

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 202

SHEET: 1 OF 6

CLIENT: Aecom Australia Pty Ltd

COORDS: 502732.00 m E 6961305.00 m N MGA94 56

DRILL RIG: FOX B40

PROJECT: Cross River Rail

SURFACE RL: DATUM: AHD

CONTRACTOR: Schneider Drilling Pty Ltd

LOCATION: Mary St, East of Albert St

INCLINATION: -90°

LOGGED: MGM DATE: 10/8/10

JOB NO: 107632034

HOLE DEPTH: 45.07 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				
ADV			0		SPT 1.00-1.45 m 1, 2, 2 N=4			GC	ASPHALT	D	VL - L	Installed 105 mm (ID) PVC casing to 9.4 m and finished with locking gatic cover after completing the drilling.				
			0.29	CONCRETE												
				Clayey GRAVEL fine to coarse grained, angular, brown, with some fine to medium sand, (FILL)												
			1													
			2	2.00					CH				CLAY high plasticity, dark brown, trace small (< 3 mm) dark brown angular siltstone fragments, natural organic odour			
				SPT 2.50-2.95 m 1, 2, 2 N=4 PP = 60 kPa										S - F		
			3													
			3.65										trace organic stringers and rootlets, trace fine sand			
			4												F	
			5												M	
RD	L		6		SPT 5.50-5.95 m 0, 1, 1 N=2 PP = 65 kPa				trace highly decomposed wood fragments (up to 4 mm in size)		VS - S					
			5.50													
			7	7.00	SPT 7.00-7.45 m 0, 0, 1 N=1 PP = 40 kPa									localised silty peat laminae		F
			8													S - F
				U50 8.50-8.80 m												
			9					For Continuation Refer to Sheet 2								

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



REPORT OF BOREHOLE: CRR 202

SHEET: 2 OF 6

DRILL RIG: FOX B40

CONTRACTOR: Schneider Drilling Pty Ltd

LOGGED: MGM DATE: 10/8/10

CHECKED: NK DATE: 18/10/10

CLIENT: Aecom Australia Pty Ltd

COORDS: 502732.00 m E 6961305.00 m N MGA94 56

PROJECT: Cross River Rail

SURFACE RL: DATUM: AHD

LOCATION: Mary St, East of Albert St

INCLINATION: -90°

JOB NO: 107632034

HOLE DEPTH: 45.07 m

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)	
				0										
				1										
				2										
				3										
				4										
				5										
				6										
				7										
				8										
				9	9.00		Continuation of Sheet 1							
							CORE LOSS	RS						
					9.47		META SILTSTONE fine grained, orange with bands dark grey	EW						
							META SILTSTONE fine grained, orange to brown with dark grey	HW						
					9.90			MW						
				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. F02b
RL3

GAP 8.03 LIB GLE Log GAP CORED BOREHOLE 107632034_ACO.GPJ <<DrawingFile>> 30/11/2010 10:54 8.2.007



REPORT OF BOREHOLE: CRR 202

SHEET: 3 OF 6

CLIENT: Aecom Australia Pty Ltd

COORDS: 502732.00 m E 6961305.00 m N MGA94 56

DRILL RIG: FOX B40

PROJECT: Cross River Rail

SURFACE RL: DATUM: AHD

CONTRACTOR: Schneider Drilling Pty Ltd

LOCATION: Mary St, East of Albert St

INCLINATION: -90°

LOGGED: MGM DATE: 10/8/10

JOB NO: 107632034

HOLE DEPTH: 45.07 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)
				10			CORE LOSS	HW		fragments in soft white clay		
				10.87			META SILTSTONE	MW		10.05: J, 20°, Pl, Sm, Vr		
				11.00			fine grained, orange to brown some grey, interlaminated to bedded, contains quartz bands in the range of 5-10 mm thick, locally siltstone has weathered to clay			10.11-10.20: CS, 10°, Un, Ro, Vr		
							CORE LOSS			10.22-10.81: J, 35°, Pl, Sm, Vr, joint set parallel to banding, 1-10cm spacing, orange brown silty sand infill on some		
				11.67			META SILTSTONE			10.83-10.89: CS, 45°, Pl, Ro, 40 mm, soft green clay with crushed rock fragments, core loss below		
				11.83			fine grained, orange to brown, metasiltstone, interlaminated with occasional dark grey argillite, quartz bands parallel to bedding, locally siltstone weathered to clay			11.10: V, 40°, Un, Ro, separation along quartz		
				11.87			CORE LOSS			11.48: J, 70°, Pl, Ro, Vr, soft clay and crushed rock, intersects CS below		
				12			META SILTSTONE	MW		11.55-11.63: CS, 30°, St, Ro, 8 mm, soft clay and crushed rock		
							fine grained, orange to brown some grey, metasiltstone interlaminated with grey argillite	SW		12.17: J, 40°, Pl, Sm, Vr		
										12.28: J, 40°, Pl, Sm, Vr		
				13						12.64-12.70: CS, 25°, St, Ro, clay and crushed rock infill		
										12.95: J, 35°, Un, Ro, Vr		
				14				SW		13.46-13.66: CZ, 50°, Un, Sm, crushed rock and soft clay, locally orange brown staining		
										13.92: J, 60°, Un, Sm, Vr, along quartz vein		
										14.17: J, 65°, Un, Sm, Vr		
										14.50: J, 45°, St, Ro, Vr		
										14.56: J, 45°, St, Ro, Vr		
				15.00			increase in number of argillite bands, some are brittle and can be easily broken with fingers			15.26: J, 35°, Un, Ro, Vr, along quartz vein		
				15.30			grey, metasiltstone bands interlaminated with dark grey to black argillite bands, occasional parallel quartz bands	SW		15.30: J, 35°, Un, Ro, Vr, along quartz vein		
				16								
				17				FR		16.83: J, 35°, Un, Ro, Sn-Vr		
				17.16			zone of predominantly fractured, fissile argillite			16.90: J, 20°, Un, Ro, Sn-Vr		
				17.35			back to interlaminated metasiltstone and argillite			17.24: J, 35°, St, Ro, Cn, cross-cutting joints		
				18						17.84: J, 45°, Un, Sm, Sn-Vr		
										18.41: J, 20°, Pl, Sm, Sn		
				19						19.00: J, 50°, Pl, Ro, Sn		
										19.07: J, 70°, Pl, Ro, Sn		
										19.27: J, 30°, Pl, Sm, Cn		
										19.43: J, 40°, Un, Ro, 2 mm, black, brittle clay		
										19.50: J, 40°, Pl, Sm, 2 mm, black, brittle claystone		
				20						19.78: J, 70°, Un, Sm, Cn, intersects J at 19.8m		
										19.80: J, 65°, Pl, Sm, Cn		

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>> 30/11/2010 10:54 8.2.007



REPORT OF BOREHOLE: CRR 202

SHEET: 4 OF 6

DRILL RIG: FOX B40

CONTRACTOR: Schneider Drilling Pty Ltd

LOGGED: MGM DATE: 10/8/10

CHECKED: NK DATE: 18/10/10

CLIENT: Aecom Australia Pty Ltd

PROJECT: Cross River Rail

LOCATION: Mary St, East of Albert St

JOB NO: 107632034

COORDS: 502732.00 m E 6961305.00 m N MGA94 56

SURFACE RL: DATUM: AHD

INCLINATION: -90°

HOLE DEPTH: 45.07 m

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)
				20			META SILTSTONE fine grained, orange to brown some grey, metasiltstone interlaminated with grey argillite	FR				
				21						21.17: J, 30°, Pl, Sm, Vr, argillite Vr		
				22	22.11		increase in number and thickness of quartz bands, some up to 22 mm					
				23								
				24								
				25								
				26								
				27						27.08: J, 70°, Pl, Ro, Vr 27.21: J, 60°, Un, Ro, Cn		
				28								
				29	29.17		dark grey, metasiltstone interlaminated with black argillite and white quartz, quartz bands are typically 3-10 mm thick but locally are up to 60 mm thick			28.72-28.74: CS, 10°, Un, Ro, crushed quartz and siltstone 29.00-29.17: J, 70°, Un, Ro, Vr		
				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



REPORT OF BOREHOLE: CRR 202

SHEET: 5 OF 6

CLIENT: Aecom Australia Pty Ltd

COORDS: 502732.00 m E 6961305.00 m N MGA94 56

DRILL RIG: FOX B40

PROJECT: Cross River Rail

SURFACE RL: DATUM: AHD

CONTRACTOR: Schneider Drilling Pty Ltd

LOCATION: Mary St, East of Albert St

INCLINATION: -90°

LOGGED: MGM

DATE: 10/8/10

JOB NO: 107632034

SOLE DEPTH: 45.07 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)
				30			META SILTSTONE fine grained, orange to brown some grey, metasiltstone interlaminated with grey argillite	FR				
				31						31.00-31.57: FZ, 90°, St, Ro, Cn, section broken up, numerous intersecting breaks, no clearly defined plane		
				32								
				32.25			some parallel quartz bands, typically 5-15 mm thick, typically breaking along argillite bands			32.17: J, 15°, Pl, Ro, Vr, parallel to argillite band		
				33								
				34								
				35								
				35.34			some argillite bands 10-20 mm thick, locally broken and fissile, occasional quartz bands up to 10 mm thick			35.34-35.49: CZ, random breakage, may be drilling induced 35.51: J, 35°, Pl, SI-Sm, Vr		
				36						35.95: J, 60°, Un, SI-Sm, Vr		
				37						36.36: J, 70°, Un, SI-Sm, Cn-Ct 36.47: J, 20°, Un, SI-Sm, Cn 36.56-36.57: CS, 5°, Pl, Ro, 10 mm, crushed coarse sand to fine gravel infill 36.87: J, 70°, St, SI, Cn 36.94: J, 50°, Pl, Ro, Cn 36.96: J, 5°, Pl, Ro, Vr 37.00-37.10: CS, 70°, St, Ro, 10 mm, silty sand and gravel infill 37.56-37.59: CS, 15°, Pl, Sm, 20 mm, black sandy gravelly clay infill		
				38								
				39						38.60: L, 45°, Pl, Sm, Vr, black clay 38.64: J, 45°, St, SI-Sm, Vr, black clay		
				40						39.25: J, 25°, Pl, Sm, Cn, broken along quartz band 39.49: J, 40°, St, SI-Sm, Vr 39.73: J, 40°, St, SI-Sm, Vr 39.81: IS, 70°, Pl, Ro, Cn		

