

COPYRIGHT NOTICE

This geotechnical log and its associated data (the Document) is licensed by the Cross River Rail Delivery Authority under the [Creative Commons Attribution 4.0 Licence](#) (CC BY 4.0). When reusing the Document, in whole or in part, please attribute as follows: "*(c) Cross River Rail Delivery Authority 2023, licensed under the CC BY 4.0 Licence, prepared by Golder Associates*". This licence does not apply to logos or trademarks.

LIMITATION OF LIABILITY

The CC BY 4.0 Licence contains a comprehensive Disclaimer of Warranties and Limitation of Liability. In addition, please note that this Document was prepared for the Cross River Rail Delivery Authority use only. Reuse of the Document by anyone for any other purpose could result in error and/or loss. You should obtain professional advice before making decisions based on the contents of the Document.

When reproducing any part of this Document, you must also reproduce this limitation of liability notice in addition to the italicised attribution statement above.

Retrieved from the Queensland Geotechnical Database <http://qgd.org.au/>



REPORT OF BOREHOLE: CRR 214

SHEET: 1 OF 5

CLIENT: Aecom Australia Pty Ltd

COORDS: 501624.12 m E 6956103.75 m N MGA94 56

DRILL RIG: FOX B40

PROJECT: Cross River Rail

SURFACE RL: 14.77 m DATUM: AHD

CONTRACTOR: Schneider Drilling Pty Ltd

LOCATION: Christensen St Park and Ride

INCLINATION: -90°

LOGGED: RCD DATE: 30/8/10

JOB NO: 107632034

HOLE DEPTH: 30.10 m

CHECKED: NK DATE: 18/10/10

Drilling				Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AS			0	14.74				CONCRETE (Bricks) pale grey	VD	MD	
			0.50	14.27				Sandy Gravelly CLAY (Road base) grey	D	MD	
			1		U45 1.00-1.45 m PP = 350 kPa		CI	Sandy Gravelly CLAY medium plasticity, dark grey, fine gravel, coarse sand	M	VSt	
			1.50	13.27			SC	Clayey SAND medium grained, red brown and pale grey, residual soil	D	VD	
			2		SPT 2.50-2.60 m 30/100mm HB						
			3					For Continuation Refer to Sheet 2			
			4								
			5								
			6								
			7								
			8								
			9								
			10								

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F01a
RL3

GAP 8.03 LIB: GLE Log GAP NON-CORED FULL PAGE 107632034_ACO.GPJ <<DrawingFile>> 29/11/2010 13:40 8.2.007



REPORT OF BOREHOLE: CRR 214

SHEET: 2 OF 5

CLIENT: Aecom Australia Pty Ltd
 PROJECT: Cross River Rail
 LOCATION: Christensen St Park and Ride
 JOB NO: 107632034

COORDS: 501624.12 m E 6956103.75 m N MGA94 56
 SURFACE RL: 14.77 m DATUM: AHD
 INCLINATION: -90°
 HOLE DEPTH: 30.10 m

DRILL RIG: FOX B40
 CONTRACTOR: Schneider Drilling Pty Ltd
 LOGGED: RCD DATE: 30/8/10
 CHECKED: NK DATE: 18/10/10

Drilling					Field Material Description				Defect Information				
METHOD	WATER	TCR	RQD (SCR)	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH $I_{s(50)}$ MPa	DEFECT DESCRIPTION & Additional Observations		FRACTURE FREQUENCY (Defects per unit metre length)	
								EL VI L J M H VH EH					
				0									
				1									
				2									
				2.60			Continuation of Sheet 1						
				12.17			SANDSTONE medium to coarse grained, orange brown and pale grey, occasional band of conglomerate	EW - DW			3.02: IS, 7°, Un, Ro, Ct, 5 mm, Clay & rock fragments		
		100	55	3									
				4				DW - SW					
				4.50			fine grained				4.70: IS, 75°, St, Ro, Ct, 4 mm, Clay		
				10.27							4.90: J, 50°, Un, Ro, Ct, 2 mm, Clay		
				5									
				5.60			band of conglomerate				5.60: CS, 13°, Un, Ro, Ct, 22 mm, Clay & rock fragments		
				9.17							5.77: J, 3°, Un, Ro, Sn, limonite		
				6									
		100	60	6.37			band of conglomerate containing siltstone crushed by drilling 115 mm				6.37: B, 10°, Un, Ro, Ct, 9 mm, clay & Siltstone		
				7									
				6.63									
				8.14									
				7.22			SILTSTONE fine grained, dark grey						
				7.55									
				7.49			SANDSTONE fine to medium grained, pale grey and pale orange brown				7.76-776.00: IS, 80°, Pl, Ro, Ct, 7 mm, clay		
		100	35	7.28									
				8									
				8.00			band of conglomerate, becoming coarse sandstone						
				6.77									
				8.30			CORE LOSS						
				6.47									
				9									
				8.75			SANDSTONE coarse grained, pale orange brown and pale grey	SW			8.98: DS, 2°, Un, Ro, Ct, 30 mm, clay & rock fragments		
		85	25	6.02							9.07: DS, 30°, Un, Ro, Ct, 30 mm, clay & rock fragments		
				10									
											9.78: DS, 9°, Pl-Un, Ro, Ct, 7 mm		

