Annual Report 2013 – 2014 for EL65/2007

APPENDIX 1

Assay Results W69 – W71 (2013)

ALS Coal

EL65/2007 ASSAYS JANUARY 2014 — **RESULTS**

Hole	W69_ & W71	**Job No:**	21013930		**Date:**	7/01/2014											
														All results reported to air dried basis unless noted			
						Nominal Core Diameter 61mm								**PROXIMATE ANALYSIS**			
Client Description	**Client Sample**	**Hole Number**	**Secondary Description**	**Ply Number**	**From m**	**To m**	**Length m**	**Mass kg**	**Recovery %**			**Relative Density**		**Moisture %**	**Ash %**	**Volatile %**	**Fixed Carbon %**
	Sample 1	W 69	w shop scoop plugs		8.00	9.00	1.00	5.33	94.5			1.93		5.8	58.8	12.8	22.6
	Sample 2	W 69	w shop scoop plugs		38.00	39.00	1.00	9.90	144.7			2.34		2.5	78.6	6.9	12.0
	Sample 3	W 70	w shop scoop plugs		10.00	11.00	1.00	4.92	75.1			2.24		4.2	81.1	7.3	7.4
	Sample 4	W 70	w shop scoop plugs		17.00	18.00	1.00	6.60	132.0			1.71		5.3	44.0	15.2	35.5
	Sample 5	W 71	w shop scoop plugs		13.00	14.00	1.00	0.39	4.9			2.72		0.6	95.1	1.8	2.5
	Sample 6	W 71	w shop scoop plugs		56.00	57.00	1.00	1.03	14.0			2.51		1.0	92.5	2.9	3.6
	Sample 7	W 71	w shop scoop plugs		57.00	58.00	1.00	1.06	14.3			2.53		1.5	90.0	3.8	4.7
	Sample 8	W 71	w shop scoop plugs		58.00	59.00	1.00	0.81	12.3			2.25		2.6	77.4	4.7	15.3

Annual Report 2013 – 2014 for EL65/2007

APPENDIX 2

Significant coal intercepts W73 – W86 (2014)

Woodbury Coal Intersections ; 0.15m or greater in thickness - page 1

Hole No.	From	To	Thickness
W73	66.55	66.73	0.18
W74	24.36	25.2	0.84
W75	26.21	26.9	0.48
	27	27.4	0.4
	27.76	28.17	0.41
	28.27	29.15	0.88
	63.41	63.59	0.18
	64.21	65.24	1.03
	66.71	67.35	0.64
	95.45	96.14	0.69
	108.26	108.48	0.22
W76	17	19	chip sample
	58	63	chip sample
	93	96	chip sample
	114	118	chip sample
W77	38	40	chip sample
	42	44	chip sample
	58	59	chip sample
	61	62	chip sample
W78	48	50	chip sample
	51	52	chip sample
	72	73	chip sample
	79	81	chip sample
	94	95	chip sample
	98	100	chip sample
	105	107	chip sample
	123	127	chip sample
W79/W79A	11.74	13	1.26
	15.28	15.93	0.65
	41.94	42.16	0.22
	63.99	65.92	1.93
	67.76	68.05	0.29
	88.08	88.69	0.61
	88.84	89.1	0.26
	89.44	90.07	0.63
	99.85	100.1	0.25

Woodbury Coal Intersections ; 0.15m or greater in thickness - page 2

W80	5	6	chip sample
	21	22	chip sample
	42.56	43.12	0.44
	49.14	50.11	0.97
	53.7	53.99	0.29
	82.14	82.8	0.66
	94.91	95.47	0.56
	99.12	99.83	0.71
W81/W81A	29.96	30.4	0.44
W82	50.02	50.71	0.69
	52.62	52.98	0.36
	103.55	104.24	0.69
	105.06	106.18	1.12
	107.95	108.25	0.3
	125.19	127.56	2.37
	133.72	134.08	0.36
	143.12	143.39	0.27
W83	26.42	27.4	0.98
W84	33.32	33.47	0.15
	35.46	35.75	0.29
	50.63	52.66	2.03
	52.78	52.94	0.16
	53.68	54.05	0.37
	64.54	64.94	0.4
W85	5	5.52	0.52
	7.4	7.8	0.4
	39.32	39.5	0.18
	40.02	40.73	0.71
W86	33.32	34.67	1.35
	38.35	38.72	0.37
	58.32	58.57	0.25
	59.53	59.85	0.32
	83.63	85.47	1.84
	86.83	86.98	0.15

Annual Report 2013 – 2014 for EL 65/2007

APPENDIX 3

Geophysical Logs W73 – W86 (2014)

ENERGY INVESTMENTS

W74

Formation Density

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	65/2007 TUNBRIDGE
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	MGA55
COORD	GDA94
EASTING	537763
NORTHING	5331762
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

Tool was run within 65mm PVC - hence no caliper information.
Caution for use of absolute density values given that the tool was run within PVC casing

HOLE ATTRIBUTES

DATE	20/06/2014
FLUID LEVEL	m
FLUID TYPE	WATER
DRILLED DEPTH	93.3 m
DATUM	GL
DRILLING COMPANY	KMR DRILLING
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
PER	130mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	65mm	0	TD

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	91.45 m
INT LOGGED	0-91.45 m

LOGGING RUNS

TOOL	ID	START	FINISH
FDS	817	91.45	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^3*1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

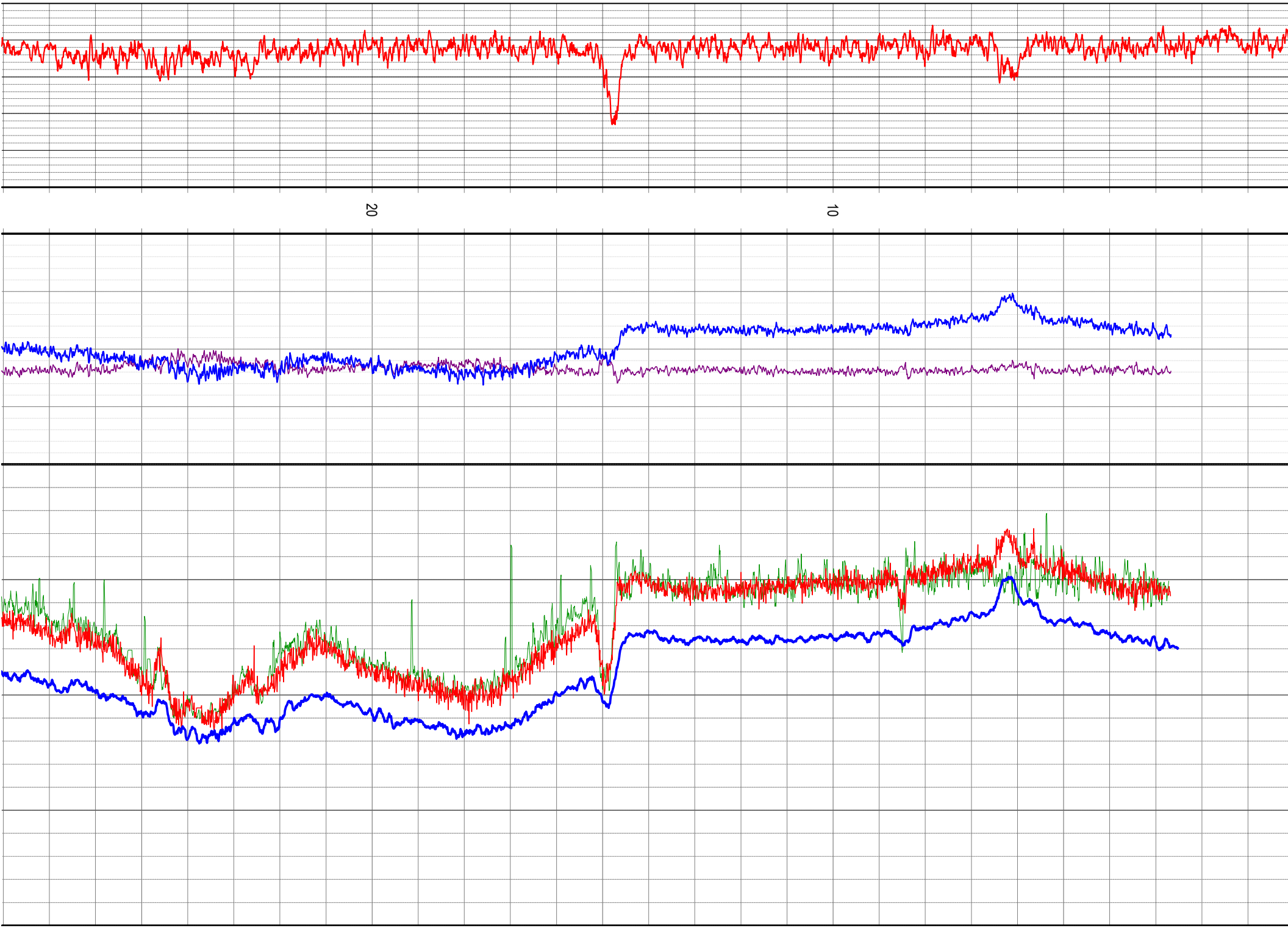
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN			Depth	DRHOB			BRD		
Natural Gamma			1:100	Differential Density			Bed Resolution Density		
0	API	250		-0.4	G/CC	0.4	1	G/CC	3
				RHOB			SSD		
				Bulk Density			Short Spaced Density		
				1	G/CC	3	1	G/CC	3
							LSD		
							Long Spaced Density		
							1	G/CC	3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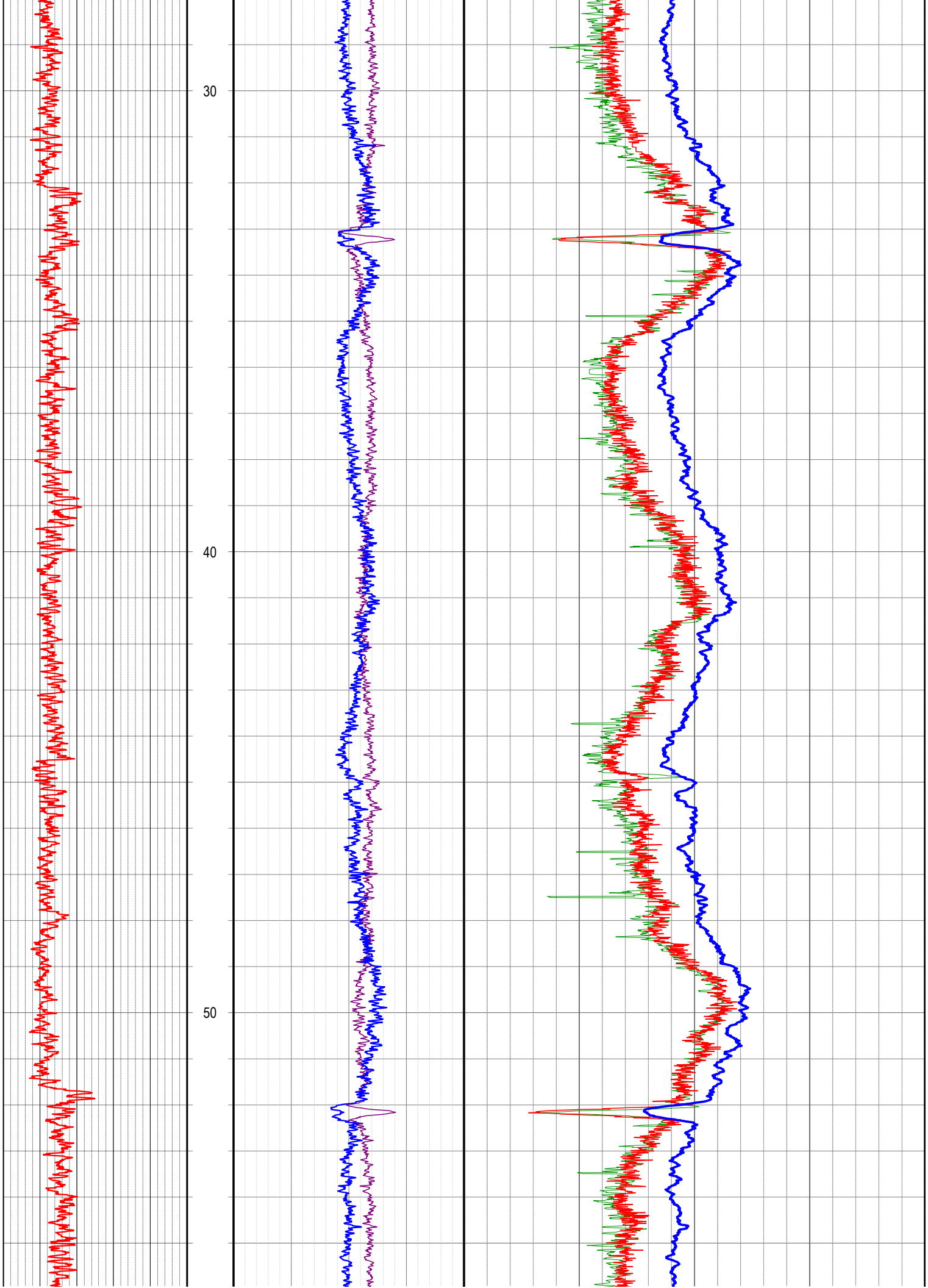
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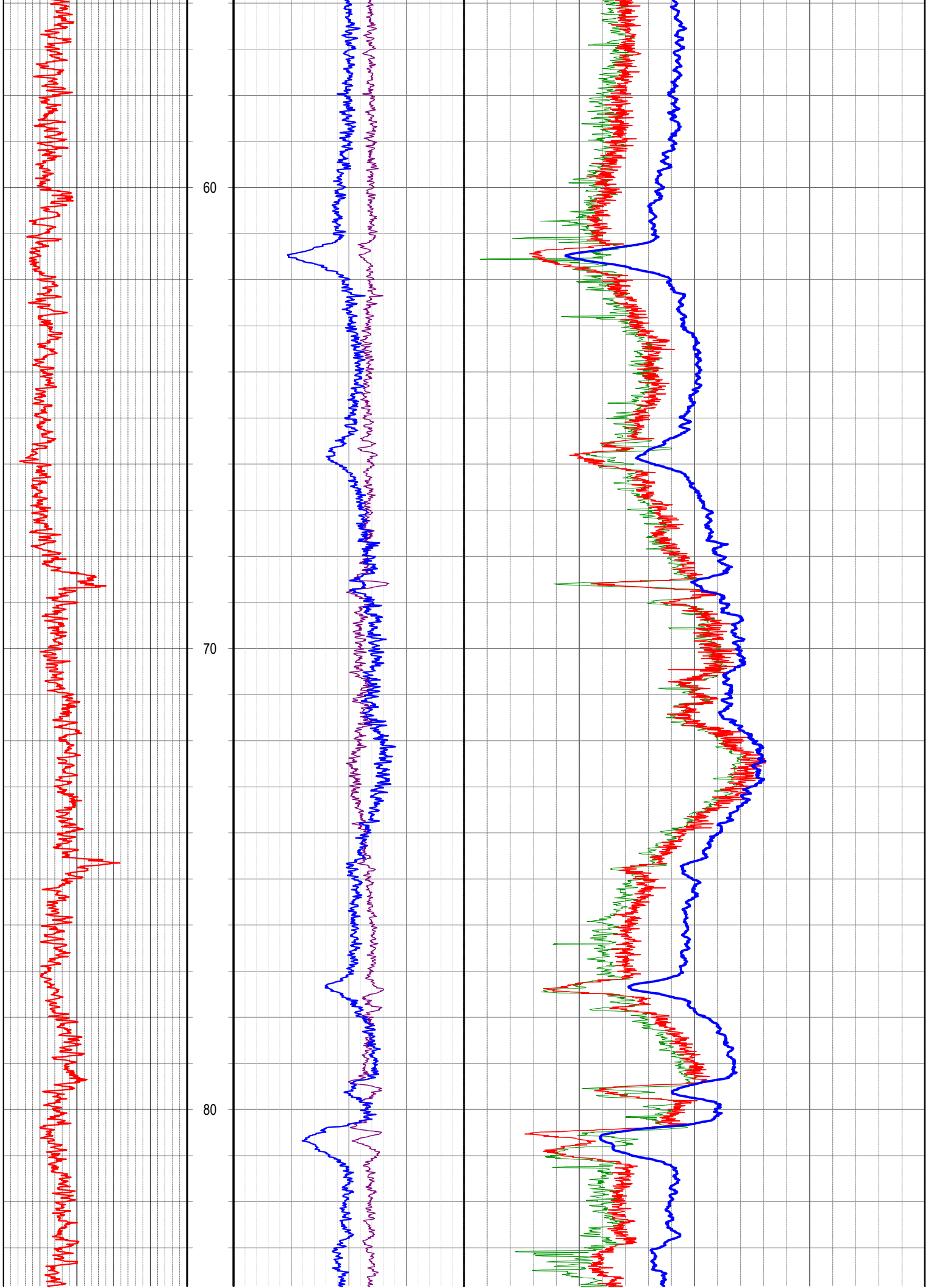
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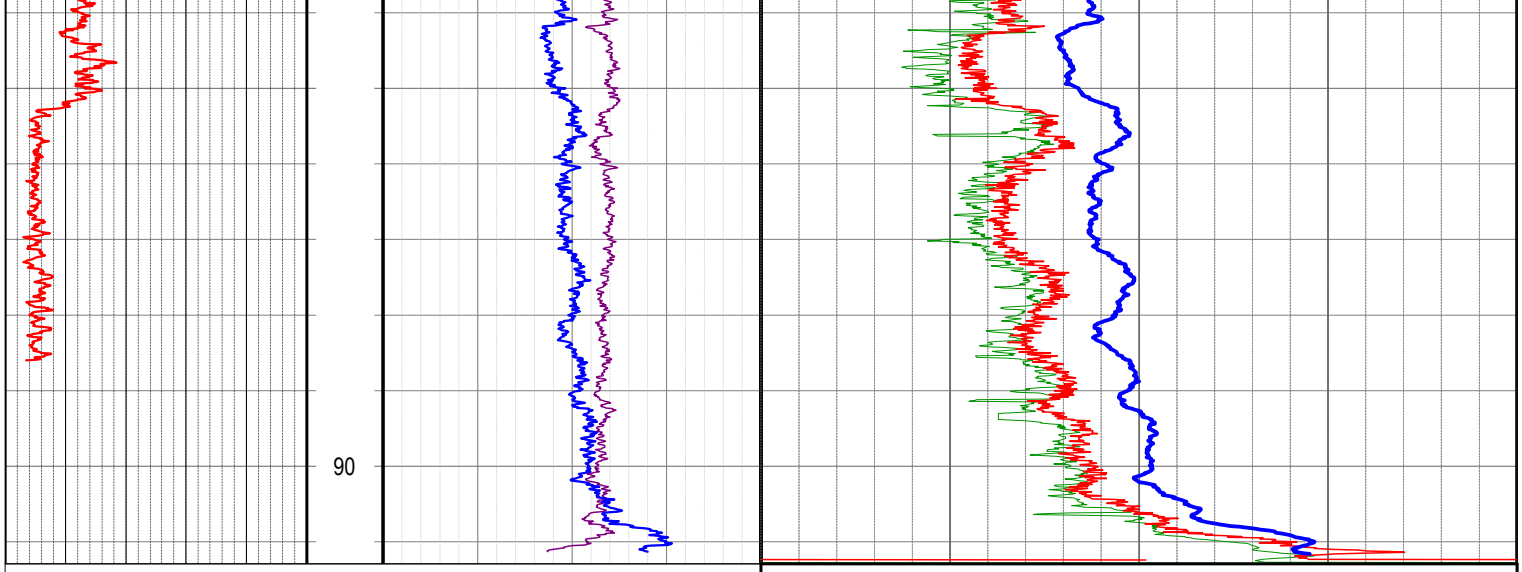

GRDEN	Depth	RHOB	DRHOB	LSD	SSD	BRD
Natural Gamma		Bulk Density	Differential Density	Long Spaced Density	Short Spaced Density	Bed Resolution Density
0 API 250	1:100	1 G/CC 3	-0.4 G/CC 0.4	1 G/CC 3	1 G/CC 3	1 G/CC 3

ENERGY INVESTMENTS

W75

Formation Density

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	65/2007 TUNBRIDGE
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	MGA55
COORD	GDA94
EASTING	538095
NORTHING	5329494
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES

DATE	20/06/2014
FLUID LEVEL	m
FLUID TYPE	WATER
DRILLED DEPTH	138 m
DATUM	GL
DRILLING COMPANY	KMR DRILLING
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	138 m
INT LOGGED	0-138 m

LOGGING RUNS

TOOL	ID	START	FINISH
FDS	817	138	0
MST	1	138	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^3-1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

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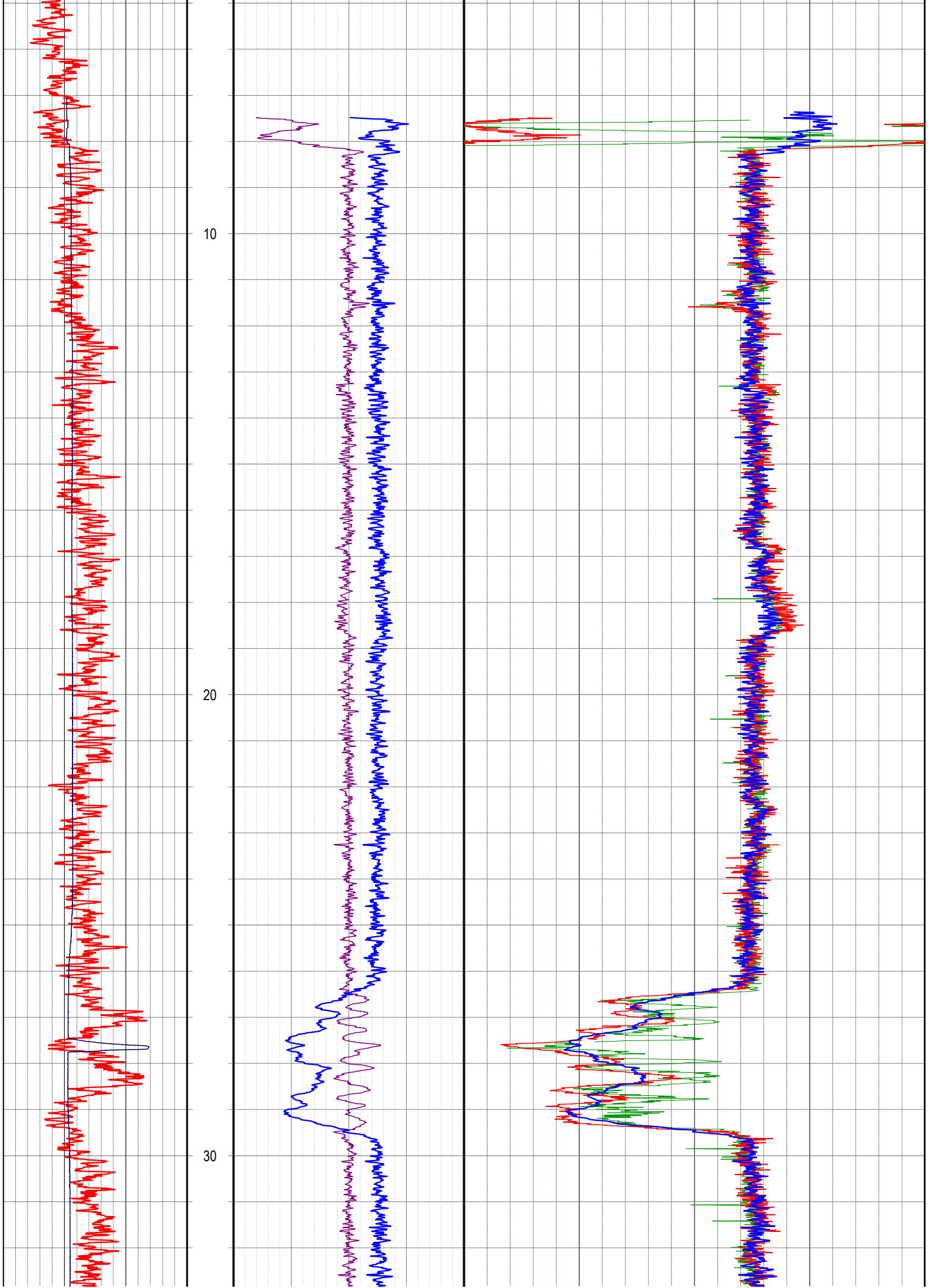
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			BRD Bed Resolution Density		
0	API	150		-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				RHOB Bulk Density			SSD Short Spaced Density		
50	mm	200		1	G/CC	3	1	G/CC	3
							LSD Long Spaced Density		
							1	G/CC	3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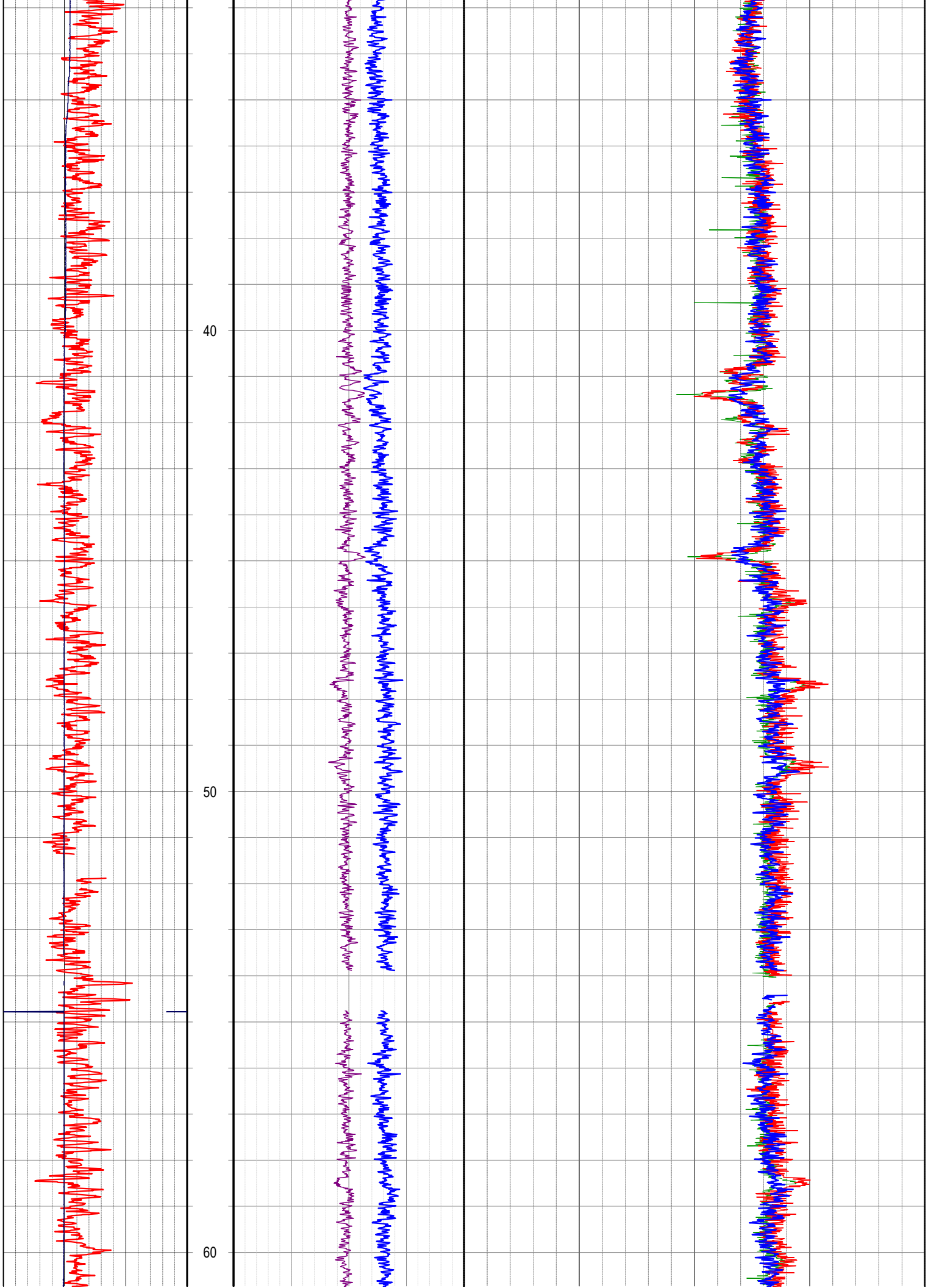
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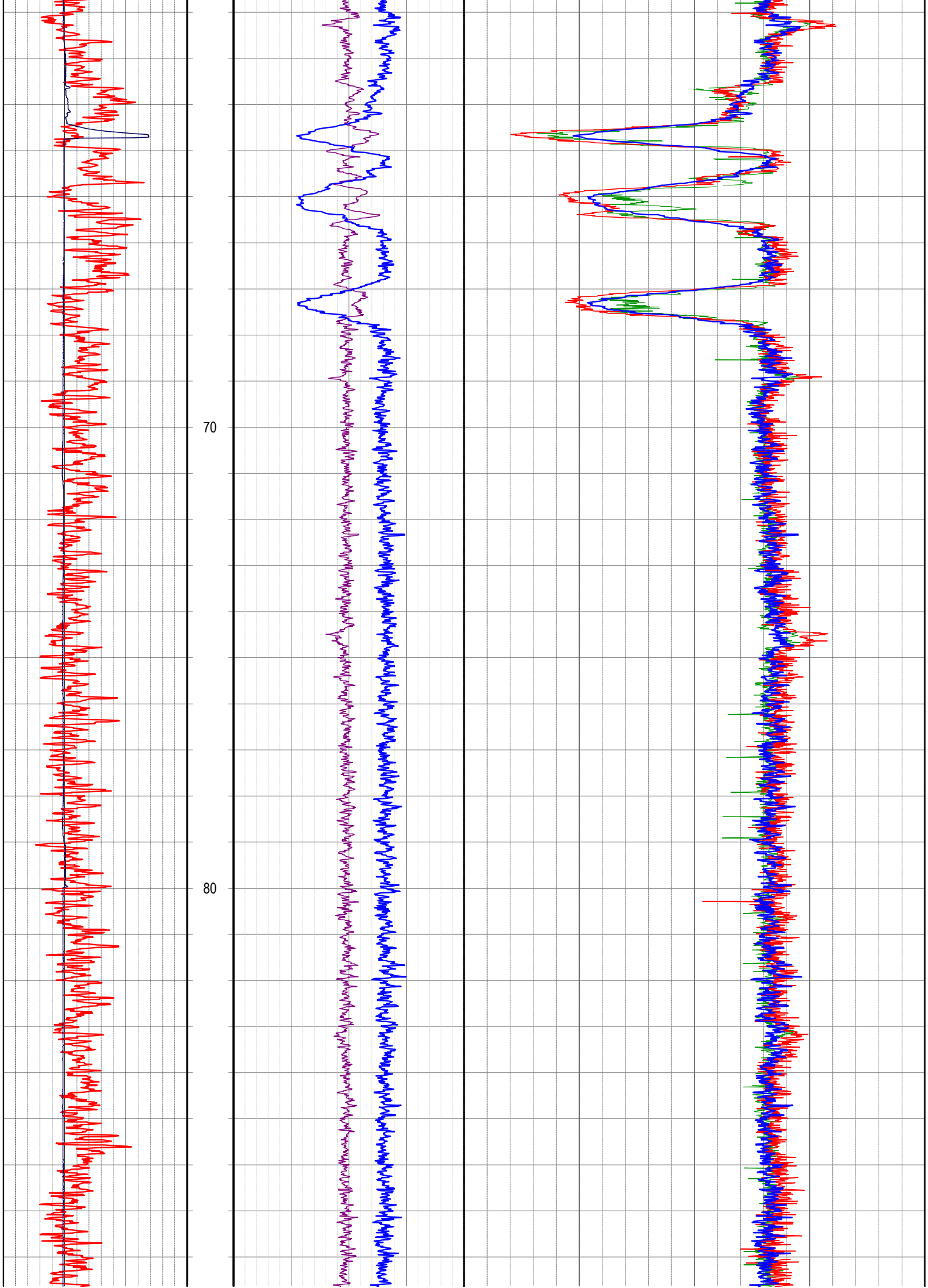
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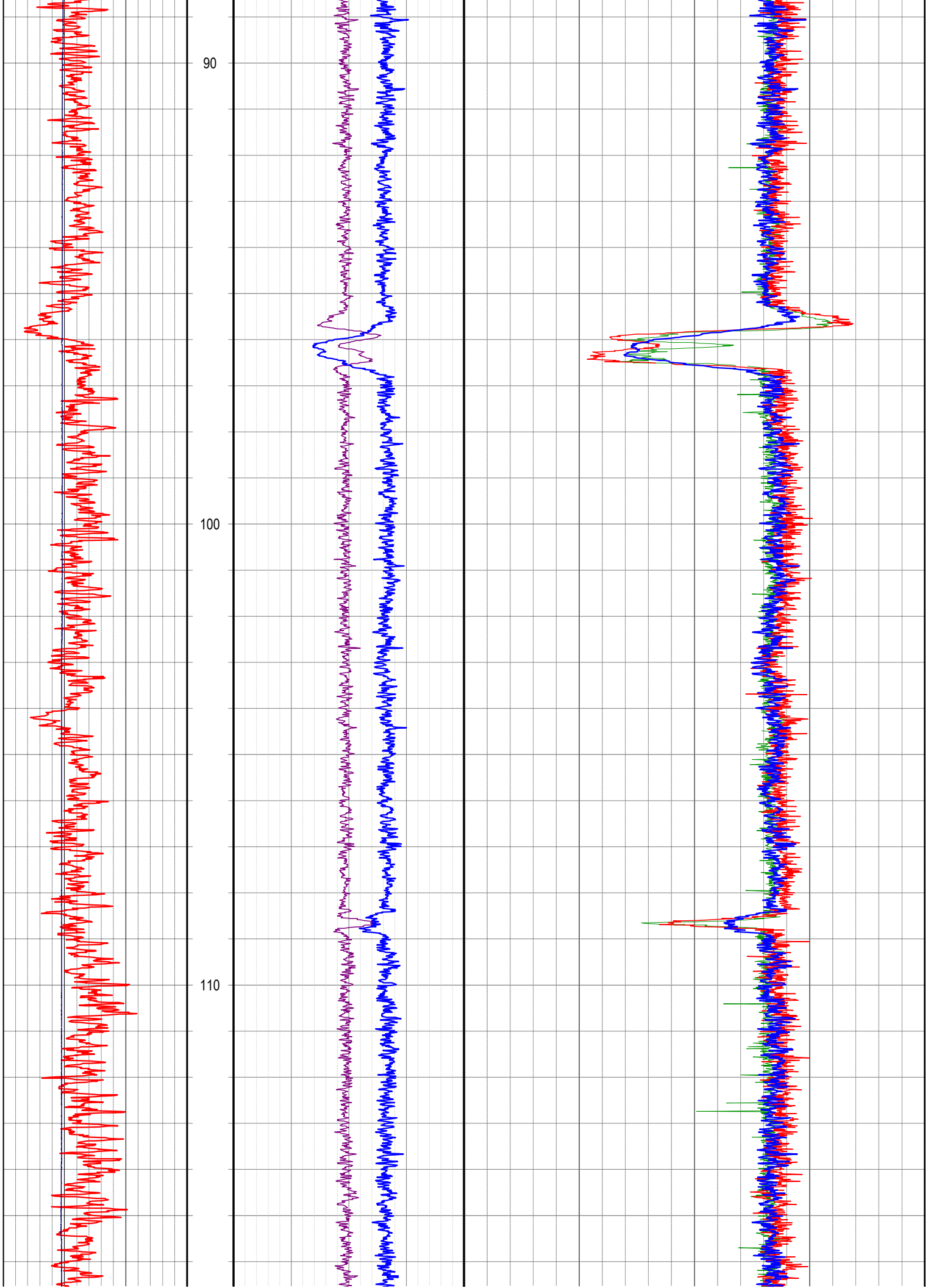
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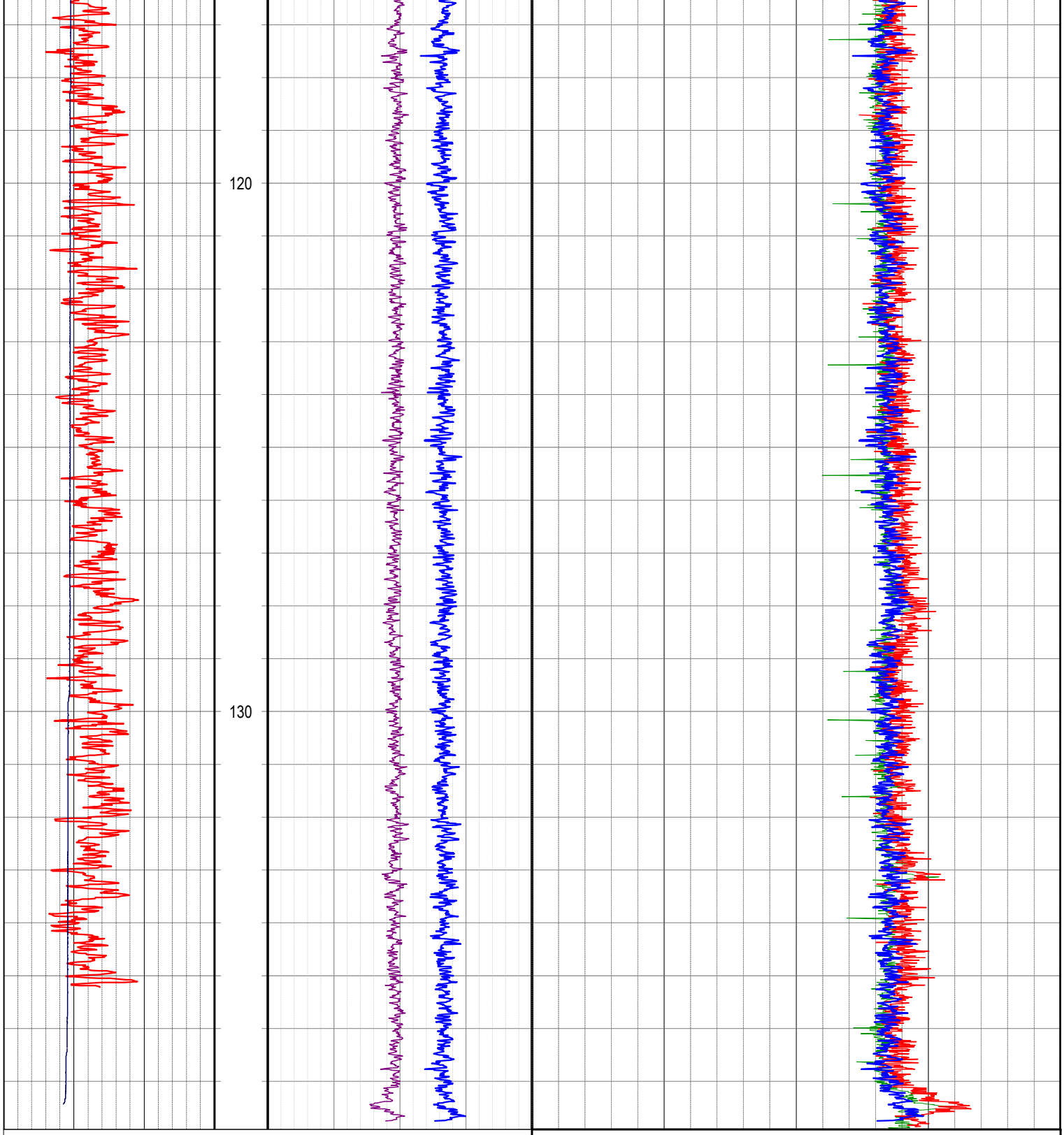


				LSD Long Spaced Density		
				1	G/CC	3
CALI Caliper		RHOB Bulk Density		SSD Short Spaced Density		
50	mm	200	1	G/CC	3	1 G/CC 3
GRDEN Natural Gamma	Depth	DRHOB Differential Density		BRD Bed Resolution Density		
0	API	150	1:100	-0.4	G/CC	0.4	1 G/CC 3

ENERGY INVESTMENTS

W75

Formation Density Detailed

1:25

ENDEAVOUR GEOPHYSICS

LOCATION	
LOCATION	WOODBURY
EL	65/2007 TUNBRIDGE
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	MGA55
COORD	GDA94
EASTING	538095
NORTHING	5329494
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES	
DATE	20/06/2014
FLUID LEVEL	m
FLUID TYPE	WATER
DRILLED DEPTH	138 m
DATUM	GL
DRILLING COMPANY	KMR DRILLING
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m

LOGGING DETAILS	
RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	138 m
INT LOGGED	0-138 m

LOGGING RUNS

TOOL	ID	START	FINISH
FDS	817	138	0
MST	1	138	0

FORMATION DENSITY - FDS50

CALIBRATION	
FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^3-1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

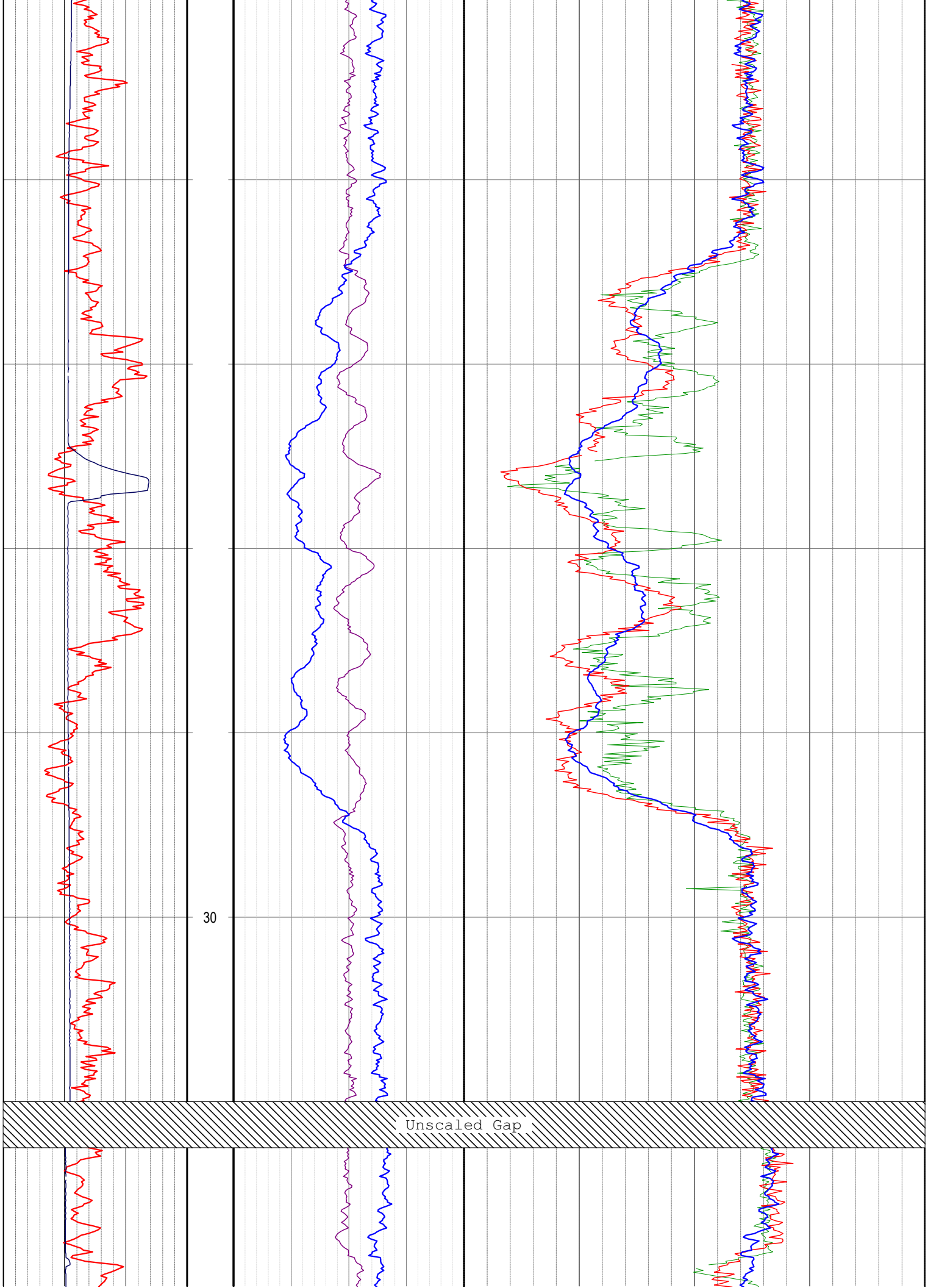
FDS_MNEUMONICS

GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES	
FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth	DRHOB Differential Density			BRD Bed Resolution Density		
0	API	150	1m:25m	-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				RHOB Bulk Density			SSD Short Spaced Density		
50	mm	200		1	G/CC	3	1	G/CC	3
							LSD Long Spaced Density		
							1	G/CC	3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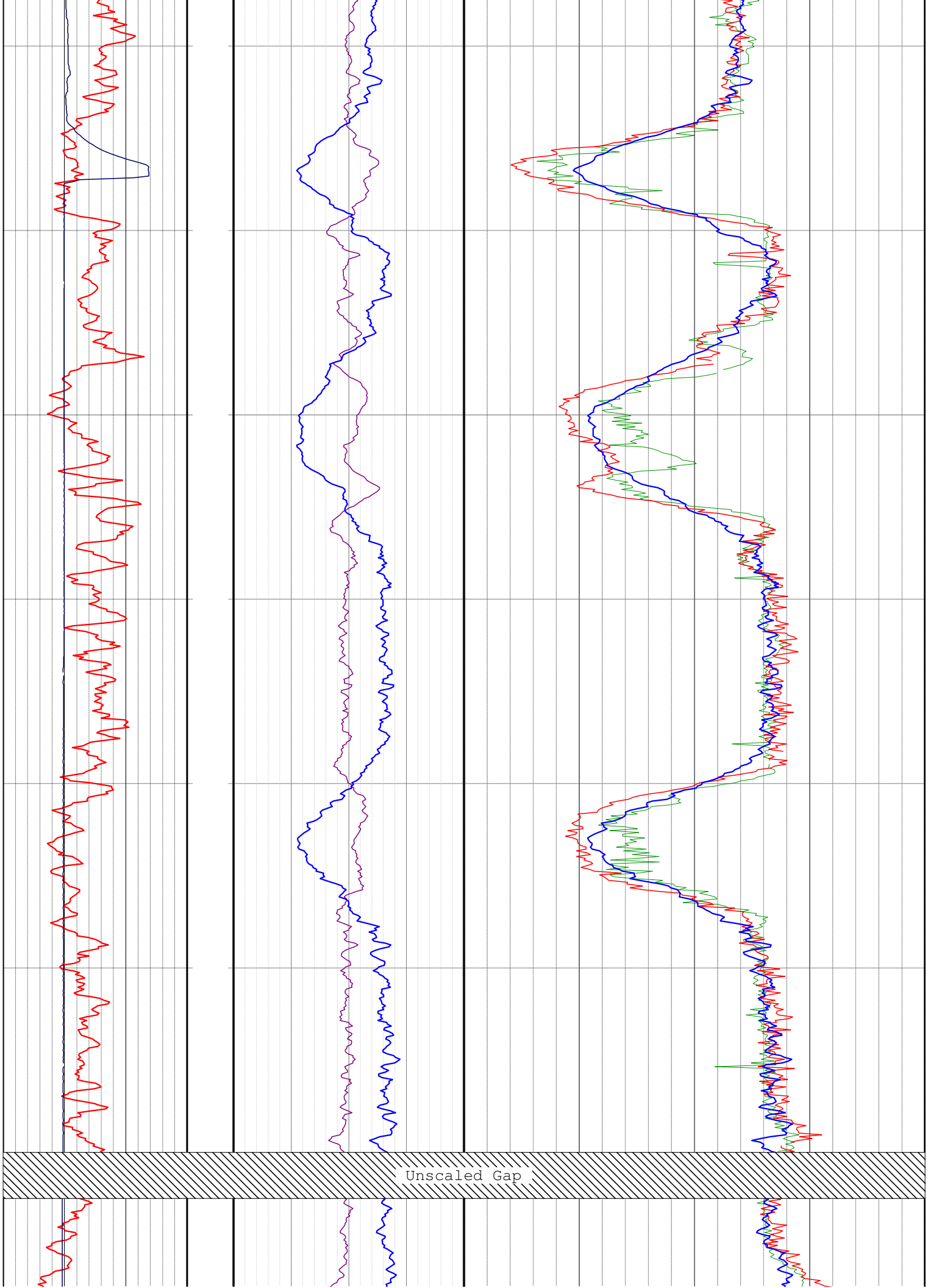
Unscaled Gap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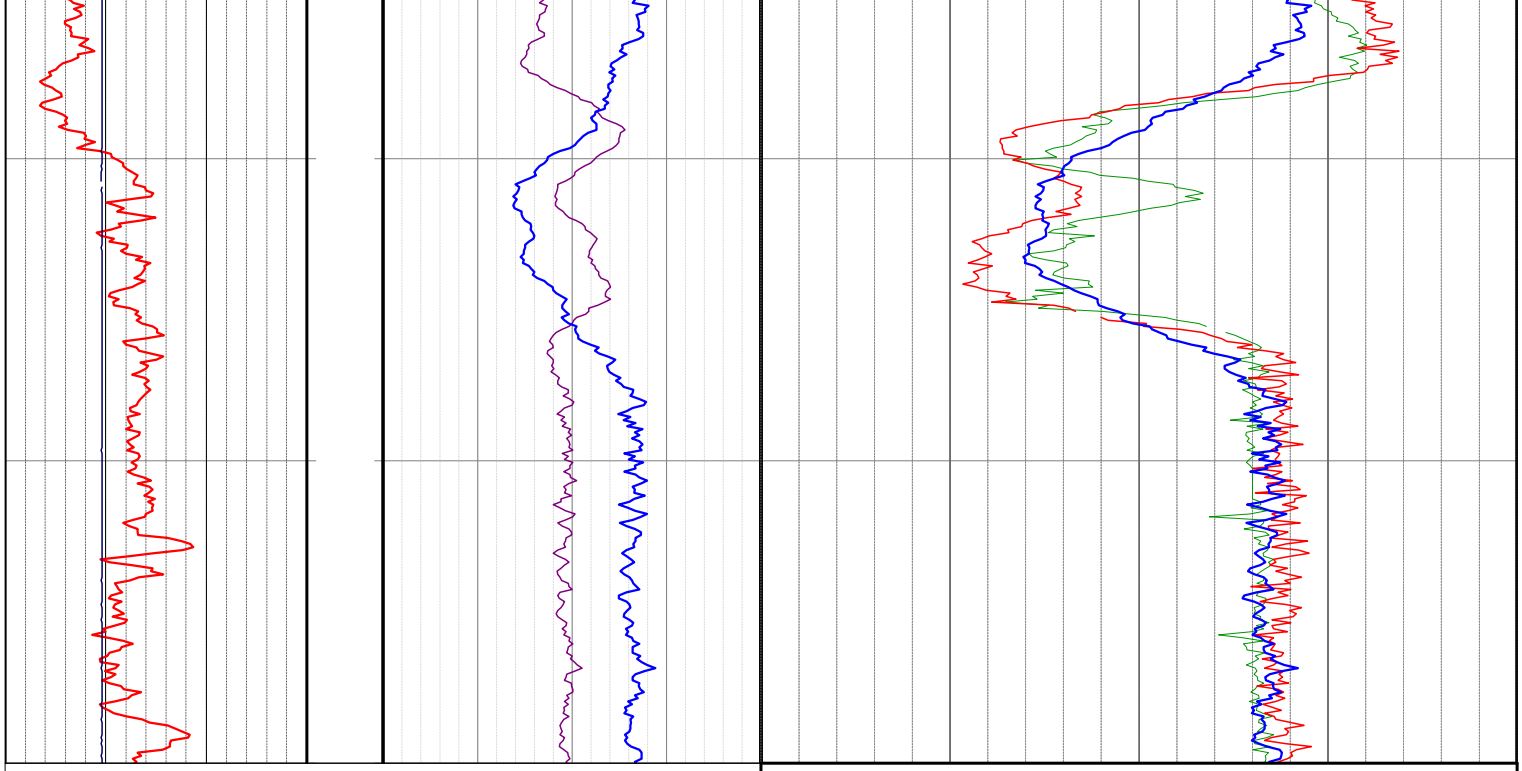


						LSD Long Spaced Density		
						1	G/CC	3
CALI Caliper			RHOB Bulk Density			SSD Short Spaced Density		
50	mm	200	1	G/CC	3	1	G/CC	3
GRDEN Natural Gamma			DRHOB Differential Density			BRD Bed Resolution Density		
0	API	150	-0.4	G/CC	0.4	1	G/CC	3

Depth
1m:25m

ENERGY INVESTMENTS

W75

COMPOSITE

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	65/2007 TUNBRIDGE
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	MGA55
COORD	GDA94
EASTING	538095
NORTHING	5329494
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES

DATE	20/06/2014
FLUID LEVEL	m
FLUID TYPE	WATER
DRILLED DEPTH	138 m
DATUM	GL
DRILLING COMPANY	KMR DRILLING
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	138 m
INT LOGGED	0-138 m

LOGGING RUNS

TOOL	ID	START	FINISH
FDS	817	138	0
MST	1	138	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^3-1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

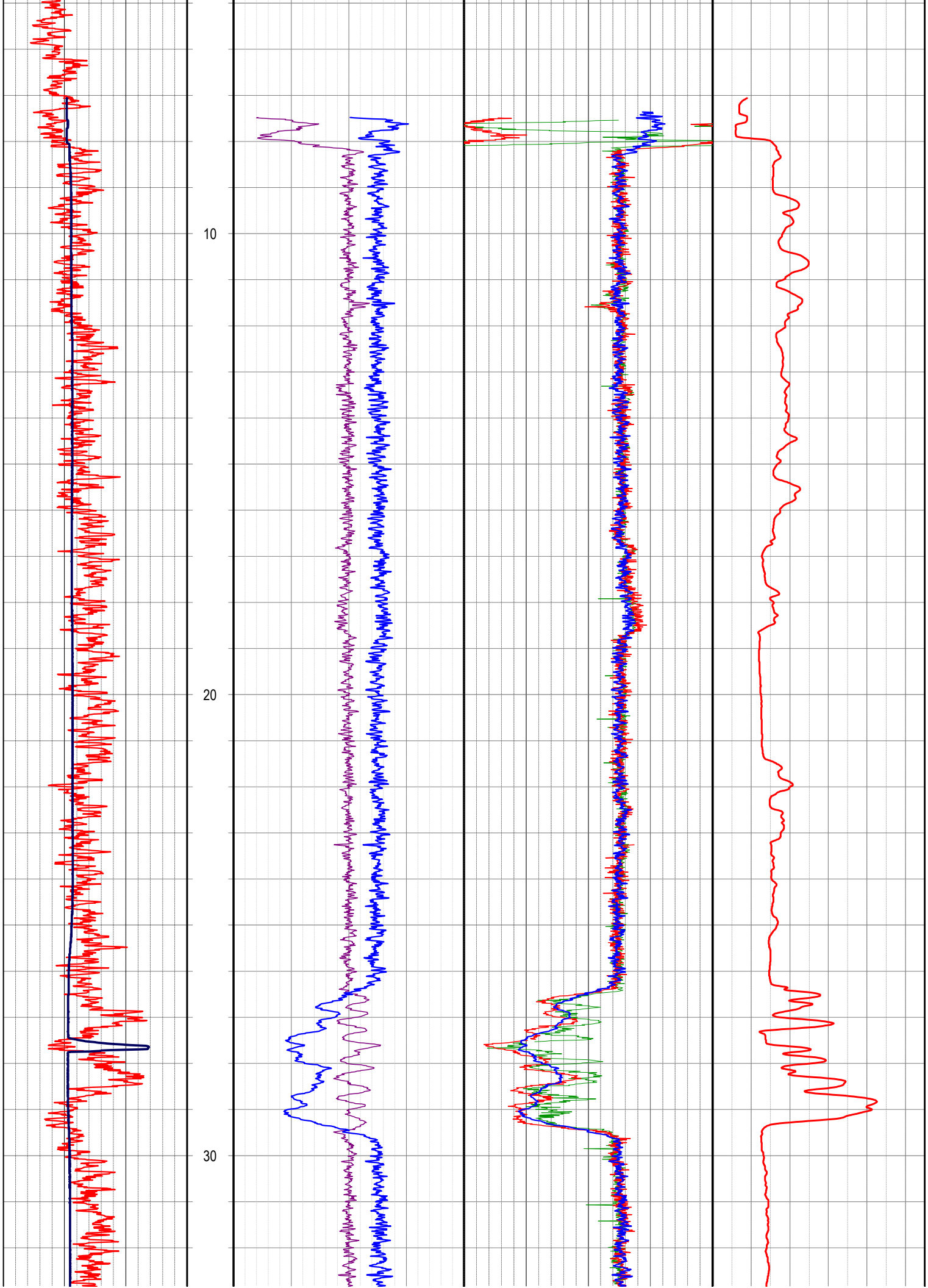
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			BRD Bed Resolution Density			16N 16" RESISTIVITY		
0	API	150		-0.4	G/CC	0.4	1	G/CC	3	0	ohm m2/m	400
CALI Caliper				RHOB Bulk Density			SSD Short Spaced Density			PR POINT RESISTIVITY		
50	mm	200		1	G/CC	3	1	G/CC	3	0	ohm	550
							LSD Long Spaced Density			SP SPONTANEOUS POTENTIAL		
							1	G/CC	3	-550	mV	-200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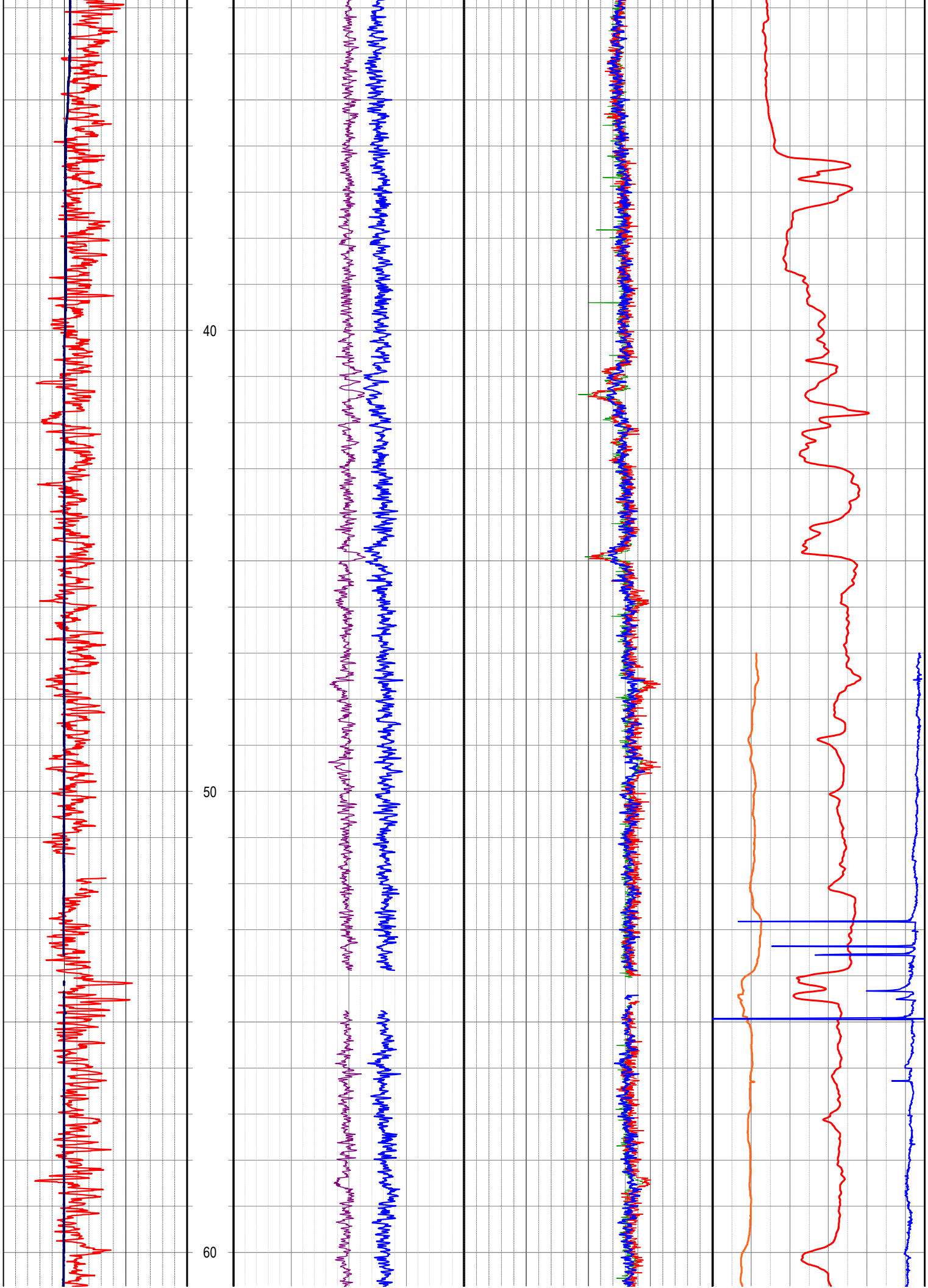
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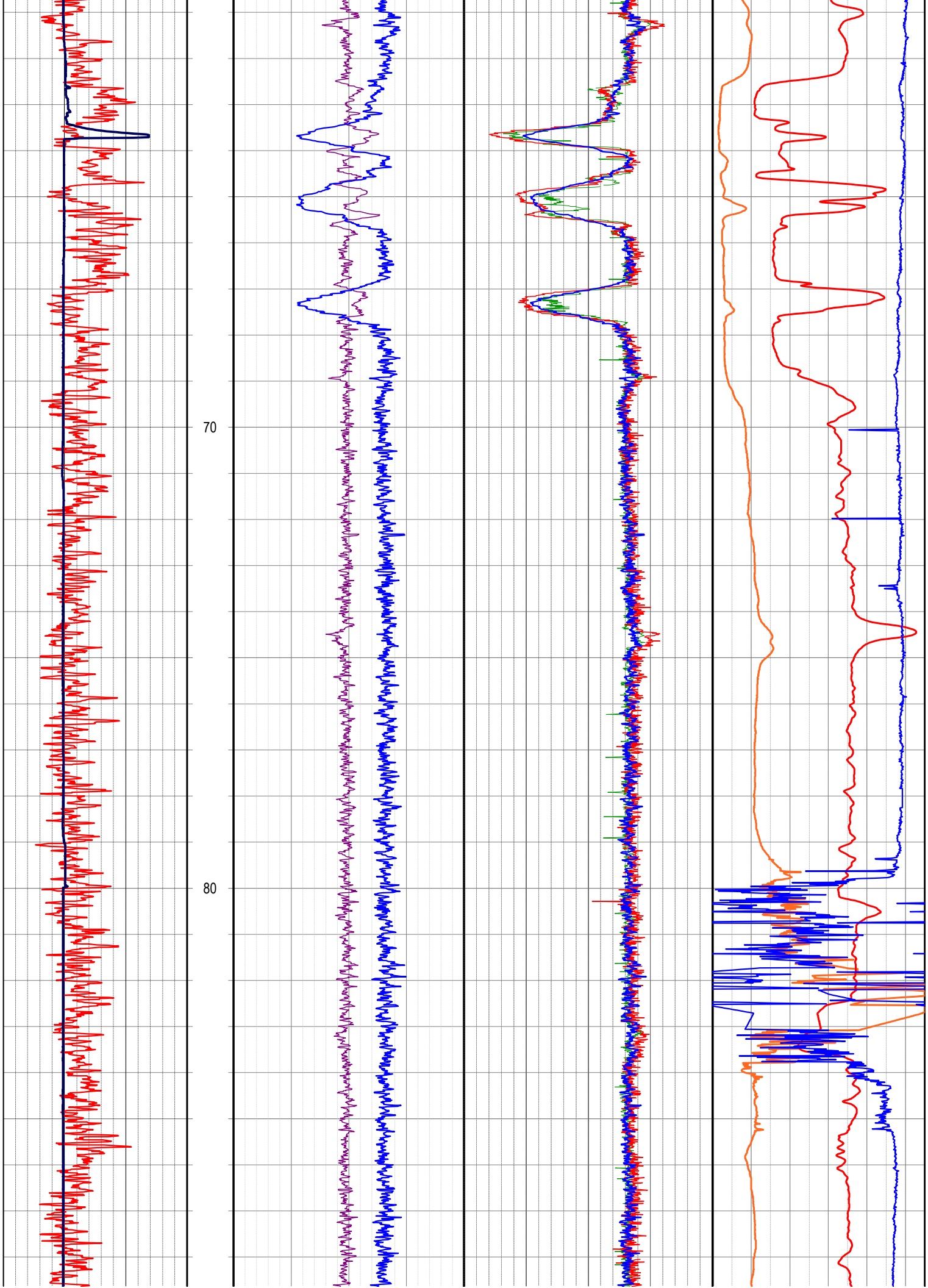
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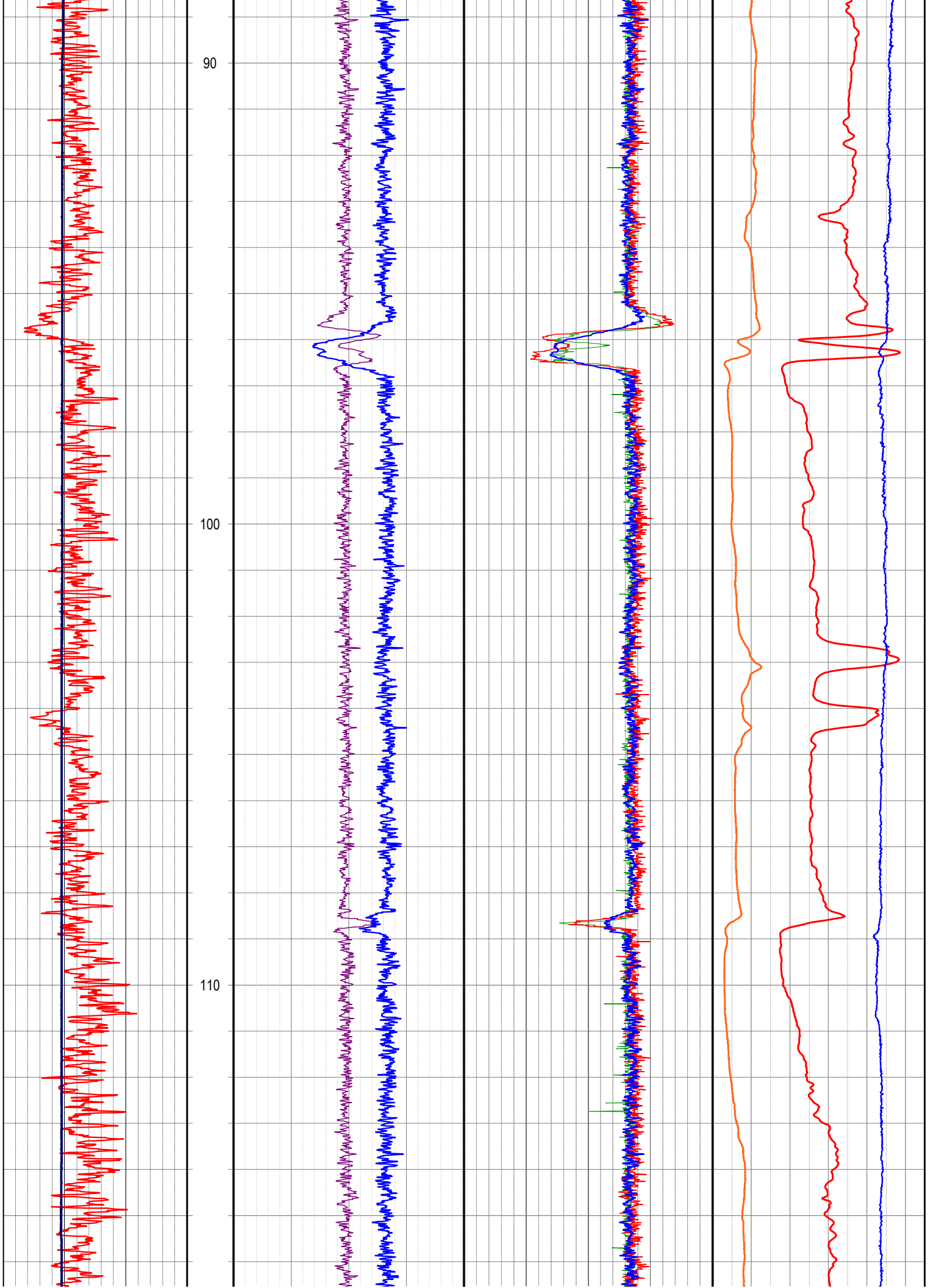
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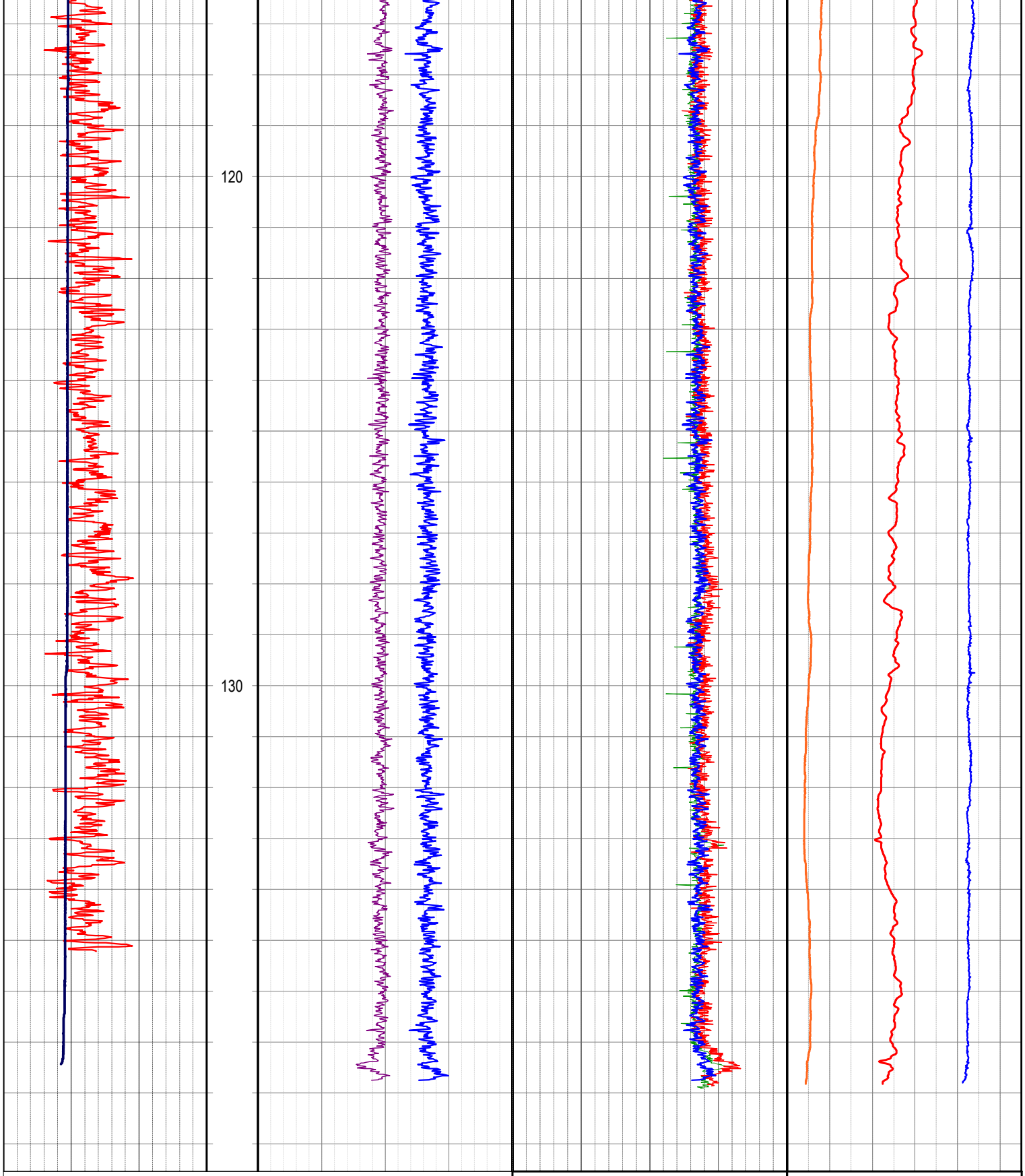
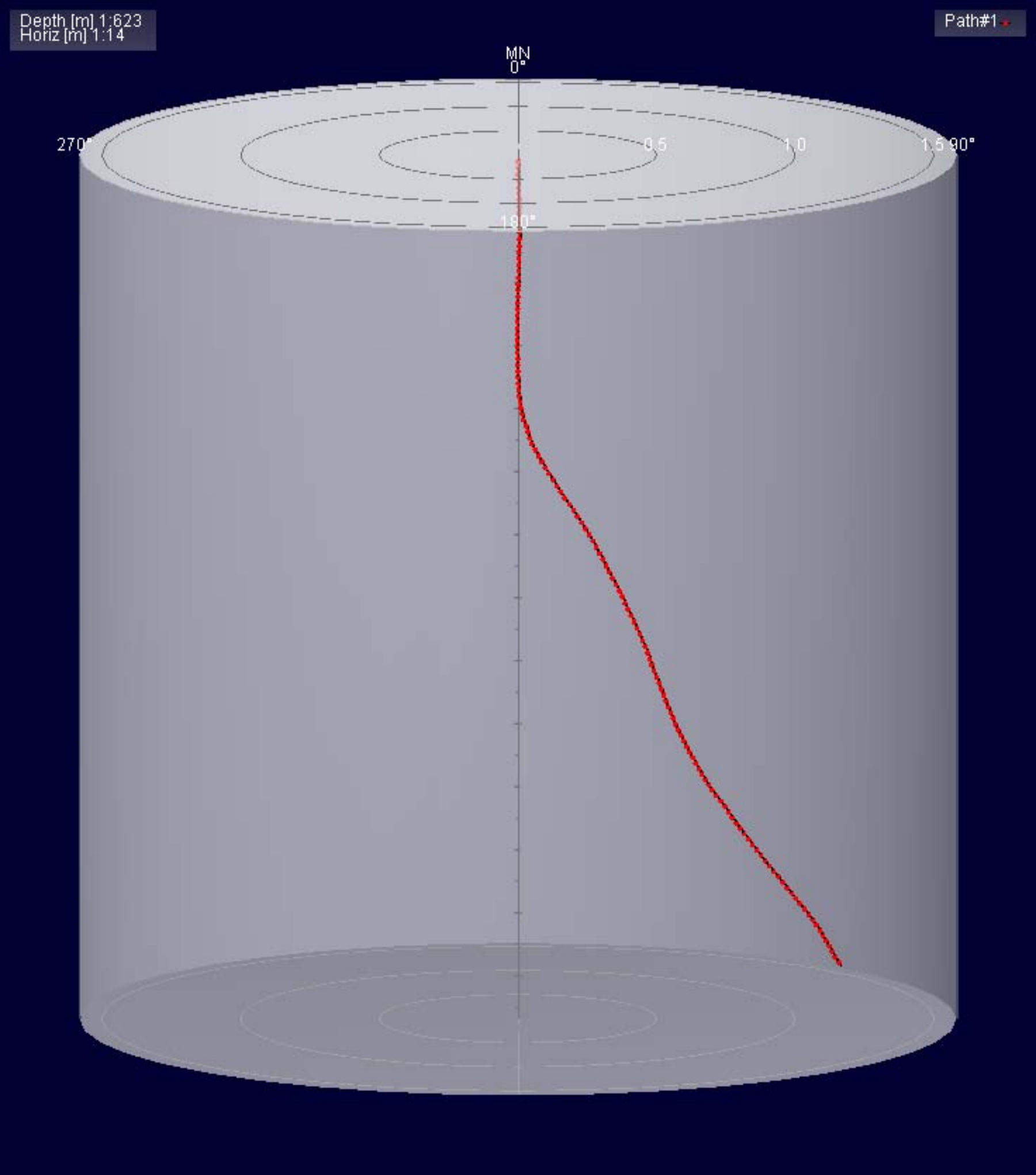


		LSD Long Spaced Density 1 G/CC 3	SP SPONTANEOUS POTENTIAL -550 mV -200	
CALI Caliper 50 mm 200	RHOB Bulk Density 1 G/CC 3	SSD Short Spaced Density 1 G/CC 3	PR POINT RESISTIVITY 0 ohm 550	
GRDEN Natural Gamma 0 API 150	DRHOB Differential Density -0.4 G/CC 0.4	BRD Bed Resolution Density 1 G/CC 3	16N 16" RESISTIVITY 0 ohm m2/m 400	Depth 1:100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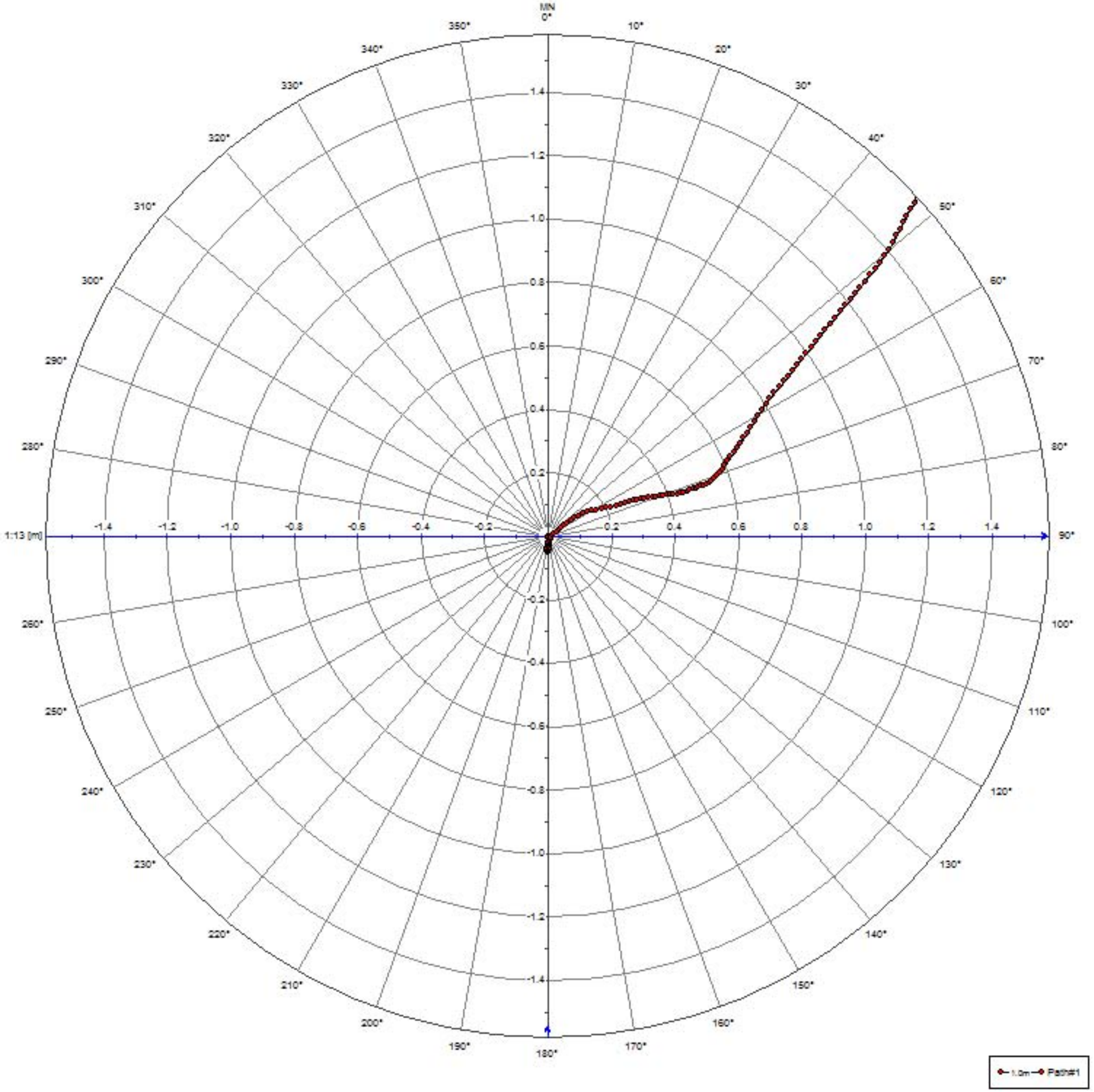
Horiz [m] 1:14
Path#1
MN
0°
270°
0.5
1.0
1.5
90°
180°


MN
0°
10°
20°
30°
40°
50°
60°
70°
80°
90°
100°
110°
120°
130°
140°
150°
160°
170°
180°
190°
200°
210°
220°
230°
240°
250°
260°
270°
280°
290°
300°
310°
320°
330°
340°
350°
1:13 [m]
-1.4
-1.2
-1.0
-0.8
-0.6
-0.4
-0.2
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.0m
Path#1

ENERGY INVESTMENTS

W76

Formation Density

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	65/2007 TUNBRIDGE
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	MGA55
COORD	GDA94
EASTING	0539324
NORTHING	5330856
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

Tool was run within 65mm PVC - hence no caliper information.
Caution for use of absolute density values given that the tool was run within PVC casing

HOLE ATTRIBUTES

DATE	19/06/2014
FLUID LEVEL	26.65 m
FLUID TYPE	WATER
DRILLED DEPTH	120 m
DATUM	GL
DRILLING COMPANY	KMR DRILLING
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
PER	130mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	65mm	0	120

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	115.54 m
INT LOGGED	0-115.54 m

LOGGING RUNS

TOOL	ID	START	FINISH
FDS	817	115.54	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

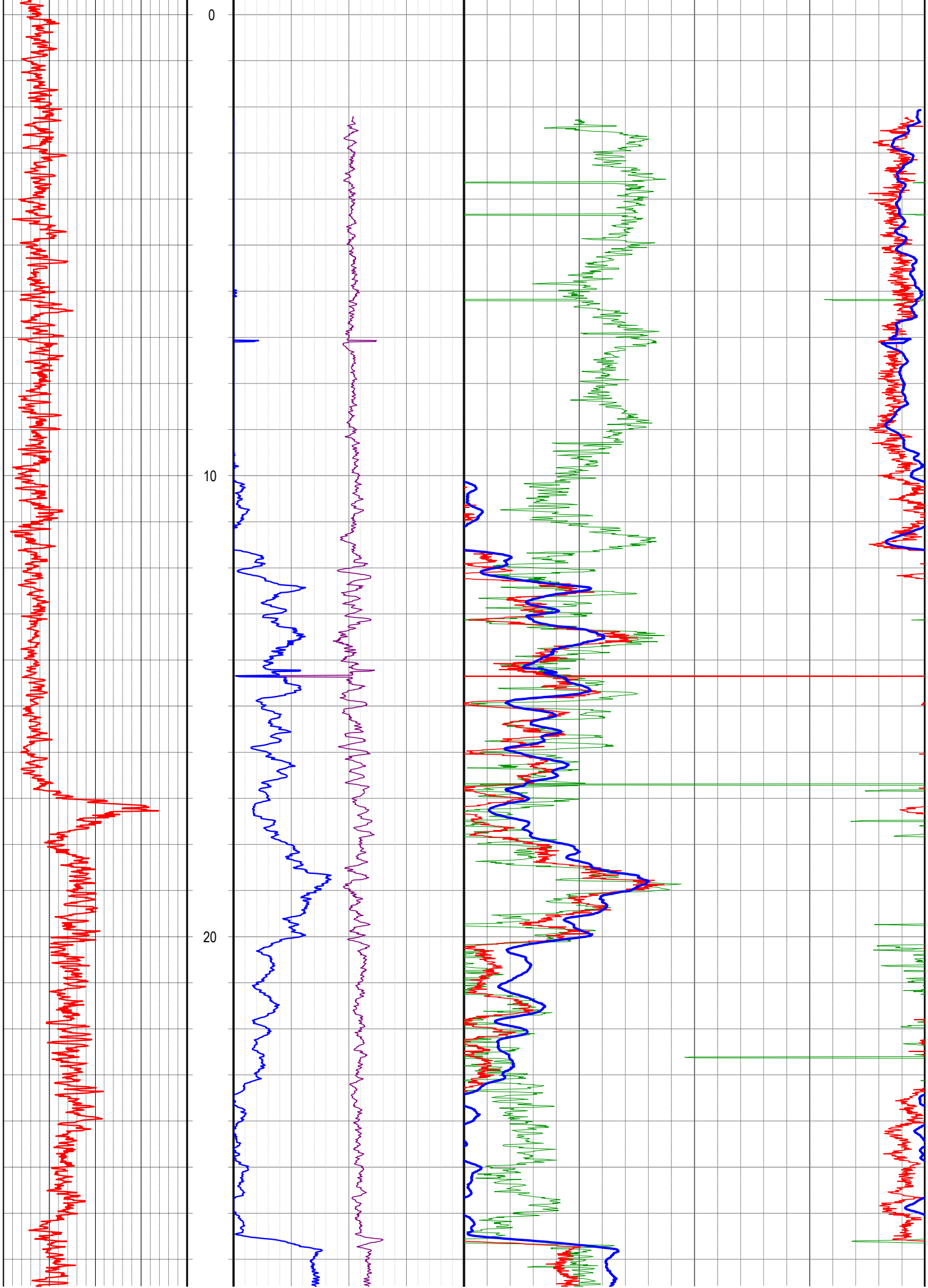
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN			Depth	DRHOB			BRD		
Natural Gamma			1:100	Differential Density			Bed Resolution Density		
0	API	200		-0.4	G/CC	0.4	1	G/CC	3
				RHOB			SSD		
				Bulk Density			Short Spaced Density		
				1	G/CC	3	1	G/CC	3
							LSD		
							Long Spaced Density		
							1	G/CC	3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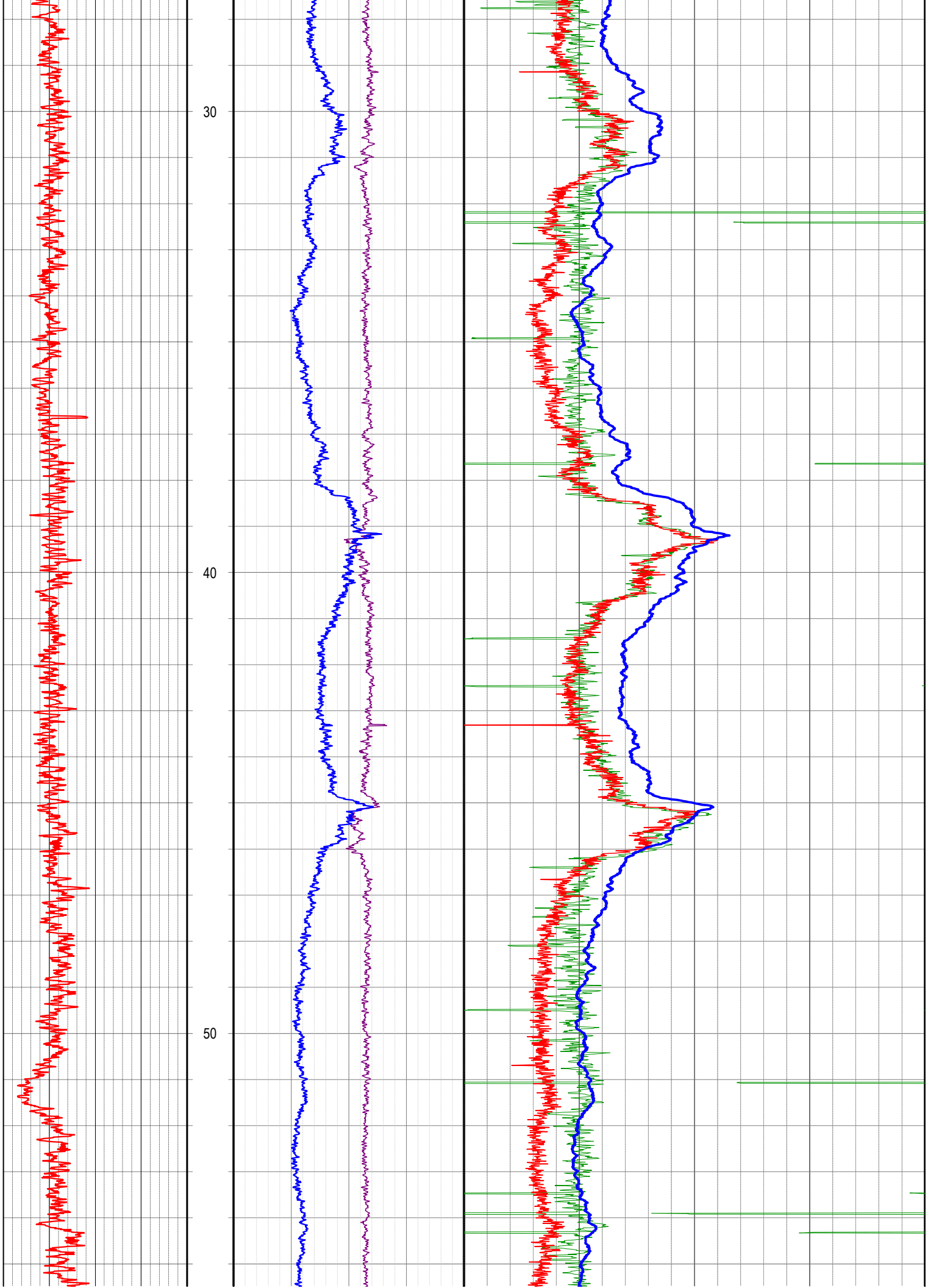
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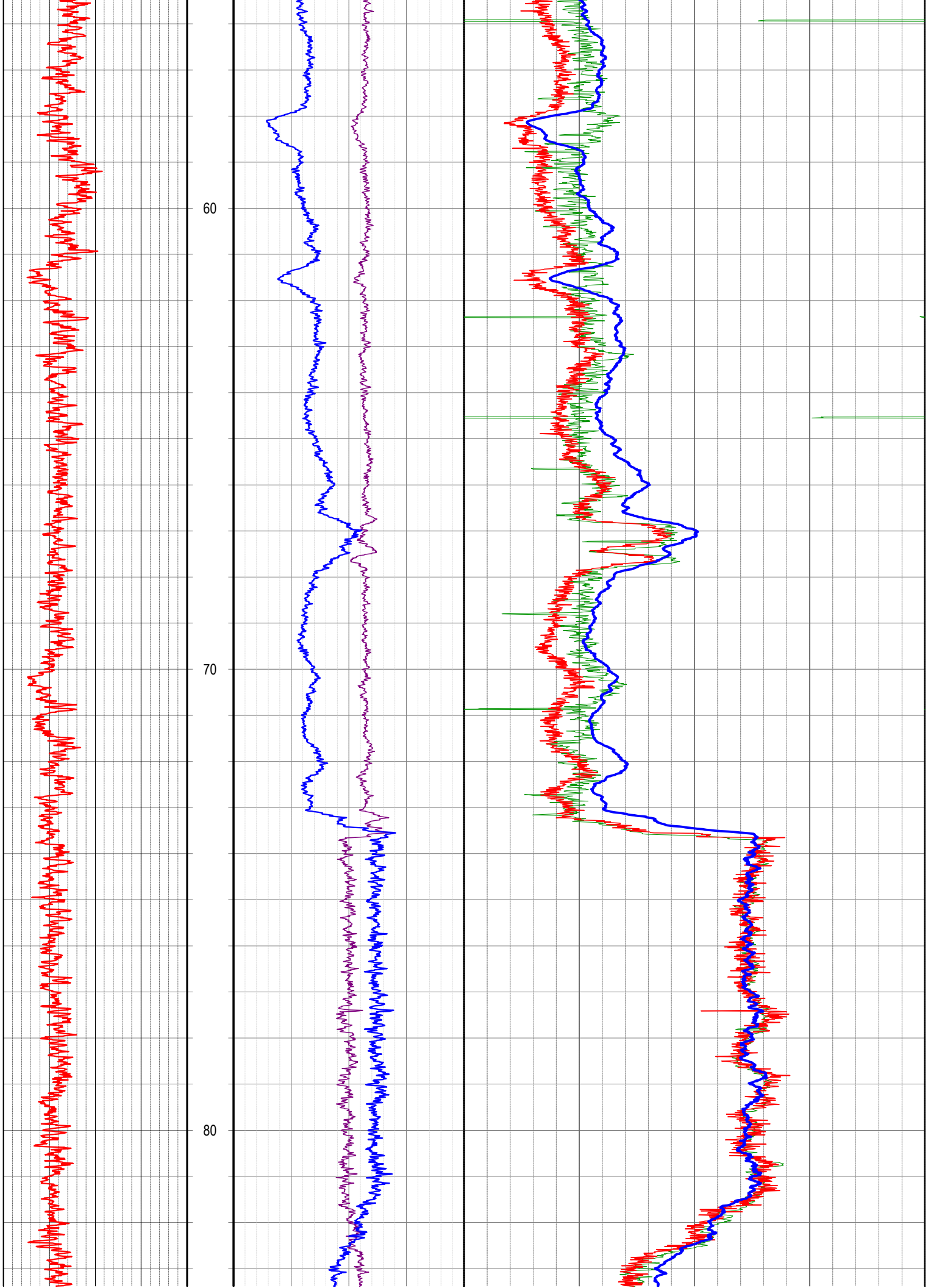
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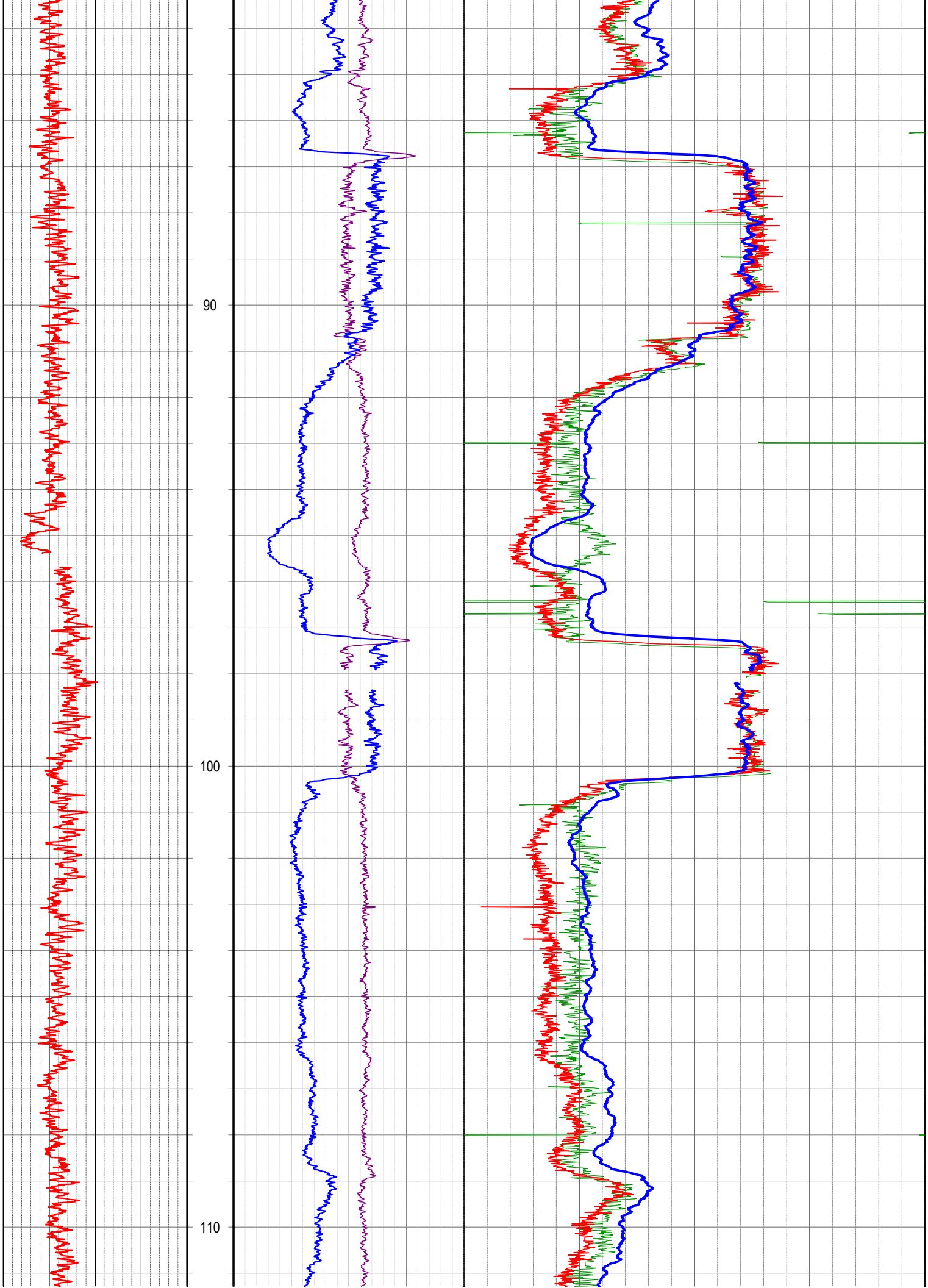
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100
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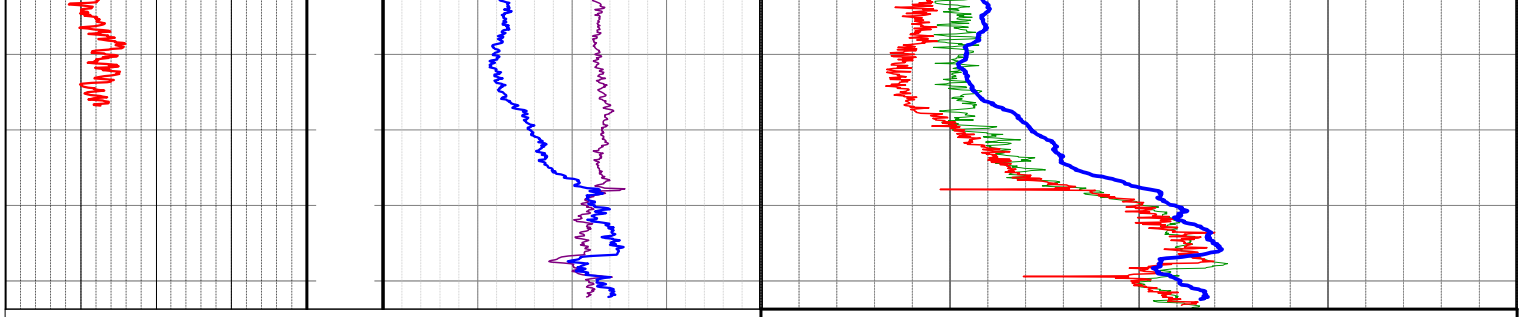