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



REPORT OF BOREHOLE: CRR 202

SHEET: 6 OF 6

CLIENT: Aecom Australia Pty Ltd

COORDS: 502732.00 m E 6961305.00 m N MGA94 56

DRILL RIG: FOX B40

PROJECT: Cross River Rail

SURFACE RL: DATUM: AHD

CONTRACTOR: Schneider Drilling Pty Ltd

LOCATION: Mary St, East of Albert St

INCLINATION: -90°

LOGGED: MGM

DATE: 10/8/10

JOB NO: 107632034

SOLE DEPTH: 45.07 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				
				40			META SILTSTONE fine grained, orange to brown some grey, metasiltstone interlaminated with grey argillite	FR		40.33-40.35: CS, 10°, Pl-Un, Sm, Vr, crushed sandy gravel infill 40.50-40.86: J, 70°, Pl-Un, Sm-Ro, Vr, joint set with dips in range of 35 to 70 degrees, 6-8 cm spacing				
				41										
				42	42.00		decrease in quartz bands but up to 15 mm thick where present			41.40: J, 60°, Pl, Sm, Vr				
				43						42.41: IS, 60°, Pl, Sm, Vr, black infill 42.71: J, 60°, Pl, Sm, Vr, black infill				
				44						43.00: HB, 70°, St, Ro, Cn 43.39: J, 35°, Pl, Sm, Vr, black				
				45	45.07		END OF BOREHOLE @ 45.07 m			43.92: CS, Un, Sm, black, sandy silt, crushed rock infill 44.41: J, 30°, Pl, Sm, Cn 44.80: J, 30°, Pl, Sm, Vr				
				46										
				47										
				48										
				49										
				50										

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



REPORT OF CORE PHOTOGRAPHS: CRR 202

CLIENT: Aecom Australia Pty Ltd
PROJECT: Cross River Rail
LOCATION: Mary St W off Albert St
JOB NO: 107632034

COORDS: 502732 m E 6961305m N
SURFACE RL: DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 45.07 m

DEPTH RANGE: 9.0-24.0 m
DRILL RIG: Fox B40
DRILLER: Schneider Drilling Pty Ltd
LOGGED: MGM DATE: 10/08/10
CHECKED: NK DATE: 4/10/10





REPORT OF CORE PHOTOGRAPHS: CRR 202

CLIENT: Aecom Australia Pty Ltd
PROJECT: Cross River Rail
LOCATION: Mary St W off Albert St
JOB NO: 107632034

COORDS: 502732 m E 6961305m N
SURFACE RL: DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 45.07 m

DEPTH RANGE: 24.0-42.0 m
DRILL RIG: Fox B40
DRILLER: Schneider Drilling Pty Ltd
LOGGED: MGM DATE: 10/08/10
CHECKED: NK DATE: 4/10/10





REPORT OF CORE PHOTOGRAPHS: CRR 202

CLIENT: Aecom Australia Pty Ltd
PROJECT: Cross River Rail
LOCATION: Mary St W off Albert St
JOB NO: 107632034

COORDS: 502732 m E 6961305m N
SURFACE RL: DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 45.07 m

DEPTH RANGE: 42.0-45.07m
DRILL RIG: Fox B40
DRILLER: Schneider Drilling Pty Ltd
LOGGED: MGM DATE: 10/08/10
CHECKED: NK DATE: 4/10/10