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F02b
RL3

GAP 8.03 LIB: GLE Log GAP CORED BOREHOLE 107632034_ACO.GPJ <<DrawingFile>> 29/11/2010 13:59 8.2.007



REPORT OF BOREHOLE: CRR 214

SHEET: 3 OF 5

CLIENT: Aecom Australia Pty Ltd
 PROJECT: Cross River Rail
 LOCATION: Christensen St Park and Ride
 JOB NO: 107632034

COORDS: 501624.12 m E 6956103.75 m N MGA94 56
 SURFACE RL: 14.77 m DATUM: AHD
 INCLINATION: -90°
 HOLE DEPTH: 30.10 m

DRILL RIG: FOX B40
 CONTRACTOR: Schneider Drilling Pty Ltd
 LOGGED: RCD DATE: 30/8/10
 CHECKED: NK DATE: 18/10/10

Drilling				Field Material Description				Defect Information			
METHOD	WATER	TCR	RQD (SCR)	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH $I_{s(50)}$ MPa	DEFECT DESCRIPTION & Additional Observations	FRACTURE FREQUENCY (Defects per unit metre length)
								EL 0.03 VL 0.01 J 0.1 M 0.3 H 1 VH 10 EH			5 10 15 20 25 30
		85	25	10.32	4.45		SANDSTONE coarse grained, pale orange brown and pale grey	SW		10.26: DS, 10°, Un, Ro, Ct, 45 mm, clay & rock fragments	
				10.60	4.17		SILTSTONE fine grained, dark grey band fine grand sandstone 113 mm			10.56: DS, 3°, PI-Un, Ro, Ct, 30 mm, clay & rock fragments 10.74: DS, 3°, PI-Un, Sm, Ct, 70 mm, clay & rock fragments	
				12.50	2.27		DECOMPOSED ZONE fine grained, pale grey, weathered to silty clay low to medium plasticity	EW		12.53: DS, 4°, Un, Sm, Ct, 54 mm, Clay & rock fragments	
				12.95	1.82		fine grained, dark grey	FR			
				14.38	0.39		CONGLOMERATE fine to medium grained, pale grey			14.37: C, 3°, PI-Un, Sm, Cn	
		100	80	15.96	-1.19		SANDSTONE fine to medium grained, pale grey				
				17.50	-2.73		occasional conglomerate band				
		100	95	19.45	-4.68		SILTSTONE fine grained, dark grey, bedding @ 10°			19.45: C, 10°, Un, Sm, Cn 19.80: CZ, 6°, Un, Sm-Ro, Ct, 100 mm, clay & rock fragments	

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F02b
RL3

GAP 8.03 LIB: GLE Log GAP CORED BOREHOLE 107632034_ACO.GPJ <<DrawingFile>> 29/11/2010 13:59 6.2.007



REPORT OF BOREHOLE: CRR 214

SHEET: 4 OF 5

CLIENT: Aecom Australia Pty Ltd

COORDS: 501624.12 m E 6956103.75 m N MGA94 56

DRILL RIG: FOX B40

PROJECT: Cross River Rail

SURFACE RL: 14.77 m DATUM: AHD

CONTRACTOR: Schneider Drilling Pty Ltd

LOCATION: Christensen St Park and Ride

INCLINATION: -90°

LOGGED: RCD DATE: 30/8/10

JOB NO: 107632034

HOLE DEPTH: 30.10 m

CHECKED: NK DATE: 18/10/10

Drilling				Field Material Description				Defect Information				
METHOD	WATER	TCR	RQD (SCR)	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH $I_{s(50)}$ MPa	DEFECT DESCRIPTION & Additional Observations		FRACTURE FREQUENCY (Defects per unit metre length)
			100	80	20		SILTSTONE fine grained, dark grey, bedding @ 10°	FR				
			100	95	22.90 -8.13		SANDSTONE fine grained, pale grey with dark grey bands, fine siltstone bands bedding @ 3°				21.05: DS, 55°, Pl, Ro, Ct, 10 mm, clay & rock fragments	
			100	100	27.39 -12.62		becoming coarse grained, band of conglomerate					
			100	100	28.00 -13.23		CONGLOMERATE fine to coarse grained, pale grey					
			100	100	28.40 -13.63		SANDSTONE fine grained, pale grey with grey and dark grey, bands of siltstone at random orientations					
					29.25 -14.48		no bands of siltstone					
					30							

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F02b
RL3

GAP 8.03 LIB: GLE Log GAP CORED BOREHOLE 107632034_ACO.GPJ <<DrawingFile>> 29/11/2010 13:59 6.2.007