			LSD Long Spaced Density 1 G/CC 3
		RHOB Bulk Density 1 G/CC 3	SSD Short Spaced Density 1 G/CC 3
GRDEN Natural Gamma 0 API 200	Depth 1:100	DRHOB Differential Density -0.4 G/CC 0.4	BRD Bed Resolution Density 1 G/CC 3

ENERGY INVESTMENTS

W77

Formation Density

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	65/2007 TUNBRIDGE
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	MGA55
COORD	GDA94
EASTING	0539544
NORTHING	5331541
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

Tool was run within 65mm PVC - hence no caliper information.
Caution for use of absolute density values given that the tool was run within PVC casing

HOLE ATTRIBUTES

DATE	19/06/2014
FLUID LEVEL	m
FLUID TYPE	WATER
DRILLED DEPTH	102 m
DATUM	GL
DRILLING COMPANY	KMR DRILLING
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
PER	130mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	65mm	0	102

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	101.5 m
INT LOGGED	20-101.5 m

LOGGING RUNS

TOOL	ID	START	FINISH
FDS	817	101.5	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^3-1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

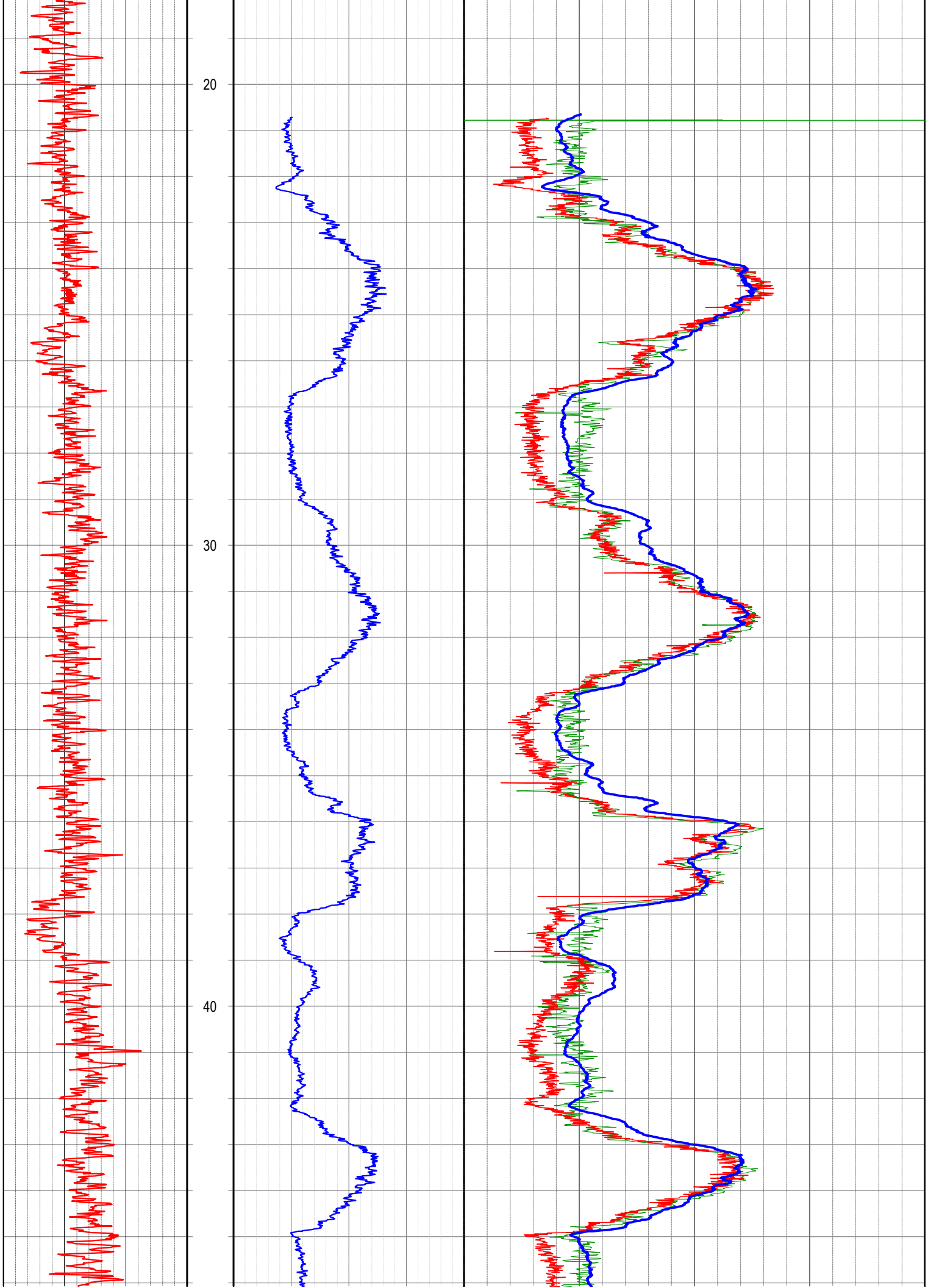
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma	Depth 1:100	DRHOB Differential Density	BRD Bed Resolution Density
0 API 150		-0.4 G/CC 0.4	1 G/CC 3
		RHOB Bulk Density	SSD Short Spaced Density
		1 G/CC 3	1 G/CC 3
		REFLECTIVITY FROM ACOUSTIC TELEVIEWER	LSD Long Spaced Density
		0 43	1 G/CC 3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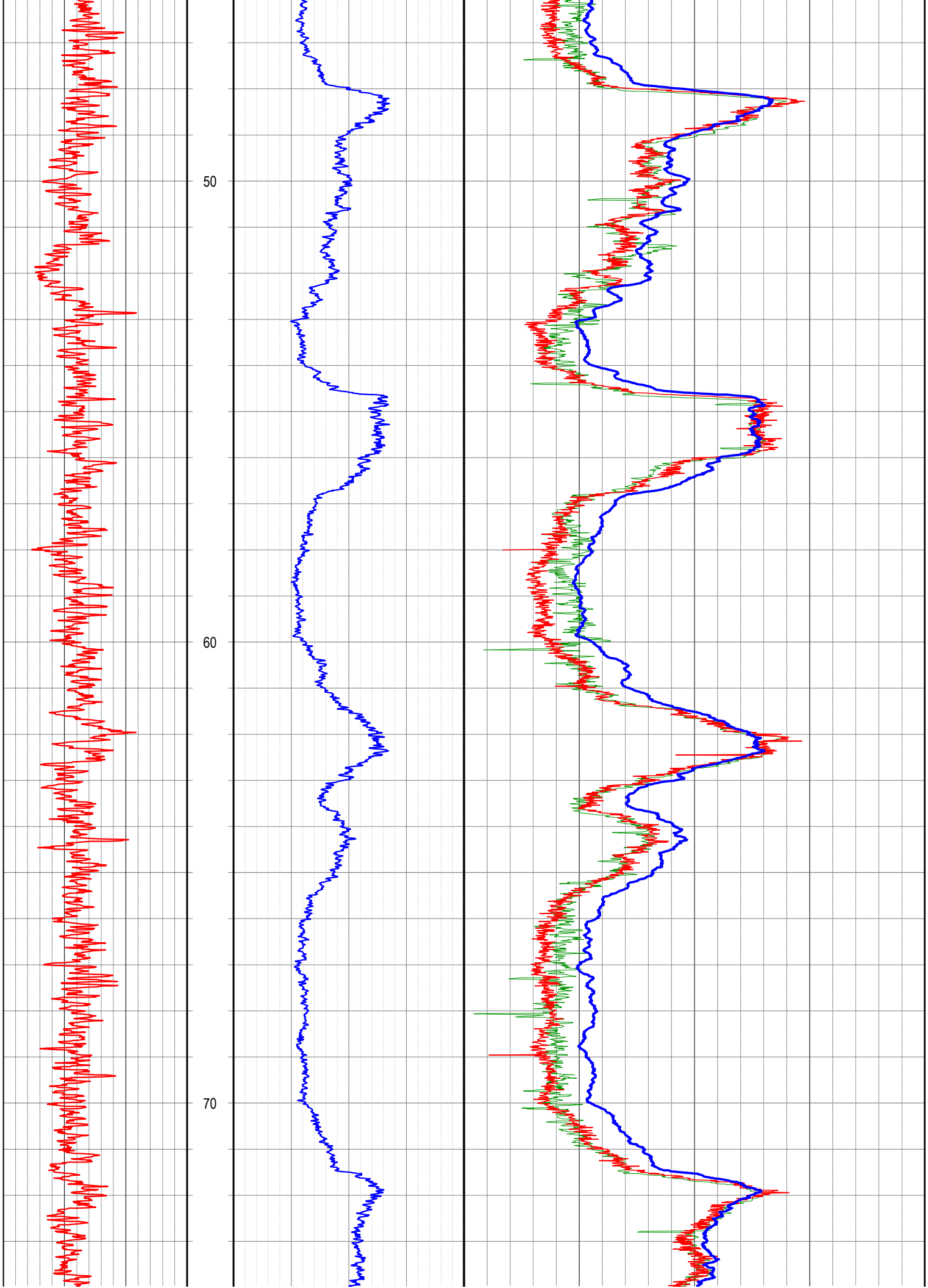
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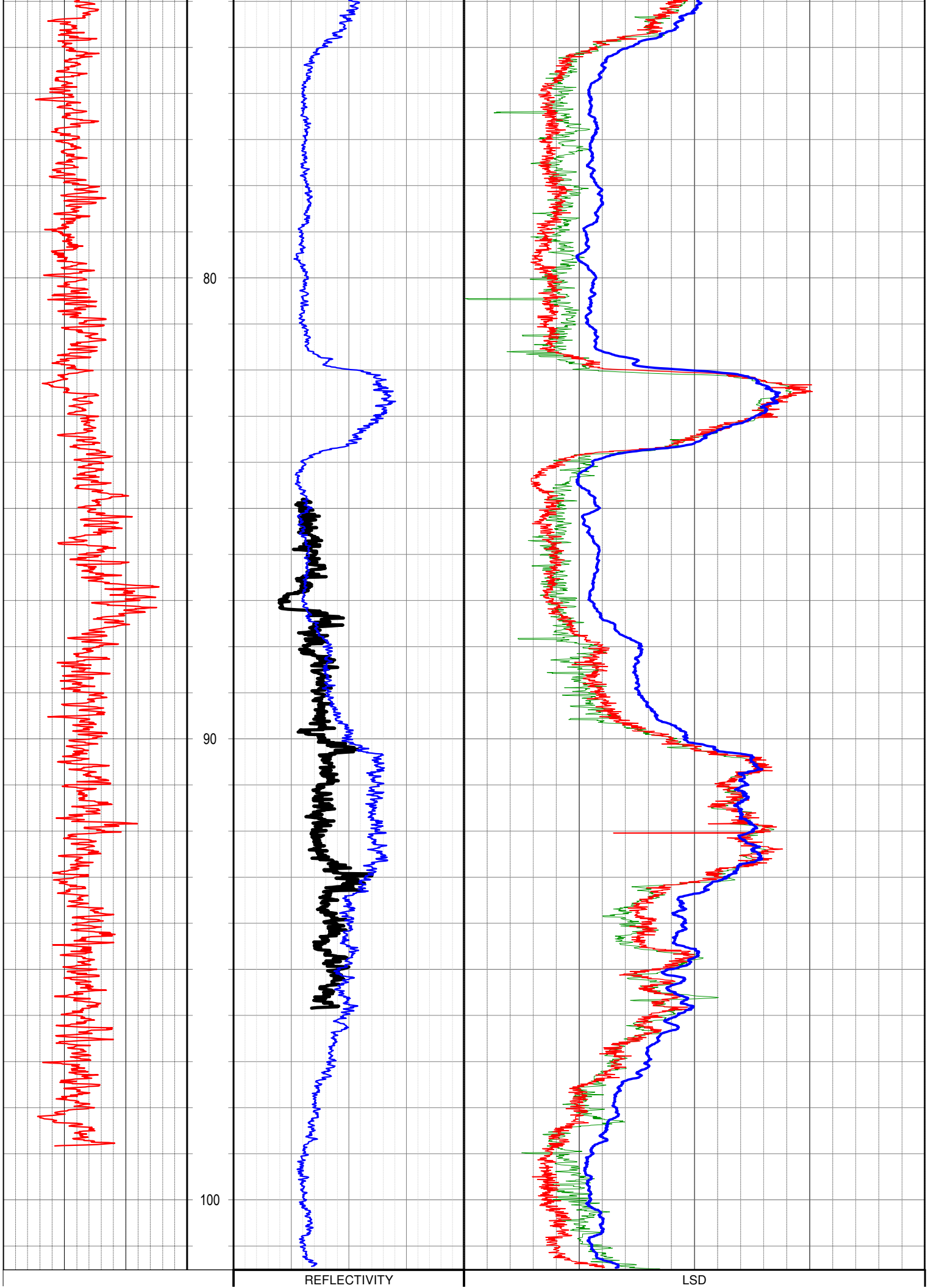

80
90
100
REFLECTIVITY
LSD

			FROM ACOUSTIC TELEVIEWER			Long Spaced Density		
			0		43	1	G/CC	3
			RHOB			SSD		
			Bulk Density			Short Spaced Density		
			1	G/CC	3	1	G/CC	3
GRDEN		Depth	DRHOB			BRD		
Natural Gamma			Differential Density			Bed Resolution Density		
0	API	150	1:100	-0.4	G/CC	0.4	1	G/CC	3

ENERGY INVESTMENTS

W78

Formation Density

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	65/2007 TUNBRIDGE
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	MGA55
COORD	GDA94
EASTING	0538876
NORTHING	5332104
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES

DATE	20/06/2014
FLUID LEVEL	37.2 m
FLUID TYPE	WATER
DRILLED DEPTH	132.5 m
DATUM	GL
DRILLING COMPANY	KMR DRILLING
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
PER	130mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	132.5 m
INT LOGGED	20-102 m

LOGGING RUNS

TOOL	ID	START	FINISH
FDS	817	132.0	0
MST		132	0
FWS		132	30
ATV			

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^3-1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

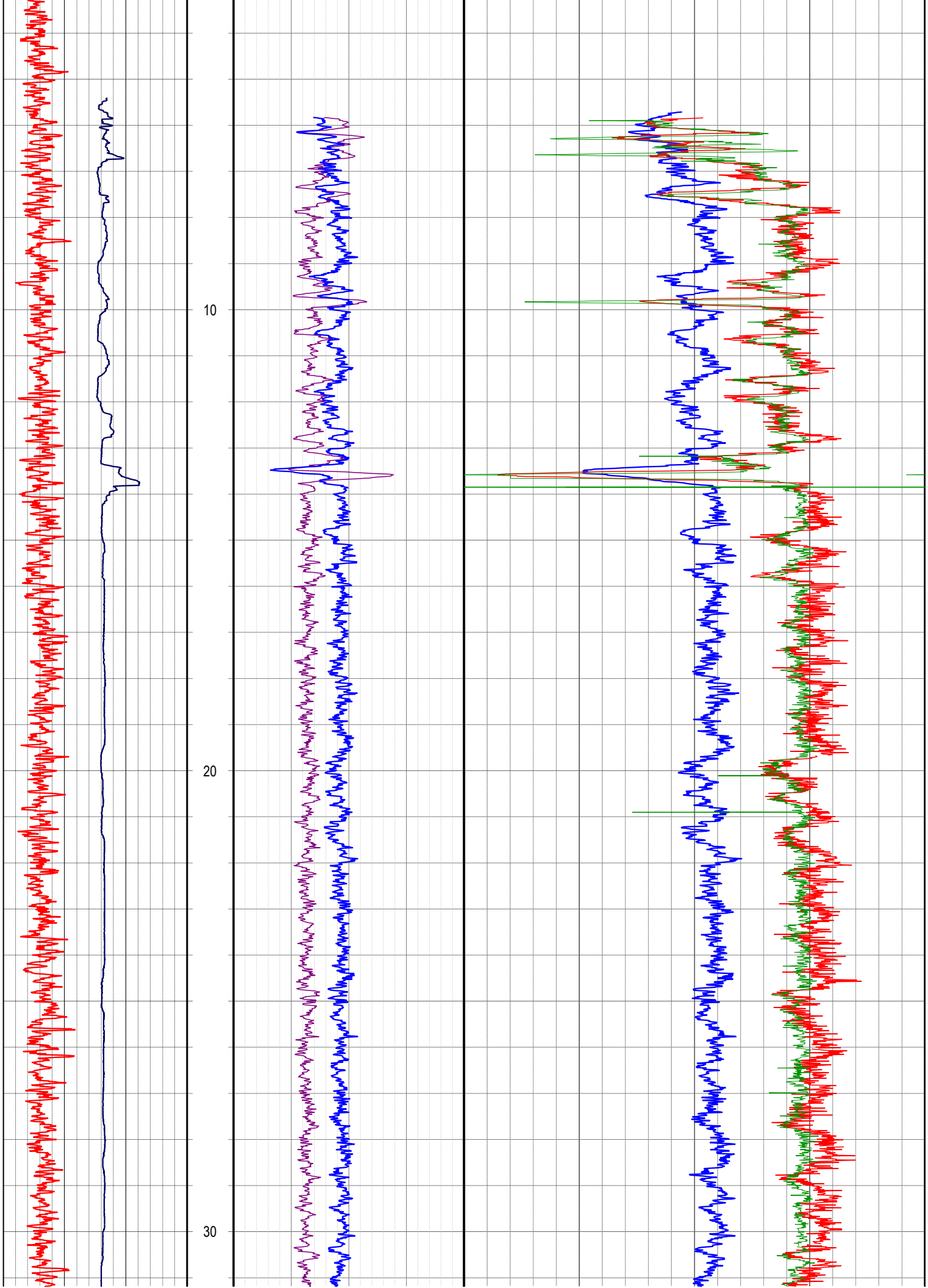
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			LSD Long Spaced Density		
0	API	150		-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				RHOB Bulk Density			SSD Short Spaced Density		
50	mm	200		1	G/CC	3	1	G/CC	3
				DT3 DELTA T RX2-RX1			BRD Bed Resolution Density		
				100	us	650	1	G/CC	3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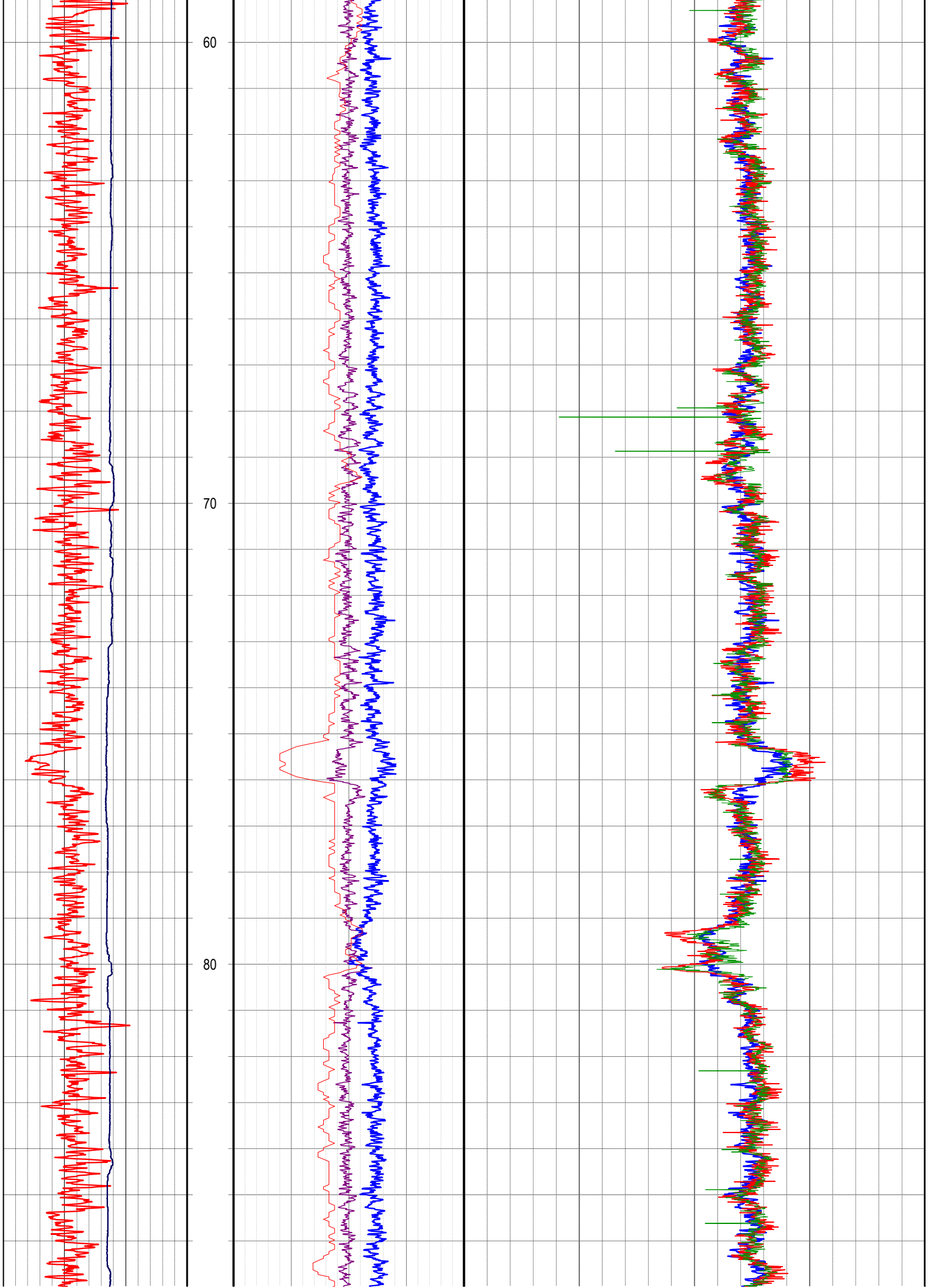
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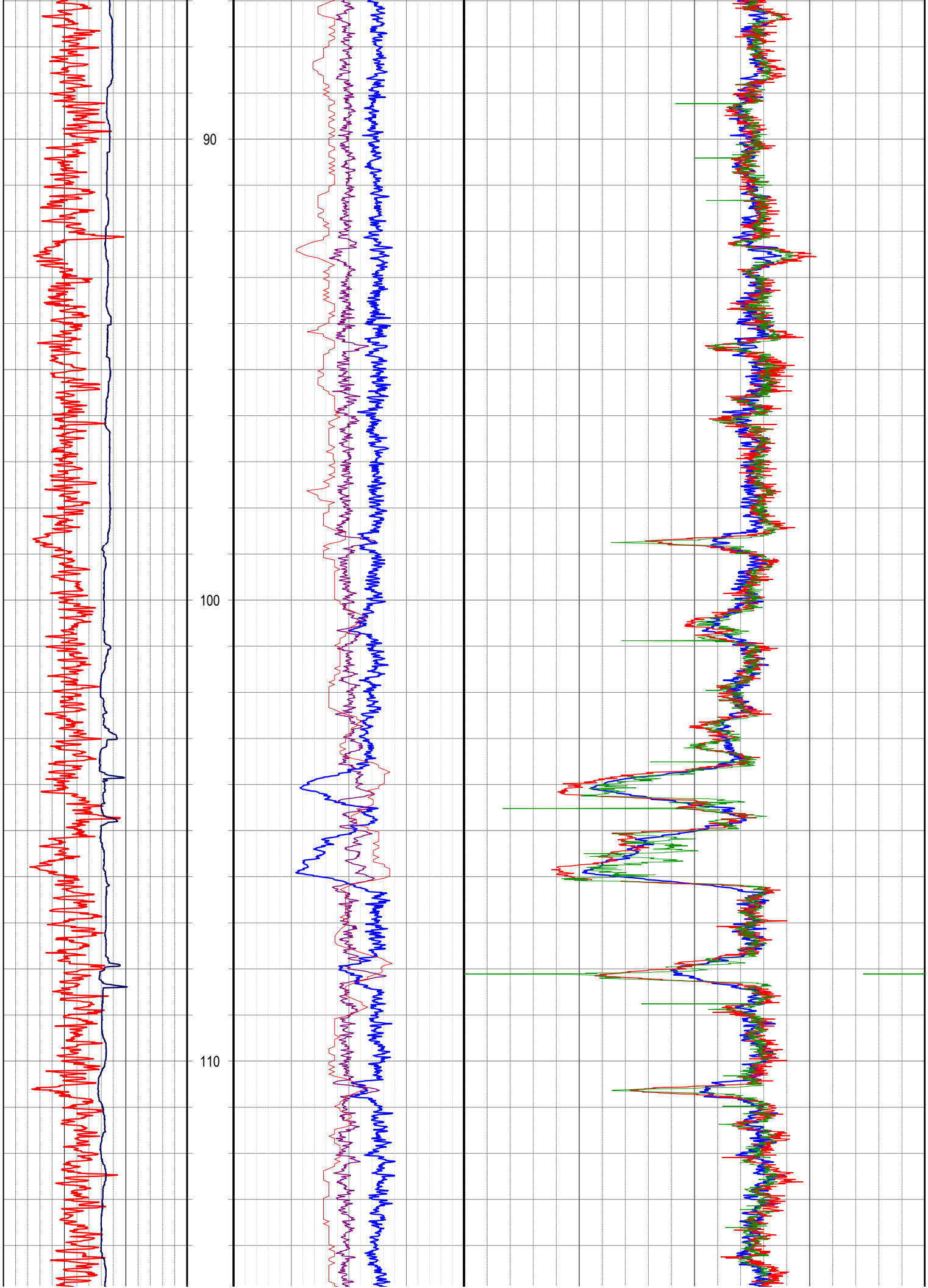
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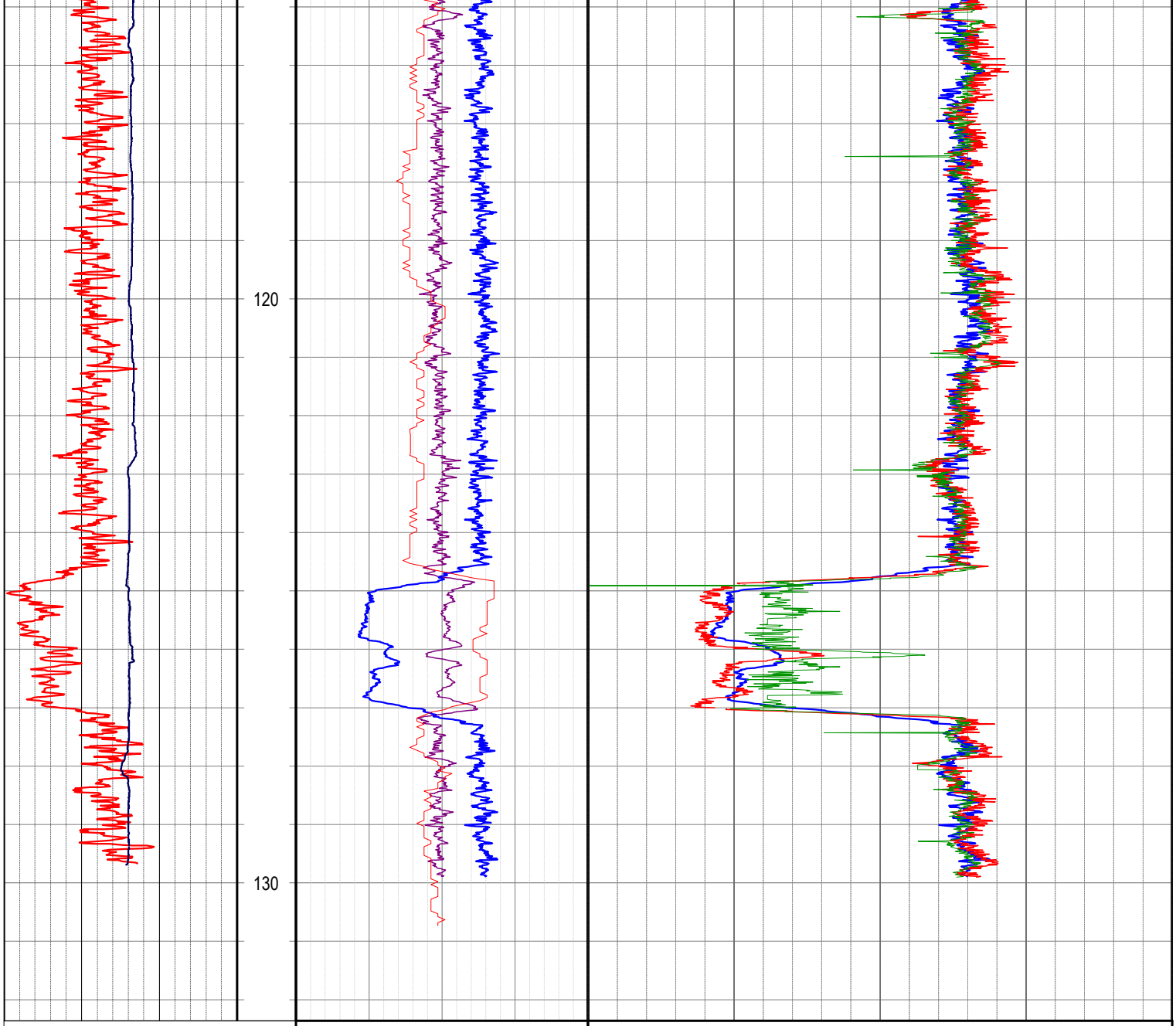


	DT3 DELTA T RX2-RX1 100 us 650	BRD Bed Resolution Density 1 G/CC 3
CALI Caliper 50 mm 200	RHOB Bulk Density 1 G/CC 3	SSD Short Spaced Density 1 G/CC 3
GRDEN Natural Gamma 0 API 150	DRHOB Differential Density -0.4 G/CC 0.4	LSD Long Spaced Density 1 G/CC 3

Depth
1:100

ENERGY INVESTMENTS

W78

Formation Density

1:25

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	65/2007 TUNBRIDGE
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	MGA55
COORD	GDA94
EASTING	0538876
NORTHING	5332104
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES

DATE	20/06/2014
FLUID LEVEL	37.2 m
FLUID TYPE	WATER
DRILLED DEPTH	132.5 m
DATUM	GL
DRILLING COMPANY	KMR DRILLING
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
PER	130mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	132.5 m
INT LOGGED	20-102 m

LOGGING RUNS

TOOL	ID	START	FINISH
FDS	817	132.0	0
MST		132	0
FWS		132	30
ATV			

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^3-1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

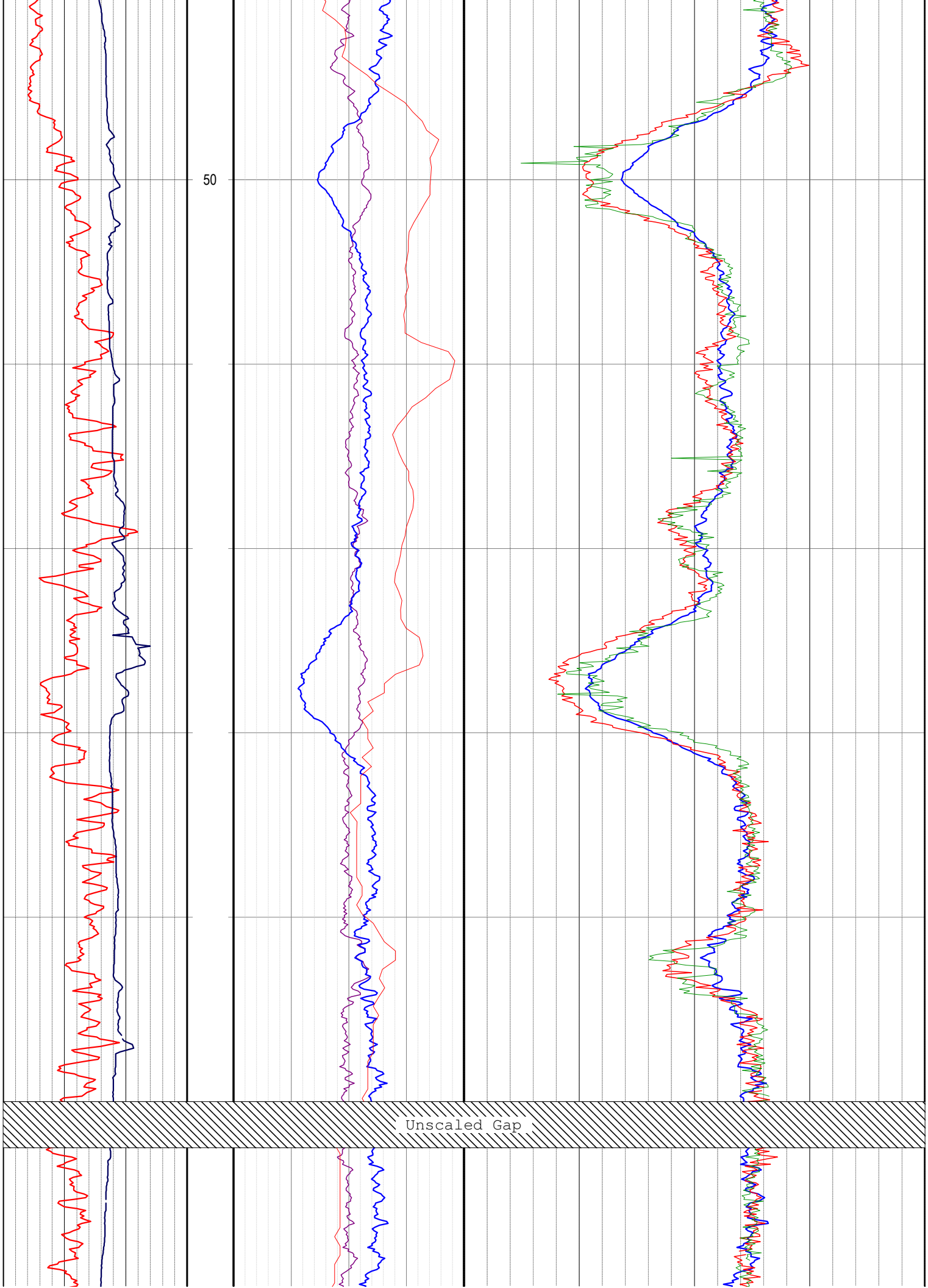
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1m:25m	DRHOB Differential Density			LSD Long Spaced Density		
0	API	150		-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				RHOB Bulk Density			SSD Short Spaced Density		
50	mm	200		1	G/CC	3	1	G/CC	3
				DT3 DELTA T RX2-RX1			BRD Bed Resolution Density		
				100	us	650	1	G/CC	3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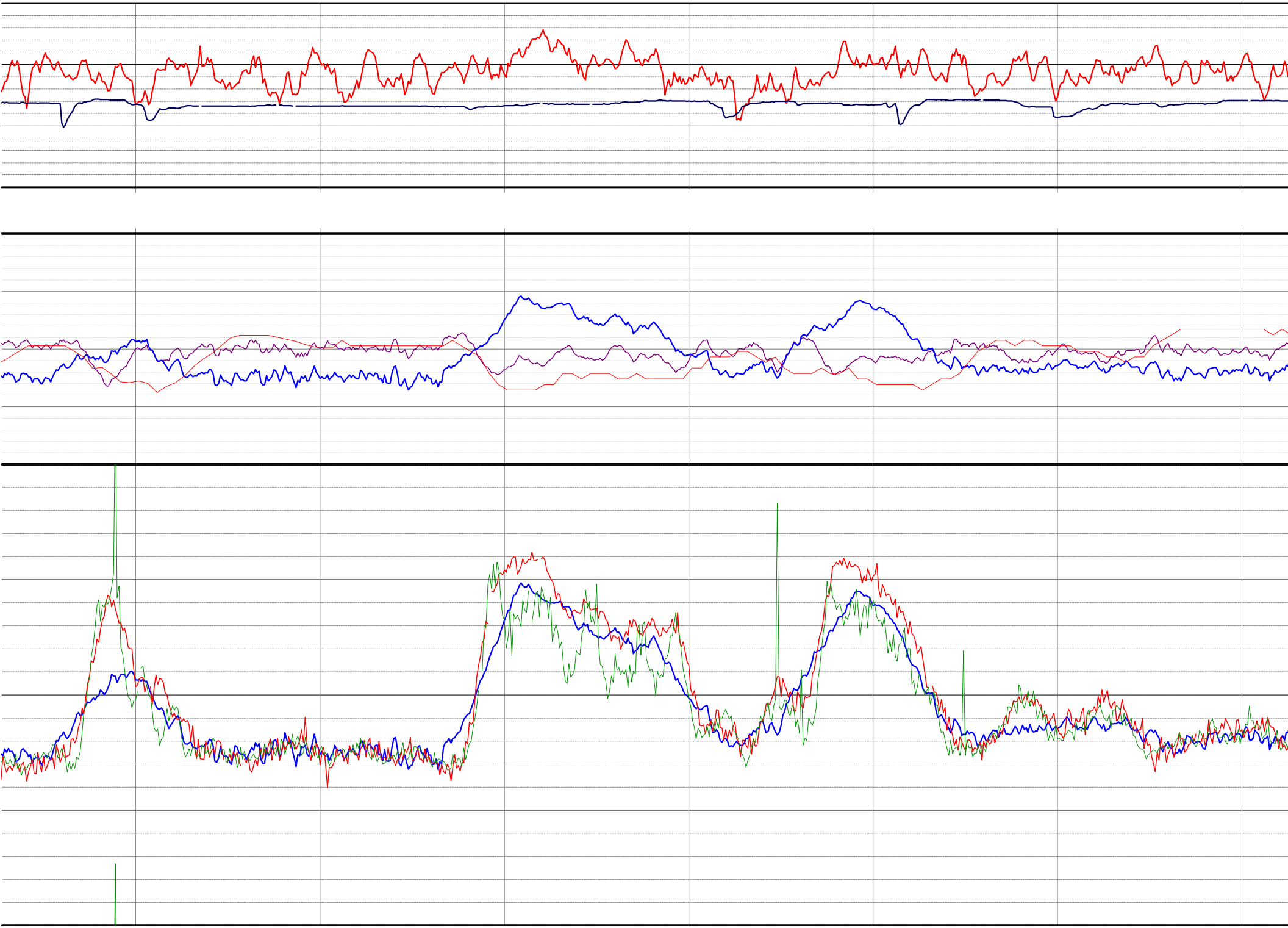
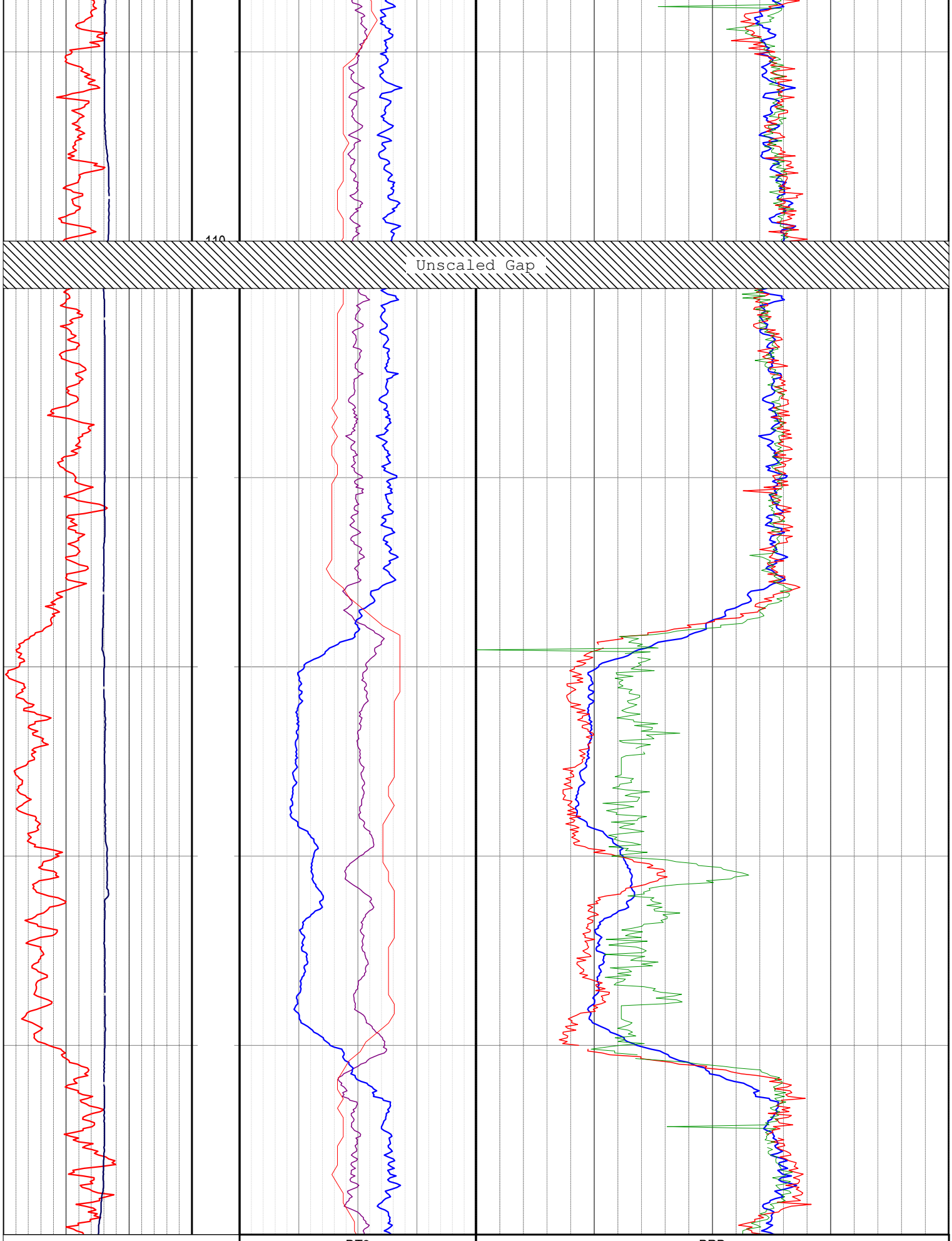
Unscaled Gap




110
Unscaled Gap
DT3
DELTA T RX2-RX1
100
us
650
BRD
Bed Resolution Density
1
G/CC
3
CALI
RHOB
SSD

CALI				RHOB			LSD	
Caliper				Bulk Density			Short Spaced Density	
50	mm	200		1	G/CC	3	1	G/CC	3
GRDEN			Depth	DRHOB			LSD	
Natural Gamma				Differential Density			Long Spaced Density	
0	API	150	1m:25m	-0.4	G/CC	0.4	1	G/CC	3

ENERGY INVESTMENTS

W78

COMPOSITE

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	65/2007 TUNBRIDGE
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	MGA55
COORD	GDA94
EASTING	0538876
NORTHING	5332104
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES

DATE	20/06/2014
FLUID LEVEL	37.2 m
FLUID TYPE	WATER
DRILLED DEPTH	132.5 m
DATUM	GL
DRILLING COMPANY	KMR DRILLING
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
PER	130mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m

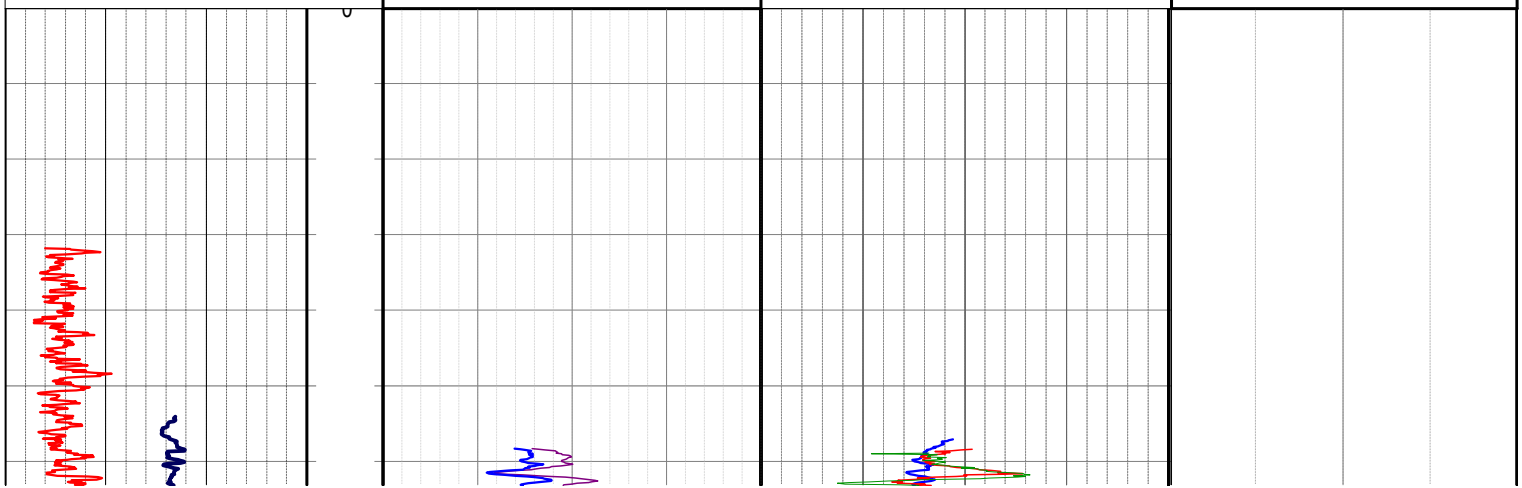
LOGGING DETAILS

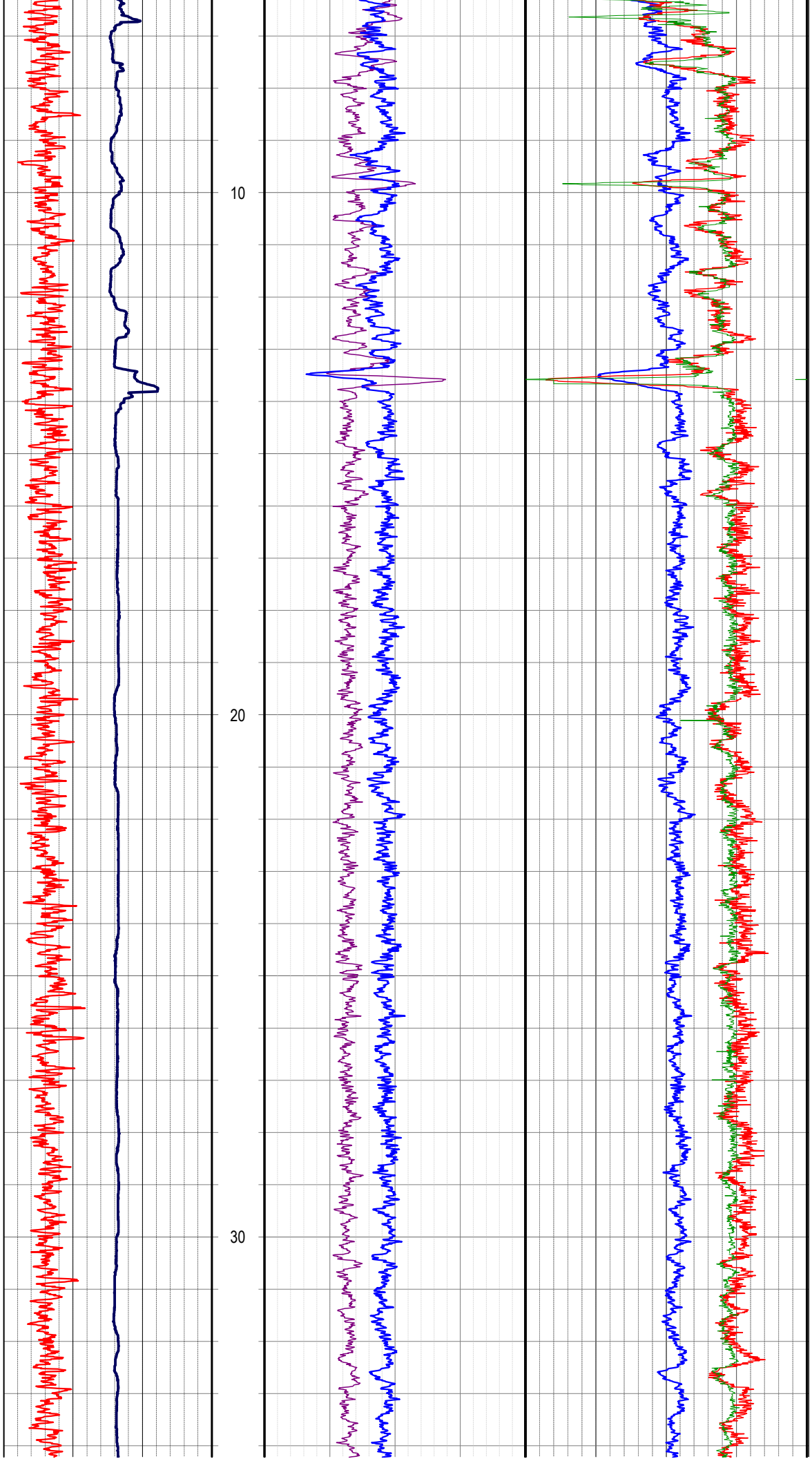
RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	132.5 m
INT LOGGED	20-102 m

LOGGING RUNS

TOOL	ID	START	FINISH
FDS	817	132.0	0
MST		132	0
FWS		132	30
ATV			

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			LSD Long Spaced Density			PR POINT RESISTIVITY		
0	API	150		-0.4	G/CC	0.4	1	G/CC	3	0	ohm	200
CALI Caliper				RHOB Bulk Density			SSD Short Spaced Density			SP SPONTANEOUS POTENTIAL		
50	mm	200		1	G/CC	3	1	G/CC	3	-300	mV	-200
RX2 - rtw REFLECTED TUBE WAVE AMP				DT3 DELTA T RX2-RX1			BRD Bed Resolution Density			16N 16" RESISTIVITY		
0		3e+006		100	us	650	1	G/CC	3	2	ohm m2/m	2000
				REFLECTIVITY ROCK HARDNESS						Lithology		
				0		400						

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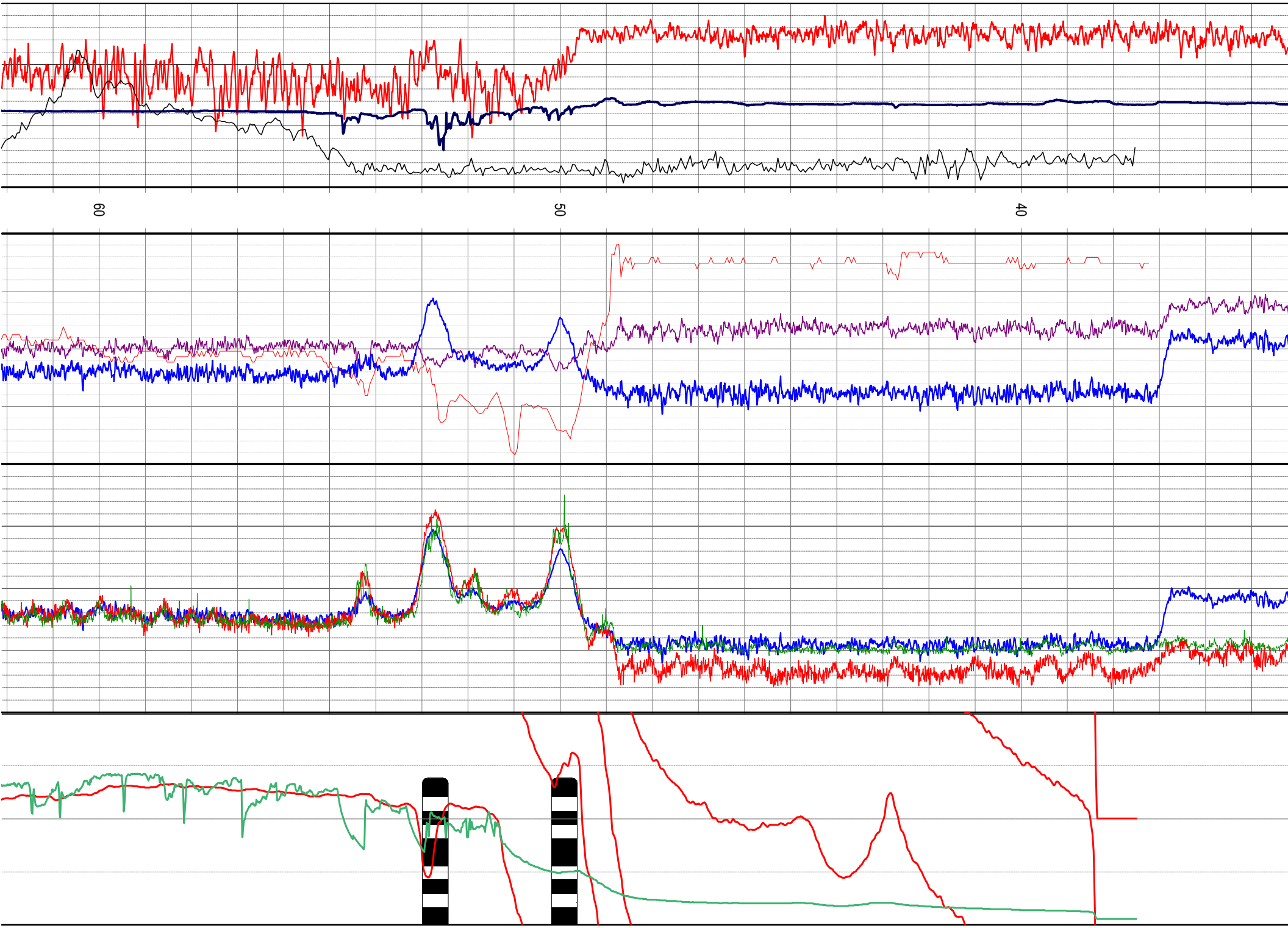
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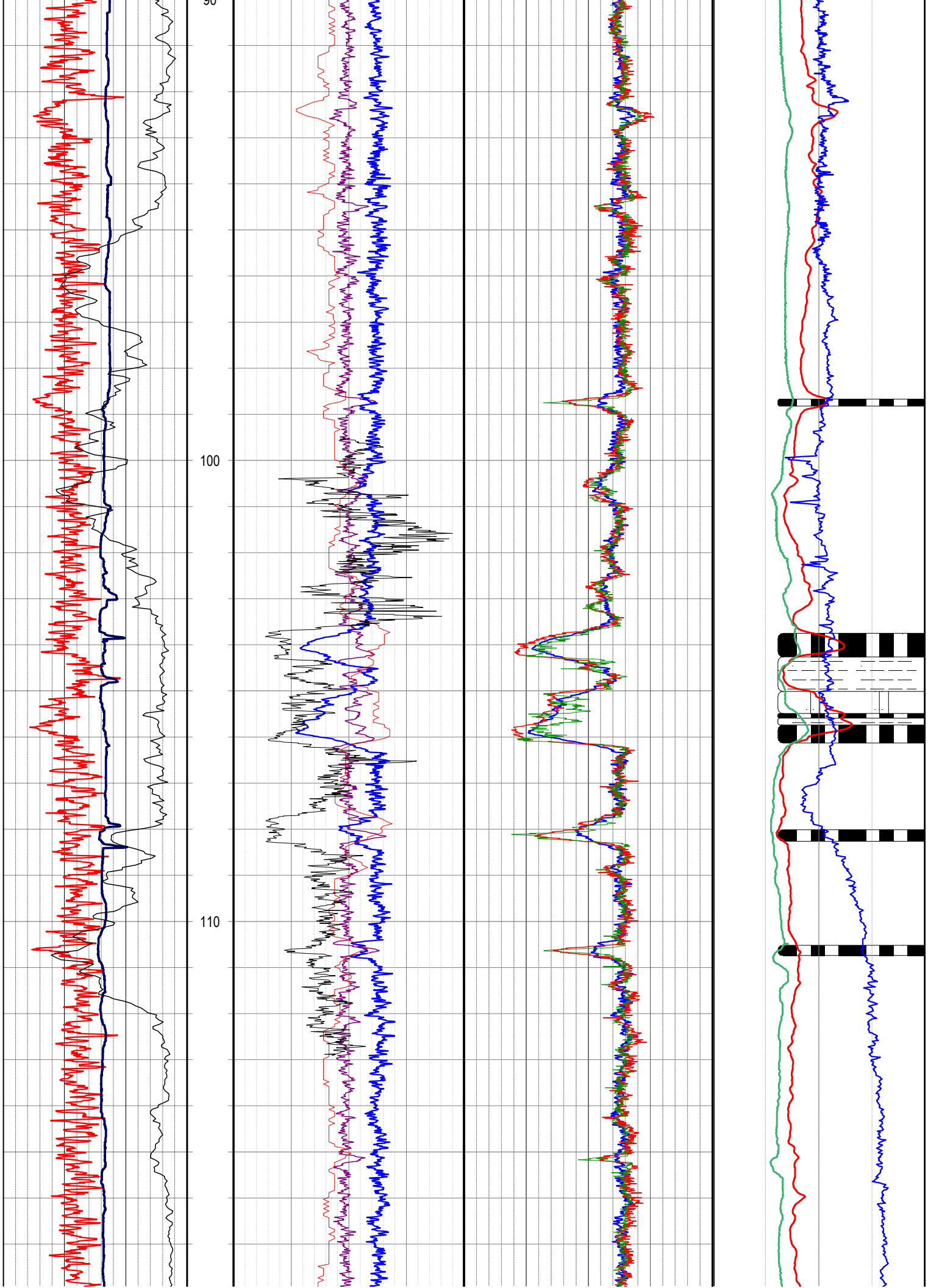
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100
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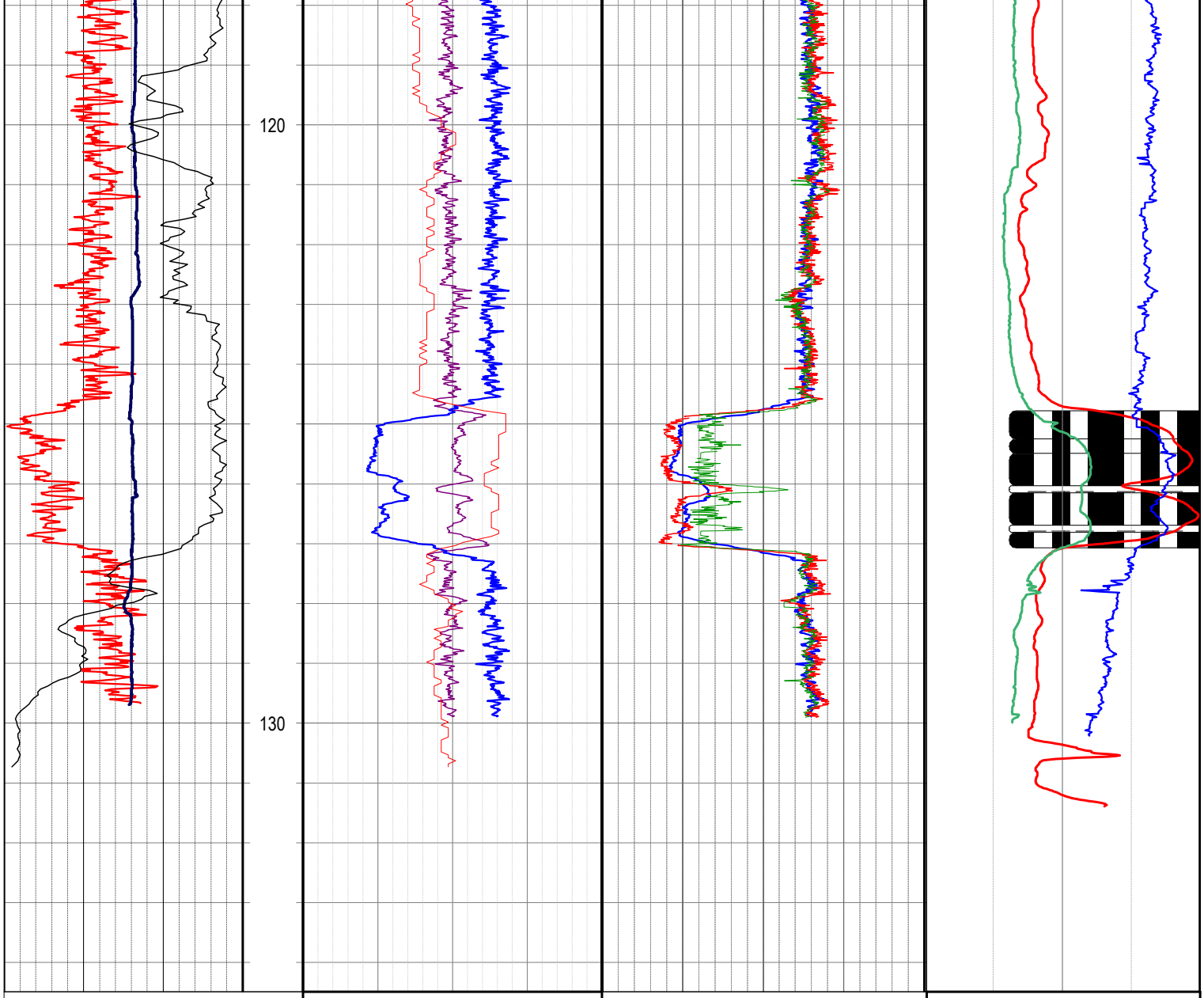


	REFLECTIVITY ROCK HARDNESS 0 400		Lithology
RX2 - rtw REFLECTED TUBE WAVE AMP 0 3e+006	DT3 DELTA T RX2-RX1 100 us 650	BRD Bed Resolution Density 1 G/CC 3	16N 16" RESISTIVITY 2 ohm m2/m 2000
CALI Caliper 50 mm 200	RHOB Bulk Density 1 G/CC 3	SSD Short Spaced Density 1 G/CC 3	SP SPONTANEOUS POTENTIAL -300 mV -200
GRDEN Natural Gamma 0 API 150	DRHOB Differential Density -0.4 G/CC 0.4	LSD Long Spaced Density 1 G/CC 3	PR POINT RESISTIVITY 0 ohm 200

Depth
1:100

ENERGY INVESTMENTS

W78

FULL WAVE SONIC

1:200

ENDEAVOUR GEOPHYSICS

LOCATION		HOLE ATTRIBUTES		LOGGING DETAILS	
LOCATION	WOODBURY	DATE	20/06/2014	RECORDED BY	CALEB AMES
EL	65/2007 TUNBRIDGE	FLUID LEVEL	37.2 m	WITNESSED BY	ROWENA MURCOTT
PROVINCE		FLUID TYPE	WATER	UNIT	EG25
STATE	TASMANIA	DRILLED DEPTH	132.5 m	LOGGED DEPTH	132.5 m
COUNTRY	AUSTRALIA	DATUM	GL	INT LOGGED	35-132 m
LATI		DRILLING COMPANY	KMR DRILLING		
LONG		DRILLING RIG			
GEODETIC DATUM	MGA55				
COORD	GDA94				
EASTING	0538876				
NORTHING	5332104				
ELEVATION	m				
SRVC	ENDEAVOUR GEOPHYSICS				
WEB	www.endeavourgeo.com				

COMMENTS

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
PER	130mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m

LOGGING RUNS

TOOL	ID	START	FINISH
FDS	817	132.0	0
MST		132	0
FWS		132	30
ATV			

FULL WAVE SONIC - FWS50

CALIBRATION	
FWS_TESTED_DATE	30/07/2013
FWS_MODEL	ALT FWS50
FWS_SERIAL_NO	131009

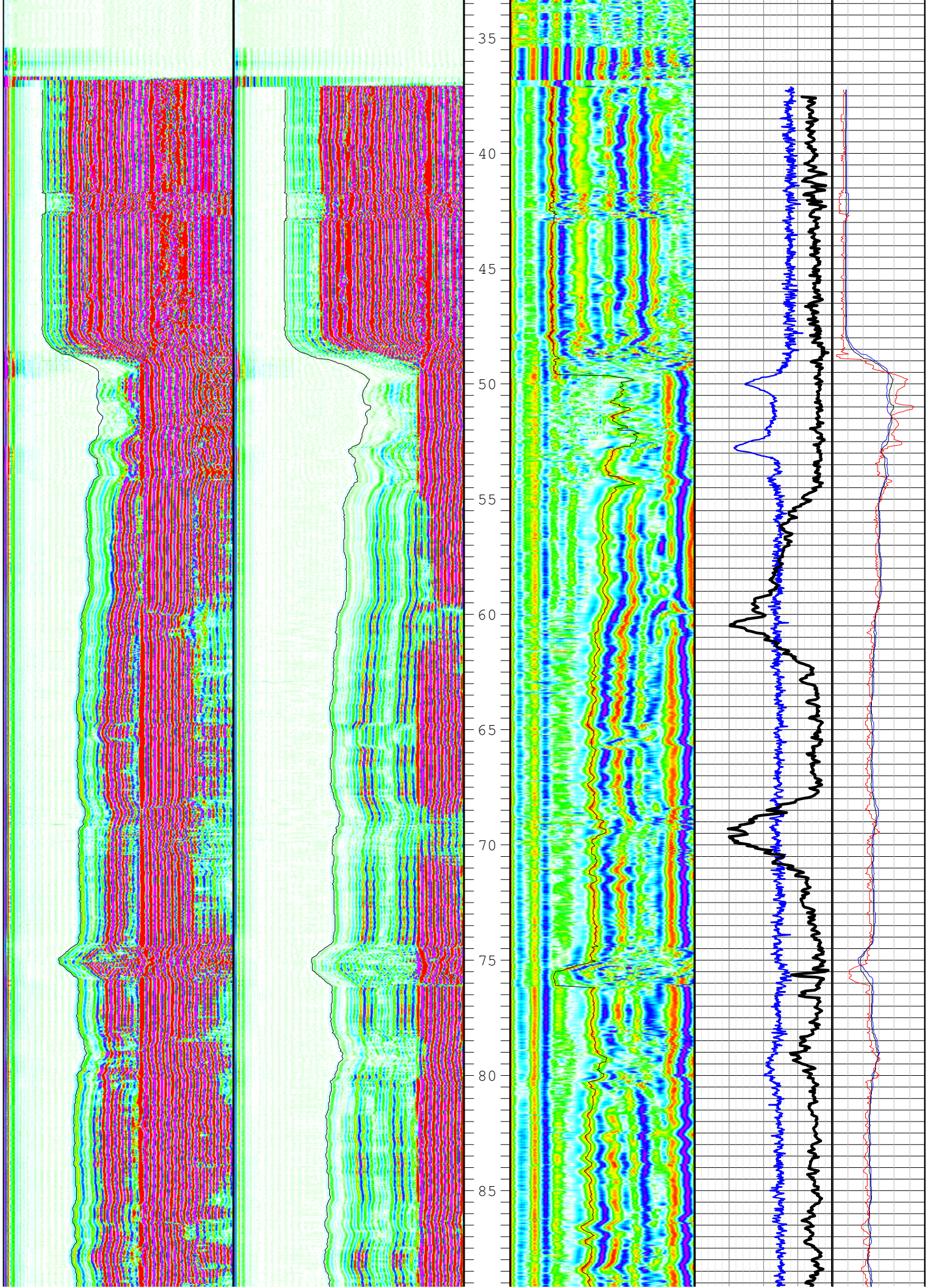
MNEUMONICS

RX1 = Transmitter-Receiver1 traveltime and wave amp
RX2 = Transmitter-Receiver2 traveltime and wave amp
RX1 - dt = Receiver1 first wave arrival in microseconds
RX2 - dt = Receiver2 first wave arrival in microseconds

Velocity Analysis = Merging of RX1 RX2 wavetrains
Primary Wave DT = Interpreted from Velocity Analysis
Shear Wave DT = Interpreted from Velocity Analysis
DT1 = from RX1-dt in us/m
DT2 = from RX2-dt in us/m
DT3 = (RX2-dt)-(RX1-dt)/0.3048 in us/m
Poisson's ratio, bulk modulus calculations possible with density data

ATTRIBUTES	
FWS_LENGTH	2.9m
FWS_DIAMETER	50mm
TX-RX1_SPACING	3FT
TX-RX2_SPACING	4FT
TOP_RX2_SPACING	0.93m
ACOUSTIC_WAVE_FREQUENCY	15KHz
FWS_MAX_TEMP	70 degC
FWS_MAX_PRESSURE	200 bars

RX1	RX2	Depth	Velocity Analysis	RHOB	DT1
RECEIVER 1	RECEIVER 2	1:200		Bulk Density	DELTA T RX1
-2048 0 us 2047 1020	-2048 0 us 2047 1020		0 0 us/m 25.9567 750	1 G/CC 3	100 us 700
RX1 - dt	RX2 - dt		P Wave Slowness	RX2 - rtw	DT2
FIRST ARRIVAL	FIRST ARRIVAL			REFLECTED TUBE WAVE AMP	DELTA T RX2
0 us 1020	0 us 1020		0 us/m 750	0 3e+006	100 700
					DT3
					DELTA T RX2-RX1
					100 us 700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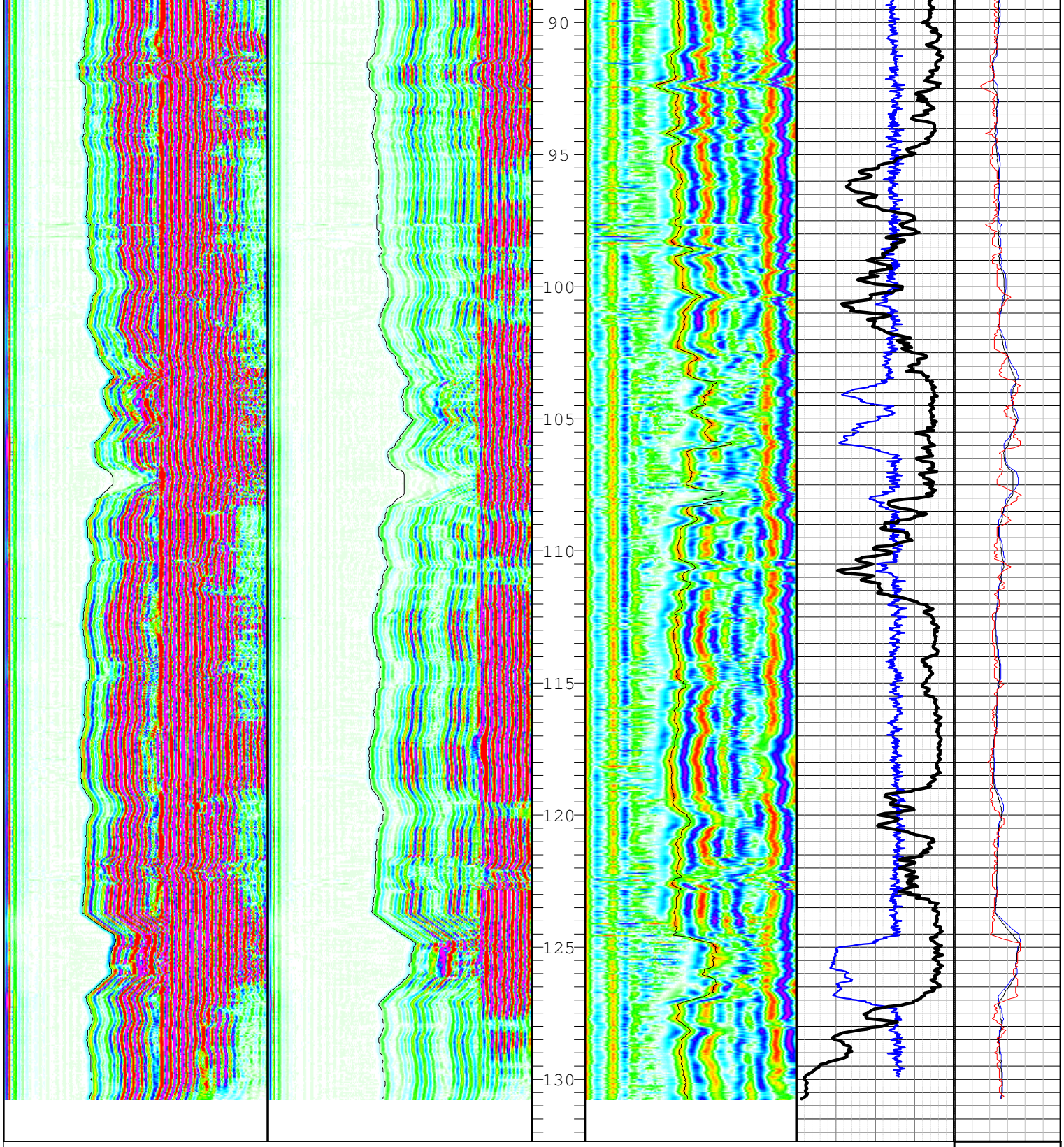
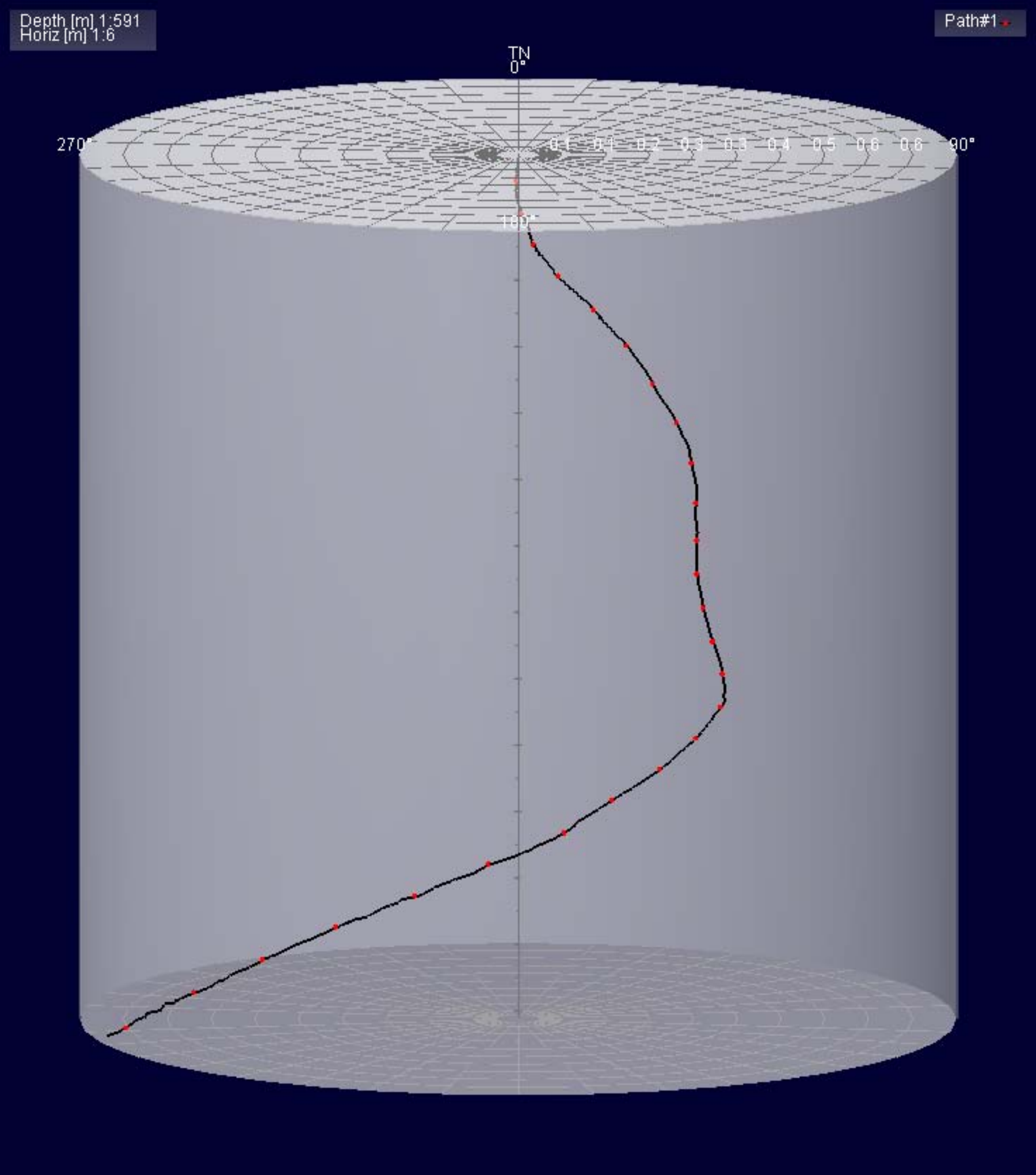
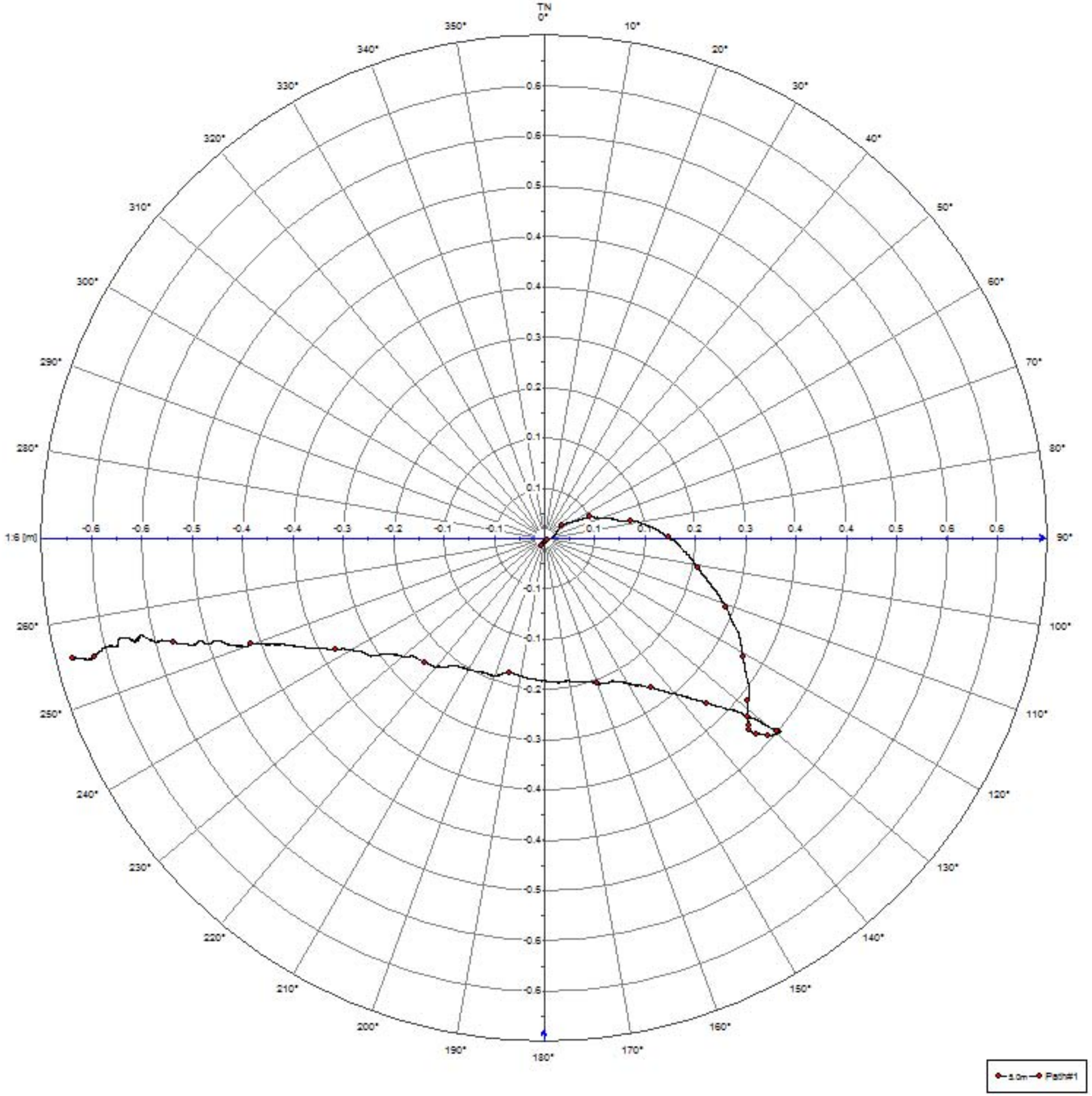
85



					DT3 DELTA T RX2-RX1 100 us 700
RX1 - dt FIRST ARRIVAL 0 us 1020	RX2 - dt FIRST ARRIVAL 0 us 1020		P Wave Slowness 0 us/m 750	RX2 - rtw REFLECTED TUBE WAVE AMP 0 3e+006	DT2 DELTA T RX2 100 700
RX1 RECEIVER 1 -2048 2047 0 us 1020	RX2 RECEIVER 2 -2048 2047 0 us 1020	Depth 1:200	Velocity Analysis 0 25.9567 0 us/m 750	RHOB Bulk Density 1 G/CC 3	DT1 DELTA T RX1 100 us 700


Depth [m] 1:591
Horiz [m] 1:6
Path#1
TN
0°
270°
90°
0.1
0.2
0.3
0.4
0.5
0.6
0.7
180°


TN
0°
10°
20°
30°
40°
50°
60°
70°
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90°
100°
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120°
130°
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170°
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220°
230°
240°
250°
260°
270°
280°
290°
300°
310°
320°
330°
340°
350°
1:6 [m]
0.6
0.6
0.5
0.4
0.4
0.3
0.2
0.1
0.1
-0.1
-0.1
-0.2
-0.3
-0.4
-0.4
-0.5
-0.6
-0.6
-0.6
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-0.4
-0.3
-0.2
-0.1
-0.1
0.1
0.1
0.2
0.3
0.4
0.4
0.5
0.6
0.6
± 0.0m
Path#1

ENERGY INVESTMENTS

W79A

FORMATION DENSITY

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	
NORTHING	
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

LSD CALIBRATION VARIES DUE TO PVC

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	2 m
FLUID TYPE	WATER
DRILLED DEPTH	111.6 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	111.6

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	111

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	111 m
INT LOGGED	0-111 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	111.3
MST	01	111	0
FDS	817	111.1	0
SON	20	111	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^3*1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

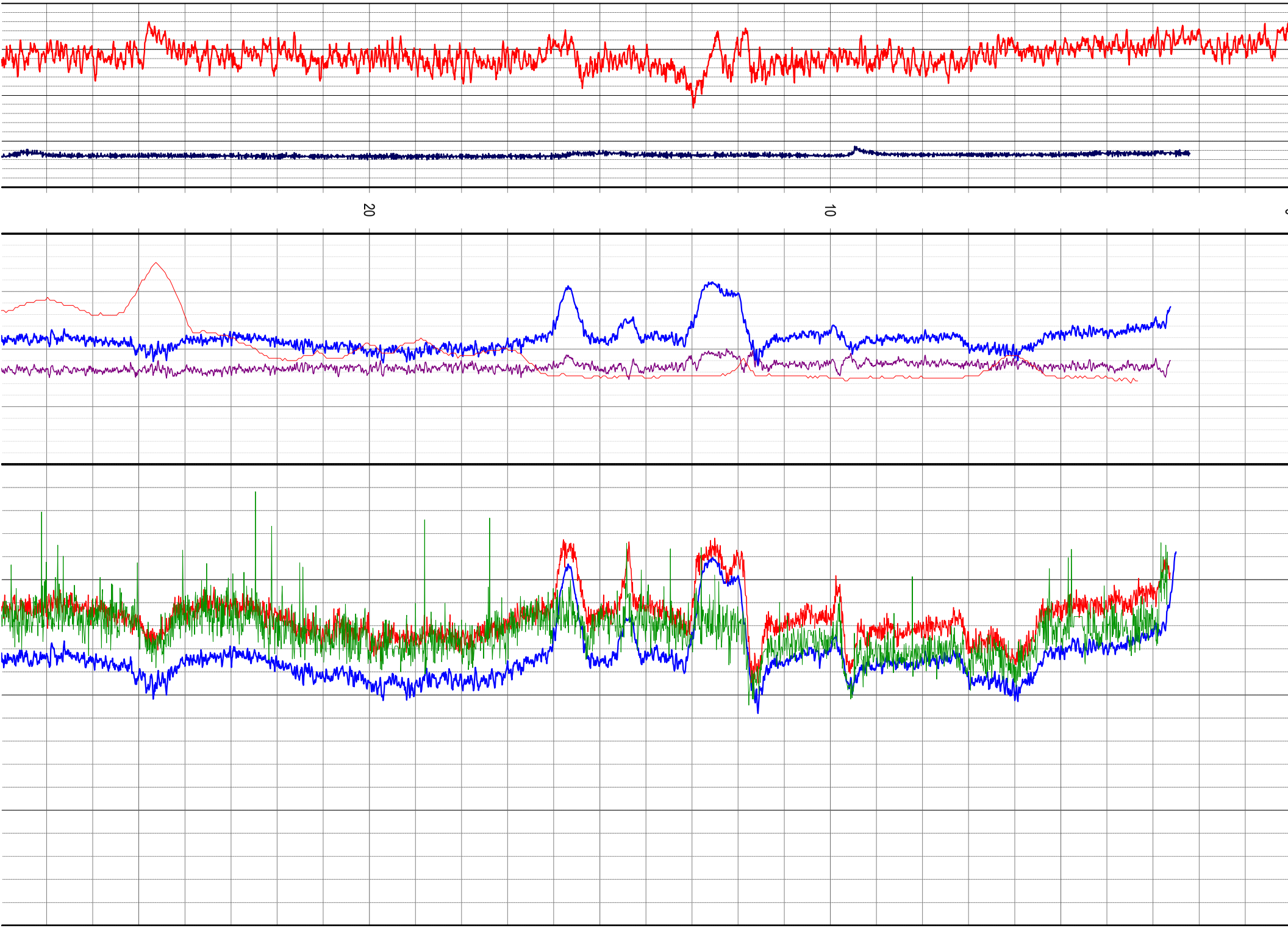
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			LSD Long Spaced Density		
0	API	200		-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				RHOB Bulk Density			SSD Short Spaced Density		
55	mm	65		1	G/CC	3	1	G/CC	3
				DT1 RECEIVER 1			BRD Bed Resolution Density		
				200	us/m	600	1	G/CC	3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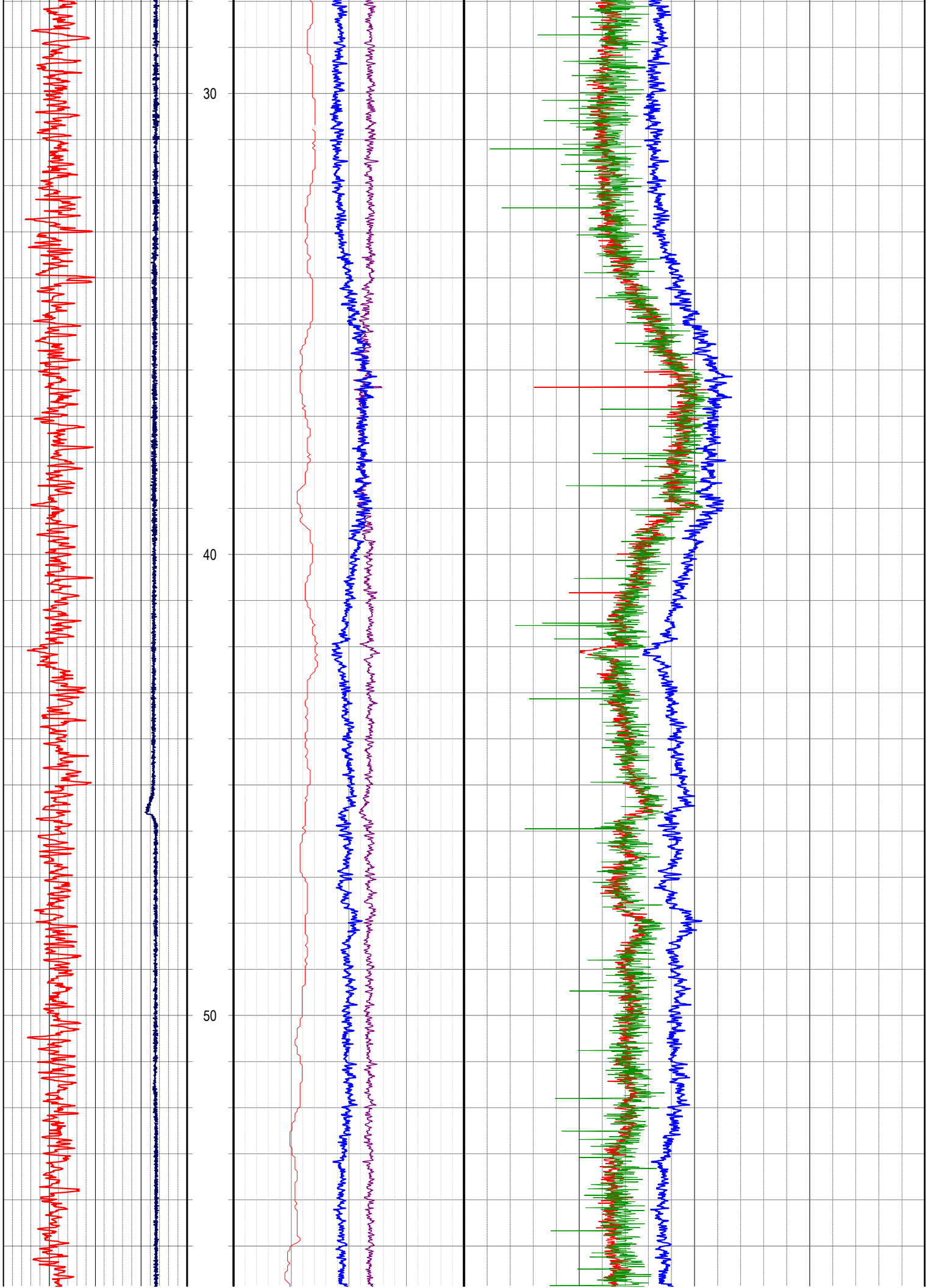
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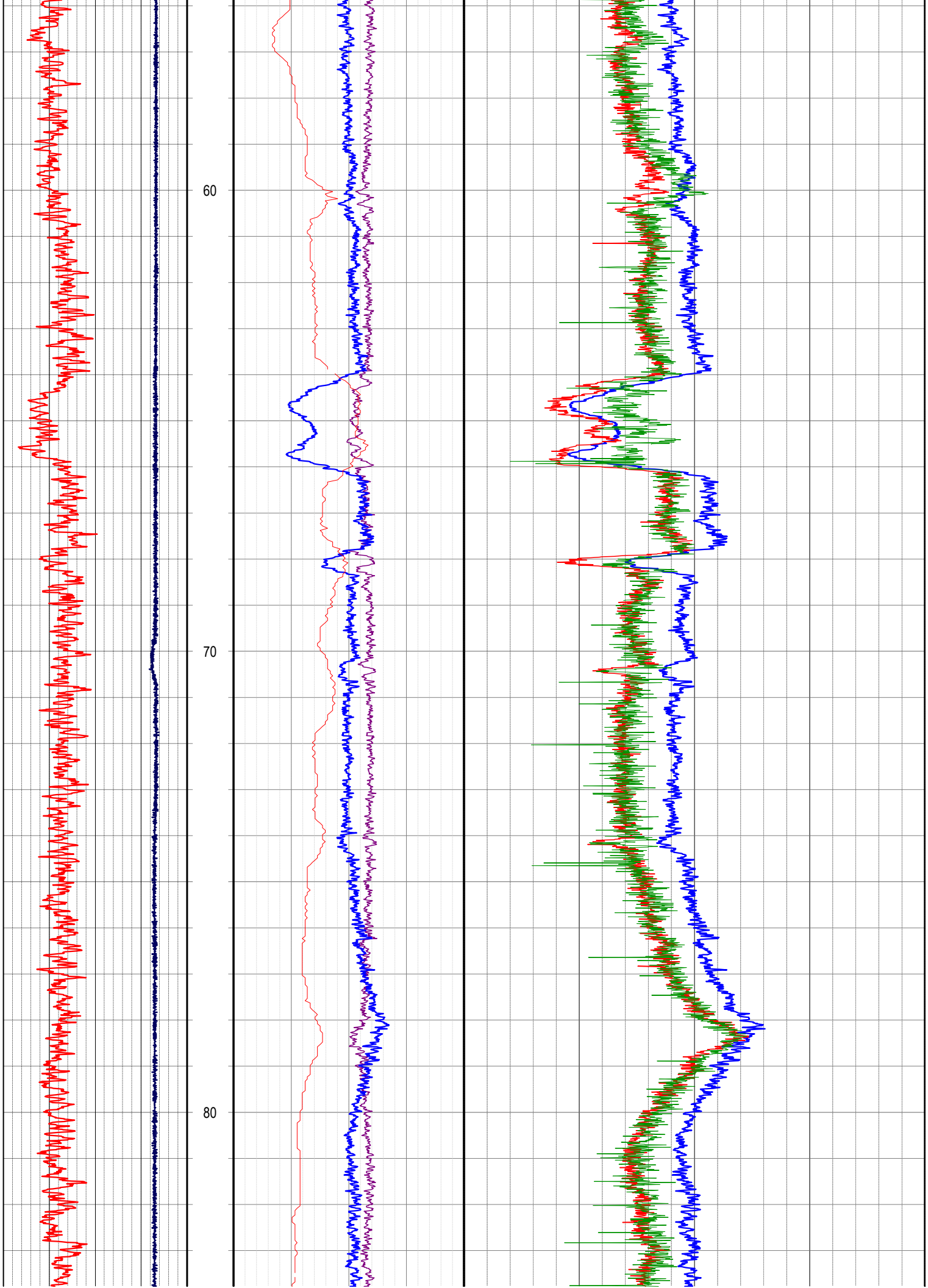
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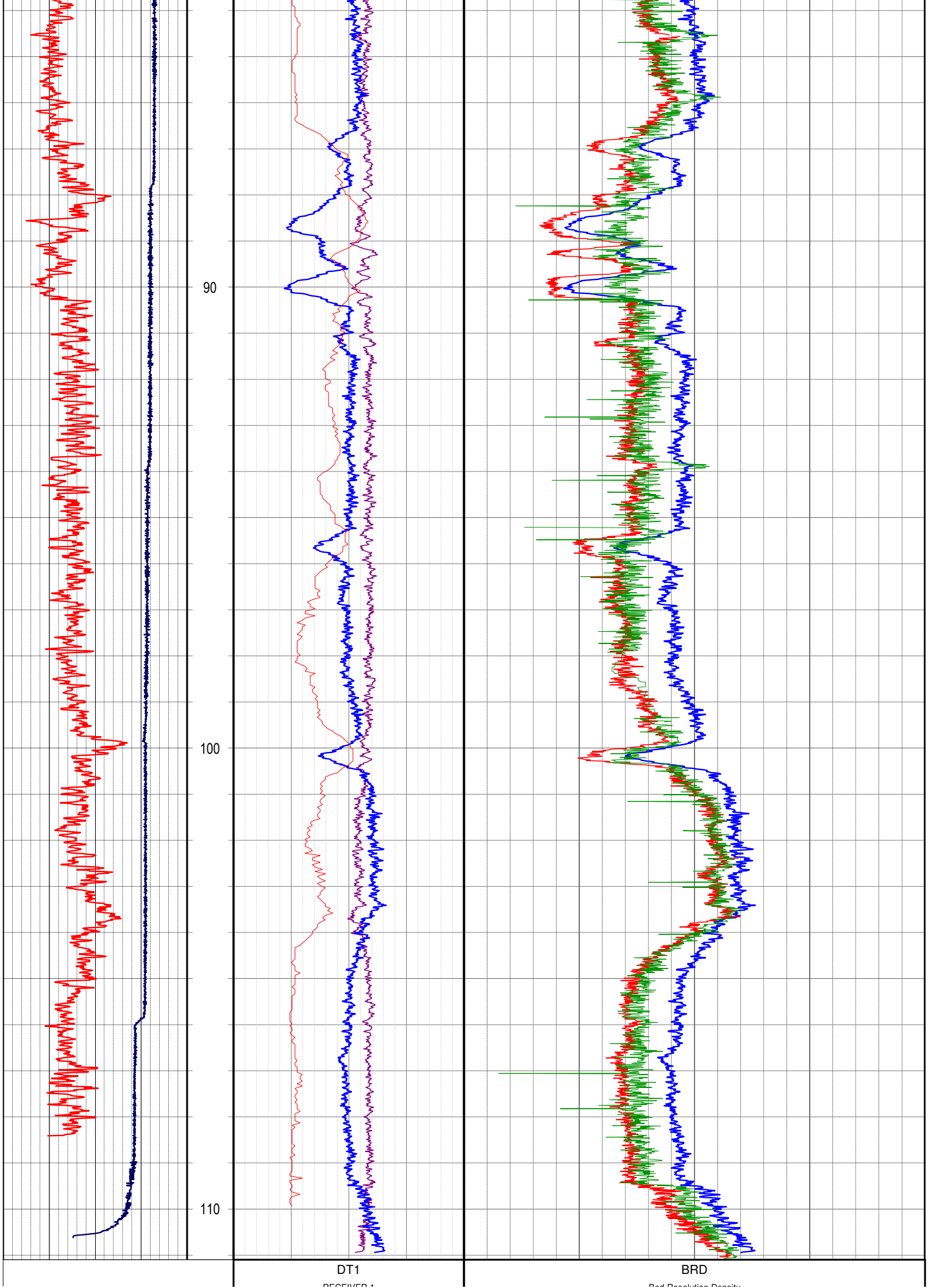