REPORT OF STANDPIPE INSTALLATION: CRR 202

SHEET: 1 OF 1

CLIENT: Aecom Australia Pty Ltd

COORDS: 502732.00 m E 6961305.00 m N MGA94 56

DRILL RIG: FOX B40

PROJECT: Cross River Rail

SURFACE RL: DATUM: AHD

CONTRACTOR: Schneider Drilling Pty Ltd

LOCATION: Mary St, East of Albert St

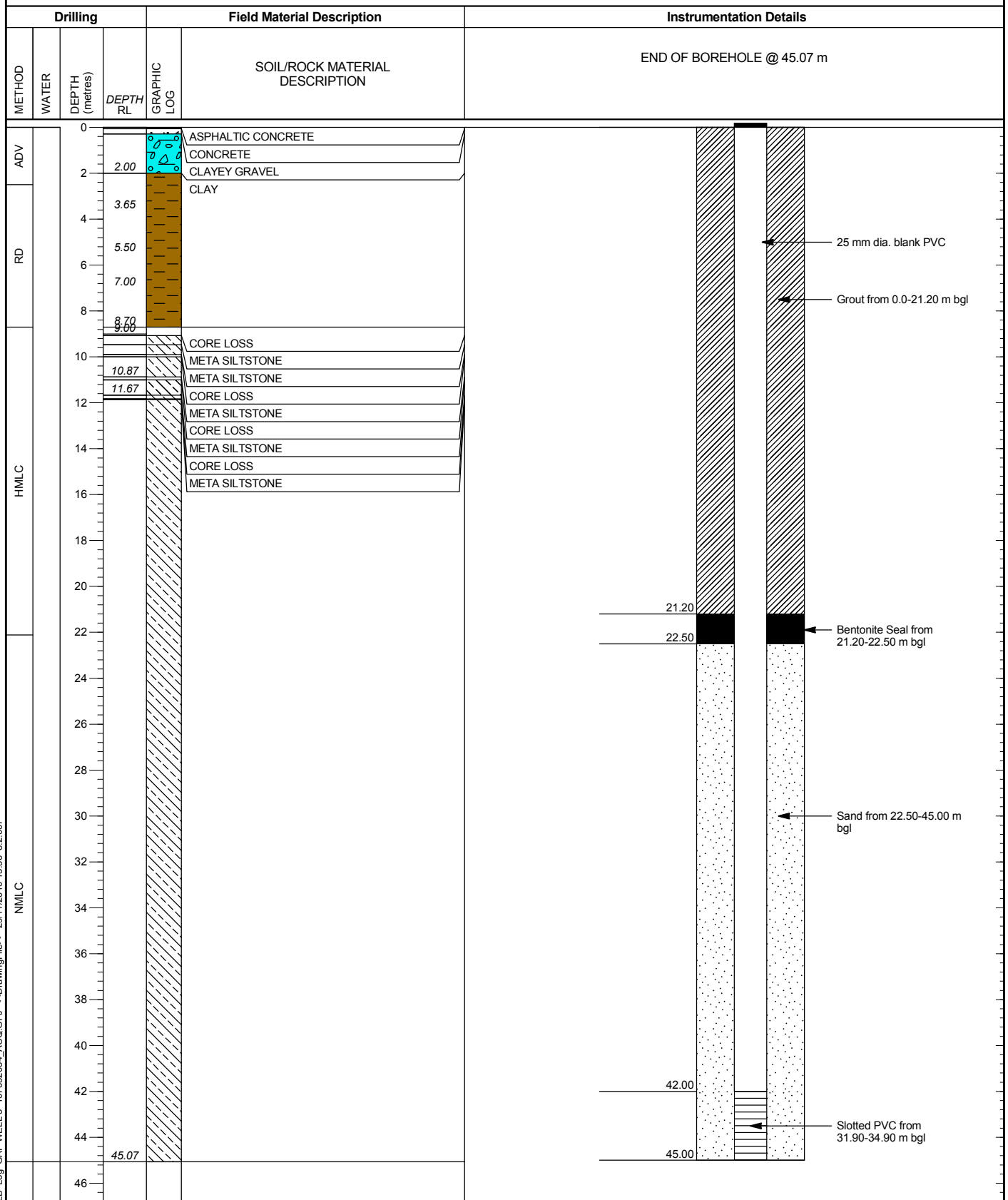
INCLINATION: -90°

LOGGED: MGM DATE: 10/8/10

JOB NO: 107632034

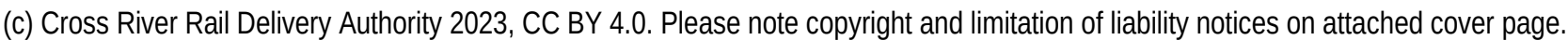
HOLE DEPTH: 45.07 m

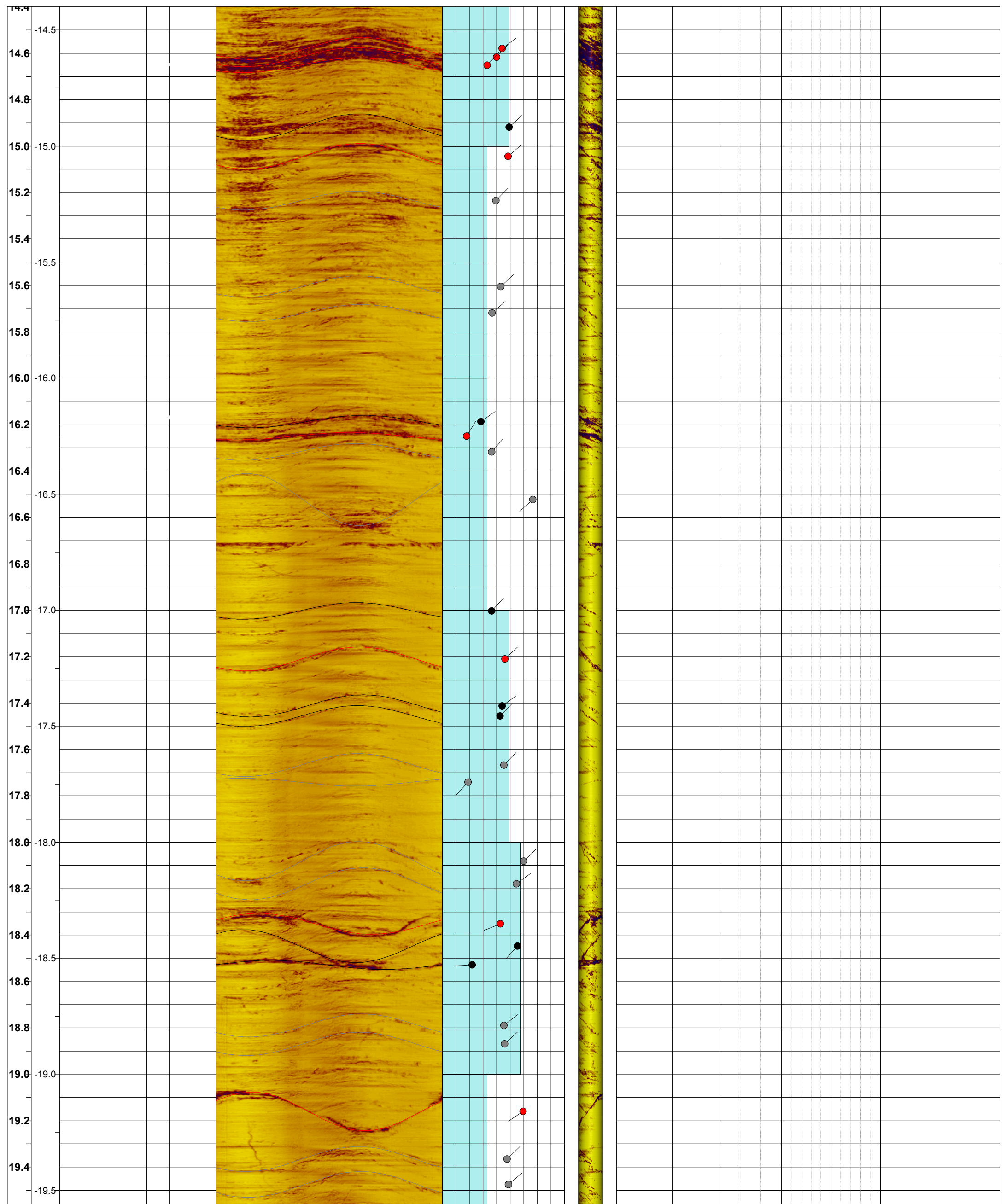
CHECKED: NK DATE: 18/10/10

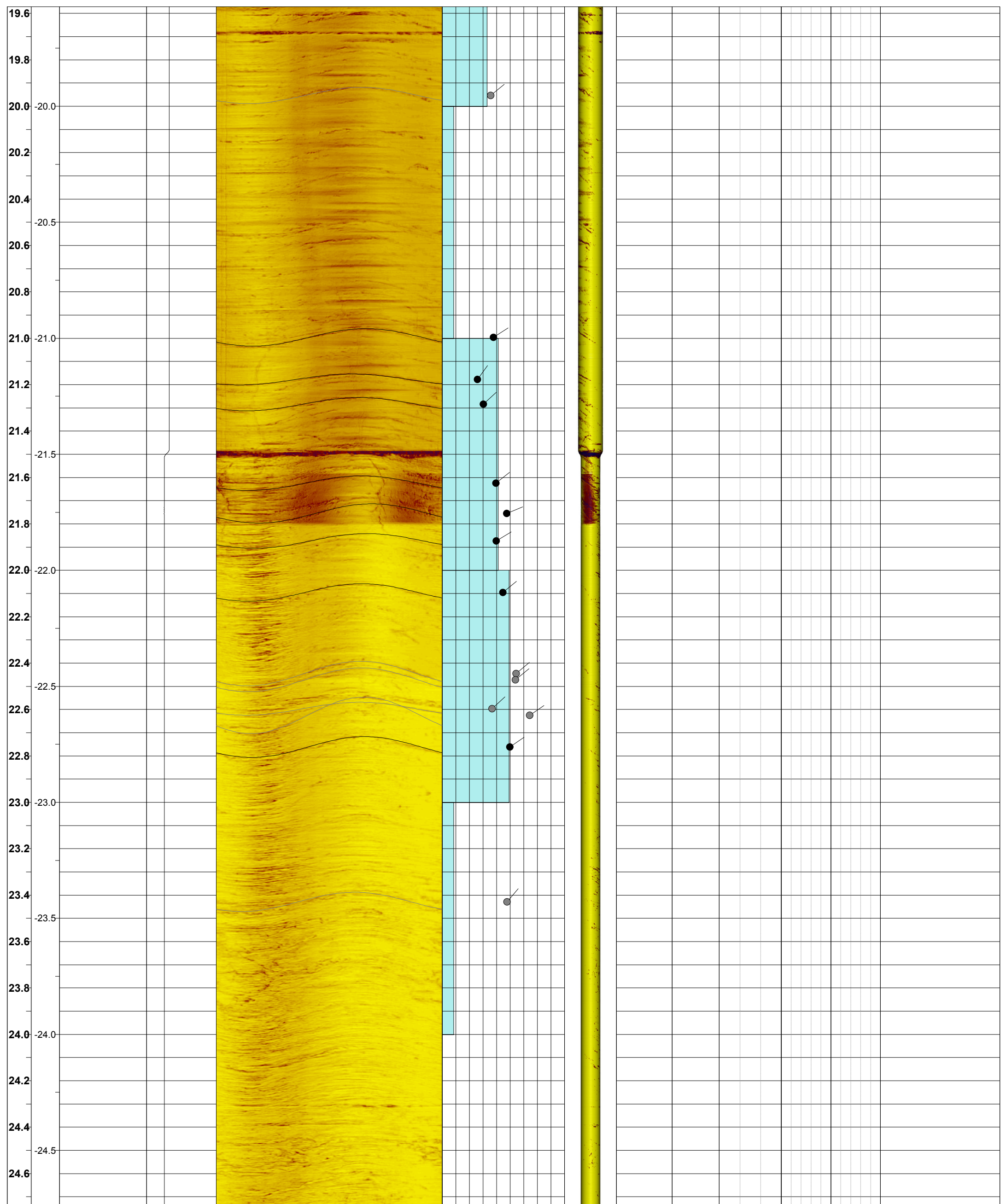


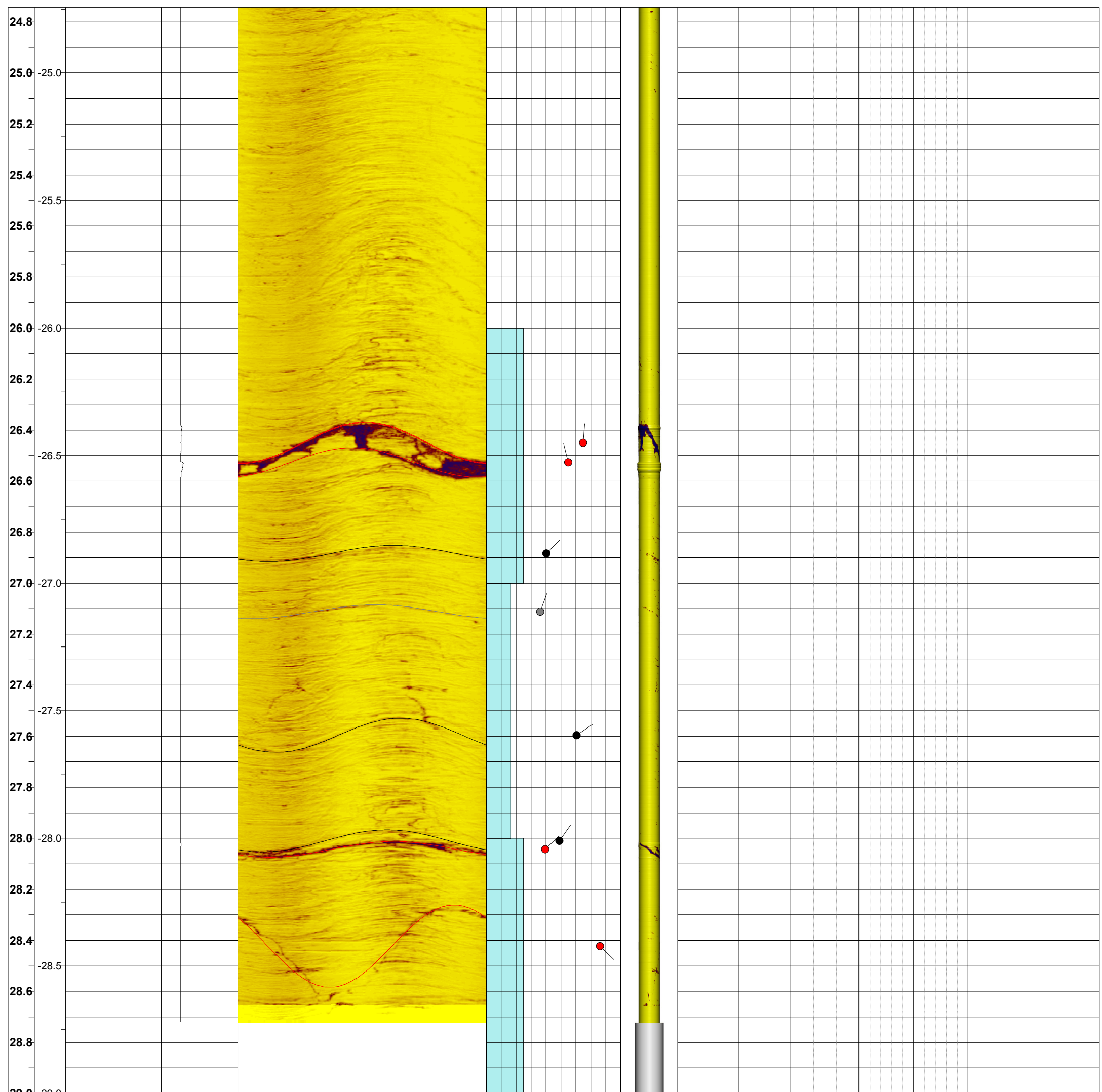
This report of standpipe installation must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily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