REPORT OF BOREHOLE: CRR 214

SHEET: 5 OF 5

CLIENT: Aecom Australia Pty Ltd

COORDS: 501624.12 m E 6956103.75 m N MGA94 56

DRILL RIG: FOX B40

PROJECT: Cross River Rail

SURFACE RL: 14.77 m DATUM: AHD

CONTRACTOR: Schneider Drilling Pty Ltd

LOCATION: Christensen St Park and Ride

INCLINATION: -90°

LOGGED: RCD DATE: 30/8/10

JOB NO: 107632034

HOLE DEPTH: 30.10 m

CHECKED: NK DATE: 18/10/10

Drilling					Field Material Description					Defect Information					
METHOD	WATER	TCR	RQD (SCR)	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH Is(50) MPa	DEFECT DESCRIPTION & Additional Observations			FRACTURE FREQUENCY (Defects per unit metre length)		
								EL 0.03 VL 0.03 J 0.1 M 0.3 H 3 VH 10 EH							
				30	30.10 -15.33		END OF BOREHOLE @ 30.10 m								
				31											
				32											
				33											
				34											
				35											
				36											
				37											
				38											
				39											
				40											

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F02b
RL3

GAP 8_03 LIB: GLE Log GAP CORED BOREHOLE 1 07632034_ACO.GPJ <<DrawingFile>> 29/11/2010 13:59 6.2.007



REPORT OF CORE PHOTOGRAPHS: CRR 214

CLIENT: Aecom Australia Pty Ltd
PROJECT: Cross River Rail
LOCATION: Christensen St
JOB NO: 107632034

COORDS: 0501624 m E 6956103 m N
SURFACE RL: 14.77 DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 30.1 m

DEPTH RANGE: 2.6-18.0 m
DRILL RIG: Fox B40
DRILLER: Schneider Drilling Pty Ltd
LOGGED: RCD DATE: 30/08/10
CHECKED: NK DATE: 4/10/10





REPORT OF CORE PHOTOGRAPHS: CRR 214

CLIENT: Aecom Australia Pty Ltd
PROJECT: Cross River Rail
LOCATION: Christensen St
JOB NO: 107632034

COORDS: 0501624 m E 6956103 m N
SURFACE RL: 14.77 DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 30.1 m

DEPTH RANGE: 18.0-30.1 m
DRILL RIG: Fox B40
DRILLER: Schneider Drilling Pty Ltd
LOGGED: RCD DATE: 30/08/10
CHECKED: NK DATE: 4/10/10