90
100
110
DT1
RECEIVER 1
BRD
Red Resolution Density

			RECEIVER 1			Bed Resolution Density		
			200	us/m	600	1	G/CC	3
CALI			RHOB			SSD		
Caliper			Bulk Density			Short Spaced Density		
55	mm	65	1	G/CC	3	1	G/CC	3
GRDEN			DRHOB			LSD		
Natural Gamma		Depth	Differential Density			Long Spaced Density		
0	API	200	-0.4	G/CC	0.4	1	G/CC	3
		1:100						

ENERGY INVESTMENTS

W79A

FULL WAVE SONIC

1:200

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	
NORTHING	
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

LSD CALIBRATION VARIES DUE TO PVC

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	2.73 m
FLUID TYPE	WATER
DRILLED DEPTH	111.6 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	111.6

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	111

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	111 m
INT LOGGED	0-111 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	111.3
MST	01	111	0
FDS	817	111.1	0
SON	20	111	0

FULL WAVE SONIC - FWS50

CALIBRATION

FWS_TESTED_DATE	30/07/2014
FWS_MODEL	ALT FWS50
FWS_SERIAL_NO	131009

MNEUMONICS

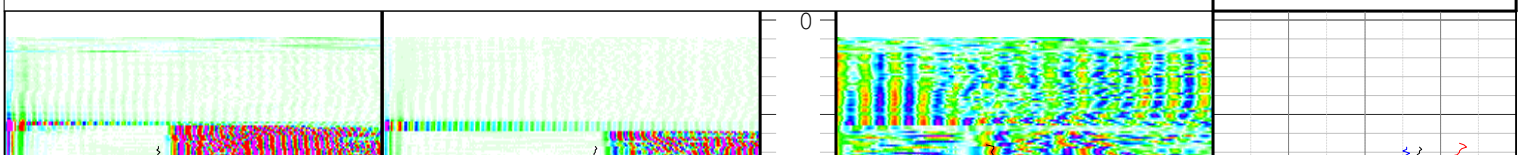
RX1 = Transmitter-Receiver1 traveltime and wave amp
RX2 = Transmitter-Receiver2 traveltime and wave amp
RX1 - dt = Receiver1 first wave arrival in microseconds
RX2 - dt = Receiver2 first wave arrival in microseconds

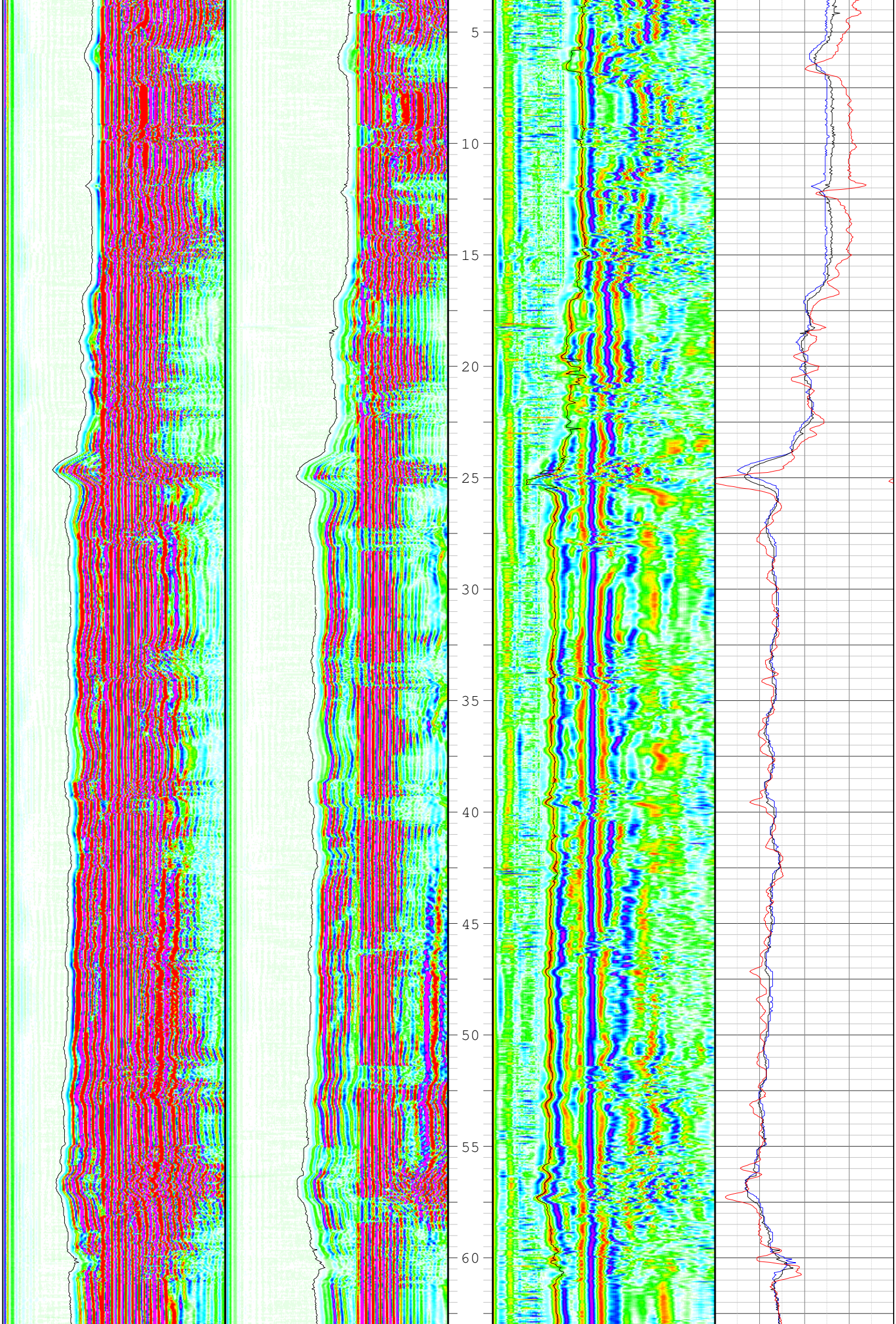
Velocity Analysis = Merging of RX1 RX2 wavetrains
Primary Wave DT = Interpreted from Velocity Analysis
Shear Wave DT = Interpreted from Velocity Analysis
DT1 = from RX1-dt in us/m
DT2 = from RX2-dt in us/m
DT3 = (RX2-dt)-(RX1-dt)/0.3048 in us/m
Poisson's ratio, bulk modulus calculations possible with density data

ATTRIBUTES

FWS_LENGTH	2.9m
FWS_DIAMETER	50mm
TX-RX1_SPACING	3FT
TX-RX2_SPACING	4FT
TOP_RX2_SPACING	0.93m
ACOUSTIC_WAVE_FREQUENCY	15KHz
FWS_MAX_TEMP	70 degC
FWS_MAX_PRESSURE	200 bars

RX1	RX2	Depth	VELOCITY ANALYSIS	DT1
RECEIVER 1	RECEIVER 2	1:200		RECEIVER 1
-2048 / 0 / us / 2047 / 1020	-2048 / 0 / us / 2047 / 1022		0.281206 / 0 / us/m / 25.8618 / 1200	200 / us/m / 600
RX1 - dt	RX2 - dt		P WAVE SLOWNESS	DT2
RECEIVER 1	RECEIVER 2		FROM VELOCITY ANALYSIS	RECEIVER 2
0 / us / 1020	0 / us / 1020		0 / us/m / 1200	200 / us/m / 600
				DT3
				RECEIVER 2 - RECEIVER 1
				200 / us/m / 600

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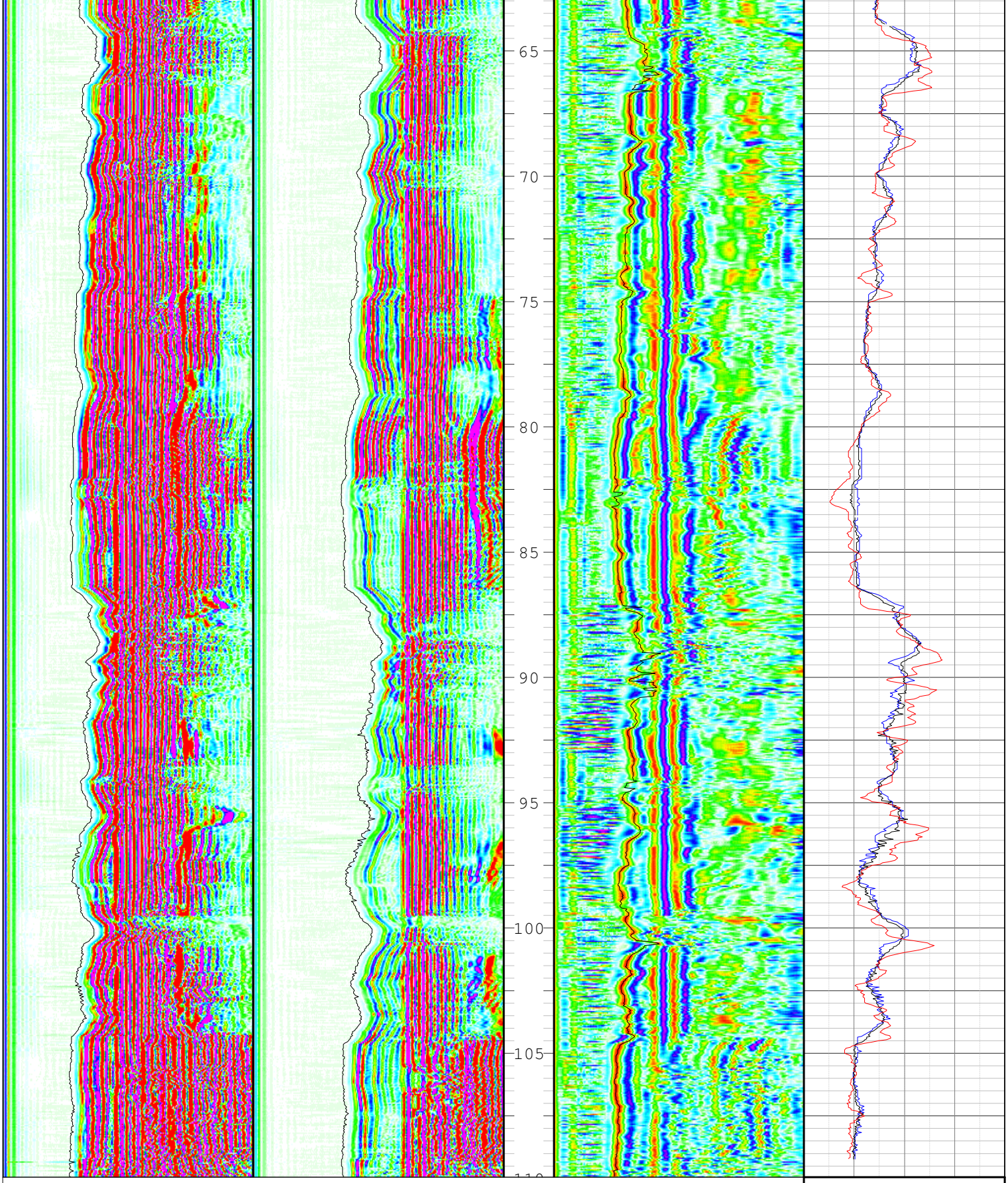


				DT3 RECEIVER 2 - RECEIVER 1 200 us/m 600
RX1 - dt RECEIVER 1 0 us 1020	RX2 - dt RECEIVER 2 0 us 1020		P WAVE SLOWNESS FROM VELOCITY ANALYSIS 0 us/m 1200	DT2 RECEIVER 2 200 us/m 600
RX1 RECEIVER 1 -2048 2047 0 us 1020	RX2 RECEIVER 2 -2048 2047 0 us 1022	Depth 1:200	VELOCITY ANALYSIS 0.281206 25.8618 0 us/m 1200	DT1 RECEIVER 1 200 us/m 600

ENERGY INVESTMENTS

W79A

MULTI SURVEY TOOL

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	
NORTHING	
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

DEVIATION FROM MAGNETIC NORTH

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	2 m
FLUID TYPE	WATER
DRILLED DEPTH	111.6 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	111.6

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	111

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	111 m
INT LOGGED	0-111 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	111.3
MST	01	111	0
FDS	817	111.1	0
SON	20	111	0

MULTI-SURVEY TOOL - MST

CALIBRATION

MST_CALIBRATION_DATE	10/03/2014
MST_SERIAL_NO	MST01
MST_TEMP_CAL	306.82*Ln({TEMP_RAW}-3703
MST_GAMMA_CAL	0.6673*{GRMST_RAW}
MST_DEADTIME	
MST_HOLESIZE_CORR	

MST_MNEUMONICS

GRMST_RAW = Natural gamma raw counts/sec
TEMP_RAW = Magnetic Sus raw counts/sec
PR = Point Resistivity
SP = Spontaneous Potential
16"N = 16" Resistivity
64"L = 64" Resistivity
SANGB = Magnetic Deviation Azimuth
SANG = Magnetic Deviation Tilt

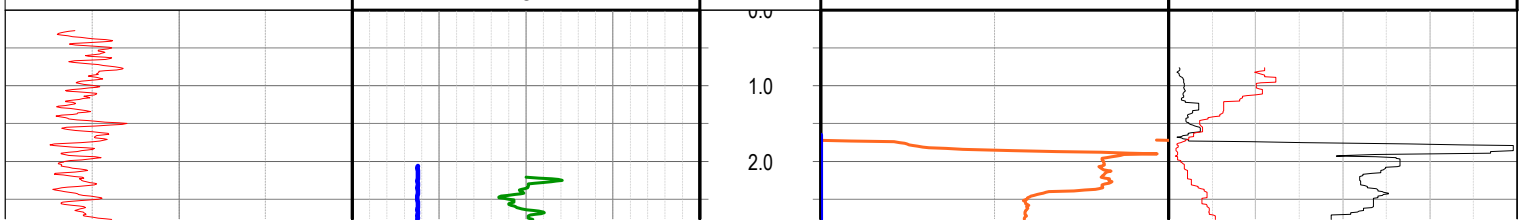
GRMST = Calibrated Gamma - API Units
TEMPERATURE = Temperature in degrees Celsius
1m DIFFERENTIAL TEMP = Difference between 0.5m above and below

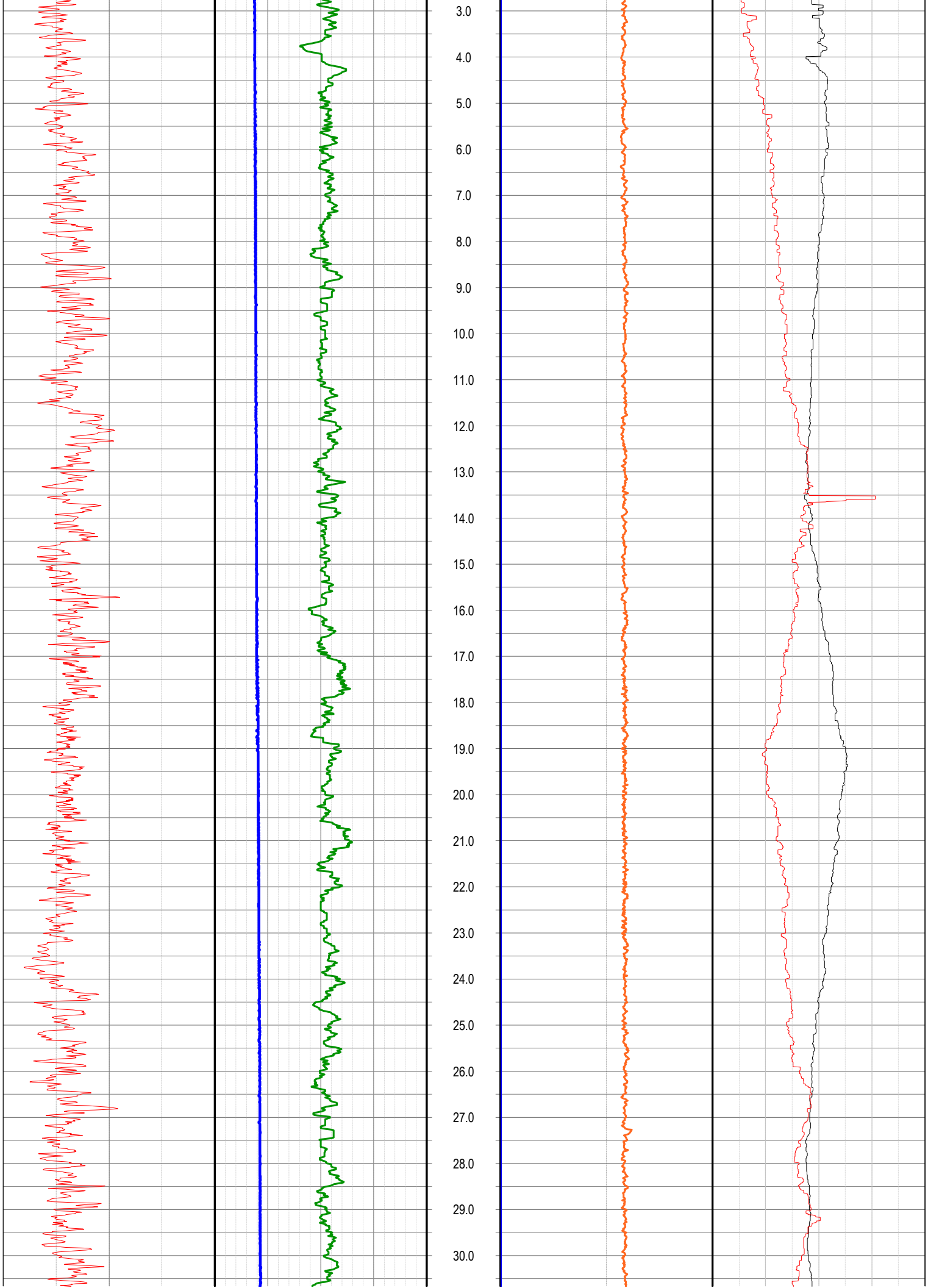
ATTRIBUTES

MST_LENGTH	2400mm
MST_DIAMETER	45mm
MST_WEIGHT	13.5kg
MST_TEMP_RANGE	70 deg
MST_LOGGING_SPEED	6m/min
MST_DEVIATION	

3 axis magnetometer, 3 axis accelerometer

GRMST NATURAL GAMMA	TEMPERATURE	Depth 1m:100m	16N 16" RESISTIVITY	MAG_AZIMUTH
0 API 200	15 deg C 35		1400 ohm m2/m 1600	0 DEG 360
	1m DIFFERENTIAL TEMP Diff between Samples 0.5m above & below		SP SPONTANEOUS POTENTIAL	TILT
	-0.15 deg C 0.15		-750 mV -50	0 DEG 2

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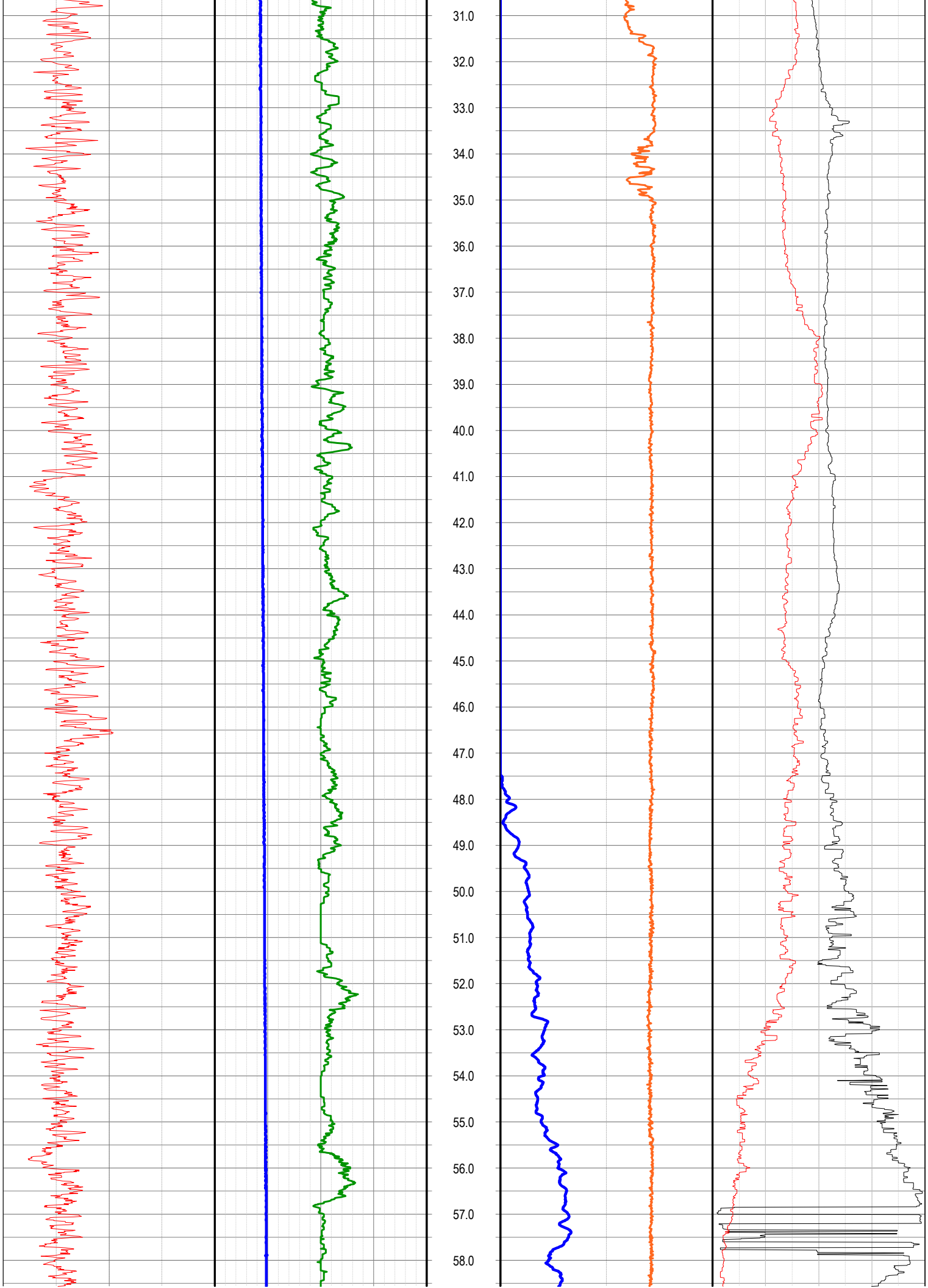
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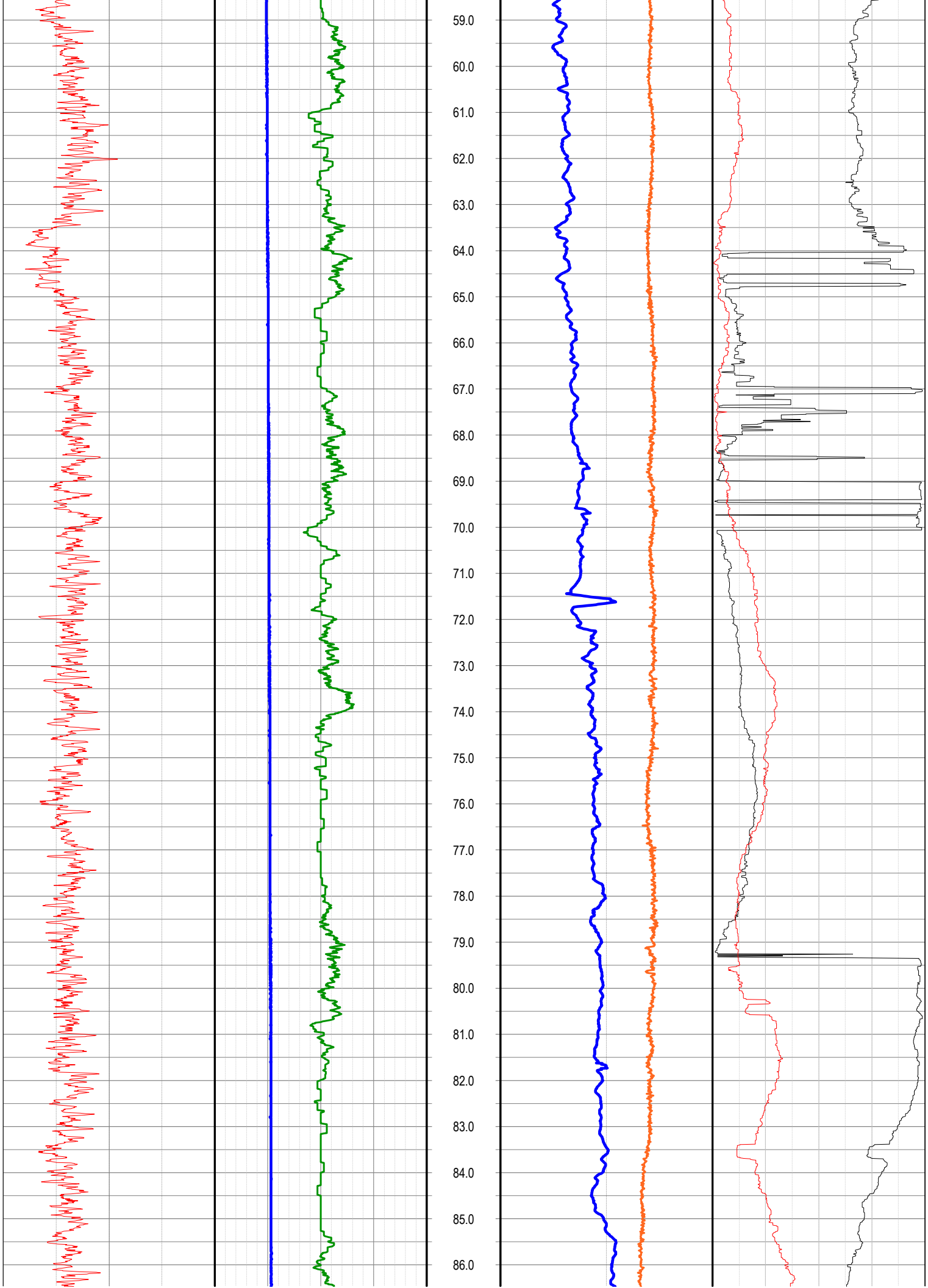
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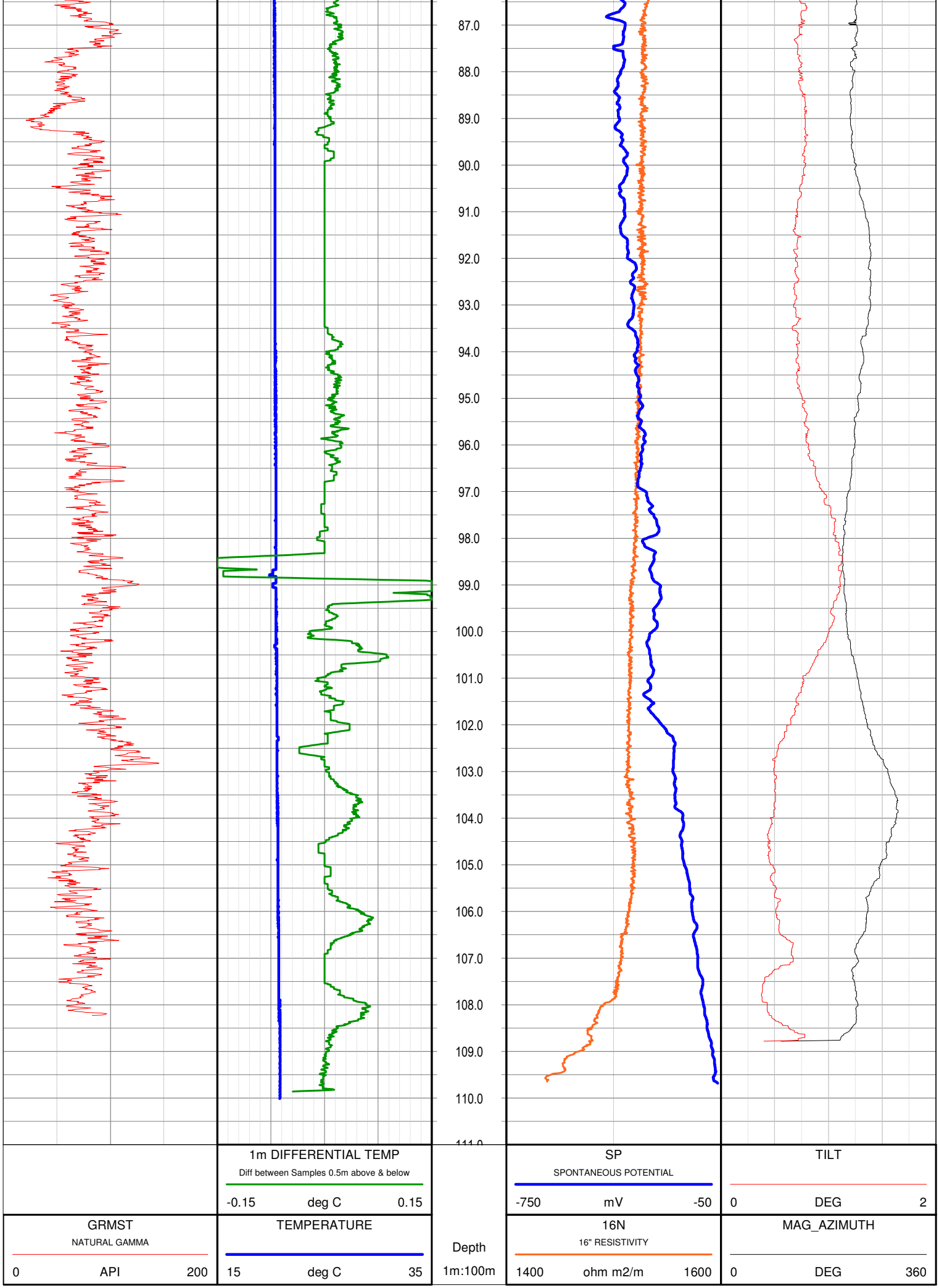
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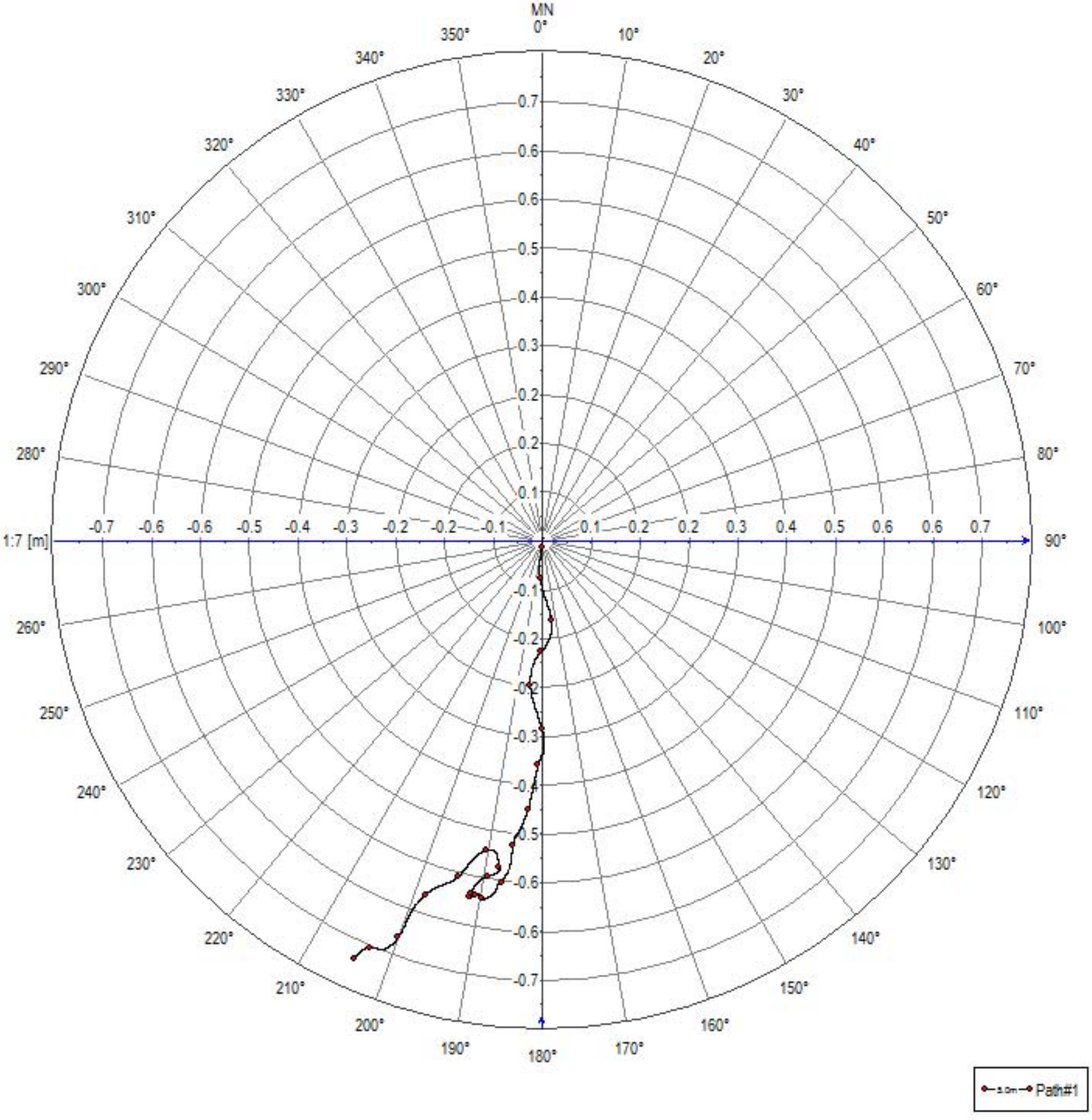
103.0
104.0
105.0
106.0
107.0
108.0
109.0
110.0
1m DIFFERENTIAL TEMP
Diff between Samples 0.5m above & below
-0.15 deg C 0.15
SP
SPONTANEOUS POTENTIAL
-750 mV -50
TILT
0 DEG 2
GRMST
NATURAL GAMMA
0 API 200
TEMPERATURE
15 deg C 35
Depth
1m:100m
16N
16" RESISTIVITY
1400 ohm m2/m 1600
MAG_AZIMUTH
0 DEG 360


MN
0°
10°
20°
30°
40°
50°
60°
70°
80°
90°
100°
110°
120°
130°
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150°
160°
170°
180°
190°
200°
210°
220°
230°
240°
250°
260°
280°
290°
300°
310°
320°
330°
340°
350°
1:7 [m]
-0.7 -0.6 -0.6 -0.5 -0.4 -0.3 -0.2 -0.2 -0.1
0.1 0.2 0.2 0.3 0.4 0.5 0.6 0.6 0.7
0.7
0.6
0.6
0.5
0.4
0.3
0.2
0.2
0.1
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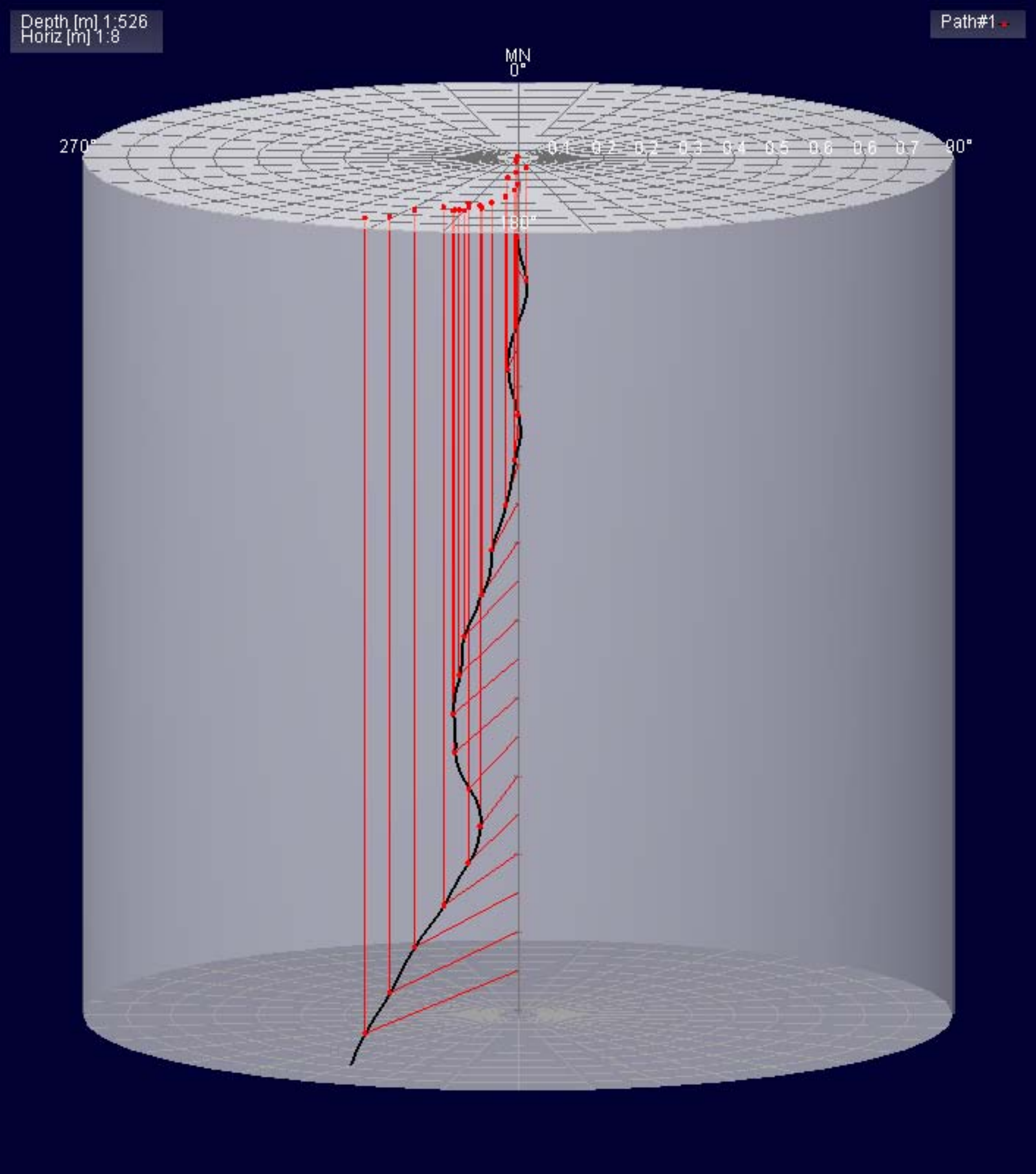
Path#1


Depth [m] 1:526
Horiz [m] 1:8
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MN
0°
270°
90°
180°
0.1
0.2
0.3
0.3
0.4
0.5
0.6
0.6
0.7

ENERGY INVESTMENTS

W81A

FORMATION DENSITY

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0541205
NORTHING	5328956
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

PVC CAUSED CALIBRATION ERRORS WITH ALL DENSITY READINGS

HOLE ATTRIBUTES

DATE	30/08/2014
FLUID LEVEL	1 m
FLUID TYPE	WATER
DRILLED DEPTH	54.8 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	54.8

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	50

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	52.8 m
INT LOGGED	0-52.8 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	52.8
SON	21	52.8	0
FDS	817	52.8	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

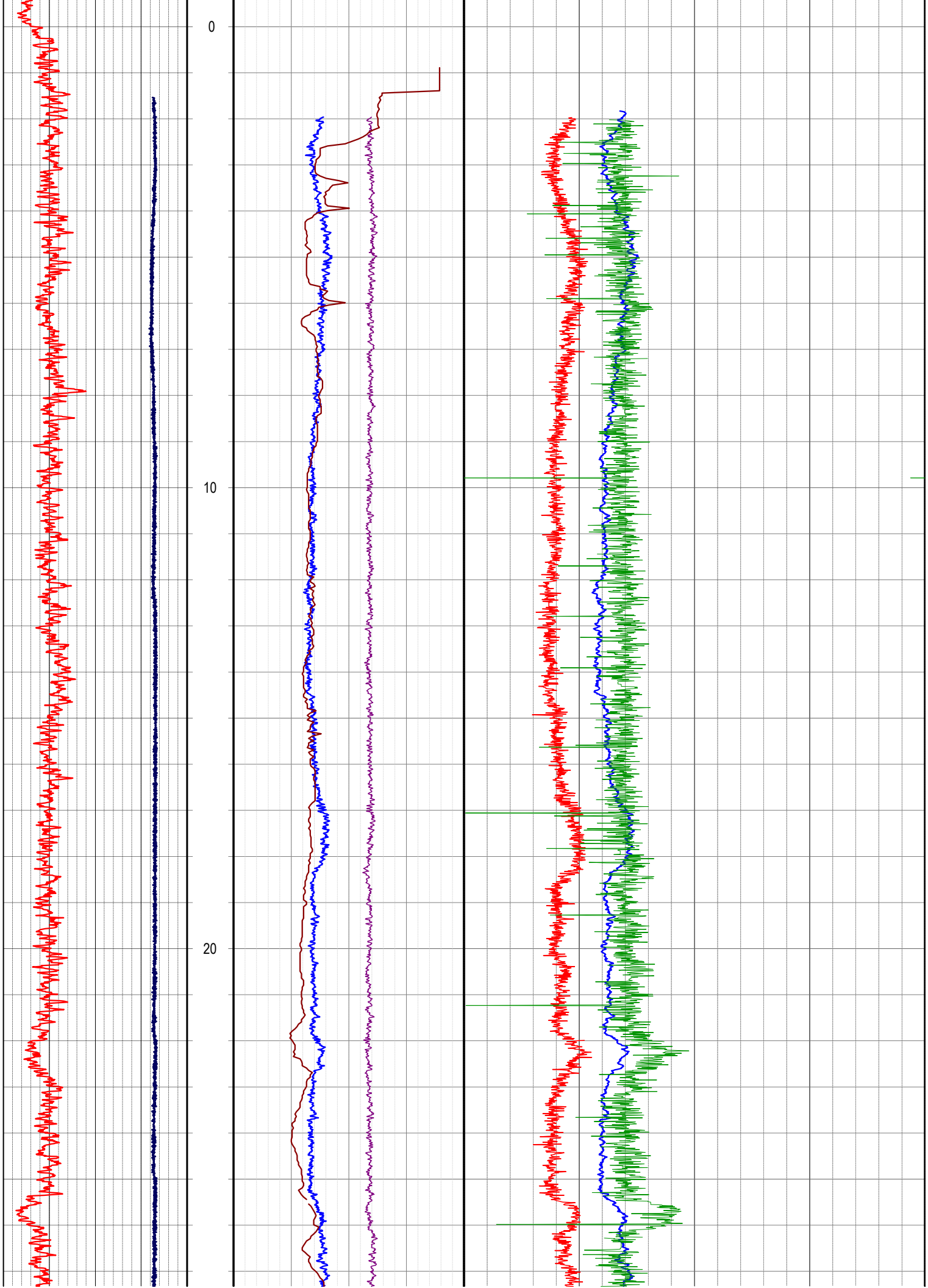
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			LSD Long Spaced Density		
0	API	200		-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				RHOB Bulk Density			SSD Short Spaced Density		
55	mm	65		1	G/CC	3	1	G/CC	3
				DT1 RECEIVER 1			BRD Bed Resolution Density		
				200	us/m	600	1	G/CC	3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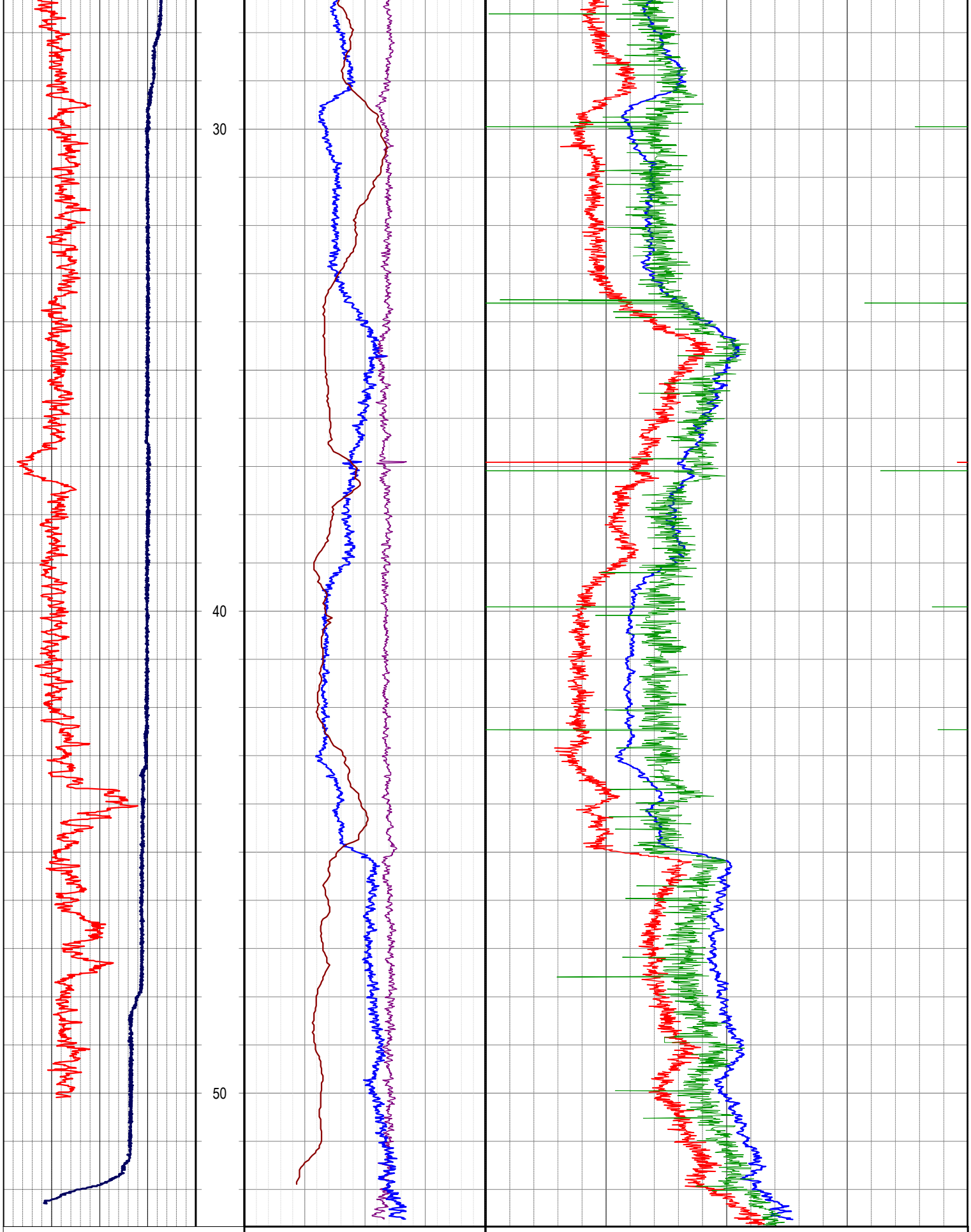


DT1
RECEIVER 1
200 us/m 600

BRD
Bed Resolution Density
1 G/CC 3

CALI
Caliper

RHOB
Bulk Density

SSD
Short Spaced Density

55	mm	65		1	G/CC	3	1	G/CC	3
GRDEN Natural Gamma			Depth	DRHOB Differential Density			LSD Long Spaced Density		
0	API	200	1:100	-0.4	G/CC	0.4	1	G/CC	3

ENERGY INVESTMENTS

W81A

FULL WAVE SONIC

1:200

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0541205
NORTHING	5328956
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

PVC CAUSED CALIBRATION ERRORS WITH ALL DENSITY READINGS

HOLE ATTRIBUTES

DATE	30/08/2014
FLUID LEVEL	1 m
FLUID TYPE	WATER
DRILLED DEPTH	54.8 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	54.8

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	50

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	52.8 m
INT LOGGED	0-52.8 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	52.8
SON	21	52.8	0
FDS	817	52.8	0

FULL WAVE SONIC - FWS50

CALIBRATION

FWS_TESTED_DATE	30/07/2013
FWS_MODEL	ALT FWS50
FWS_SERIAL_NO	131009

MNEUMONICS

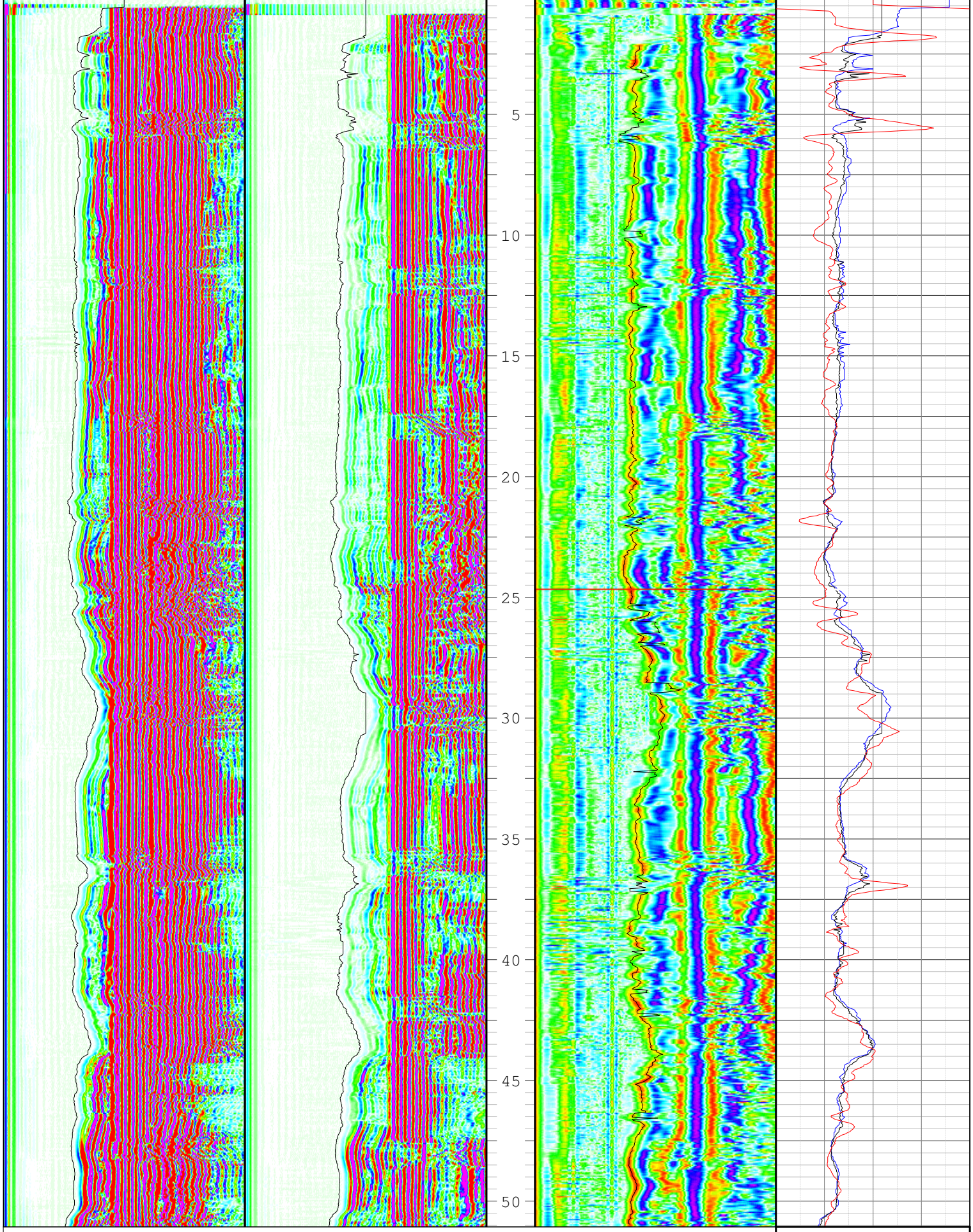
RX1 = Transmitter-Receiver1 traveltime and wave amp
RX2 = Transmitter-Receiver2 traveltime and wave amp
RX1 - dt = Receiver1 first wave arrival in microseconds
RX2 - dt = Receiver2 first wave arrival in microseconds

Velocity Analysis = Merging of RX1 RX2 wavetrains
Primary Wave DT = Interpreted from Velocity Analysis
Shear Wave DT = Interpreted from Velocity Analysis
DT1 = from RX1-dt in us/m
DT2 = from RX2-dt in us/m
DT3 = (RX2-dt)-(RX1-dt)/0.3048 in us/m
Poisson's ratio, bulk modulus calculations possible with density data

ATTRIBUTES

FWS_LENGTH	2.9m
FWS_DIAMETER	50mm
TX-RX1_SPACING	3FT
TX-RX2_SPACING	4FT
TOP_RX2_SPACING	0.93m
ACOUSTIC_WAVE_FREQUENCY	15KHz
FWS_MAX_TEMP	70 degC
FWS_MAX_PRESSURE	200 bars

RX1	RX2	Depth	VELOCITY ANALYSIS	DT1
RECEIVER 1	RECEIVER 2	1:200		RECEIVER 1
-2048 / 0 / us / 2047 / 1020	-2048 / 0 / us / 2047 / 1022		0.281206 / 0 / us/m / 50 / 795.604	200 / us/m / 600
RX1 - dt	RX2 - dt		P WAVE SLOWNESS	DT2
RECEIVER 1	RECEIVER 2		FROM VELOCITY ANALYSIS	RECEIVER 2
0 / us / 1020	0 / us / 1020		0 / us/m / 795	200 / us/m / 600
				DT3
				RECEIVER 2 - RECEIVER 1
				200 / us/m / 600



DT3

RECEIVER 2 - RECEIVER 1

200 us/m 600

RX1 - dt	RX2 - dt	P WAVE SLOWNESS	DT2
RECEIVER 1	RECEIVER 2	FROM VELOCITY ANALYSIS	RECEIVER 2

0 us 1020	0 us 1020		0 us/m 795	200 us/m 600
RX1 RECEIVER 1 -2048 2047 0 us 1020	RX2 RECEIVER 2 -2048 2047 0 us 1022	Depth 1:200	VELOCITY ANALYSIS 0.281206 50 0 us/m 795.604	DT1 RECEIVER 1 200 us/m 600

ENERGY INVESTMENTS

W82

FORMATION DENSITY

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0538825
NORTHING	533083
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

LSD CALIBRATION VARIES DUE TO PVC

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	32.74 m
FLUID TYPE	WATER
DRILLED DEPTH	156.3 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	156.3

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	156

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	156 m
INT LOGGED	0-156 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	156
MST	01	156	0
FDS	817	156	0
SON	20	156	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^4-1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

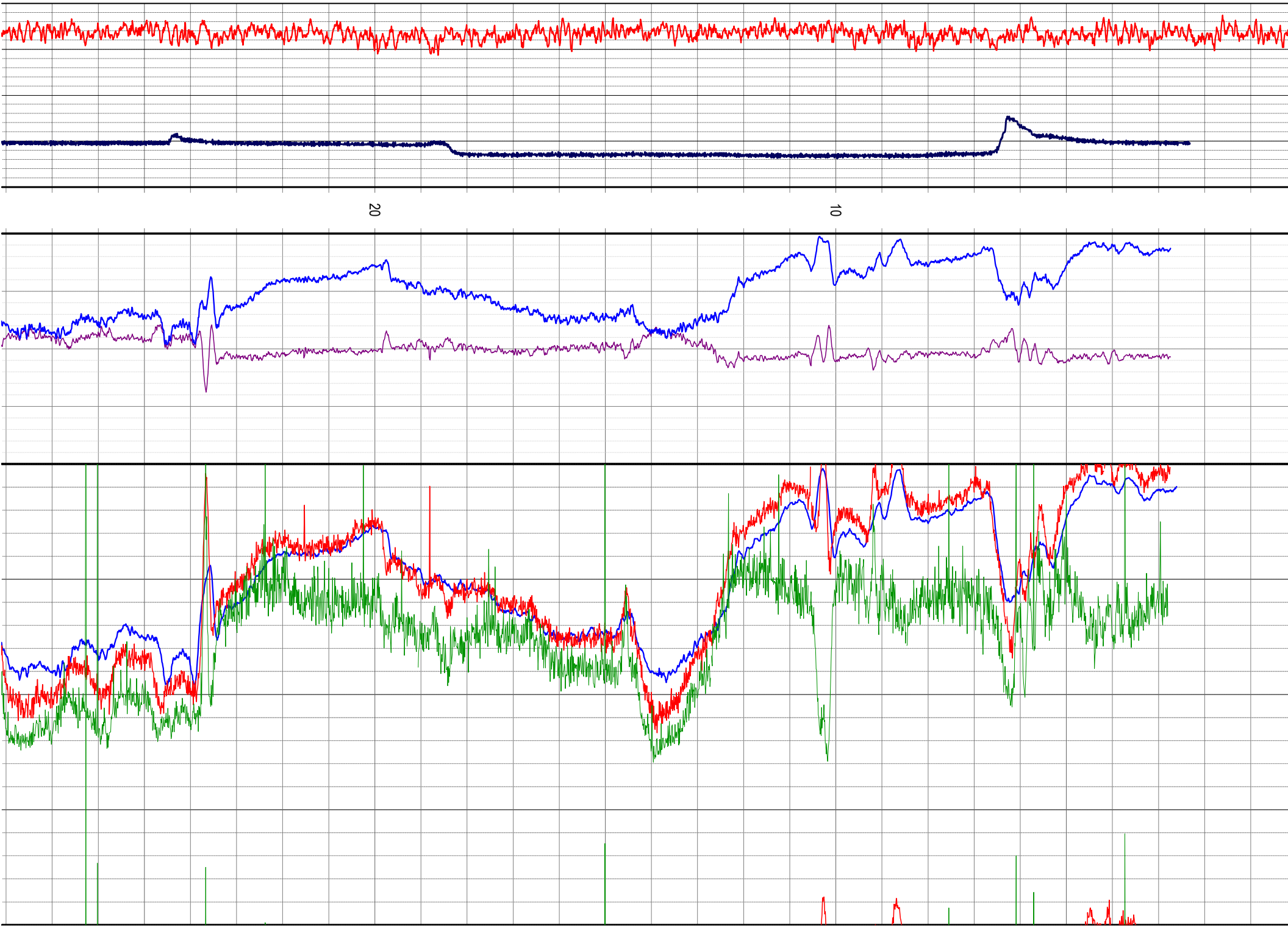
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			LSD Long Spaced Density		
0	API	200		-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				RHOB Bulk Density			SSD Short Spaced Density		
55	mm	65		1	G/CC	3	1	G/CC	3
				DT1 RECEIVER 1			BRD Bed Resolution Density		
				100	us/m	600	1	G/CC	3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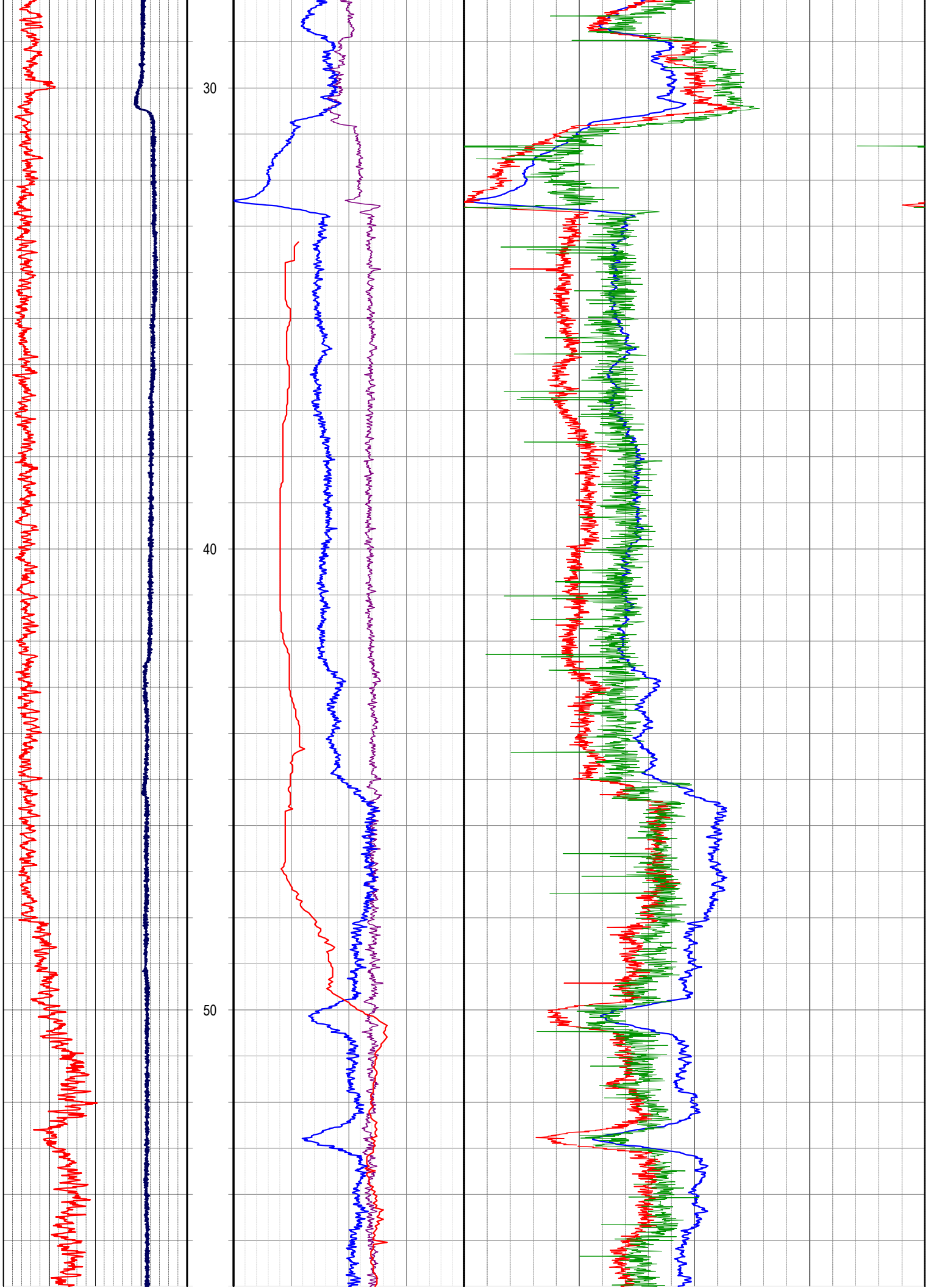
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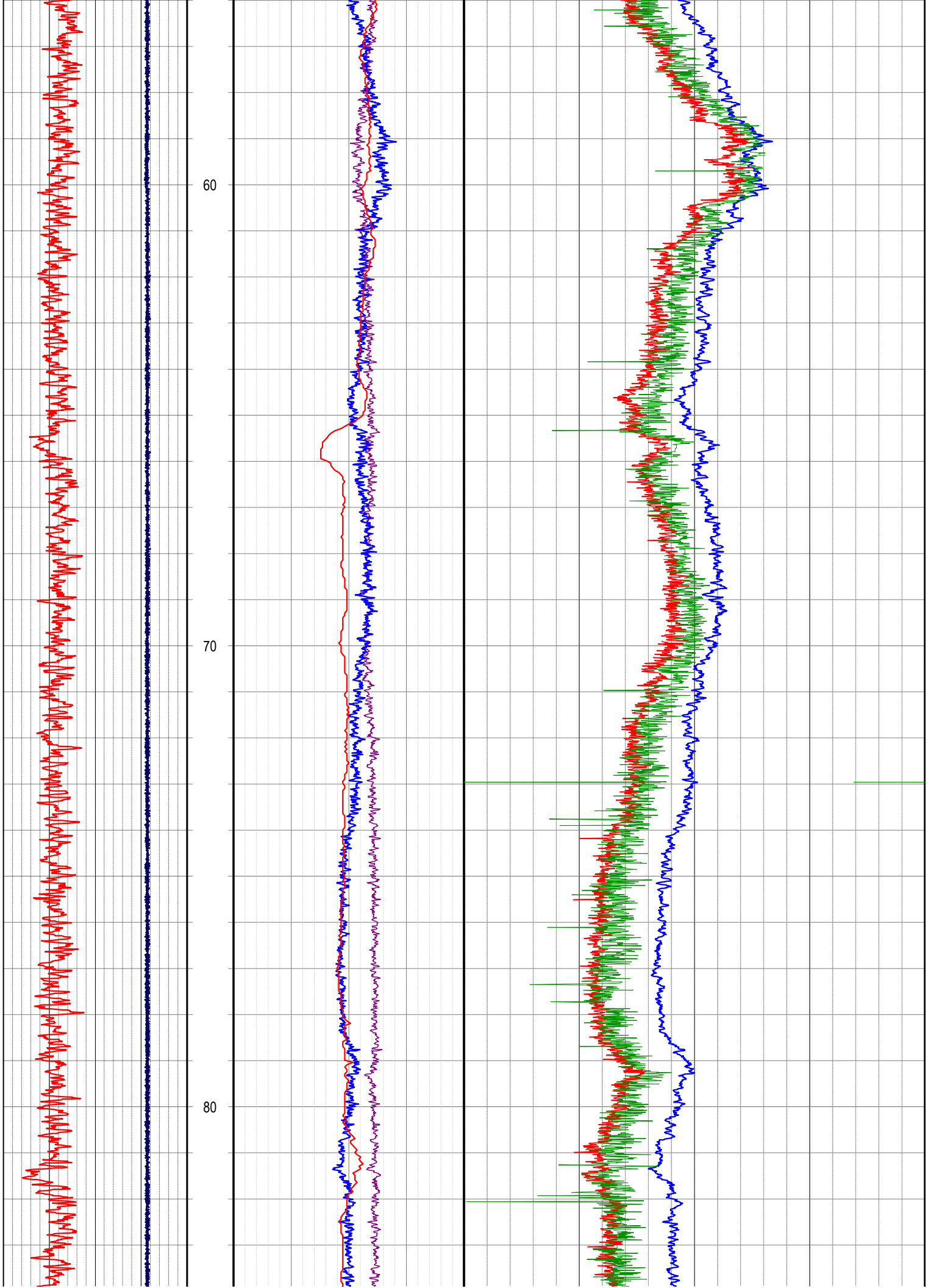
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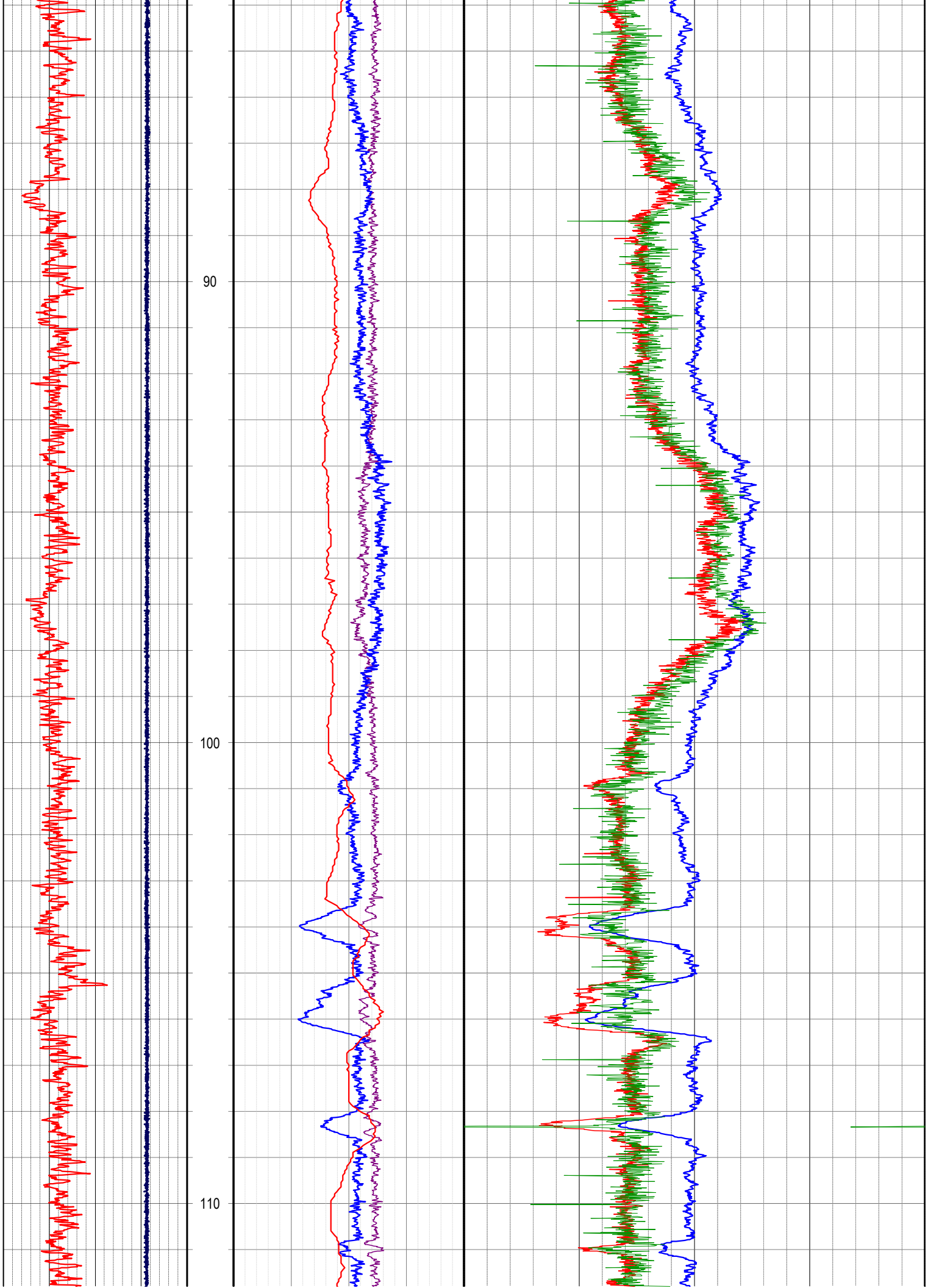
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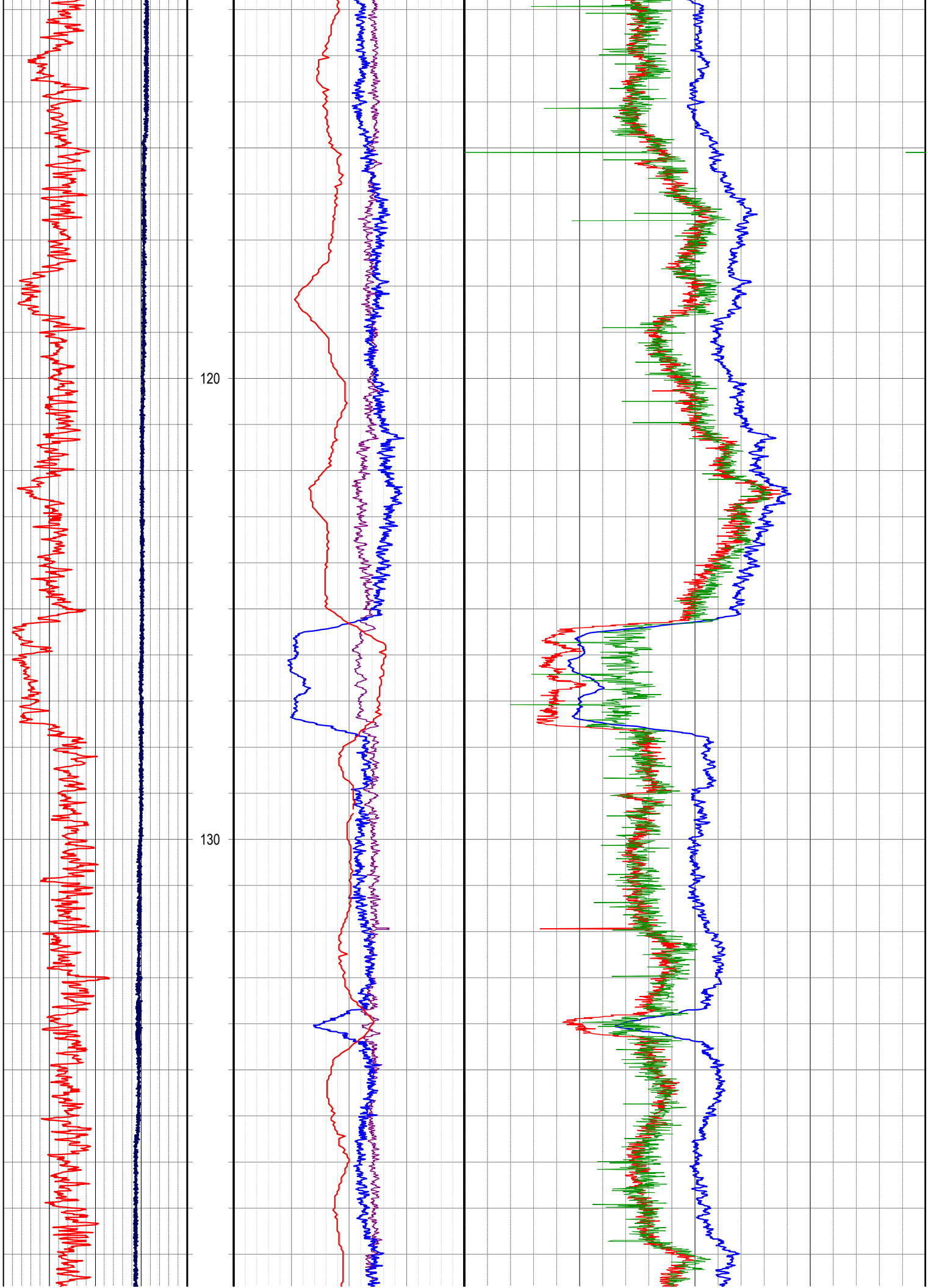
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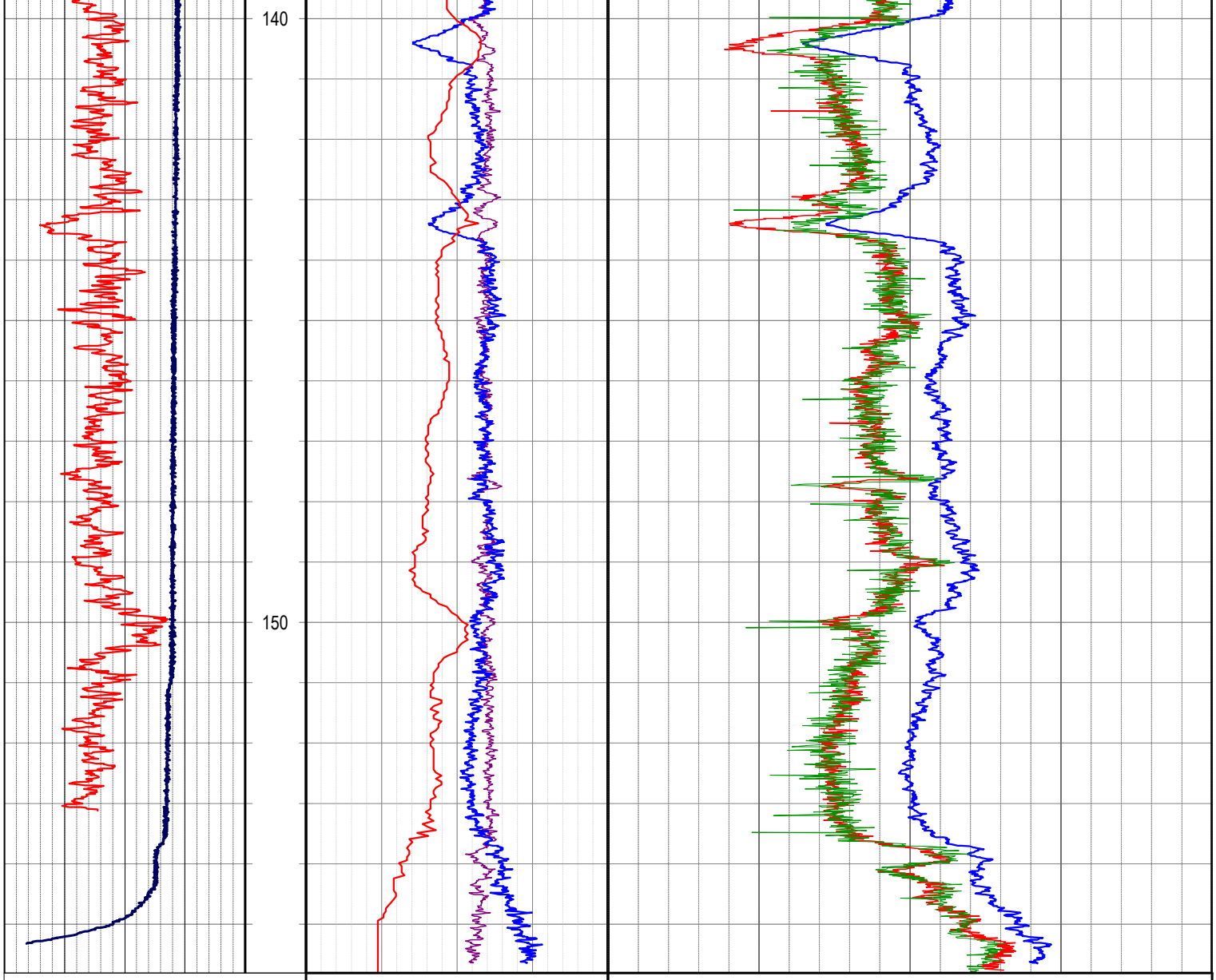


	DT1 RECEIVER 1 100 us/m 600	BRD Bed Resolution Density 1 G/CC 3
CALI Caliper 55 mm 65	RHOB Bulk Density 1 G/CC 3	SSD Short Spaced Density 1 G/CC 3
GRDEN Natural Gamma 0 API 200	DRHOB Differential Density -0.4 G/CC 0.4	LSD Long Spaced Density 1 G/CC 3

Depth
1:100

ENERGY INVESTMENTS

W82

FULL WAVE SONIC

1:200

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0538825
NORTHING	533083
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	32.74 m
FLUID TYPE	WATER
DRILLED DEPTH	156.3 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	156.3

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	156

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	156 m
INT LOGGED	0-156 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	156
MST	01	156	0
FDS	817	156	0
SON	20	156	0

FULL WAVE SONIC - FWS50

CALIBRATION

FWS_TESTED_DATE	30/07/2013
FWS_MODEL	ALT FWS50
FWS_SERIAL_NO	131009

MNEUMONICS

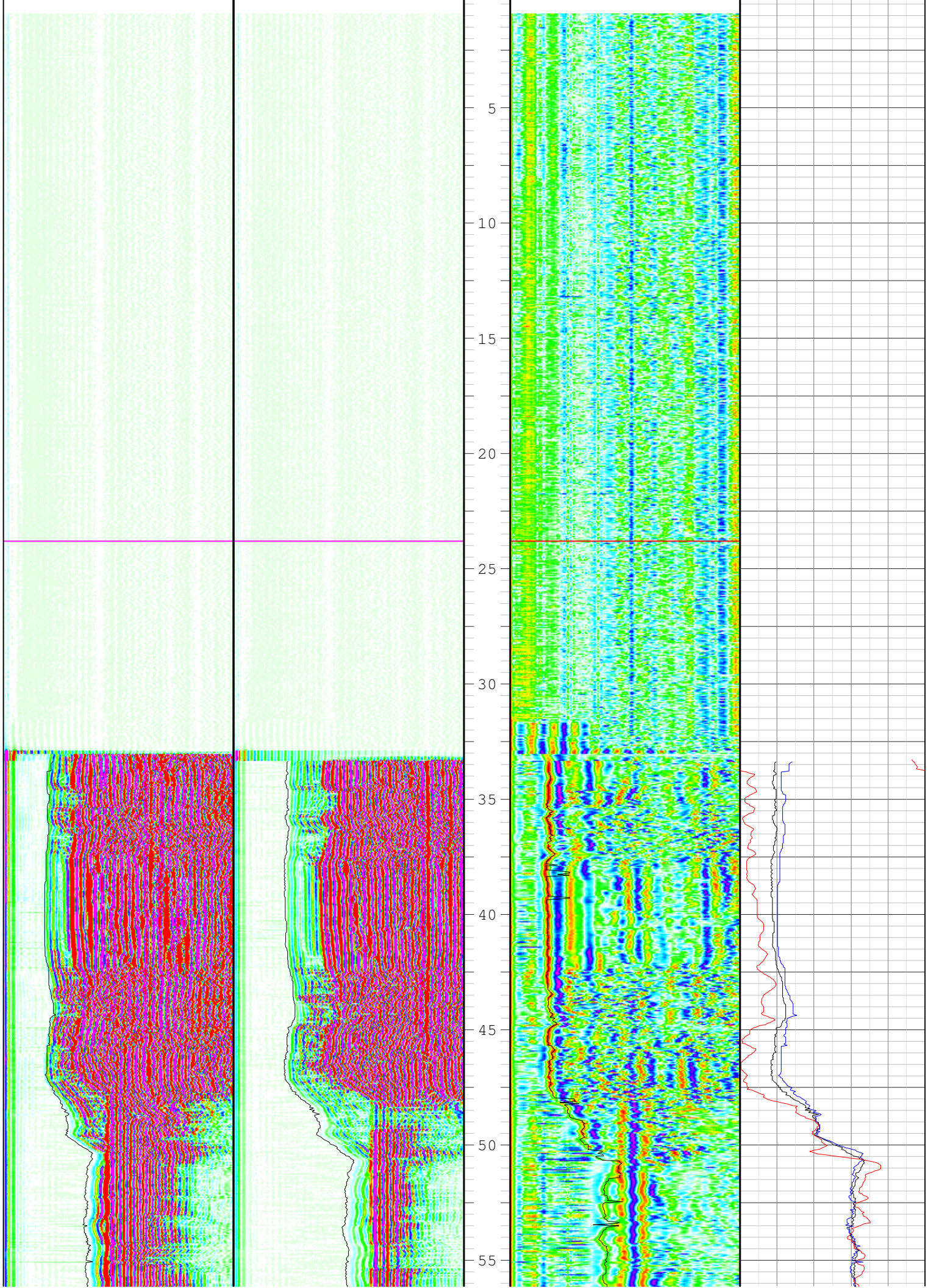
RX1 = Transmitter-Receiver1 traveltime and wave amp
RX2 = Transmitter-Receiver2 traveltime and wave amp
RX1 - dt = Receiver1 first wave arrival in microseconds
RX2 - dt = Receiver2 first wave arrival in microseconds

Velocity Analysis = Merging of RX1 RX2 wavetrains
Primary Wave DT = Interpreted from Velocity Analysis
Shear Wave DT = Interpreted from Velocity Analysis
DT1 = from RX1-dt in us/m
DT2 = from RX2-dt in us/m
DT3 = (RX2-dt)-(RX1-dt)/0.3048 in us/m
Poisson's ratio, bulk modulus calculations possible with density data

ATTRIBUTES

FWS_LENGTH	2.9m
FWS_DIAMETER	50mm
TX-RX1_SPACING	3FT
TX-RX2_SPACING	4FT
TOP_RX2_SPACING	0.93m
ACOUSTIC_WAVE_FREQUENCY	15KHz
FWS_MAX_TEMP	70 degC
FWS_MAX_PRESSURE	200 bars

RX1	RX2	Depth	VELOCITY ANALYSIS	DT1
RECEIVER 1	RECEIVER 2	1:200		RECEIVER 1
-2048 / 0 / us / 2047 / 1020	-2048 / 0 / us / 2047 / 1022		0.281206 / 0 / us/m / 25.8618 / 1000	100 / us/m / 600
RX1 - dt	RX2 - dt		P WAVE SLOWNESS	DT2
RECEIVER 1	RECEIVER 2		FROM VELOCITY ANALYSIS	RECEIVER 2
0 / us / 1020	0 / us / 1020		0 / us/m / 1000	100 / us/m / 600
				DT3
				RECEIVER 2 - RECEIVER 1
				100 / us/m / 600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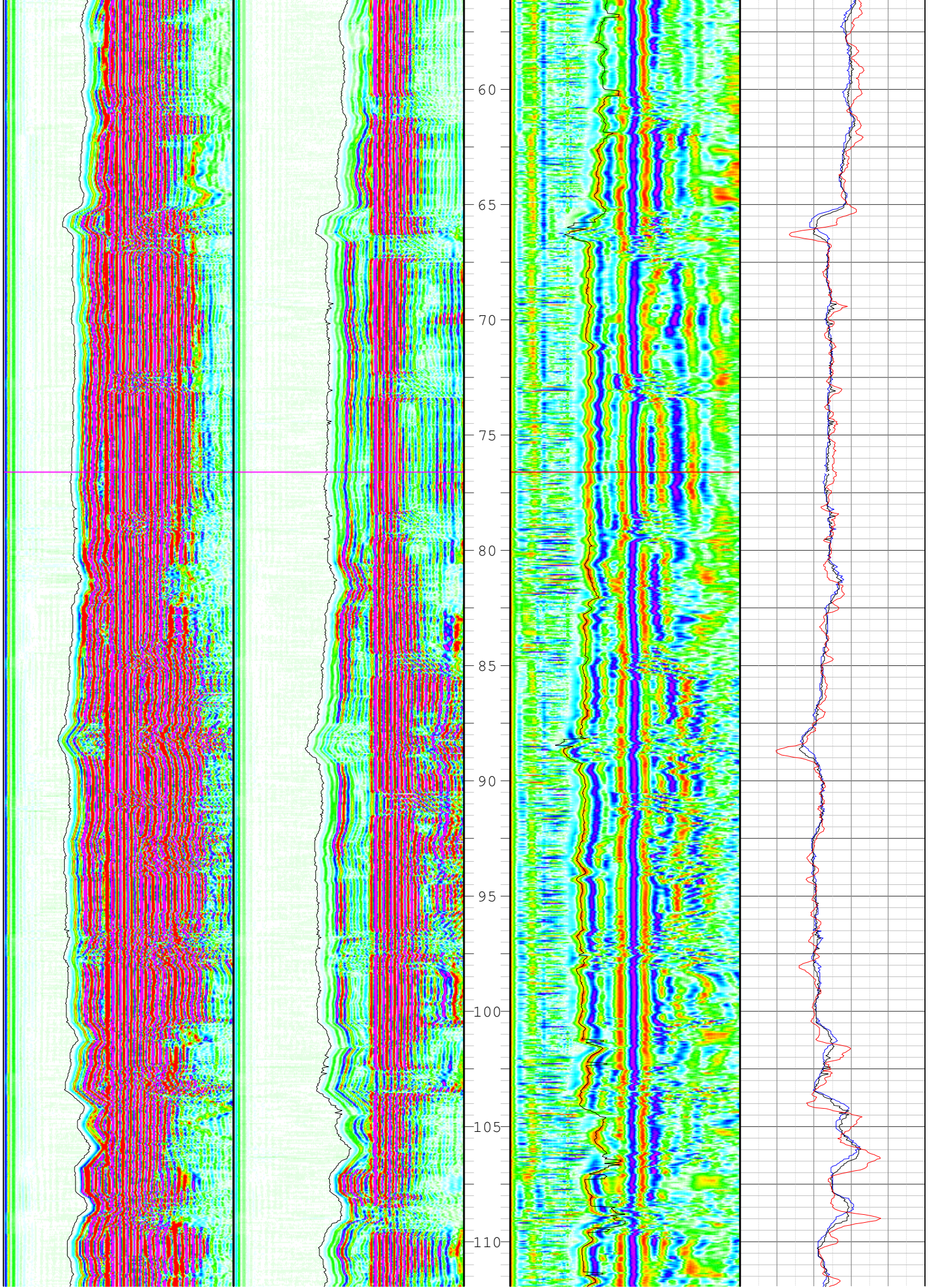
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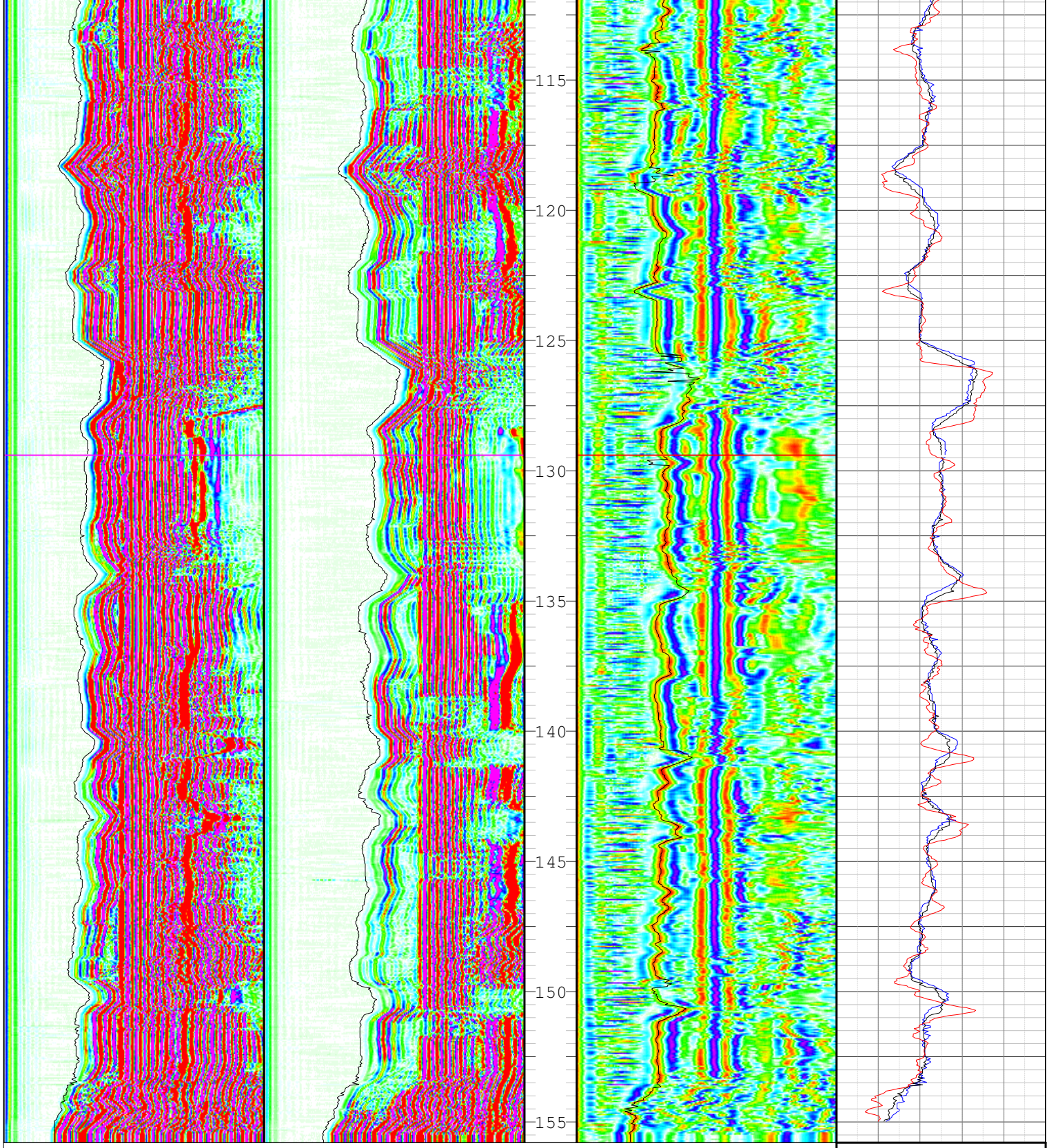