GAP gINT FN. F17
RL1

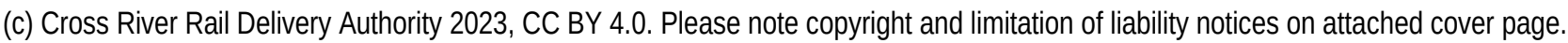


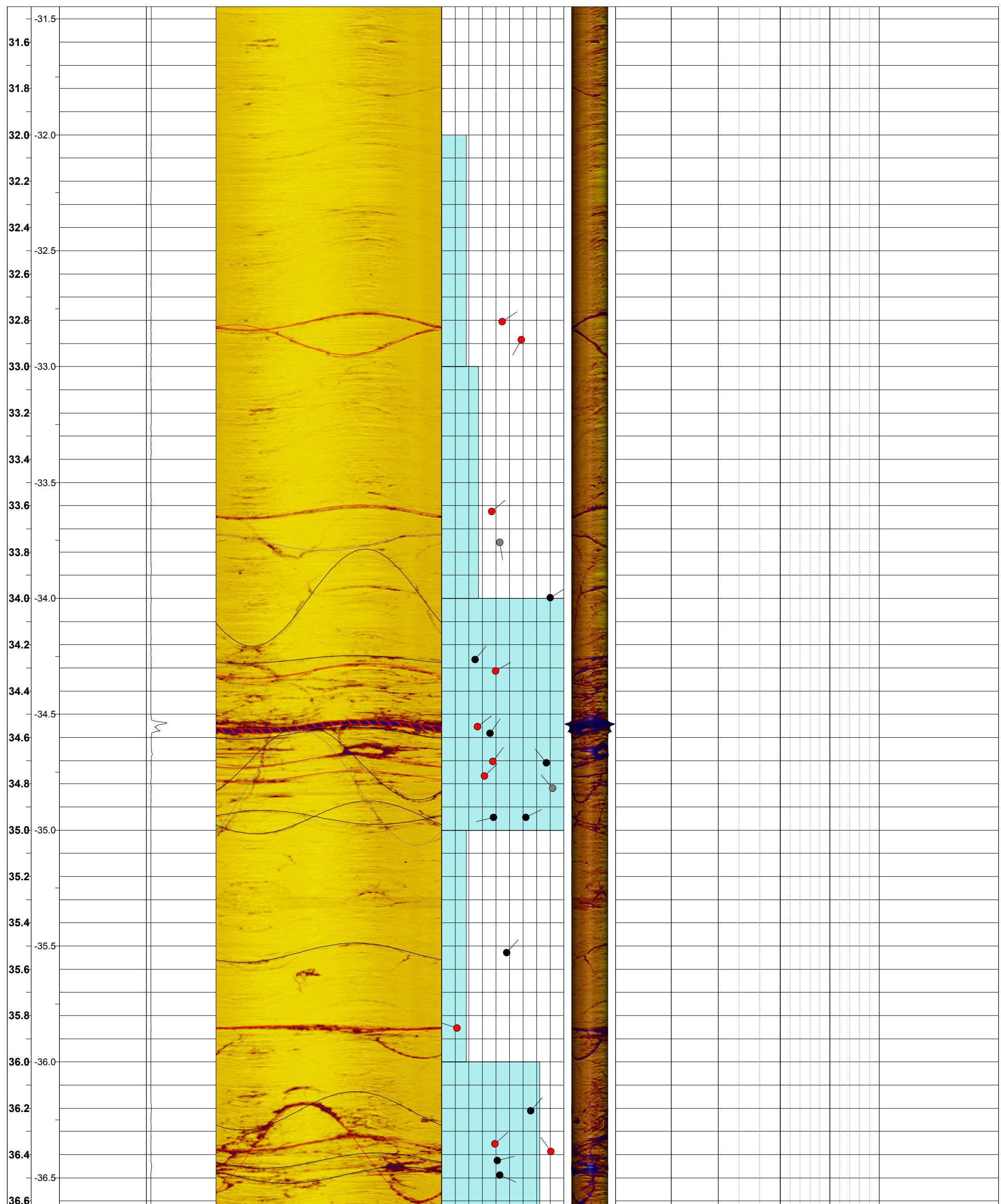


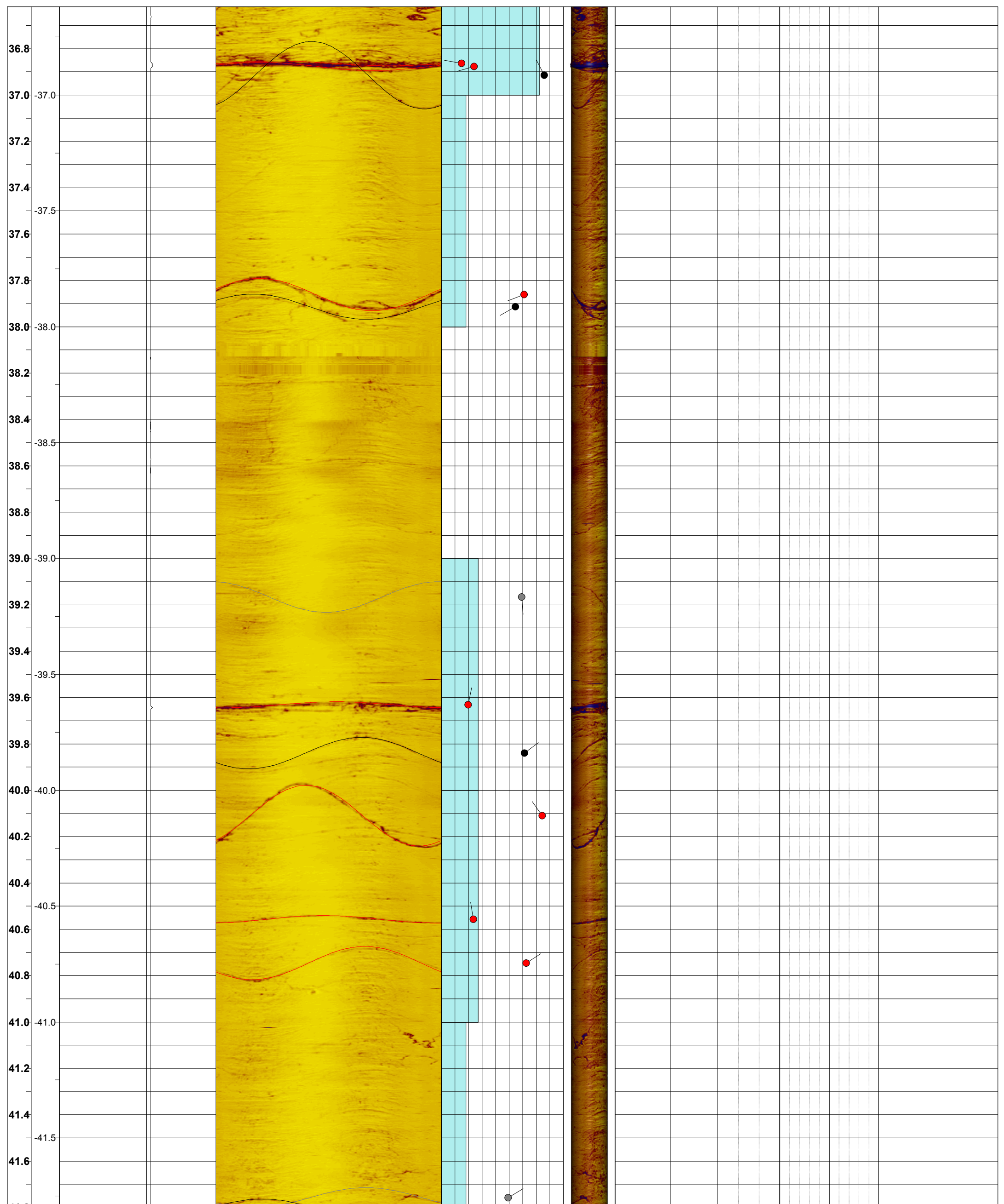


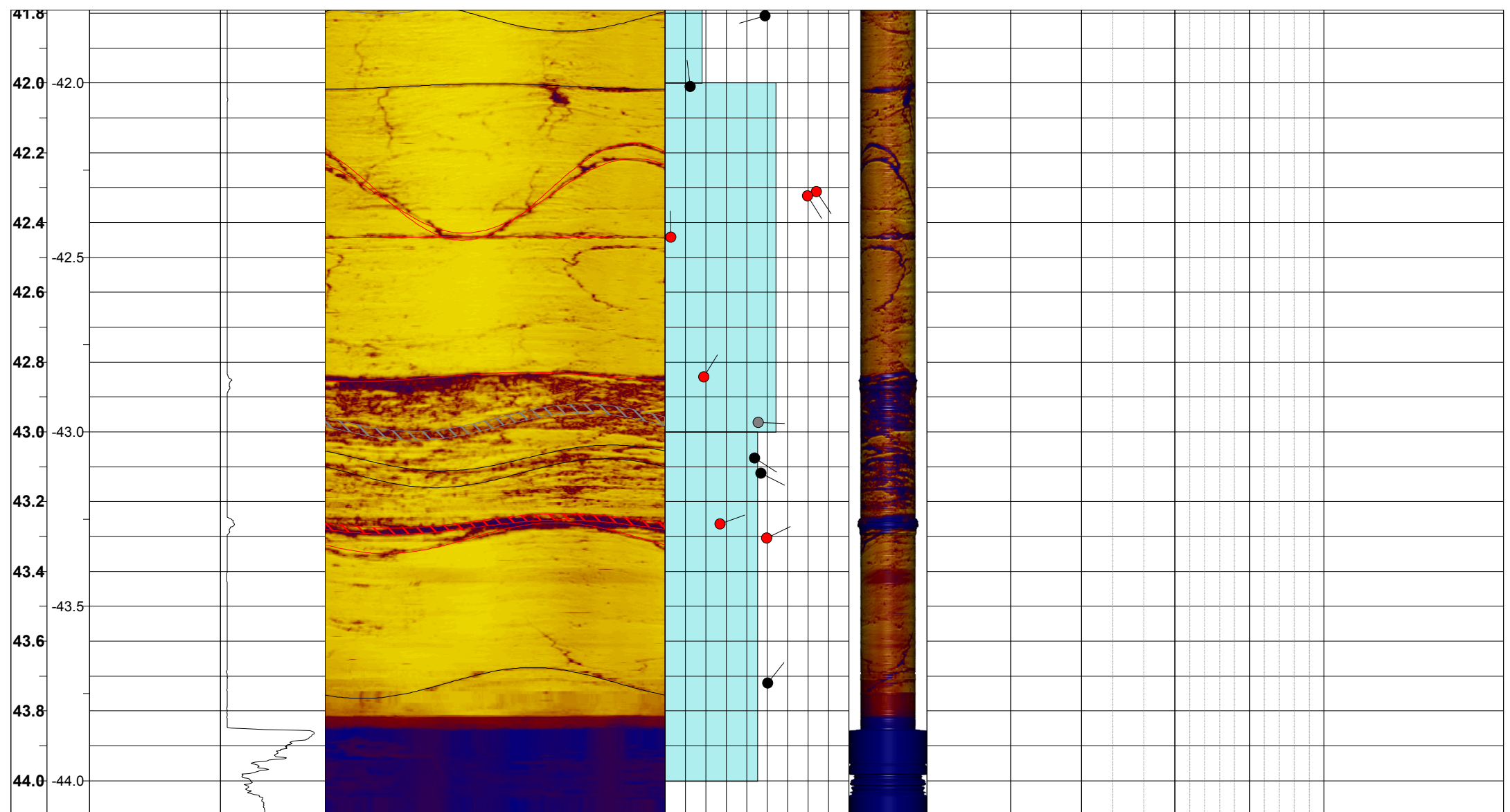


GA-BQ-291 RL1
Issued 31/03/10

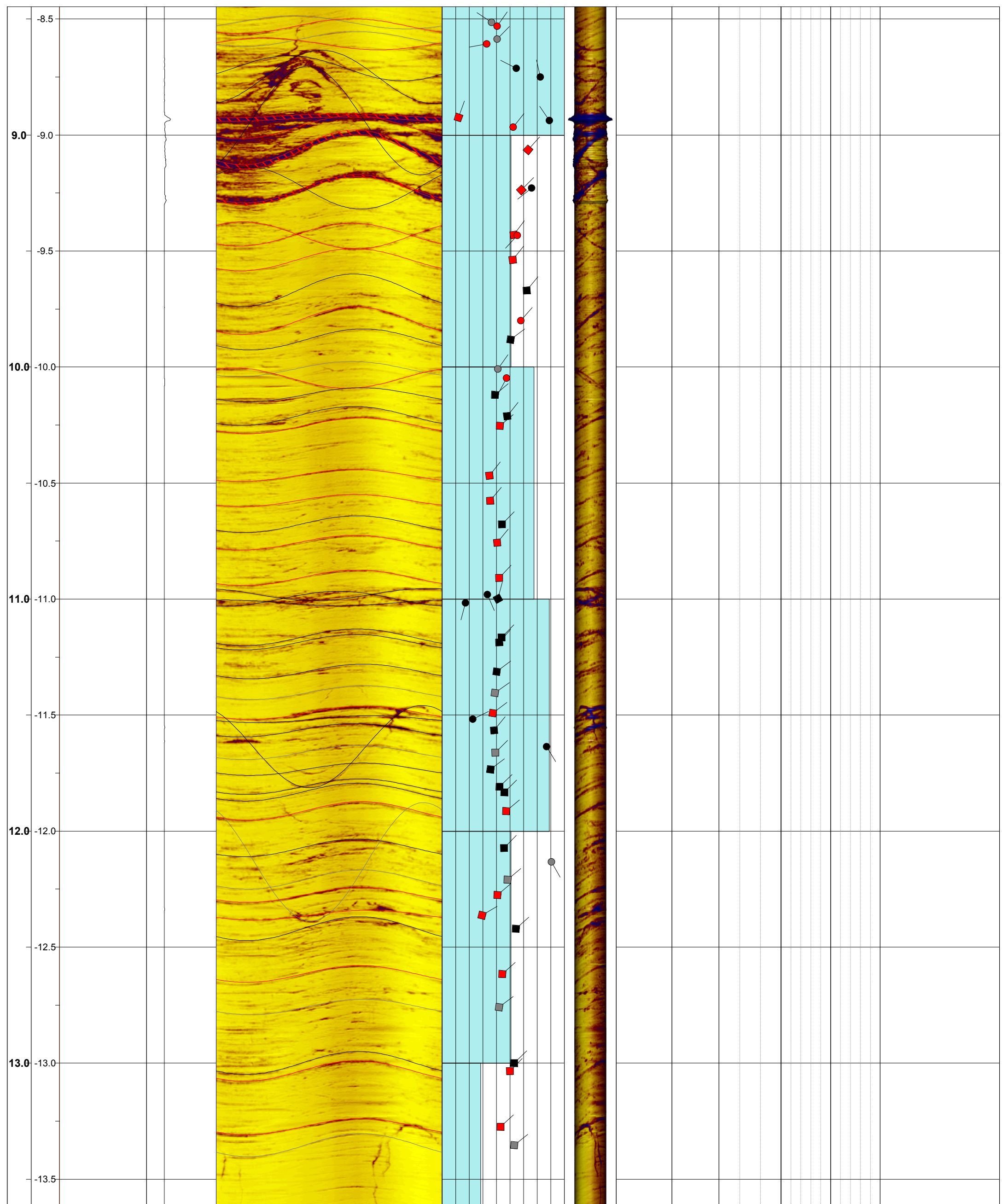


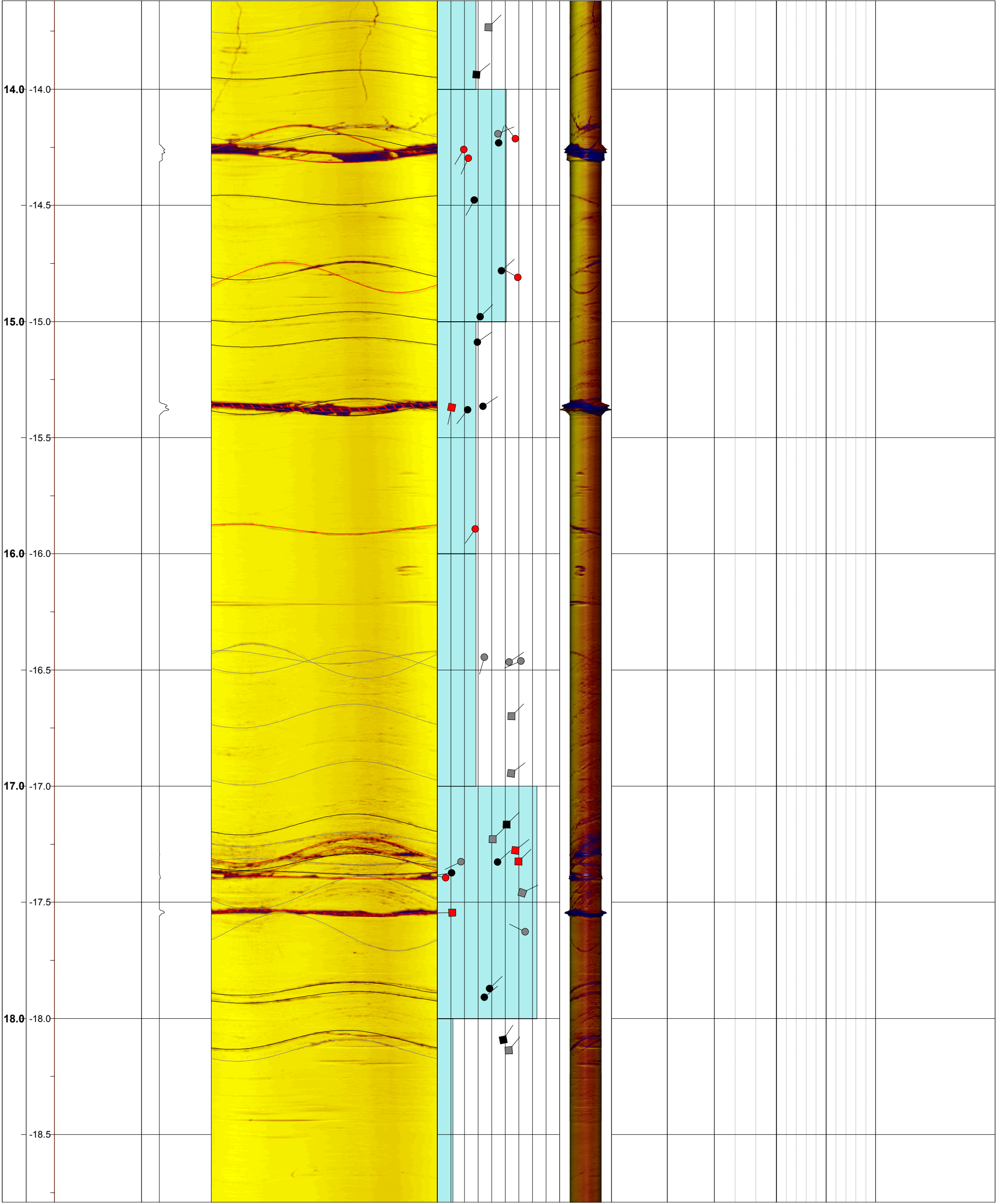


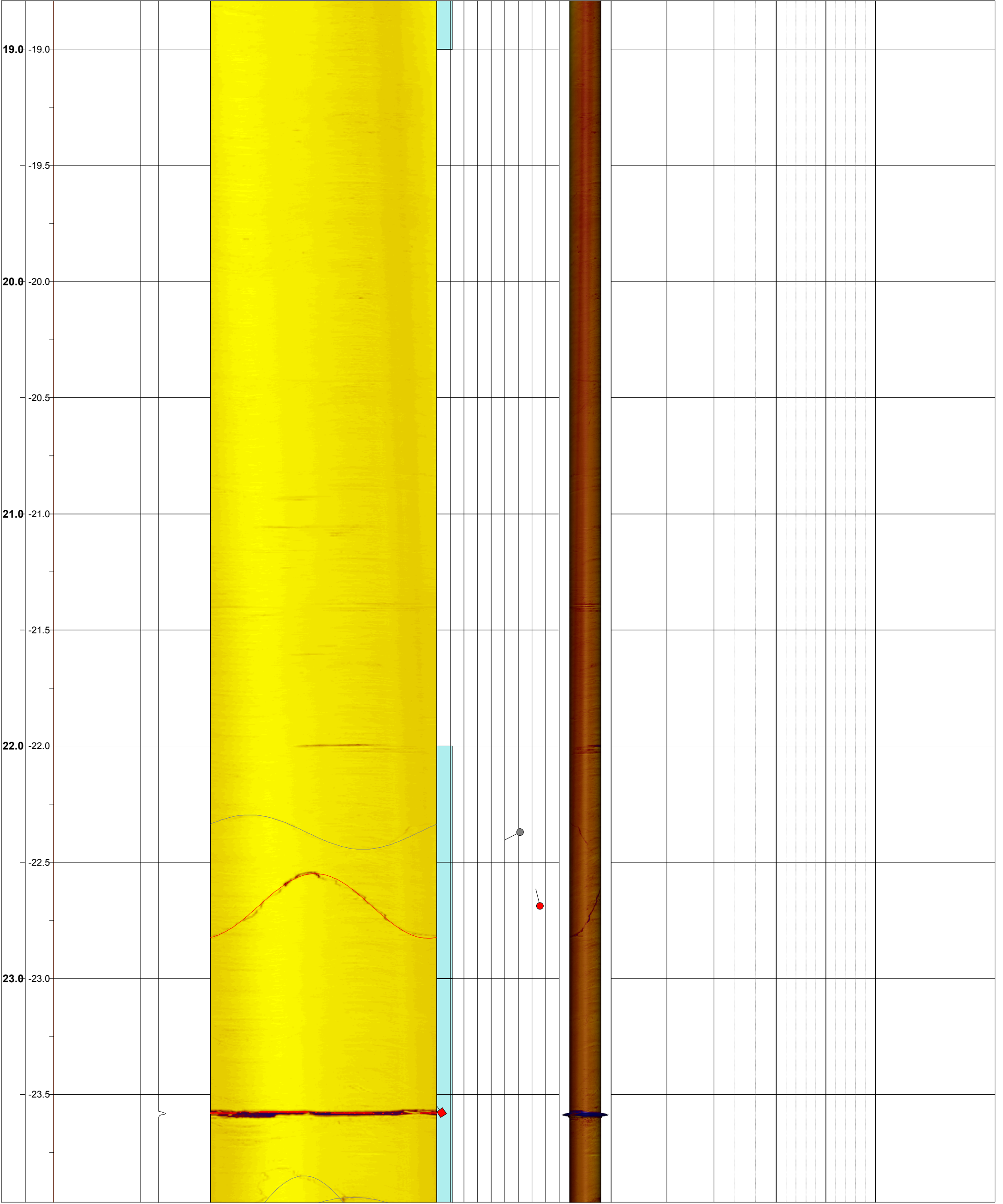


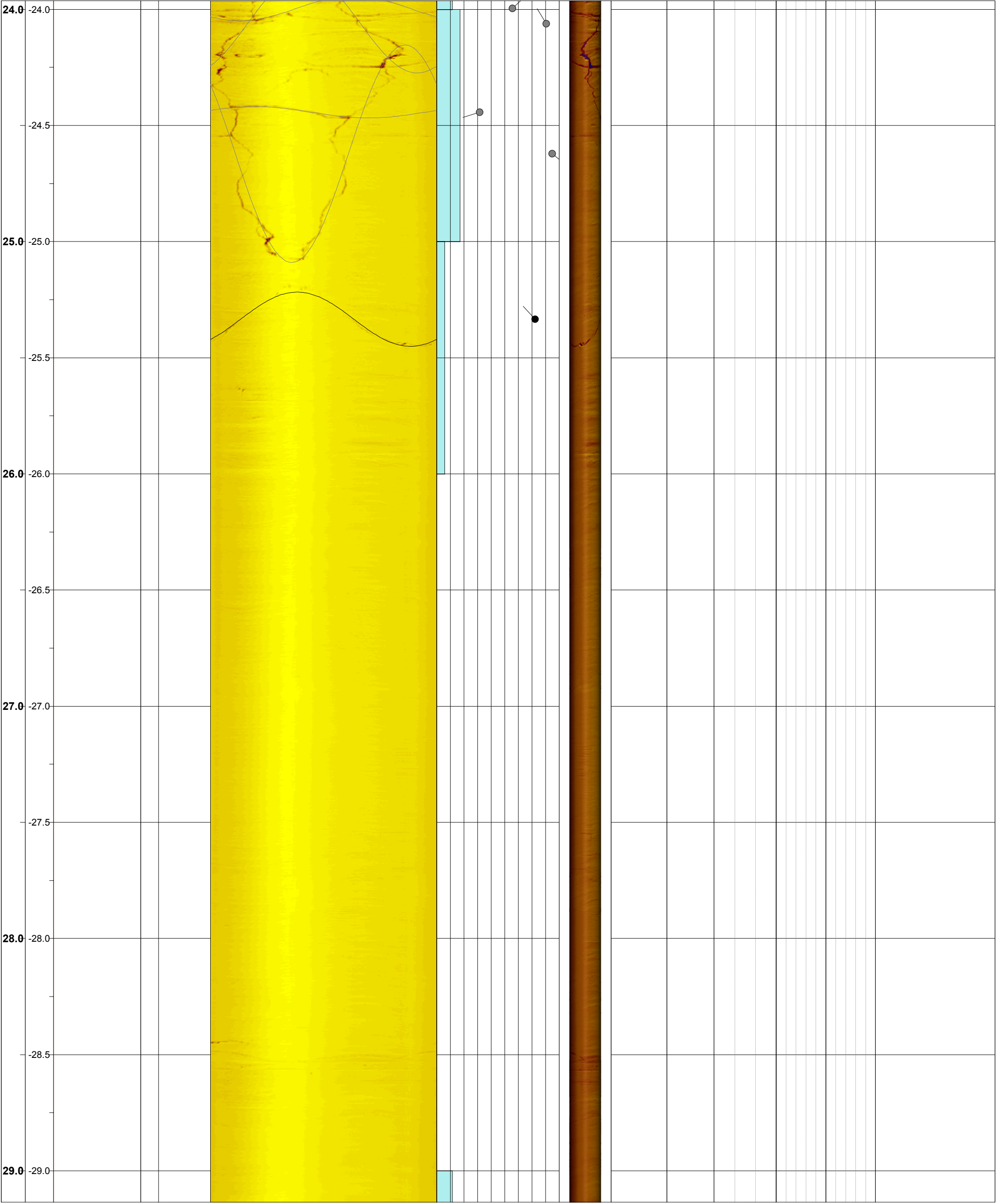


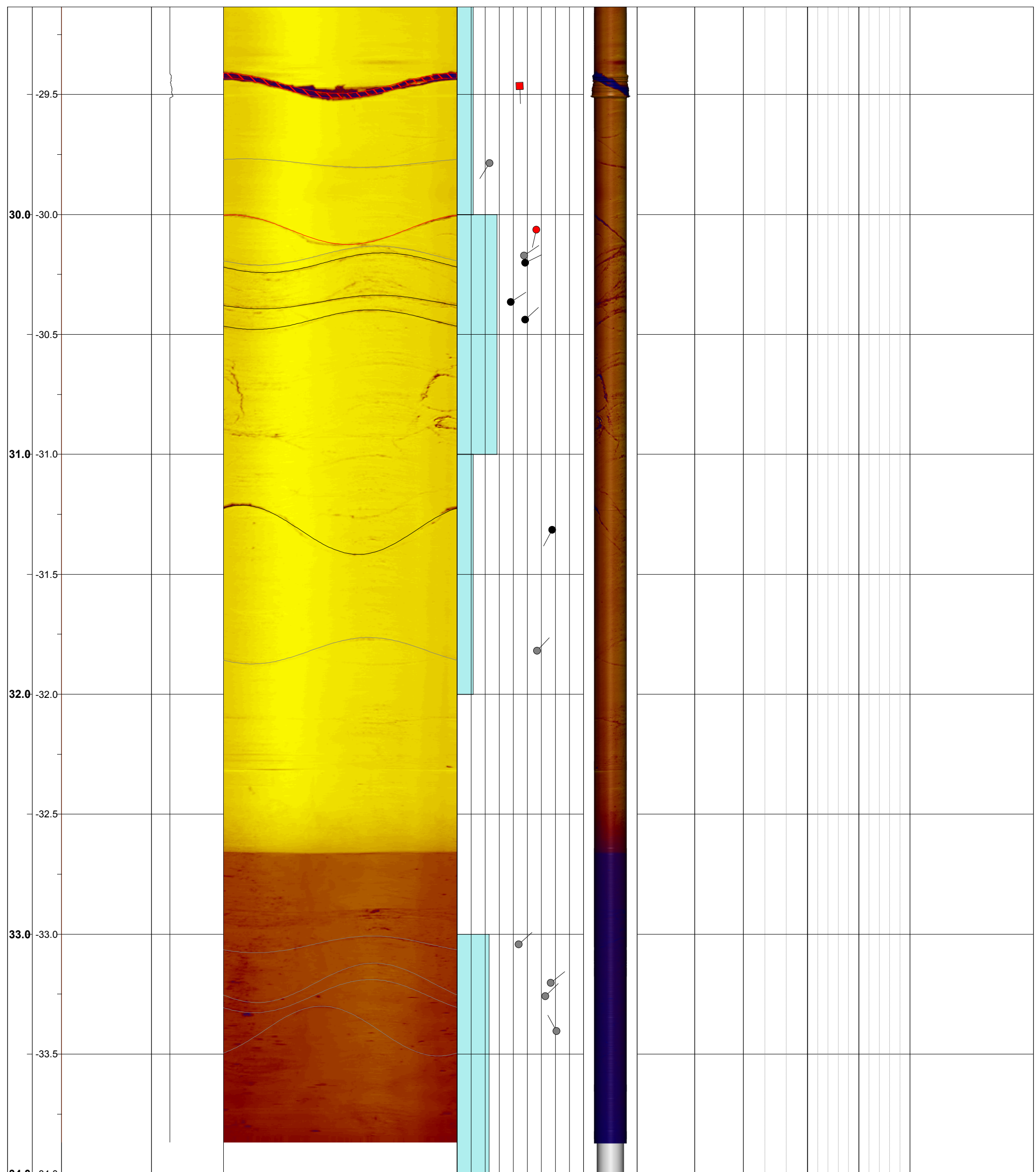
GA-BQ-291 RL1
Issued 31/03/10



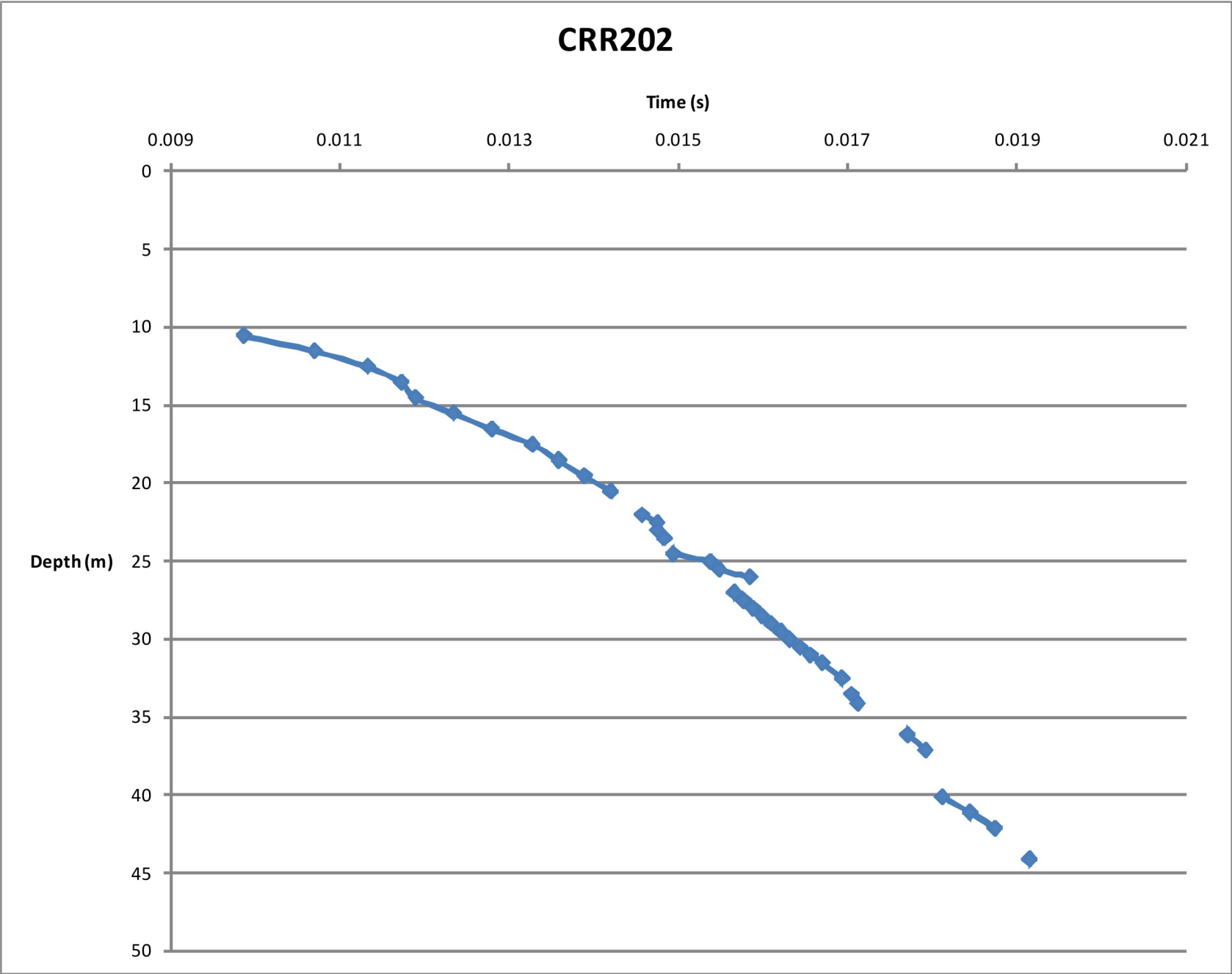








GA-BQ-291 RL1
Issued 31/03/10



Note:

* - 1st arrival not clear due to noise

Calculations done without accounting for borehole deviation

Geophone Depth (m)		Interval velocity (P wave m/s)
from	to	
10.6	11.6	1195
11.6	12.6	1581
12.6	13.6	2522
13.6	14.6	5982
14.6	15.6	2213
15.6	16.6	2215
16.6	17.6	2081
17.6	18.6	3268
18.6	19.6	3271
19.6	20.6	3158
20.6	21.1	*
21.1	22.1	*
22.1	22.6	2739
22.6	23.1	*
23.1	23.6	6366
23.6	24.1	*
24.1	24.6	*
24.6	25.1	1130
25.1	25.6	4787
25.6	26.1	1372
26.1	26.6	*
26.6	27.1	*
27.1	27.6	4537
27.6	28.1	4537
28.1	28.6	4538
28.6	29.1	4538
29.1	29.6	4539
29.6	30.1	4845
30.1	30.6	4067
30.6	31.1	4067
31.1	31.6	3566
31.6	32.6	4282
32.6	33.2	*
33.2	33.6	*
33.6	34.2	7666
34.2	35.2	*
35.2	36.2	*
36.2	37.2	4649