REPORT OF STANDPIPE INSTALLATION: CRR 214

SHEET: 1 OF 1

DRILL RIG: FOX B40

CONTRACTOR: Schneider Drilling Pty Ltd

LOGGED: RCD DATE: 30/8/10

CHECKED: NK DATE: 18/10/10

CLIENT: Aecom Australia Pty Ltd

COORDS: 501624.12 m E 6956103.75 m N MGA94 56

PROJECT: Cross River Rail

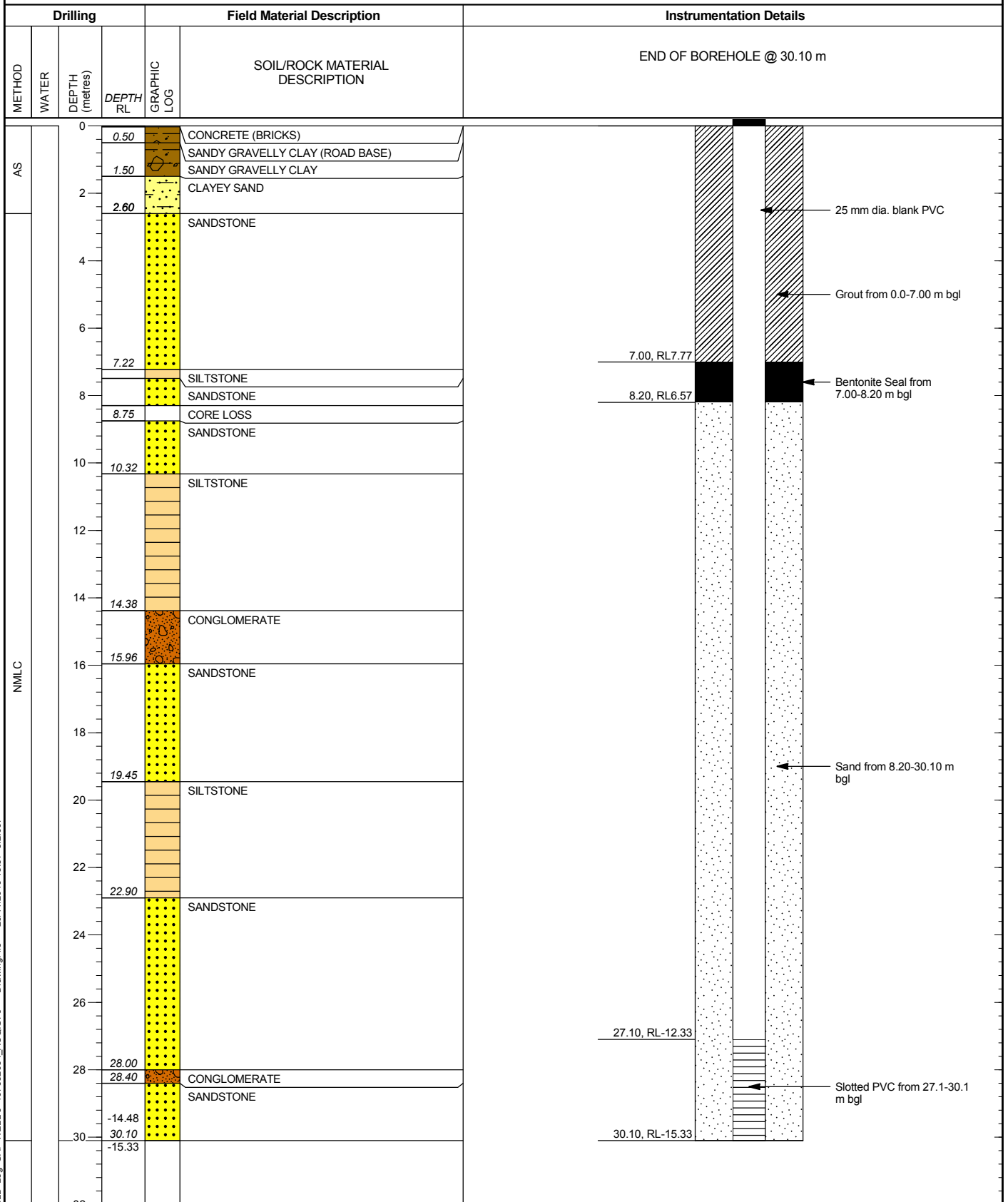
SURFACE RL: 14.77 m DATUM: AHD

LOCATION: Christensen St Park and Ride

INCLINATION: -90°

JOB NO: 107632034

HOLE DEPTH: 30.10 m



This report of standpipe installation must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F17
RL1

GAP-8.03.LIB.GLB Log GAP WELL 3 107632034_ACO.GPJ <<DrawingFile>> 29/11/2010 15:37 8.2.007



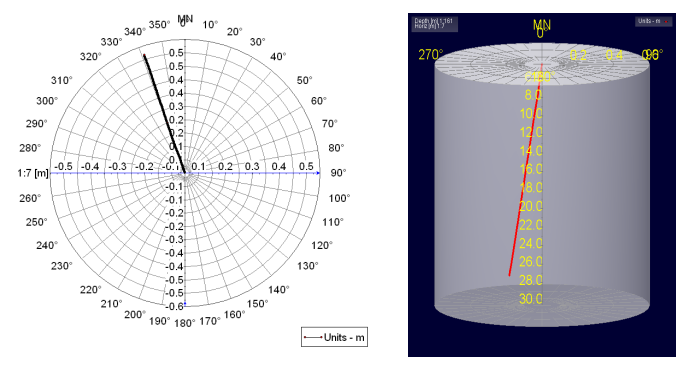
GEOPHYSICAL RECORD OF BOREHOLE: CRR 214

PROJECT **Cross River Rail** PROJECT # **107632034**
 CLIENT **Department of Transport and Main Roads** DATE **12/10/2010**

LOCATION- **Car Park; Christensen St** LOGGED BY- **RCD**
 EASTING- **501620.00 m E** LOGGED DATE- **30/8/10**
 NORTHING- **6956109.00 m N** LOGGING DATUM-
 ELEVATION- LOGGED DEPTH- **30.10 m**
 DRILLED DEPTH- **30.10 m** DIAMETER- DRAWN BY- **RCD**
 PLUNGE- **-90°** AZIMUTH- **000** REVIEWED BY- **TR**
 CASING- DEPTH- FILE NAME- **CRR214-U.HED.WCL**