				DT3 RECEIVER 2 - RECEIVER 1 100 us/m 600
RX1 - dt RECEIVER 1 0 us 1020	RX2 - dt RECEIVER 2 0 us 1020		P WAVE SLOWNESS FROM VELOCITY ANALYSIS 0 us/m 1000	DT2 RECEIVER 2 100 us/m 600
RX1 RECEIVER 1 -2048 2047 0 us 1020	RX2 RECEIVER 2 -2048 2047 0 us 1022	Depth 1:200	VELOCITY ANALYSIS 0.281206 25.8618 0 us/m 1000	DT1 RECEIVER 1 100 us/m 600

ENERGY INVESTMENTS

W82

MULTI SURVEY TOOL

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0538825
NORTHING	533083
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

ALL ORIENTATIONS ARE FROM MAGNETIC NORTH

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	32.74 m
FLUID TYPE	WATER
DRILLED DEPTH	156.3 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	156.3

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	156

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	156 m
INT LOGGED	0-156 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	156
MST	01	156	0
FDS	817	156	0
SON	20	156	0

MULTI-SURVEY TOOL - MST

CALIBRATION

MST_CALIBRATION_DATE	10/03/2014
MST_SERIAL_NO	MST01
MST_TEMP_CAL	306.82*Ln({TEMP_RAW}-3703
MST_GAMMA_CAL	0.6673*{GRMST_RAW}
MST_DEADTIME	
MST_HOLESIZE_CORR	

MST_MNEUMONICS

GRMST_RAW = Natural gamma raw counts/sec
TEMP_RAW = Magnetic Sus raw counts/sec
PR = Point Resistivity
SP = Spontaneous Potential
16"N = 16" Resistivity
64"L = 64" Resistivity
SANGB = Magnetic Deviation Azimuth
SANG = Magnetic Deviation Tilt

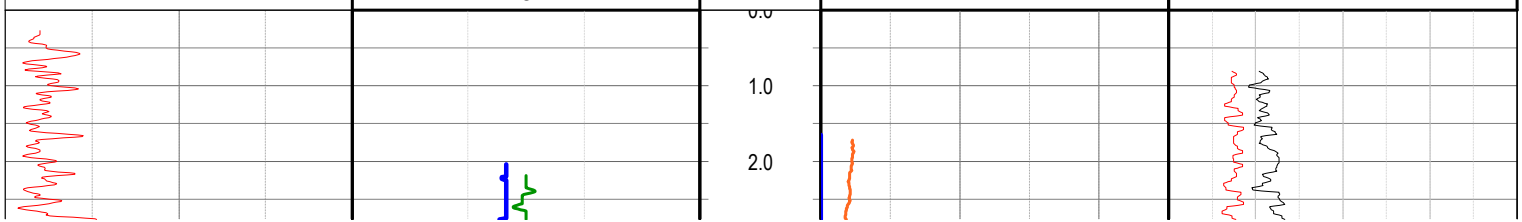
GRMST = Calibrated Gamma - API Units
TEMPERATURE = Temperature in degrees Celsius
1m DIFFERENTIAL TEMP = Difference between 0.5m above and below

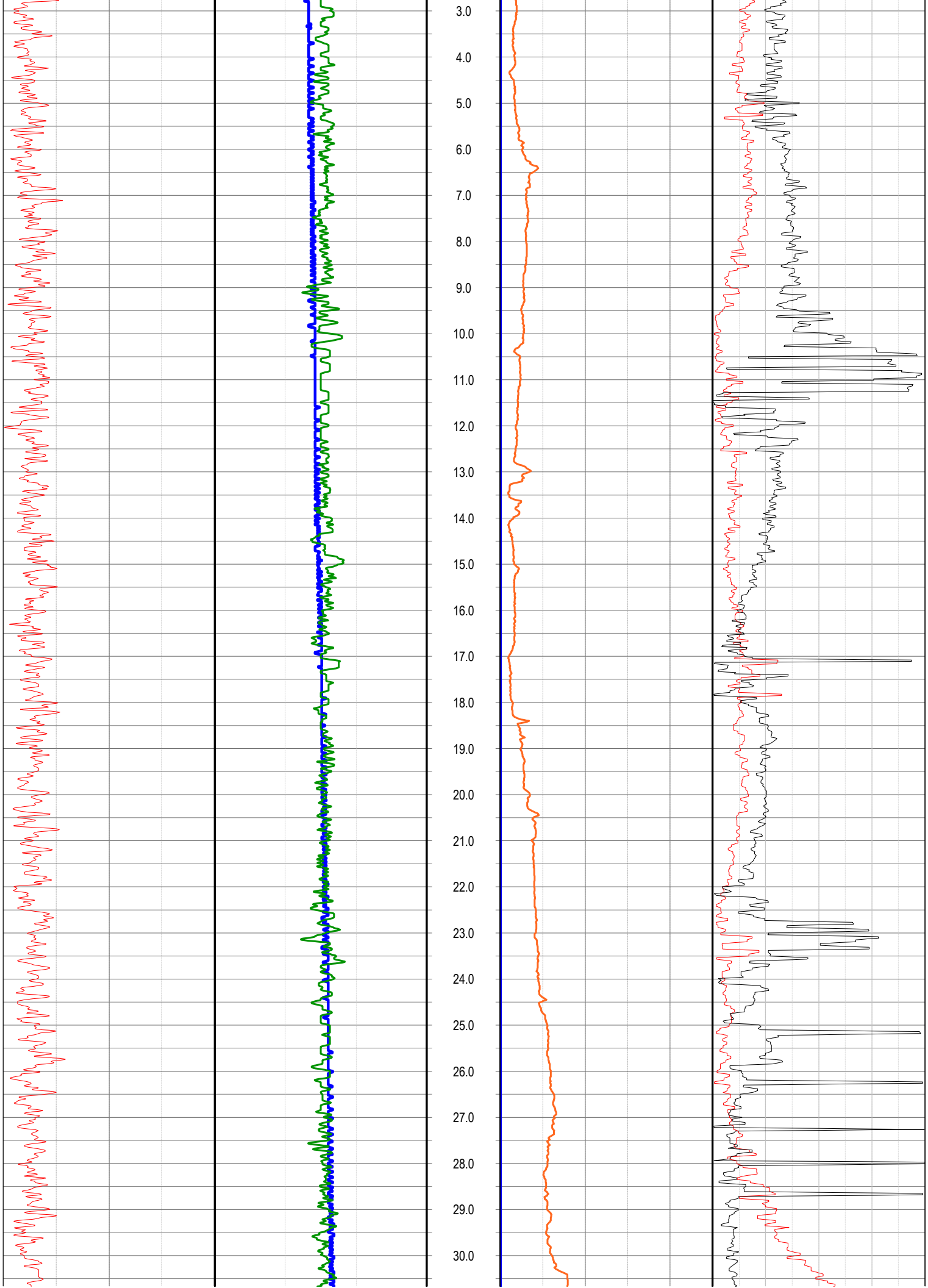
ATTRIBUTES

MST_LENGTH	2400mm
MST_DIAMETER	45mm
MST_WEIGHT	13.5kg
MST_TEMP_RANGE	70 deg
MST_LOGGING_SPEED	6m/min
MST_DEVIATION	

3 axis magnetometer, 3 axis accelerometer

GRMST NATURAL GAMMA	TEMPERATURE	Depth 1m:100m	16N 16" RESISTIVITY	TILT
0 API 200	18 deg C 21		1200 ohm m2/m 1700	0 DEG 3
	1m DIFFERENTIAL TEMP Diff between Samples 0.5m above & below		SP SPONTANEOUS POTENTIAL	MAG_AZIMUTH
	-0.15 deg C 0.15		-750 mV 900	0 DEG 360

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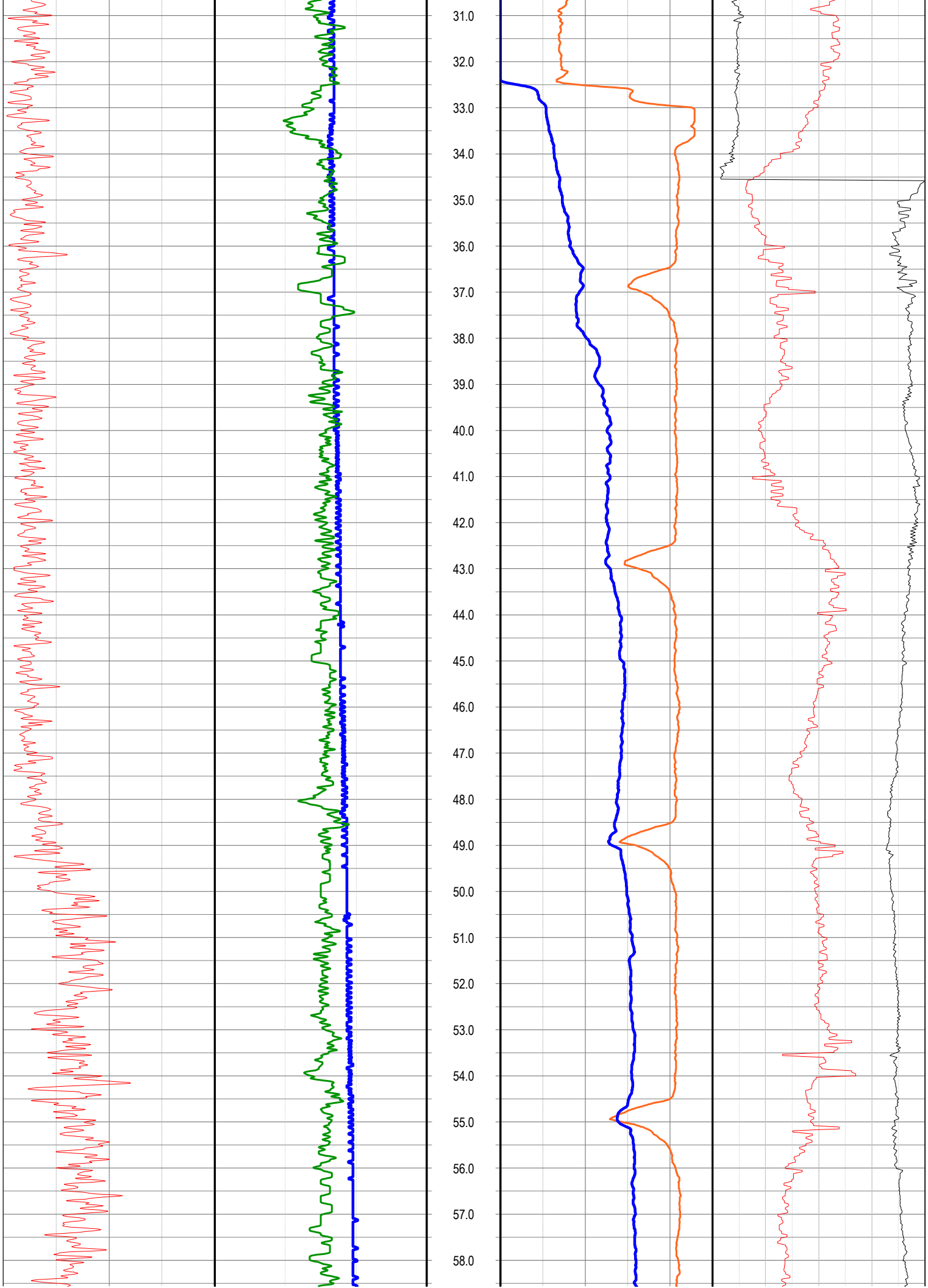
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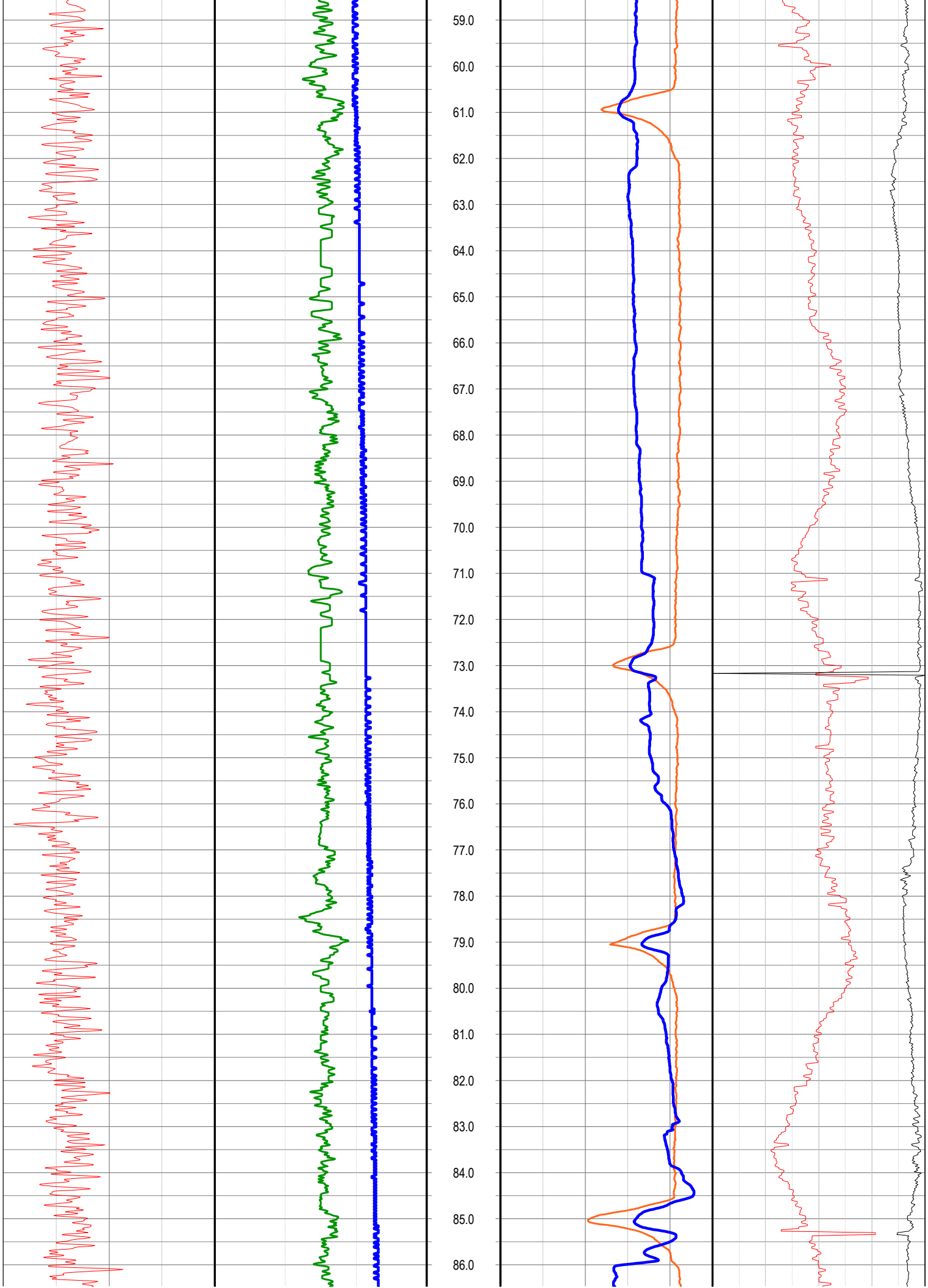
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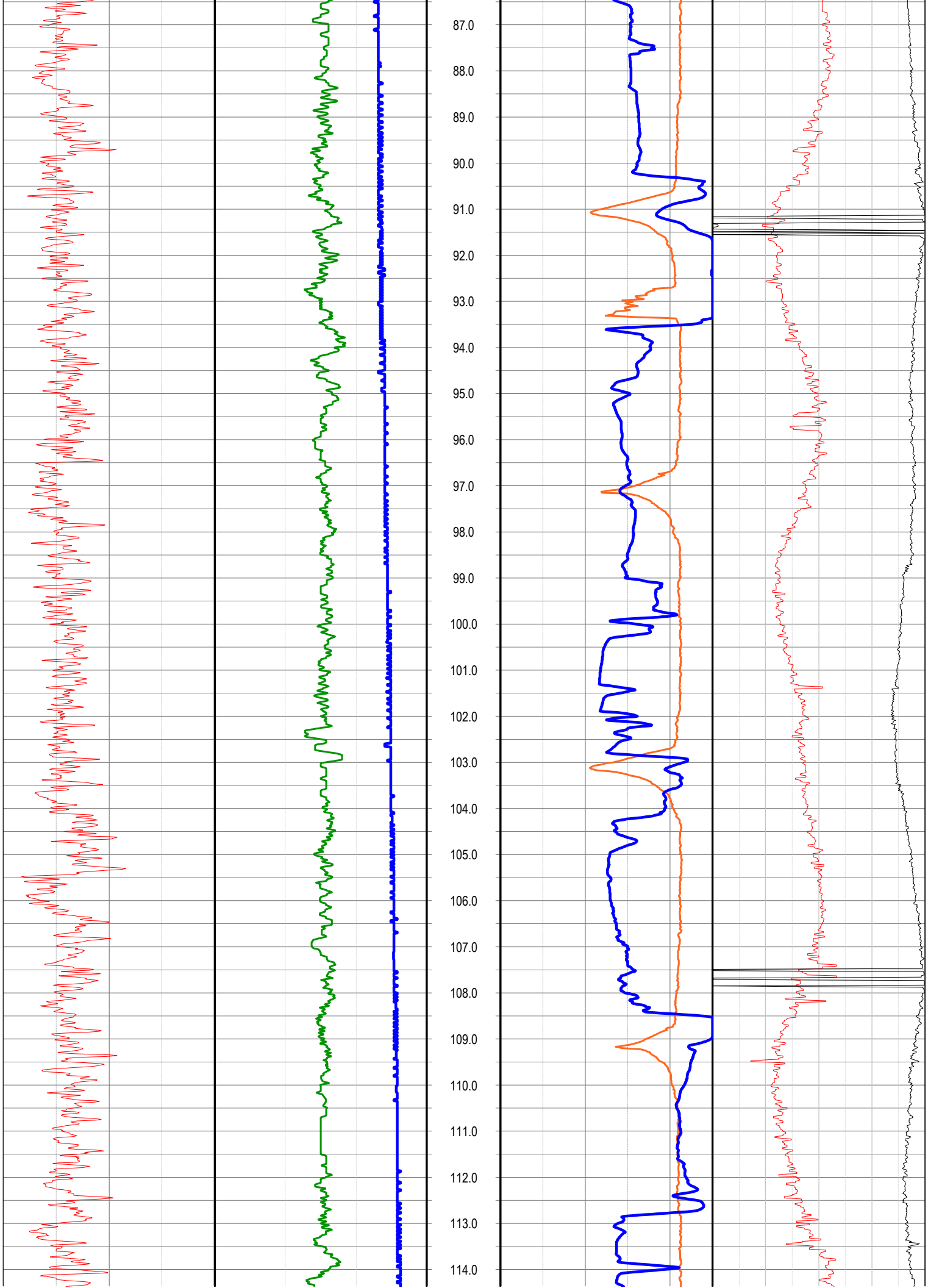
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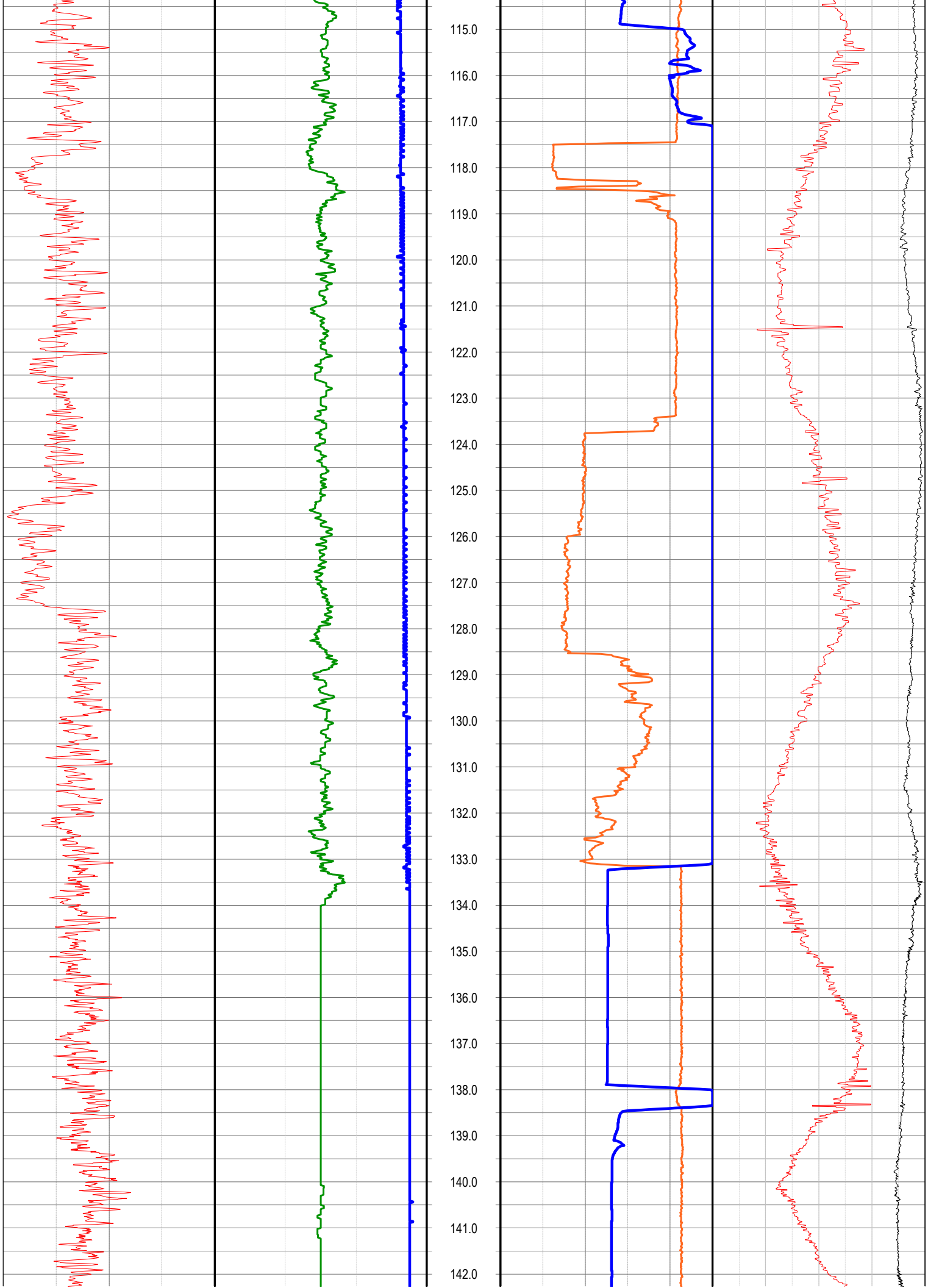
114.0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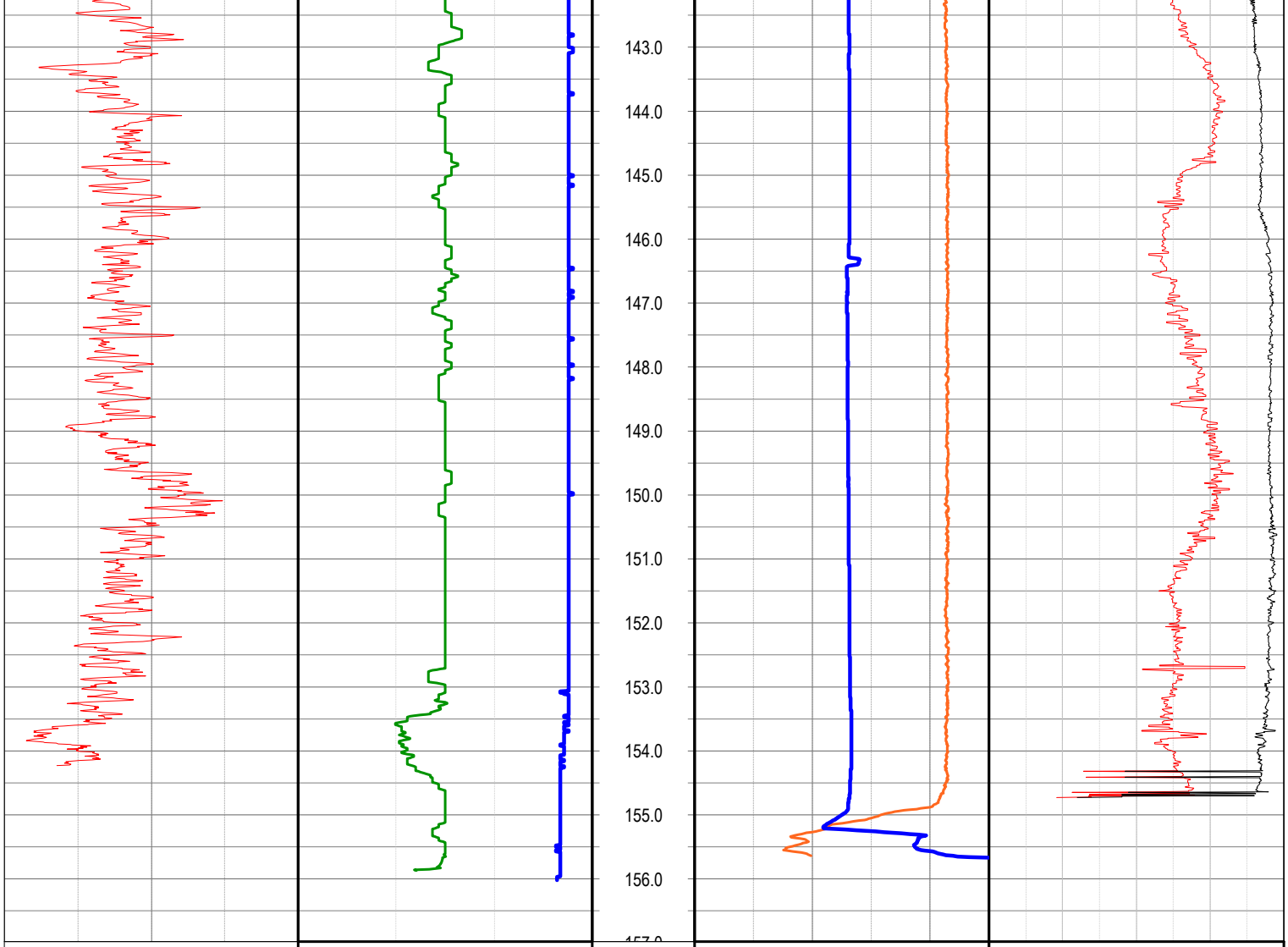
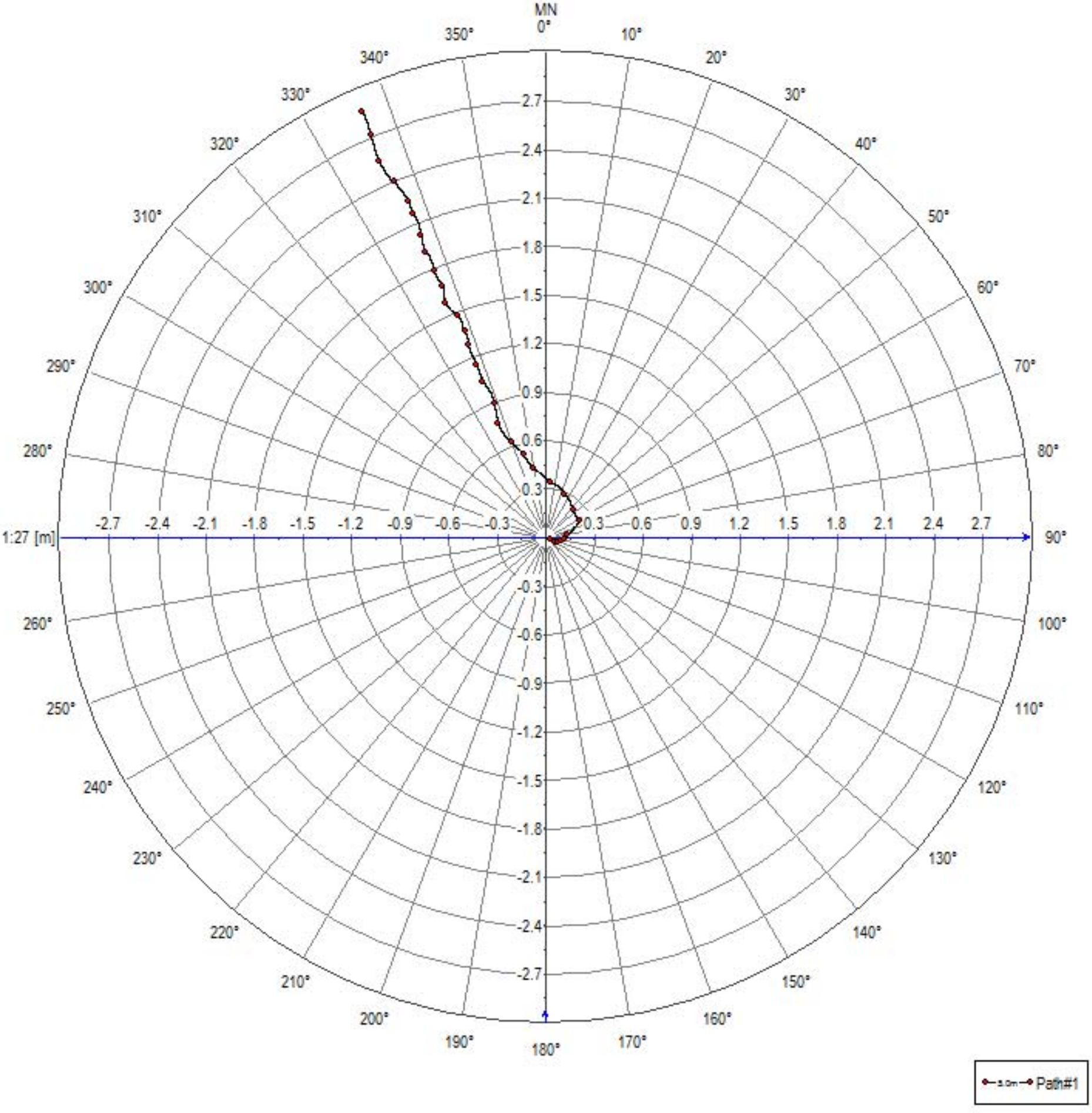


GRMST	1m DIFFERENTIAL TEMP	Depth	SP	MAG_AZIMUTH
	Diff between Samples 0.5m above & below		SPONTANEOUS POTENTIAL	
	-0.15 deg C 0.15		-750 mV 900	0 DEG 360
NATURAL GAMMA	TEMPERATURE		16N	TILT
0 API 200	18 deg C 21	1m:100m	16" RESISTIVITY 1200 ohm m2/m 1700	0 DEG 3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0°
10°
20°
30°
40°
50°
60°
70°
80°
90°
100°
110°
120°
130°
140°
150°
160°
170°
180°
190°
200°
210°
220°
230°
240°
250°
260°
270°
280°
290°
300°
310°
320°
330°
340°
350°
2.7
2.4
2.1
1.8
1.5
1.2
0.9
0.6
0.3
-0.3
-0.6
-0.9
-1.2
-1.5
-1.8
-2.1
-2.4
-2.7
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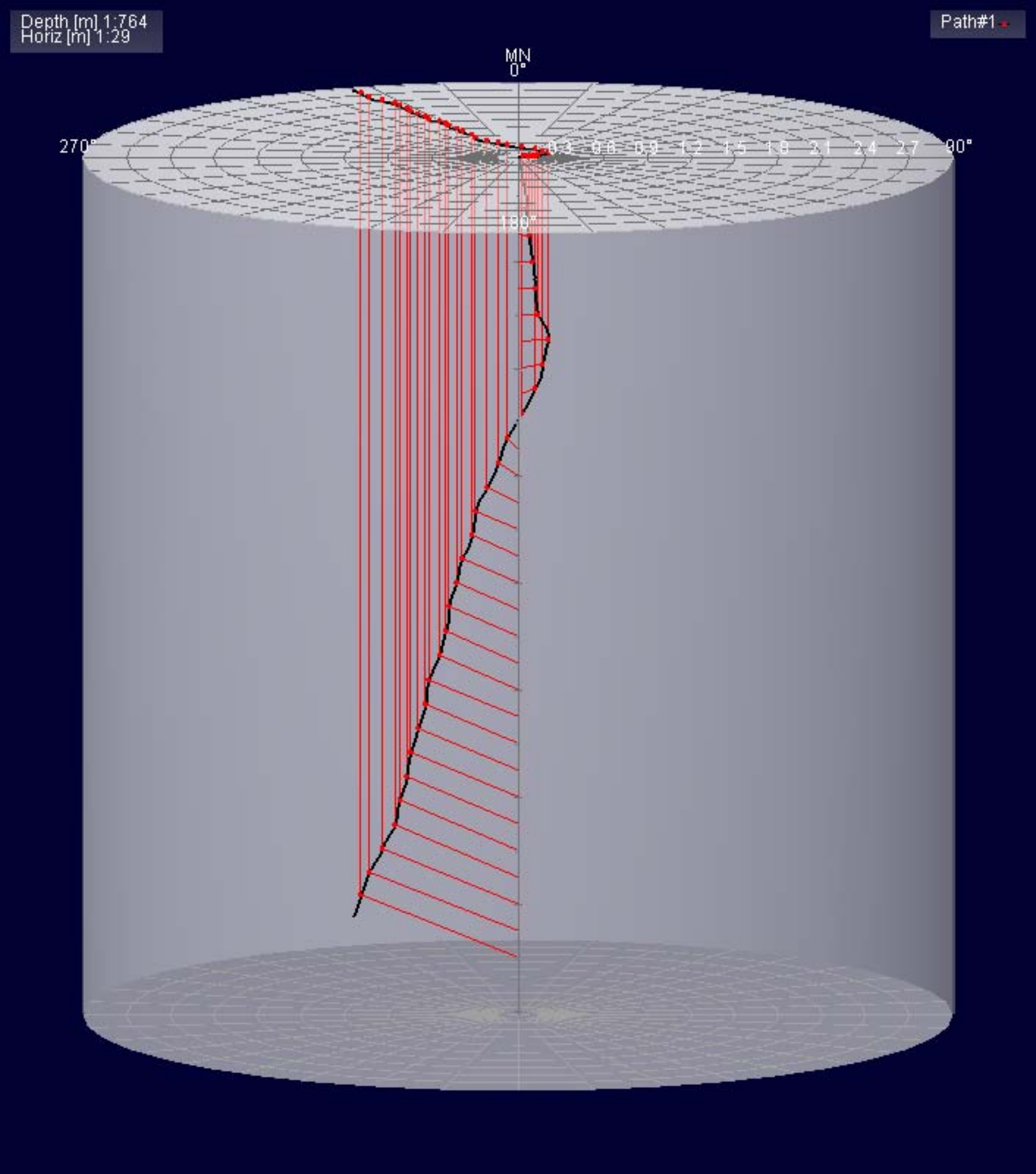
Path#1


Depth [m] 1:764
Horiz [m] 1:29
Path#1
MN
0°
270°
90°
180°
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

ENERGY INVESTMENTS

W83

MULTI SURVEY TOOL

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0540635
NORTHING	5332000
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

ALL ORIENTATIONS ARE FROM MAGNETIC NORTH

HOLE ATTRIBUTES

DATE	28/08/2014
FLUID LEVEL	7 m
FLUID TYPE	WATER
DRILLED DEPTH	50.3 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	50

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	50

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	50.3 m
INT LOGGED	0-50.3 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	50.3
MST	01	50.3	0
FDS	817	50.3	0
SON	20	50.3	0

MULTI-SURVEY TOOL - MST

CALIBRATION

MST_CALIBRATION_DATE	10/03/2014
MST_SERIAL_NO	MST01
MST_TEMP_CAL	306.82*Ln({TEMP_RAW}-3703
MST_GAMMA_CAL	0.6673*{GRMST_RAW}
MST_DEADTIME	
MST_HOLESIZE_CORR	

MST_MNEUMONICS

GRMST_RAW = Natural gamma raw counts/sec
TEMP_RAW = Magnetic Sus raw counts/sec
PR = Point Resistivity
SP = Spontaneous Potential
16"N = 16" Resistivity
64"L = 64" Resistivity
SANGB = Magnetic Deviation Azimuth
SANG = Magnetic Deviation Tilt

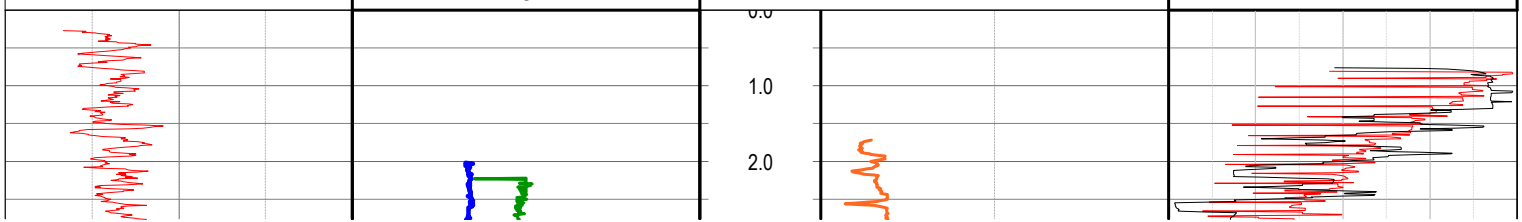
GRMST = Calibrated Gamma - API Units
TEMPERATURE = Temperature in degrees Celsius
1m DIFFERENTIAL TEMP = Difference between 0.5m above and below

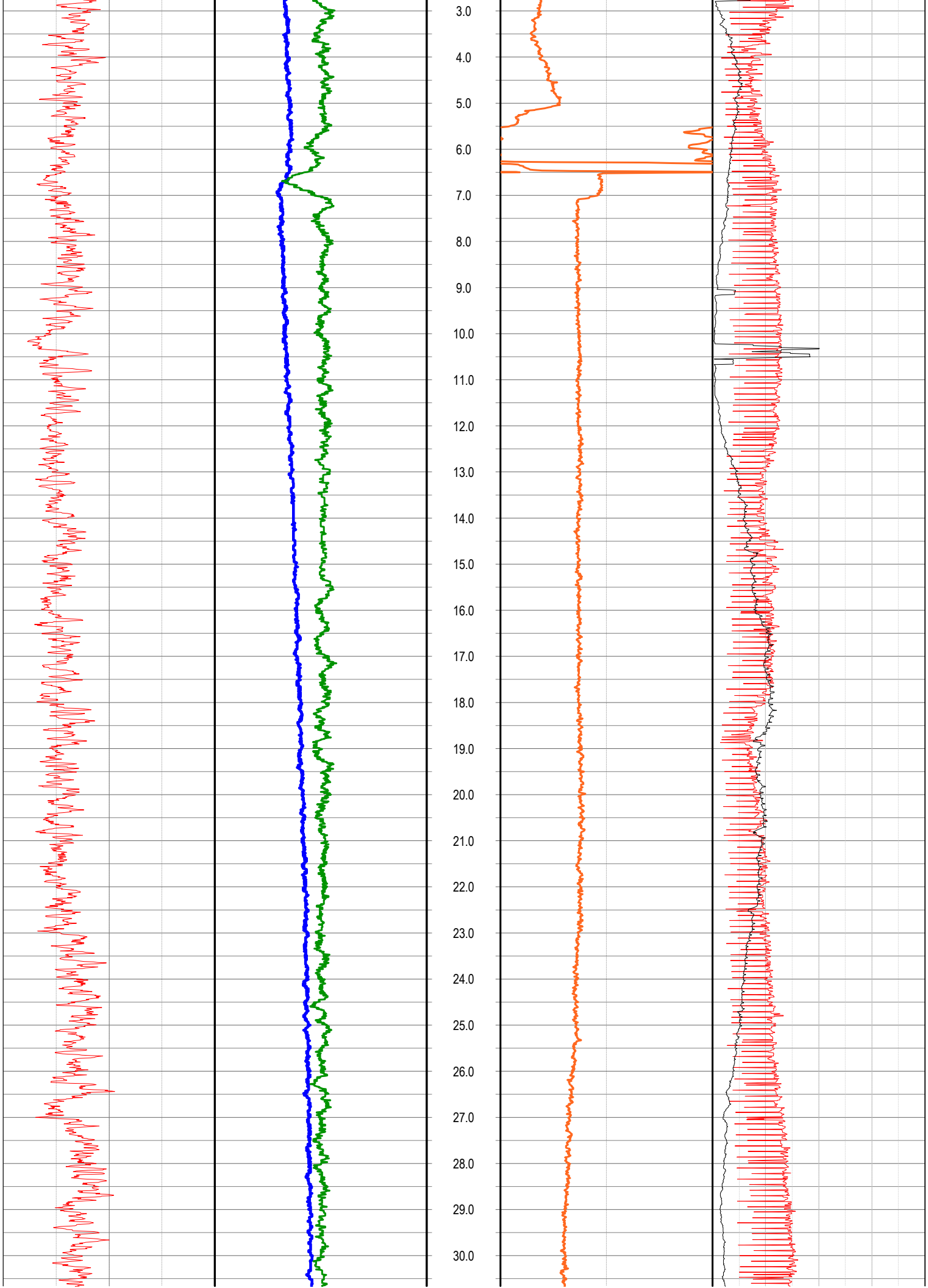
ATTRIBUTES

MST_LENGTH	2400mm
MST_DIAMETER	45mm
MST_WEIGHT	13.5kg
MST_TEMP_RANGE	70 deg
MST_LOGGING_SPEED	6m/min
MST_DEVIATION	

3 axis magnetometer, 3 axis accelerometer

GRMST NATURAL GAMMA	TEMPERATURE	Depth 1m:100m	16N 16" RESISTIVITY	TILT
0 API 200	17 deg C 18		1400 ohm m2/m 1600	0 DEG 2
	1m DIFFERENTIAL TEMP Diff between Samples 0.5m above & below			MAG_AZIMUTH
	-0.15 deg C 0.15			0 DEG 360

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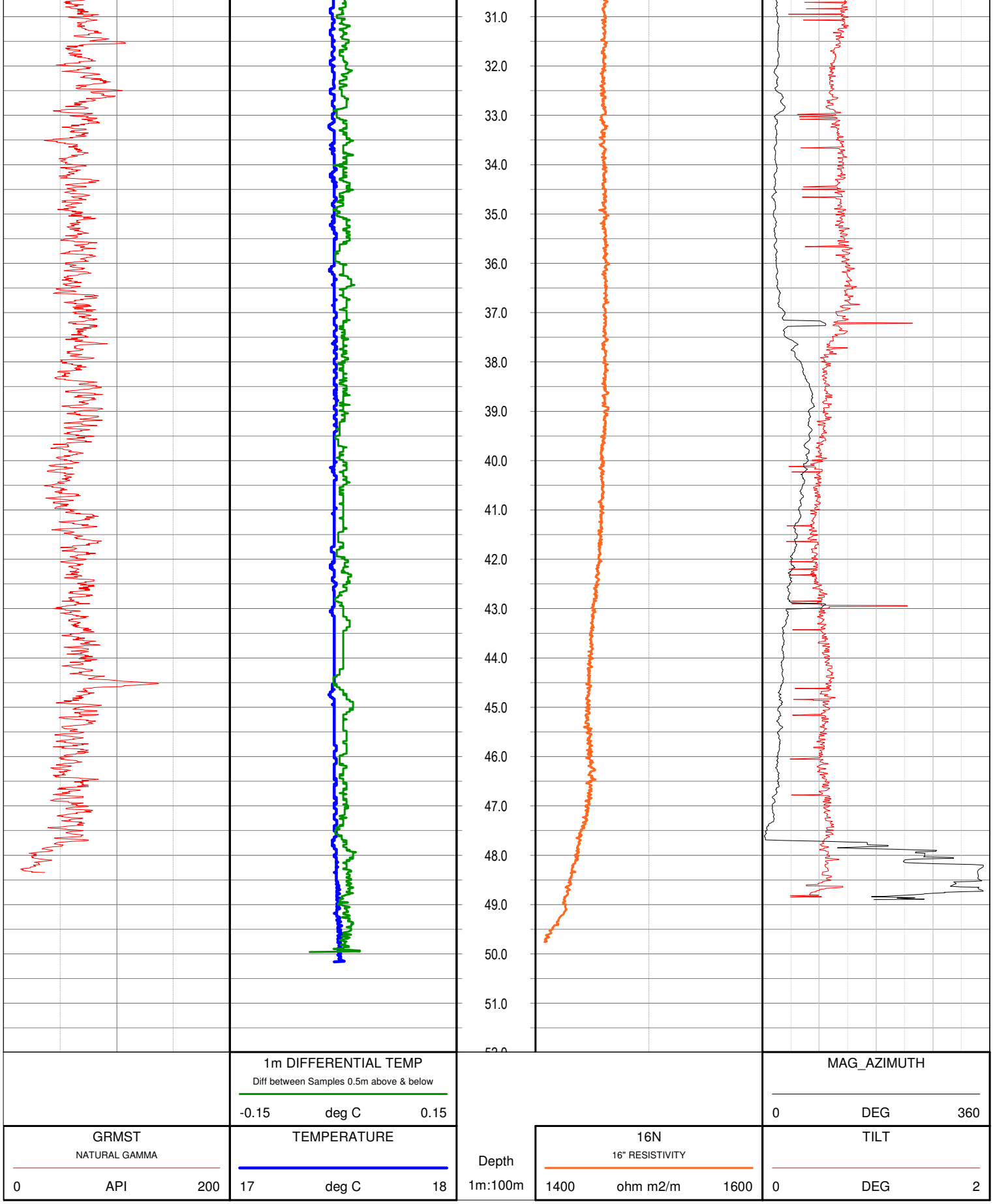
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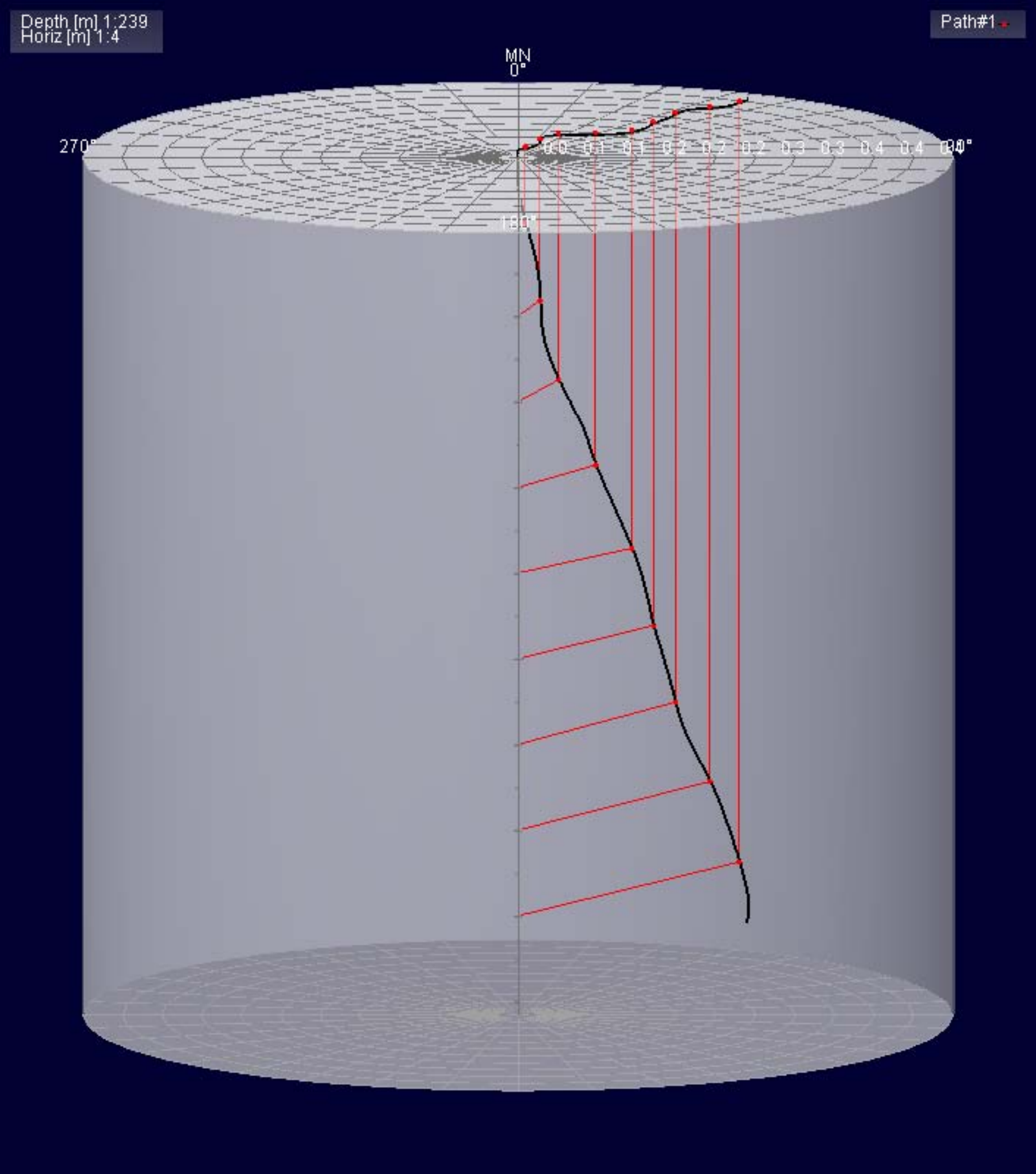
44.0
45.0
46.0
47.0
48.0
49.0
50.0
51.0
1m DIFFERENTIAL TEMP
Diff between Samples 0.5m above & below
-0.15 deg C 0.15
MAG_AZIMUTH
0 DEG 360
GRMST
NATURAL GAMMA
0 API 200
TEMPERATURE
17 deg C 18
Depth
1m:100m
16N
16" RESISTIVITY
1400 ohm m2/m 1600
TILT
0 DEG 2


Depth [m] 1:239
Horiz [m] 1:4
Path#1
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270°
90°
180°
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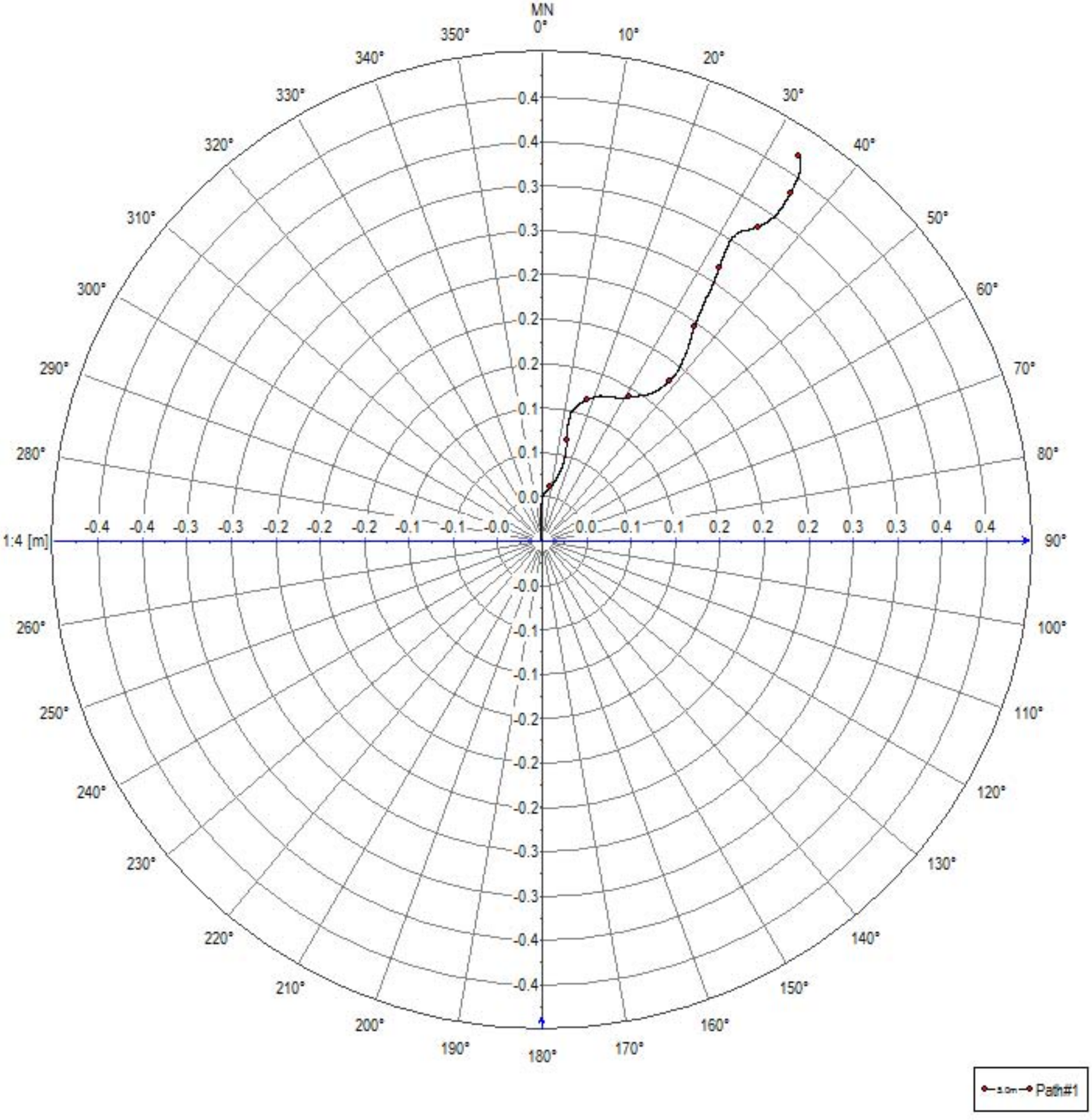
0.2
0.3
0.3
0.4
0.4
0.4


MN
0°
10°
20°
30°
40°
50°
60°
70°
80°
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100°
110°
120°
130°
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170°
180°
190°
200°
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220°
230°
240°
250°
260°
270°
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300°
310°
320°
330°
340°
350°
1:4 [m]
-0.4 -0.4 -0.3 -0.3 -0.2 -0.2 -0.2 -0.1 -0.1 -0.0
0.0 0.1 0.1 0.2 0.2 0.2 0.3 0.3 0.4 0.4
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Path#1

ENERGY INVESTMENTS

W83

FORMATION DENSITY

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0540635
NORTHING	5332000
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

LSD CALIBRATION VARIES DUE TO PVC

HOLE ATTRIBUTES

DATE	28/08/2014
FLUID LEVEL	2 m
FLUID TYPE	WATER
DRILLED DEPTH	50.3 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	50

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	50

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	50.3 m
INT LOGGED	0-50.3 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	50.3
MST	01	50.3	0
FDS	817	50.3	0
SON	20	50.3	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^3-1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

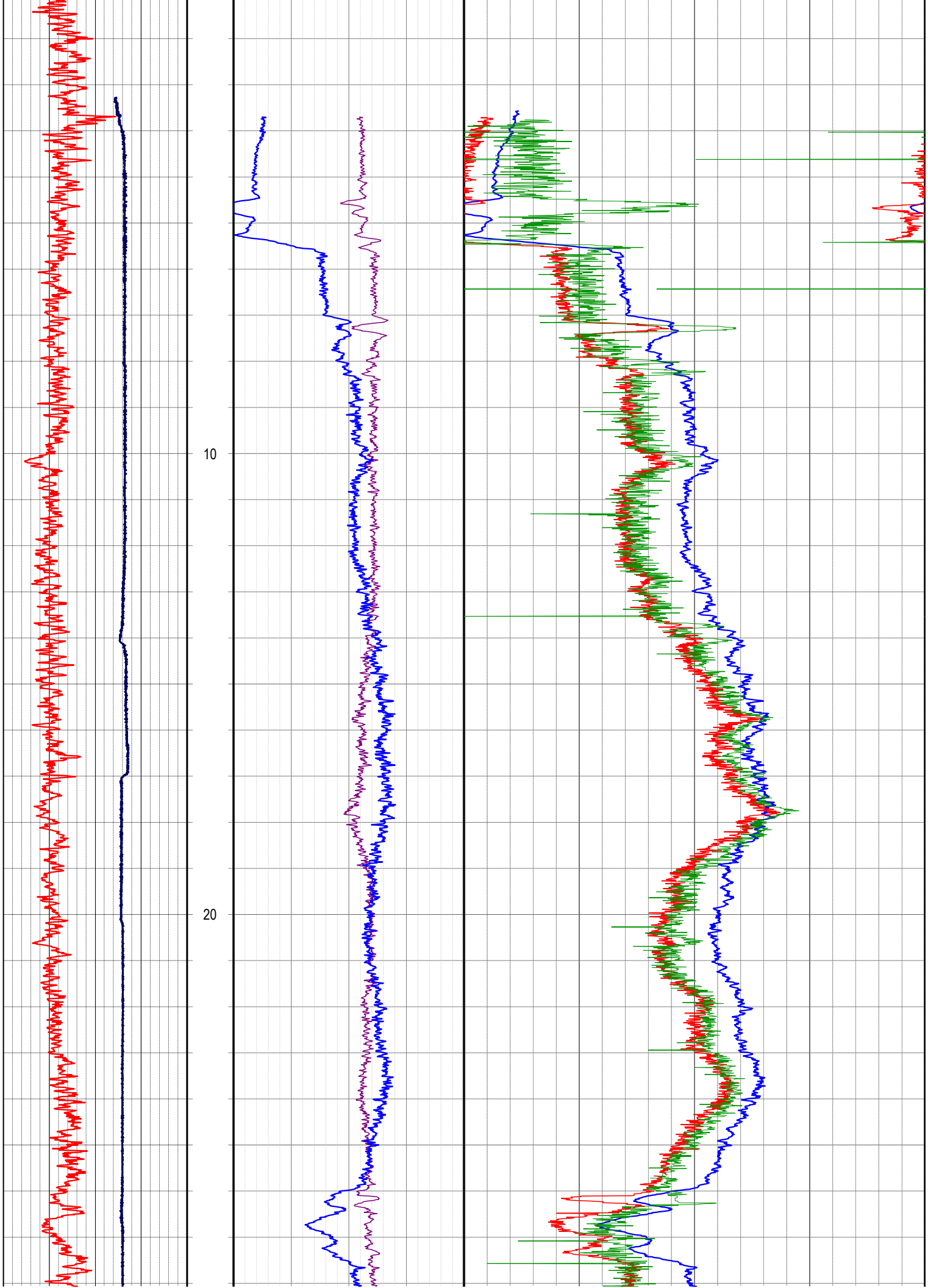
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			LSD Long Spaced Density		
0	API	200		-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				**RHOB Bulk Density**			**SSD Short Spaced Density**		
50	mm	70		1	G/CC	3	1	G/CC	3
							BRD Bed Resolution Density		
							1	G/CC	3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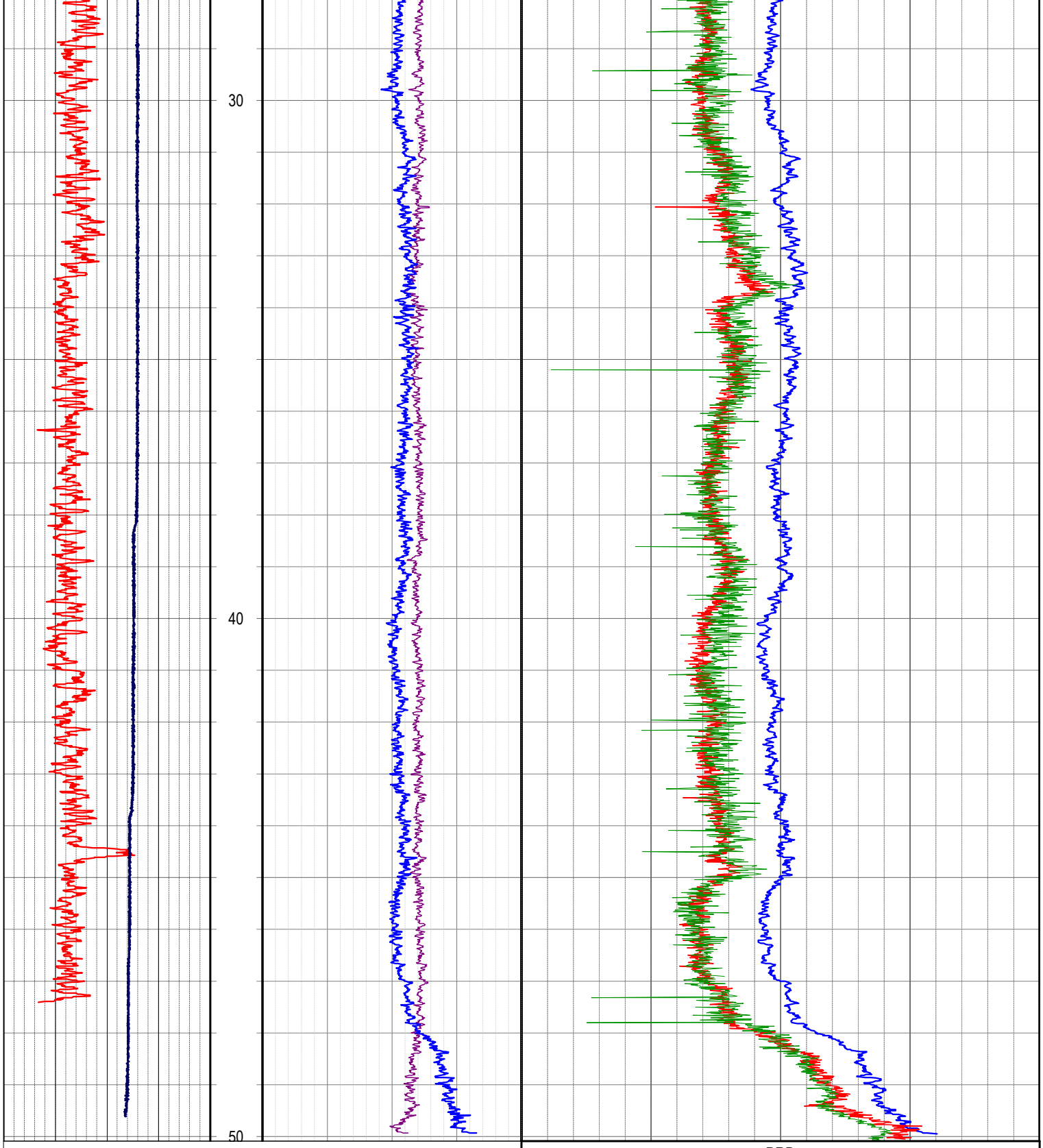


						BRD Bed Resolution Density		
						1	G/CC	3
CALI Caliper			RHOB Bulk Density			SSD Short Spaced Density		
50	mm	70	1	G/CC	3	1	G/CC	3
GRDEN Natural Gamma			DRHOB Differential Density			LSD Long Spaced Density		
0	API	200	-0.4	G/CC	0.4	1	G/CC	3

Depth
1:100

ENERGY INVESTMENTS

W83

FULL WAVE SONIC

1:200

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0540635
NORTHING	5332000
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES

DATE	28/08/2014
FLUID LEVEL	2 m
FLUID TYPE	WATER
DRILLED DEPTH	50.3 m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	50

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	50

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	50.3 m
INT LOGGED	0-50.3 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	50.3
MST	01	50.3	0
FDS	817	50.3	0
SON	20	50.3	0

FULL WAVE SONIC - FWS50

CALIBRATION

FWS_TESTED_DATE	30/07/2013
FWS_MODEL	ALT FWS50
FWS_SERIAL_NO	131009

MNEUMONICS

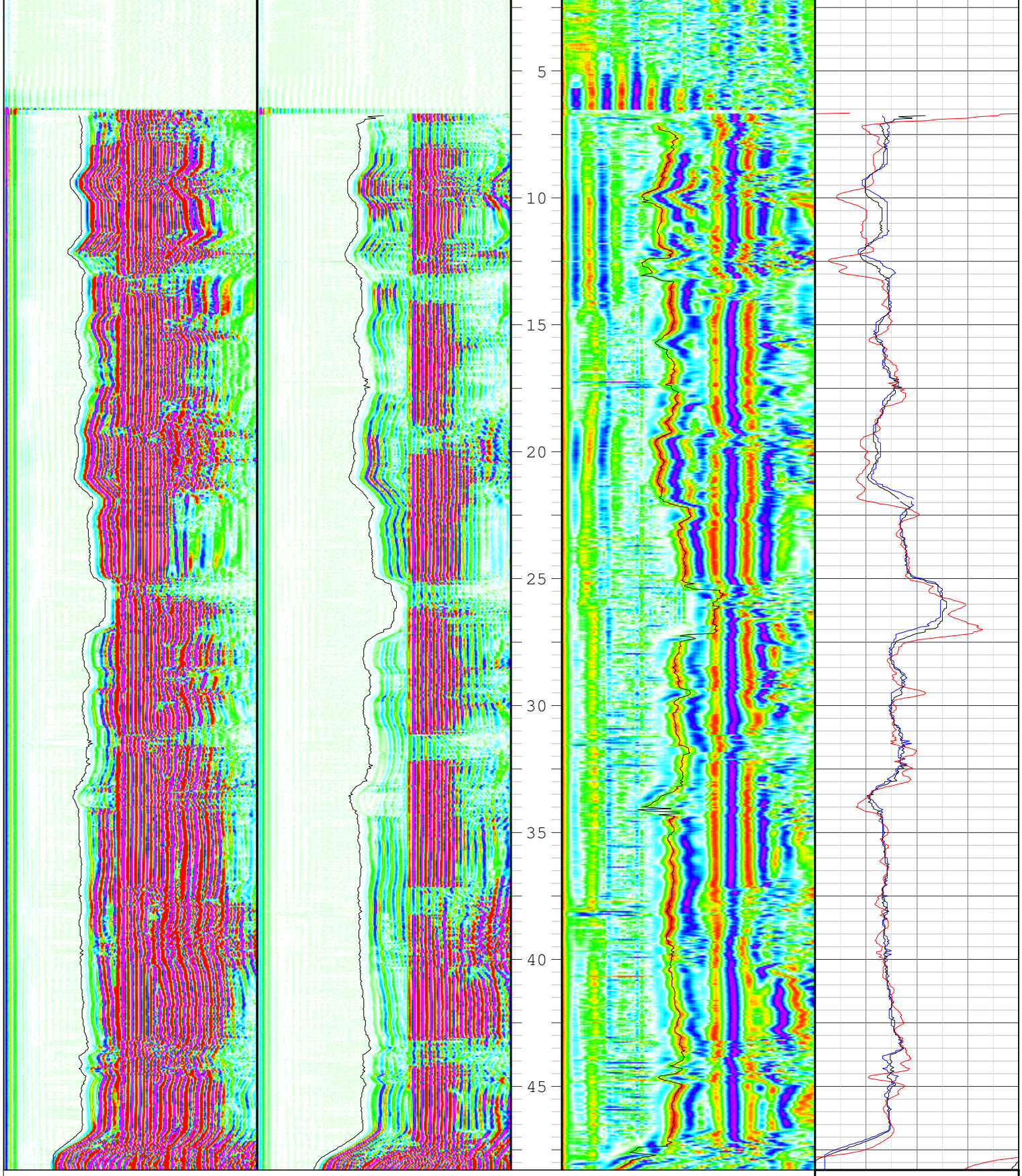
RX1 = Transmitter-Receiver1 traveltime and wave amp
RX2 = Transmitter-Receiver2 traveltime and wave amp
RX1 - dt = Receiver1 first wave arrival in microseconds
RX2 - dt = Receiver2 first wave arrival in microseconds

Velocity Analysis = Merging of RX1 RX2 wavetrains
Primary Wave DT = Interpreted from Velocity Analysis
Shear Wave DT = Interpreted from Velocity Analysis
DT1 = from RX1-dt in us/m
DT2 = from RX2-dt in us/m
DT3 = (RX2-dt)-(RX1-dt)/0.3048 in us/m
Poisson's ratio, bulk modulus calculations possible with density data

ATTRIBUTES

FWS_LENGTH	2.9m
FWS_DIAMETER	50mm
TX-RX1_SPACING	3FT
TX-RX2_SPACING	4FT
TOP_RX2_SPACING	0.93m
ACOUSTIC_WAVE_FREQUENCY	15KHz
FWS_MAX_TEMP	70 degC
FWS_MAX_PRESSURE	200 bars

RX1	RX2	Depth	VELOCITY ANALYSIS	DT1
RECEIVER 1	RECEIVER 2	1:200		RECEIVER 1
-2048 / 0 / us / 2047 / 1020	-2048 / 0 / us / 2047 / 1020		0.281206 / 0 / us/m / 25.8618 / 793.963	200 / us/m / 600
RX1 - dt	RX2 - dt		P WAVE SLOWNESS	DT2
RECEIVER 1	RECEIVER 2		FROM VELOCITY ANALYSIS	RECEIVER 2
0 / us / 1020	0 / us / 1020		0 / us/m / 793	200 / us/m / 600
				DT3
				RECEIVER 2 - RECEIVER 1
				200 / us/m / 600



RX1 - dt	RX2 - dt		P WAVE SLOWNESS	DT3
RECEIVER 1	RECEIVER 2		FROM VELOCITY ANALYSIS	RECEIVER 2 - RECEIVER 1
0 us 1020	0 us 1020		0 us/m 793	200 us/m 600
RX1	**RX2**	Depth	**VELOCITY ANALYSIS**	**DT2**
RECEIVER 1	RECEIVER 2	1:200		RECEIVER 2
-2048 2047	-2048 2047		0.281206 25.8618	200 us/m 600
0 us 1020	0 us 1020		0 us/m 793.963	**DT1**
				RECEIVER 1
				200 us/m 600

ENERGY INVESTMENTS

W84

FORMATION DENSITY

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0539044
NORTHING	5332414
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

LSD CALIBRATION VARIES DUE TO PVC

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	9.6 m
FLUID TYPE	WATER
DRILLED DEPTH	m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	TD

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	69.8 m
INT LOGGED	0-69.8 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	69.8
FDS	817	69.8	0
SON	20	69.8	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

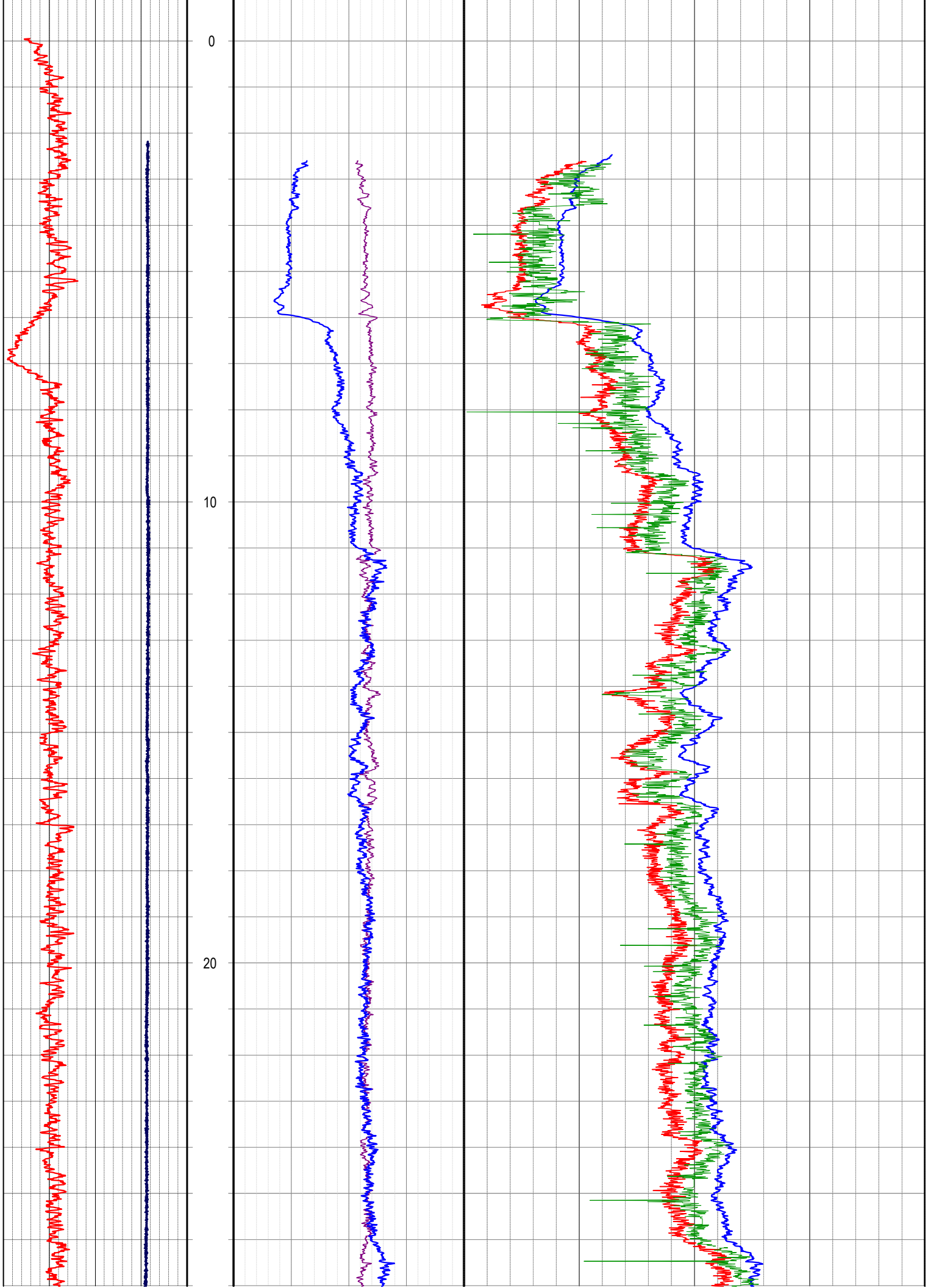
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

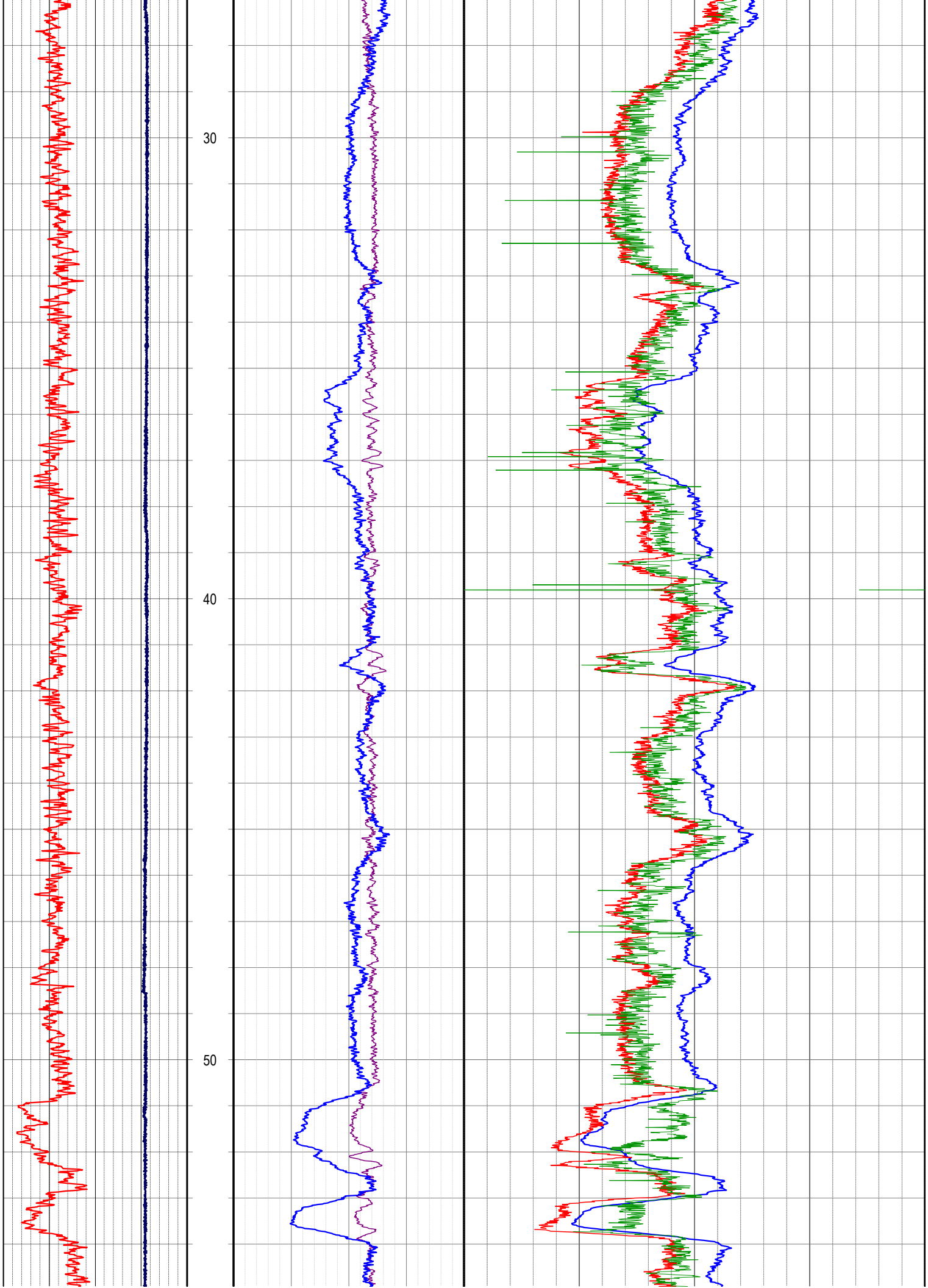
GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			LSD Long Spaced Density		
0	API	200		-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				**RHOB Bulk Density**			**SSD Short Spaced Density**		
55	mm	65		1	G/CC	3	1	G/CC	3
							BRD Bed Resolution Density		
							1	G/CC	3


0
10
20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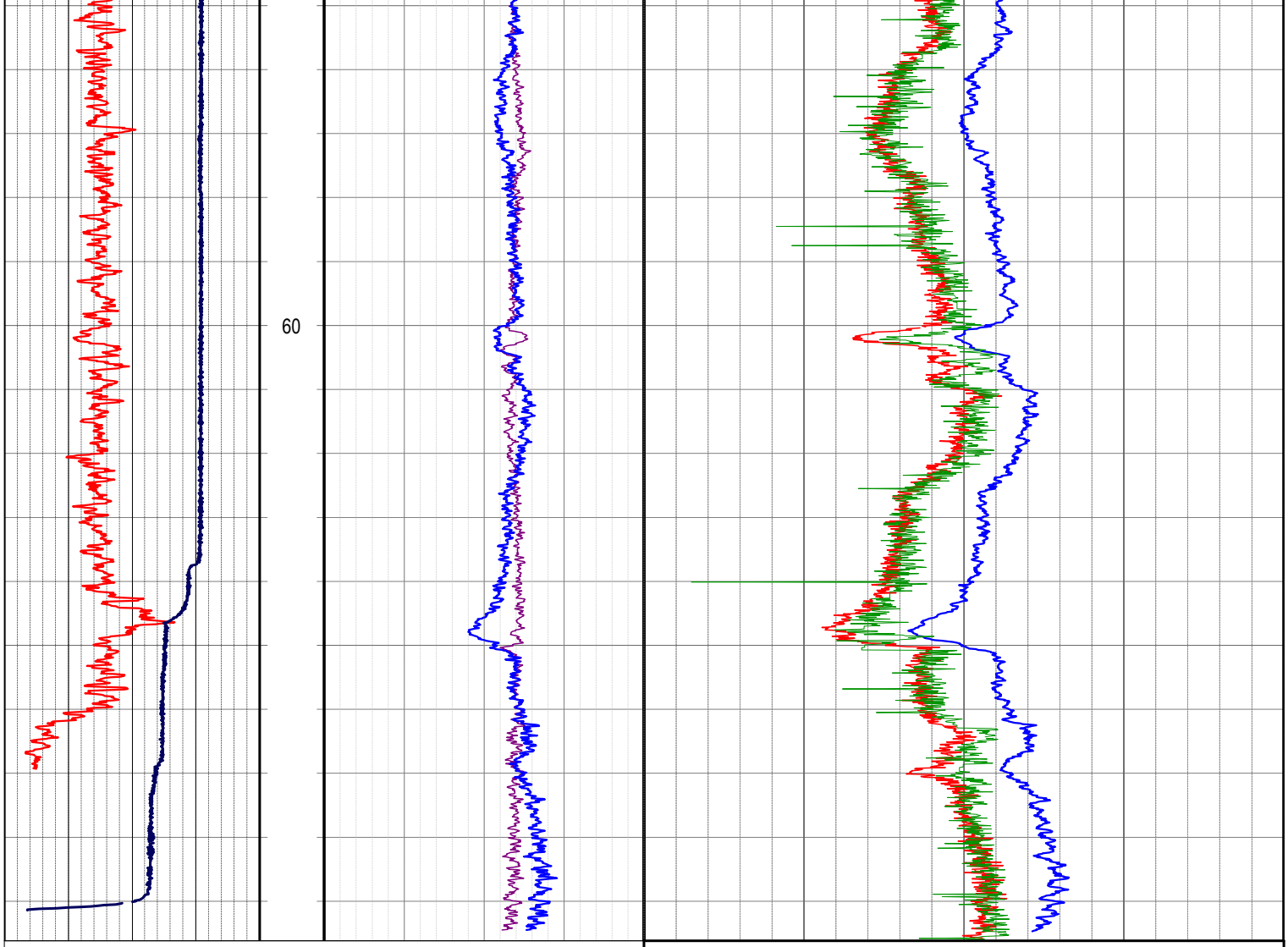


			BRD Bed Resolution Density 1 G/CC 3
CALI Caliper 55 mm 65		RHOB Bulk Density 1 G/CC 3	SSD Short Spaced Density 1 G/CC 3
GRDEN Natural Gamma 0 API 200	Depth 1:100	DRHOB Differential Density -0.4 G/CC 0.4	LSD Long Spaced Density 1 G/CC 3

ENERGY INVESTMENTS

W84

FULL WAVE SONIC

1:200

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0539044
NORTHING	5332414
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	9.6 m
FLUID TYPE	WATER
DRILLED DEPTH	m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	TD

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	69.8 m
INT LOGGED	0-69.8 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	69.8
FDS	817	69.8	0
SON	20	69.8	0

FULL WAVE SONIC - FWS50

CALIBRATION

FWS_TESTED_DATE	30/07/2013
FWS_MODEL	ALT FWS50
FWS_SERIAL_NO	131009

MNEUMONICS

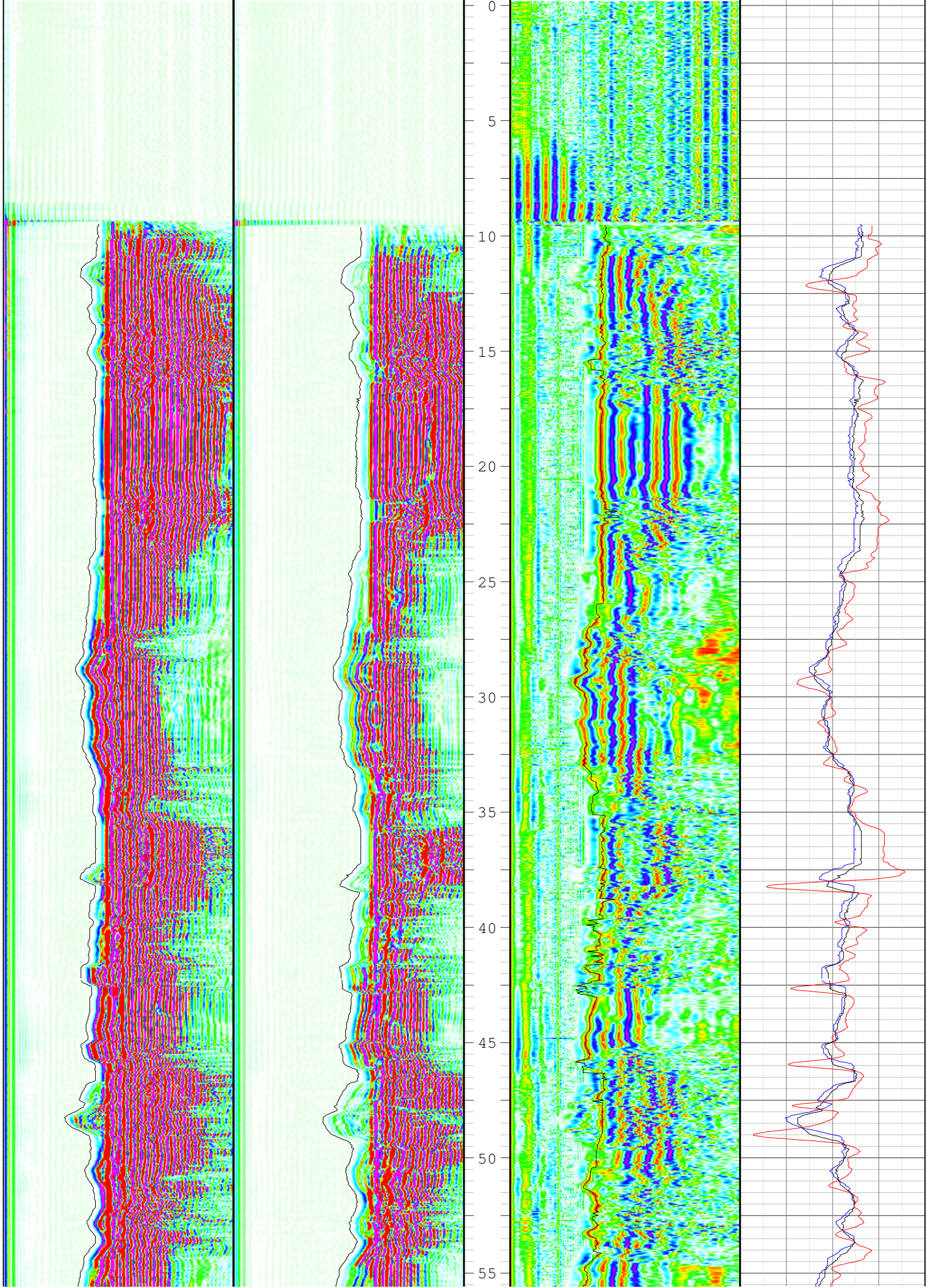
RX1 = Transmitter-Receiver1 traveltime and wave amp
RX2 = Transmitter-Receiver2 traveltime and wave amp
RX1 - dt = Receiver1 first wave arrival in microseconds
RX2 - dt = Receiver2 first wave arrival in microseconds

Velocity Analysis = Merging of RX1 RX2 wavetrains
Primary Wave DT = Interpreted from Velocity Analysis
Shear Wave DT = Interpreted from Velocity Analysis
DT1 = from RX1-dt in us/m
DT2 = from RX2-dt in us/m
DT3 = (RX2-dt)-(RX1-dt)/0.3048 in us/m
Poisson's ratio, bulk modulus calculations possible with density data

ATTRIBUTES

FWS_LENGTH	2.9m
FWS_DIAMETER	50mm
TX-RX1_SPACING	3FT
TX-RX2_SPACING	4FT
TOP_RX2_SPACING	0.93m
ACOUSTIC_WAVE_FREQUENCY	15KHz
FWS_MAX_TEMP	70 degC
FWS_MAX_PRESSURE	200 bars

RX1	RX2	Depth	Velocity Analysis	DT1
RECEIVER 1	RECEIVER 2	1:200		RECEIVER 1
-2048 / 0 / us / 2047 / 1020	-2048 / 0 / us / 2047 / 1022		0.281206 / 0 / us/m / 25.8618 / 1200	200 / us/m / 600
RX1 - dt	RX2 - dt		P WAVE SLOWNESS	DT2
RECEIVER 1	RECEIVER 2		FROM VELOCITY ANALYSIS	RECEIVER 2
0 / us / 1020	0 / us / 1020		0 / us/m / 1200	200 / us/m / 600
				DT3
				RECEIVER 2 - RECEIVER 1
				200 / us/m / 600


0
5
10
15
20
25
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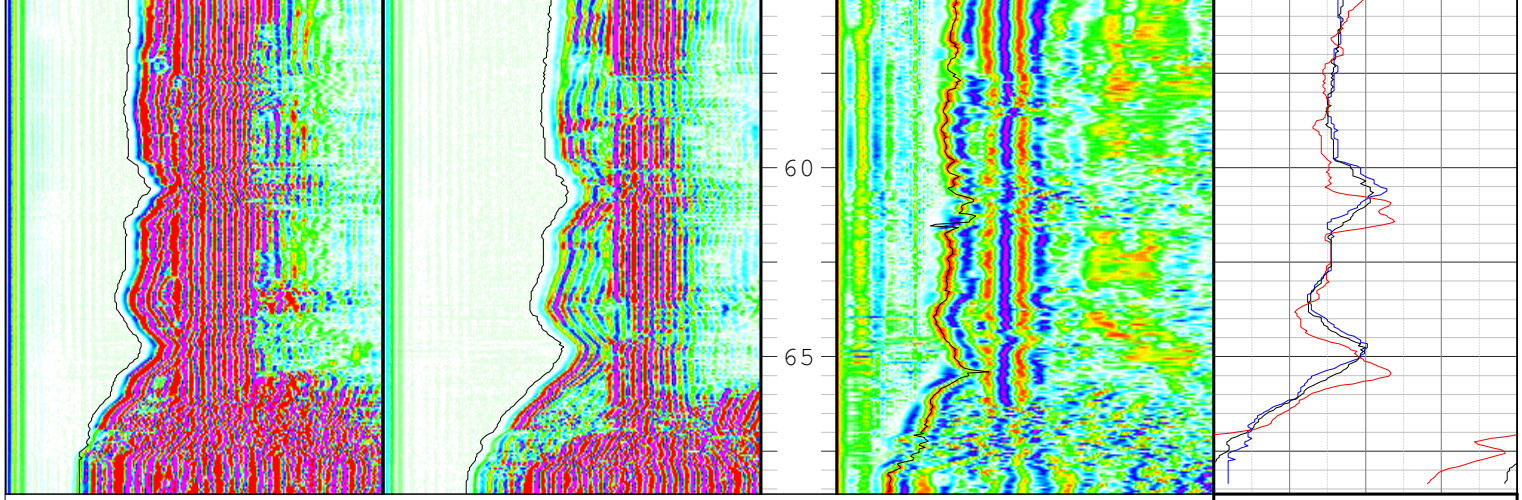
55



				DT3 RECEIVER 2 - RECEIVER 1 200 us/m 600
RX1 - dt RECEIVER 1 0 us 1020	RX2 - dt RECEIVER 2 0 us 1020		P WAVE SLOWNESS FROM VELOCITY ANALYSIS 0 us/m 1200	DT2 RECEIVER 2 200 us/m 600
RX1 RECEIVER 1 -2048 2047 0 us 1020	RX2 RECEIVER 2 -2048 2047 0 us 1022	Depth 1:200	Velocity Analysis 0.281206 25.8618 0 us/m 1200	DT1 RECEIVER 1 200 us/m 600

ENERGY INVESTMENTS

W85

FORMATION DENSITY

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0540009
NORTHING	5330715
ELEVATION	226m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

LSD CALIBRATION VARIES DUE TO PVC
HOLE BLOCKED AT 46m

HOLE ATTRIBUTES

DATE	28/08/2014
FLUID LEVEL	2 m
FLUID TYPE	WATER
DRILLED DEPTH	m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	130mm	0	46

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	46 m
INT LOGGED	0-46 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	46
MST	01	46	0
FDS	817	46	0
SON	20	46	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^4-1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