37.2	38.2	*
38.2	39.2	*
39.2	40.2	*
40.2	41.2	3095
41.2	42.2	3353
42.2	43.2	*
43.2	44.2	*



CLIENT Department of Transport and Main Roads		PROJECT Cross River Rail	
DRAWN GDK	DATE OCT 4	TITLE CRR202 VSP	
CHECKED TR	DATE		
SCALE NTS	PROJECT No 000-107632034	FIGURE No	REV No A3



WATER PRESSURE TEST

Job No. : 107632034 Hole No. : CRR202 Drilling Method : NMLC Vertical depth to Groundwater : Revision No : 12.00
Client : AECOM Dip (Deg) : -90 Hole Diameter (m) : 0.0757 Immediately prior to test (m bgl) :
Project : Cross River Rail Interval Top (m) : 23.00 Tested Length (m) : 6.00 Used in analysis (m bgl) :
Location : Interval Base (m) : 29.00 Packer Type : Mechanical - Non-Wireline - Single Pressure Gauge Height (m agl) : 1.70
Tested By : MGM Computed By : MGM Rock tested : Presumed Water Temperature : 25
Date : 10/08/2010 Date : 10/08/2010 Water Meter Reading in Litres Checked By : NK Casing Inner Diameter (mm) : 60.300
Date : 28/10/2010

Pressure Stage	Gauge Pressure kPa	No	Actual	Time	Water Meter Readings		Volume	Discharge	Discharge/m	Remarks	
			Time (h:m:s)	Intervals (min)	Reading (Litres)		(L)	(L/min)	(L/min/m)		
P1	55	0	0:00:00	0	0.40		0.00	0.00	0.00	c : 1	
		1	0:01:00	01:00	0.40		0.00	0.00	0.00		
		2	0:02:00	01:00	0.40		0.00	0.00	0.00		