Lithology

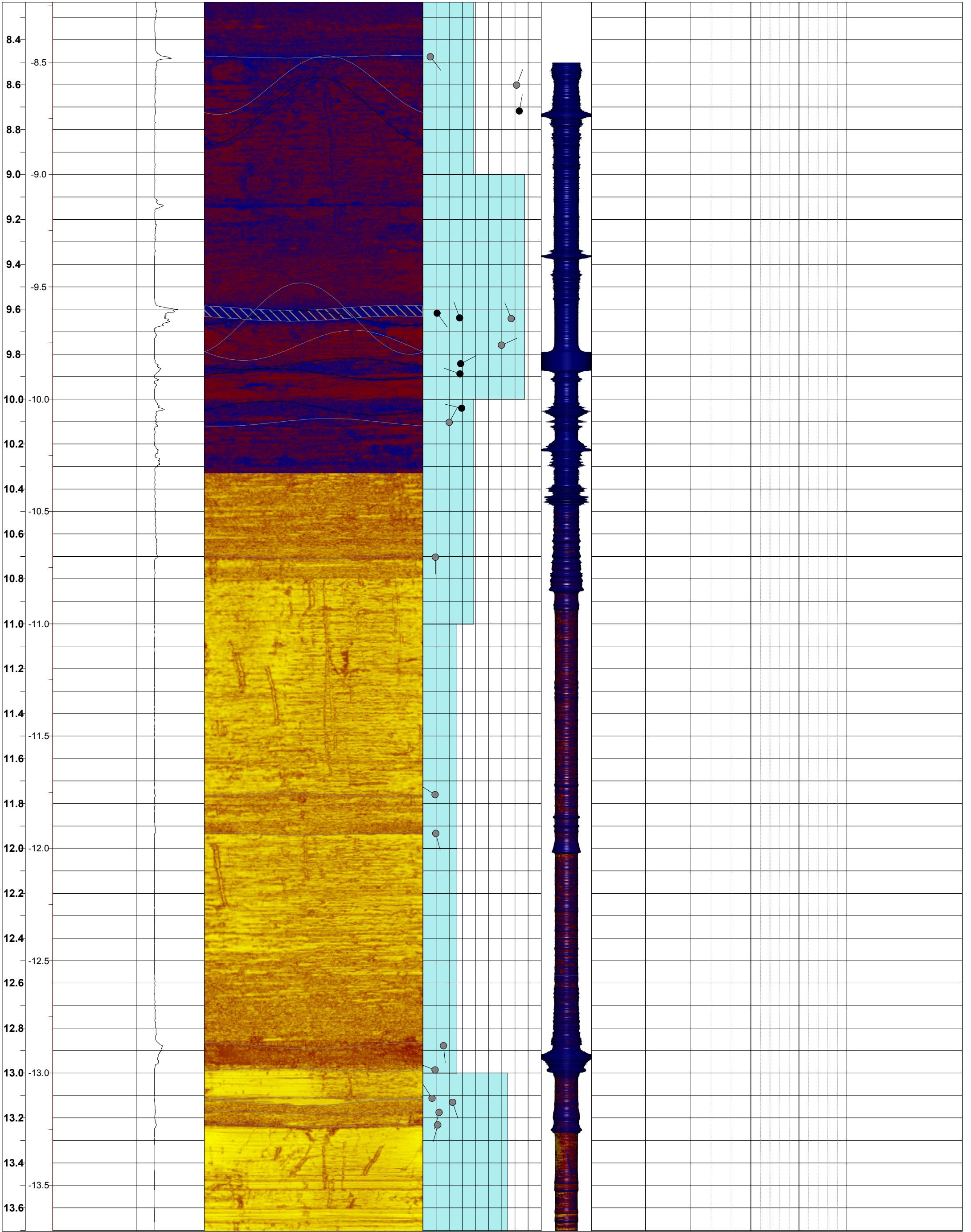
DEVIATION DATA

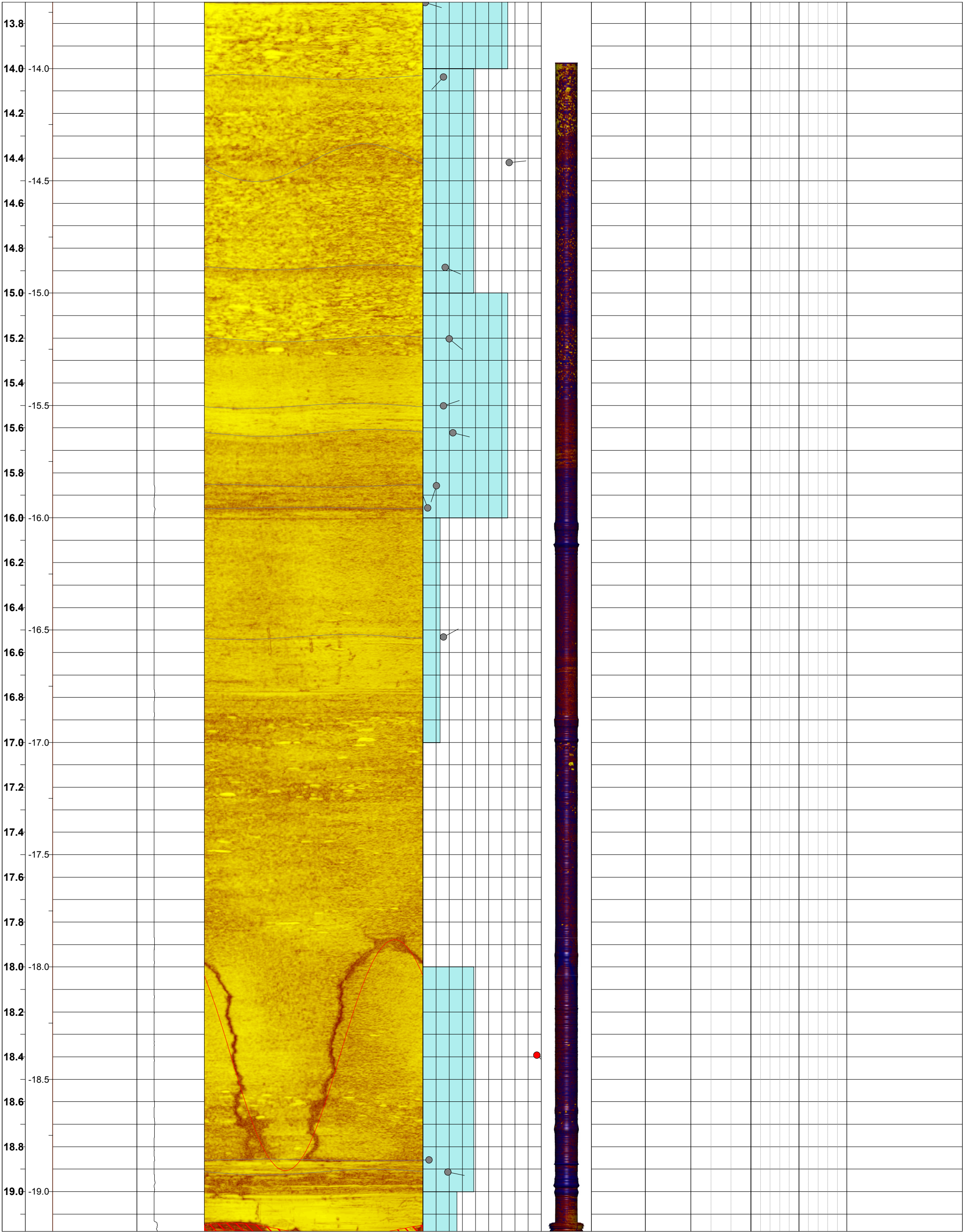


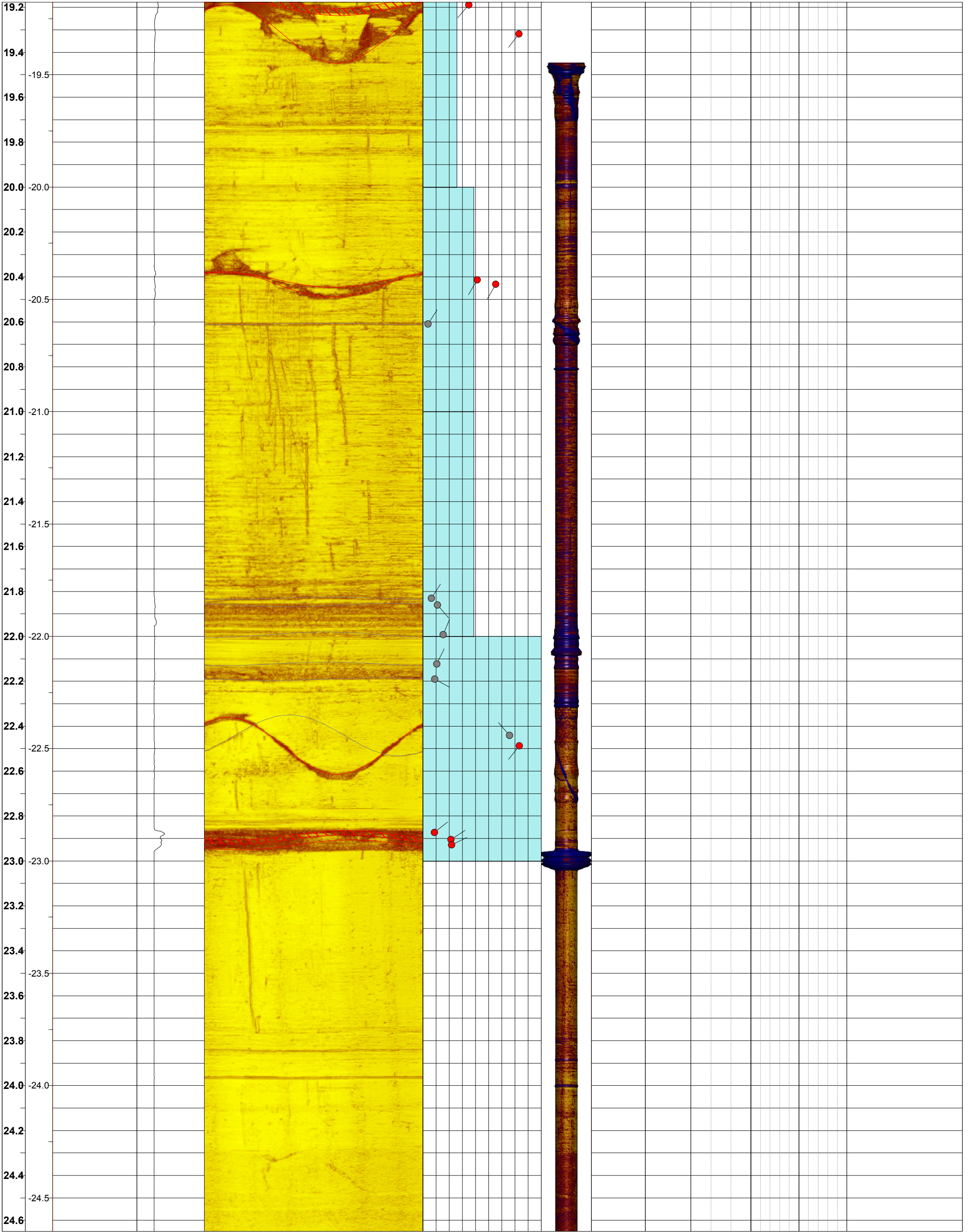
Interpreted Structures

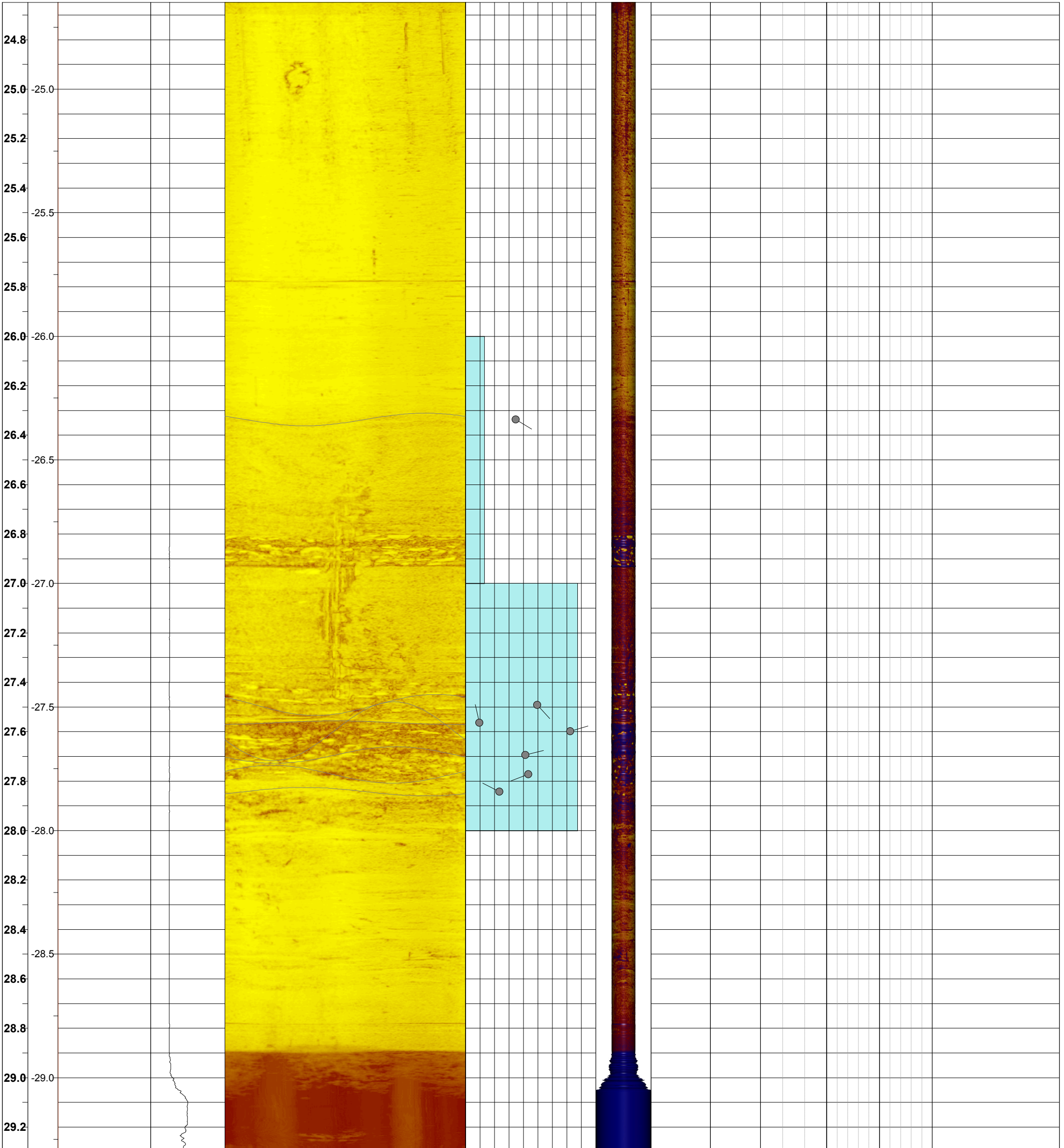
- Joint - Medium Confidence
- Decomposed Seam - Low Confidence
- Joint - High Confidence
- Decomposed Seam - High Confidence
- ◆ Crushed Seam - High Confidence
- Joint - Low Confidence

Depth 1:15	RL	TELEVIEWER DATA				CORE DATA						
		NATURAL GAMMA 0 cps 300	ATV - Caliper 0 mm 300	Amplitude 0° 90° 180° 270° 0°	Structure Orientations 0 90	3D log 293°	Core Photo	Lithology	Logged FF 0 30	RQD 0 100	TCR 0 100	Defect Description
				Interpreted Structures 0° 90° 180° 270° 0°	ATV FF 0 counts/m 7	(Refer to detailed core log, provided separately)						
4.5												
4.6												
4.8												
5.0	-5.0											
5.2												
5.4												
5.5												
5.6												
5.8												
6.0	-6.0											
6.2												
6.4												
6.5												
6.6												
6.8												
7.0	-7.0											
7.2												
7.4												
7.5												
7.6												
7.8												
8.0	-8.0											
8.2												