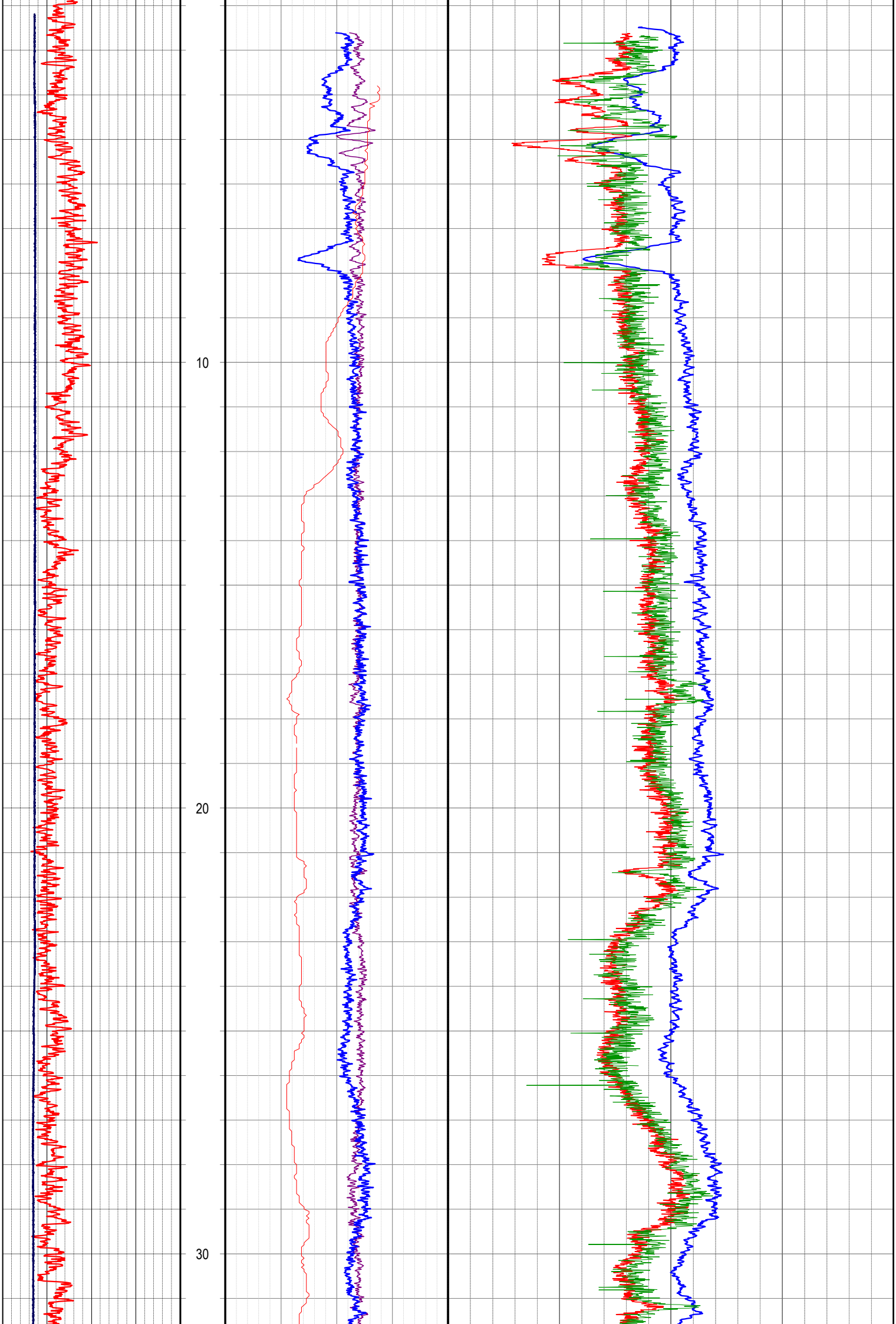
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			LSD Long Spaced Density		
0	API	200		-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				RHOB Bulk Density			SSD Short Spaced Density		
55	mm	100		1	G/CC	3	1	G/CC	3
				DT1 RECEIVER 1			BRD Bed Resolution Density		
				200	us	600	1	G/CC	3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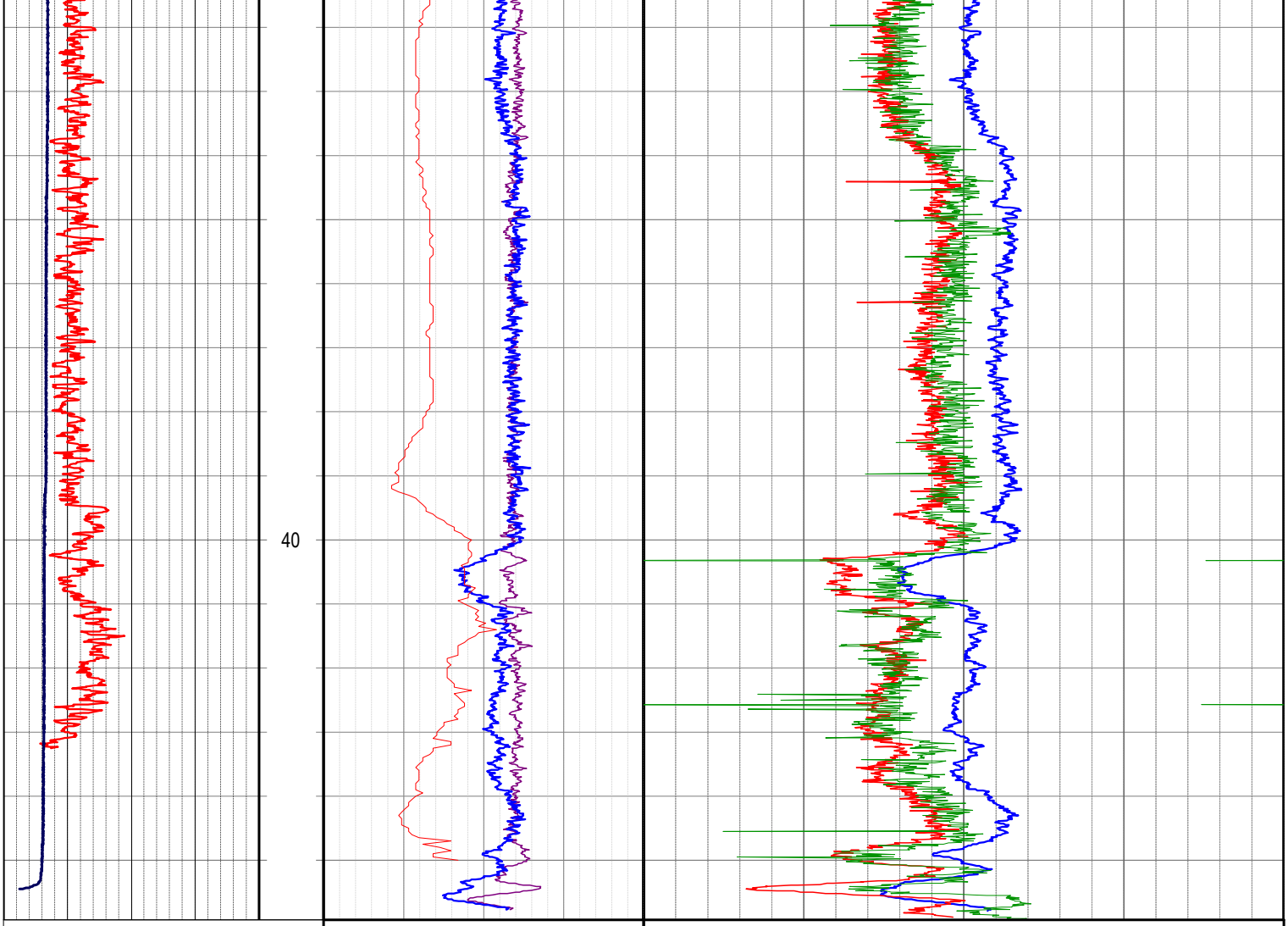
20
30



		DT1 RECEIVER 1 200 us 600	BRD Bed Resolution Density 1 G/CC 3
CALI Caliper 55 mm 100		RHOB Bulk Density 1 G/CC 3	SSD Short Spaced Density 1 G/CC 3
GRDEN Natural Gamma 0 API 200	Depth 1:100	DRHOB Differential Density -0.4 G/CC 0.4	LSD Long Spaced Density 1 G/CC 3

ENERGY INVESTMENTS

W85

FULL WAVE SONIC

1:200

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	0540009
NORTHING	5330715
ELEVATION	226m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE BLOCKED AT 46m

HOLE ATTRIBUTES

DATE	28/08/2014
FLUID LEVEL	2 m
FLUID TYPE	WATER
DRILLED DEPTH	m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m
PVC	60mm	0	46

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	46 m
INT LOGGED	0-46 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	46
MST	01	46	0
FDS	817	46	0
SON	20	46	0

FULL WAVE SONIC - FWS50

CALIBRATION

FWS_TESTED_DATE	30/07/2013
FWS_MODEL	ALT FWS50
FWS_SERIAL_NO	131009

MNEUMONICS

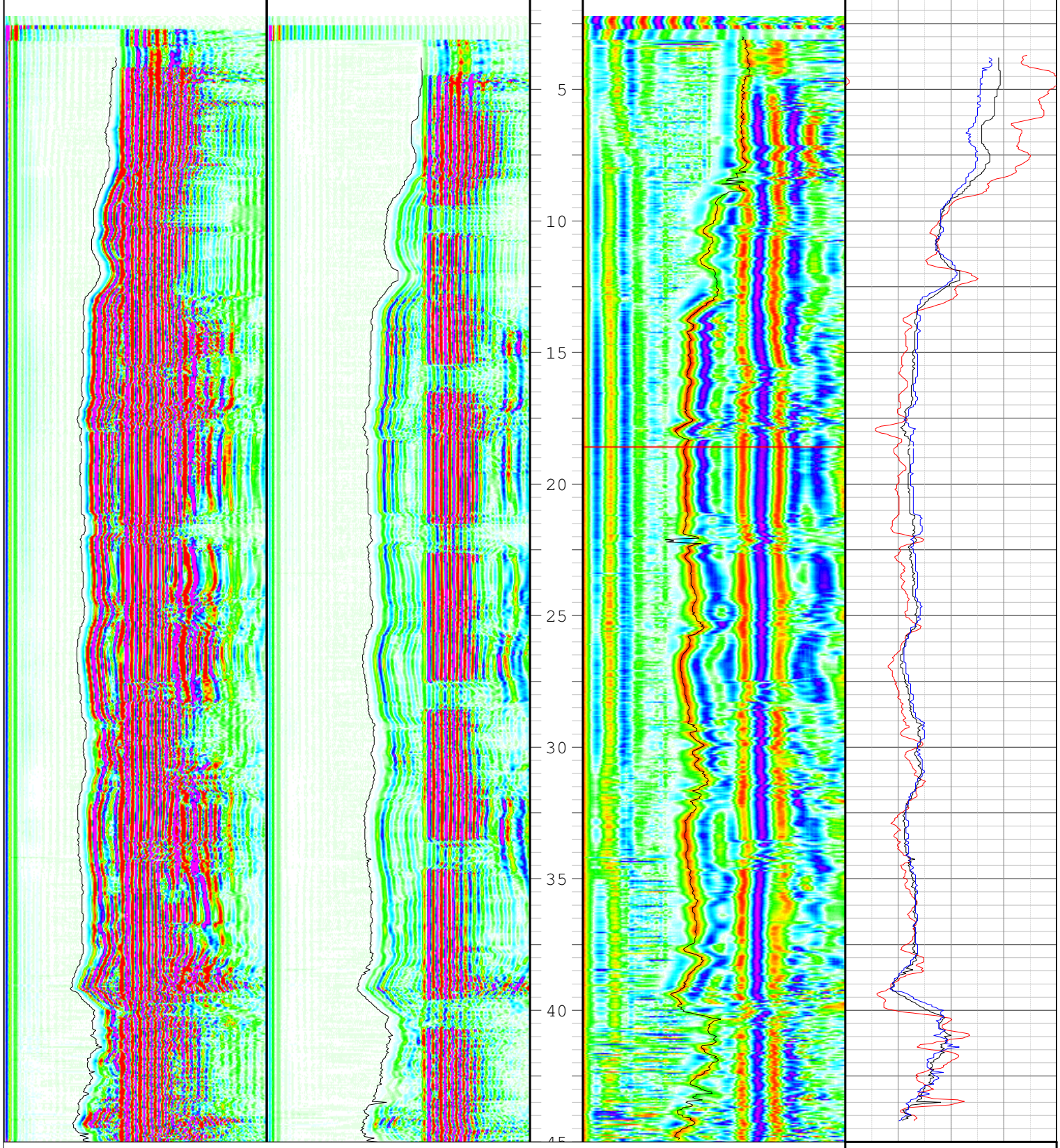
RX1 = Transmitter-Receiver1 traveltime and wave amp
RX2 = Transmitter-Receiver2 traveltime and wave amp
RX1 - dt = Receiver1 first wave arrival in microseconds
RX2 - dt = Receiver2 first wave arrival in microseconds

Velocity Analysis = Merging of RX1 RX2 wavetrains
Primary Wave DT = Interpreted from Velocity Analysis
Shear Wave DT = Interpreted from Velocity Analysis
DT1 = from RX1-dt in us/m
DT2 = from RX2-dt in us/m
DT3 = (RX2-dt)-(RX1-dt)/0.3048 in us/m
Poisson's ratio, bulk modulus calculations possible with density data

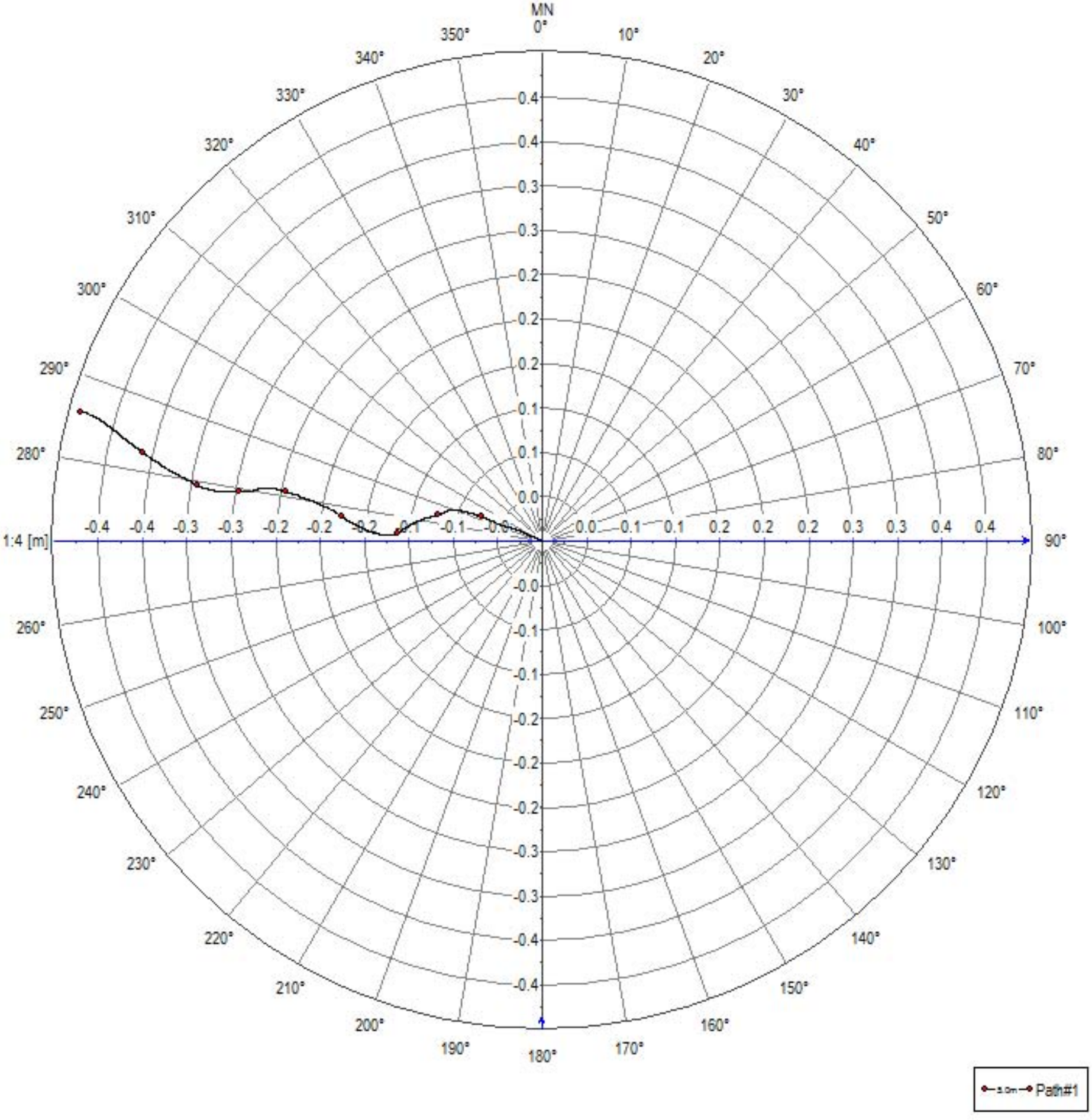
ATTRIBUTES

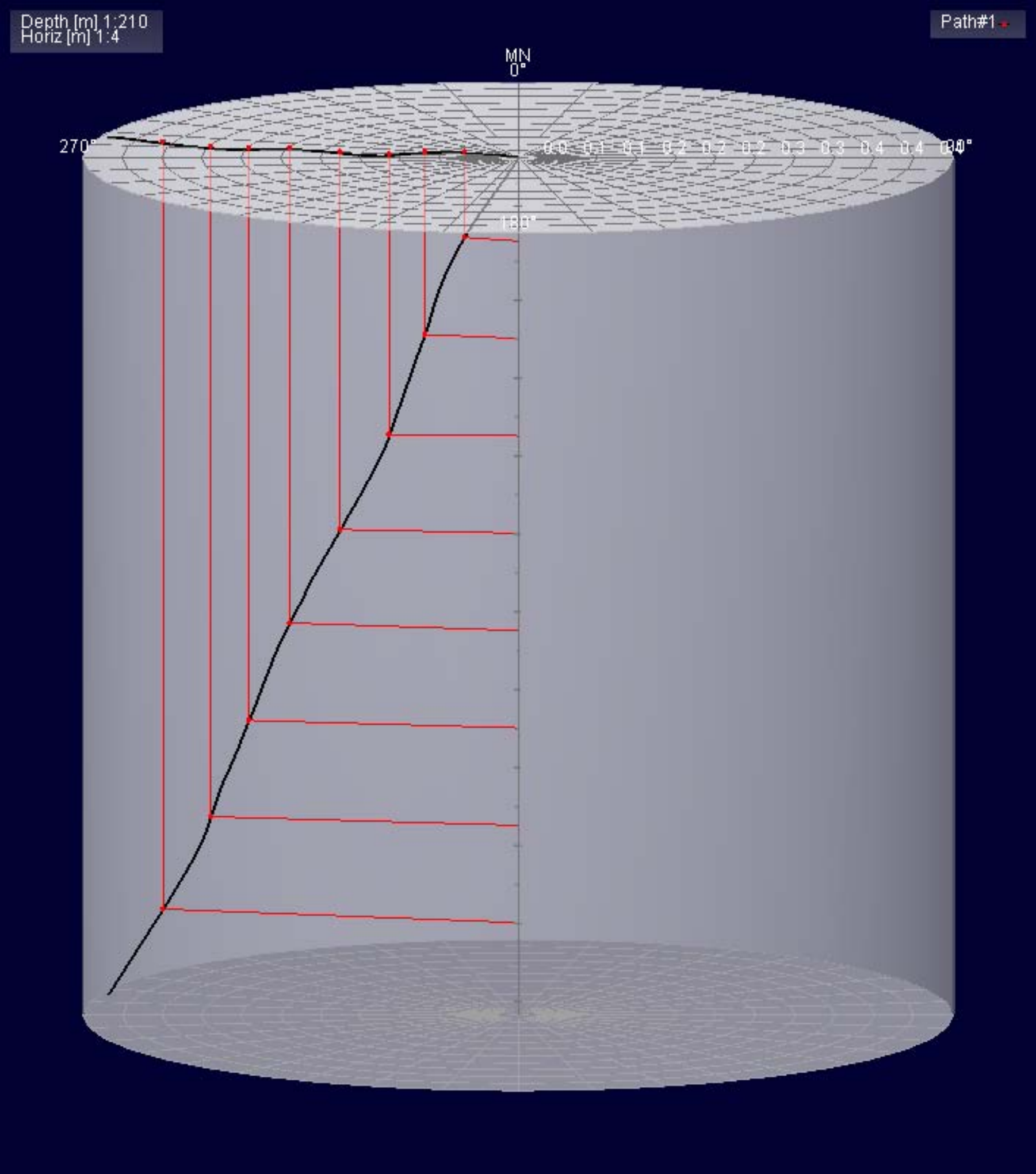
FWS_LENGTH	2.9m
FWS_DIAMETER	50mm
TX-RX1_SPACING	3FT
TX-RX2_SPACING	4FT
TOP_RX2_SPACING	0.93m
ACOUSTIC_WAVE_FREQUENCY	15KHz
FWS_MAX_TEMP	70 degC
FWS_MAX_PRESSURE	200 bars

RX1	RX2	Depth	VELOCITY ANALYSIS	DT3
RECEIVER 1	RECEIVER 2	1:200		RECEIVER 2 - RECEIVER 1
-2048 / 0 / us / 2047 / 1020	-2048 / 0 / us / 2047 / 1020		0.281206 / 0 / us/m / 25.8618 / 793.963	200 / us / 600
RX1 - dt	RX2 - dt		P WAVE SLOWNESS	DT2
RECEIVER 1	RECEIVER 2		FROM VELOCITY ANALYSIS	RECEIVER 2
0 / us / 1020	0 / us / 1020		0 / us/m / 793	200 / us / 600
				DT1
				RECEIVER 1
				200 / us / 600



RX1 - dt	RX2 - dt		P WAVE SLOWNESS	DT1
RECEIVER 1	RECEIVER 2		FROM VELOCITY ANALYSIS	RECEIVER 1
0 us 1020	0 us 1020		0 us/m 793	200 us 600
				DT2
				RECEIVER 2
				200 us 600
RX1	RX2		VELOCITY ANALYSIS	DT3
RECEIVER 1	RECEIVER 2	Depth		RECEIVER 2 - RECEIVER 1
-2048 2047	-2048 2047	1:200	0.281206 25.8618	200 us 600
0 us 1020	0 us 1020		0 us/m 793.963	


MN
0°
10°
20°
30°
40°
50°
60°
70°
80°
90°
100°
110°
120°
130°
140°
150°
160°
170°
180°
190°
200°
210°
220°
230°
240°
250°
260°
270°
280°
290°
300°
310°
320°
330°
340°
350°
1:4 [m]
Path#1


Depth [m] 1:210
Horiz [m] 1:4
Path#1
MN
0°
270°
90°
180°
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ENERGY INVESTMENTS

W86

FORMATION DENSITY

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	
NORTHING	
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	7 m
FLUID TYPE	WATER
DRILLED DEPTH	m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m
STEEL	130mm	0	3

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	105.6 m
INT LOGGED	0-105.6 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	105.6
MST	01	105.6	0
FDS	817	105.6	0
SON	20	105.6	0

FORMATION DENSITY - FDS50

CALIBRATION

FDS_CALIBRATION_DATE	10/09/2013
FDS_MODEL	ALT FDS-50
FDS_SERIAL_NO	061817
FDS_SOURCE_NO	3500CO
FDS_SOURCE_TYPE	3.7GBq 137Cs
LSD_CAL	-0.4311*Ln{RAW}+5.0823
SSD_CAL	-1.392*Ln({RAW}+15.54
BRD_CAL	{RAW}^3-1.66^-8*{RAW}^2-1.16^-3*{RAW}+30.20
FDS_GAMMA_CAL	0.69488{RAW}
FDS_CALIPER_CAL	1.11937*{RAW}+28.344
FDS_CAL_LOCATION	ADELAIDE PIT FACILITY-76mm

FDS_MNEUMONICS

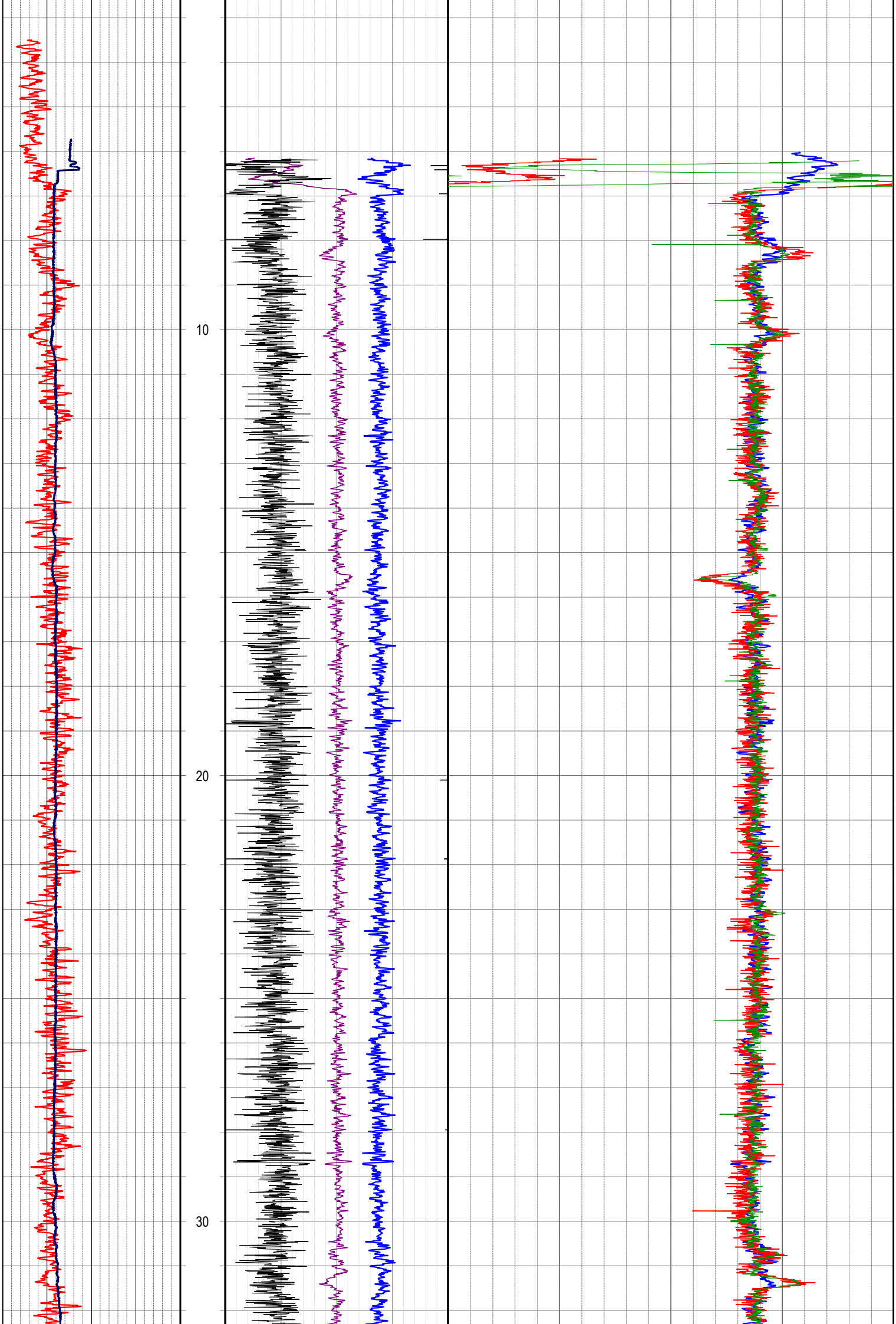
GAMMA_RAW = Uncalibrated natural gamma raw counts
LSD_RAW = Long Spaced Density raw counts
SSD_RAW = Short Spaced Density raw counts
BRD_RAW = Bed Resolution Density raw counts
CALI_RAW = Caliper raw counts

GRDEN = Calibrated Gamma - API Units
LSD = Calibrated Long Spaced Density - g/cc
SSD = Calibrated Short Spaced Density - g/cc
BRD = Calibrated Bed Resolution Density - g/cc
CALI = Calibrated Caliper - in mm
RHOB = Bulk Density
DPOR = Porosity from Density

ATTRIBUTES

FDS_LENGTH	3145mm
FDS_DIAMETER	50mm
FDS_CALIPER_RANGE	50-300mm
FDS_LOGGING_SPEEDS	6m/min General
FDS_RECEIVER_SPACING	48cm - LSD 24cm - SSD 14cm - BRD 63cm - Caliper

GRDEN Natural Gamma			Depth 1:100	DRHOB Differential Density			LSD Long Spaced Density		
0	API	200		-0.4	G/CC	0.4	1	G/CC	3
CALI Caliper				**RHOB Bulk Density**			**SSD Short Spaced Density**		
90	mm	120		1	G/CC	3	1	G/CC	3
				DPOR-sand SANDSTONE POROSITY			**BRD Bed Resolution Density**		
				0	%	70	1	G/CC	3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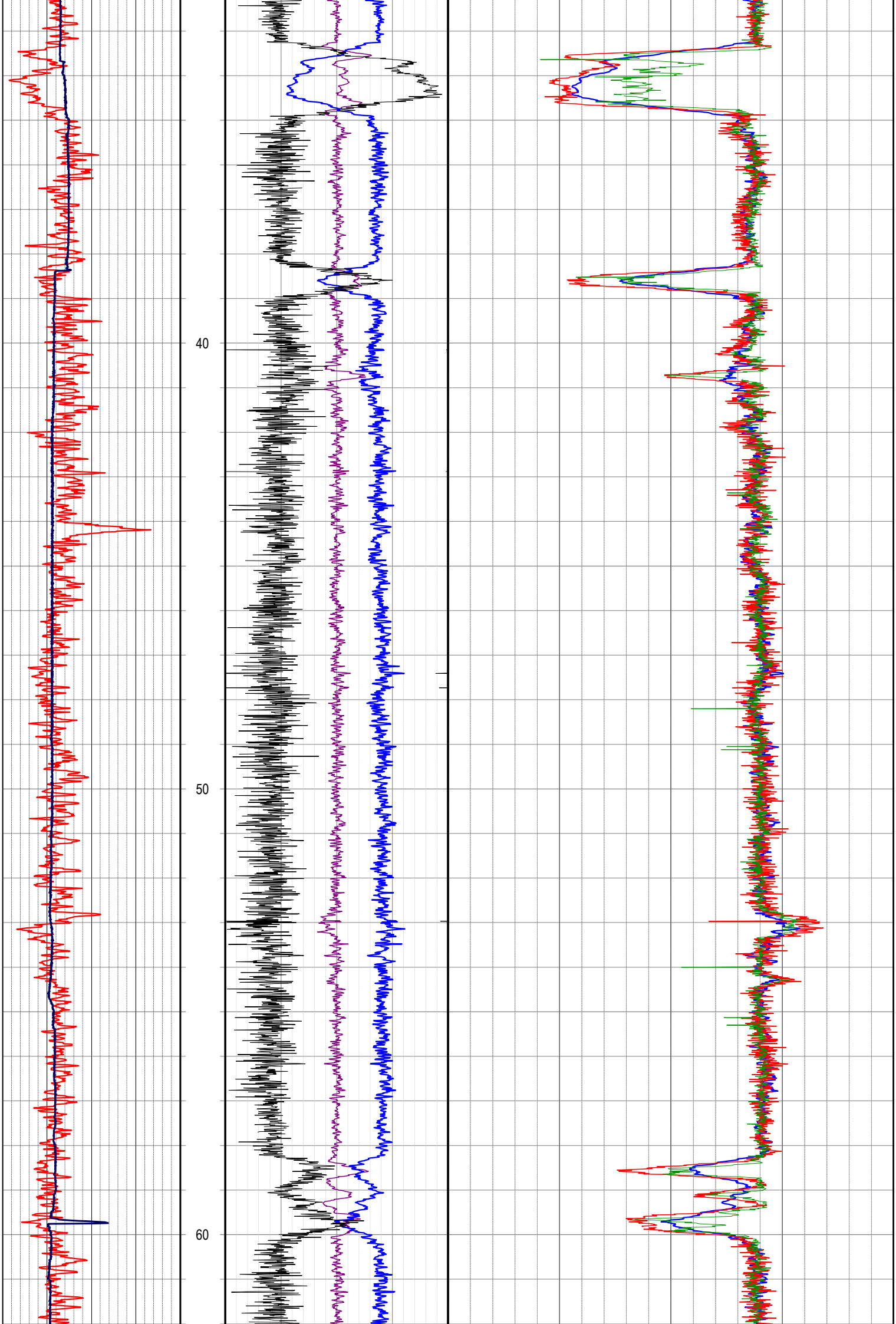
20
30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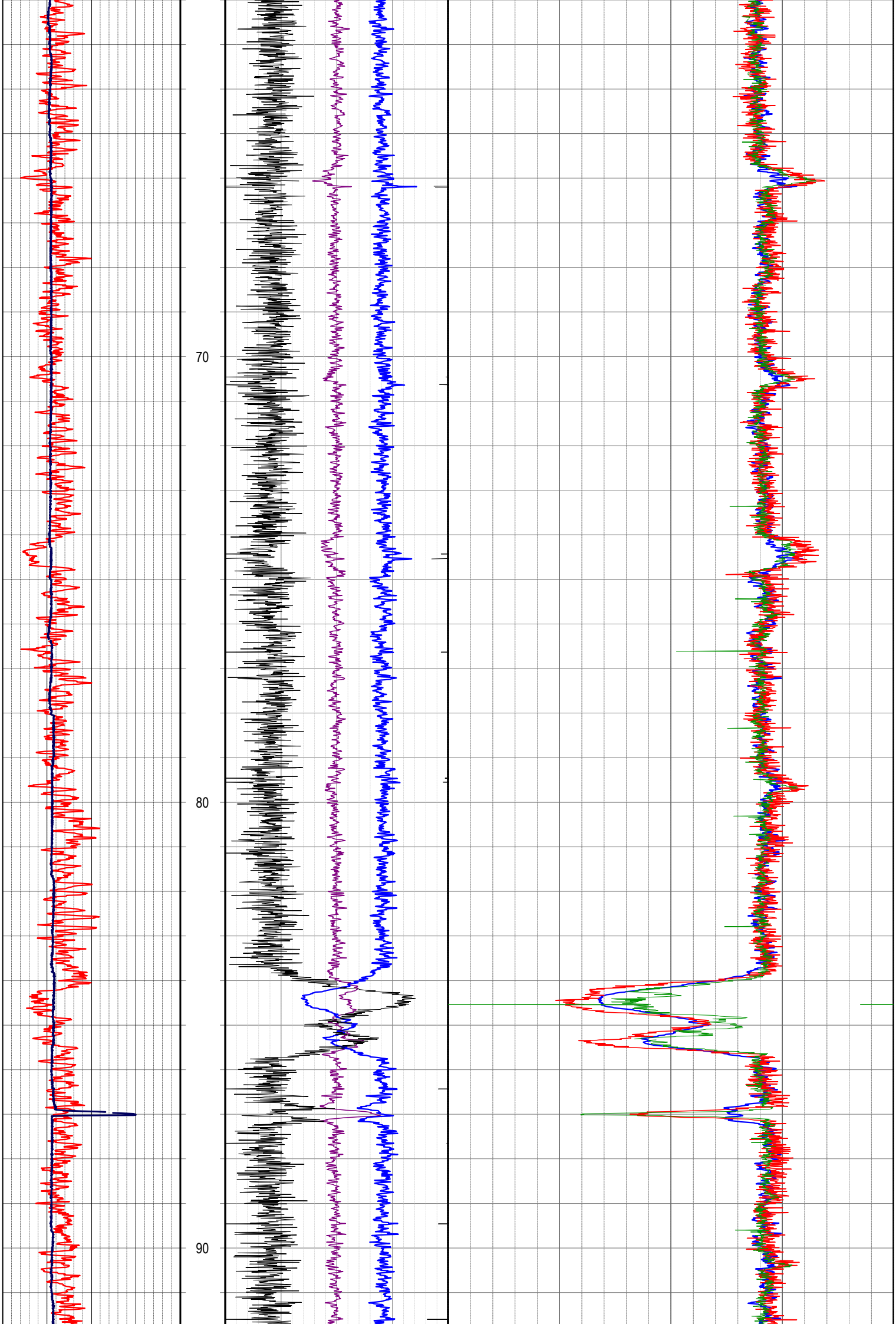
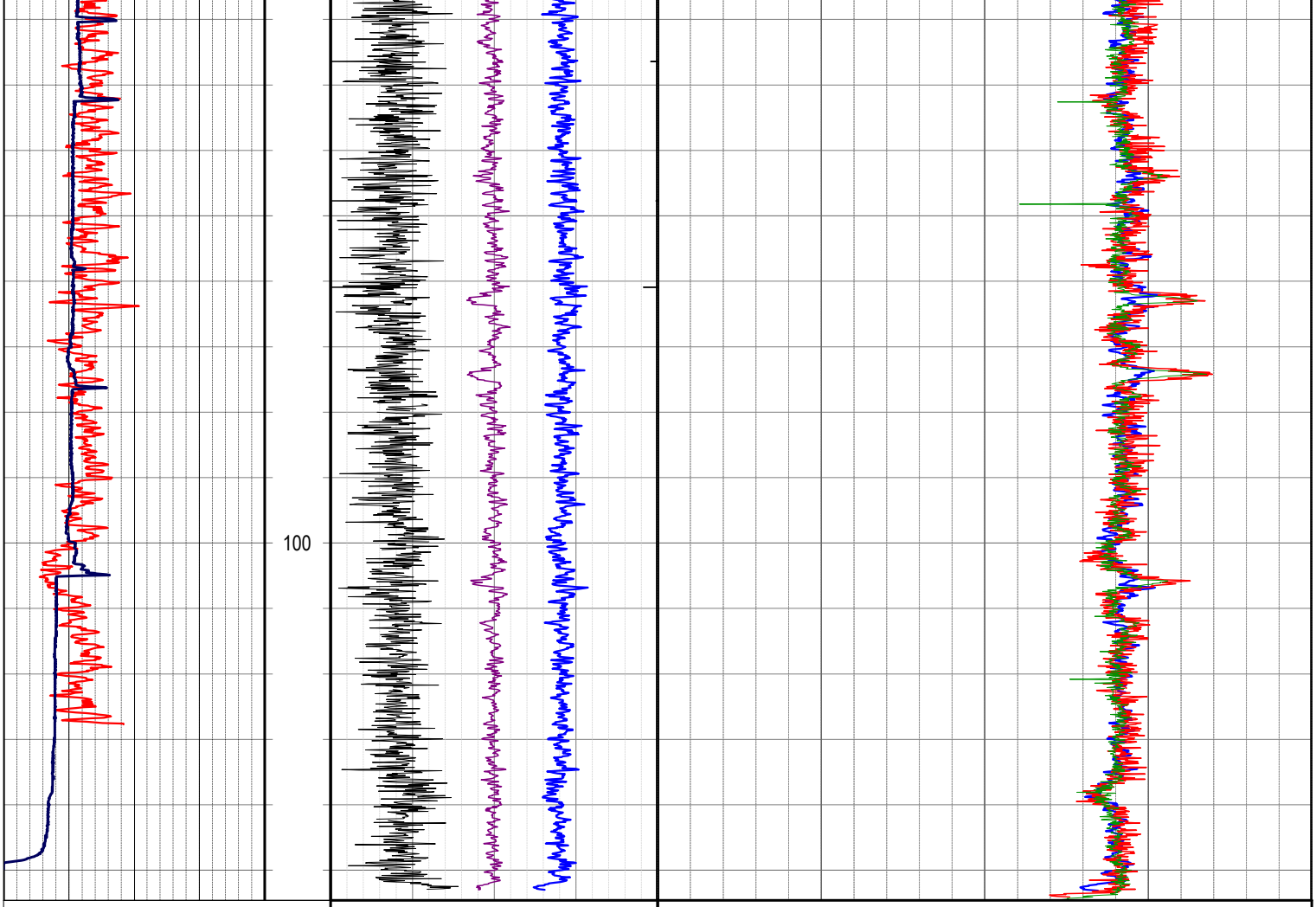

70
80
90



	DPOR-sand SANDSTONE POROSITY 0 % 70	BRD Bed Resolution Density 1 G/CC 3
CALI Caliper 90 mm 120	RHOB Bulk Density 1 G/CC 3	SSD Short Spaced Density 1 G/CC 3
GRDEN Natural Gamma 0 API 200	DRHOB Differential Density -0.4 G/CC 0.4	LSD Long Spaced Density 1 G/CC 3

Depth
1:100

ENERGY INVESTMENTS

W86

FULL WAVE SONIC

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	
NORTHING	
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	7 m
FLUID TYPE	WATER
DRILLED DEPTH	m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m
STEEL	130mm	0	3

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	105.6 m
INT LOGGED	0-105.6 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	105.6
MST	01	105.6	0
FDS	817	105.6	0
SON	20	105.6	0

FULL WAVE SONIC - FWS50

CALIBRATION

FWS_TESTED_DATE	30/07/2013
FWS_MODEL	ALT FWS50
FWS_SERIAL_NO	131009

MNEUMONICS

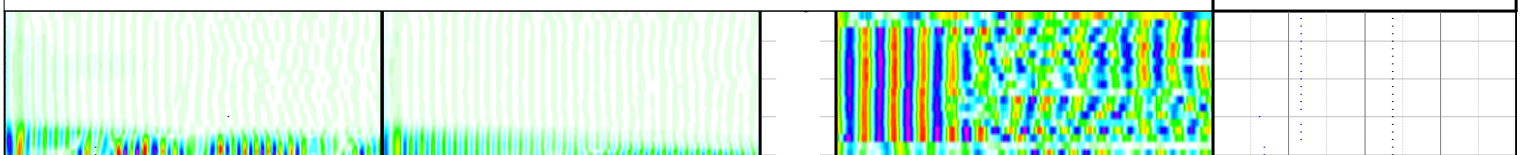
RX1 = Transmitter-Receiver1 traveltime and wave amp
RX2 = Transmitter-Receiver2 traveltime and wave amp
RX1 - dt = Receiver1 first wave arrival in microseconds
RX2 - dt = Receiver2 first wave arrival in microseconds

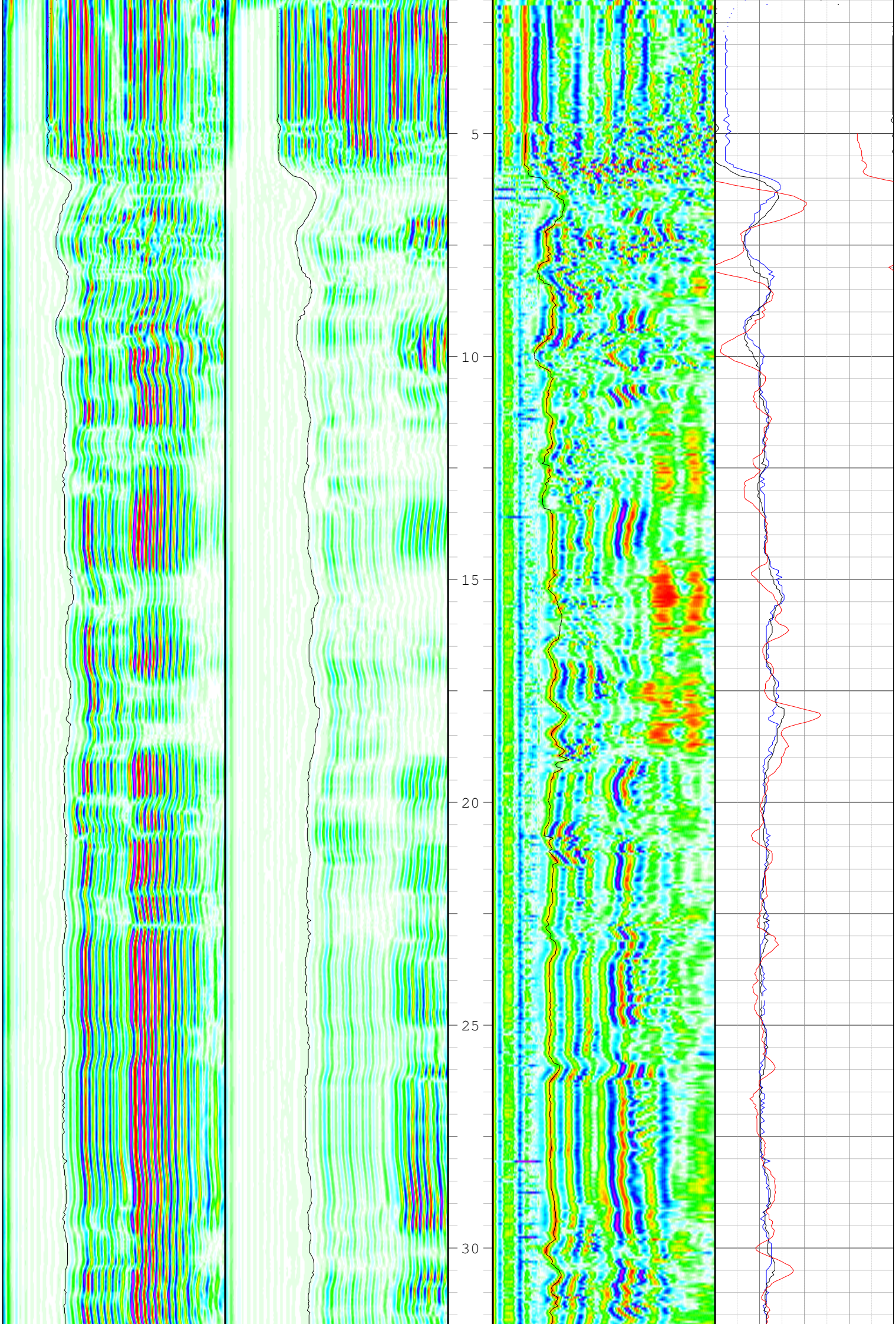
Velocity Analysis = Merging of RX1 RX2 wavetrains
Primary Wave DT = Interpreted from Velocity Analysis
Shear Wave DT = Interpreted from Velocity Analysis
DT1 = from RX1-dt in us/m
DT2 = from RX2-dt in us/m
DT3 = (RX2-dt)-(RX1-dt)/0.3048 in us/m
Poisson's ratio, bulk modulus calculations possible with density data

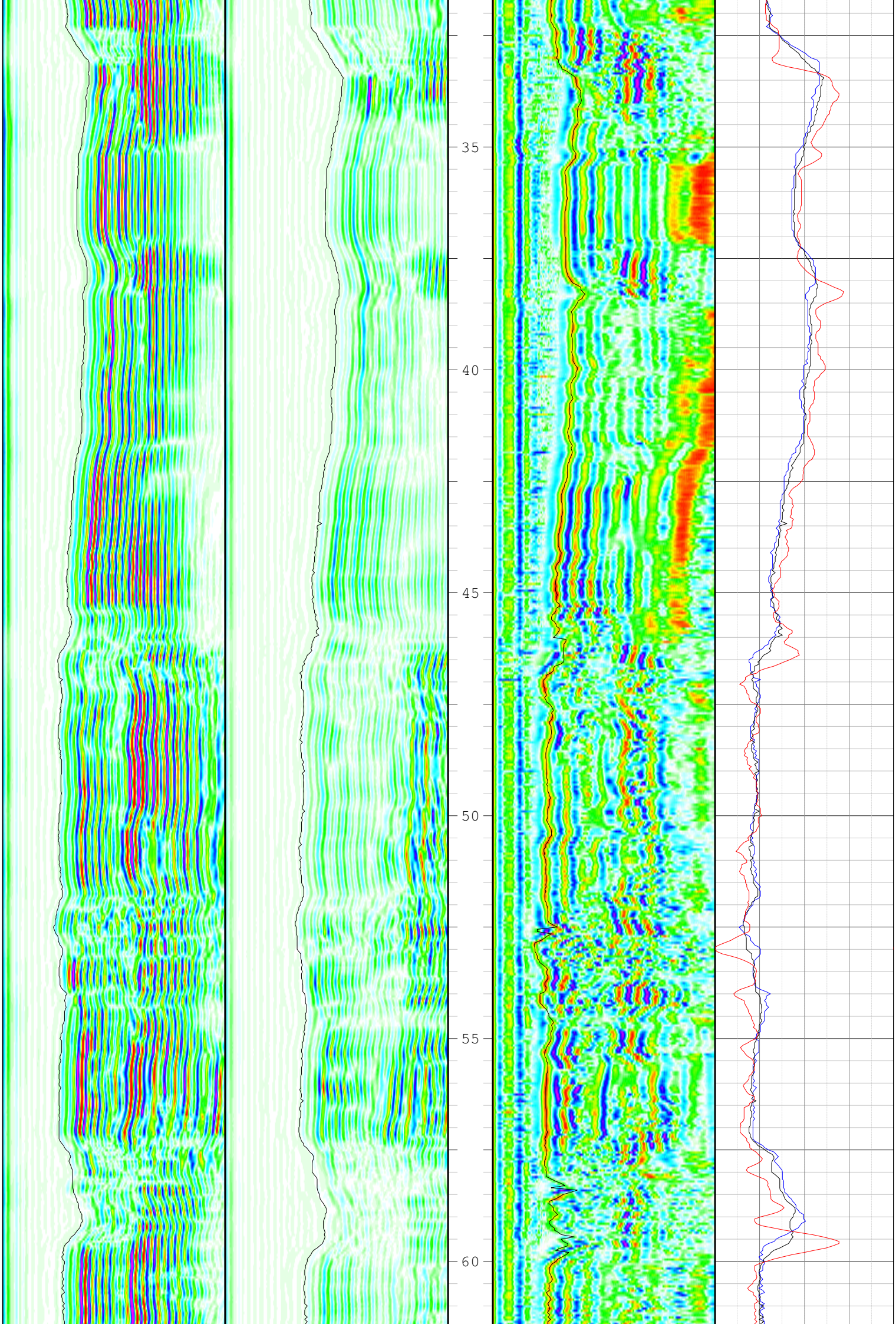
ATTRIBUTES

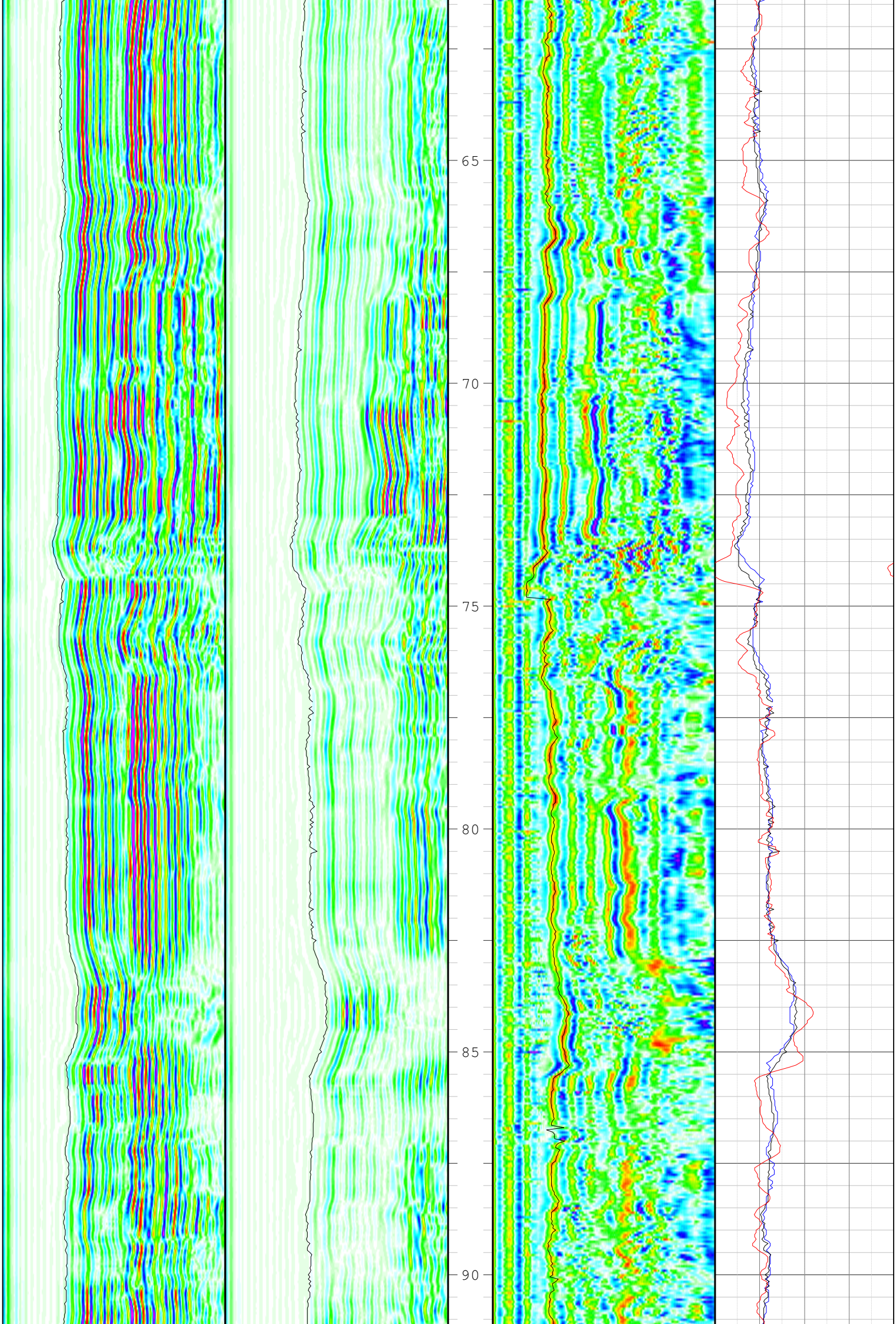
FWS_LENGTH	2.9m
FWS_DIAMETER	50mm
TX-RX1_SPACING	3FT
TX-RX2_SPACING	4FT
TOP_RX2_SPACING	0.93m
ACOUSTIC_WAVE_FREQUENCY	15KHz
FWS_MAX_TEMP	70 degC
FWS_MAX_PRESSURE	200 bars

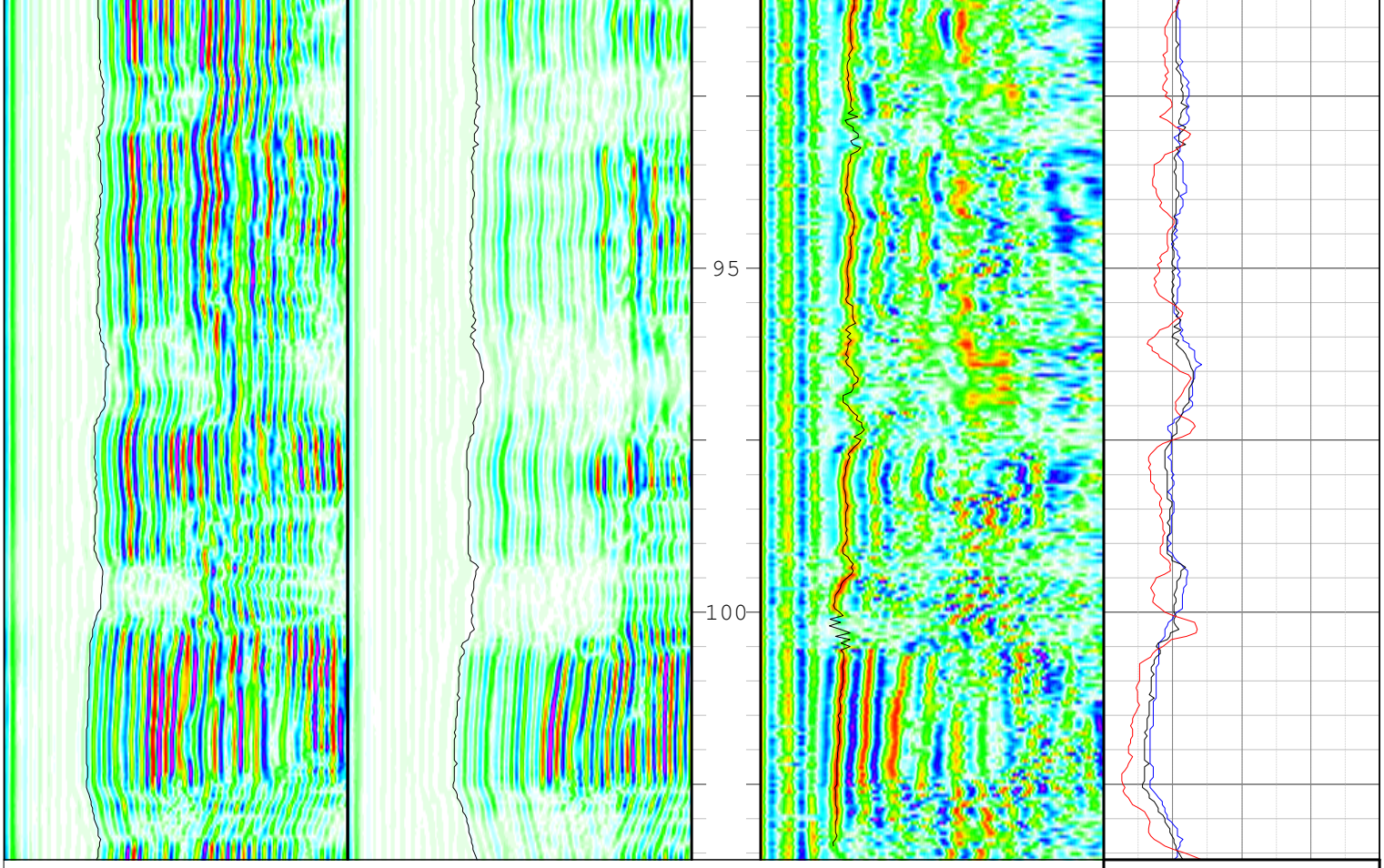
RX1 - filtered - stacked	RX2 - filtered - stacked	Depth	VELOCITY ANALYSIS	DT1
RECEIVER 1	RECEIVER 2	1:100		RECEIVER 1
-2048 / 0 / us / 2047 / 1020	-2048 / 0 / us / 2047 / 1022		0.281206 / 0 / us/m / 25.8618 / 1200	200 / us / 600
RX1 - dt	RX2 - dt		P WAVE SLOWNESS	DT2
RECEIVER 1	RECEIVER 2		FROM VELOCITY ANALYSIS	RECEIVER 2
0 / us / 1020	0 / us / 1020		0 / us/m / 1200	200 / us / 600
				DT3
				RECEIVER 2 - RECEIVER 1
				200 / us / 600




5
10
15
20
25
30


35
40
45
50
55
60


65
70
75
80
85
90



				DT3 RECEIVER 2 - RECEIVER 1 200 us 600
RX1 - dt RECEIVER 1 0 us 1020	RX2 - dt RECEIVER 2 0 us 1020		P WAVE SLOWNESS FROM VELOCITY ANALYSIS 0 us/m 1200	DT2 RECEIVER 2 200 us 600
RX1 - filtered - stacked RECEIVER 1 -2048 2047 0 us 1020	RX2 - filtered - stacked RECEIVER 2 -2048 2047 0 us 1022	Depth 1:100	VELOCITY ANALYSIS 0.281206 25.8618 0 us/m 1200	DT1 RECEIVER 1 200 us 600

ENERGY INVESTMENTS

W86

MULTI SURVEY TOOL

1:100

ENDEAVOUR GEOPHYSICS

LOCATION

LOCATION	WOODBURY
EL	
PROVINCE	
STATE	TASMANIA
COUNTRY	AUSTRALIA
LATI	
LONG	
GEODETIC DATUM	GDA94
COORD	MGA55
EASTING	
NORTHING	
ELEVATION	m
SRVC	ENDEAVOUR GEOPHYSICS
WEB	www.endeavourgeo.com

COMMENTS

ELECTRICAL INTERFERENCE WITH RESISTIVITY LOGS

HOLE ATTRIBUTES

DATE	29/08/2014
FLUID LEVEL	7 m
FLUID TYPE	WATER
DRILLED DEPTH	m
DATUM	GL
DRILLING COMPANY	
DRILLING RIG	

BOREHOLE RECORD

TYPE	SIZE	FROM m	TO m
DIAM	96mm	0	TD

CASING RECORD

TYPE	SIZE	FROM m	TO m
STEEL	130mm	0	3

LOGGING DETAILS

RECORDED BY	CALEB AMES
WITNESSED BY	ROWENA MURCOTT
UNIT	EG25
LOGGED DEPTH	105.6 m
INT LOGGED	0-105.6 m

LOGGING RUNS

TOOL	ID	START	FINISH
DUMMY		0	105.6
MST	01	105.6	0
FDS	817	105.6	0
SON	20	105.6	0

MULTI-SURVEY TOOL - MST

CALIBRATION

MST_CALIBRATION_DATE	10/03/2014
MST_SERIAL_NO	MST01
MST_TEMP_CAL	306.82*Ln({TEMP_RAW}-3703
MST_GAMMA_CAL	0.6673*{GRMST_RAW}
MST_DEADTIME	
MST_HOLESIZE_CORR	

MST_MNEUMONICS

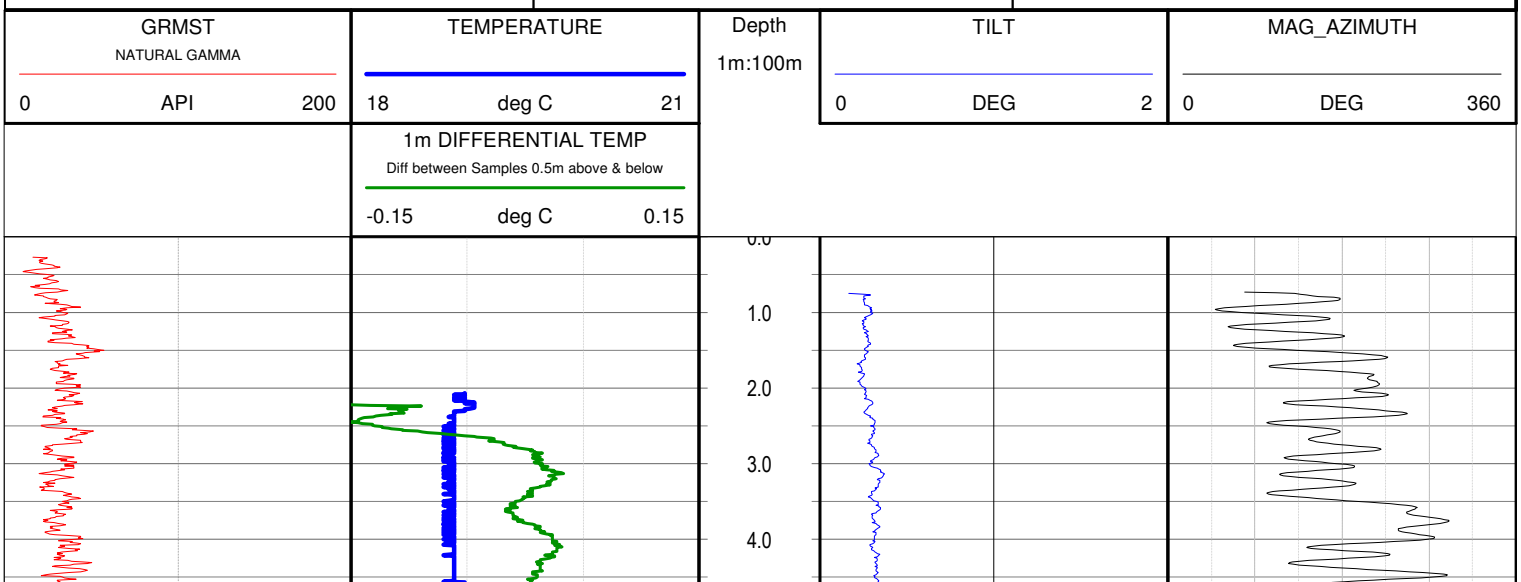
GRMST_RAW = Natural gamma raw counts/sec
TEMP_RAW = Magnetic Sus raw counts/sec
PR = Point Resistivity
SP = Spontaneous Potential
16"N = 16" Resistivity
64"L = 64" Resistivity
SANGB = Magnetic Deviation Azimuth
SANG = Magnetic Deviation Tilt

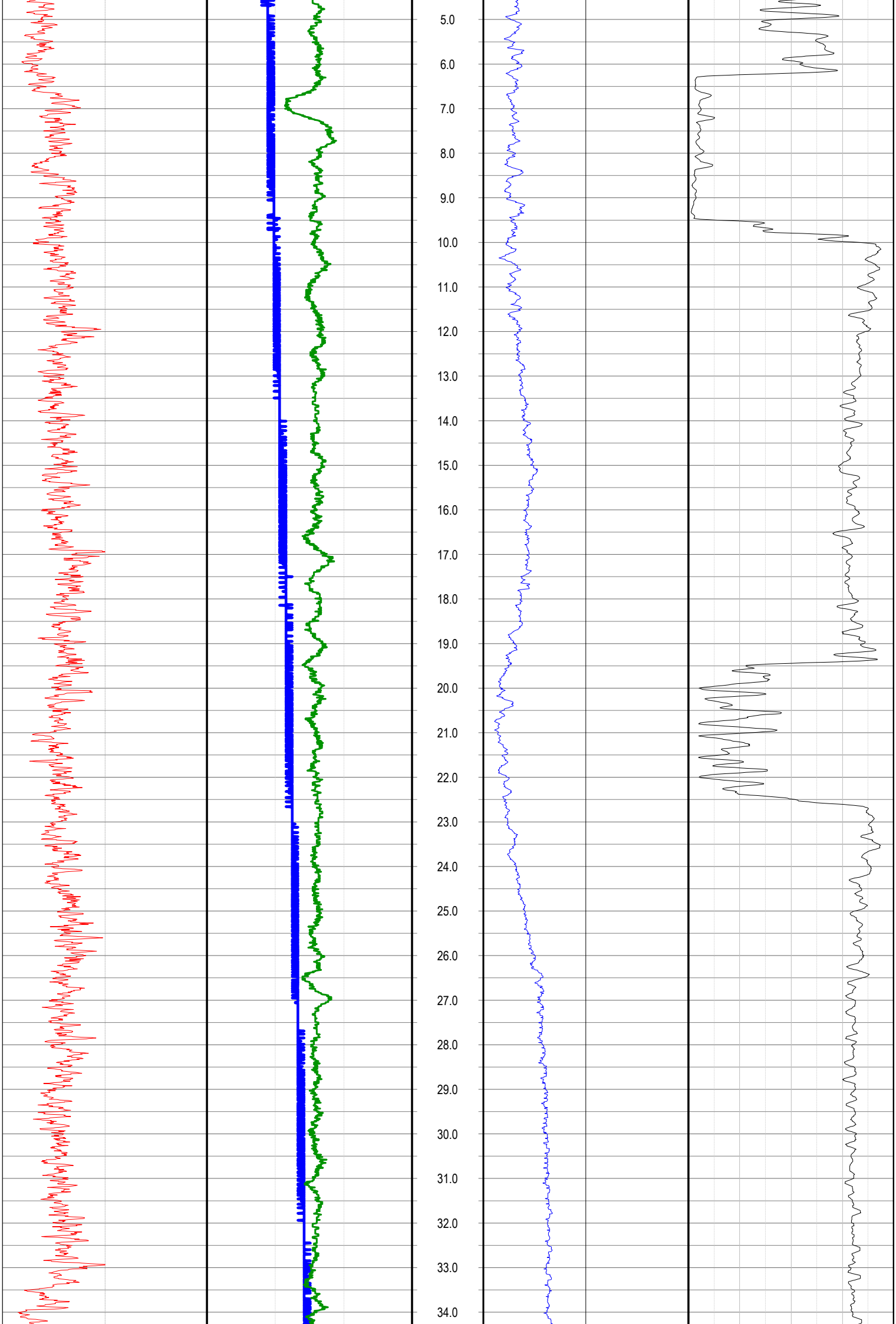
GRMST = Calibrated Gamma - API Units
TEMPERATURE = Temperature in degrees Celsius
1m DIFFERENTIAL TEMP = Difference between 0.5m above and below

ATTRIBUTES

MST_LENGTH	2400mm
MST_DIAMETER	45mm
MST_WEIGHT	13.5kg
MST_TEMP_RANGE	70 deg
MST_LOGGING_SPEED	6m/min
MST_DEVIATION	

3 axis magnetometer, 3 axis accelerometer

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8.0
9.0
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11.0
12.0
13.0
14.0
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16.0
17.0
18.0
19.0
20.0
21.0
22.0
23.0
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30.0
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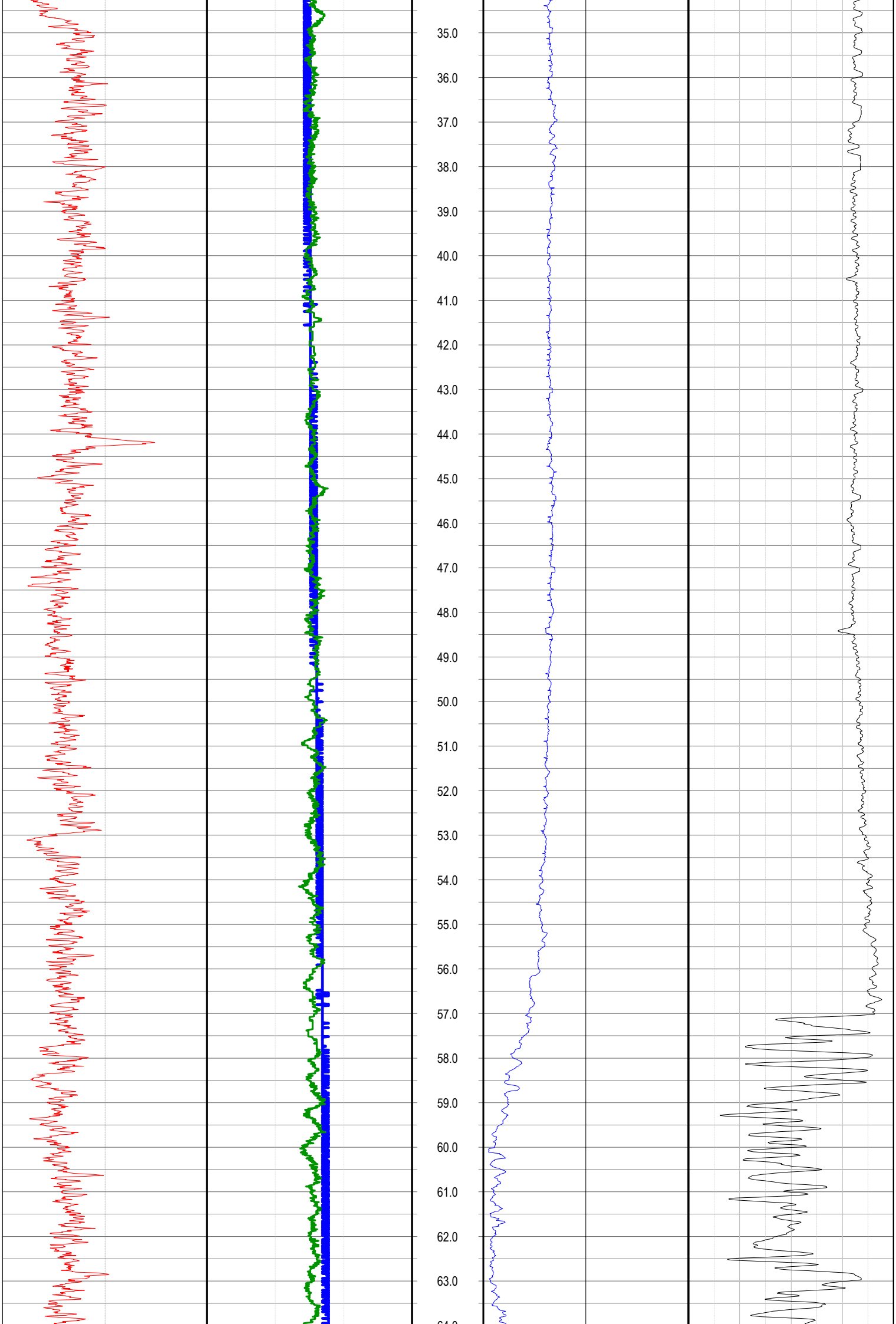
32.0
33.0
34.0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45.0
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49.0
50.0
51.0
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59.0
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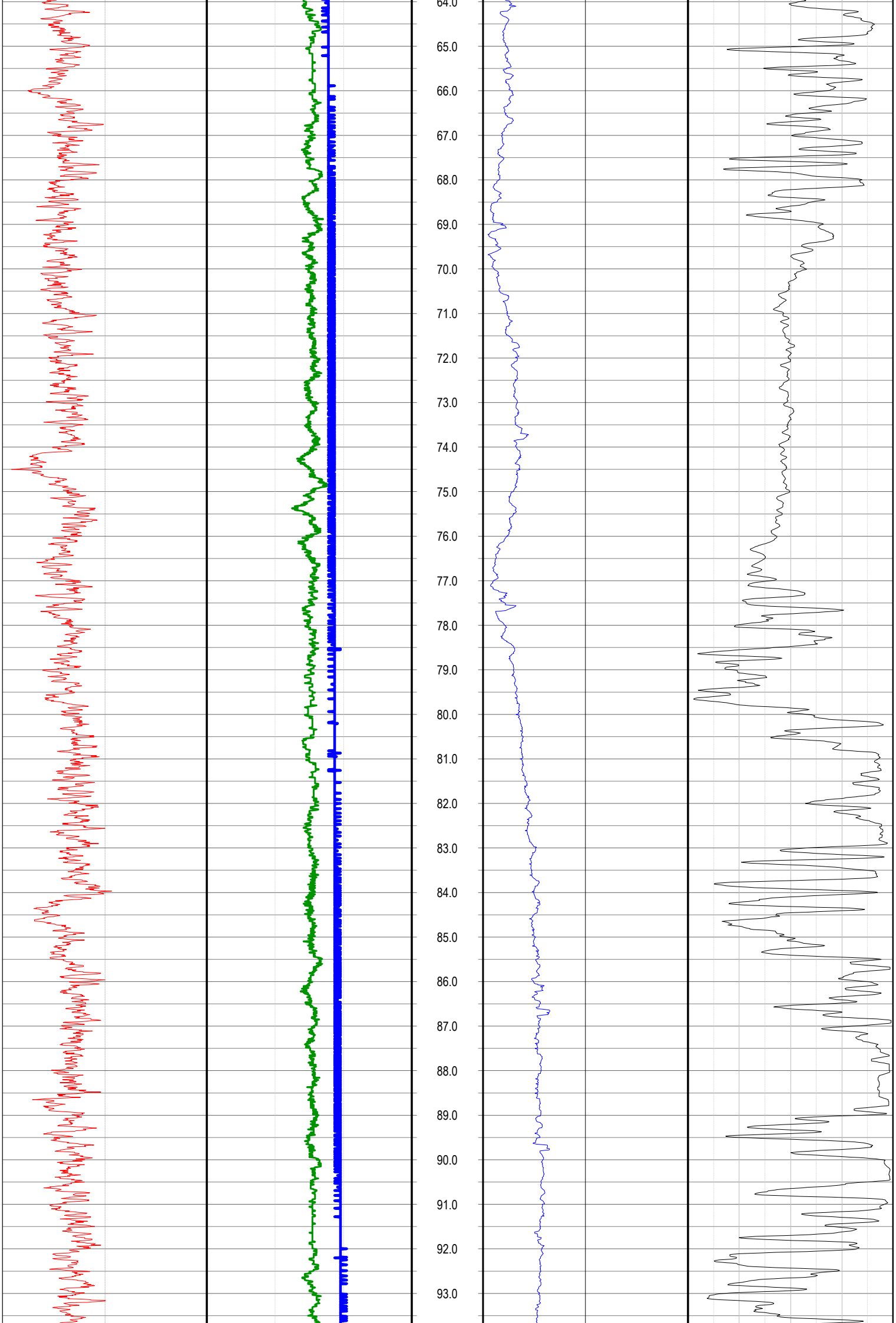
61.0
62.0
63.0


64.0
65.0
66.0
67.0
68.0
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71.0
72.0
73.0
74.0
75.0
76.0
77.0
78.0
79.0
80.0
81.0
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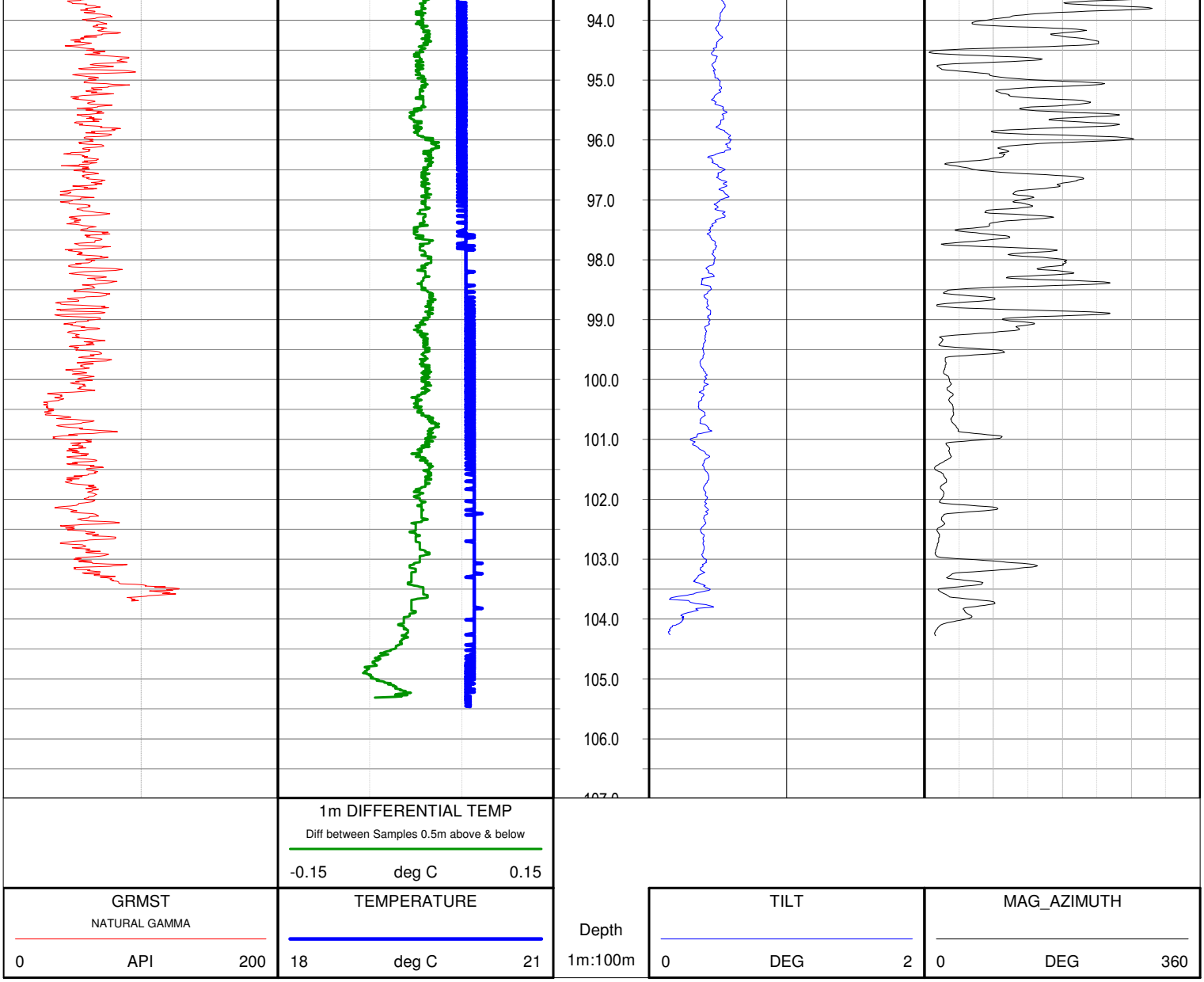
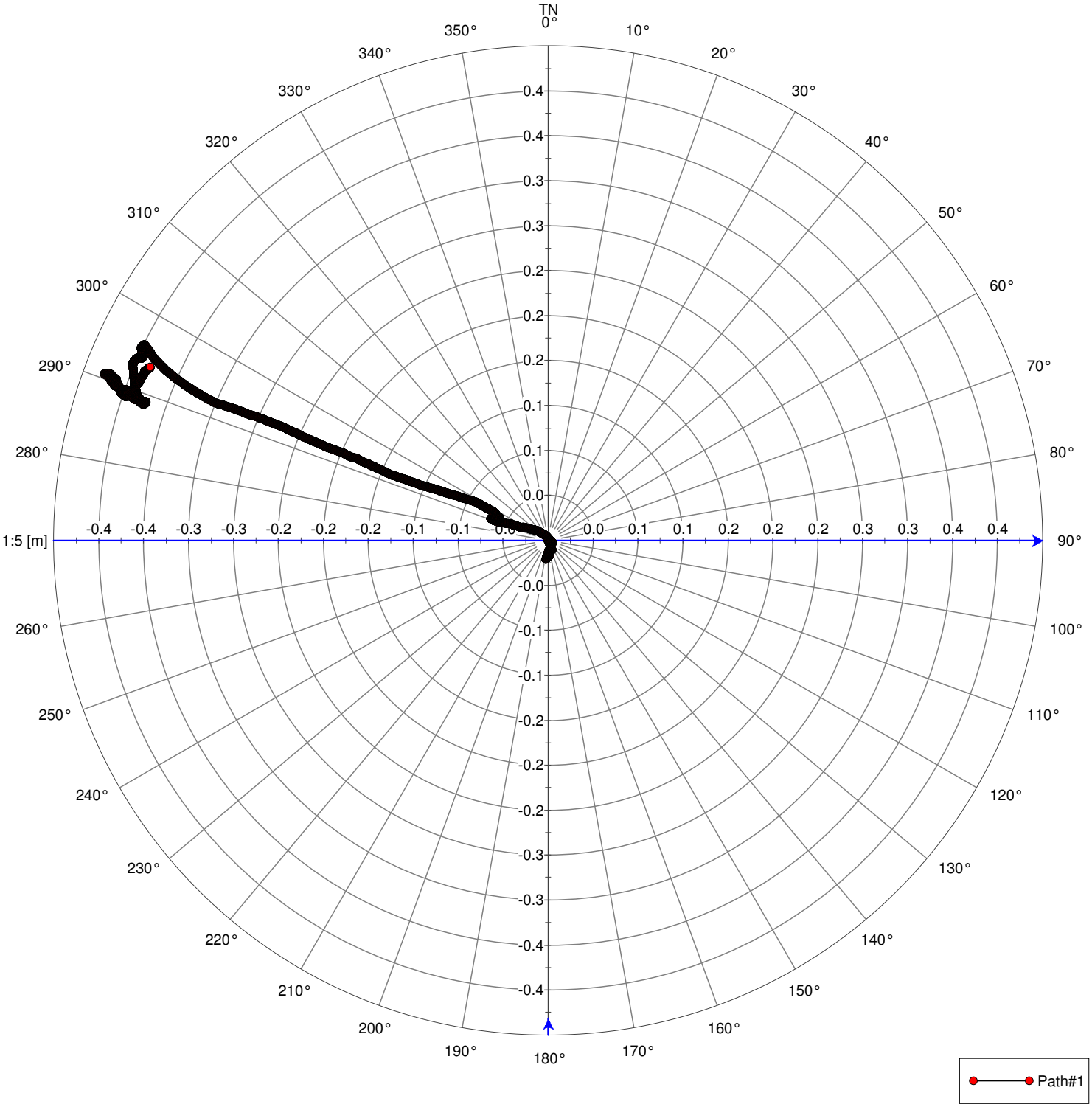
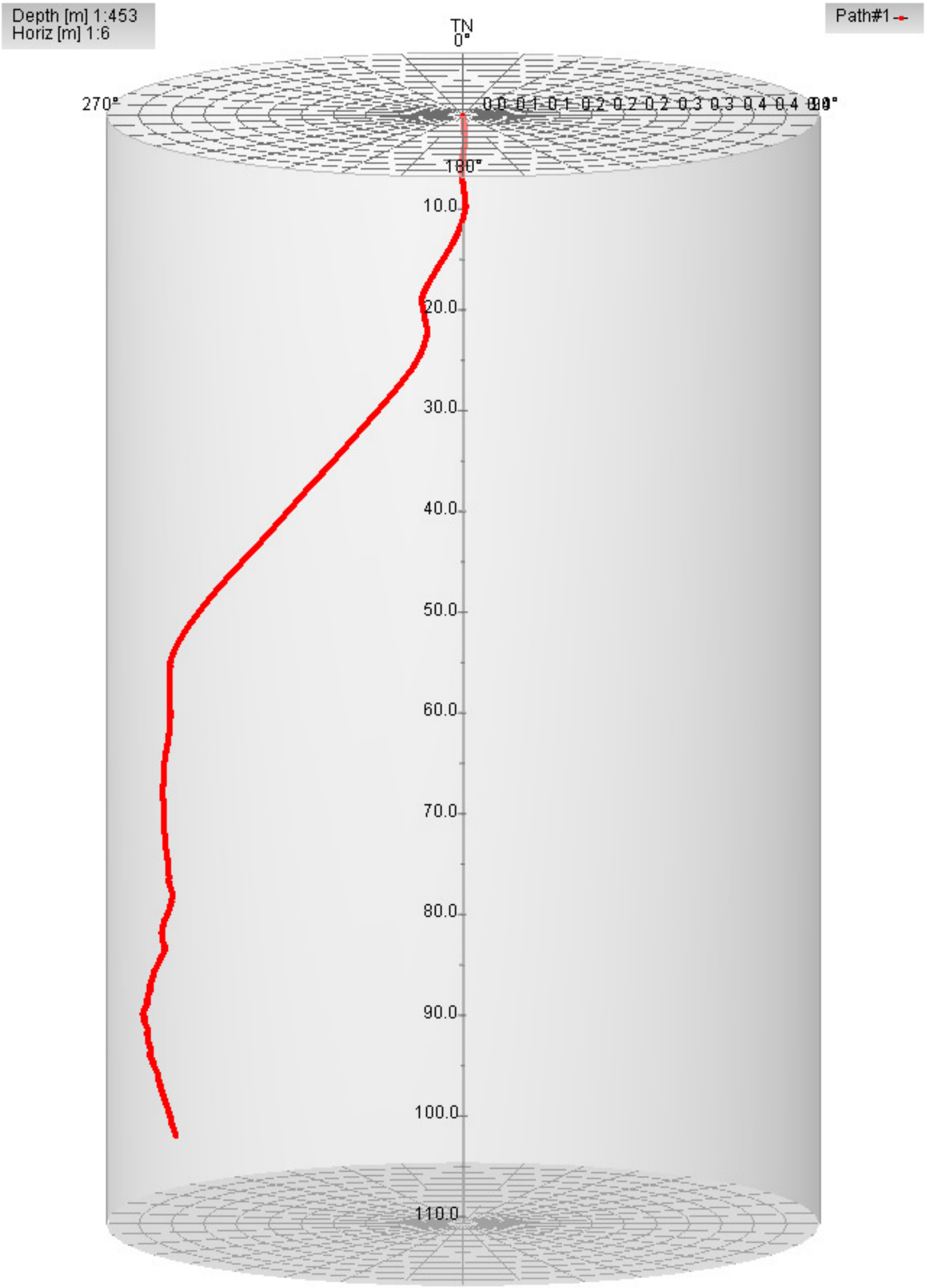
91.0
92.0
93.0


94.0
95.0
96.0
97.0
98.0
99.0
100.0
101.0
102.0
103.0
104.0
105.0
106.0
1m DIFFERENTIAL TEMP
Diff between Samples 0.5m above & below
-0.15 deg C 0.15
GRMST
NATURAL GAMMA
0 API 200
TEMPERATURE
18 deg C 21
Depth
1m:100m
TILT
0 DEG 2
MAG_AZIMUTH
0 DEG 360


TN
0°
10°
20°
30°
40°
50°
60°
70°
80°
90°
100°
110°
120°
130°
140°
150°
160°
170°
180°
190°
200°
210°
220°
230°
240°
250°
260°
280°
290°
300°
310°
320°
330°
340°
350°
1:5 [m]
-0.4 -0.4 -0.3 -0.3 -0.2 -0.2 -0.2 -0.1 -0.1 -0.0
0.0 0.1 0.1 0.2 0.2 0.2 0.3 0.3 0.4 0.4
0.4
0.4
0.3
0.3
0.2
0.2
0.2
0.1
0.1
0.0
-0.0
-0.1
-0.1
-0.2
-0.2
-0.2
-0.3
-0.3
-0.4
-0.4
Path#1


Depth [m] 1:453
Horiz [m] 1:6
Path#1
TN
0°
270°
90°
180°
0.0 0.1 0.1 0.2 0.2 0.2 0.3 0.3 0.4 0.4
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0

Annual Report 2013 – 2014 for EL 65/2007

APPENDIX 4

Drilling Logs W73 – W86 (2014)

Midland Energy

DRILL HOLE No W- 73

SHEET 1 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates GPS GDA 94	
			Easting_	0536 738 m E
			Northing_	5329 855 m N
			Elevation (m)	227m RL
			Azimuth_ Mag	0
			Dip	-90

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL 65/2007
DATE:	27 MAY 2014
LOGGED BY:	R. MURCOTT

KMR TRUCK MOUNTED ROVING SCOUT DRILLER: DALE ROBERTS

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
2								0-2m RED BROWN CLAY	SPADE DRILLING PRECOLLI TO 9.0m
4								2-7m RED-BROWN SANDY SOIL <5% CLAY	
6									
8								7-9m GREY SANDY SOIL WITH 30% CLAYS	
10	100	94						9.0 – 15.50m SANDSTONE	HQ3 CORE DRILLIN FROM 9.
	98✓	100						LIGHT TO MEDIUM GREY LITHIC SANDSTONE FRIABLE IN PART	
12	100	90							
	100	78						12.80 – 13.70m Iron stained open joint	
14	100	32			∝J 10°				
	102✓	92						15.50 – 17.53m SANDSTONE MID GREY SANDSTONE WITH DIRTY/MUDDY	
16	100	100							
	100	95						MATRIX: GRADING TO A CARBONACEOUS MUD MATRIX	
18	100	45							
	100	90						17.53 – 17.83m SANDSTONE "SALT + PEPPER" SANDSTONE; MEDIUM SIZED LITHIC GRAINS IN A MUD MATRIX	
20	100	100							
	100	100						17.83 – 25.76m SANDSTONE GREY, MEDIUM GRAINED	
22	100	100							
	100	100						18.24 – 18.32m MUDSTONE FRAGMENT IN SANDY MATRIX	
24	97✓	100						20.45 – 20.60m BROWN-GREY MUDSTONE FRAGMENT	
	100	60			∝J 20°	zeolite open		25.65m 3mm thick coal flaser	
26	104✓	40			∝J 35°				
	104	95						25.76 – 39.90m SANDSTONE MEDIUM GRAINED; LITHIC; LIGHT TO MID GREY; FRIABLE	
28	100	100							
	100	100							
30	97✓	100							
	103✓	100							
32	100	100							
	100	100							
34	100	100							
	100	100							
36	100	100							
	100	100							
38	100	100							
	100	100			∝J 30°				
40	100	90			∝J 60°				

REMARKS

Midland Energy

DRILL HOLE No W-73

SHEET 2 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL 65/2007
DATE:	28 MAY 2014
LOGGED BY:	R. MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
	100	100						39.90 – 42.45m SANDSTONE COARSE GRAINED SANDSTONE WITH DIRTY MATRIX	
42	100	100							
	100	90			αγ30°			42.45 – 43.08m SILTSTONE LIGHT GREY	
44	102	94			αj20°			43.08 – 46.65m SANDSTONE	
	100	100						"SALT AND PEPPER" SANDSTONE; lithic, light to dark grey	
46	100	100			αb88°			MEDIUM GRAINED	
	100	100						46.65 – 59.60m SANDSTONE	
48	98	100							
	96	90			αb82°			MID GREY, LITHIC, MEDIUM GRAINED SOME NARROW CARBONACEOUS MUDSTONE BANDS AND COAL FLASERS, AND SMALL MUDSTONE FRAGMENTS IN A SANDSTONE MATRIX	
50	102	95							
	100	100			αb88°				
52	100	100							
	102	100							
54	100	90							
	100	85							
56	100	100							
	100	100			αb88°				
58	100	100							
	100	100						59.60 – 64.20m SANDSTONE MID TO LIGHT GREY, LITHIC	
60	100	100							
	100	93			αb85°			61.70 – 62.60m 2mm zeolite filled veinlet-closed	
62	100	100			αγ12°				
	100	100			αb87°			63.50 – 64.10 2mm zeolite	
64	100	100			αγ12°				
	100	97			αb86°			64.20 – 66.55m SANDSTONE LIGHT GREY FINER GRAINED LITHIC SANDSTONE TRENDING TO A SILTSTONE WITH RARE ~~COAL FLASERS AND CARBONACEOUS MUDSTONE FRAGMENTS~~	
66	100	100			αγ15°				
	100	82						65.40 – 65.75m zeolite vein 2mm closed	
68	100	84			αb85°				
	100	100			αj45°			66.55 – 66.73m COAL and CARBONACEOUS MUDSTONE STONY, DULL	
70	100	100			αb87°			66.73 – 68.45m CARBONACEOUS MUDSTONE WITH MUDSTONE INTERBEDS	
	100	70			αj15°			68.45 – 69.17m GREY MUDSTONE ~~with siltstone interbeds~~	
72	100	100							
	100	100			αb86°			69.17 – 70.07m SILTSTONE with some mudstone bands	
74	100	100							
	100	100						70.07 – 76.98m SANDSTONE Medium grained, lithic, some fine carbonaceous mudstone bands up to 2mm in width.	
76	100	100							
	100	98			αj10°			76.98 – 78.40m MUDSTONE Grey, with increasing siltstone bands to base of unit	
78	100	65			αj45°				
	100	62						78.40 – 81.90m SILTSTONE Light grey	
80	100	98							

REMARKS

Midland Energy

DRILL HOLE No W 73

SHEET 3 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL 65/2007
DATE:	29 MAY 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.08 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	100							
82	100	92						81·90 – 94·60m SANDSTONE · LITHIC, MEDIUM GRAINED; LIGHT TO DARK GREY	
	100	92						82·70 – 82·90m SOME CARBONACEOUS MUDSTONE FINE BANDING	
84	100	68			αJ 12° open				
	100	100							
86	100	100							
	100	100							
88	100	95							
	100	92			αb 84°			88·92 – 89·00m SILTSTONE	
90	100	100							
	100	100							
92	100	100							
	100	100						93·90m TRACES FINE CARBONACEOUS MUDSTONE BANDS	
94	100	100						94·60 – 102·19 MUDSTONE; LIGHT GREY; CHERTY NO COAL	
	100	85						94·60m TRACE MUDSTONE AND CARBONACEOUS MUDSTONE	
96	100	70				SCRIBE ? αJ 12°			
	100	90						97·84 – 98·01 NARROW ZONE OF BRECCIATED AND FRIABLE CARBONACEOUS AND LITHIC MATERIAL – FAULT OR SEDIMENTARY DEPOSITIONAL SLUMP	
98	100	85			F?				
	100	85			αF 85°				
100	100	100			αF 0° geolite				
	100	100						NO COAL NO CARBONACEOUS MUDSTONE	
102	100	100							
	100	75						102·19 – 105·20 SILTSTONE; LIGHT GREY; NO COAL OR CARBONACEOUS MUDSTONE BEDS, FRAGMENTS OR FLASERS	
104	100	100							
	100	100						102·80 – 102·98 MUDSTONE BAND	
								END OF HOLE 105·20m	
								CASING REMOVED AND POLY PIPE LOWERED TO BASE OF HOLE FOR CEMENT FILL	

REMARKS

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	0537 754mE
			Northing_	5331 749m N
			Elevation (m)	214m RL (GDA; GPS)
			Azimuth_ Mag	0
			Dip	-90

SHEET 1 OF 3

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL 65/2007
DATE:	3 JUNE 2014
LOGGED BY:	R. MURCOTT

KMR TRUCK MOUNTED ROVING SCOUT DRILLER : DALE ROBERTS

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
2								0-4m Red brown sands and clays	
4									
6								4-15m Grey sandstone lithic sandstone grains in sand matrix	
8								at 10m Driller added 'mud' to enhance sample recovery	
10									
12									
14									SPADE DRILLED PRECOLLAR TO 15m
16	100	90						15.0 – 22.28m SANDSTONE; lithic; medium to coarse grained pepper and salt appearance; light to dark grey	HQ3 DIAMOND DRILL TO EOH.
18	100 / 100 / 100	100 / 100 / 100							
20	100 / 100	100 / 100			αb 83°			22.28 – 22.57m Carbonaceous mudstone 22.57 – 22.71m Dull heavy weathered coal (0.14)	
22	100 / 100	90 / 100			αb 83°			22.71 – 23.18m Carbonaceous mudstone 23.18 – 23.55m Grey mudstone 23.55 – 23.82m Carbonaceous mudstone	
24	105 / 107	54 / 65			αj 50° αb 85°	(0.14)		23.82 – 24.01m Carbonaceous mudstone, traces of dull coal 24.01 – 24.36m Carbonaceous mudstone interbedded with grey mudstone	
26	101 / 100	30 / 40			αj 10° αj 20°	(0.84)		24.36 – 25.20m Dull weathered coal - heavy + carbonaceous mudstone 25.20 – 25.50m Grey mudstone interbedded with carb mudstone.	
28	100 / 100	15 / 100			αb 78°			25.50 – 27.05m SILTSTONE; grey traces of mudstone 27.05 – 32.07m SANDSTONE, lithic pepper + salt; coarsening down	
30	100 / 100	92 / 100			αb 80°				
32	100 / 100	100 / 100						32.07 – 33.30m MUDSTONE	
34	100 / 100	0 / 50			αb 73° α j 20° αj 15°	CORE LOSS		CORE LOSS (0.4m) INTERBEDDED WITH CARBONACEOUS MUDSTONE + TRACES OF COAL + CORE LOSS (*) 33.30 – 34.50 SILTSTONE GREY	
36	100 / 100	40 / 55			αj 60° αv 15° closed	TRACE COAL		34.50 – 35.30m MUDSTONE LIGHT GREY 34.90 – 35.00m MUDSTONE; trace coal (10cm) 35.30 – 35.90 SILTSTONE interbedded with mudstone "vein zone"	
38	100 / 100	90 / 100			αb 86°			35.90 – 37.35m MUDSTONE, grey 37.35 – 37.70m SILTSTONE fining down to mudstone	
40	100 / 100	20 / 0			αv 5°			37.70 – 38.20m MUDSTONE grey veinlet 80cm 38.20 – 39.20 SILTSTONE 39.20 – 40.38 MUDSTONE, abrupt contact, mid grey	

REMARKS 32.40 – 32.80m CORE LOSS

(*) 32.15 – 32.25m Carbonaceous muds; trace coal (10cm)
32.25 – 32.35m Grey mudstone
32.35 – 32.40 Carbonaceous muds, trace coal (5cm)
32.40 – 32.80m CORE LOSS
32.80 – 32.97 GREY MUDSTONE
32.97 – 33.30m Carbonaceous mudstone; trace coal (15cm)

Midland Energy

DRILL HOLE No W74

SHEET 2 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY
PROSPECT:	EL 65 / 2007
DATE:	10 JUNE 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	35						40·38 – 44·78m MUDSTONE INTERBEDDED MUDSTONE, CARBONACEOUS MUDSTONE AND SILTSTONE	
42	100	50			α b 88°				
	100	80			α v 2° zeolite stained				
44	105	90						44·78 – 44·84m COAL; dull; very heavy	
	100	100						44·84 – 45·60m CARBONACEOUS MUDSTONE with grey mudstone interbeds.	
46	100	90						45·60 – 47·59m SILTSTONE; mid grey.	
	100	80						47·59 – 51·70m SANDSTONE; fine to medium grained; traces of carbonaceous material	
48	110	100							
	100	100							
50	100	100							
	100	100			F? 85°			51·70 – 51·95m MUDSTONE breccia ~ Sericite alteration; elongated lithic and mudstone fragments in mudstone matrix – FAULT ZONE? / SEDIMENTARY SLUMP α @ 85°	
52	100	70							
	100	28			α v 70° closed				
54	100	45			α v 30° open			51·95 – 56·42m MUDSTONE; GREY; transitional to siltstone at base of unit.	
	100	100			α b 88°				
56	100	90			α v 30°				
	100	100						56·42 – 61·10m SILTSTONE; MID GREY MEDIUM TO FINE GRAINED; LITHIC 59·86 – 60·20m large mudstone fragments in siltstone matrix.	
58	100	100			α b 88°				
	105	100			α v 20°				
60	100	100							
	100	100			CAVITY α v 30°			61·10 – 61·70m Vein CAVITY CORE LOSS YELLOW FINE MUDS + SANDS WASHED OUT DURING DRILLING	
62	45	40							
	100	100			α b 86°			61·70 – 65·35m CALCITE CRYSTAL MATRIX IN PART SILTSTONE; GREY	
64	100	100							
	100	100			α v 30° 5mm zeolite			65·35 – 65·93m CAVITY CORE LOSS FINE YELLOW CLAYS IN CRYSTALLINE MATRIX.	
66	43	40			CAVITY				
	100	100			α v 30°			65·93 – 68·25m SILTSTONE; GREY; TRACES OF MUDSTONE FRAGMENTS	
68	100	100			α v 30°			68·25 – 68·70m MUDSTONE; GREY; FRACTURED	
	100	25			α J 45°			traces of CLAY AND TALC? IRREGULAR AND FREQUENT VEINLETS	
70	100	25			α J 18° α J 45°			68·70 – 70·13m MUDSTONE; grey; jointed, veined	
	100	0			α J 10°			70·13 – 72·73m MUDSTONE; dark grey; hornfels altered? dndgrey siltstone.	
72	100	0			α J 15°				
	100	45			α J 15°			72·73 – 80·03m SILTSTONE DARK TO MID GREY SERICITE ALTERED – HORNFELS? – FRACTURED, VEINED, JOINTED; DISRUPTED	
74	105	20			α v 15° zeolite				
	100	20						80·03 – 83·20m TRANSITIONAL UNIT HORNFELS ALTERED SEDIMENTS	
76	100	80							
	100	20			α J 20° α v 40°				
78	100	30			α v ~10°				
	100	0			α J 60°	Iron stained		HIGHLY FRACTURED AND DISRUPTED INTRUSIVE CALCITE/ZEOLITE VEINING	
80	80	10							

REMARKS

Midland Energy

DRILL HOLE No W 74

SHEET 3 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY
PROSPECT:	EL 65/2007
DATE:	10 JUNE 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	0							
82	100	70							
	100	20			∝∨5°				
84	100	40						83.20 – 93.30m DOLERITE	
	100	45				SERICITE		Unicrystalline grey dolerite	
86	100	25			∝∨15°			Sericite alteration	
	100	90							
88	100	95			∝∨25°				
	100	100							
90	100	100			∝∨35°				
	100	100							
92	100	75							
	100	45			∝∨75°	SERICITE			
	30	0			∝∨5°				
								END OF HOLE 93.30m	

REMARKS

Midland Energy

DRILL HOLE No W75

SHEET 1 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates GPS GDA94	
			Easting_	0538 099m
			Northing_	5329 499m
			Elevation (m)	245m RL
			Azimuth_ Mag	0
			Dip	-90°

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL65/2007
DATE:	16 JUNE 2014
LOGGED BY:	MURCOTT

KMR TRUCK MOUNTED ROVING SCOUT

DRILLER: DALE ROBERTS

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 .1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
2								0-1 Red-brown sandy clay regolith 1-3 Yellow-brown sandy clay 3-7.4m Sandy siltstone; trace clay	Coal Measure Sediments
4									
6									
8	40	40							0 to 7.4m Spade drilled pierolk
	100	100						7.4 – 12.16m SANDSTONE; orange; lithic Medium to coarse grained Iron stained	Diamond drill HQ core recovery 7.4 → 138m
10	100	60			∝ 10° open iron stained				
	100	52			∝ 10° open iron stained				
12	100	56			∝ V 10° infilled 12mm				
	100	100						12.16 – 16.63m SANDSTONE; grey; lithic 13.08 – 13.40m Mudstone fragments in a sandstone matrix Trace coal flasers Some iron staining of sandstone 13.40 – 14.25m Some coal flasers Rare mudstone fragments	
14	100	60							
	100	66			∝ 25° open iron stained				
16	100	53			∝ 10° open iron stained				
	100	72						16.63 – 19.90m MUDSTONE; grey – Sharp contact Narrow interbeds of carbonaceous mudstone and grey mudstone "zebra" appearence Increasing sand in mudstone to base of unit	
18	100	0			∝ b 88°				
	100								
20	100				∝ b 86°			19.90 – 21.35m SILTSTONE; grey; medium to fine grained; lithic	
	103							21.35 – 26.21m SANDSTONE; lithic; grey	
22	100								
	103							21.95 – 22.00m Coal flaser bed 22.10 – 22.40m rare mudstone grey fragments	
24	100								
	100								
26	100								
	75	20			DETAILED CORE LOSS	SEAM D		26.21 – 29.15m COAL, dirt bands, core loss, mudstones MUDSTONES – 26.90 – 27.00m 27.40 – 27.76m 28.17 – 28.27m	
28	75	27							
	100	0						29.15 – 29.45m Carbonaceous mudstone, and grey mudstone	
30	100	85						29.45 – 32.20m SILTSTONE; brown to grey Medium to fine grained	
	100	100			∝ b 86°				
32	100	100							
	100	100						32.20 – 41.12m SANDSTONE; grey; lithic Medium to coarse grained Traces of carbonaceous mudstone and coal.	
34	100	100							
	100	100							
36	100	100							
	100	100							
38	100	100							
	100	100							
40	100	100							

REMARKS

Midland Energy

DRILL HOLE No W75

SHEET 2 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL
PROSPECT:	EL 65/2007
DATE:	20 JUNE 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	95			αb 70° cms			40.60 – 41.12 Vein	
42	100				α ∨ 75° 1mm closed cms			41.12 – 44.80m SANDSTONE, Grey; frequent	
	100				αb 70° coal flaser			coal flaser beds and coal	
44	100							fragments. – 41.62 – 41.80m coal.	
	100							44.80 – 62.35m SANDSTONE; grey; lithic;	
46	100							coarse. "Pepper + Salt" texture.	
	100				αb 85°			45.55 – 45.65m Coal; ss matrix.	
48	100							47.30 – 47.58m Coal and	
	100							carbonaceous mudstone	
50	100								
	100				αb 75°			53.72 – 54.35m – Carbonaceous	
52	100							mudstone fragments, grey mudstone	
	100							fragments and coaly fragments	
54	100				α 30°			in a sandstone matrix.	
	100								
56	100				αb 80°				
	100							small carbonaceous mudstone/coal	
58	100							fragments in sandstone matrix	
	100							Coal flasers – very narrow	
60	98	100						59.83 – 60.16m Mudstone, Grey	
	101	90						60.80 – 60.90m Coal; red-brown	
62	100	100							
	90	35			SEAM C	DETAILED LOG APPENDED		62.35 – 62.40m CARBONACEOUS MUDSTONE	
64	100	40						62.40 – 62.50m CORE LOSS (*)	
	100	15						63.41 – 63.59m Coal	
66	100	20						63.59 – 64.21m MUDSTONE, GREY AND CARBONACEOUS	
	100	30			αj 35°			64.21 – 65.24m COAL	
68	100	36			αb 65° αj 45°			65.24 – 66.71m MUDSTONE AND COAL	
	100	97						66.71 – 67.35m COAL	
70	100	100						67.35 – 67.91 MUDSTONE AND COAL	
	100	100						67.91 – 68.80 SILTSTONE, Grey	
72	100	70			αV 6° calcite 5mm pyrite			68.80 – 95.43 SANDSTONE; Grey; lithic	
	100	40						71.15 – 72.60m Vein	
74	100	100							
	100	100							
76	100	100			αb 84°				
	100	100							
78	100	100							
	100	85						79.60 – 80.05m Brown carbonaceous	
80	100	45			αj 5° αj 35°			siltstone and carbonaceous mudstone	
								fragments in sandstone matrix.	