		3	0:03:00	01:00	0.40		0.00	0.00	0.00		
		4	0:04:00	01:00	0.40		0.00	0.00	0.00		
		5	0:05:00	01:00	0.40		0.00	0.00	0.00		
		6	0:06:00	01:00	0.40		0.00	0.00	0.00		
		7	0:07:00	01:00	0.40		0.00	0.00	0.00		
		8	0:08:00	01:00	0.40		0.00	0.00	0.00		
		9	0:09:00	01:00	0.40		0.00	0.00	0.00		
		10	0:10:00	01:00	0.40		0.00	0.00	0.00		
		Total :						0.00	0.00		0.00
		Average:						0.000	0.000		0.000
P2	110	0	0:11:00	0	0.40		0.00	0.00	0.00	c : 1	
		1	0:12:00	01:00	0.40		0.00	0.00	0.00		
		2	0:13:00	01:00	0.40		0.00	0.00	0.00		
		3	0:14:00	01:00	0.40		0.00	0.00	0.00		
		4	0:15:00	01:00	0.40		0.00	0.00	0.00		
		5	0:16:00	01:00	0.40		0.00	0.00	0.00		
		6	0:17:00	01:00	0.40		0.00	0.00	0.00		
		7	0:18:00	01:00	0.40		0.00	0.00	0.00		
		8	0:19:00	01:00	0.40		0.00	0.00	0.00		
		9	0:20:00	01:00	0.40		0.00	0.00	0.00		
		10	0:21:00	01:00	0.40		0.00	0.00	0.00		
		Total :						0.00	0.00		0.00
		Average:						0.000	0.000		0.000
P3	165	0	0:22:00	0	0.40		0.00	0.00	0.00	c : 1	
		1	0:23:00	01:00	0.40		0.00	0.00	0.00		
		2	0:24:00	01:00	0.40		0.00	0.00	0.00		
		3	0:25:00	01:00	0.40		0.00	0.00	0.00		
		4	0:26:00	01:00	0.40		0.00	0.00	0.00		
		5	0:27:00	01:00	0.40		0.00	0.00	0.00		
		6	0:28:00	01:00	0.40		0.00	0.00	0.00		
		7	0:29:00	01:00	0.40		0.00	0.00	0.00		
