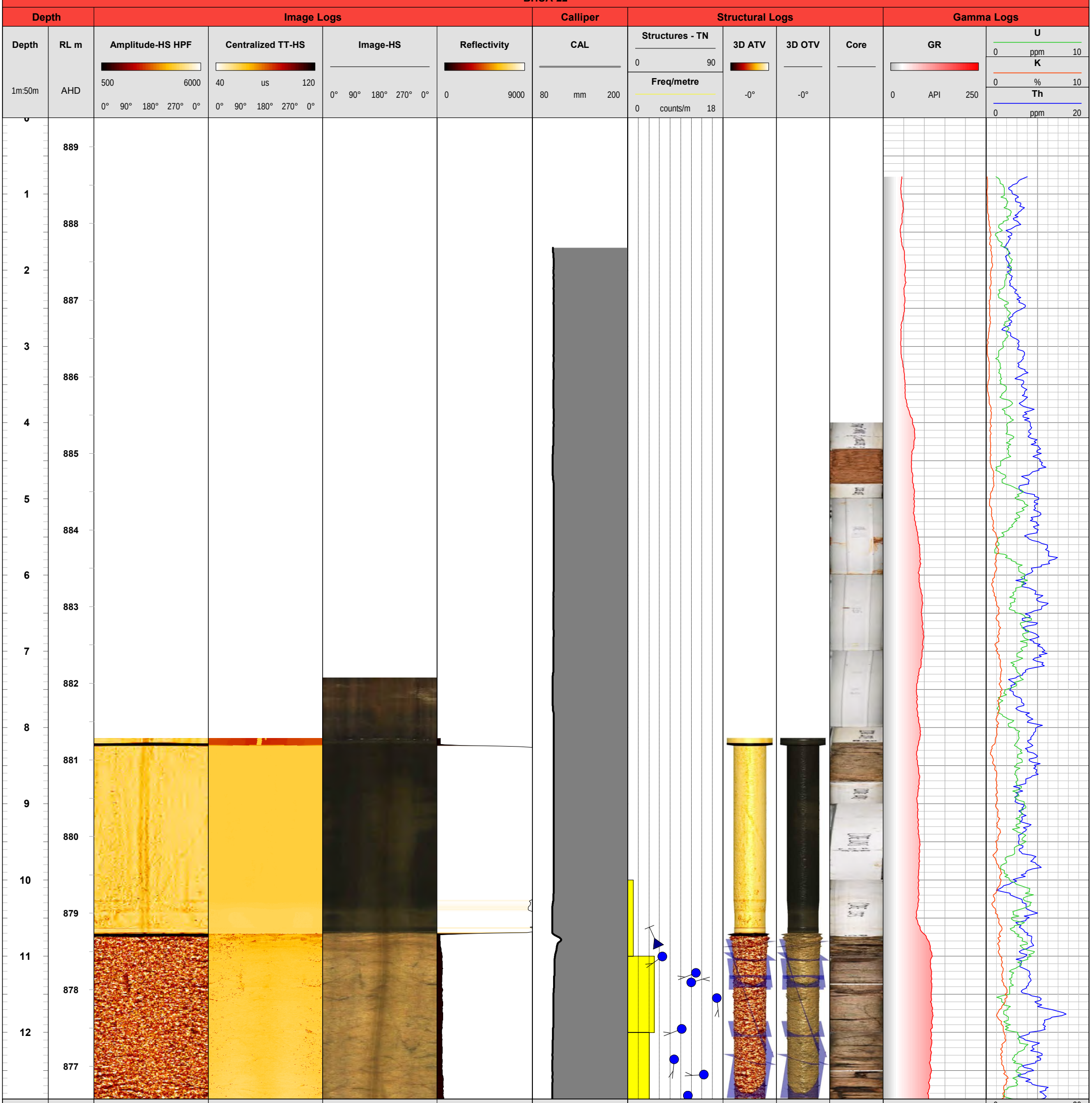




INTERPRETED STRUCTURES

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