REMARKS

(*) driller reports coal fragments and clays lost.

Midland Energy

DRILL HOLE No W 75

SHEET 3 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL
PROSPECT:	EL 65/2007
DATE:	20 JUNE
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	100							
82	100	100			0/45				
	100	82						82.70 – 83.35m Grey mudstone; sharp contacts	
84	100	100							
	100	95			X b88°				
86	100	90						85.15 – 85.65m abundant coal and carbonaceous mudstone flaser beds. 2mm in thickness	
	100	100							
88	100	100						Rare carbonaceous mudstone fragments up to 4mm in diameter.	
	100	100							
90	100	100							
	100	100							
92	100	100							
	100	100						93.07 – 93.55m Grey mudstone, flaser beds and fragments in coarse sandstone matrix	
94	100	95							
	100	100						~~95.43 – 95.46m CARBONACEOUS MUDSTONE – COAL AT BASE~~	
96	100	68			(0.69m)	SEAM		95.45 – 96.14m COAL Dull, heavy; 20% bright	
	100	35				B		96.14 – 96.24m CARBONACEOUS MUDSTONE; trace coal. 96.24 – 96.70m CARBONACEOUS MDST TO GREY MUDSTONE AT BASE 96.70 – 97.12m GREY MUDSTONE flaser, siltstone at base	
98	100	100						97.12 – 108.26m SANDSTONE	
	100	100			X b88°			lithic, Grey; Medium to coarse grained depositional pulses.	
100	100	100							
	100	100						98.54 – 98.65m Fine coal flaser beds.	
102	100	100							
	100	100						99.30 – 99.97m Siltstone with some coal flasers.	
104	100	100						101.16 – 108.26m Sandstone matrix has increased mud/clay increased porosity	
	100	100							
106	100	100							
	100	100							
108	100	100						108.26 – 108.48m COAL (0.22m) dull, 10% bright	
	100	79			X 15° open	SEAM		108.48 – 108.90m CARBONACEOUS MUDSTONE TO GREY AT BASE	
110	100	48			X-bedding coal flasers	A		108.90 – 111.74m SILTSTONE; GREY; FINE interbedded with grey mdst. X-bedding features; trace carbonaceous mdst.	
	100	100							
112	100	100						111.74 – 127.10m SANDSTONE; GREY; LITHIC	
	100	100						trace coal flaser beds.	
114	100	100						Medium to coarse grained.	
	100	100							
116	100	100							
	100	100							
118	100	100							
	100	100							
120	100	100							

REMARKS

Midland Energy

DRILL HOLE No W 75

SHEET 4 OF 4

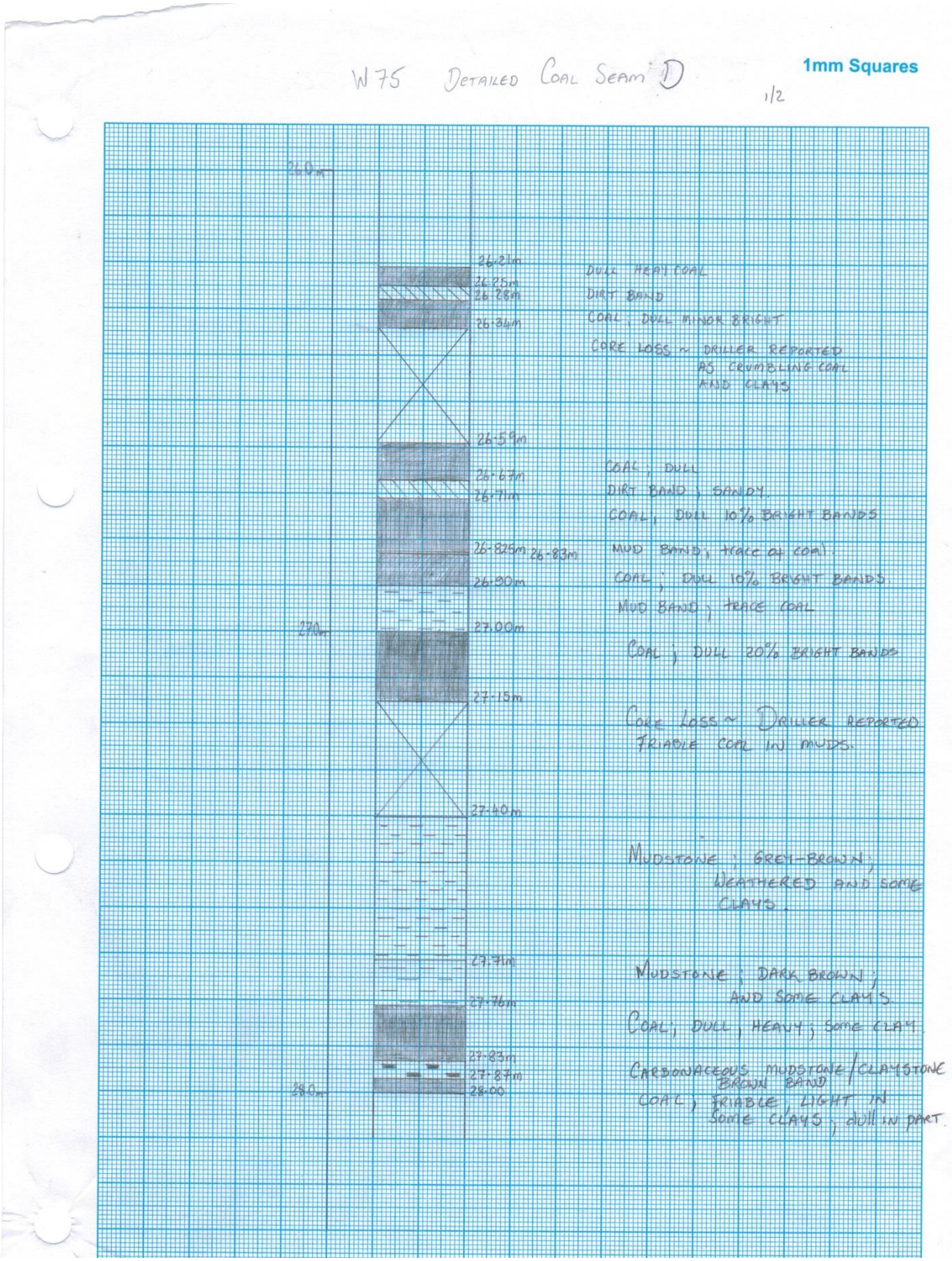
Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL
PROSPECT:	EL 65/2007
DATE:	23 JUNE 2014
LOGGED BY:	MUCCOTT

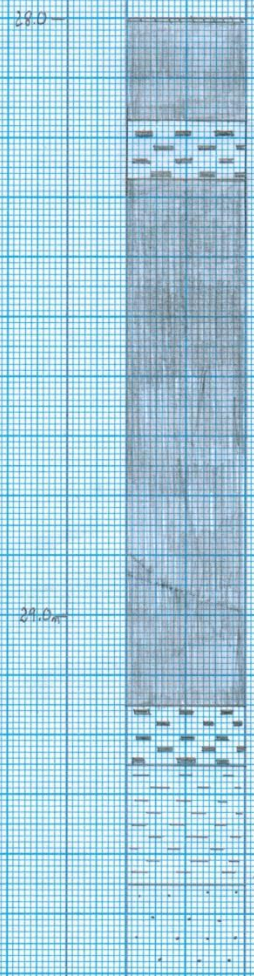
HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
	100	65			X 20° open				
122	100	100							
	100	100						fining down depositional sequence	
124	100	100							
	100	100							
126	100	100							
	100	100						127·10 – 128·29m SANDSTONE; dark grey coarse grained with fine carbonaceous sandstone matrix	
128	100	100						128·29 – 131·92 m SANDSTONE ~ sharp contact	
	100	100						very coarse Bands of grey mudstone rounded fragments in a sandstone matrix – 128·95 – 129·20m	
130	100	100							
	100	100						129·30 – 129·35m 129·53 – 129·63m, 129·93 – 130·05m	
132	100	80			X 6° open			131·92 – 134·76m SILTSTONE; fine muddy/clay matrix	
	100	100						Coaly band 132·84 – 132·89m	
134	100	100							
	100	100						134·76 – 136·11m SANDSTONE Coarse, grey	
136	100	85							
	100	95			X r 35° open 3mm calcite			136·11 – 138·00m SILTSTONE interbedded with carbonaceous mudstone/siltstone bands up to 4mm in thickness	
138	100	100							
								END OF HOLE 138m	

REMARKS

Detailed Graphic Log Coal Seam D



1mm Squares



CARBONACEOUS MUDSTONE/CLAY BAND WITH SOME COAL

COAL; DULL; SOME CLAYS

CARBONACEOUS MUDSTONE - CLAY BAND; DARK BROWN.

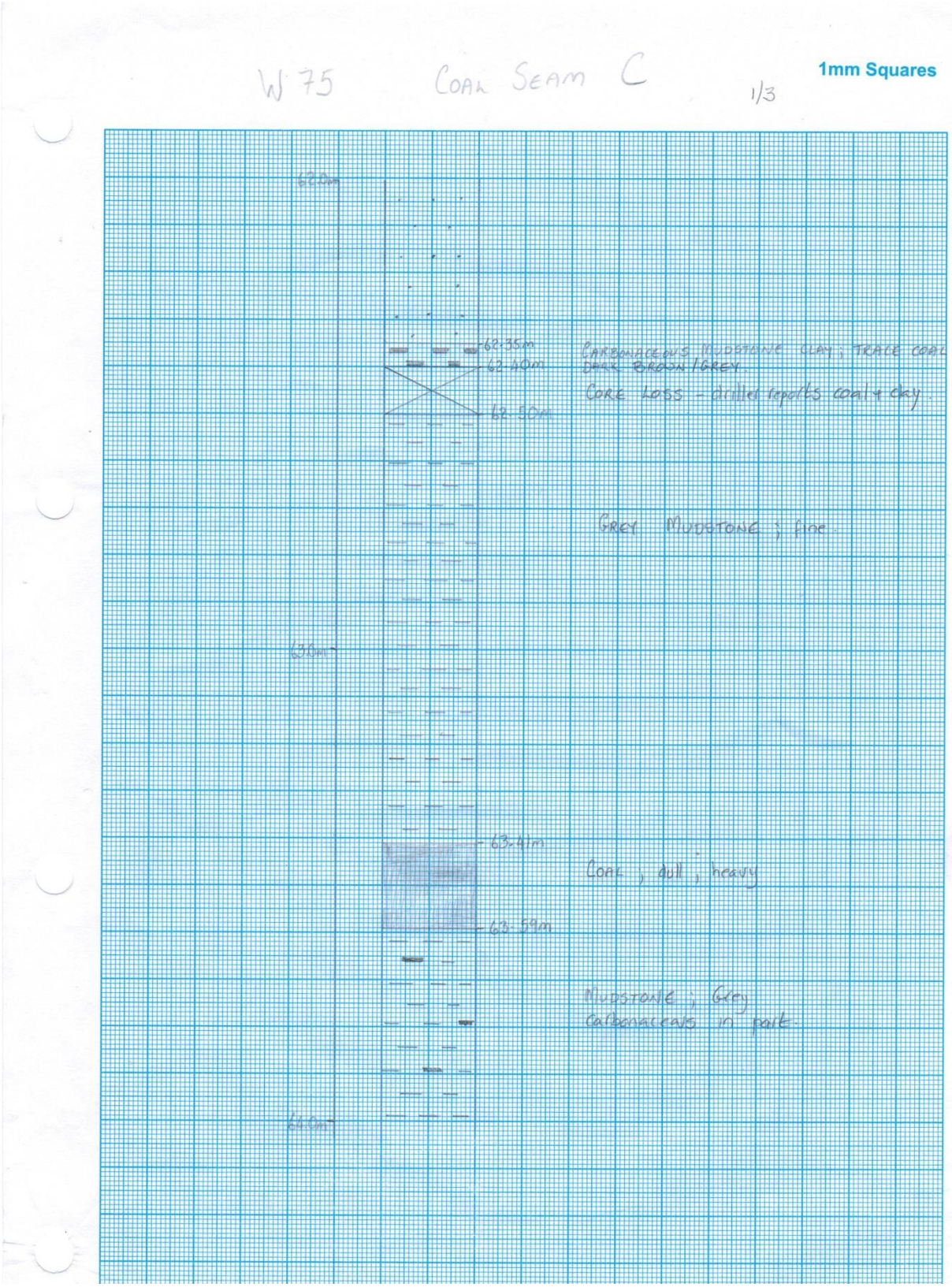
COAL; DULL 20% BRIGHT

CARBONACEOUS MUDSTONE/CLAY BAND

MUDSTONE; GREY; SOME CLAYS

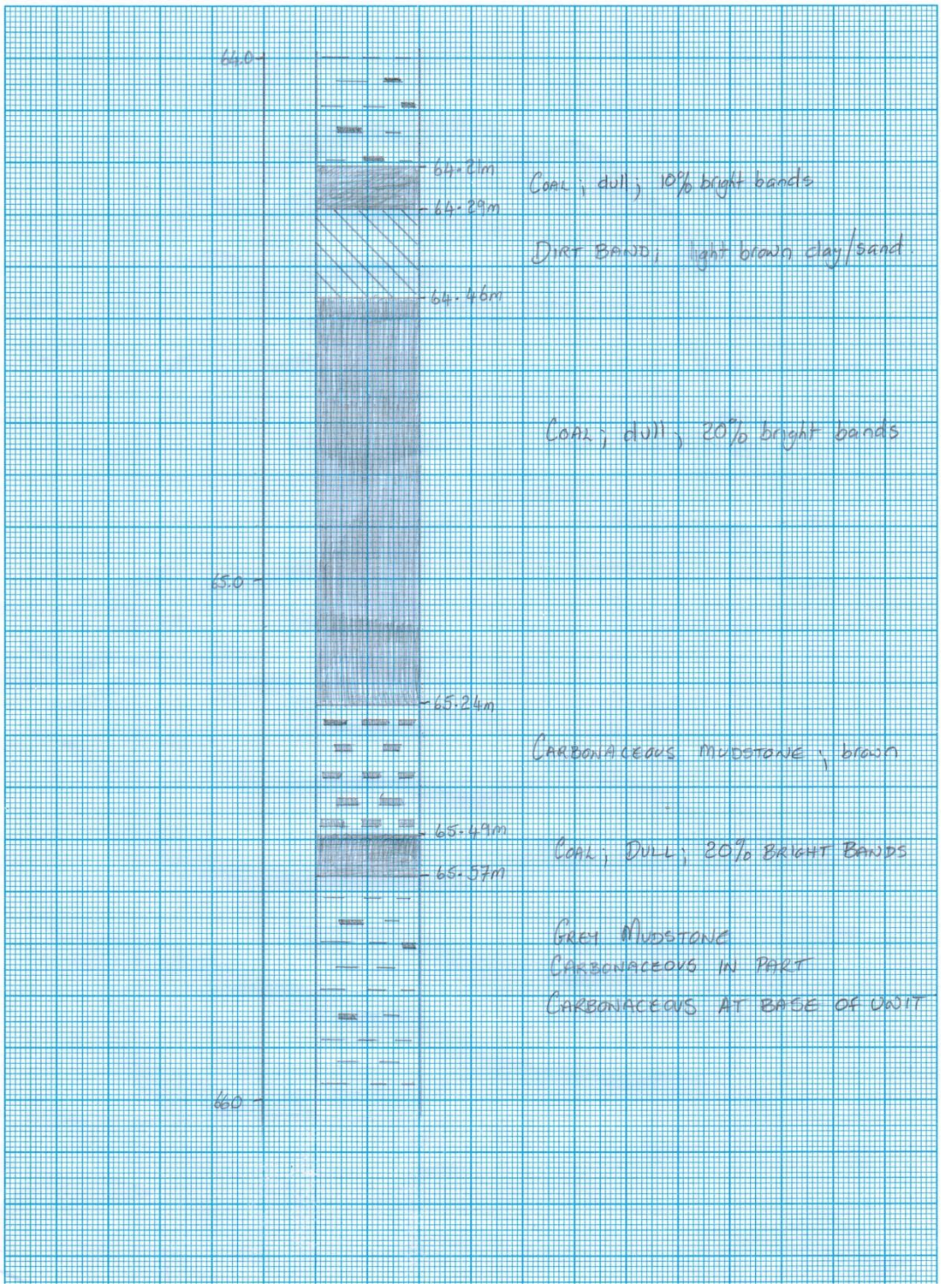
SILTSTONE; GREY.

Detailed Graphic Log Coal Seam C



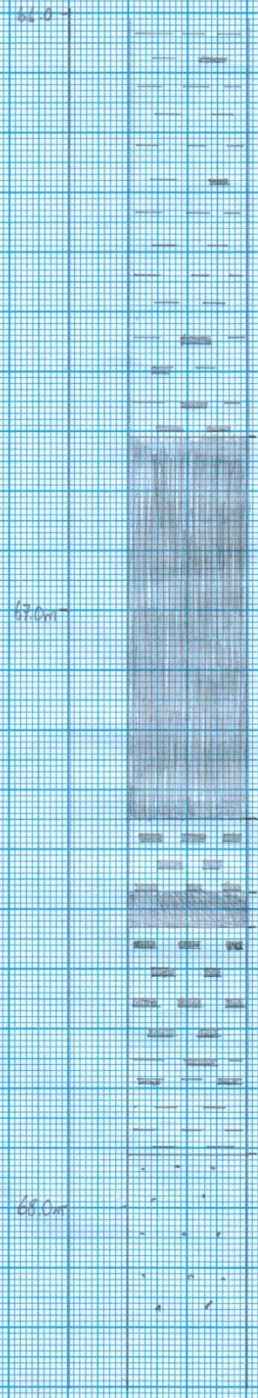
W75 Coal Seam C 2/3

1mm Squares



W 75 Coal Seam C 3/3

1mm Squares



Coal; dull, 20% bright bands

Carbonaceous mudstone

Coal, dull

Carbonaceous mudstone to grey mudstone at base of unit

Siltstone, Grey

Midland Energy

DRILL HOLE No W76

SHEET 1 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	GPS (GDA)
			Easting_	0539 327mE
			Northing_	5330 862mN
			Elevation (m)	253
			Azimuth_ Mag	0
			Dip	-90

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL 65/2007
DATE:	12 JUNE 2014
LOGGED BY:	R. MURCOTT

KMR TRUCK MOUNTED PERCUSSION HYRAPOWER EXPLORER 500 DRILLER : DARREN RICHARDSON

HAMMER 5½ inch

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG	GEOLOGY NOTES	SUMMARY LOG
2								0-2m REGOLITH ~ Red brown clays and soils.	
4								2-7m DOLERITE stained unicrystal chips in yellow clays	
6									
8								7-10m DOLERITE - Weathered, stained (iron stained) smaller chip size in sample	
10									
12								10-17m DOLERITE - Iron stained / Weathered. Some yellow clays	
14									
16									
18								17-18m; DULL COAL 30%, CARBONACEOUS MUDSTONE 30%, GREY MUDSTONE 10%; YELLOW CLAYS 30%	CONTACT TRIASSIC COAL MEASURES
20								18-19m DULL COAL 5%, CARB MUDSTONE 70%; GREY MUDSTONE 25% 19-20m GREY MUDSTONE 95%; CARBONACEOUS MDST 5%	
22								20-24m SILTSTONE; GREY, MEDIUM TO FINE GRAINED; LITHIC.	
24									
26								24-26m SANDSTONE; trace of siltstone; lithic; GREY; MEDIUM GRAIN	
28						VEIN? CAVITY		26-27m VEIN/CAVITY - YELLOW CLAYS; CALCITE + ZEOLITE 27-32m SANDSTONE; LITHIC; GREY MEDIUM TO COARSE GRAINS	
30									
32								30-31m TRACE COAL → COAL FLASERS IN SANDSTONE	
34								32-34m SILTSTONE; GREY; FINER GRAINED LITHIC	
36								34-35m MUDSTONE FRAGMENTS IN SILTSTONE 35-36m SILTSTONE; COARSENING; GREY	
38								36-38m SANDSTONE; GREY WITH TRACES OF COAL → COAL FLASERS	
40								38-40m MUDSTONE GREY AND SANSTONE (MUDSTONE FRAGMENTS IN SANDSTONE MATRIX)	

REMARKS

Midland Energy

DRILL HOLE No W 76

SHEET 2 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	0539 327mE
			Northing_	5330 862m N
			Elevation (m)	253
			Azimuth_ Mag	0
			Dip	-90

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL 65/2007
DATE:	12 JUNE 2014
LOGGED BY:	R. MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG VISUAL ESTIMATE	GEOLOGY NOTES	SUMMARY LOG
42								40 – 52m SANDSTONE; LITHIC MEDIUM TO COARSE GRAINED (41-42m mudstone) DARK AND LIGHT GRAINS "Salt & Pepper"	
44									
46									
48									
50									
52									
54								52-54m SANDSTONE; BROWN STAINING	
56								54 – 55m MUDSTONE GREY 55 – 57m MUDSTONE GREY AND CARBONACEOUS MDST	
58								57 – 58m MUDSTONE GREY	
60								58 – 59m CARB MDST 50%; DULL COAL 20%; MDST GREY 30% 59-60m 50% DULL COAL 30% CARB MDST, 20% MDST GREY	
62								60 – 61m GREY MUDSTONE 70%; CARB. MDST 28%; COAL 2% 61 – 62m COAL 20%; CARBONACEOUS MDST 50%; GREY MUDSTONE 30%	
64								62 – 63m COAL DULL 70%; CARBONACEOUS MUDSTONE 20%, 10 Grey mdst. 63 – 64m MUDSTONE; grey; some siltstone	
66								64 – 75m SANDSTONE; LIGHT AND DARK "PEPPER AND SALT" APPEARENCE	
68								MEDIUM TO COARSE GRAINED; LITHIC	
70									
72									
74									
76								75-77m SILTSTONE; GREY; MEDIUM TO FINE GRAINED	
78								77 – 81m MUDSTONE; GREY; FINE GRAINED	
80									

REMARKS

Midland Energy

DRILL HOLE No W76

SHEET 3 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL 65/2007
DATE:	16 JUNE
LOGGED BY:	R. MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm	GEOLOGY NOTES	SUMMARY LOG
82								81 – 83m MUDSTONE GREY, AND SILTSTONE (rare coal flasers)	
84								83 – 84m CARBONACEOUS MUDSTONE + GREY MUDSTONE	
								84 – 85m GREY MUDSTONE + SILTSTONE	
86								85m – 87m SILTSTONE, GREY; LITHIC	
88								87 – 88m MUDSTONE GREY, TRACE SILTSTONE	
								88 – 93m MUDSTONE GREY	
90									
92									
94								93 – 94m GREY MUDSTONE 95% COAL 5%	
								94 – 95m COAL, dull 80%; 10% CARB MUDST; 10% GREY MUDST	
96								95 – 96m COAL, dull 60%; 40% GREY MUDSTONE	
								96 – 98m MUDSTONE GREY; SILTSTONE	
98									
								99 – 100m GREY MUDSTONE 80%; CARB MDST 20%	
100								100 – 102m CARBONACEOUS MUDSTONE 80% GREY MUDSTONE 20%	
102								102 – 103m 50% CARBONACEOUS MDST; 50% SILTSTONE	
								102 – 104m 50% SILTSTONE; 25% GREY MDST 25% CARBONACEOUS MUDSTONE	
104								104 – 106m SILTSTONE; GREY; LITHIC	
106								106 – 108m SANDSTONE; GREY, Salt + Pepper appearence	
108								108 – 109m 60% SILTSTONE; 40% MUDSTONE trace coal	
110								109 – 110m 50% SILTSTONE; 50% GREY MUDSTONE	
								110 – 111m SILTSTONE GREY	
112								111 – 113m SANDSTONE WITH SOME COAL FLASERS	
114								113 – 114m SILTSTONE; 10% MUDSTONE	
								114 – 115m DULL COAL 2%, CMS 28%; GREY MDST 70%	
116								115 – 116m DULL COAL 5%, 95% CMS; 50% GREY MDST	
								116 – 117m DULL COAL 5%; 95% CMS	
118								117 – 118m DULL COAL 2%; 60% CMS; 38% GREY MDST	
120								118 – 120m EOH SILTSTONE WITH TRACES OF COAL (FLASERS)	

REMARKS

END OF HOLE 120m.
CASED FOR GEOPHYSICS
NO WATER TABLE INTERSECTED – ALL DRY SAMPLES.

Midland Energy

DRILL HOLE No W 77

SHEET 1 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates GPS (GDA)	
			Easting_	0539 536
			Northing_	5331 540
			Elevation (m)	255
			Azimuth_ Mag	0
			Dip	-90

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL 65/2007
DATE:	17 JUNE 2014
LOGGED BY:	MURCOTT

KMR TRUCK MOUNTED PERCUSSION HYDRAPOWER EXPLORER 500; DRILLER: DARREN RICHARDSON

HAMMER 5½ INCH

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG	GEOLOGY NOTES	SUMMARY LOG
								0-1m REGOLITH; red-brown clays and sands	TRIASSIC COAL MEASURES
2								1-3m SANDSTONE; yellow; medium grained	
4								3-5m MUDSTONE; Grey; fine grained	
6								5-6m SANDSTONE; yellow; 20% mudstone	
								6-7m SANDSTONE; yellow; some iron staining	
8								7-14m SANDSTONE; yellow; medium grained	
10									
12									
14									
								14-15m SANDSTONE; Yellow-brown - medium grained	
16								15-26m SANDSTONE; Yellow	
18									
20									
22								Salt + pepper texture	
24								fining	
26									
								26-27m SILTSTONE; 30% grey mudstone	
28								27-29m SILTSTONE; 10% grey mudstone	
30								29-36m SILTSTONE; GREY; fine to medium	
32									
34									
36									
								36-37m SILTSTONE; Grey 40% Mudstone grey	
38								37-38m MUDSTONE; Grey	
								38-39m COAL 90%; 10% MUDSTONE	
40								39-40m CARBONACEOUS MUDSTONE 80%; COAL 20%	

REMARKS

Midland Energy

DRILL HOLE No W 77

SHEET 2 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL 65/2007
DATE:	17 June 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG	GEOLOGY NOTES	SUMMARY LOG
42								40-42m MUDSTONE; Grey	
44								42-43m SILTSTONE 70% 10% COAL; 20% CARB MDST 43-44m SILTSTONE 80%; COAL 10%; CARB MDST 10%	
46								44-45m SILTSTONE; GREY 45-47m SANDSTONE; GREY	
48								47-48m SANDSTONE; 20% GREY MUDSTONE	
50								48-50m SANDSTONE; GREY; medium grained.	
52								50-51m MUDSTONE; GREY 51-38m SANDSTONE; GREY	
54								Some coal flasers	
56									
58									
60								58-59m SANDSTONE; 10% COAL (flasers?) 59-61m SILTSTONE; GREY.	
62								61-62m SILTSTONE; 20% COAL; 20% CARB MDST	
64								62-82m SANDSTONE COARSE GRAINED TO MEDIUM GREY. "Salt & Pepper" texture.	
66									
68									
70									
72									
74									
76									
78									
80									

REMARKS

Midland Energy

DRILL HOLE No W77

SHEET 3 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL PROJECT
PROSPECT:	EL 65/2007
DATE:	17 JUNE 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm	GEOLOGY NOTES	SUMMARY LOG
82								82 – 83m SILTSTONE; 30% MUDSTONE CARBONACEOUS	
								83 – 86m SILTSTONE; dark grey, fine grained	
84									
86									
								86 – 102m SANDSTONE / SILTSTONE HORNFELS	
88							Q	(*) GREY, HARD	
								CALCITE VEINS	
90								SILICIFIED	
								Some "zeolite?" fragments	
92							Q		
94								(*) DRILLER REPORTS SIGNIFICANT CHANGE	
								~~IN DRILLING CONDITIONS AT 86m~~	
96								– HARDNESS INCREASED	
								– RATE OF DRILLING SLOWED	
98							Q		
100									
102									
								END OF HOLE 102m	

REMARKS

Midland Energy

DRILL HOLE No W 78

SHEET 1 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates GPS (GDA)	
			Easting_	0538 879m
			Northing_	5332 105m
			Elevation (m)	250m RL
			Azimuth_ Mag	0
			Dip	-90

PROJECT:	Woodbury Coal
PROSPECT:	
DATE:	19 June 2014
LOGGED BY:	

HOLE DEPTH	CORE RECOVERY	ROD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG	GEOLOGY NOTES	SUMMARY LOG
2								0-1m Regolith - red-brown clay and sands; trace dolerite 1-5m Dolerite - iron stained and yellow clays	
4									
6								5-6m DOLERITE; 50% iron stained - 50% Grey-blue ophitic 6-15m DOLERITE; fresh Grey-blue	
8									
10									
12									
14									
16								15-16m White vein material - cavity fill - and clays; dolerite 70% 16-17m Dolerite 90%; 10% weathered clays 17-18m DOLERITE 60%; 40% Grey clays 18-48m DOLERITE.	
18									
20									
22									
24									
26									
28									
30									
32									
34									
36									
38									
40									

REMARKS

Midland Energy

DRILL HOLE No W78

SHEET 2 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	
PROSPECT:	
DATE:	
LOGGED BY:	

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm	GEOLOGY NOTES	SUMMARY LOG
42									
44									
46								- driller reports softer ground	
48								- Some yellow clays (hornfels)	
50								48-49m 40% COAL ; 60% DOLERITE 49-50m 30% COAL ; 60% MUDSTONE GREY ; 10% MDST CARBONAC.	
52								50-51m MUDSTONE-mid grey ; 50% carb ; 50% Grey 51-52m 40% COAL ; 45% CARB MDST ; 15% grey MDST.	
54								52-53m 90% GREY MUDSTONE ; 10% CARB MDST. 53-54m 2% COAL ; 40% GREY MDST ; 58% SILTSTONE	
56								54-55m SILTSTONE 60% ; GREY MDST 40% ; trace COAL 55-60m GREY MUDSTONE TO FINE GRAINED SILTSTONE	
58									
60									
62								60-61m SILTSTONE ; GREY WATER TABLE 61-64m MUDSTONE GREY	
64									
66								64-65m MUDSTONE GREY ; trace coal. 65-66m SILTSTONE GREY ; trace coal (clasers?)	
68								66-70m MUDSTONE ; Grey ; very fine grained Some iron stained fragments.	
70									
72								70-71m CARBONACEOUS MUDSTONE + GREY MDST. 71-72m SILTSTONE GREY 50% MUDSTONE GREY 50%, trace COAL	
74								72-73m COAL 15% ; CARB MDST + GREY MD 73-75m Carb mudstone + iron stained siltstone	
76								75-78m SILT STONE - Grey ; medium grained.	
78									
80								78-79m SILTSTONE 60% ; CARB MDST 40% ; iron stained 79-80m COAL 70% ; CARB MDST + GREY MDST.	

REMARKS NB Iron staining suggest jointing in zone.

Midland Energy

DRILL HOLE No W 78

SHEET 3 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	
PROSPECT:	
DATE:	
LOGGED BY:	

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm	GEOLOGY NOTES	SUMMARY LOG
								80-81m COAL 5%; CARB MDST + GREY MDST	
82								81-83m SILTSTONE, GREY; 10% CARB MDST	
84								83-85m MUDSTONE; Grey	
86								85-90m SANDSTONE; Medium to coarse lithic grains in a dirty/muddy sandstone matrix.	
88									
90								90-94m SANDSTONE; light grey; minor iron staining	
92									
94								94-95m COAL 50%; 30% CARB MDST; 20% sandstone	
96								95-98m SILTSTONE; Grey	
98									
100								98-99m COAL 60%; MUDSTONE Grey 40% 99-100m COAL 80%; MUDSTONE Grey 20%	
102								100-101m CARBONACEOUS MUDSTONE 101-102m SILTSTONE, grey; Some CARB. MUDST	
104								102-103m SILTSTONE 80%; CARB MDST 20%; trace COAL. 103-104m SILTSTONE 50%; Grey MUDSTONE 50%; trace COAL	
106								104-105m SILTSTONE, CARB. MUDST; SANDSTONE; trace coal. 105-106m 90% COAL; 10% Grey MUDSTONE	
108								106-107m 5% COAL; 95% Grey MUDSTONE 107-108m GREY MUDSTONE	
110								108-109m SILTSTONE 60%, CARB MDST 20%, GREY MDST 20% 109-110m SILTSTONE 90%; 10% GREY MUDSTONE	
112								110-115 SILTSTONE GREY	
114									
116								115-116m MUDSTONE GREY 50%, SILTSTONE 50%	
118								116-117m SILTSTONE GREY 117-119m SANDSTONE Grey "Salt + pepper" texture	
120								119-120m GREY MDST 60%, SILTSTONE 30%; CARB MD. 10%	

REMARKS

Midland Energy

DRILL HOLE No W78

SHEET 4 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	
PROSPECT:	
DATE:	
LOGGED BY:	

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm	GEOLOGY NOTES	SUMMARY LOG
								120 – 121m 60% GREY MUDSTONE; 30% SILTSTONE; 10% CARB MDST.	
122								121 – 122m 80% SILTSTONE, 20% GREY MUDSTONE; trace COAL	
								122 – 123m 60% GREY MUDSTONE; 40% CARB MDST; trace COAL	
124								123 – 124m COAL 5%; CARB MDST 60%; GREY MDST 35%	
								124 – 125m COAL 80%; 20% grey mudstone	
126								125 – 126m COAL 100%	
								126 – 127m COAL 70%; GREY MUDSTONE 30%	
128								127 – 129m SILTSTONE 50%; Mudstone grey 50% trace COAL	
130								129 – 132.5m SILTSTONE; grey, fine to medium grained	
132								Some iron staining	
								END OF HOLE 132.5m	

REMARKS

Midland Energy

DRILL HOLE No W 79

SHEET 1 OF 1

Survey Depth	Azimuth	Dip	Hole Co-ordinates GPS GDA - 94	
			Easting_	0539742m E
			Northing_	5332031m N
			Elevation (m)	225 m RL
			Azimuth_ Mag	0
			Dip	-90°

PROJECT:	WOODBURY COAL
PROSPECT:	EL 65/2007
DATE:	24 JUNE 2014
LOGGED BY:	MURCOTT

KMR TRUCK MOUNTED HYDRAPOWER 500

DRILLER: DARREN RICHARDSON

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
								0-1m REGOLITH RED-BROWN CLAYS	
2								1-7m YELLOW; SANDSTONE WITH 5% CLAYS	
								MEDIUM GRAINED	
4								STAINED	
6									
8								7-10m GREY; MUDSTONE FRAGMENTS AND	
10								CLAYS	
								10-11m GREY 80% GREY MDST; 20% CARB MDST	
12								11-12m GREY-BLACK; COAL 80%; 20% CARBONACEOUS MDST	
								12-13m GREY-BLACK; COAL 75%; 20% GREY MDST, 5% CARB MDST	
14								13-14m GREY-GREY MDST 85%; 15% CARB MDST	
15								14-15m DARK GREY CARB MD 60%; GREY MDST 30%; COAL 10%	
								END OF PERCUSSION PRECOLLAR 15m	

5½ inch Hammer Drill

REMARKS

Midland Energy

DRILL HOLE No W79A

SHEET 1 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	GPS GDA-94
			Easting_	0539738m E
			Northing_	5332033m N
			Elevation (m)	225m RL
			Azimuth_ Mag	0
			Dip	-90°

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	10 JULY 2014
LOGGED BY:	MURCOTT

KMR TRUCK MOUNTED ROVING SCOUT

DRILLER: DALE ROBERTS

HOLE DEPTH	CORE RECOVERY	ROD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
								0-1m BROWN-RED SOILS AND CLAYS	PRECOLLAR SPADE DRILLING
2								1-4.6m SANDSTONE; YELLOW; IRON STAINED	
4									
	40	18						4.6-7.22m SANDSTONE; LITHIC; MEDIUM GRAINED; YELLOW; IRON STAINED. COMPACTED	HQ3 DIAMOND CORE DRILLING
6	100	68							
	97	81							
8	101	67			∝ b 82°			7.22-8.24m GREY MUDSTONE; Some SILTSTONE	
	102	100						8.24-9.70m GREY SILTSTONE; hard; solidified; rare darker carbonaceous most laminae	
10	100	51						~~9.70-11.42m SILTSTONE; GREY; WEAK; fretting~~ muddy matrix.	
	100	100							
12	101	20			∝ j 15° open	"CU"		11.42-11.74m GREY MUDSTONE; solidified; coal flaser bed. ~~11.74-13.00m COAL; DULL, 20% BRIGHT BANDS~~ (1.26m) DARK BROWN; LIGHT WEIGHT	
	100	14						13.00-15.21m GREY MUDSTONE - abrupt contact with coal Some mudstone clays. SILTY AT BASE	
14	100	100							
	105	85						15.21-15.28m CARBONACEOUS MUDSTONE AND CLAYS	
16	100	41				"CL"		15.28-15.93m COAL; DULL - 10% BRIGHT (0.65m) ~~15.93-16.23m GREY MUDSTONE and clays; trace CMS.~~	
	100	95						16.23-18.35m SILTSTONE; GREY; some grey mudstone <5%	
18	100	100							
	100	90			∝ v 45° coal 10mm			18.35-19.63m SANDSTONE; GREY; LITHIC; FRABLE/ FRETTING; WEAK UNBONDED MATRIX.	
20	100	100							
	100	90			∝ b 85° coal 25mm			19.63-21.60m SILTSTONE; GREY; some to rare coal flaser fragments + flaser laminae COAL: 20.02-20.05m, trace mudstone.	
22	100	80			∝ j 75°			21.60-58.70m SANDSTONE; LITHIC; GREY; MEDIUM GRAINED Cycles of fining up grain sizes	
	100	100							
24	100	100						25.20-27.50m RARE TO SOME COAL FLASERS	
	100	100			∝ j 75°				
26	100	100							
	100	100							
28	100	100							
	100	100							
30	100	100							
	100	100							
32	100	100						32.53-33.36m CARBONACEOUS MUDSTONE FRAGMENTS, GREY MUDSTONE FRAGMENTS IN COARSE SANDSTONE MATRIX.	
	100	100							
34	100	90							
	100	100							
36	100	100							
	100	100			∝ b 82°				
38	100	100							
	100	100							
40	100	100							

REMARKS

Midland Energy

DRILL HOLE No W 79A

SHEET 2 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	16 JULY
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
	100	100			αb 88°			41·08 – 41·94m CARB MDST AND GREY MDST FRAGMENTS AND COAL FLASER FRAGS IN SS MATRIX.	
42	98	75						41·94 – 42·16m COAL FLASER BED	
	100	77			αb 78°			42·16 – 42·21m DIRT BAND / CLAY / GREY MDST BAND. 42·21 – 42·23m COAL.	
44	100	100						42·23 – 42·62 MEDIUM TO FINE GRAINED SANDSTONE WITH FREQUENT COAL FLASER LAMINAE BANDS.	
	100	100							
46	100	100							
	100	100							
48	100	100							
	100	100							
50	100	100							
	100	100			coal flaser beds			50·84 – 51·31m Fine grained sandstone (siltstone)	
52	100	100			αb 85°				
	100	100							
54	100	100							
	100	100			coal flasers	pyrite			
56	100	90							
	100	100			coal flasers αj 22°				
58	110	100			αj 22°				
	100	90			αj 22°			58·70 – 59·07m CARB MDST FRAGS, TRACE COAL, IN SANDSTONE MATRIX. 59·07 – 59·53m SANDSTONE, GREY, LITHIC MEDIUM GRAIN.	
60	100	35			αb 80° coal flasers			59·53 – 60·00m INTERBEDDED SILTSTONE AND CARB MDST TRACE COAL (SHALE)	
	100	95						60·00 – 60·20m SANDSTONE FINE-MEDIUM WITH COAL FLASERS. 60·20 – 60·32m COAL FLASER BED.	
62	100	80						60·32 – 60·43m SANDSTONE FREQUENT COAL FLASER BEDS. 60·43 – 60·65m MUDSTONE FRAGS GREY IN SANDSTONE MATRIX.	
	100	80						60·65 – 63·15m SHALE – INTERBEDDED SILTSTONE & FINE MUDSTONE. MUDSTONE INCREASING TO BASE OF UNIT.	
64	100	80						63·15 – 63·99m MUDSTONE – GREY –	
	100	80			αb 85° dice	"8M"		63·99 – 65·92m (1·93m) Dull heavy COAL; 5% bright bands – brown in colour. DIRT BANDS: 65·29 – 65·30m, 65·32 – 65·33m, 65·37 – 65·38m, 65·74 – 65·82m	
66	104	70						65·92 – 66·35m GREY MUDSTONE	
	100	95			αj 10°	"8L"		66·35 – 67·76m GREY SILTSTONE INCREASING GREY MUDSTONE TO BASE	
68	100	65						67·76 – 68·05m (0.29m) COAL DULL HEAVY. DIRT BANDS: 67·79 – 67·81m, 67·94 – 67·96m, 68·00 – 68·03m	
	100	45							
70	100	60			αb 84°			68·05 – 68·22m CARB MDST TRACE COAL. 68·22 – 68·87m GREY MDST. 68·87 – 68·95m CARB MDST TRACE COAL.	
	100	20						68·95 – 70·17m SHALE INTERBEDDED SILTSTONE & GREY MDST. 70·17 – 70·35m CARBONACEOUS MUDSTONE & TRACE COAL	
72	100	15			αj 30°			70·35 – 71·05m GREY MUDSTONE 70·78 – 70·82m CARB MDST. 71·05 – 71·16m CARBONACEOUS MUDSTONE; SOME GREY MUDSTONE. 71·16 – 71·60m GREY MUDSTONE ~ COAL FLASER.	
	100	10						71·60 – 73·92m SILTSTONE, GREY; CROSS BEDDING	
74	100	40			αb 82°			73·92 – 74·02m COAL FLASER BED	
	100	85			αj 30°			74·02 – 77·81m SANDSTONE FINE TO MEDIUM. SILTSTONE FEATURES AT TOP OF UNIT	
76	100	100							
	100	100						77·81 – 77·95m CARBONACEOUS MUDSTONE AND CLAY. 77·95 – 79·06m SHALE; SILTSTONE AND GREY MUDSTONE INTERBEDDED. 78·40 – 78·42m COAL – flaser bed.	
78	100	90							
	100	90							
80	100	100						79·06 – 86·53m SANDSTONE; GREY, LITHIC	

REMARKS

Midland Energy

DRILL HOLE No W79A

SHEET 3 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL65/2007
DATE:	18 JULY 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.08 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	100							
82	100	100						82.40m Rare to some coal flakes	
	100	100							
84	100	100			coal flakes			84.27 – 84.39m Some carbonaceous mudstone fragments in sandstone matrix.	
	100	100							
86	103	100						86.53 – 86.92m Sharp contact	
	100	85			αb 80°			Carbonaceous mudstone	
88	100	95			αb 84° αj 40°			86.92 – 87.70m Shale – interbedded carb mdst and grey mdst. 87.70 – 87.72m Coal – bright band – flase? 87.72 – 88.08m Carb mudstone with grey mdst laminae.	
	100	85						88.08 – 88.69 (0.61m) Coal; dull; 15% bright bands	
						"A"		88.84 – 89.10m (0.26m) Coal; dull; 20% bright } 85.69 – 88.84m Grey mdst	
90	100	60						89.44 – 90.07m Coal; dull, 20% bright bands (0.63m) } 89.10 – 89.44m Grey mdst.	
	85	15				CORE LOSS		90.07 – 90.60m Grey mudstone	
92	100	90			αb 84°			90.60 – 90.75m Core loss	
	100	80			αj 40°			90.75 – 92.17m ~~Shale – grey mudstone~~ 92.17 – 93.36m Grey mudstone with some carb mdst	
94	100	80						93.36 – 93.46m (0.1m) Coal fragments in coal clay band	
	100	85			αj 40°			93.46 – 94.04m Shale – laminated grey mudstone	
96	100	75						94.04 – 94.39m Sandstone – lithic – medium grained. 94.39 – 94.65m Siltstone – shale – with carb mdst laminae. 94.65 – 95.13m ~~Grey mudstone – with carb mdst laminae~~	
	100	85						95.13 – 95.85m Carbonaceous mudstone – trace coal. 95.85 – 96.76m Siltstone – some carb mdst – dark grey	
98	100	100						96.76 – 98.26m Siltstone/shale cream-grey silst w some grey mdst	
	100	55			αj 30°			98.26 – 99.60m Shale – interbedded grey + carb mdst. 99.60 – 99.85m Carbonaceous mudstone – flase coal.	
100	100	30				pyrite		~~99.85 – 100.10m (0.25m) Dull coal 5% bright + clay~~	
	100	20			αj 12°			100.10 – 103.60m Shale – interbedded carbonaceous mudstone and grey mudstone.	
102	100	85			αj 40°				
	100	60			αj 20°				
					αj 10°				
104	106	10						~~103.60m – 111.60m~~	
	99	90			αj 35°			Fine grained silicious sediment	Hornfels altered sediments; close proximity to dolerite sill
106	100	80						Cream – pale grey in colour	
	100	90			αj 15°			Veinlets orange ferrous mineral in calcite filled veins	
108	100	95						No coal	
	100	100						No flasers	
110	100	100							
								Sericite alteration	
~~112~~								End of Hole = 111.60m	

REMARKS

Midland Energy

DRILL HOLE No W80

SHEET 1 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	GPS GDA94
			Easting_	0540 387m
			Northing_	5328 550m
			Elevation (m)	264m RL
			Azimuth_ Mag	0
			Dip	-90

PROJECT:	WOODBURY COAL
PROSPECT:	EL 65/2007
DATE:	25 JUNE 2014
LOGGED BY:	MURCOTT

KMR TRUCK MOUNTED HYDRAPOWER EXPLORER 500 PERCUSSION PRECOLLAR; HQ3 CORE DRILLING

DRILLER: DARREN RICHARDSON

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
								0-1m Cream-brown clays and sands	PERCUSSION DRILLED PRECOLLAR 5½ INCH HAMMER
2								1-2m Yellow iron stained sands + sandstone	
								2-5m BROWN SANDSTONE AND SOME MUDSTONE CLAYS	
4									
6								5-6m CREAM-BROWN/BLACK WEATHERED CARBONACEOUS MUDSTONE AND SOME COAL	
								6-8m CREAM-YELLOW MUDSTONE	
8									
10								8-11m CREAM; SILTSTONE	
12								11-21m GREY; SANDSTONE; medium grained; "salt + pepper" texture	
14									
16									
18									
20									
22								21-22m DARK GREY CARBONACEOUS MUDSTONE, trace coal	
								22-23m GREY; SILTSTONE AND SOME CARB MUDSTONE	
24								23-24m GREY; SILTSTONE	
								24-28m GREY; SANDSTONE	
26									
28									
								28-30m GREY; SANDSTONE AND SILTSTONE	
30									
								30-32m GREY; SILTSTONE	
32									
								32-33m GREY; SILTSTONE AND TRACE GREY MUDSTONE	
34								33-34m DARK GREY; SILTONE; CARB MUDST + trace COAL (FLASERS)	
								34-36m; GREY; MUDSTONE AND SOME SILTSTONE	
36									
	100	100						36.0-38.43m SANDSTONE; light grey; lithic; rare coal flasers up to 2mm in thickness	HQ3CORE DIAMOND DRILLING
38	100	100			α150°				
	100	90						38.43-39.04m SANDSTONE; numerous coal flasers	
40	100	100						39.04-41.46m SANDSTONE; GREY; lithic; medium grained.	

REMARKS

Midland Energy

DRILL HOLE No W80

SHEET 2 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL
PROSPECT:	EL 65/2007
DATE:	27TH JUNE 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	100			αb 86°			41.46 – 41.67m Interbedded carbonaceous mudstone and grey mudstone; rare coal	
42	100	85						41.67 – 41.72m DARK GREY; CARBONACEOUS MUDSTONE; TRACE COAL	
	100	10			αj 45°			41.72 – 42.56m MUDSTONE; grey.	
44	100	25			αb 82°			42.56 – 43.12m COAL; dull; grey mudstone 42.78–42.80m 42.98–42.99m 43.08–43.09m	
	100	100						43.12 – 43.20m GREY MUDSTONE	
					αj 20°			43.20 – 43.24m CARBONACEOUS MUDSTONE & DIRTY COAL BAND	
					αj 45°			43.24 – 44.20m GREY MUDSTONE; TRACE CARB MDST; COAL BAND 43.89–43.92m	
46	100	82						44.20 – 44.52m CARB MDST WITH TRACES OF COAL	
	100	90						44.52 – 45.31m MUDSTONE; GREY	
					αj 60°			45.31 – 45.68m CARBONACEOUS MUDSTONE; TRACE COAL	
48	100	45						45.68 – 48.86m GREY MUDSTONE; TRACES CARB MDST AT BASE; DISINTEGRATED 47.90–48.10m	
	100	60						48.86 – 49.14m GREY BAND SERICITE?	
					αj 5°			49.14 – 49.34m COAL; dull; 5% BRIGHT 49.30 – 49.34m DIRT/CLAY BAND	
					αj 45°			49.34 – 49.44m COAL; dull; 20% bright	
50	100	25						49.44 – 49.46m DIRT BAND	
								49.46 – 50.11m COAL; dull; 30% BRIGHT BANDS	
	100	90			αj 45°			50.11 – 50.24m CARBONACEOUS MUDSTONE; TRACE COAL	
								50.24 – 50.75m GREY MUDSTONE	
52	100	100			αb 86°			50.75 – 53.05m SILTSTONE; fine grained with some interbeds of grey mudstone	
	100	90						53.05 – 53.70m GREY MUDSTONE.	
					αj 45°				
54	100	40			αj 30°			53.70 – 53.99m COAL; dull; 30% BRIGHT BANDS	
	100	50						53.99 – 54.22m CARBONACEOUS MUDSTONE	
								54.22 – 55.33m GREY MUDSTONE	
56	100	100			αj 50°			55.33 – 55.90m SANDSTONE; fine; mid grey	
								55.90 – 56.05m SILTSTONE; mid grey	
	100	100						56.05 – 69.75m SANDSTONE; GREY, LITHIC	
58	100	100						Coarsening down	
	100	100						Rare coal and carbonaceous mudstone flasers	
60	100	100							
	100	100							
					αb 88°				
62	100	100							
	100	100							
64	100	100							
	100	100							
					αb 87°				
66	100	100							
	100	100							
68	100	100							
	100	100							
70	100	90						69.75 – 70.26m CARBONACEOUS MDST and COAL frags in SANDSTONE MATRIX.	
	100	100						70.26 – 74.79m SANDSTONE, GREY, LITHIC, medium to coarse grained "pepper + salt" texture	
72	100	100							
	100	100							
74	100	100							
	100	100						74.79 – 75.65m Some CARB MDST AND SILTSTONE FRAGMENTS IN SANDSTONE MATRIX; COAL FLASER BEDS	
					αb 75° flaser				
76	100	100						75.65 – 77.93m SANDSTONE; MEDIUM GREY	
	100	100						COARSE LITHIC FRAGMENTS IN DIRTY MATRIX	
78	100	100			αj 40°			77.93 – 79.52m SANDSTONE; Some coal flasers and fragments	
	100	100							
80	100	85				SERICITE		79.52 – 79.71m COAL AND CARB MDST FRAGS IN SILTSTONE MATRIX WITH SERICITE ALTERATION	

REMARKS

Midland Energy

DRILL HOLE No W 80

SHEET 3 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL
PROSPECT:	EL65/2007
DATE:	2 JULY 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.08 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
	100	100						79.71 – 81.72m SANDSTONE ; LITHIC ; dirty matrix	
82	100	85			αb 87°			81.72 – 82.14m GREY MUDSTONE – fine interbeds of carb mdst	
	95	50				8.5cm		82.14 – 82.80m COAL ; DULL ; 10% BRIGHT BANDS	
84	100	35						82.80 – 84.77m GREY MUDSTONE ; CARBONACEOUS AT TOP OF UNIT	
	100	40			αj 40°			84.77 – 84.94m CARBONACEOUS MUDSTONE ; TRACE COAL	
86	100	60			αj 30°			84.94 – 87.09m GREY MUDSTONE WITH INTERBEDDED SILTSTONE BANDS INCREASING IN	
	100	70			αj 40° αb 80°			FREQUENCY TO BASE OF UNIT	
88	100	85			αb 85°			87.09 – 87.19m SILTSTONE ; SHARP CONTACTS 87.19 – 87.54m CARBONACEOUS MDST AND SILTSTONE INTERBEDDED	
	100	100				SERICITE		87.54 – 89.58m SANDSTONE ; light grey – grey ; medium to fine	
90	100	100						89.58 – 90.03m SILTSTONE band	
	100	100						90.03 – 90.65m SANDSTONE Mid – light grey	
92	100	97			αj 30°			90.65 – 91.36m INTERBEDDED SILTSTONE ; CARB MDST ; GREY MDST SOME COAL 91.36 – 92.24m CARB MDST DECREASING TO GREY MUDSTONE AT BASE	
	100	60			αf 35°			92.24 – 92.38m COAL ; dull ; 5% bright – faulted contact	
94	100	100			αj 35°			92.38 – 93.90m GREY MUDSTONE WITH SILTSTONE INTERBEDS ; TRACE CARB MDST 93.90 – 94.91m CARB MDST, GREY MDST & SILTSTONE INTERBEDS	
	100	70			αj 50°			94.91 – 95.47m COAL ; dull ; low quality ; sericite altered ?	
96	100	70						95.47 – 96.03m CARBONACEOUS MUDSTONE DECREASING TO GREY MDST AT BASE 96.03 – 96.60m GREY MUDSTONE	
	85	50			αb 85°			96.60 – 96.75m CORE LOSS – 10cm loss reported by drillers	
98	100	87						96.75 – 99.12m INTERBEDDED GREY MUDSTONE AND SILTSTONE	
	100	100						99.12 – 99.83m COAL ; dull ; heavy ; sericite altered in part	
100	100	0			αj 20° x 10°	SEAM		99.83 – 100.45m ; CARBONACEOUS SILTSTONE ; DARK GREY	
	95	0			αj 30°	SERICITE		100.45 – 104.04m GREY MUDSTONE ; MID TO DARK GREY Some RED VEINING – FERROUS IRON alteration	
102	100	40			αj 10°	FERROUS		HORNFELS	
	100	50			αj 10°				
104	100	50			x 40° xb 80°			104.04 – 112.61m CREAM TO LIGHT GREEN	
	100	85						HORNFELS INTERBEDDED AND ALTERED SILTSTONES + MUDSTONES OF COAL MEASURES	
106	100	60			αj 50°	SERICITE		SOME COAL FLASERS – SERICITE ALTERED	
	100	90							
108	100	20			αj 10°				
	100	60			αj 25° x j 50°				
110	100	100							
	100	100							
112	100	100							
	100	100						112.61 – 117.5m DOLERITE ; ophitic ; uni crystalline	
114	100	100			αf 30°				
	100	100							
116	100	100							
	100	100							
								END OF HOLE 117.5m	

REMARKS

Midland Energy

DRILL HOLE No W81

SHEET 1 OF 2

Survey Depth	Azimuth	Dip	Hole Co-ordinates GPS - GDA94.	
			Easting_	0541 206mE
			Northing_	5328 956m N
			Elevation (m)	255m RL
			Azimuth_ Mag	0
			Dip	-90

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	3 JULY 2014
LOGGED BY:	MURCOTT

KMR TRUCK MOUNTED HYDRAPOWER 500

DRILLER: DARREN RICHARDSON

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
								0-1m BROWN CLAYS, MINOR SANDS -- REGOLITH	
2								1-2m BROWN-YELLOW SANDSTONE; iron stained	
								2-3m YELLOW SANDSTONE	
4								3-4m YELLOW-GREY SANDSTONE	
								4-5m GREY-YELLOW SANDSTONE	
6								5-10m GREY MEDIUM TO COARSE SANDSTONE	
8									
10									
								10-11m GREY SANDSTONE WITH COAL FLASERS	
12								11-12m GREY SILTSTONE WITH TRACE GREY MUDSTONE.	
								12-13m GREY SILTSTONE WITH COAL FLASER FRAGMENTS.	
14								13-15m GREY MUDSTONE FINE GRAINED	
								TRACES CARBONACEOUS MUDSTONE	
16								15-16m GREY SILTSTONE	
								16-17m MID GREY SILTSTONE WITH 5% COAL	
18								17-18m MID GREY; 80% GREY MUDSTONE; 20% SILTSTONE	
								18-19m MID GREY SANDSTONE	
20								19-20m MID GREY SILTSTONE	
								20-21m MID GREY SILTSTONE WITH 40% CARB MDST	
22								21-22m MID GREY; 70% SILTSTONE; GREY MUDSTONE 20%, CARB MDST 10%	
								22-23m DARK GREY; 60% CARB MDST; 35% GREY MD; 5% COAL (FLASERS?)	
24								23-24m GREY; SILTSTONE 40% GREY MUDSTONE	
								24-25m MID GREY; SILTSTONE	
26								25-26m CARBONACEOUS MDST 40%, SILTSTONE 30%, GREY MDST 30%	
								26-27m CARBONACEOUS MDST 75%, SILTSTONE 25%	
28								27-28m GREY MUDSTONE 50%; CARB MDST 50%	
								28-29m GREY MUDSTONE 70%, CARB MDST 30%	
30								29-30m COAL 50%, CARB MDST 30%, GREY MDST 20%	
32								30-32m COAL 20%; 10% GREY MDST, 70% CARB MDST	
								32-33m Mid grey; Grey mudstone and some carb mdst	
34								33-34m Grey; Siltstone	
								34-35m Grey; SILTSTONE trace coal	
36								35-36m GREY; SILTSTONE Some Carb mdst	
					V?			36-37m CREAM-GREY CLAYS + SILTSTONE - CAVITY/VEIN	
38								37-41m GREY SANDSTONE	
40								"Salt and pepper" grain texture	

REMARKS

Midland Energy

DRILL HOLE No W 81

SHEET 2 OF 2

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	4 JULY 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
42								41.44m MID GREY SANDSTONE	
44								44-45m GREY - SILICIOUS/HORNFELS ~ red ferrous mineral	
46	90	10	↑		α 60° α 86	✓		45.0 - 45.90m MUDSTONE; dark grey; fine; silicious; altered; hard	HQ3 DIAMOND CORE DRILLING
	100	25	Top	MEASURES	α 60° α 50° α b 78°	SERICITE (*)	SERICITE	45.90 - 46.65m MUDSTONE; LIGHT GREY; V. FINE; SERICITE	
48	100	30	↓	Altered	α 60°			46.65 - 46.82m BRECCIA ZONE; FAULT?; UNCONFORMITY? VEINS COMPACT ZONE	
	100	95		sediments	α v 15° closed calcite filled 3mm			46.82 - 47.58m LIGHT GREY MUDSTONE; SERICITE ALTERATION	
50	100	95		(approaching	α 68° α 30°			47.58 - 47.73m MUDSTONE; altered; talc like; iron stained - hard.	
	95	80		dolerite)				47.73 - 51.50m MUDSTONE AND SILTSTONE ~ SERICITE ALTERED SILICIOUS IN PART; RED FERROUS MINERAL	
52	100	100		or possible	α 40°	VEININE EN		51.50 - 51.85m CALCITE INFILLED CAVITY? ABUNDANT VEINLETS - ALTERED.	
	100	100		Lower Triassic	α v 10° closed calcite filled			51.85 - 54.80m GREY SILTSTONE INTERBEDDED WITH RED SILTSTONE BEDS V. FINE ABUNDANT VEINLETS CALCITE SOFT IN PLACES ALTERED	
54	80	40			α 20°				
	80	100			α v 50° α v 30°	abundant veinlets		END OF HOLE 54.8m	

REMARKS (*) As seen in W73 and W74

Midland Energy

DRILL HOLE No W81A

SHEET 1 OF 1

Survey Depth	Azimuth	Dip	Hole Co-ordinates	GPS GDA94
			Easting_	0541 202mE
			Northing_	5328 958m N
			Elevation (m)	256m RL
			Azimuth_ Mag	0
			Dip	-90°

KMR

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	8 JULY 2014
LOGGED BY:	MURCOTT

DRILLER: DARREN RICHARDSON

5½ inch Hammer Percussion COLLAR TO 15m

HQ3 DIAMOND DRILL

HOLE DEPTH	CORE RECOVERY	ROD	SAMPLE NO / PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
								0-1m REGOLITH - brown sandy soil	
2								1-2m YELLOW-BROWN SOIL, SANDS AND CLAYS	
								2-3m YELLOW; SANDSTONE; iron stained	
4								3-4m YELLOW/GREY; SILTSTONE; some iron stained fragments	
								4-6m GREY; SANDSTONE; salt and pepper texture.	
6									
								6-7m GREY; SANDSTONE; trace grey mudstone	
8								7-8m GREY-some dark — 70% Grey mdst; 20% carb mdst; 10% siltstone.	
								8-10m GREY; SANDSTONE; salt & pepper texture	
10									
								10-11m GREY-trace dark: SANDSTONE, trace coal as flasers	
12								11-12m GREY: SANDSTONE, RARE COAL FLASERS.	
								12-13m GREY; 50% SILTSTONE; 50% GREY MUDSTONE	
14								13-14m GREY some dark; Siltstone + grey mdst with trace carb mdst.	
								14-15m GREY AND DARK GREY; CARB MDST 20%, 80% SANDSTONE.	
15.10 16	45 100	40 100						15.10-15.55m CORE LOSS (*) ND	
								~~15.55-26.10m SANDSTONE; LITHIC; GREY~~	
18	100 100	100 100						RARE GREY MUDSTONE FRAGMENTS RARE COAL FLASER BEDS AND FRAGMENTS.	
					∝b 87°				
20	100 100	100 100							
								RARE COAL FLASER BEDS	
22	100 100	100 100							
24	100 100	100 100							
26	100 100	100 100						26.10 — 27.30m SANDSTONE WITH INTERBEDS AT 26.10-26.28m and 26.40-26.56m of grey mdst flags in fine SS matrix — some sericite alt.	
								27.30 - 27.69m Rare coal in CARBONACEOUS MUDSTONE	
28	100 100	100 100						27.69 — 28.60m SILTSTONE / SHALE; GREY TO GREY MDST BEDS.	
								28.60 — 29.91m SILTSTONE - White, silicious, altered? to INTERBEDDED MUDSTONE	
30	100 100	100 80			∝b 86° ∝b 80°			29.91 — 29.96m CARBONACEOUS MDST TO SILTSTONE INTERBEDS 29.96 — 30.40m COAL — LOW GRADE — BROWN — CALCITE VEINLETS (0.44 30.40 — 31.97m CARBONACEOUS MUDSTONE	
32	100 100	90 90			∝J 30° ∝J 45° ∝J 30°			31.97 — 34.00m GREY MUDSTONE	
34	100 100	20 90						34.00 — 37.10m SILTSTONE - grey trace mudstone/shale	
36	100 155	100 100			∝b 85°				
								END OF HOLE 37.10m	

REMARKS N.B (*) 36 - 37.10m Recovered 1.55m core, so all intersections prior are 0.45m out ie ND core loss at 15.10 - 15.55m.

CORRECTED COAL INTERSECTION 29.51 - 29.95m.

Midland Energy

DRILL HOLE No W82

SHEET 1 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates GPS GDA-94	
			Easting_	0538 824 m E
			Northing_	5332085 m N
			Elevation (m)	250m RL
			Azimuth_ Mag	0
			Dip	-90°

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	21 JULY 2014
LOGGED BY:	MURCOTT

KMR TRUCK MOUNTED HYDRAPOWER 500

DRILLER: DARREN RICHARDSON

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
								0-1m RED BROWN CLAYS AND WEATHERED DOLERITE	
2								1-5m YELLOW-GREY WEATHERED DOLERITE CHIPS IN MINOR IRON STAINED CLAYS	
4									
6								5-45m GREY, FRESH OPHITIC DOLERITE CHIPS	
8									
10									
12									
14									
16									
18									
20									
22									
24									
26									
28									
30									
32									
34									
36									
38									
40									

5½" HAMMER PERCUSSION TO 45m.

REMARKS

Midland Energy

DRILL HOLE No W82

SHEET 2 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	21 JULY 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
42									
44									
46	88	100						45·12 – 48·12m DOLERITE; GREY, FRESH OPHITIC; MINOR VEINLETS.	HQ3 DIAMOND DRILLING
	100	100							
48	100	100			αV 10° αV 70°				
	100	0			αJ 25°	SERICITE HORNFELS		48·12 – 50·02m SANDSTONE BRECCIA; SERICITE ALTERED; HORNFELS; NUMEROUS MUDSTONE FRAGMENTS (ROUNDED) IN COARSE ALTERED SANDSTONE MATRIX	
50	78	38						CORE LOSS 22cm —	
	100	0			αF? 55°	CU		50·02 – 50·71m COAL; DULL; 10% BRIGHT BANDS; FRIABLE; (0.69m) COAL CLAYS	
52	92	10						50·71 – 52·37m – GREY MUDSTONE, CARBONACEOUS AT TOP. CORE LOSS 8cm —	
	100	40							
						CL		52·37 – 52·59m CARBONACEOUS MUDSTONE	
54	100	0						52·59 – 52·62m DIRT BAND/GREY MUDSTONE	
	100	0			αJ 45°			52·62 – 52·98m COAL; DULL; 20% bright bands; friable (0.36m) 52·815 – 52·82m DIRT BAND	
56	100	70						52·98 – 59·50m GREY MUDSTONE/CLAYSTONE; friable	
	102	40							
58	100	0			αJ 15°				
	99	35			αb 86°				
60	100	10						59·50 — 59·65m GREY MUDSTONE; Abundant coal flaser beds.	
	100	25			αb 86° αJ 40°			59·65 – 60·63m GREY MUDSTONE; Some coal flaser beds. 60·63 – 60·84m SILTSTONE; GREY; FINE; LITHIC	
62	100	80			αJ 30°			60·84 – 60·95m GREY MUDSTONE	
	100	100			αb 82°			60·95 – 61·40m SANDSTONE; FINE TO MEDIUM; GREY	
								61·40 – 61·70m GREY MUDSTONE INTERBANDED WITH SILTSTONE	
64	100	100						61·70 – 61·84m SANDSTONE; GREY; MEDIUM.	
								61·84 – 61·89m SILTSTONE; VERY FINE; X-BEDDING	
	100	100						61·89 – 64·19m SANDSTONE; LITHIC; MEDIUM	
					αb 86°			64·19 – 64·87m SILTSTONE; COAL FLASER AND MUDSTONE LAMINAE	
66	100	100			αJ 70°			64·87 – 66·72m SANDSTONE; GREY; MEDIUM GRAIN	
	100	100						66·72 – 68·89m Some carbonaceous mudstone and rare coal fragments in a sandstone matrix. 68·72 – 68·89 freq. coal flasers.	
68	100	100							
	100	100						68·89 – 80·67m SANDSTONE; GREY; LITHIC DIRTY MATRIX.	
70	100	100							
	100	100						70·37 – 70·58m Coal and carb mdst flasers and flaser beds in fine SANDSTONE MATRIX.	
72	100	100							
	100	100						70·83 – 70·87m COAL AND CARB MUDSTONE FLASER BEDS IN SANDSTONE MATRIX.	
74	100	100							
	100	100							
76	100	100							
	100	100							
78	100	100							
	100	100							
80	100	100							

REMARKS

Midland Energy

DRILL HOLE No W 82

SHEET 3 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65 / 2007
DATE:	24 JULY 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
	100	65			αj 50° open coal			80.67 – 81.99m SANDSTONE; Abundant coal fraser beds and rounded mudstone flagments in SS matrix	
82	100	30			αj 20° mdst/coal			COAL FRASER BEDS: 80.75 – 80.78m; 81.16 – 81.20m; 81.39 – 81.56m (0.15m)	
	100	100			Xb 80° contact			81.99 – 87.62m SANDSTONE; GREY; MEDIUM TO COARSE GRAINED – "Salt and Pepper" TEXTURE	
84	100	100							
	100	100							
86	100	100							
	100	100						87.62 – 88.42m SILTSTONE; GREY; VERY FINE GRAINED	
88	100	80			αj 20° (a/alod) 3mm			88.42 – 96.55m SANDSTONE; GREY; MEDIUM GRAINED "Salt & Pepper" texture	
	100	55			αb 25° Ca				
90	100	100							
	100	100							
92	100	100							
	102	90							
94	102	100							
	100	100							
96	100	100			αj 15°			WATER RETURN LOST DURING DRILLING	
	100	75						96.55 – 97.13m SANDSTONE – Abundant coal mdst and coal-brown – fraser beds and flags in sandstone matrix.	
98	100	10			αj 10° 96.75 – 98.00m			97.13 – 100.43m SANDSTONE; grey; LITHIC MEDIUM TO COARSE GRAINED	
	100	100			αj 30°				
100	100	100						100.43 – 100.63m GREY MUDSTONE; CARBONACEOUS IN PART	
	100	50			αj 25°			ABRUPT CONTACT	
								100.63 – 100.69m DIRT BAND LIGHT BROWN – GREY CLAYS.	
								100.69 – 100.96m CARBONACEOUS MUDSTONE; TRACE COAL	
102	100	0			αj 15° 1mm Ca mill			100.96 – 100.99m DIRT LAMINAE IN brown coal mdst band	
	100	75						100.99 – 101.22m CARBONACEOUS MUDSTONE; BROWN; 10cm COAL AT TOP OF UNIT	
								101.22 – 102.48m SILTSTONE; TRACES CARBONACEOUS MDST; INCREASING SILTY TO BASE OF UNIT	
104	100	90			αF 40°	BU		102.42 – 103.55m INTERBEDDED SILTSTONE AND MUDSTONE LAMINAE.	
	100	40			αb 88°			103.55 – 104.24 COAL; dull; heavy (0.69m)	
								FAULT COAL – MUDSTONE CONTACT	
								104.24 – 105.06m GREY MUDSTONE, GRADING TO SILTY AT BASE – SHALE – (0.82m)	
106	100	10			αj 12° Ca mill	BM		105.06 – 106.18m COAL; DULL; HEAVY (1.12m)	
	100	65						106.18 – 106.34m GREY MUDSTONE; CARBONACEOUS IN PART	
								106.34 – 107.49m GREY SILTSTONE; SOME SAND STONE	
					αF 45°			107.49 – 107.95m GREY MUDSTONE	
108	100	25			αj 35°	BL		FAULT CONTACT TO COAL AT BASE.	
	100	45						107.95 – 108.25 (0.30m) COAL; dull; friable in coaly CLAY MATRIX WITH TRACES OF DIRT LAMINAE.	
								108.25 – 108.40m GREY MUDSTONE	
110	100	60			αj 47°			108.40 – 108.52m CARBONACEOUS MUDSTONE; COALY IN PART; GREY MUD BANDS	
	100	70			αb 84°			108.52 – 109.09m GREY MUDSTONE; TRACE TO RARE CARB MDST.	
								109.09 – 109.30m CARBONACEOUS MUDSTONE; SOME GREY MDST.	
								109.30 – 110.82m SILTSTONE; GREY;	
112	100	20						110.82 – 110.89m COAL; dull 30% bright (0.07m)	
	100	40						110.89 – 111.57m GREY MUDSTONE grading to CARB MDST AT BASE.	
								111.57 – 111.61m COAL; DULL, 10% bright (0.04m)	
114	100	95						111.61 – 112.52m GREY MUDSTONE CARBONACEOUS AT TOP.	
	100	95			αj 55°			112.52 – 115.15m SILTSTONE; GREY; TRACES SS AND GREY MDST	
								115.15 – 115.26m CARBONACEOUS MUDSTONE; SOME COAL + MS GREY	
116	100	30			X			115.26 – 116.26m GREY MUDSTONE	
	100	70			αb 86°			116.26 – 117.76m SILTSTONE WITH CARB MUDST LAMINAE INTERBEDS WEAK MATRIX	
118	100	25						117.76 – 118.60m SANDSTONE; CREAM; STRONGLY BONDED	
	100	60						118.60 – 119.52m SILTSTONE; GREY; WEAK MATRIX.	
120	100	25			αj 45°			119.52 – 121.17 GREY MUDSTONE – SHALE TRACES CARB MDST LAMINAE	

REMARKS

Midland Energy

DRILL HOLE No W82

SHEET 4 OF 4

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

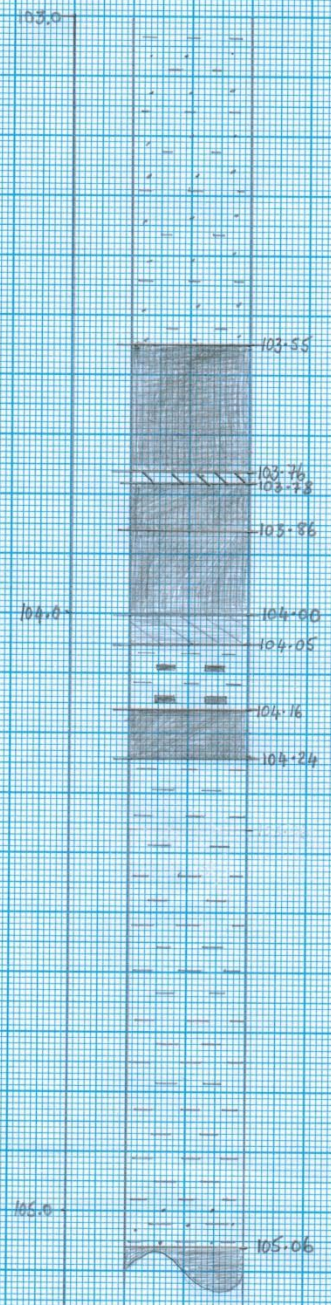
PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65 / 2007
DATE:	1 AUGUST 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
	100	0			αJ30° αJ45°			121.17 – 125.19m SANDSTONE; WEAK MATRIX; MORE COMPACT AT BASE	
122	100	0							
	100	40						SOME CARB' MDST LAMINAE AND COAL FLASER BEDS. CONTACT WITH COAL AT BASE OF UNIT EROSIONAL SURFACE.	
124	100	15							
	100	25				pyrite		125.19 – 127.56m COAL (2.37m) Dull; 20% bright; black/brown in colour	
126	100	57						Clay band with coal fragments 126.55 – 126.60m.	
	100	77				A			
128	100	42			αJ38°			127.56 – 129.09m GREY MUDSTONE; fractured in part	
	100	0			αJ36° αJ40°	slicken side			
130	100	25			αJ45°	slicken side		129.09 – 129.14m (0.05m) COALY CARB MUDSTONE BAND	
	100	0			αJ30°			~~129.14 – 131.63m GREY MUDSTONE~~	
132	100	0			αJ25°			131.63 – 133.70m MUDSTONE; INTERBEDDED GREY MDST AND CARBONACEOUS MUDSTONE – SHALE.	
	100	28						~~133.70 – 133.72m CLAY BAND WITH COAL FRAGMENTS~~.	
								133.72 – 134.08m (0.36m) COAL; dull; cms at base	
134	100	10			αJ45° αJ30°			134.08 – 139.95m SILTSTONE; GREY; MEDIUM TO FINE GRAINED.	
	100	35			αJ60°				
					αJ50° αb84°				
136	100	60			αb75°				
	100	65			αJ25° x-bedding				
138	100	70			αJ30°	SERICITE			
	100	65			αJ35°	slickenside			
140	100	90						139.95 – 140.43m CARBONACEOUS MUDSTONE WITH COAL	
	100	60			αJ55° αJ35°			140.32 – 140.43m COAL (0.11m) 140.43 – 142.70m SILTSTONE WITH GREY MUDSTONE INTERBEDS → SHALE.	
142	100	90			αJ25° αJ50°				
	100	60						142.70 – 143.12m CARBONACEOUS MUDSTONE	
								143.12 – 143.39m COAL; DULL; 30% bright; zeolite veinlets. (0.27m)	
144	100	75			αJ15°				
	100	73			x-bedding αJ30° αb86°			143.39 – 145.15m SILTSTONE WITH CARB' MDST AND GREY MDST. LAMINAE AND INTERBEDS	
146	100	52						145.15 – 146.17m CARBONACEOUS MUDSTONE WITH RARE GREY MUDSTONE LAMINAE.	
	100	90			αb84°			146.17 – 148.80m SILTSTONE; GREY; CARB MDST + GREY MDST FINE INTERBEDS	
148	100	25			αJ32° αJ40°			~~COAL; dull 20% bright 147.53 – 147.62m (0.09m)~~	
	100	100			αJ15° αb87°			148.80 – 148.93m SILTSTONE; HARD; COMPACT; ALTERED.	
150	100	65			αb87° αJ45° αJ15°			148.93 – 149.53m INTERBEDDED SILTSTONE + GREY MUDSTONE	
	100	46			αJ15°	SERICITE		~~149.53 – 150.10m CARBONACEOUS MUDSTONE – WEAK~~. 150.10 – 152.12m SILTSTONE; GREY	
152	100	0			αJ15°			152.12 – 153.48m SILTSTONE; CREAM; ALTERED	
	100	0			αJ20°	SERICITE		153.48 – 153.83m SILTSTONE; HARD; COMPACT; ALTERED. Some fragments of Redbed sediments?	
154	100	100			veinlets	HORNFELS		~~153.83 – 154.07m HORNFELS ALTERED SEDIMENTS~~.	
	100	100			Ca closed 1mm			154.07 – 154.60m DOLERITE – GREY/GREEN SERICITE ALTERED	
156	100	100						154.60 – 156.75m DOLERITE; FRESH; OPHITIC WITH NEAR VERTICAL VEINLETS CLOSED CA INFILLED	
	75	100							
								END OF HOLE 156.75m	

REMARKS

W 82 103 – 107m DETAILED LOG 1/2

1mm Squares

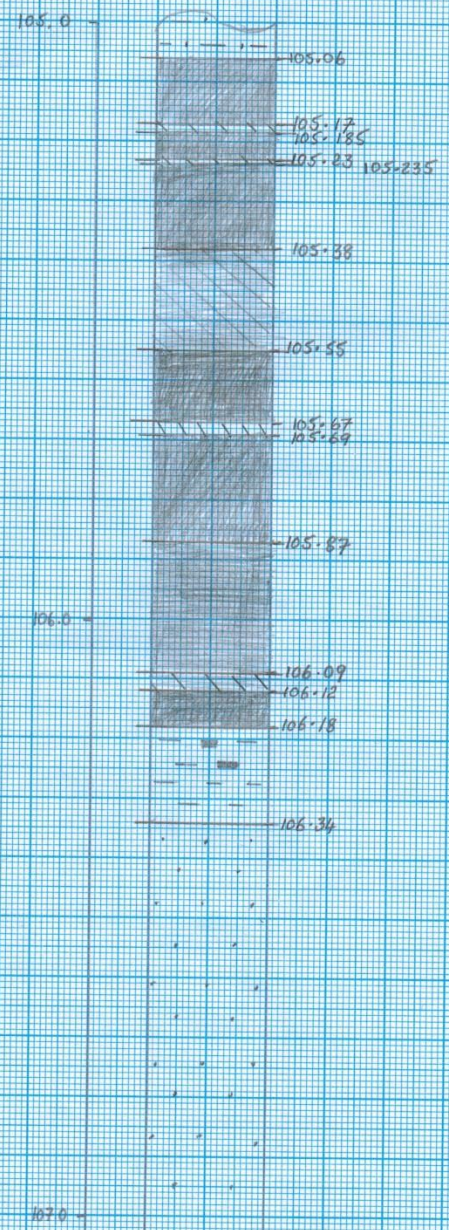


- INTERBEDDED SILTSTONE AND MUDSTONE LAMINAE ~SHALE~

ABRUPT CONTACT

- DULL HEAVY COAL, 5% BRIGHT BANDS; BROWN RARE DIRT LAMINAE
- DIRT/CLAY BAND CREAM-GREY
- DULL HEAVY COAL
- DULL COAL; 30% BRIGHT BANDS; BROWN
- INTERBEDDED COAL AND DIRT LAMINAE BEDS.
- INTERBEDDED GREY MUDSTONE AND CARBONACEOUS MUDSTONE
- DULL COAL; HEAVY; BROWN; FAULTED CONTACT AT BASE WITH MUDSTONE
- GREY MUDSTONE; GRADING TO SILTY AT BASE OF UNIT ~SHALE~

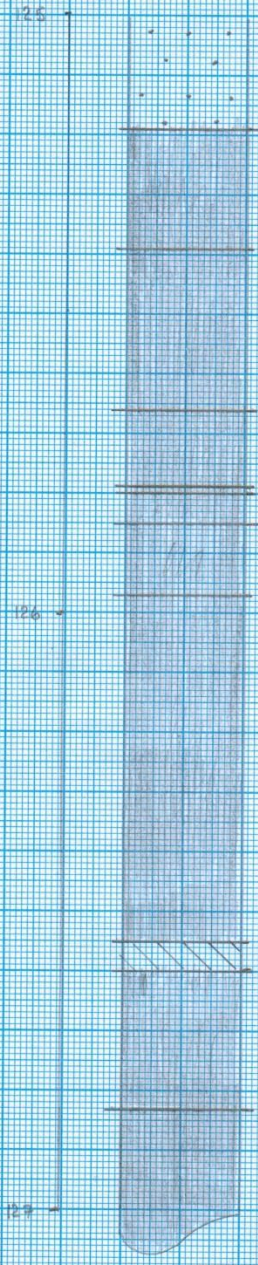
W82 103 - 107m 2/2 1mm Squares



- DULL COAL; 2% BRIGHT BANDS; BROWN
- DIRT/CLAY BAND; CREAM
- DULL COAL; 2% BRIGHT BANDS; BROWN
- DIRT/CLAY BAND; CREAM
- DULL COAL; 15% BRIGHT BANDS; TRACES DIRT
- INTERBEDDED COAL BANDS UP TO 15mm IN THICKNESS WITH DIRT + CLAY
- DULL HEAVY COAL; TRACES OF CARBONACEOUS MUDSTONE
- DIRT BAND/CLAY; CREAM - YELLOW
- DULL COAL; 2% BRIGHT BANDS, SOME ZEOLITE VEINLETS
- DULL COAL; FRIABLE, 10% BRIGHT; BROWN
- DULL COAL FRAGMENTS IN YELLOW-BROWN CLAY MATRIX
- DULL COAL; HEAVY; BROWN
- GREY MUDSTONE; CARBONACEOUS IN PART
- GREY SILTSTONE

W 82 125 – 128m DETAILED LOG 1/2

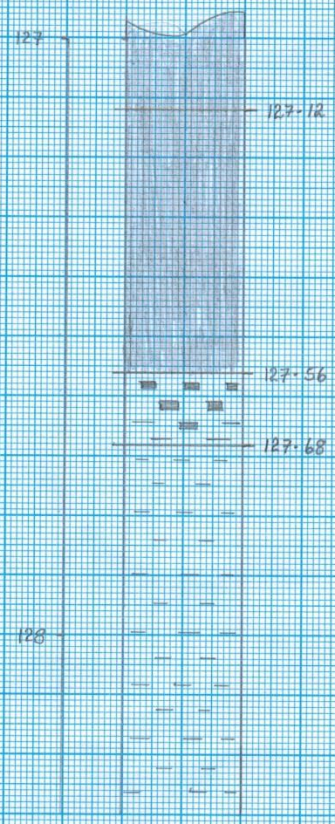
1mm Squares



- SANDSTONE; GREY; MEDIUM GRAINED; RARE COAL FLASERS
- DULL COAL; 5% BRIGHT BANDS; BROWN
- DULL COAL; 40% BRIGHT BANDS; BROWN
- DULL COAL; 2% BRIGHT BANDS; BROWN
- COAL; 100% BRIGHT
- DULL COAL; 5% BRIGHT BANDS; BROWN
- DULL COAL; 2% BRIGHT BANDS; BROWN
- DULL COAL; 20% BRIGHT BANDS
- DIRT/CLAY BAND; COARY; BROWN/BLACK
- DULL COAL; 20% BRIGHT BANDS; BROWN
- DULL COAL; 10% BRIGHT BANDS; BROWN

W 82 125 – 128m DETAILED LOG 2/2

1mm Squares



- DULL COAL, 20% BRIGHT BANDS, BROWN
- CARBONACEOUS MUDSTONE GRADING TO GREY MUDSTONE
- GREY MUDSTONE, FRACTURED IN PART.