		8	0:30:00	01:00	0.40		0.00	0.00	0.00		
		9	0:31:00	01:00	0.40		0.00	0.00	0.00		
		10	0:32:00	01:00	0.40		0.00	0.00	0.00		
		Total :						0.00	0.00		0.00
		Average:						0.000	0.000		0.000
P4	110	0	0:33:00	0	0.40		0.00	0.00	0.00	c : 1	
		1	0:34:00	01:00	0.40		0.00	0.00	0.00		
		2	0:35:00	01:00	0.40		0.00	0.00	0.00		
		3	0:36:00	01:00	0.40		0.00	0.00	0.00		
		4	0:37:00	01:00	0.40		0.00	0.00	0.00		
		5	0:38:00	01:00	0.40		0.00	0.00	0.00		
		6	0:39:00	01:00	0.40		0.00	0.00	0.00		
		7	0:40:00	01:00	0.40		0.00	0.00	0.00		
		8	0:41:00	01:00	0.40		0.00	0.00	0.00		
		9	0:42:00	01:00	0.40		0.00	0.00	0.00		
		10	0:43:00	01:00	0.40		0.00	0.00	0.00		
		Total :						0.00	0.00		0.00
		Average:						0.000	0.000		0.000
P5	55	1	0:44:00	0	0.40		0.00	0.00	0.00	c : 1	
		2	0:45:00	01:00	0.40		0.00	0.00	0.00		
		3	0:46:00	01:00	0.40		0.00	0.00	0.00		
		4	0:47:00	01:00	0.40		0.00	0.00	0.00		
		5	0:48:00	01:00	0.40		0.00	0.00	0.00		
		6	0:49:00	01:00	0.40		0.00	0.00	0.00		
		7	0:50:00	01:00	0.40		0.00	0.00	0.00		
		8	0:51:00	01:00	0.40		0.00	0.00	0.00		
		9	0:52:00	01:00	0.40		0.00	0.00	0.00		
		10	0:53:00	01:00	0.40		0.00	0.00	0.00		
		11	0:54:00	01:00	0.40		0.00	0.00	0.00		
		Total :						0.00	0.00		0.00
		Average:						0.000	0.000		0.000