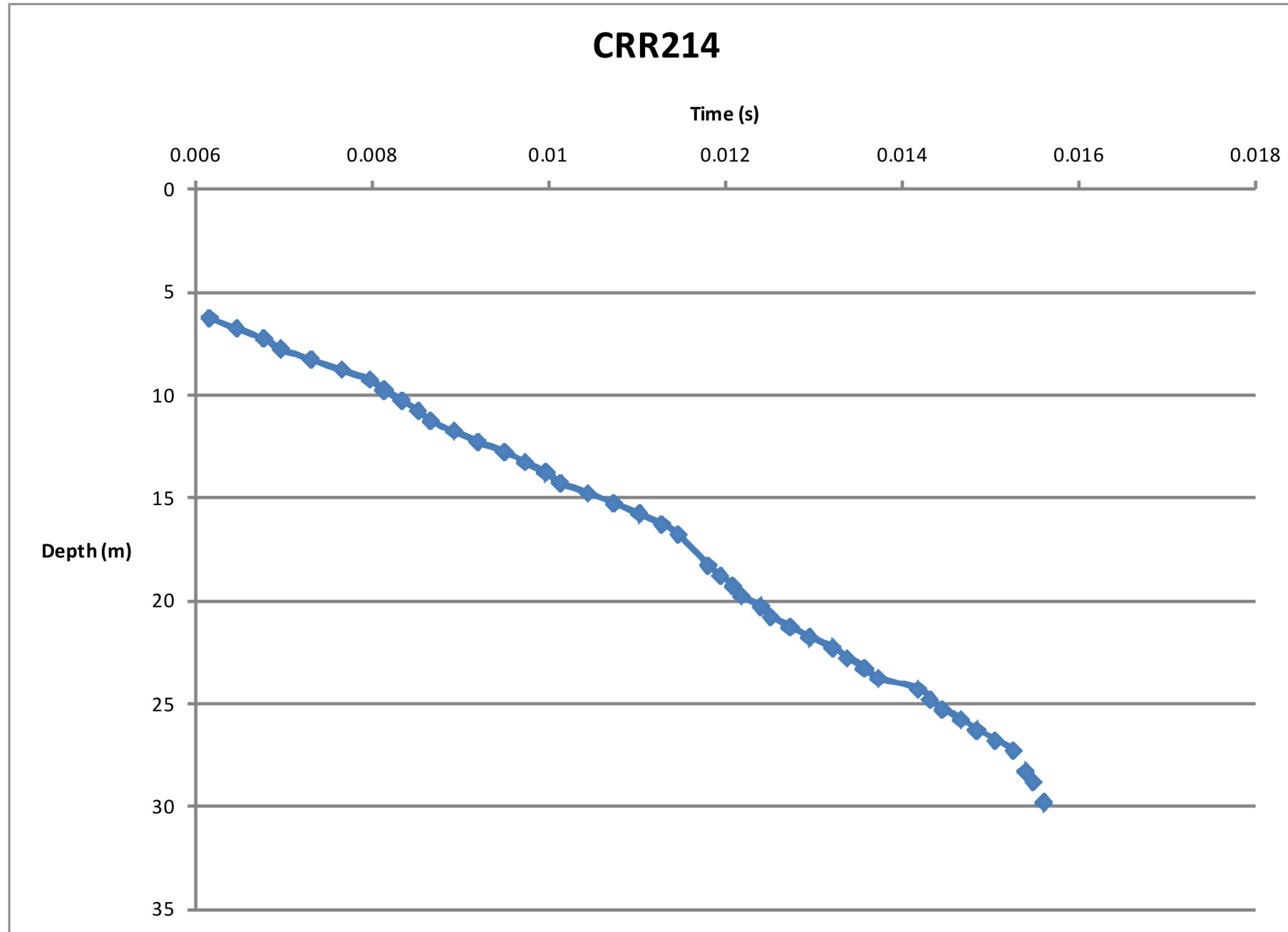








GA-BQ-291 RL1
 Issued 31/03/10



Geophone Depth (m)		Interval velocity (P wave m/s)
from	to	
6.3	6.8	1614
6.8	7.3	1621
7.3	7.8	2656
7.8	8.3	1443
8.3	8.8	1446
8.8	9.3	1577
9.3	9.8	3102
9.8	10.3	2483
10.3	10.8	2641
10.8	11.3	3662
11.3	11.8	1873
11.8	12.3	1875
12.3	12.8	1648
12.8	13.3	2142
13.3	13.8	2143
13.8	14.3	3002
14.3	14.8	1605
14.8	15.3	1710
15.3	15.8	1719
15.8	16.3	1974
16.3	16.8	2706
16.8	18.3	4483
18.3	18.8	3533
18.8	19.3	3534
19.3	19.8	5042
19.8	20.3	2291
20.3	20.8	4592
20.8	21.3	2243
21.3	21.8	2244
21.8	22.3	1923
22.3	22.8	3057
22.8	23.3	2573
23.3	23.8	3147
23.8	24.3	1113
24.3	24.8	3624
24.8	25.3	3625
25.3	25.8	2362
25.8	26.3	2848
26.3	26.8	2397
26.8	27.3	2397
27.3	27.8	*
27.8	28.3	*
28.3	28.8	6431
28.8	29.3	*
29.3	29.8	*

Note:

* - 1st arrival not clear due to noise

Calculations done without accounting for borehole deviation

	CLIENT Department of Transport and Main Roads		PROJECT Cross River Rail	
	DRAWN GDK	DATE OCT 4	TITLE CRR214 VSP	
	CHECKED TR	DATE		
	SCALE NTS	PROJECT No 000-107632034	FIGURE No	REV No A3