BHUA-22



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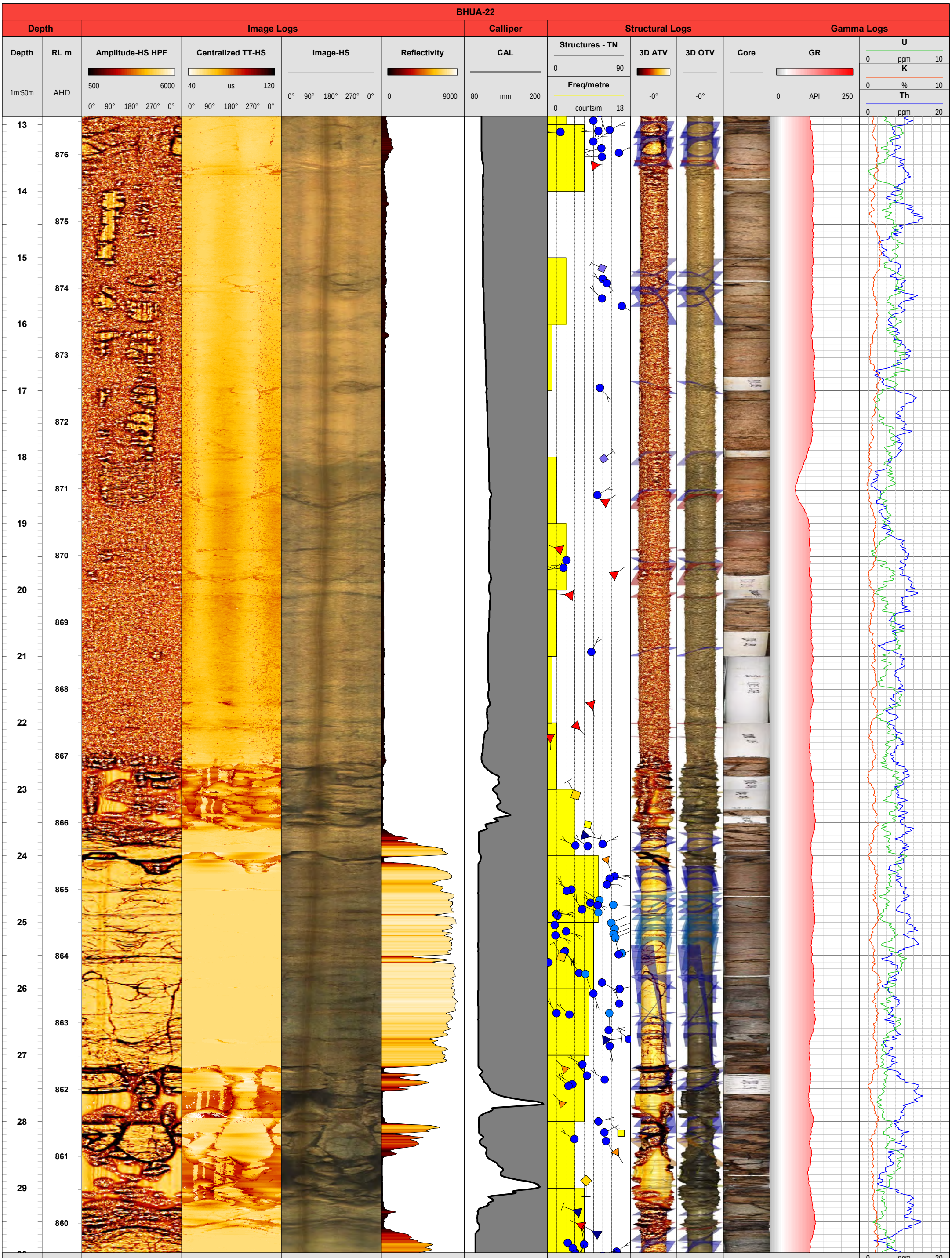