Midland Energy

DRILL HOLE No W83

SHEET 1 OF 2

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	0540 637m E
			Northing_	5332 001m N
			Elevation (m)	226m RL
			Azimuth_ Mag	0
			Dip	-90

KMR TRUCK MOUNTED ROVING SCOUT

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	22 JULY 2014
LOGGED BY:	MURCOTT

DRILLER : DALE ROBERTS

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
2								0-2-8m REGOLITH RED-BROWN SANDS AND CLAYS	PRECOLLAR SCREW DRIVEN 5½ INCH
	20	15						2·8 – 3·75m SANDSTONE; YELLOW; MEDIUM-COARSE	HQ3 DIAMOND CORE DRILLING
4	100	45						3·75 – 4·56m CARBONACEOUS + GREY MUDSTONE + COAL FRAGS IN SANDSTONE MATRIX.	
	100	10						4·56 – 7·17m SANDSTONE; IRON STAINED; FINING DOWN SEQUENCE	
6	100	90			∝j 60°				
	100	95						7·17 – 17·86m SILTSTONE; CREAM TO GREY COARSENING THEN FINING	
8	100	90							
	100	100						TRACE OF GREY MUDSTONE FRAGMENTS IN SANDSTONE MATRIX.	
10	100	80							
	100	100							
12	100	95							
	100	90							
14	100	55			∝j 25° 2mm calcite filled			DIRTY SANDY MATRIX	
	100	100							
16	100	80							
	100	50			∝b 82° coal flaser				
18	100	55						17·86 – 18·35m SILTSTONE; GREY	
	100	75			∝j 20°			18·35 – 22·17m SANDSTONE; CREAM-GREY MEDIUM GRAINED	
20	100	95							
	100	90			∝j 25°				
22	100	90						22·17 – 26·03m SILTSTONE; GREY	
	100	60			∝j 45°			Some GREY MUDSTONE BANDS	
24	100	95			∝j 55°			TRACE CARBONACEOUS MUDSTONE LAMINAE BEDDING	
	100	90							
26	100	80						26·03 – 26·13m – CORE LOSS – RECORDED BY DRILLER	
	90	0	CORE LOSS		∝j 30° ∝j 35° F∝60°			26·13 – 26·24m GREY MUDSTONE ~ highly jointed + broken 26·24 – 26·28m MUDSTONE CLAY BAND WITH SMALL MUDSTONE FRAGMENTS	
28	100	60						26·28 – 26·38m GREY MUDSTONE – HIGHLY FRACTURED	
	100	90			∝j 50°			~~26·38 – 26·42m FAULT BRECCIA ∝60° – GREY MUDSTONE BRECCIA~~ 26·42 – 27·40m (0.98m) COAL ~ dull banny to CLAYEY COAL	
30	95	20			∝b 80°			26·42 – 26·50m 50% CARB. MUDSTONE 27·33 – 27·35m GREY MUDSTONE BAND.	
	100	100						27·40 – 27·44m GREY MUDSTONE	
32	100	85			∝j 35° ∝b 84°			27·44 – 29·45m Cream-grey SILTSTONE grading down to a fine mudstone WITH ALTERED APPEARENCE	
	100	90			∝j 30° ∝j 45°			~~29·45 – 29·75m INTERBEDDED CARB COAL / GREY MUDSTONE – altered apparence~~ (sericite/calcite)	
34	100	55			∝j 10° ∝j 65°			29·75 – 30·80m SILTSTONE. grey-white; Some mudstone Sericite altered.	
	100	45			∝j 42° ∝j 45°			30·80 – 47·66m HORNFELS ALTERED COAL MEASURE SEDIMENTS.	
36	100	50			∝j 12°			SILTSTONES, CREAM-GREY MUDSTONES AND SOME SHALE ~ SERICITE ALTERED.	
	100	95			∝j 45°			34·16 – 34·34 Some coal flaser beds in cream-grey mudstone	
38	100	100						34·93 – 35·24m GREEN ALTERATION ASSOCIATED WITH MAJOR JOINT	
	100	95						37·30 – 37·70 COAL FLASER LAMINAE IN SILTSTONE.	
40	100	90							

REMARKS

Midland Energy

DRILL HOLE No W83

SHEET 2 OF 2

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL65/2007
DATE:	28 JULY 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	95							
42	100	90			αb 70°			43·80 – 43·97m CARBONACEOUS MUDSTONE	
	100	85							
44	100	85						44·29 – 44·75m GREY MUDSTONE FRAGMENTS IN DISRUPTED CARBONACEOUS MUDSTONE/COAL MATRIX	
	100	70			αJ 45°				
46	100	90							
	100	95							
48	100	95			αV 65° 8mm infill Ca			47·66 – 50·40m DOLERITE SERICITE/CHLORITE ALTERED.	
	100	20			αJ 30° αV 65° 8mm Ca infill			HIGHLY JOINTED AND FRACTURED DOLERITE. VEINED – VEINLETS SUB-VERTICAL	
50	100	0							
	40	0							
								END OF HOLE 50·40m	

REMARKS

Midland Energy

DRILL HOLE No W 84

SHEET 1 OF 2

Survey Depth	Azimuth	Dip	Hole Co-ordinates	GPS - GDA 94
			Easting_	0539 044m E
			Northing_	5332 414m N
			Elevation (m)	223m RL
			Azimuth_ Mag	0
			Dip	-90°

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	8 AUGUST 2014
LOGGED BY:	MURCOTT

KMR TRUCK MOUNTED HYDRAPOWER EXPLORER 500
SPADE PRECOLLAR ; HQ3 CORE DRILLING

DRILLER : DARREN RICHARDSON

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.55 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
2								0- 5.15m Red-brown REGOLITH AND YELLOW SANDS	SPADE PRE COLLAR
4									
6	100	25			αj45°			5.15 – 6.15m SANDSTONE; YELLOW; frequent carbonaceous ~~MUDSTONE INTERBEDS; WEATHERED~~	HQ3 DIAMOND DRILL
	60	0						6.15–6.55m CORE LOSS	
8	0	0						6.55 – 6.95m MUDSTONE; BROWN; WEATHERED; trace COAL 6.95 – 8.05m CORE LOSS.	
	95	26			αj22°			8.05 – 9.60m SANDSTONE; YELLOW; medium - coarse.	
10	100	100						9.60 – 11.17m SANDSTONE; GREY; medium grained.	
	100	95						11.17 – 11.29m CALCIFIED HEAVY GREY MUDSTONE (possible dolerite) but v. fine grained - ZEOLITE VEIN AT BASE.	HORNFELS -
12	100	90			αj60° αv45°				
	100	90						11.29 – 18.25m SANDSTONE; GREY; WEAK; MEDIUM TO COARSE; UNCONSOLIDATED IN PART.	
14	100	80			αj35°				
	100	60							
16	100	60							
	100	90			αj18°				
18	100	100						18.25 – 18.55m CORE LOSS	
	65	60			αj45°			18.55 – 23.31m SANDSTONE; GREY; LITHIC	
20	100	100						21.80 – 22.60m DISINTEGRATING MATRIX	
	100	100							
22	100	40			αj18°				
	100	30			αb 75-85°				
24	28	10						23.31 - 24.55m (1.24m) core loss.	
	45	45						24.55 – 32.30m SANDSTONE; GREY; LITHIC	
26	100	100			αb 82°				
	100	90							
28	100	100						28.14 – 28.32m Collapsed coaly bed.	
	100	80			αb 80°				
30	100	100						Some coal/lasers and mudstone fragments in sandstone matrix	
	100	100						30.50m Coal/laser laminae	
32	100	85			αj18°			~~32.20 – 32.30m Mudstone fragments~~	
	100	25			αj60° αj36° αj12°			in sandstone matrix. Red-brown and grey mudstone in carbonaceous sandstone matrix,	
34	100	0			αj55-56	'8U'		32.30 – 32.96m ~~GREY MUDSTONE; FRIABLE~~, jointed. disintegrating	
	100	10			αb85° αj45°				
36	100	0			αF18°	2mm 10cm		32.96 – 33.32 m GREY MUDSTONE AND SILTSTONE ~~FINE INTERBEDS - SHALE~~	
	70	25			αF40°	coal.		33.32 – 33.47m COAL, dull, coaly clays	
38	100	15			αj50° αb80°	'8L'		33.47 – 33.49m DIRT/CLAY BAND LIGHT BROWN 33.49 – 33.60m COAL; dull, minor bright.	
	100	15			αj30, αj46 αj18°			33.60 – 34.92m SILTSTONE; brown; some mudstone laminae jointed weak	
40	100	0			αj55, αb80°			34.92 – 35.22m MUDSTONE; grey; fragment?	
								~~35.22 – 35.33m FAULTED CONTACT TOP + BOTTOM OF UNIT~~	
								35.33 – 35.46m COAL; trace SILTSTONE.	
								35.46 – 35.75m FAULT; COAL; poor quality; sandy;	

REMARKS

35.75 – 36.37m MUDSTONE; CREAM - GREY; FRIABLE 36.37 – 36.45m COAL; DULL MINOR BRIGHT 36.45 – 37.26m MUDSTONE; CREAM - GREY

37.26 – 37.34m COAL DULL; 40% BRIGHT; DIRT 37.34 – 37.55 MUDSTONE; CREAM - GREY 37.55 – 37.65m COAL; DULL; 10% bright.

37.65 – 38.87m MUDSTONE; CREAM/GREY GRADING TO SILTSTONE AT BASE 38.87 – 41.08m SILTSTONE + MUDSTONE INTERBEDS UP TO →

Midland Energy

DRILL HOLE No W 84

SHEET 2 OF 2

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	12 AUGUST 2014
LOGGED BY:	MURCOTT

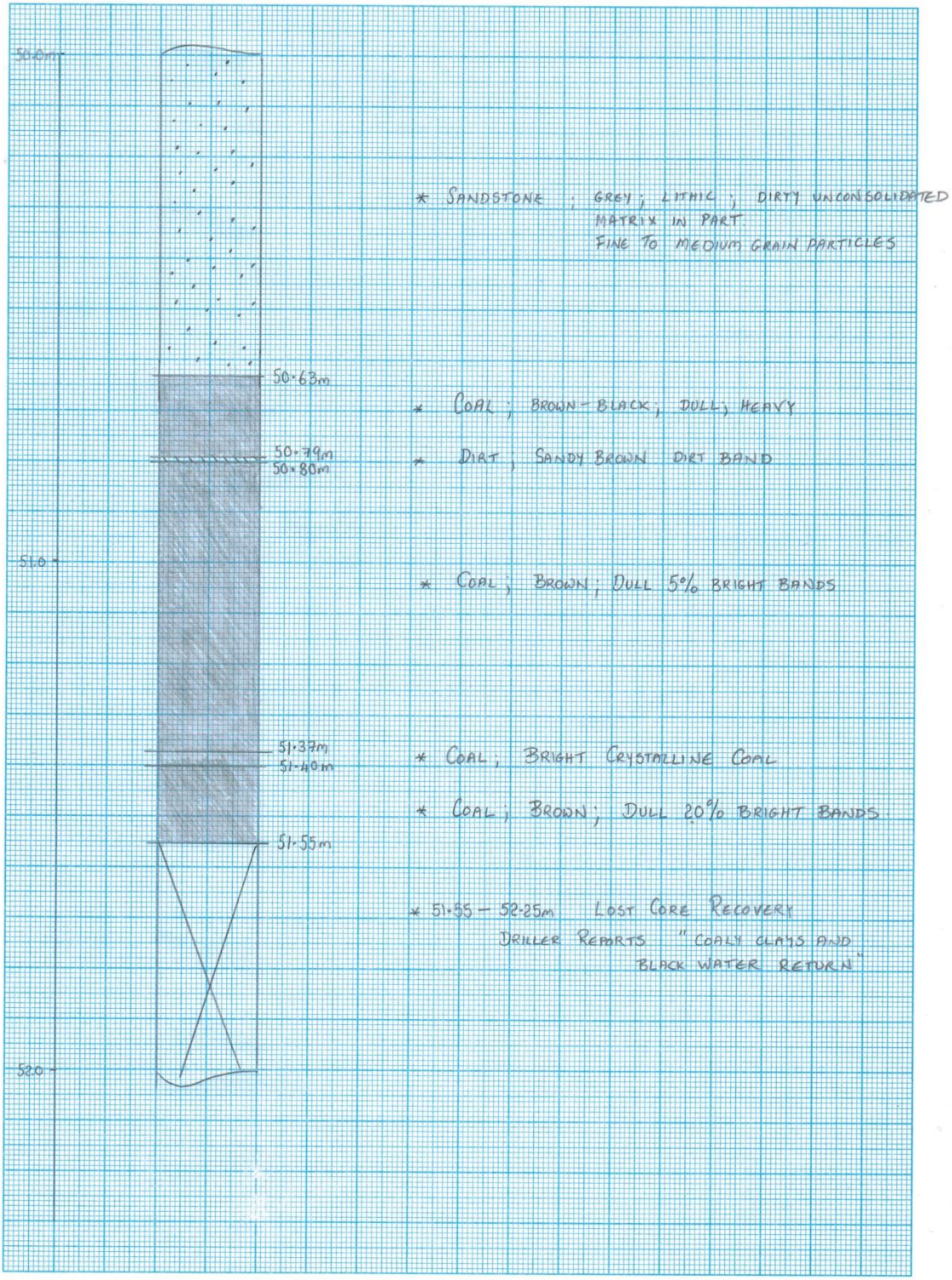
HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	10						25cm in THICKNESS	
42	100	70				Silicified		41·08 – 43·30m SILTSTONE; GREY; FINE	
	100	60			αJ 22°			41·73 – 42·05m SILICIFIED/COMPRESSED	
44	100	30			αJ 30°			43·30 – 45·05m GREY MUDSTONE; disintegrating; weak, friable	
	100	0						45·05 – 47·60m SILTSTONE, GREY, FINE; WEAK	
46	100	15			αJ 2°			45·10 – 45·35m SILICIFIED/COMPACT	
	100	50			αJ 40°			47·60 – 50·63m SANDSTONE; FINE TO MEDIUM	
48	100	60						GRAINED, GREY. WEAK UNBONDED IN PART MATRIX	
	100	50			αb 72° αv 5°			48·09 – 48·42m calcified; strong	
50	100	70						50·63 – 52·66m COAL; dull; BROWN; 5% BRIGHT (2·03m)	
	100	63							
52	55	30			αJ 45°	'A'			
	75	0			αJ 60°			52·66 – 52·78m CARBONACEOUS MUDSTONE CLAYS LIGHT BROWN-GREY	
54	100	0						52·78 – 52·94m COAL and COALY CLAYS; DULL; 5% BRIGHT; FRIABLE	
	75	0						52·94 – 53·68m MUDSTONE; CREAM	
56	100	20			αJ 4°–10°			53·68 – 54·65m COAL; dull; black; MINOR BRIGHT	
	100	0			αJ 60°			54·05 – 54·30m CORE LOSS	
58	100	10			αJ 10°			54·30 – 54·75m GREY MUDSTONE GRADING DOWN INTO CARBONACEOUS MUDSTONE.	
	100	0			αJ 40° αb 60°			54·75 – 55·03m COAL, dull, disintegrated to 3cm bright band at base.	
60	100	0						55·03 – 56·17m CARBONACEOUS MUDSTONE, TRACE COAL TO INTERBEDDED GREY MUDSTONE: SHALE.	
	100	40						56·17 – 56·24 COAL, dull	
62	100	20			αJ 5°			56·24 – 59·91m INTERBEDDED MUDSTONES + SILTSTONES – SHALE	
	100	15			αJ 45°			59·91 – 60·05m CARBONACEOUS MUDSTONE CLAYS + GREY MUDSTONE CLAYS	
64	100	70						60·05 – 60·10m COAL, dull, poor quality.	
	100	20			αJ 10° αb 82°			60·10 – 60·90m CLAYS, SOME DIRT BANDS, SOME BROWN SILTSTONE	
66	100	75			αJ 30° x2			60·90 – 62·90m SILTSTONE; GREY GRADING DOWN INTO GREY MUDSTONE.	
	100	100			αv 30°	Pyrite		62·90 – 64·54m SILTSTONE; INCREASING MUDSTONE TO BASE	
68	100	80			αv 35°			64·54 – 64·94m COAL; dull; heavy; altered in part.	
	100	100						64·94 – 66·20m MUDSTONE; dark grey; altered; HORNFELS	
	80	100						66·20m – 69·80m DOLERITE; CRYSTALLINE; VEINLETS CALCITE; OPHITIC.	
								END OF HOLE 69·8m	

REMARKS

W 84 DETAILED LOG 50 — 53m 1/2

COAL SEAM 'A'

1mm Squares



* SANDSTONE ; GREY ; LITHIC ; DIRTY UNCONSOLIDATED MATRIX IN PART
FINE TO MEDIUM GRAIN PARTICLES

* COAL ; BROWN - BLACK ; DULL ; HEAVY

* DIRT ; SANDY BROWN DIRT BAND

* COAL ; BROWN ; DULL 5% BRIGHT BANDS

* COAL ; BRIGHT CRYSTALLINE COAL

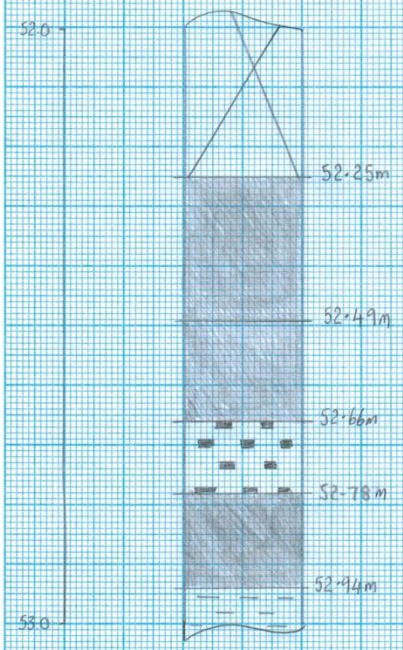
* COAL ; BROWN ; DULL 20% BRIGHT BANDS

* 51.55 — 52.25m LOST CORE RECOVERY
DRILLER REPORTS "COALY CLAYS AND BLACK WATER RETURN"

W 84 50 - 53m

2/2

1mm Squares



* COAL ; BROWN ; DULL 20% BRIGHT BANDS
* COAL; BROWN; DULL, HEAVY; 2% BRIGHT BANDS
* CARBONACEOUS MUDSTONE CLAYS; LIGHT BROWN TO GREY
* COAL AND COALY CLAYS; DULL; FRIABLE 5% BRIGHT BANDS
* CREAM MUDSTONE

Midland Energy

DRILL HOLE No W 85

SHEET 1 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates GPS GDA-94	
			Easting_	0540 009m E
			Northing_	5330 714m N
			Elevation (m)	228m RL
			Azimuth_ Mag	0
			Dip	-90°

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL65/2007
DATE:	7TH AUGUST 2014
LOGGED BY:	MURCOTT

KMR TRUCK MOUNTED ROVING SCOUT

DRILLER: DALE ROBERTS

SPADE PRECOLLAR

HQ3 DIAMOND CORE DRILLING

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GEOLOGY NOTES	SUMMARY LOG
2							0-2m REGOLITH ~ RED/BROWN CLAYS AND SOME SANDS	
4							2-4.5m YELLOW/BROWN CLAYS; TRACE SAND.	
	50	15					4.5-5.0m CLAYSTONE/MUDSTONE - YELLOW	
6	100	40					5.0-5.52m COAL - BROWN; WEATHERED, CARBONACEOUS MUDSTONE INTERBEDS; TRACE BRIGHT BANDS COAL.	
	100	65					5.52-7.30m MUDSTONE - YELLOW; CARBONACEOUS AT TOP 5cm AND BOTTOM 10cm OF UNIT.	
8	95	25			αF60°		7.30-7.40m BRECCIA CONGLOMERATE, MUDSTONE	
	98	80					7.40-7.80m COAL; brown; MINOR BRIGHT; SOME BRECCIATION	
10	100	100					7.80-7.86m CARBONACEOUS MUDSTONE	
	100	100					7.86-9.40m GREY MUDSTONE	
12	100	85			αb72° x-beds αj15°		9.40-10.69m SILTSTONE; GREY; x-bedding; fine grained. 10.69-11.00m SANDSTONE; GREY; MEDIUM-COARSE; SALT+PEPPER. 11.00-12.33m MUDSTONE; GREY; SOME SILTY BANDS.	
	100	30					12.33-21.17m SANDSTONE; GREY; MEDIUM GRAINED RARE COAL FLASER BEDS. ~~RARE GREY MUDSTONE FRAGMENTS~~	
14	100	80			αj35°			
	100	95						
16	100	100						
	100	100						
18	100	100						
	100	100						
20	100	100						
	100	100					21.17-21.70m SANDSTONE WITH FREQUENT COAL FLASERS. 21.30-21.37m GREY MUDSTONE 21.37m (FAULT) - 21.42m COAL; DULL; ZEOLITE VNS.	
22	100	60			αF60° αV10°		~~21.70-24.33m SANDSTONE; GREY; COARSE GRADING FINER DOWN TO BASE OF UNIT~~	
	100	100						
24	100	100						
	100	60					24.33-24.73m GREY MUDSTONE AND GREY SILTSTONE INTERBEDS; 6cm THICK UNITS. 24.73-24.83m GREY MUDSTONE FRAGMENTS IN SANDSTONE MATRIX	
26	100	100					~~24.83-28.12m SANDSTONE; GREY; MEDIUM TO COARSE~~; SOME DIRTY MATRIX APPEARENCE.	
	100	100					28.12-28.28m Abundant COAL FLASERS IN COARSE SANDSTONE	
28	100	100					~~28.28-28.49m SANDSTONE; rare coal flasers and grey mudstone fragments~~	
	100	85					28.49-28.58m SANDSTONE; disrupted; collapsed sediments.	
30	100	15			αj20° αj12°		~~28.58-29.00m SANDSTONE; GREY; MEDIUM TO COARSE~~. 29.00-29.32m SANDSTONE; abundant coal flasers.	
	100	10					29.32-29.62m MUDSTONE; Grey	
32	100	35			αj25°		29.62-30.52 SANDSTONE; MEDIUM GREY; near VERTICAL JOINTING	
	100	100					30.52-31.67m GREY MUDSTONE WITH SOME GREY MUDST FLAGS IN SANDSTONE MATRIX AT BASE.	
34	100	75					31.67-38.90m SANDSTONE; medium grained, Some Coal flasers and mudstone fragments.	
	100	95						
36	100	100						
	100	70						
38	100	50						
	110	90					38.90-39.32m SILTSTONE; dark grey, lithic	
40	100	30					39.32-39.50m (0.18m) COAL; dull; heavy 39.50-40.02m GREY MUDSTONE; trace siltstone	

REMARKS

Midland Energy

DRILL HOLE No W85

SHEET 2 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL.65 / 2007
DATE:	12TH AUGUST 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	0			αF 75° αJ 40°			40.02 – 40.73m (0.71m) COAL; dull; heavy; poor quality	
42	100	35						40.73 – 41.09m GREY MUDSTONE - Carbonaceous and friable at top ~ Shear Zone ~ Frequent zeolite veinlets	
	90	35			αJ 45° αJ 10°			41.09 – 41.29m CARBONACEOUS MUDSTONE GRADING TO SILTSTONE + dull coal; friable.	
44	100	25			αF 45° αJ 10°	fault		41.29 – 42.15m GREY MUDSTONE GRADING TO SILTSTONE 42.15 – 42.72m SANDSTONE 42.70 – 42.82m Core loss 42.82 – 51.20m BRECCIA Fabric	
	100	0				SHEARED BRECCIA		42.82 – 43.76m Shear zone Brecciated grey mudstone with calcite veins, jointed, disrupted, sheared	
46	100	0			αJ 10° wavy			43.76 – 46.06m CARBONACEOUS MUDSTONE – disrupted, brecciated – rebonded	
	100	0				DISRUPTED BRECCIATED		46.06 – 46.15m COAL; dull; poor quality; abundant zeolite veinlets	
48	100	15						46.15 – 46.50m GREY MUDSTONE grading into SILTSTONE - disrupted 46.50 – 47.80m CARBONACEOUS MUDSTONE; traces of coal; friable disrupted; brecciated	
	90	0			αJ 30° αF 50°			47.80 – 48.75m GREY MUDSTONE; jointed; disrupted 48.75 – 48.85m CORE LOSS	
50	100	0						48.85 – 49.70m Faulted Contact CARBONACEOUS MUDSTONE AND SOME COAL; disrupted; friable; brecciated	
	100	0				FRIABLE		49.70 – 51.20m GREY MUDSTONE; silty at base; jointed; friable	
52	100	40			αJ 50° αJ 10°			51.20 – 52.60m SILTSTONE GREY; competent; face friable 52.60 – 53.00m 40cm CORE LOSS	
	60	0						53.00 – 54.50m GREY SILTSTONE; friable in part; jointed. 53.00 – 54.40m αJ 15°	
54	100	20			αJ 15°				
	100	45			DISRUPTED αJ 12 ~ 45° stepped joints			54.50 – 56.36m SANDSTONE; GREY, LITHIC; salt & pepper fabric; stepped joints.	
56	100	65						56.36 – 57.05m SANDSTONE; Calcite veining and some green sericite alteration.	
	100	25						57.05 – 59.24m SANDSTONE; grey; some coal flaser beds and coal flaser beds; MATRIX dirty in part	
58	100	100							
	100	100						59.24 – 61.74m SANDSTONE; LITHIC; COARSE TO MEDIUM GRAINS; GREY	
60	100	100							
	100	100						61.74 – 61.93m SANDSTONE – RESILICIFIED – WHITE; FINE GRAINS.	
62	100	95			αJ 12°				
	100	65			αF 60° coal 4cm			61.93 – 68.26m SANDSTONE: GREY; LITHIC; MEDIUM – COARSE GRAINED; RARE COAL FLASER BEDS	
64	100	100							
	100	100							
66	100	100							
	100	100							
68	100	100							
	100	75			αb 82° αJ 30°			68.26 – 68.68m SANDSTONE; GREY; Abundant coal flaser beds	
70	100	100						68.68 – 78.50m SANDSTONE; LIGHT GREY; MEDIUM TO COARSE	
	100	100							
72	100	100							
	100	100							
74	100	100							
	100	92							
76	100	100							
	100	100							
78	100	100							
	100	100						78.50 – 79.26m SANDSTONE; MUDSTONE FRAGMENTS IN A SANDSTONE MATRIX.	
80	100	100						79.26 – 80.85m SANDSTONE; LITHIC; COARSE	

REMARKS

Midland Energy

DRILL HOLE No W85

SHEET 3 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL65/2007
DATE:	12TH AUGUST 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	100						TO MEDIUM GRAINED IN DIRTY MATRIX.	
82	100	100				SERICITE		80.55 – 81.03m SANDSTONE - WHITE - CALCIFIED ZONE - SOME SERICITE	
	100	100						81.03 – 86.10m SANDSTONE; LITHIC; GREY SALT + PEPPER TEXTURE; RARE COAL FLASERS; ~~MEDIUM TO COARSE GRAINED~~.	
84	100	80			αJ30°				
	100	100							
86	100	100							
	100	90			αJ65°			86.10 – 90.00m SILTSTONE; GREY Some sericite alteration Some fine carbonaceous mudstone and coal flaser beds in siltstone. Some grey mudstone at top of unit.	
88	100	100			αb85°	SERICITE			
	100	100			αb86°				
90	100	85			αJ20°				
	100	20						90.00 – 90.70m MUDSTONE; INTERBEDDED SILTSTONE, GREY MUDSTONE AND COAL FRIABLE	
92	100	80							
	100	25			αJ10° αJ30°			90.70 – 92.26m SILTSTONE – VERY FINE – BRITTLE – ALTERED – HORNFELS –	
94	100	25						92.26 – 92.39m GREY MUDSTONE; COALY IN PART	
	100	10			αV70°	BRITTLE		92.39 – 93.50m SILTSTONE; GREY, flaked coal/laser laminae	
96	100	20			αJ15°			93.50 – 97.30m SILTSTONE; GREY; brittle; No COAL; ~~Some sericite alteration~~	
	100	0				ORTHOCLASE		Orthoclase veining (orange mineral)	
97.3	30	0							
								END OF HOLE 97.3m.	
								GEOLOGIST INTERPRETATION : hole would intersect dolerite before 105m.	

REMARKS

Midland Energy

DRILL HOLE No W86

SHEET 1 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates GPS – GDA 94	
			Easting_	0538 999m E
			Northing_	5331 300m N
			Elevation (m)	218m
			Azimuth_ Mag	0
			Dip	-90°

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	15 AUGUST 2014
LOGGED BY:	MURCOTT

KMR TRUCK MOUNTED HYDRAPOWER EXPLORER 500
SPADE PRECOLLAR; HQ3 CORE DRILLING

DRILLER: DARREN RICHARDSON

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.06 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
2								0-5.05m; RED/BROWN CLAYS AND YELLOW/GREY SANDS – REGOLITH	SPADE DRILL COLLAR
4									5.05 DIAMOND DRILL
6	95	65			αj 35° αb 75°			5.05 – 33.32m SANDSTONE - LITHIC GREY; MEDIUM GRAINED	
	100	55							
8	100	45			αj 15° x2			5.05-8.70m YELLOW; SOME JOINTING	
	100	100							
10	100	100						9.85-11.50m YELLOW STAINING	
	100	75			αj 15°				
12	100	100							
	100	80			αb 78°				
14	100	100							
	100	100						15.53-15.95m COAL FLASERS	
16	100	70			αb 82°			15.55m 3cm coal/laser bed	
	100	65						16.14-16.59m SOME GREY MUDSTONE FRAGMENTS IN	
18	100	90						~~YELLOW STAINED SANDSTONE~~	
	100	70			αb 78° X-bedding αb 70°			16.59-17.50m RARE COAL FLASERS SOME GREY MUDSTONE FRAGMENTS	
20	100	95							
	100	100						17.94-18.40m X-bedding features in grey siltstone.	
22	100	95							
	100	95						22.97-23.60m Some coal flasers	
24	100	75							
	100	100						25.92-26.20m Some COAL FLASERS.	
26	100	100							
	100	100							
28	100	100							
	100	100							
30	100	100							
	100	100						31.75-31.95m BROWN ROUNDED MUDSTONE FRAGMENTS IN SERICITE ALTERED SANDSTONE.	
32	100	73				SERICITE			
	100	80			αj 15°	SERICITE		32.40-32.55m BROWN MDST FRAGS IN SERICITE ALT. SS.	
34	100	50				"CU"		33.32m – 34.67m COAL, DULL; 5% BRIGHT (1.35m) BANDS; TRACE DIRT BANDS	
	100	30			x V 30°	zeolite		34.67 – 34.83m GREY MUDSTONE; laminae of coal and carbonaceous mudstone	
36	100	35			αj 25° αj 35° x3			34.83 – 35.63m GREY MUDSTONE, CARBONACEOUS AT BASE.	
	100	15			X-bedding			35.63 – 38.35m SILTSTONE, GREY, SOME INTERBEDS MUDSTONE, SOME FLASER BEDS.	
38	100	70							
	100	20			αj 45° αb 82°	"CM"		38.35-38.72m COAL; BROWN; DULL (0.37m)	
40	100	70						38.72 – 42.60m GREY MUDSTONE; SOME COAL FLASER BEDS AND LAMINAE: NUMEROUS SLICKENSIDES.	

REMARKS

Midland Energy

DRILL HOLE No W 86

SHEET 2 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	15 AUGUST 2014
LOGGED BY:	MURCOTT

HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % (.1 .3 1 3 5)	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm (0.08 0.5 2 8 32 64)	GEOLOGY NOTES	SUMMARY LOG
	100	35			∝j 45°	"CL"		40·57 – 40·65m (0·08m); BROWN COAL; 10% BRIGHT	
					slk			41·11 – 41·14m (0·03m); COAL	
42	100	15			∝j 55°			41·27 – 41·30m (0·03m); COAL	
	100	20			slk			41·63 – 41·65m (0·02m); COAL	
					∝j 25°			41·74 – 41·78m (0·04m); COAL	
44	100	100						41·80 – 41·81 (0·01m) COAL	
								41·95 – 41·97 (0·02m) COAL	
	100	100						42·60 – 46·95m SILTSTONE; GREY; FINE GRAINED	
46	100	85			∝b 75°			SOME GREY MUDSTONE 45·08 – 45·41m	
								46·15 – 46·80m	
	100	100						46·95 – 58·32m SANDSTONE; LITHIC; GREY	
48	100	95						MEDIUM TO COARSE GRAINED.	
	100	100							
50	100	100							
	100	100							
52	100	70			∝j 7°			52·61 – 52·80m COAL FLASERS	
	100	55			∝b 82°				
54	100	0			∝j 10°				
	100	35			∝j 10 ~ 20°				
56	100	80			∝j 25°				
	100	100							
58	100	100						58·15 – 58·32m COAL FLASERS	
						"BU"		58·32 – 58·57m (0·25m) COAL; DULL; BROWN; 2% BRIGHT	
	100	48				"B"		58·57 – 58·92m SANDSTONE; DIRTY MATRIX	
								58·92 – 58·95m (0·03m) COAL ~ flaser bed ∝b 70°	
								58·95 – 59·43m SANDSTONE. GREY-CREAM	
60	100	60				"BL"		59·43 – 59·49m (0·06m) COAL; dull	
	100	100						59·49 – 59·53m SANDSTONE, CREAM-GREY.	
								59·53 – 59·70m (0·17m) COAL + COALY CLAYS, DULL	
62	100	100						59·70 – 59·85m (0·15m) COAL; BROWN; DULL; >2% bright	
	100	100			∝b 70° flaser			59·85 – 59·92m; BANDS COAL, SANDSTONE, MUDSTONE	
64	100	100						x10mm THICKNESS	
								59·92 – 65·68m SANDSTONE; GREY; LITHIC	
	100	100						MEDIUM GRAINED; TRACE MUDSTONE AT TOP	
								RARE COAL FLASERS	
66	100	100				se		65·68 – 66·01m LENTICULAR MUDSTONE, CARBONACEOUS	
	100	92						MUDSTONE AND COAL FRAGMENTS IN SERICITE	
								ALTERED SANDSTONE MATRIX.	
68	100	100						66·01 – 77·51m SANDSTONE; GREY; LITHIC;	
	100	100						MEDIUM TO COARSE GRAINED. RARE	
								LENTICULAR MUDSTONE FRAGS IN SERICITE	
70	100	100						ALTERED SANDSTONE	
	100	100						RARE COAL FLASERS	
								FINING UP SEQUENCES/PULSES.	
72	100	100							
	100	100							
74	100	100				∝b 75°			
	100	80				∝142° ∝j 27°		77·51 – 78·00m GREY MUDSTONE (DEPOSITIONAL SLUMP?)	
76	100	100						RARE COAL FLASERS; TRACE SANDSTONE MATRIX.	
	100	95				∝b 72		78·00 – 79·21m SANDSTONE; GREY; LITHIC	
78	100	95						MEDIUM GRAINED.	
	100	100				∝j 50°		79·21 – 81·15m GREY MUDSTONE	
80	100	80						SILTY AT BASE OF UNIT	

REMARKS

slk = slickensides

se = sericite

Midland Energy

DRILL HOLE No W 86

SHEET 3 OF 3

Survey Depth	Azimuth	Dip	Hole Co-ordinates	
			Easting_	
			Northing_	
			Elevation (m)	
			Azimuth_ Mag	
			Dip	

PROJECT:	WOODBURY COAL EXPLORATION
PROSPECT:	EL 65/2007
DATE:	15 AUGUST 2014
LOGGED BY:	MURCOTT

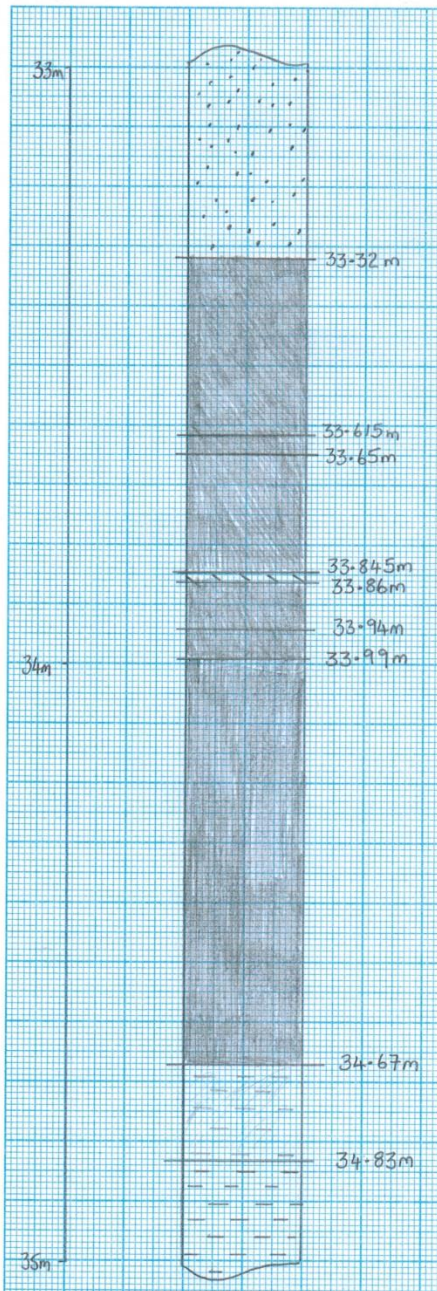
HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO PREFIX	SULPHIDES % .1 .3 1 3 5	PICTORIAL LOG STRUCT	PICTORIAL LOG ALT	GRAPHIC LOG mm 0.06 0.5 2 8 32 64	GEOLOGY NOTES	SUMMARY LOG
	100	95						81·15 – 82·28m GREY SILTSTONE; SOME FINE CARBONACEOUS MUDSTONE BEDDING	
82	100	70			α b 85° α J 45° x3			82·28 – 83·63m CARBONACEOUS MUDSTONE FAULTED AT BASE	
	100	90			α J 45°				
84	100	50			α F 35°			83·63 – 85·47m; COAL; DULL; BROWN – BLACK; UP TO 20% BRIGHT BANDS. (1·84m)	
	100	45			coal/mdst contact	"A"			
86	96	80						85·47 – 85·56m; CARBONACEOUS MUDSTONE	
	100	70						85·56 – 86·37m; SILTSTONE; DARK GREY	
						"AL"		86·37 – 86·83m GREY MUDSTONE	
88	100	65			α b 80°			86·83 – 86·98m (0.15m) COAL and COALY CLAYS; DULL	
	100	80			fault α J 50°			86·98 – 87·02m CARBONACEOUS MUDSTONE	
								87·02 – 90·58m SILTSTONE; GREY; VERY FINE; BLEACHED	
90	100	75			α J 30°			90·58 – 90·62m CLAY BAND	
	100	10			α J 5°			90·62 – 94·73 SILTSTONE; GREY; JOINTED Some carbonaceous beds	
92	100	10			α J 5° α J 45°				
	100	0			α J 5°			94·73 – 94·86m MUDSTONE; DARK; MOSTLY CARBONACEOUS	
94	100	0			α J 5° α J 40°				
	100	45			α J 5° α J 50°			94·86 – 96·09m SILTSTONE; GREY; FINE 95·50m X-bedding	
96	100	95			α J 30°				
	100	20			α v 30°	CALCITE		96·09 – 96·90m CARBONACEOUS MUDSTONE; dark, fine, massive; Ca vein at base	
98	100	35			α J 50°			96·90 – 97·04m SANDSTONE – CALCITED	
	100	40			α J 20° x3 α v 20°	CALCITE		97·04 – 97·40m CARBONACEOUS MUDSTONE, trace COAL	
100	100	10			α J 15° α J 45°			97·40 – 98·07m GREY MUDSTONE	
	100	60			α J 5° Stepped			98·07 – 103·30m SILTSTONE; GREY; trace calb mdst. 98·72 – 98·79, 99·09 – 99·17, 99·72 – 99·86 100·15 – 100·33m Ca vein; porous, yellow	
102	100	100			α b 75° α b 20°	CALCITE			
	100	100						103·30 – 103·81m (*)	
104	100	30			α b 80°		BRECCIA?		
	95	85			α J 5° x 2 α J 30°	SIDERITE		103·81 – 105·40m MUDSTONE; GREY-GREEN ORTHOCLASE ALONG SLK.	
	40	10			α J 5° α b 30°	SLK			
								END OF HOLE 105·40m	

GEOLOGY: Sandstone fine grained near EOH
→ less prospective
Sediments bleached and numerous calcite veining and veinlets suggesting dolerite placement near EOH.

(*) 103·30 – 103·45m ELONGATED FRAGMENTS, TALCIFIED; COMPRESSED ZONE. NO CALCITE. ASH CLAYS?
103·45 – 103·63m CARBONACEOUS MUDSTONE
103·63 – 103·78m ELONGATED FRAGMENTS, TALCIFIED; VOLCANIC ASH CLAYS? COMPRESSED
103·78 – 103·81m CARBONACEOUS MUDSTONE

REMARKS slk = slickenside

W 06



* SANDSTONE ; GREY, LITHIC ; MEDIUM GRAIN
  ABRUPT CONTACT WITH COAL

* COAL ; DULL ; BROWN ; 10% BRIGHT BANDS
  Some FRAGMENTS/LENSES OF DIRT WITHIN COAL

* COAL AND CLAYEY COAL BAND ; FRIABLE

* COAL ; DULL ; BROWN ; 10% BRIGHT BANDS

* DIRT ; BROWN SILTY MUD

* COAL ; DULL ; BROWN ; 5% BRIGHT BANDS

* COAL ; DULL ; 40% BRIGHT COAL BANDS

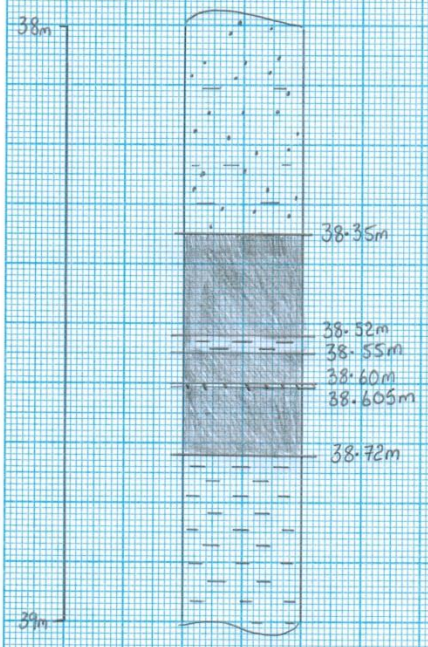
* COAL ; BROWN ; DULL ; 20% BRIGHT BANDS
  Some DIRT LENSES IN COAL
  Some ZEOLITE VEINLETS

* Some COAL FINE BEDDING - FLASERS - IN GREY MUDSTONE

* GREY MUDSTONE

W 86 38-39m DETAILED LOG
"CM"

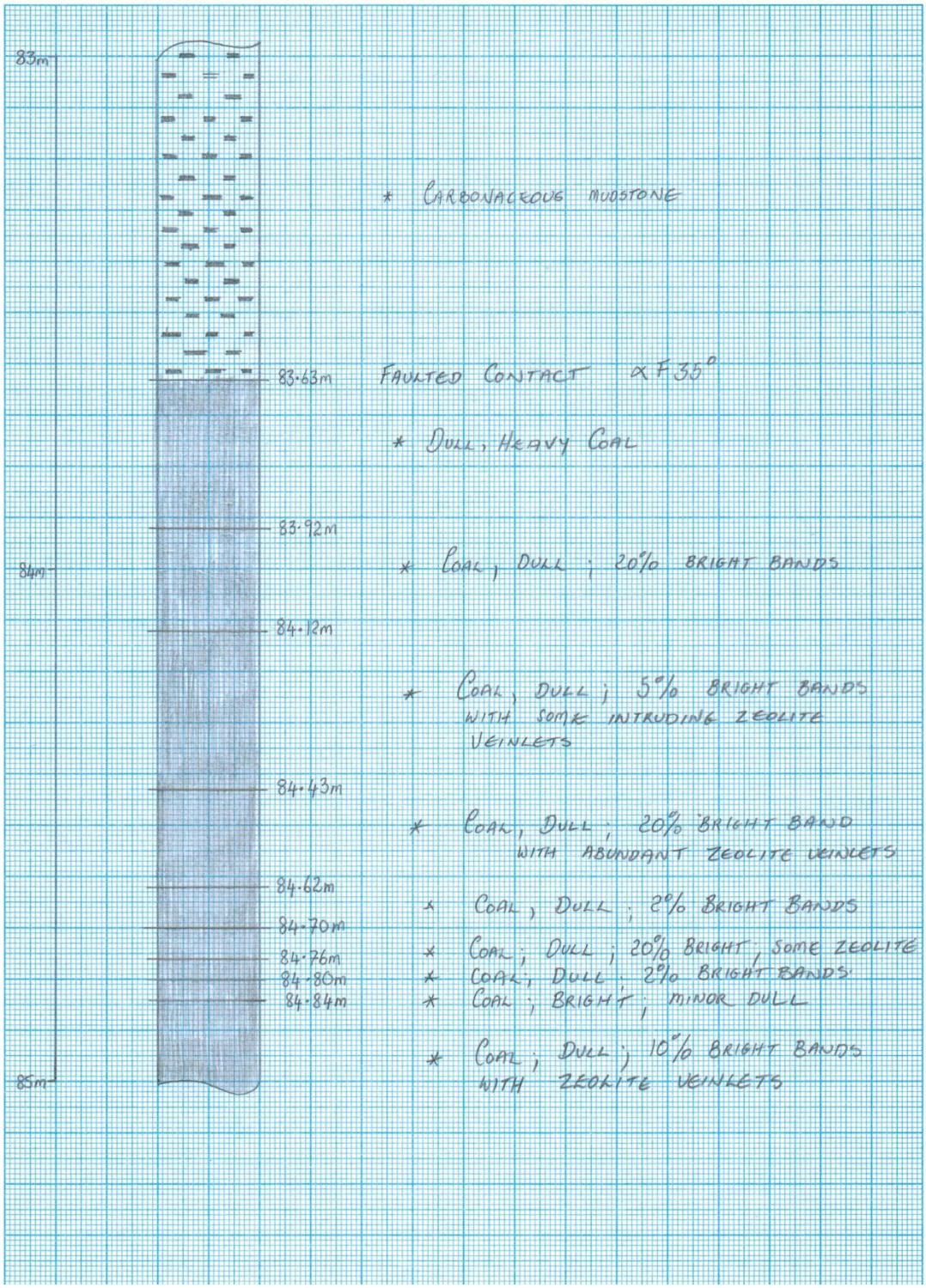
1mm Squares



* SILTSTONE, GREY, FINE WITH SOME MUDSTONE INTERBEDS
* COAL, BROWN; DULL; 2% BRIGHT BANDS
* COAL AND CLAY MUD BAND
* COAL; DULL; BROWN 10% BRIGHT BANDS
* DIRT BAND WITH CALCITE VEIN
* COAL; DULL; BROWN; 20% BRIGHT BANDS; UP TO 10% ZEOLITE VEINLETS
* GREY MUDSTONE

W 86 83 – 86m DETAILED LOG 1mm Squares

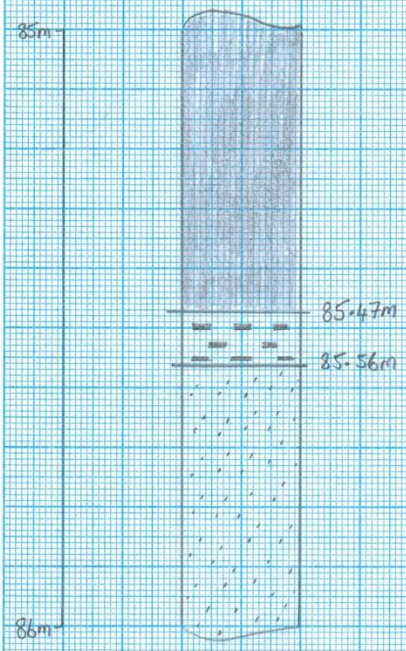
'A' SEAM 1/2



W 86 "A" Seam

2/2

1mm Squares



* CARBONACEOUS MUDSTONE GRADING TO GREY MUDSTONE AT BASE

* SILTSTONE, GREY, DARK, FINE.

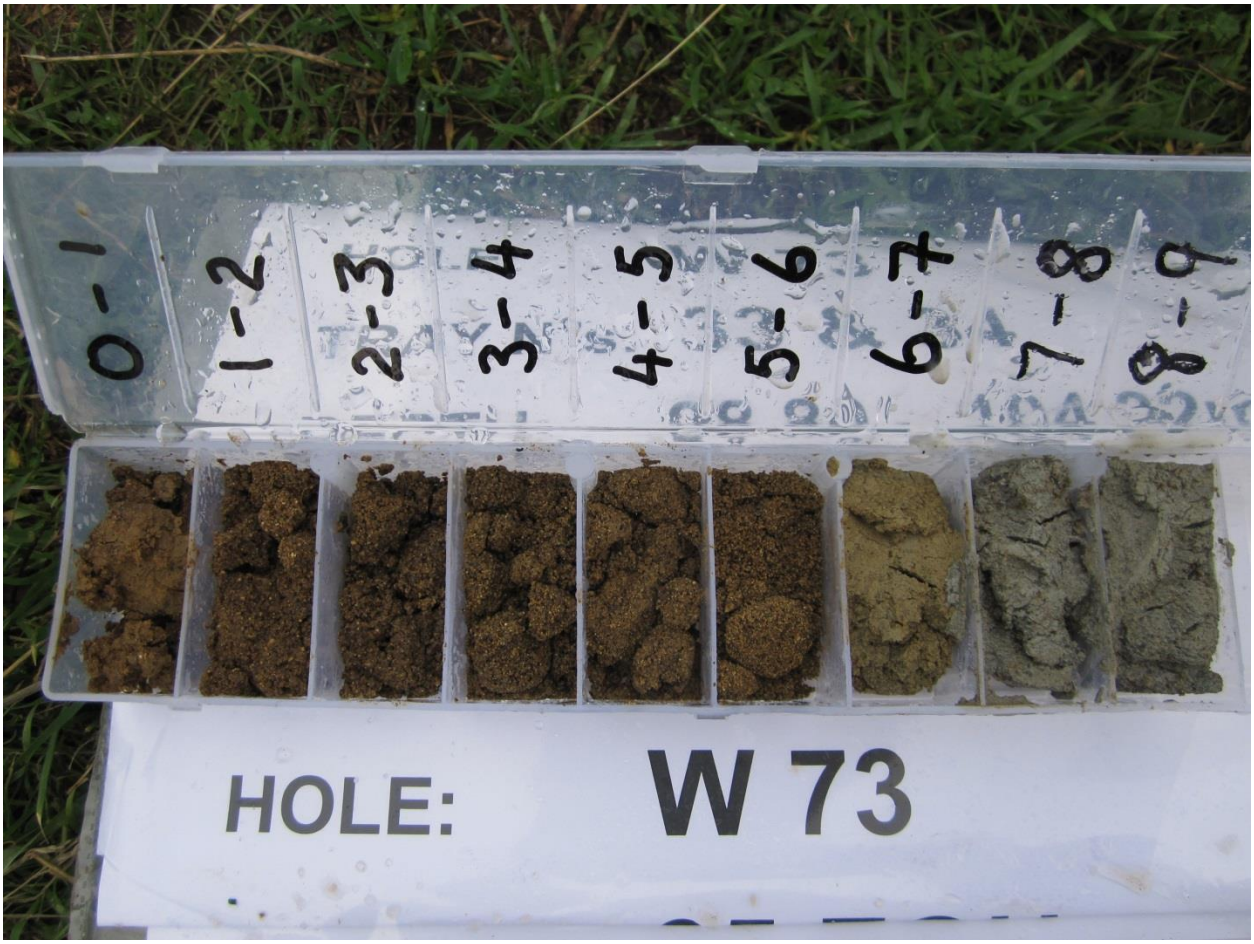
Annual Report 2013 – 2014 for EL65/2007

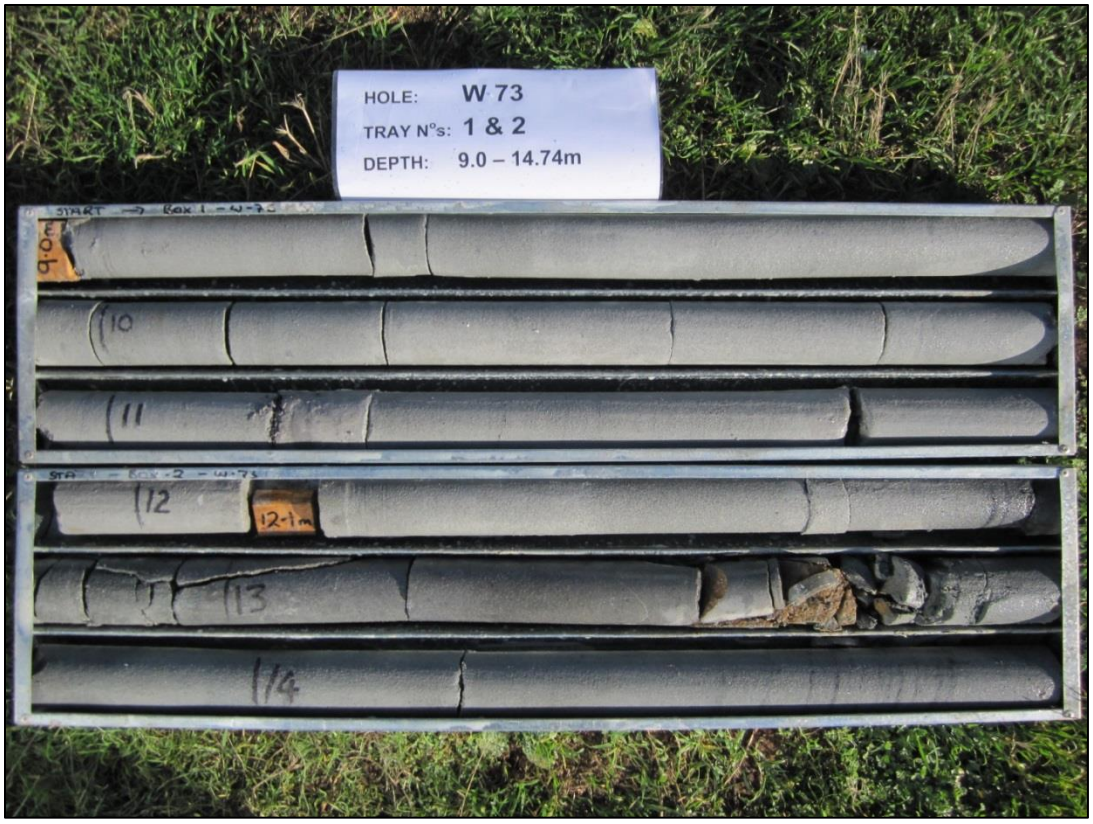
APPENDIX 5.

Woodbury Drilling Photos W73 – W86 - 2014

Midland Energy

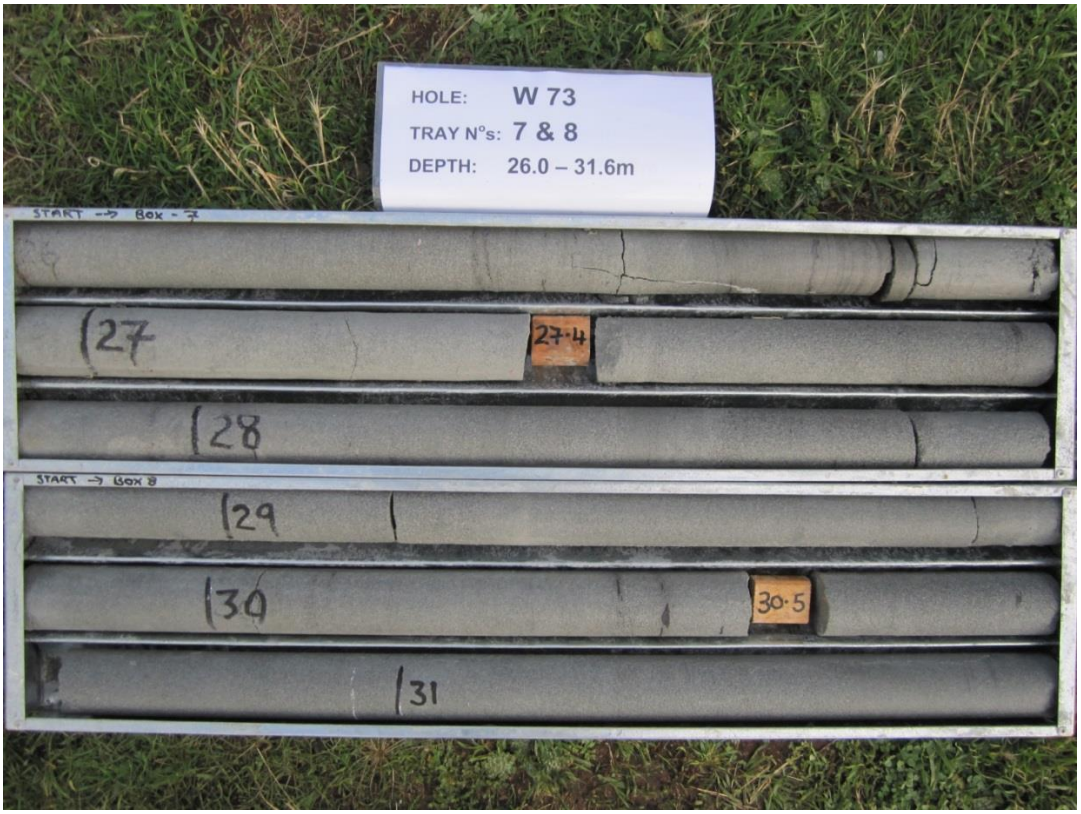
Woodbury Exploration

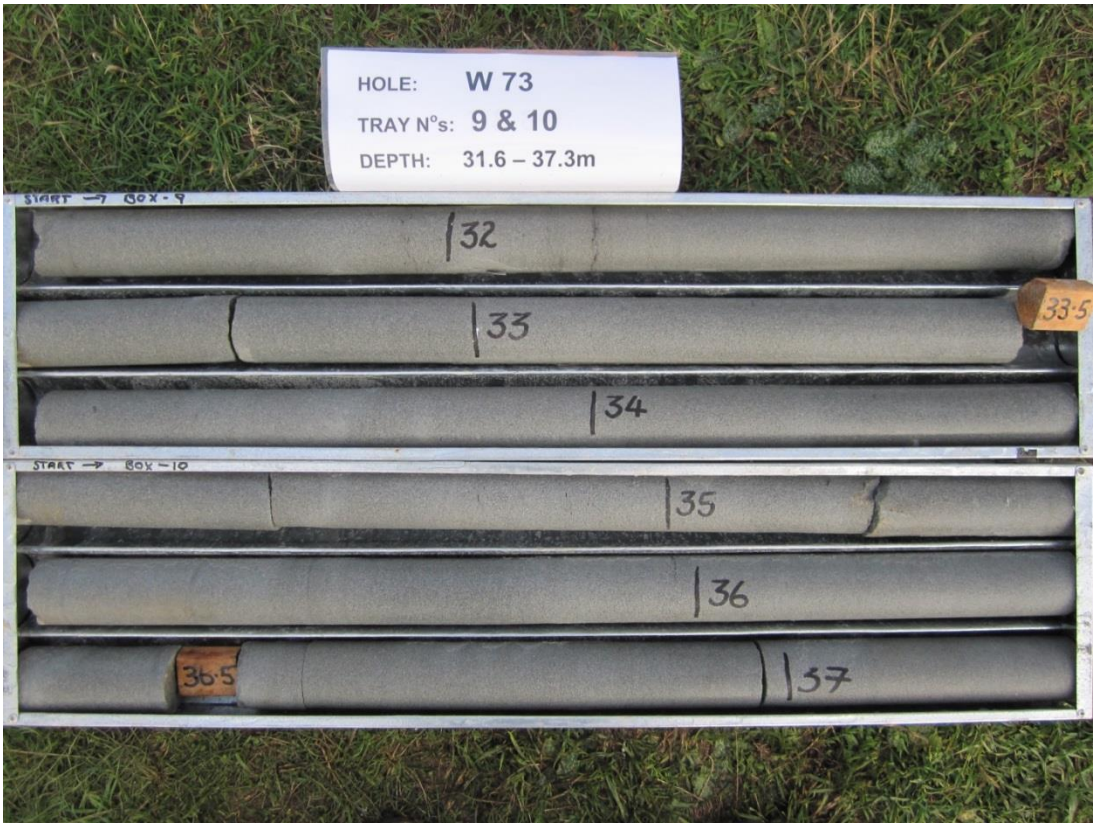



HOLE: W 73
TRAY N°s: 1 & 2
DEPTH: 9.0 – 14.74m
9.0
10
11
12
12.1m
13
14

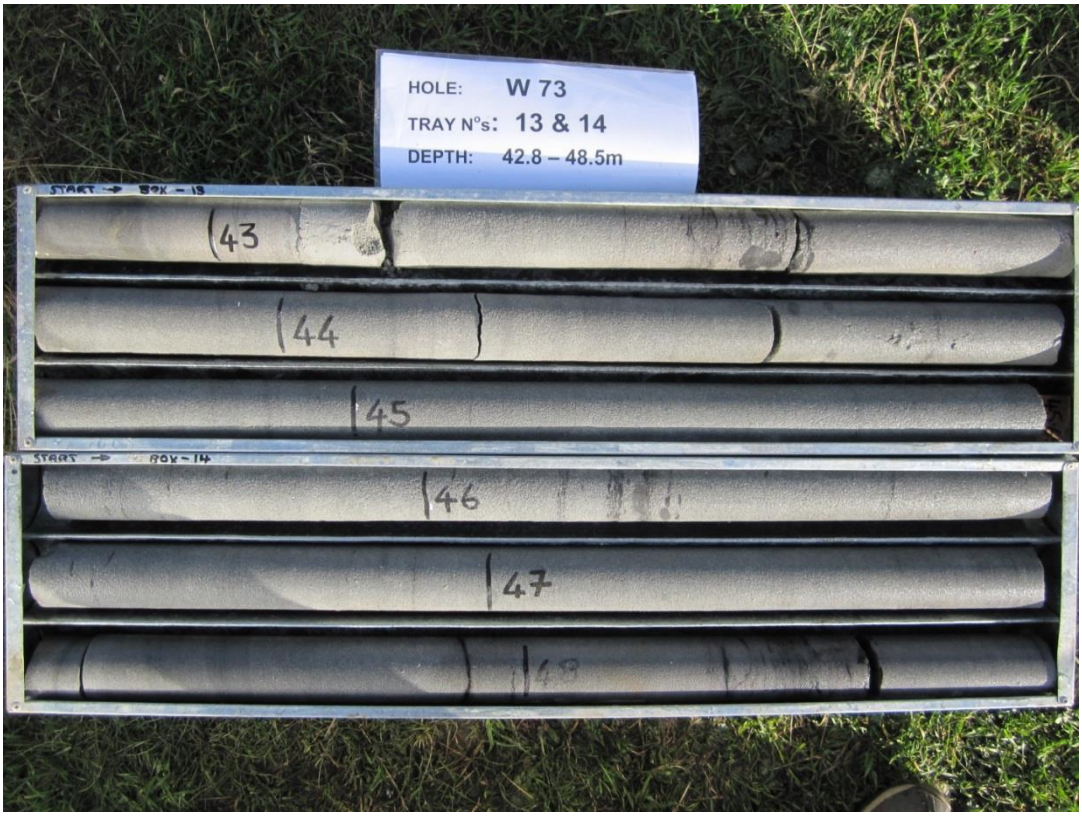
HOLE: W 73
TRAY N°s: 3 & 4
DEPTH: 14.74 – 20.36m
15
15.2
16
17
18
18.3
19
20

HOLE: W 73
TRAY N°s: 5 & 6
DEPTH: 20.36 – 26.00m
START → BOX - 5 - W73
21
21·3
23
START → BOX - 6 - W73
24
24·4
26

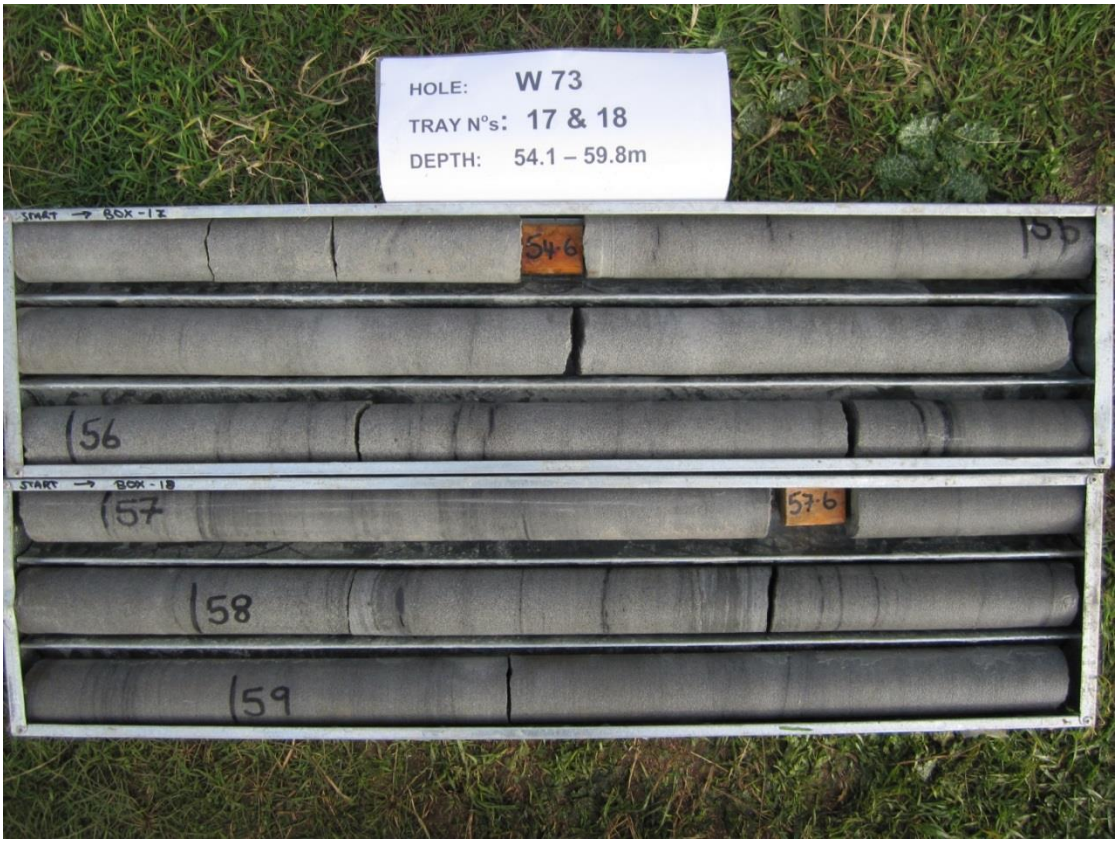

HOLE: W 73
TRAY N°s: 7 & 8
DEPTH: 26.0 – 31.6m
START → Box - 7
27
27·4
28
START → Box 8
29
30
30·5
31

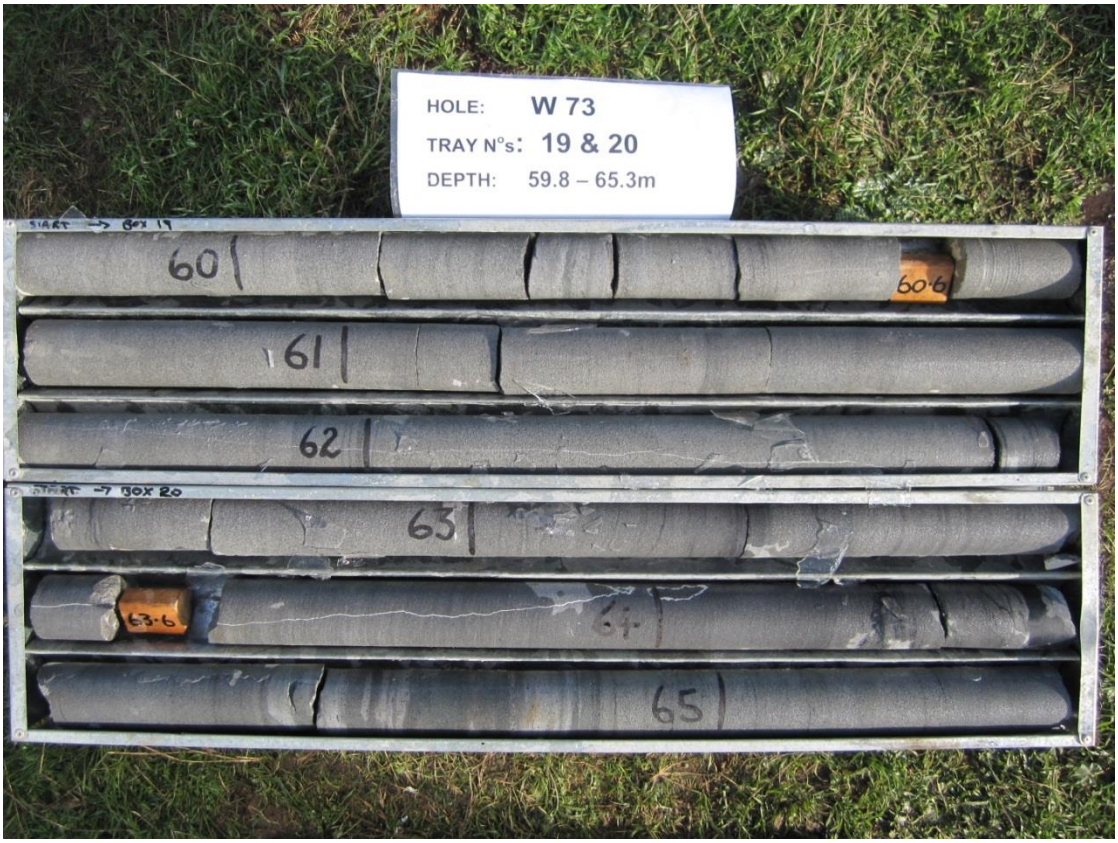

HOLE: W 73
TRAY N°s: 9 & 10
DEPTH: 31.6 – 37.3m
START → BOX - 9
32
33
33·5
34
START → BOX - 10
35
36
36·5
37

HOLE: W 73
TRAY N°s: 11 & 12
DEPTH: 37.3 – 42.8m
START → BOX - 11
38
39
39·6
40
START → BOX - 12
41
42
42·6

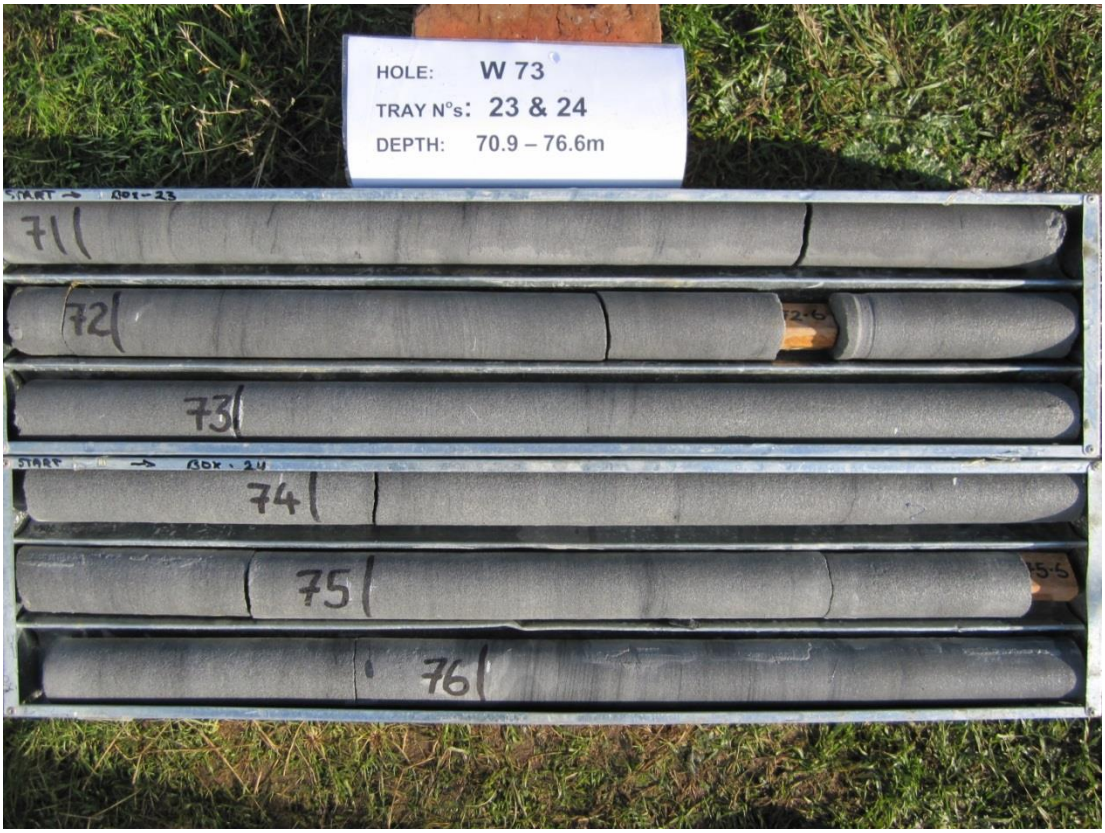

HOLE: W 73
TRAY N°s: 13 & 14
DEPTH: 42.8 – 48.5m
START → BOX – 13
43
44
45
START → BOX – 14
46
47

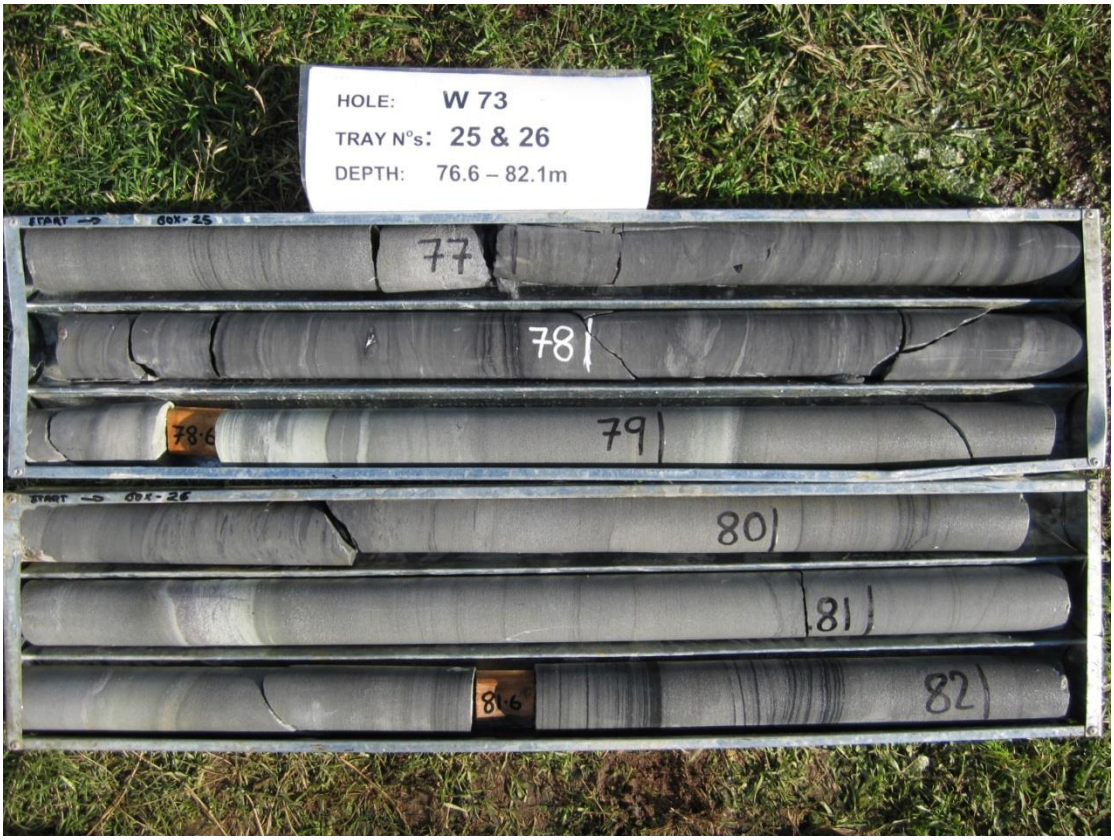
HOLE: W 73
TRAY N°s: 15 & 16
DEPTH: 48.5 – 54.1m
START → BOX – 15
48·6
49
50
51
START → BOX – 16
51·6
52
53
54


HOLE: W 73
TRAY N°s: 17 & 18
DEPTH: 54.1 – 59.8m
START → BOX - 17
54·6
55
56
START → BOX - 18
57
57·6
58
59


HOLE: W 73
TRAY N°s: 19 & 20
DEPTH: 59.8 – 65.3m
START → BOX 19
60
60·6
61
62
START → BOX 20
63
63·6
64
65

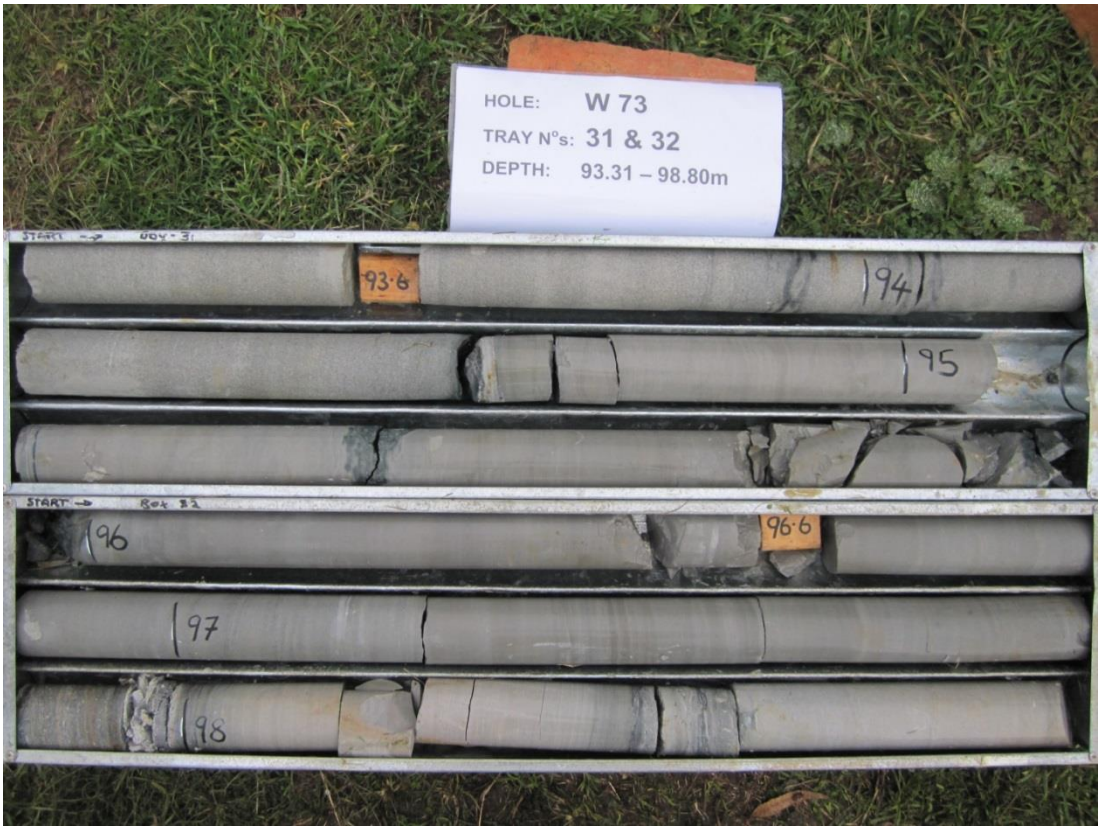
HOLE: W 73
TRAY N°s: 21 & 22
DEPTH: 65.3 – 70.9m
START → BOX - 21
66
66·6
67
68
START → BOX - 22
69
69·6
70


HOLE: W 73
TRAY N°s: 23 & 24
DEPTH: 70.9 – 76.6m
START → BOX - 23
71
72
2·6
73
START → BOX - 24
74
75
75·5
76


HOLE: W 73
TRAY N°s: 25 & 26
DEPTH: 76.6 – 82.1m
START → BOX-25
77
78
78·6
79
START → BOX-26
80
81
81·6
82

HOLE: W 73
TRAY N°s: 27 & 28
DEPTH: 82.08 – 87.69m
START → BOX-27
83
84
84·6
START → BOX-28
85
86
87
87·6

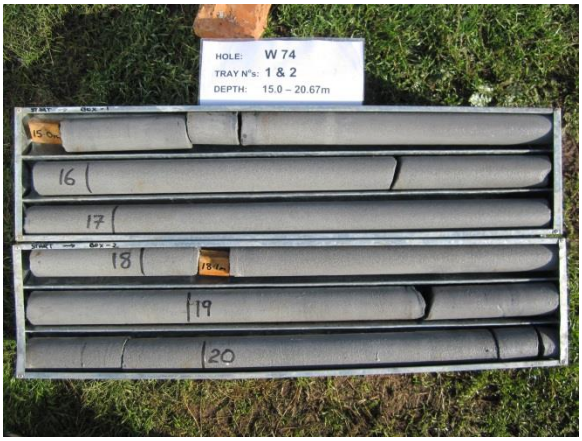
HOLE: W 73
TRAY N°s: 29 & 30
DEPTH: 87.69 – 93.31m
START → BOX – 29
88
89
90
START → BOX - 30
90.6
91
92
93

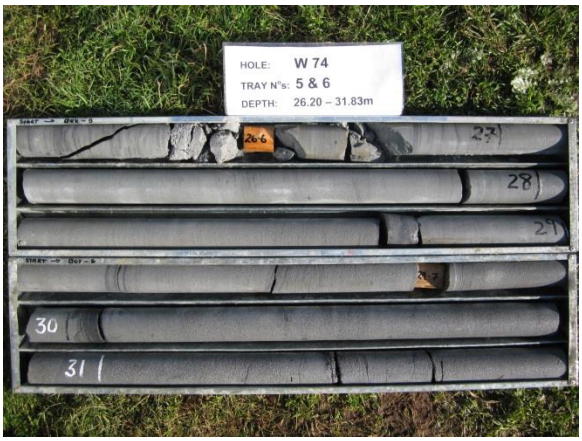

HOLE: W 73
TRAY N°s: 31 & 32
DEPTH: 93.31 – 98.80m
START → BOX - 31
93.6
94
95
START → Box 32
96
96.6
97
98

HOLE: W 73
TRAY N°s: 33 & 34
DEPTH: 98.80 – 104.32m
99
99·6
100
101
102
102·6
103
104

HOLE: W 73
TRAY N°s: 35 EOH
DEPTH: 104.32 – 105.20m
105
105·2

WOODBURY EXPLORATION W74




HOLE: W 74
TRAY N°s: 5 & 6
DEPTH: 26.20 – 31.83m
26·6
27
28
29
30
31

HOLE: W 74
TRAY N°s: 11 & 12
DEPTH: 42.84 – 48.36m
43
44
44·2
45·6
45
46
47
48

HOLE: W 74
TRAY N°s: 7 & 8
DEPTH: 31.83 – 37.30m
32
CORE LOSS ·400
33
34
35
35·9
36
37

HOLE: W 74
TRAY N°s: 13 & 14
DEPTH: 48.36 – 53.80m
48·6
49
50
51
51·6
52
53
53·1

HOLE: W 74
TRAY N°s: 9 & 10
DEPTH: 37.30 – 42.84m
38
39
39·1
40
41
42

HOLE: W 74
TRAY N°s: 15 & 16
DEPTH: 53.80 – 59.40m
54
55
56
56·1
57
58
59
59·1

HOLE: W 74
TRAY N°s: 17 & 18
DEPTH: 59.40 – 65.21m

HOLE: W 74
TRAY N°s: 23 & 24
DEPTH: 75.88 – 81.40m

HOLE: W 74
TRAY N°s: 19 & 20
DEPTH: 65.21 – 70.70m

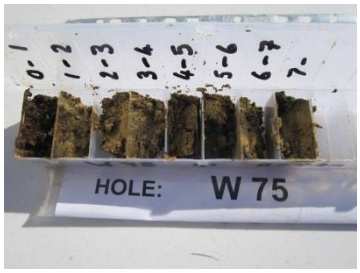
HOLE: W 74
TRAY N°s: 25 & 26
DEPTH: 81.40 – 86.42m

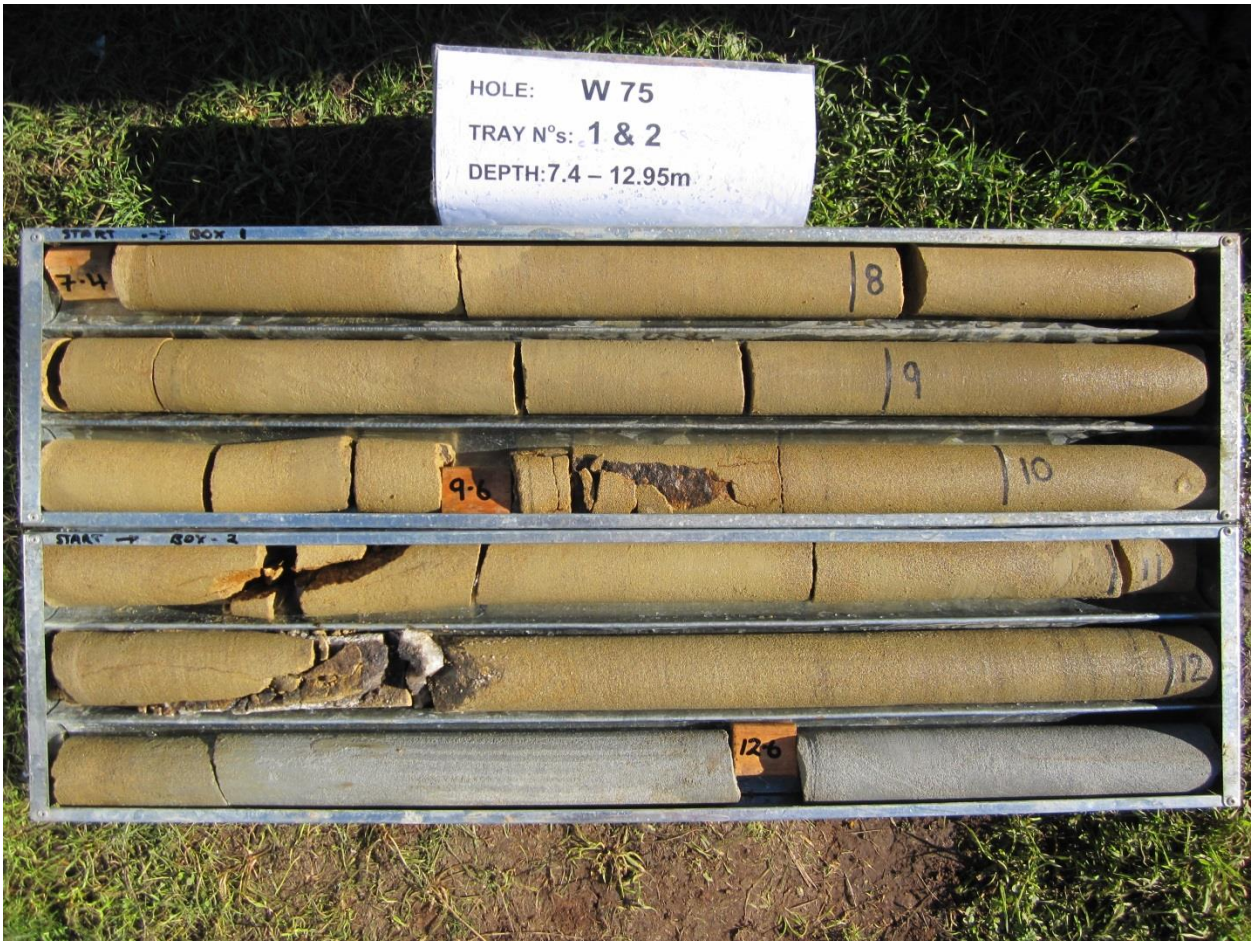
HOLE: W 74
TRAY N°s: 21 & 22
DEPTH: 70.70 – 75.88m

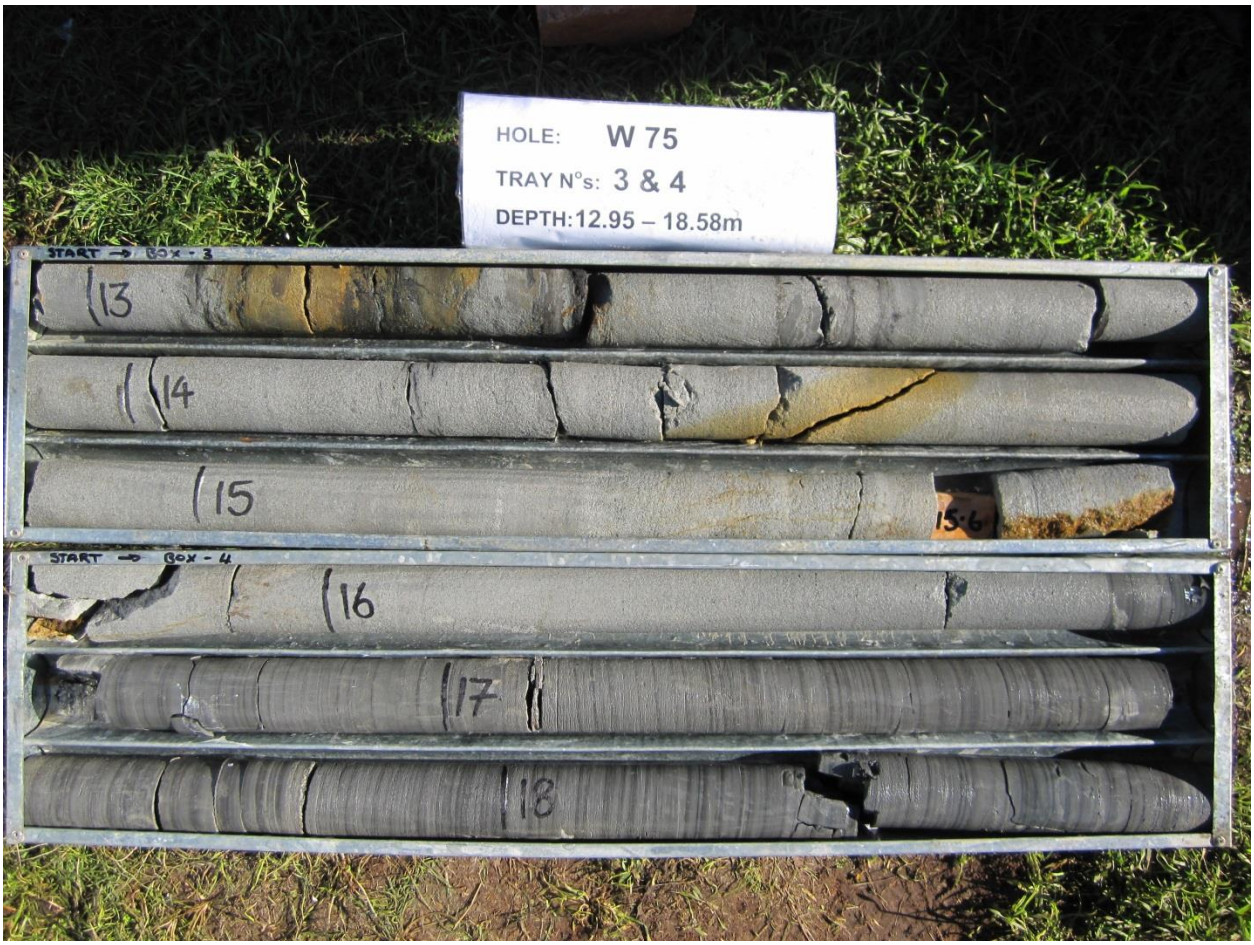
HOLE: W 74
TRAY N°s: 27 & 28
DEPTH: 86.42 – 91.77m