TEST RESULTS

Stage No.	Houlsby (1976) Value	Lugeon Value Curve	Nett Pressures	Pressure Vs Flow	Interpreted Result & Hydraulic Conductivity
P1	0.0		71.7		H _{LOSS} 0.00 kPa
P2	0.0		126.7		Stage No. Average
P3	0.0		181.7		Gauge Pressure 99 kPa
P4	0.0		126.7		Q 0.00 L/min
P5	0.0		71.7		H 11.8 m
Houlsby (1976) method - no pressure corrections for Hf (head losses), nor is the pressure corrected for Hg (location of watertable).					Interpreted Result 0 uL
					Reported k at Stage Average
					Analytical Method 1: (ref = Golder geotechnical field notes draft 1997) $k = Q/H \times 6.10889 \times 10^{-6} \times (\log(2L/D))/L$
					k = 0.0E+00 m/s
					Analytical Method 2: (ref = Sharp, J.C 1975 Pit Slope Manual, CANMET report) $k = 1/(2L \times 3.14) \times (Q/H) \ln(R/r)$ m/s (convert L/min to m/s). Assume R = radius of influence of 100m & r = radius of borehole.
Flow Type	LOW PERMEABILITY	COMMENTS	No Flow		k = 0.0E+00 m/s



WATER PRESSURE TEST

Job No. : 107632034 Hole No. : CRR202 Drilling Method : NMLC Vertical depth to Groundwater : Revision No : 12.00
Client : AECOM Dip (Deg) : -90 Hole Diameter (m) : 0.0757 Immediately prior to test (m bgl) :
Project : Cross River Rail Interval Top (m) : 29.00 Tested Length (m) : 6.00 Used in analysis (m bgl) :
Location : Interval Base (m) : 35.00 Packer Type : Mechanical - Non-Wireline - Single Pressure Gauge Height (m agl) : 1.70
Tested By : MGM Computed By : MGM Rock tested : Presumed Water Temperature : 25
Date : 10/08/2010 Date : 10/08/2010 Water Meter Reading in Litres Checked By : NK Casing Inner Diameter (mm) : 60.300
Date : 28/10/2010

Pressure Stage	Gauge Pressure kPa	No	Actual	Time	Water Meter Readings		Volume (L)	Discharge (L/min)	Discharge/m (L/min/m)	Remarks
			Time (h:m:s)	Intervals (min)	Reading (Litres)					
P1	72	0	0:00:00	0	0.40		0.00	0.00	0.00	c : 1
		1	0:01:00	01:00	0.40		0.00	0.00	0.00	
		2	0:02:00	01:00	0.40		0.00	0.00	0.00	
		3	0:03:00	01:00	0.40		0.00	0.00	0.00	
		4	0:04:00	01:00	0.40		0.00	0.00	0.00	
		5	0:05:00	01:00	0.40		0.00	0.00	0.00	
		6	0:06:00	01:00	0.40		0.00	0.00	0.00	
		7	0:07:00	01:00	0.40		0.00	0.00	0.00	
		8	0:08:00	01:00	0.40		0.00	0.00	0.00	
		9	0:09:00	01:00	0.40		0.00	0.00	0.00	
		10	0:10:00	01:00	0.40		0.00	0.00	0.00	
		Total : Average:						0.00	0.000	
P2	145	0	0:11:00	0	0.40		0.00	0.00	0.00	c : 1
		1	0:12:00	01:00	0.40		0.00	0.00	0.00	
		2	0:13:00	01:00	0.40		0.00	0.00	0.00	
		3	0:14:00	01:00	0.40		0.00	0.00	0.00	
		4	0:15:00	01:00	0.40		0.00	0.00	0.00	
		5	0:16:00	01:00	0.40		0.00	0.00	0.00	
		6	0:17:00	01:00	0.40		0.00	0.00	0.00	
		7	0:18:00	01:00	0.40		0.00	0.00	0.00	
		8	0:19:00	01:00	0.40		0.00	0.00	0.00	
		9	0:20:00	01:00	0.40		0.00	0.00	0.00	
		10	0:21:00	01:00	0.40		0.00	0.00	0.00	
		Total : Average:						0.00	0.000	
P3	218	0	0:22:00	0	0.40		0.00	0.00	0.00	c : 1
		1	0:23:00	01:00	0.40		0.00	0.00	0.00	
		2	0:24:00	01:00	0.40		0.00	0.00	0.00	
		3	0:25:00	01:00	0.40		0.00	0.00	0.00	
		4	0:26:00	01:00	0.40		0.00	0.00	0.00	
		5	0:27:00	01:00	0.40		0.00	0.00	0.00	
		6	0:28:00	01:00	0.40		0.00	0.00	0.00	
		7	0:29:00	01:00	0.40		0.00	0.00	0.00	
		8	0:30:00	01:00	0.40		0.00	0.00	0.00	
		9	0:31:00	01:00	0.40		0.00	0.00	0.00	
		10	0:32:00	01:00	0.40		0.00	0.00	0.00	
		Total : Average:						0.00	0.000	
P4	145	0	0:33:00	0	0.40		0.00	0.00	0.00	c : 1
		1	0:34:00	01:00	0.40		0.00	0.00	0.00	
		2	0:35:00	01:00	0.40		0.00	0.00	0.00	
		3	0:36:00	01:00	0.40		0.00	0.00	0.00	
		4	0:37:00	01:00	0.40		0.00	0.00	0.00	
		5	0:38:00	01:00	0.40		0.00	0.00	0.00	
		6	0:39:00	01:00	0.40		0.00	0.00	0.00	
		7	0:40:00	01:00	0.40		0.00	0.00	0.00	
		8	0:41:00	01:00	0.40		0.00	0.00	0.00	
		9	0:42:00	01:00	0.40		0.00	0.00	0.00	
		10	0:43:00	01:00	0.40		0.00	0.00	0.00	
		Total : Average:						0.00	0.000	
P5	72	1	0:44:00	0	0.40		0.00	0.00	0.00	c : 1
		2	0:45:00	01:00	0.40		0.00	0.00	0.00	
		3	0:46:00	01:00	0.40		0.00	0.00	0.00	
		4	0:47:00	01:00	0.40		0.00	0.00	0.00	
		5	0:48:00	01:00	0.40		0.00	0.00	0.00	
		6	0:49:00	01:00	0.40		0.00	0.00	0.00	
		7	0:50:00	01:00	0.40		0.00	0.00	0.00	
		8	0:51:00	01:00	0.40		0.00	0.00	0.00	
		9	0:52:00	01:00	0.40		0.00	0.00	0.00	
		10	0:53:00	01:00	0.40		0.00	0.00	0.00	
		11	0:54:00	01:00	0.40		0.00	0.00	0.00	
		Total : Average:						0.00	0.000	

TEST RESULTS

Stage No.	Houlsby (1976) Value	Lugeon Value Curve	Nett Pressures	Pressure Vs Flow	Interpreted Result & Hydraulic Conductivity
P1	0.0		88.7		H _{LOSS} 0.00 kPa
P2	0.0		161.7		Stage No. Average
P3	0.0		234.7		Gauge Pressure 130 kPa
P4	0.0		161.7		Q 0.00 L/min
P5	0.0		88.7		H 15.0 m
Houlsby (1976) method - no pressure corrections for Hf (head losses), nor is the pressure corrected for Hg (location of watertable).					Interpreted Result 0 uL
					Reported k at Stage Average
					Analytical Method 1: (ref = Golder geotechnical field notes draft 1997) $k = Q/H \times 6.10889 \times 10^{-6} \times (\log(2L/D))/L$
					k = 0.0E+00 m/s
					Analytical Method 2: (ref = Sharp, J.C 1975 Pit Slope Manual, CANMET report) $k = 1/(2L \times 3.14) \times (Q/H) \ln(R/r)$ m/s (convert L/min to m/s). Assume R = radius of influence of 100m & r = radius of borehole.
Flow Type	LOW PERMEABILITY	COMMENTS	No Flow		k = 0.0E+00 m/s