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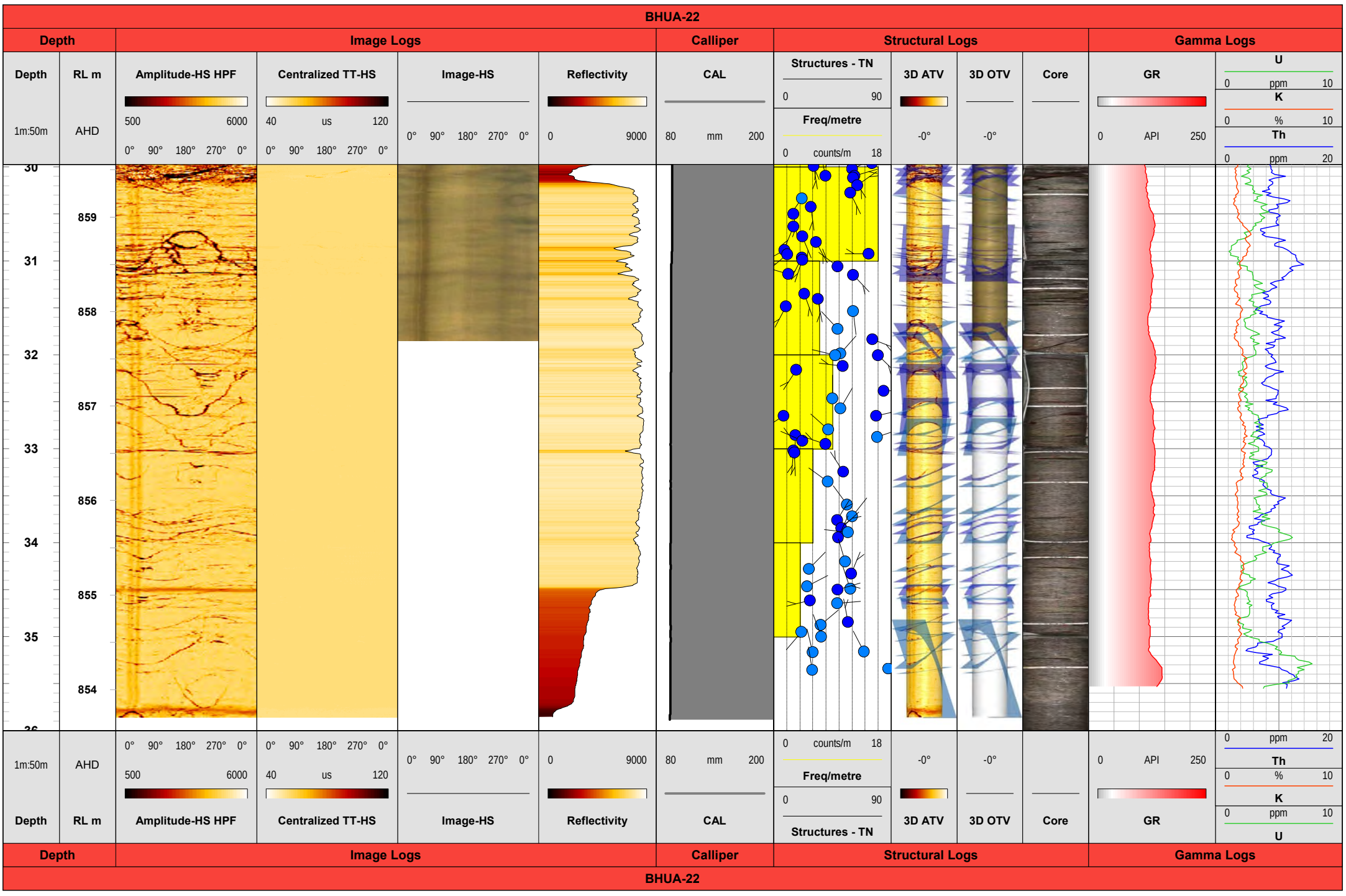

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