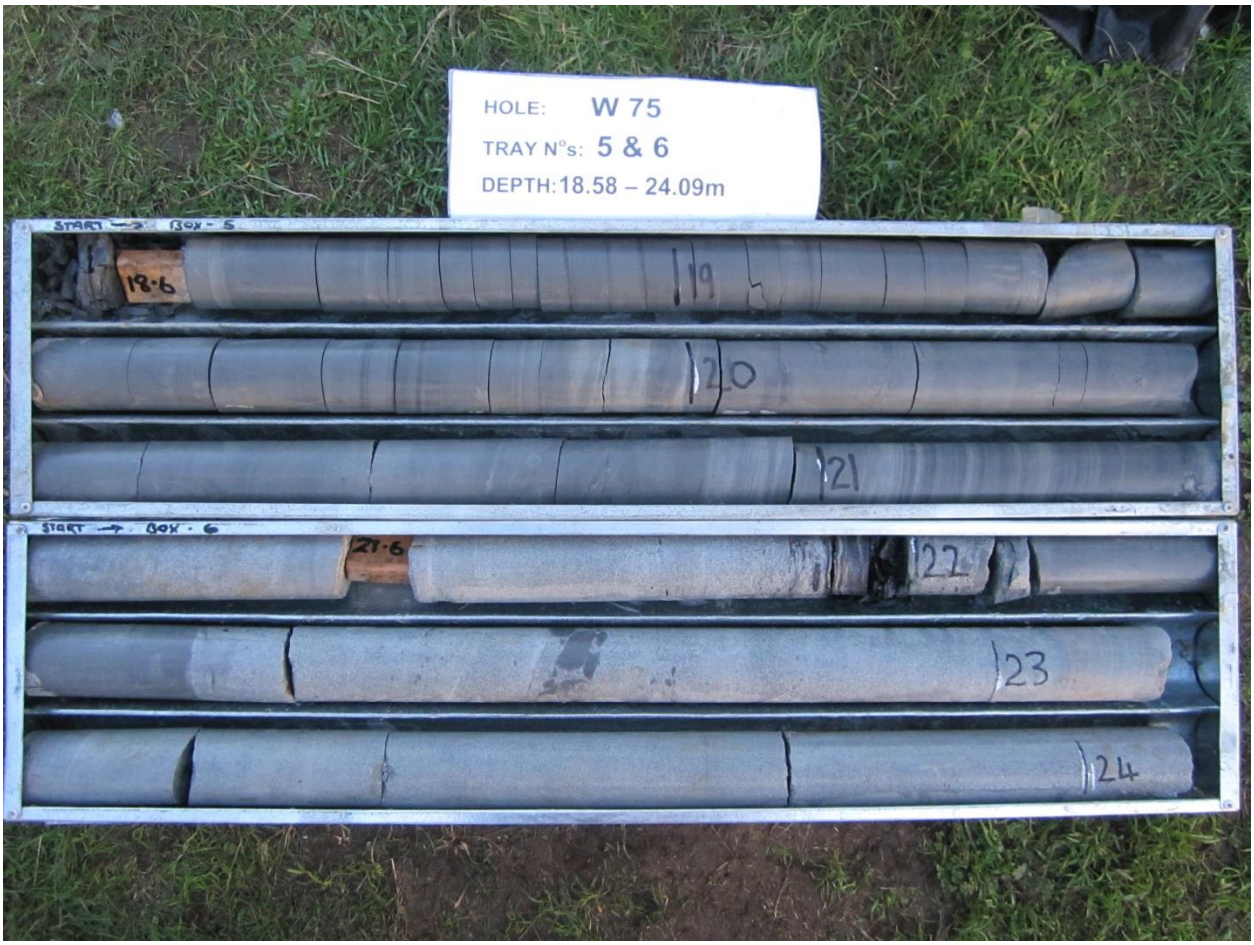
HOLE: W 74
TRAY N°s: 29 EOH
DEPTH: 91.77 – 93.30m

W75 Percussion and Core Tray Photos





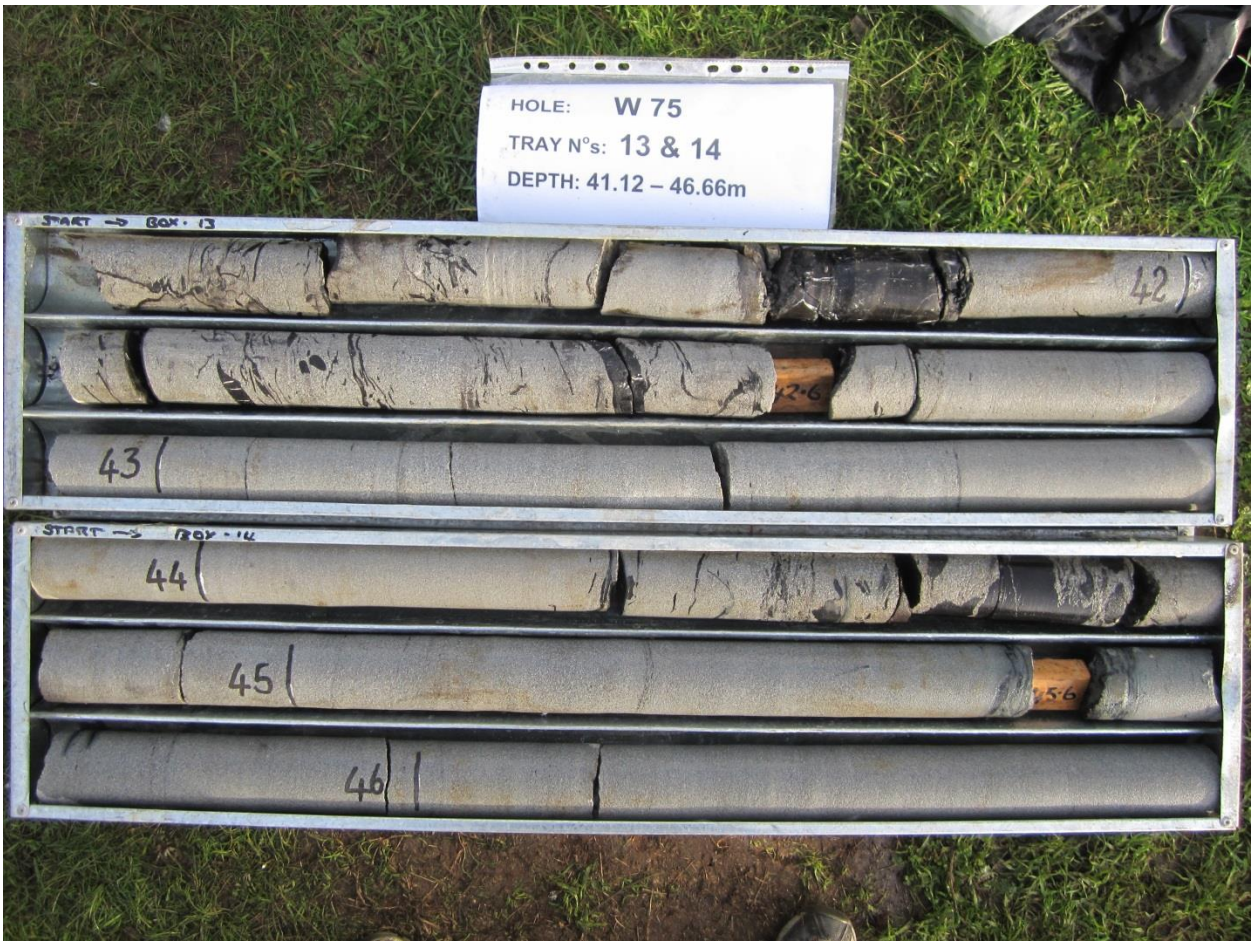

HOLE: W 75
TRAY N°s: 3 & 4
DEPTH:12.95 – 18.58m
START → BOX - 3
13
14
15
15.6
START → BOX - 4
16
17
18

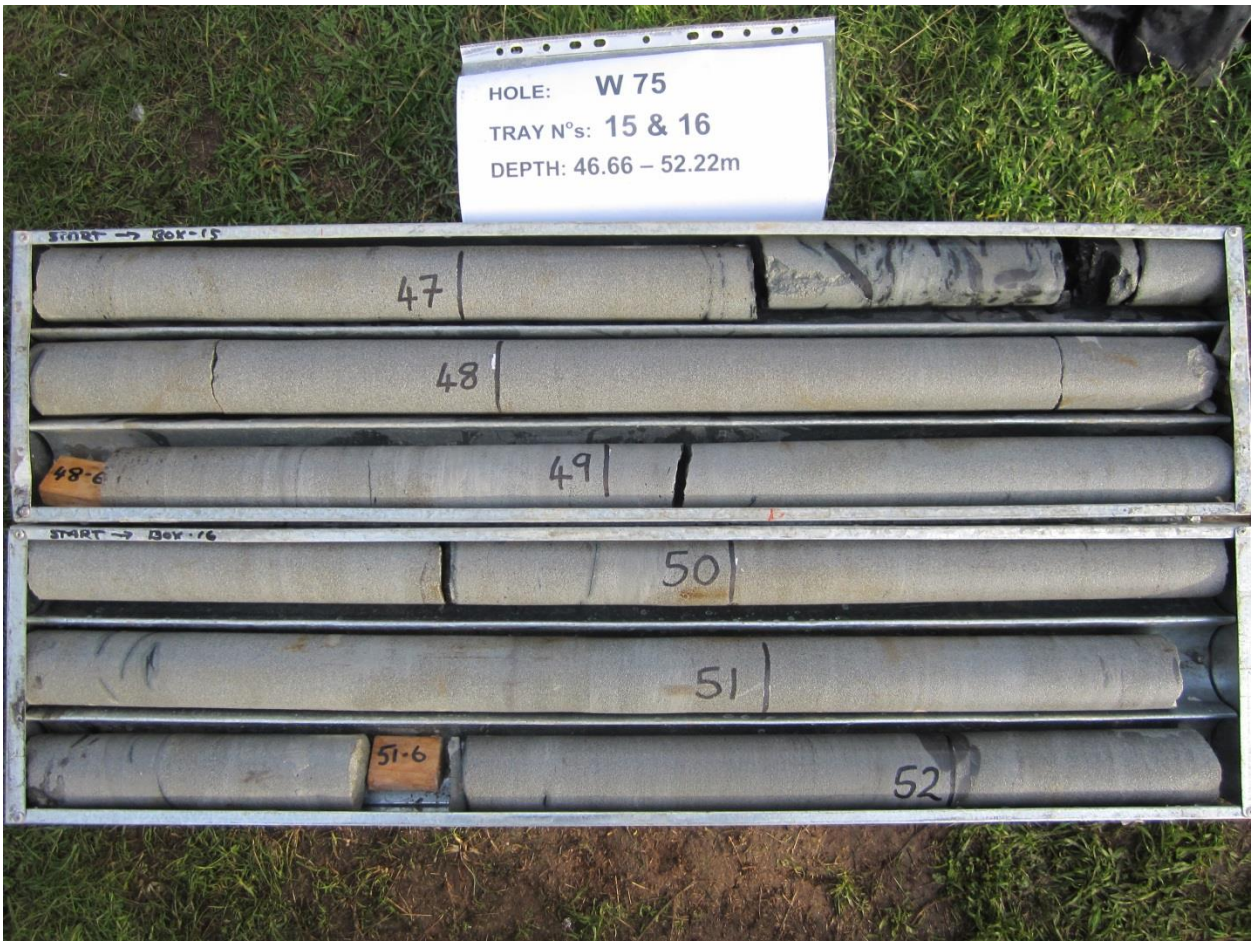

HOLE: W 75
TRAY N°s: 5 & 6
DEPTH: 18.58 – 24.09m
START → BOX - 5
18·6
19
20
21
START → BOX - 6
21·6
22
23
24

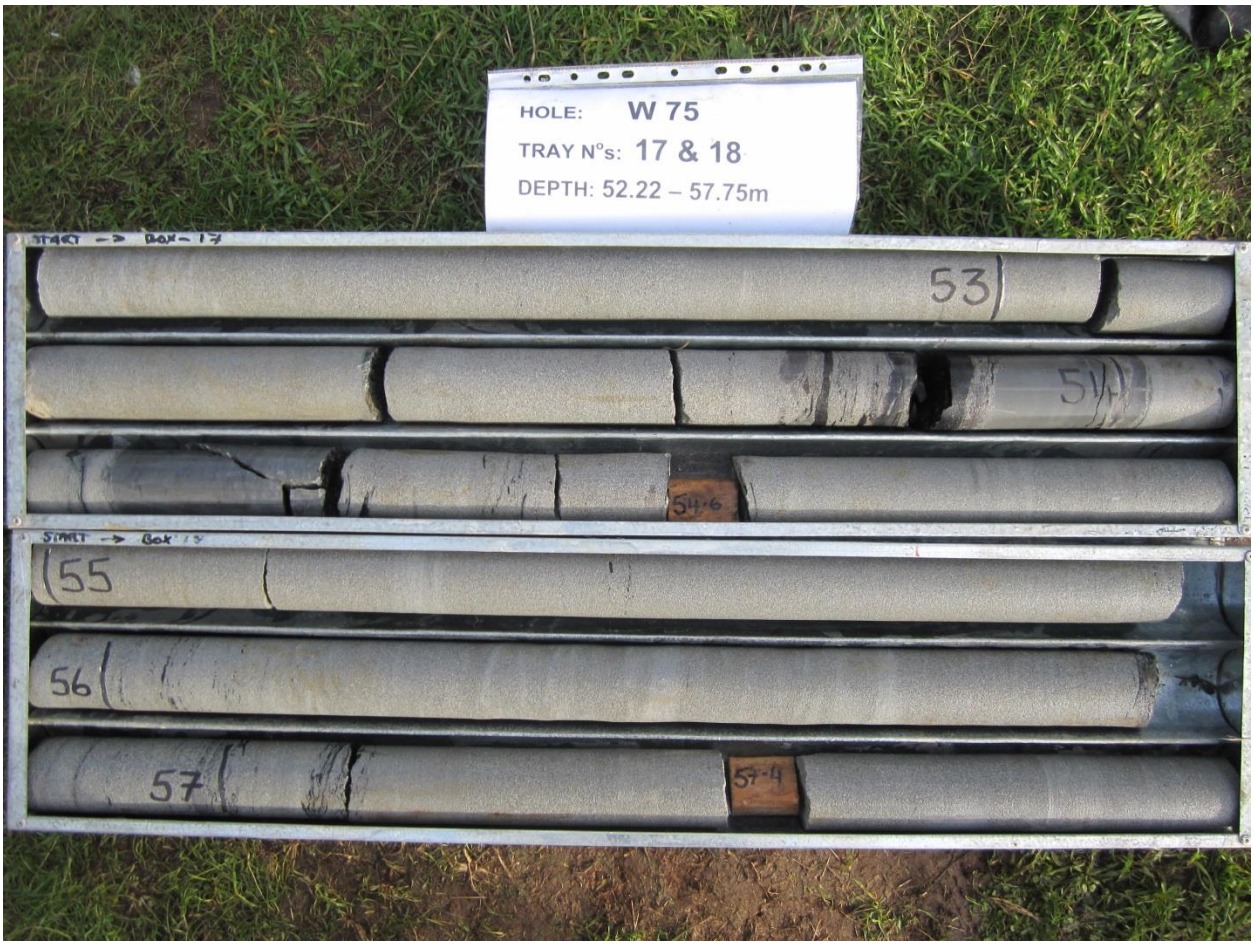
HOLE: W 75
TRAY N°s: 7 & 8
DEPTH: 24.09 – 29.84m
START → BOX · 7
24·1
25
26
CORELOSS
·250
START → BOX · 8
27
27·15
CORELOSS
·250
29
29·2

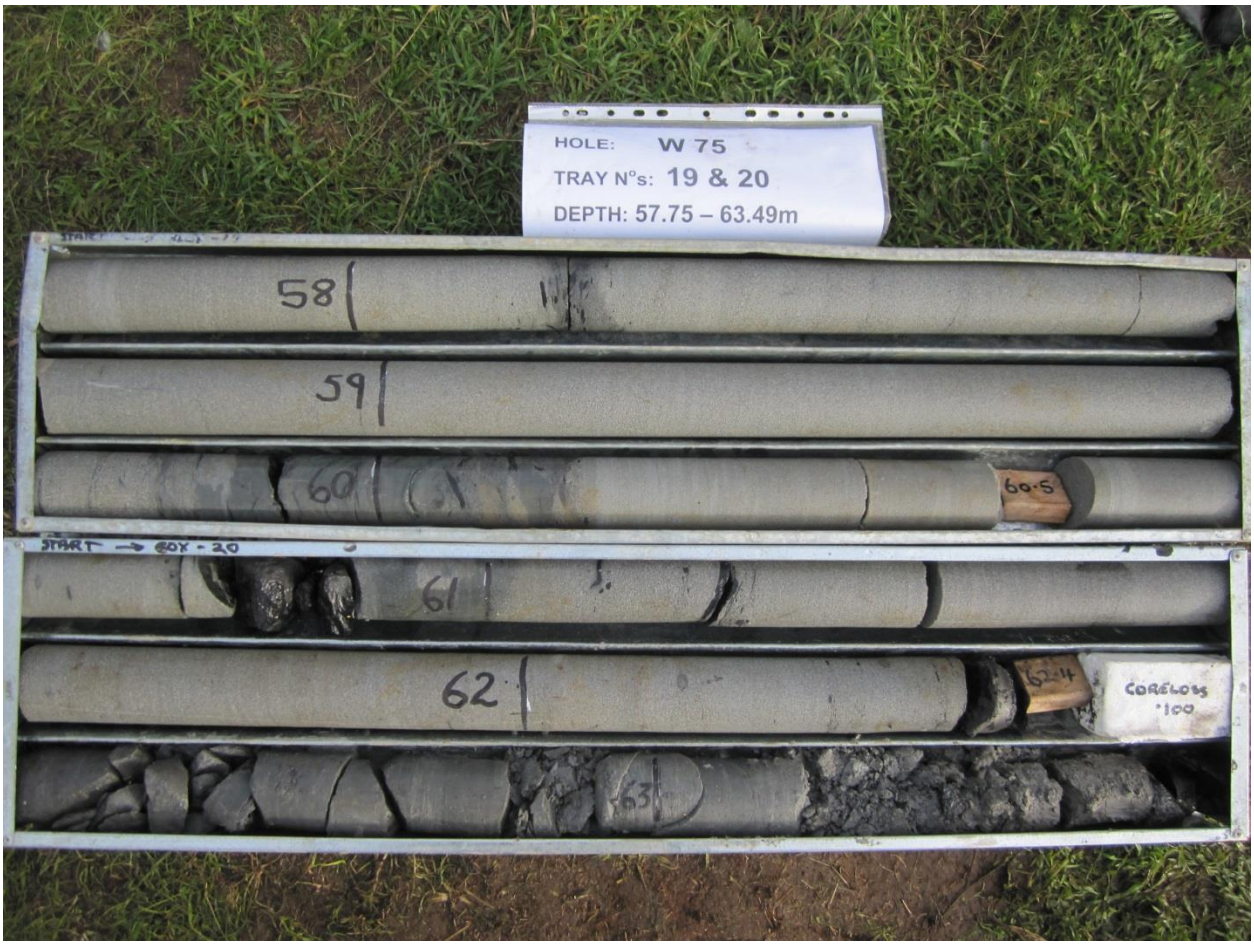
HOLE: W 75
TRAY N°s: 9 & 10
DEPTH: 29.84 – 35.50m
30
30·6
31
32
33
33·6
34
35

HOLE: W 75
TRAY N°s: 11 & 12
DEPTH: 35.50 – 41.12m
START → BOX - 11
36
36·6
37
38
START → BOX - 12
39
39·6
40
41


HOLE: W 75
TRAY N°s: 13 & 14
DEPTH: 41.12 – 46.66m
START → BOX - 13
42
43
START → BOX - 14
44
45
46


HOLE: W 75
TRAY N°s: 15 & 16
DEPTH: 46.66 – 52.22m
START → BOX-15
47
48
48-6
49
START → BOX-16
50
51
51-6
52


HOLE: W 75
TRAY N°s: 17 & 18
DEPTH: 52.22 – 57.75m
START → BOX - 17
53
54
54.6
START → BOX 18
55
56
57
57.4


HOLE: W 75
TRAY N°s: 19 & 20
DEPTH: 57.75 – 63.49m
58
59
60
60.5
START → BOX - 20
61
62
62.14
CORELOSS
100
63

HOLE: W 75
TRAY N°s: 21 & 22
DEPTH: 63.49– 69.20m
START
BOX - 21
64
65
66
66.1
BOX - 22
67
68
69
69.2

HOLE: W 75
TRAY N°s: 23&24
DEPTH:69.20– 74.87m
START → BOX · 23
70
71
72
START → BOX · 24
72·3
73
74

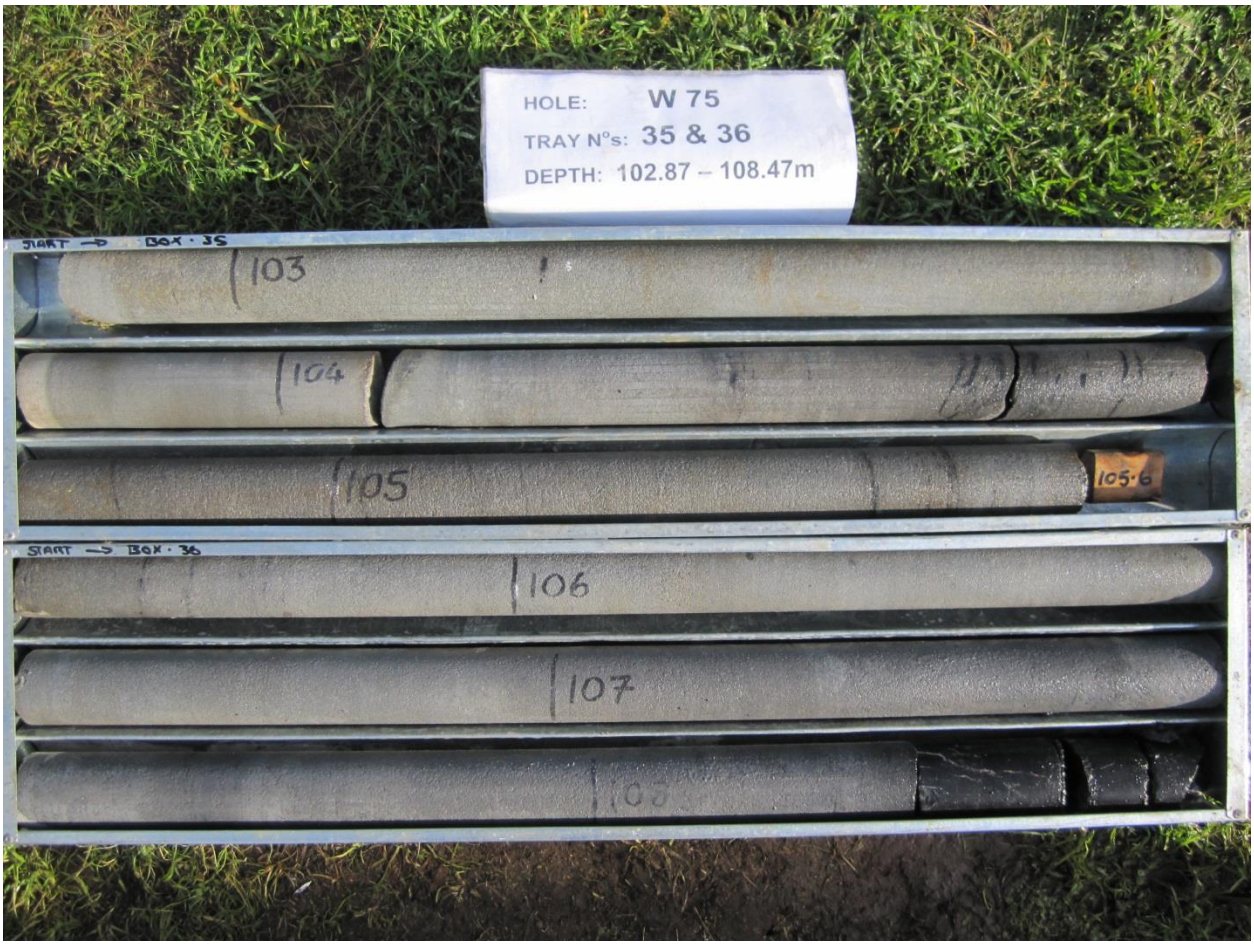
HOLE: W 75
TRAY N°s: 25&26
DEPTH:74.87– 80.45m
START → BOX : 25
75
75.35
76
77
START → BOX : 26
78
79
80

HOLE: W 75
TRAY N°s: 27&28
DEPTH:80.45– 86.00m
START → BOX · 27
81
81·45
82
83
START → BOX · 28
84
84·5
85
86

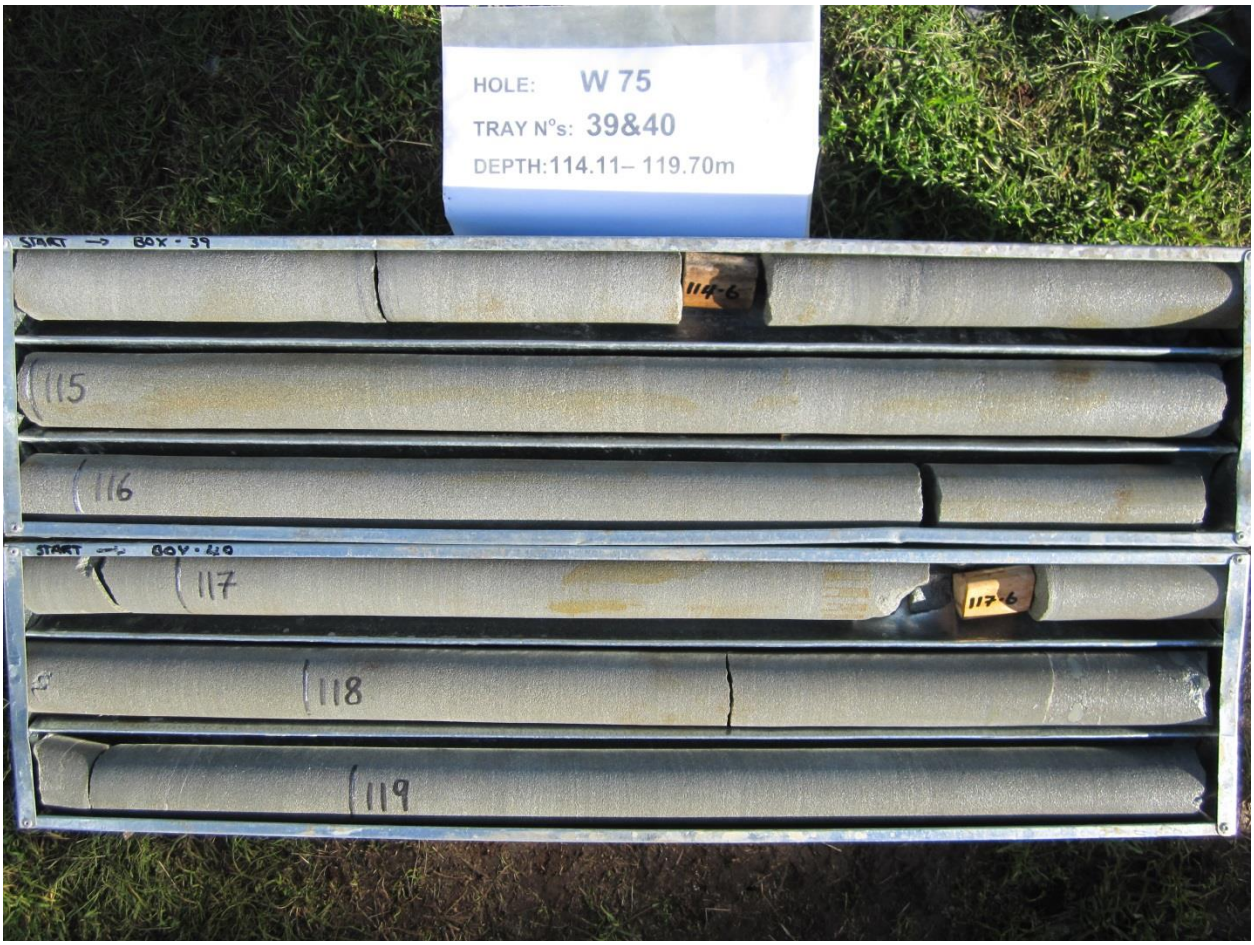
HOLE: W 75
TRAY N°s: 29&30
DEPTH:86.00– 91.72m
START → BOX: 29
87
87.6
88
START → BOX: 30
89
90
90.5
91

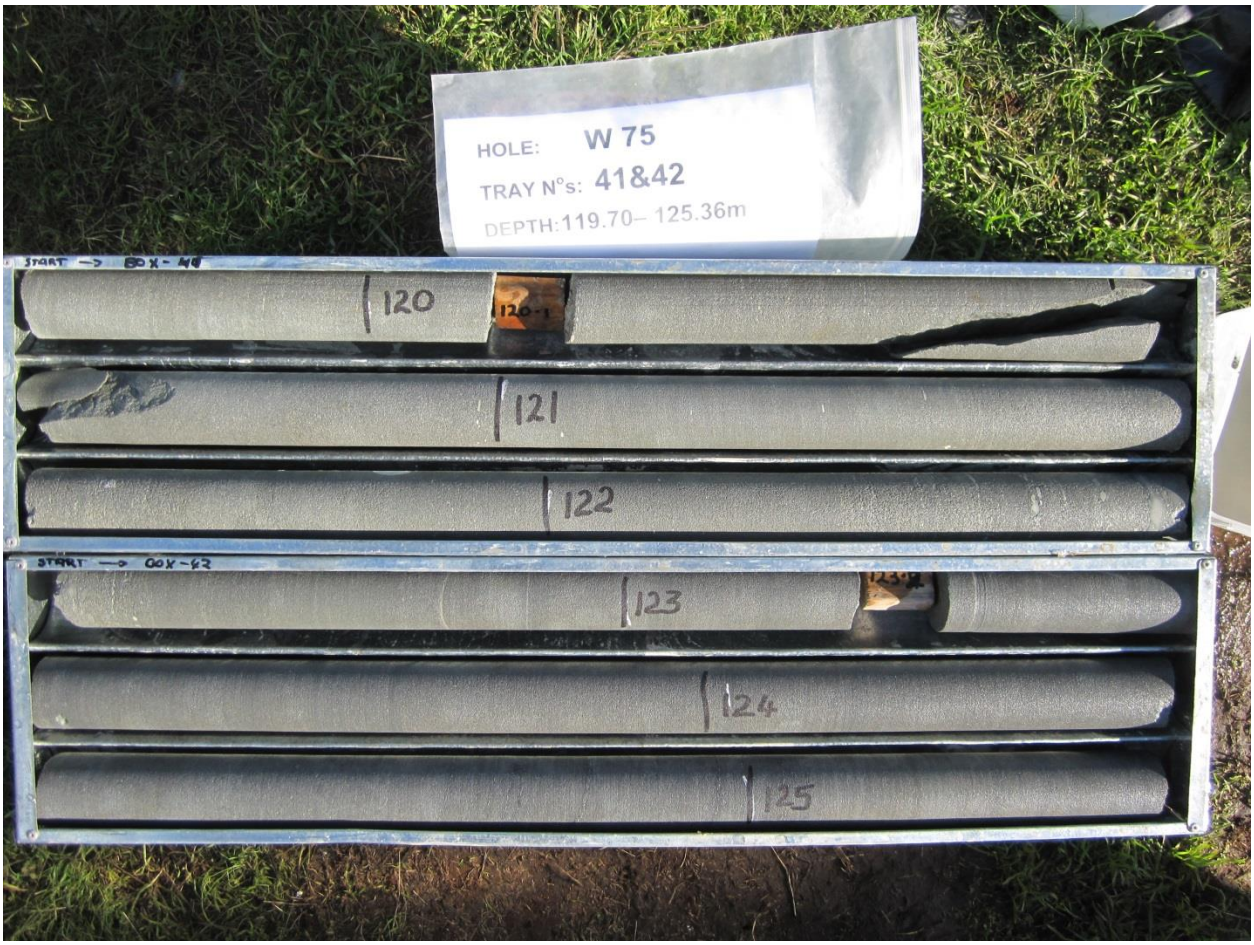
HOLE: W 75
TRAY N°s: 31 & 32
DEPTH: 91.72 – 97.23m
START → BOX · 31
92
93
93·55
94
START → BOX · 32
95
96
96·6
97

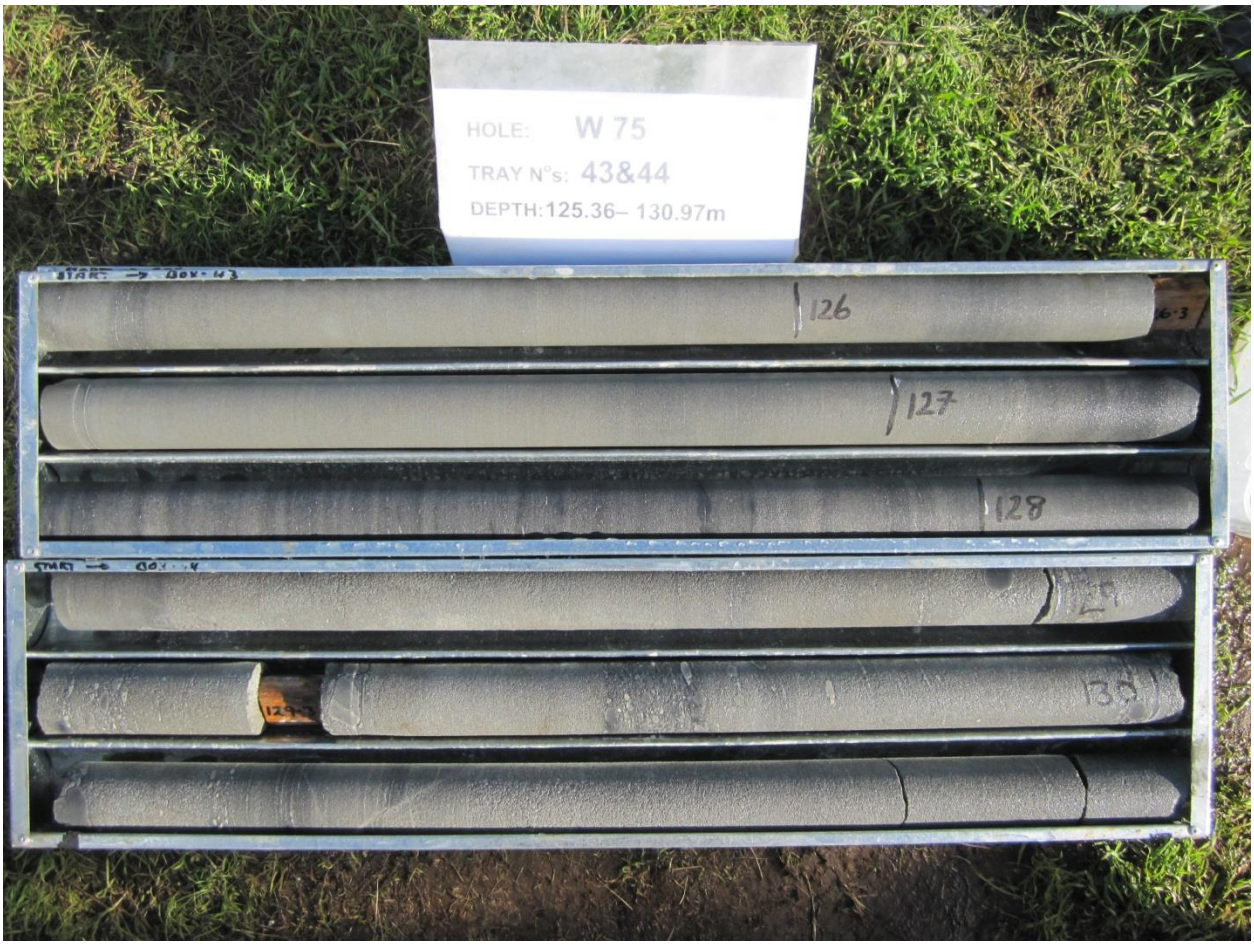
HOLE: W 75
TRAY N°s: 33 & 34
DEPTH: 97.23 – 102.87m
START → BOX - 33
98
99
99.6
100
START → BOX - 34
101
102
102.6

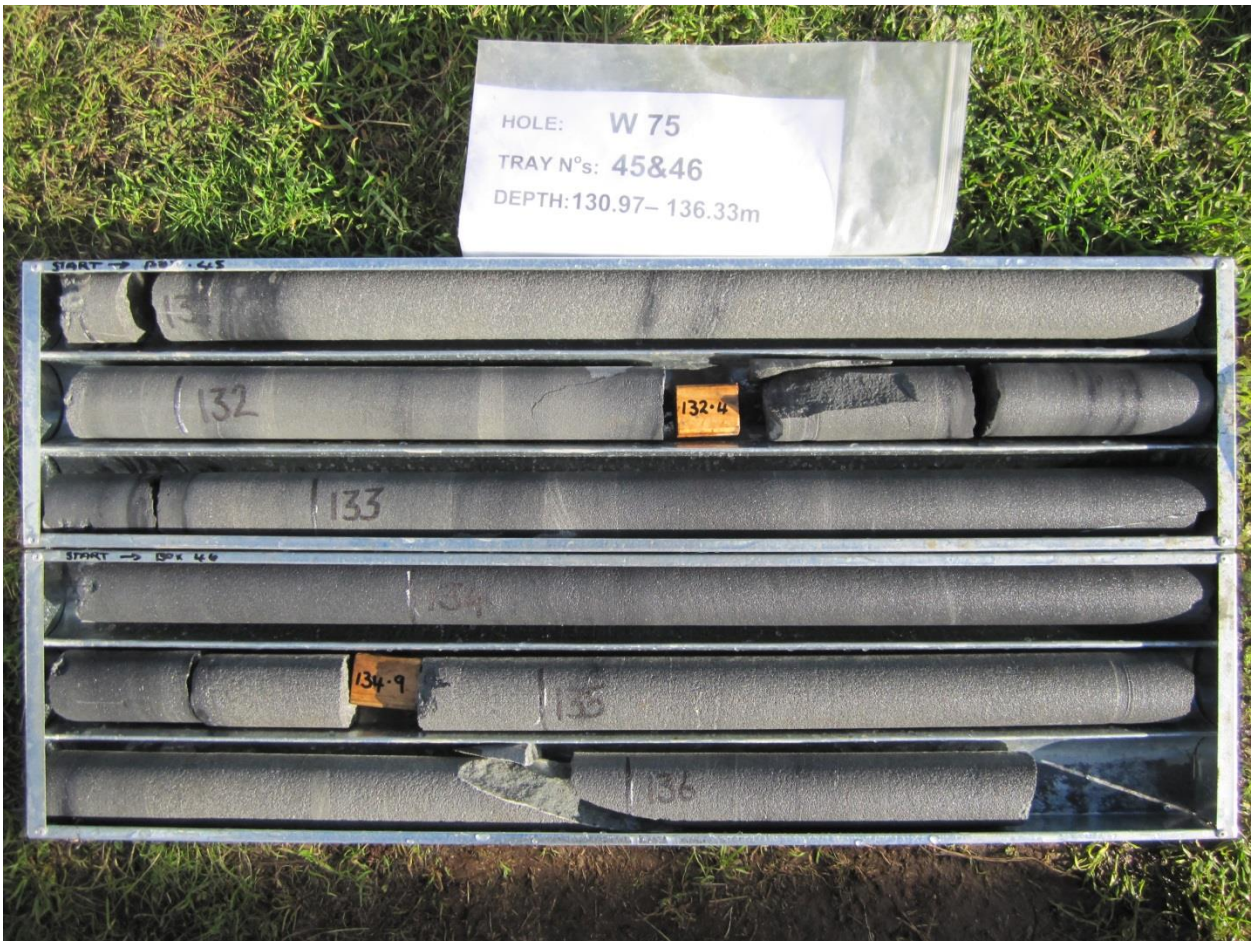

HOLE: W 75
TRAY N°s: 35 & 36
DEPTH: 102.87 – 108.47m
START → BOX · 35
103
104
105
105·6
START → BOX · 36
106
107

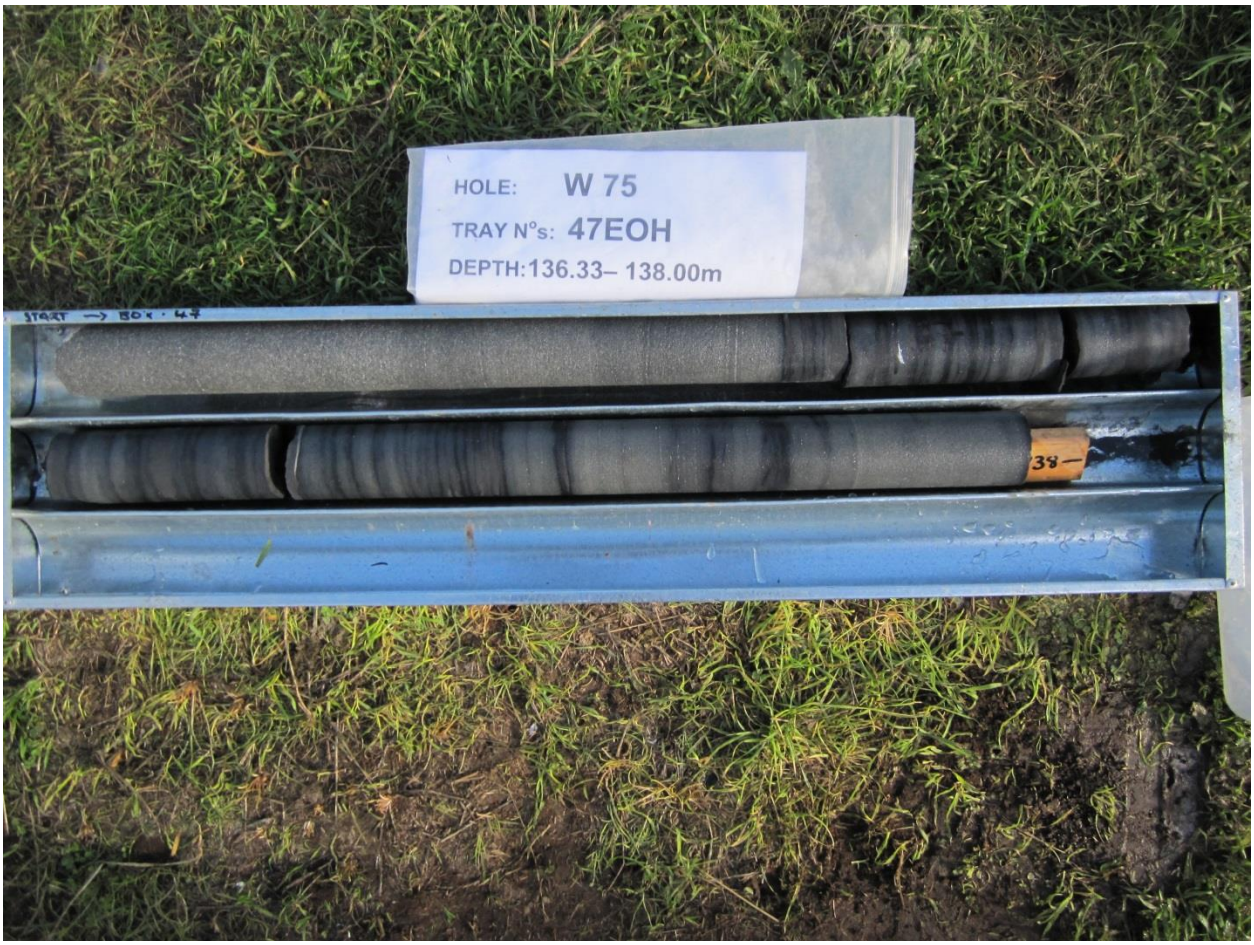
HOLE: W 75
TRAY N°s: 37 & 38
DEPTH: 108.47 – 114.11m
START → BOX · 37
108·6
109
110
111
START → BOX · 38
111·6
112
113
114


HOLE: W 75
TRAY N°s: 39&40
DEPTH:114.11– 119.70m
START → BOX · 39
114·6
115
116
START → BOX · 40
117
117·6
118
119

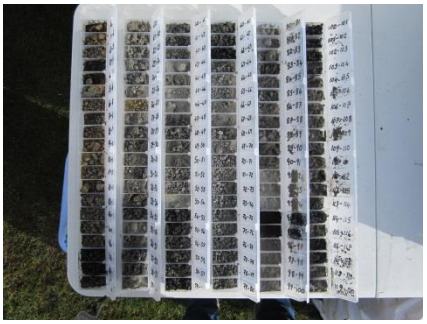

HOLE: W 75
TRAY N°s: 41&42
DEPTH:119.70– 125.36m
START → BOX - 41
120
120-1
121
122
START → BOX - 42
123
124
125

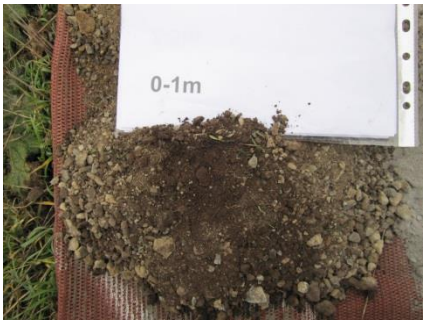

HOLE: W 75
TRAY N°s: 43&44
DEPTH:125.36– 130.97m
126
127
128

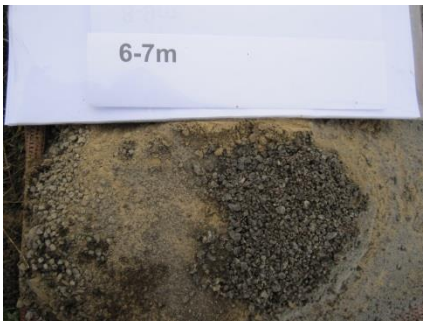

HOLE: W 75
TRAY N°s: 45&46
DEPTH: 130.97– 136.33m
132
132·4
133
134
134·9
135
136

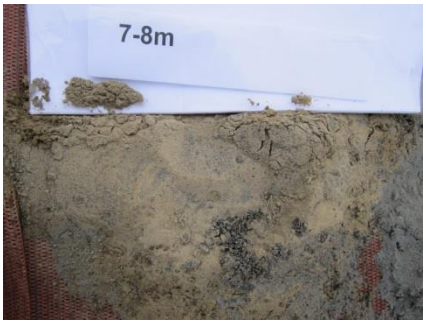

HOLE: W 75
TRAY N°s: 47EOH
DEPTH:136.33– 138.00m
START → BOX · 47
38 –

W 76 Percussion Samples









10-11m

14-15m

19-20m

11-12m

15-16m

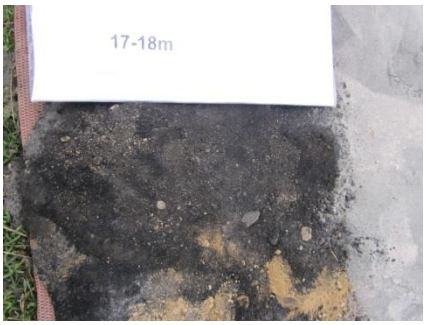
20-21m

12-13m

16-17m

21-22m

13-14m

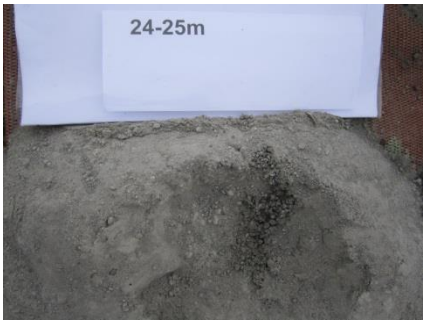

17-18m

22-23m

14-15m

18-19m

23-24m


24-25m

29-30m

34-35m

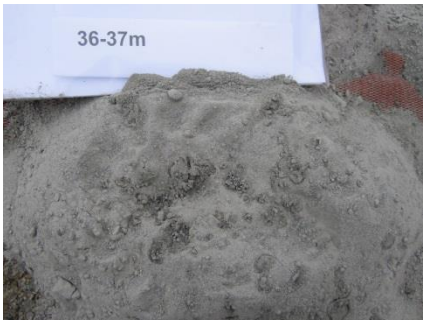
25-26m

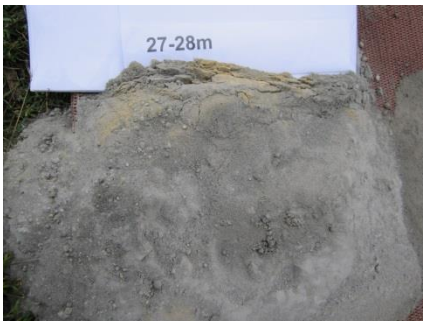
30-31m

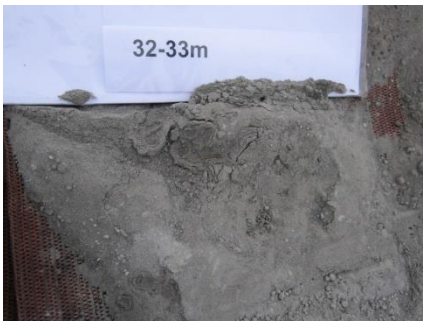
35-36m

26-27m

31-32m


36-37m


27-28m


32-33m

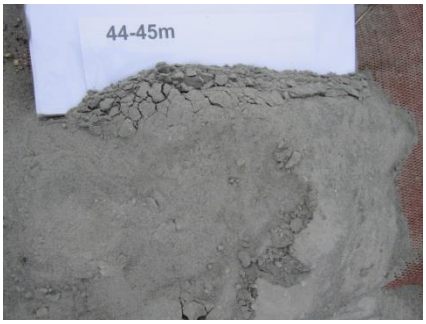
37-38m

28-29m

33-34m

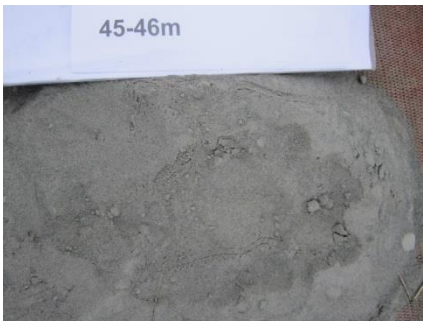
38-39m

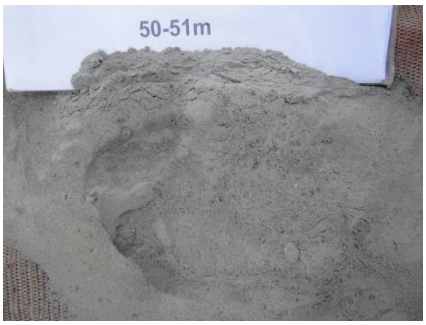
39-40m


44-45m

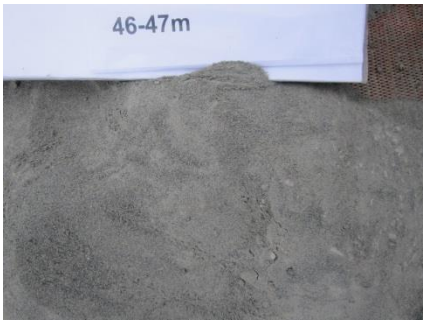
49-50m

40-41m

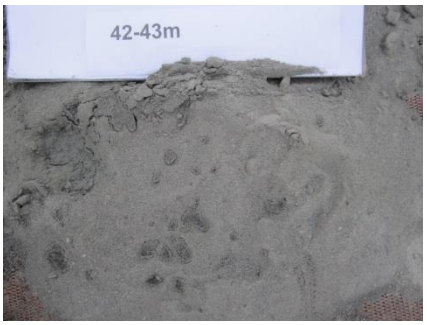

45-46m

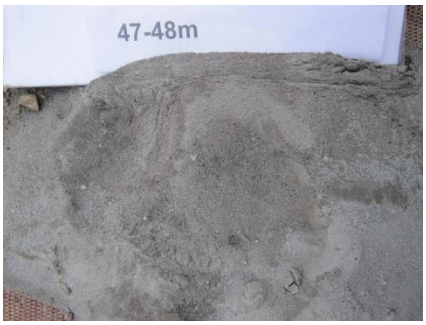

50-51m

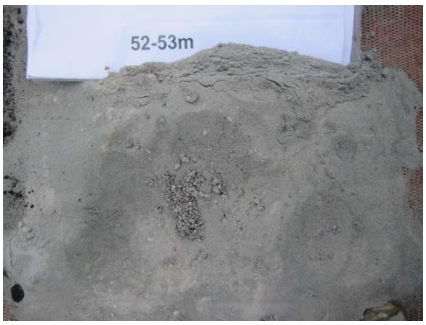
41-42m

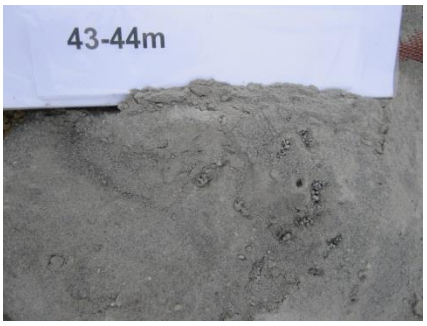

46-47m

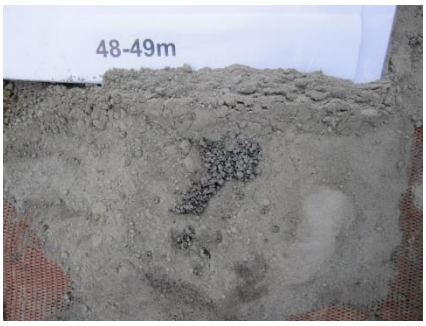
51-52m


42-43m


47-48m


52-53m


43-44m

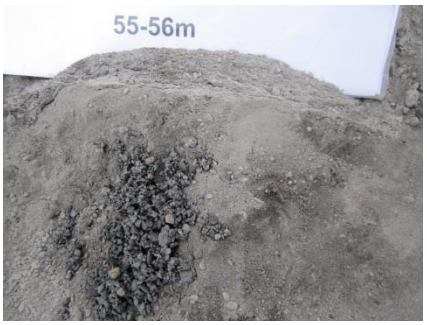

48-49m

53-54m

54-55m

59-60m

64-65m


55-56m

60-61m

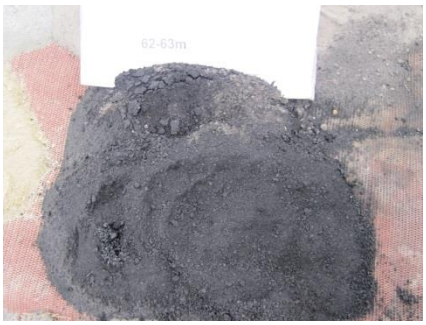
65-66m

56-57m

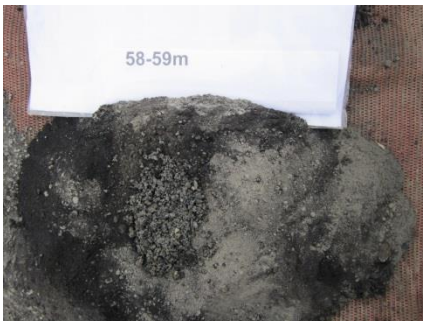
61-62m

66-67m

57-58m


62-63m

67-68m


58-59m

63-64m

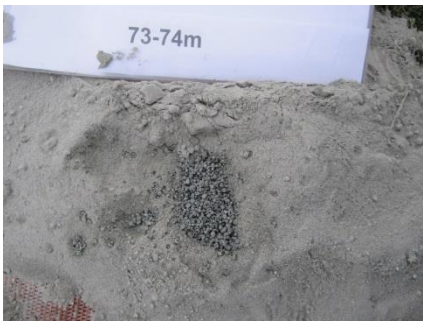
68-69m

69-70m

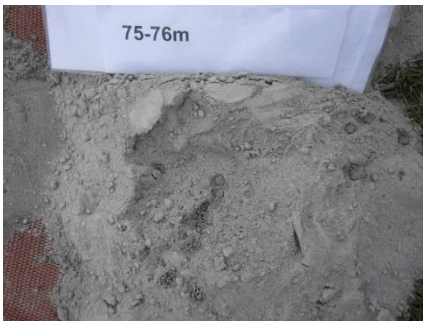
70-71m

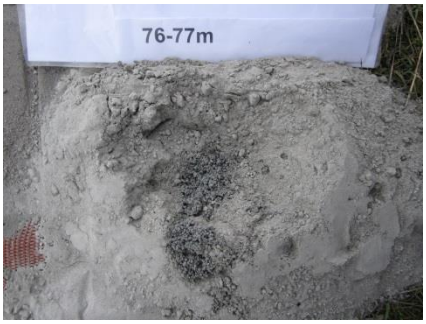
71-72m

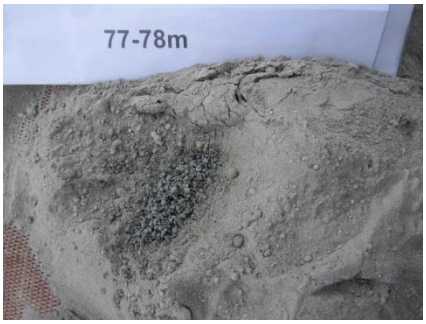
72-73m


73-74m

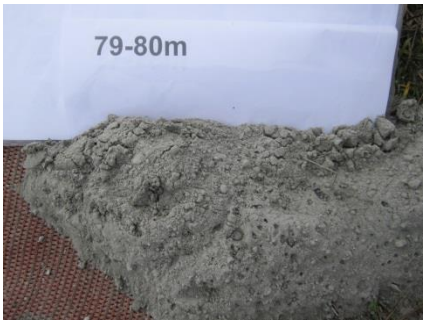
74-75m


75-76m


76-77m


77-78m

78-79m


79-80m

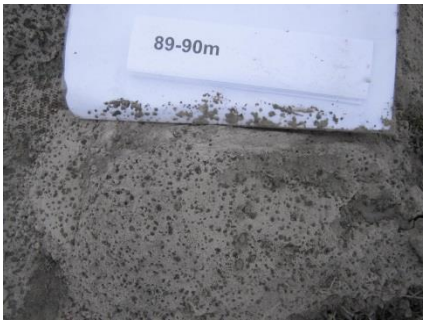
80-81m

81-82m

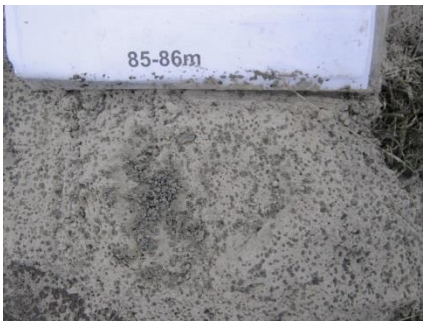
82-83m

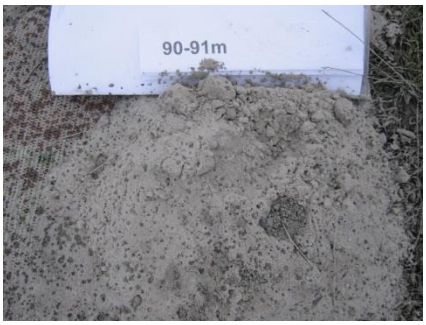
83-84m

84-85m

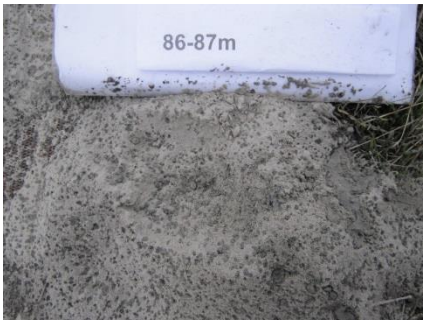

89-90m

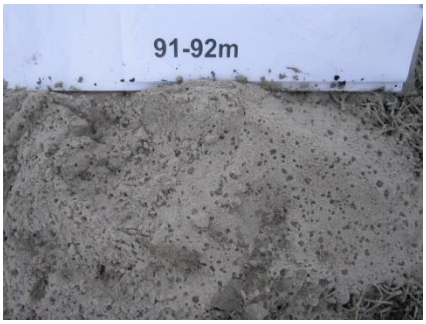
94-95m

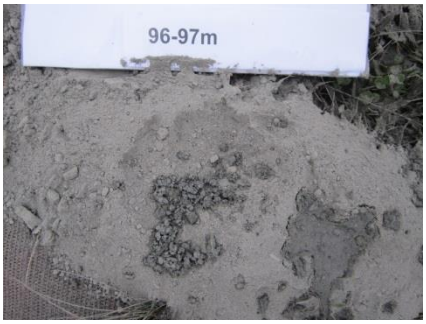

85-86m

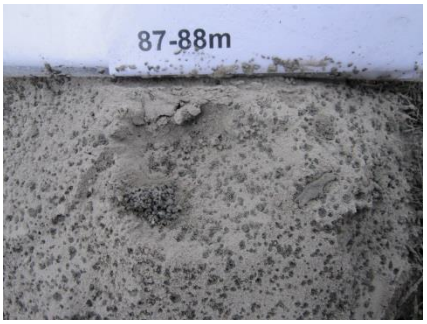

90-91m

95-96m


86-87m


91-92m


96-97m

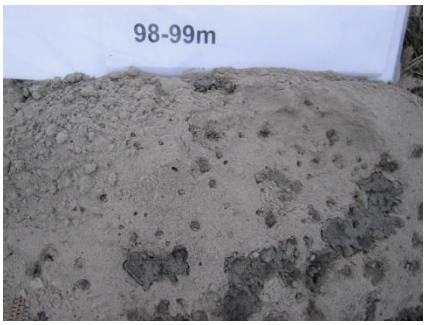

87-88m

92-93m

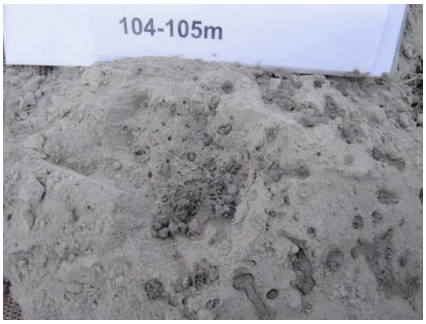
97-98m

88-89m

93-94m


98-99m

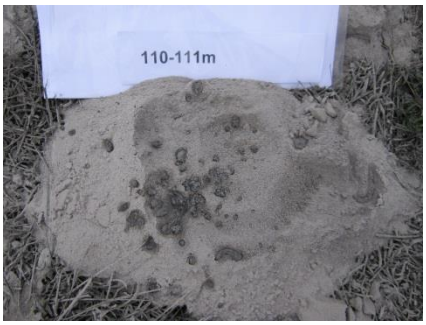
99-100m

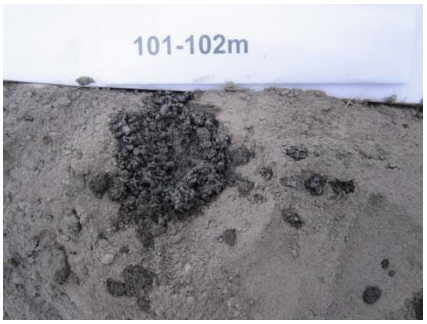

104-105m

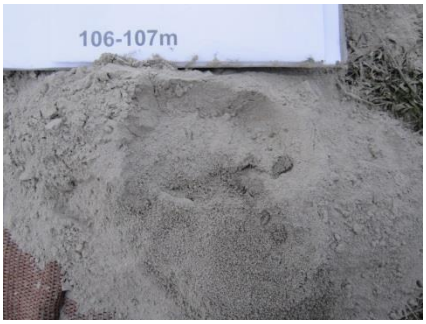
109-110m

100-101m

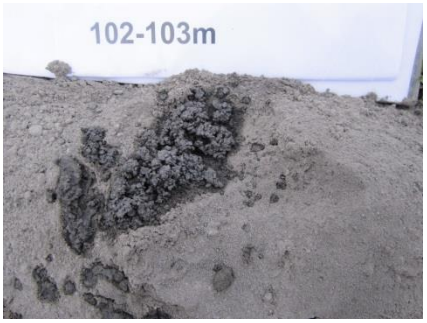
105-106m


110-111m

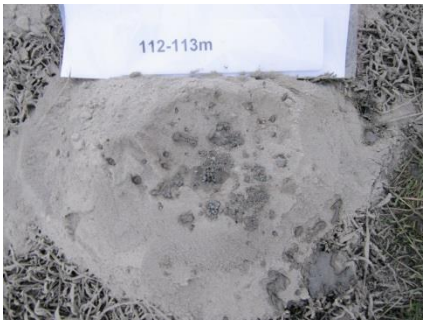

101-102m

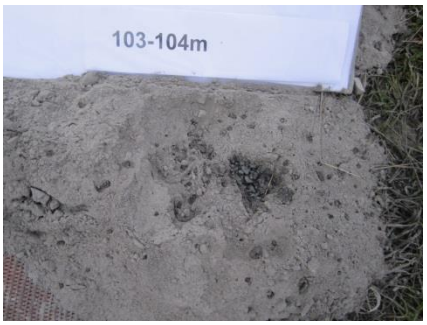

106-107m

111-112m

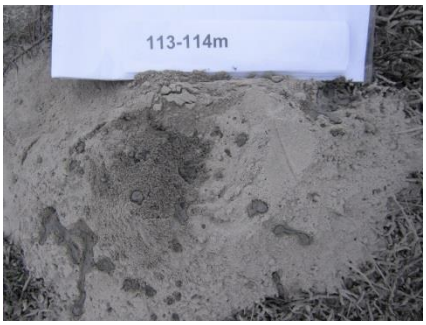

102-103m

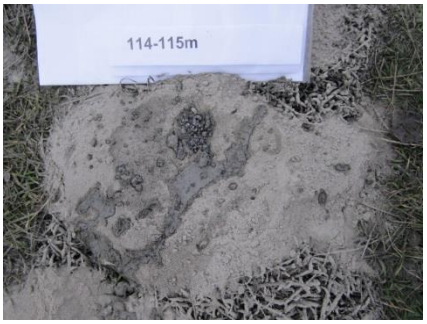
107-108m


112-113m


103-104m

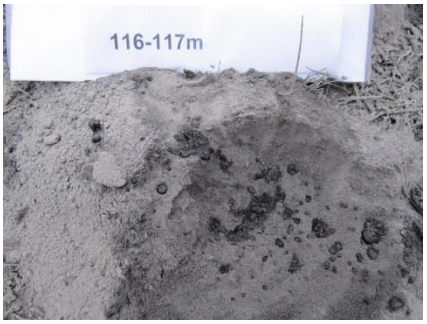
108-109m


113-114m


114-115m

119-120m

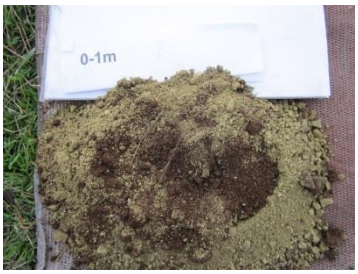
115-116m

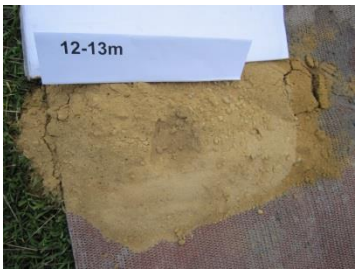

116-117m

117-118m

118-119m

W 77 Percussion Samples



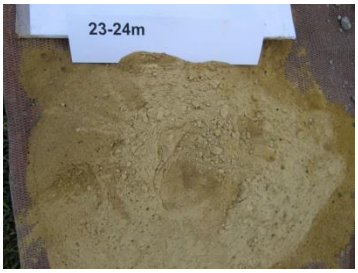

12-13m

17-18m

22-23m

13-14m

18-19m


23-24m

14-15m

19-20m

24-25m

15-16m

20-21m

25-26m

16-17m

21-22m

26-27m

27-28m

28-29m

29-30m

30-31m

31-32m

32-33m

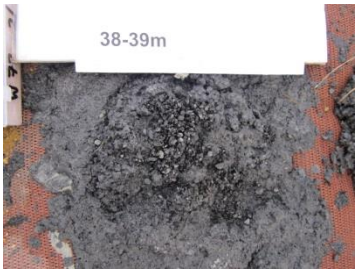
33-34m

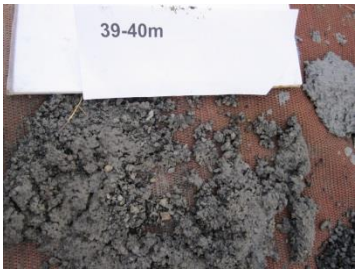
34-35m

35-36m

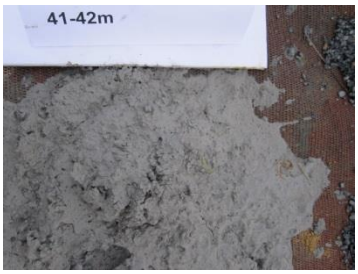
36-37m

37-38m


38-39m


39-40m

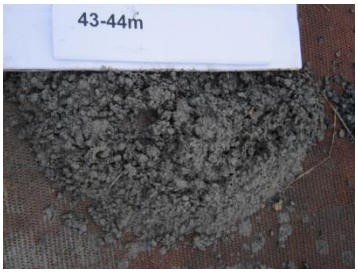
40-41m


41-42m

42-43m

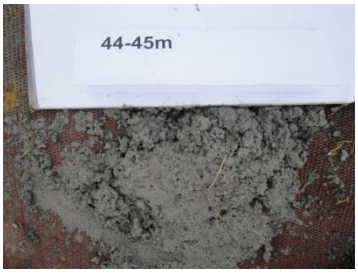
47-48m

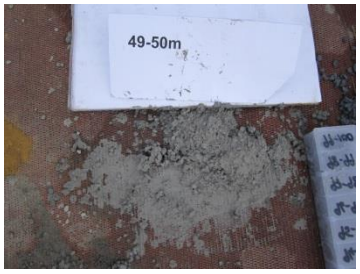
53-54m


43-44m

48-49m

54-55m


44-45m


49-50m

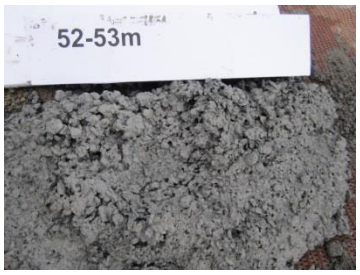
55-56m

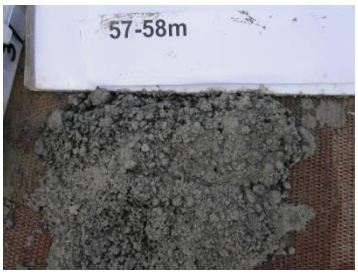
45-46m

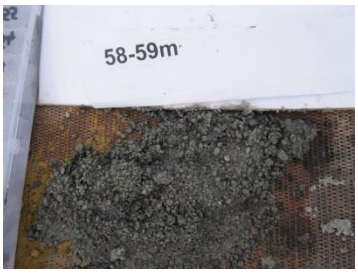
50-51m

56-57m

46-47m


52-53m

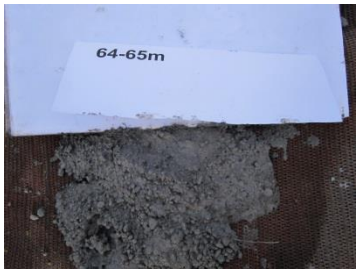

57-58m

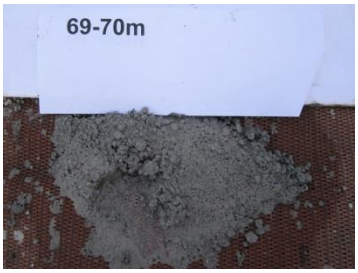

58-59m

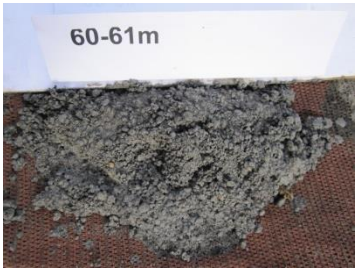
63-64m

68-69m

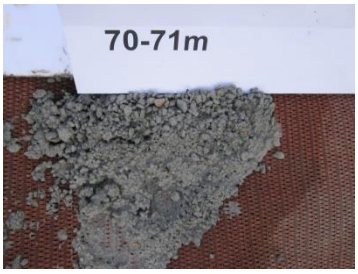
59-60m


64-65m


69-70m


60-61m

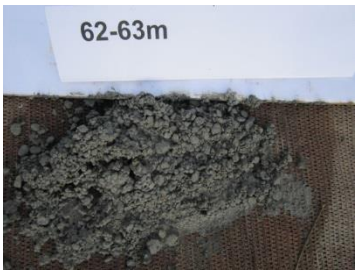
65-66m


70-71m

61-62m

66-67m

71-72m


62-63m

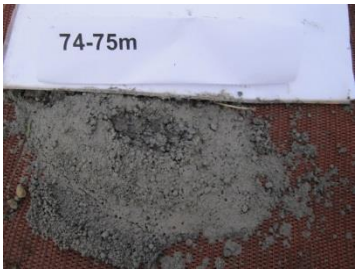
67-68m

72-73m

73-74m

78-79m

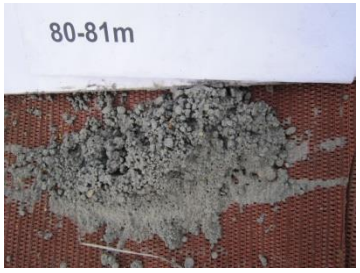
83-84m


74-75m

79-80m

84-85m

75-76m


80-81m

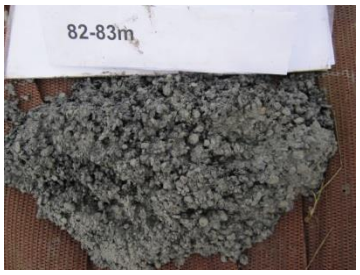
85-86m

76-77m

81-82m

86-87m

77-78m


82-83m

87-88m

88-89m

89-90m

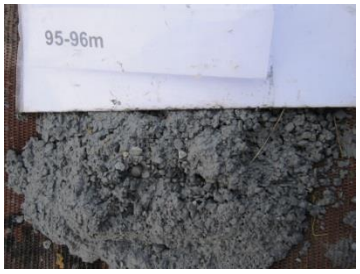
90-91m

91-92m

92-93m

93-94m

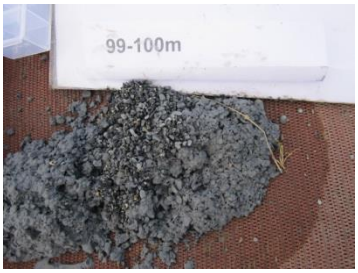
94-95m


95-96m

96-97m

97-98m

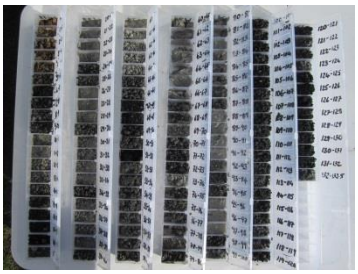
98-99m

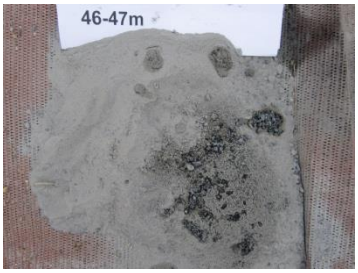

99-100m

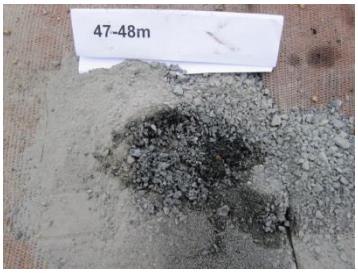
100-101m

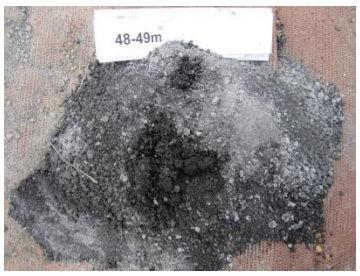
101-102m

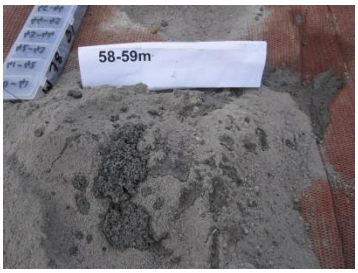
W 78 Percussion chip samples

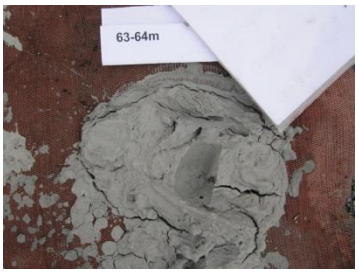


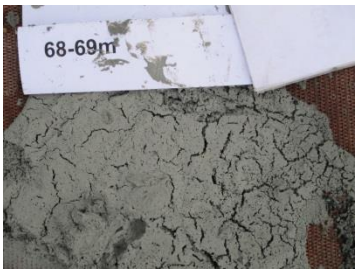




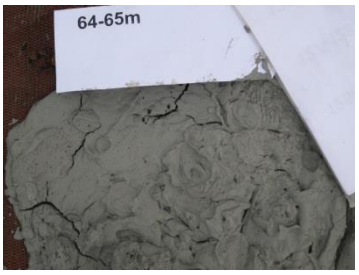


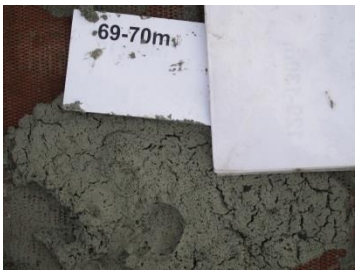

58-59m

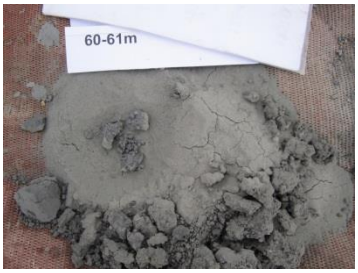

63-64m

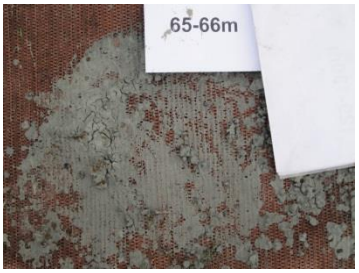

68-69m

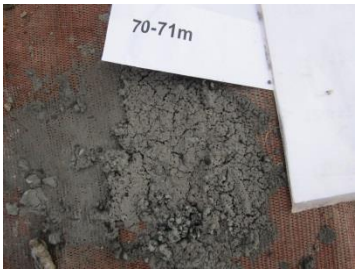
59-60m

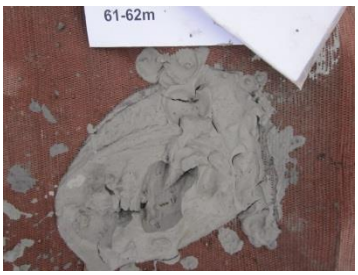

64-65m

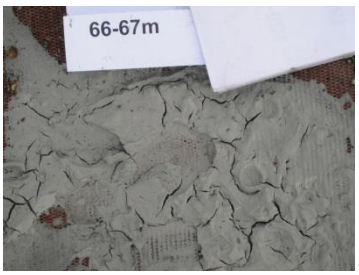

69-70m

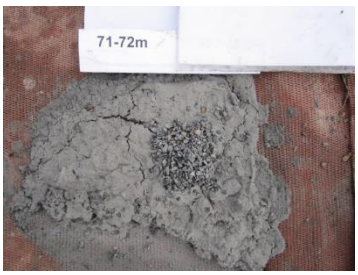

60-61m


65-66m

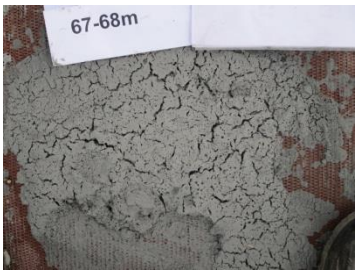

70-71m

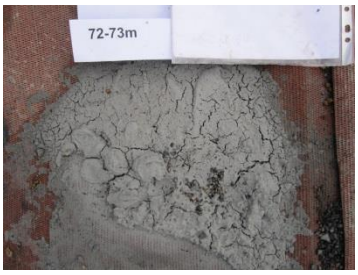

61-62m

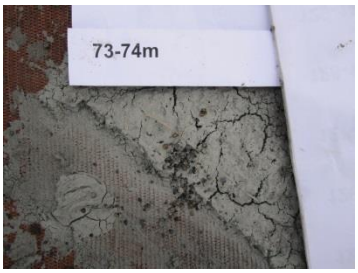

66-67m


71-72m

62-63m

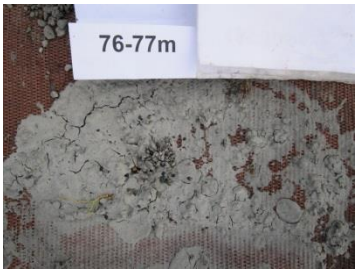

67-68m


72-73m


73-74m

74-75m

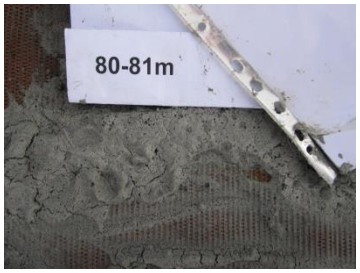
75-76m


76-77m

77-78m

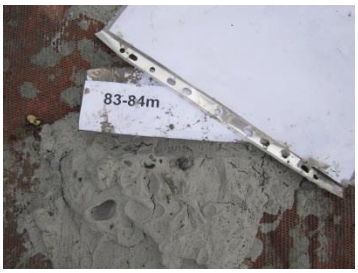
78-79m

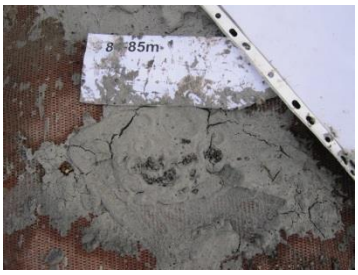
79-80m


80-81m

81-82m

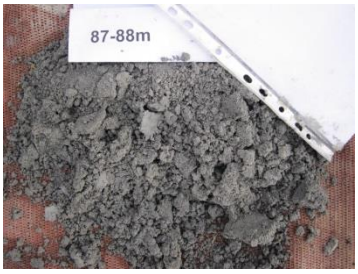
82-83m

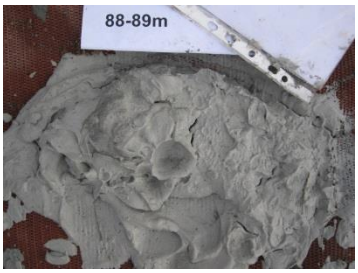

83-84m



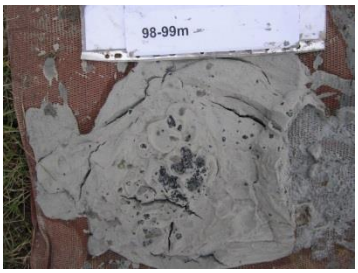
85-86m

86-87m


87-88m

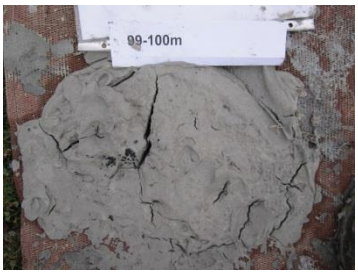

88-89m

93-94m

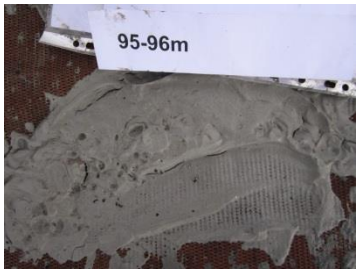

98-99m

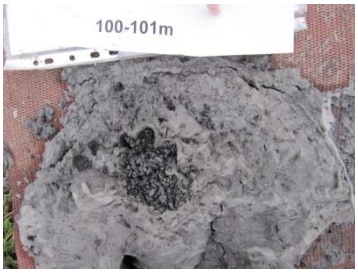
89-90m

94-95m

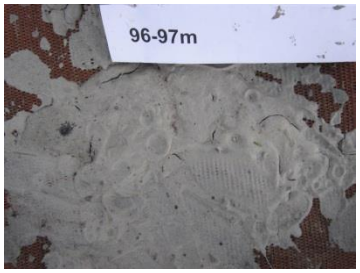

99-100m

90-91m


95-96m

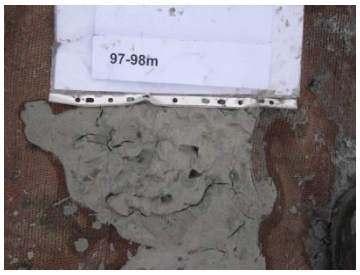

100-101m

91-92m


96-97m

101-102m

92-93m


97-98m

102-103m

103-104m

108-109m

113-114m

104-105m

109-110m

114-115m

105-106m

110-111m

115-116m

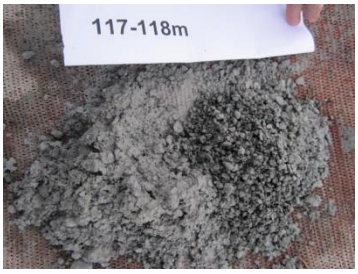
106-107m

111-112m

116-117m

107-108m

115-116m


117-118m

118-119m

123-124m

128-129m

119-120m

124-125m

129-130m

120-121m

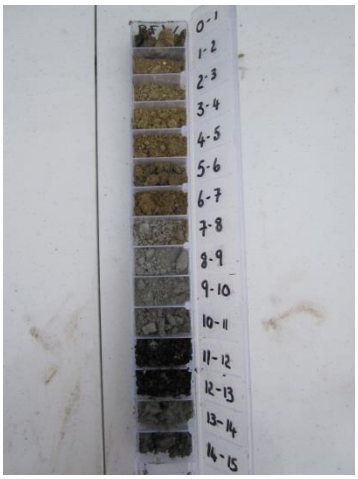
125-126m

121-122m

122-123m

127-128m

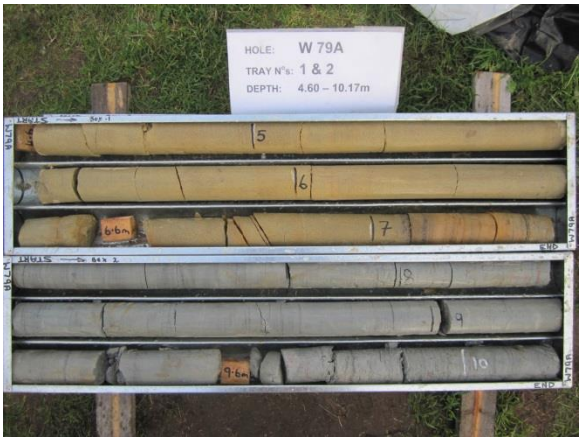
W79 Percussion Chip Samples



13-14m

14-15m

W79A Core Tray Photographs



HOLE: W 79A
TRAY N°s: 9 & 10
DEPTH: 26.85 – 32.53m

HOLE: W 79A
TRAY N°s: 15 & 16
DEPTH: 43.68 – 49.19m

HOLE: W 79A
TRAY N°s: 11 & 12
DEPTH: 32.53 – 38.03m

HOLE: W 79A
TRAY N°s: 17 & 18
DEPTH: 49.19 – 54.79m

HOLE: W 79A
TRAY N°s: 13 & 14
DEPTH: 38.03 – 43.68m

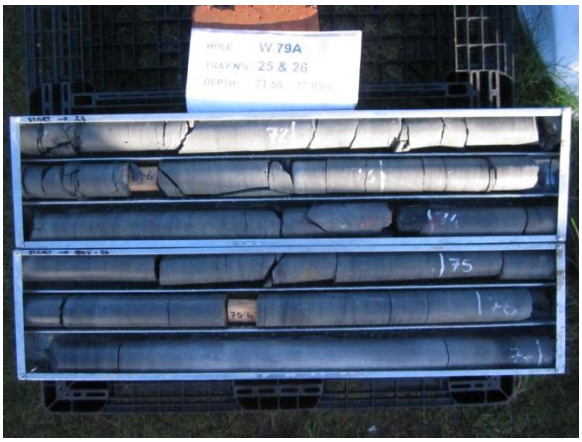
HOLE: W 79A
TRAY N°s: 19 & 20
DEPTH: 54.79 – 60.32m

HOLE: W 79A
TRAY N°s: 21 & 22
DEPTH: 60.32 – 65.93m

HOLE: W 79A
TRAY N°s: 27 & 28
DEPTH: 77.03 – 82.56m

HOLE: W 79A
TRAY N°s: 23 & 24
DEPTH: 65.93 – 71.50m

HOLE: W 79A
TRAY N°s: 29 & 30
DEPTH: 82.56 – 88.12m


HOLE: W 79A
TRAY N°s: 25 & 26
DEPTH: 71.50 – 77.03m

HOLE: W 79A
TRAY N°s: 31 & 32
DEPTH: 88.12 – 93.70m
COREloss
0-150

HOLE: W 79A
TRAY N°s: 33 & 34
DEPTH: 93.70 – 99.22m
95
96
96·6

HOLE: W 79A
TRAY N°s: 39 EOH
DEPTH: 110.31 – 111.60m

HOLE: W 79A
TRAY N°s: 35 & 36
DEPTH: 99.22 – 104.75m
99·6
102·6

HOLE: W 79A
TRAY N°s: 37 & 38
DEPTH: 104.75 – 110.31m
105
106
107
108
108·6
110

W 80 Percussion Chip Samples and Core Photos

10-11m

15-16m

20-21m

11-12m

16-17m

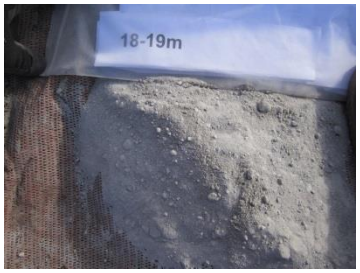
21-22m

12-13m

17-18m

22-23m

13-14m


18-19m

23-24m

14-15m

19-20m

24-25m

25-26m

30-31m

26-27m

31-32m

27-28m

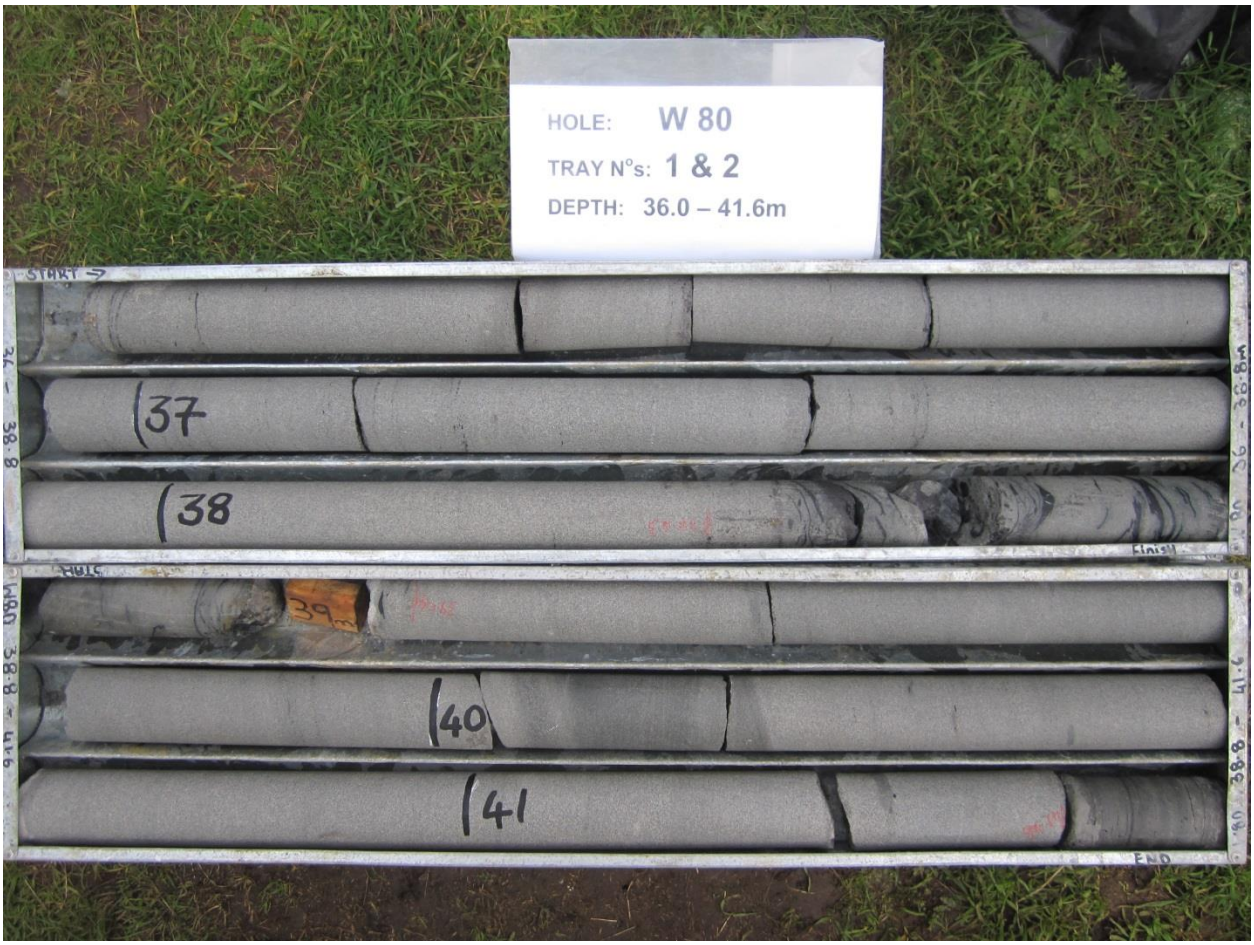
32-33m

28-29m

33-34m

29-30m

34-35m


HOLE: W 80
TRAY N°s: 1 & 2
DEPTH: 36.0 – 41.6m
START
37
38
39
40
41
END

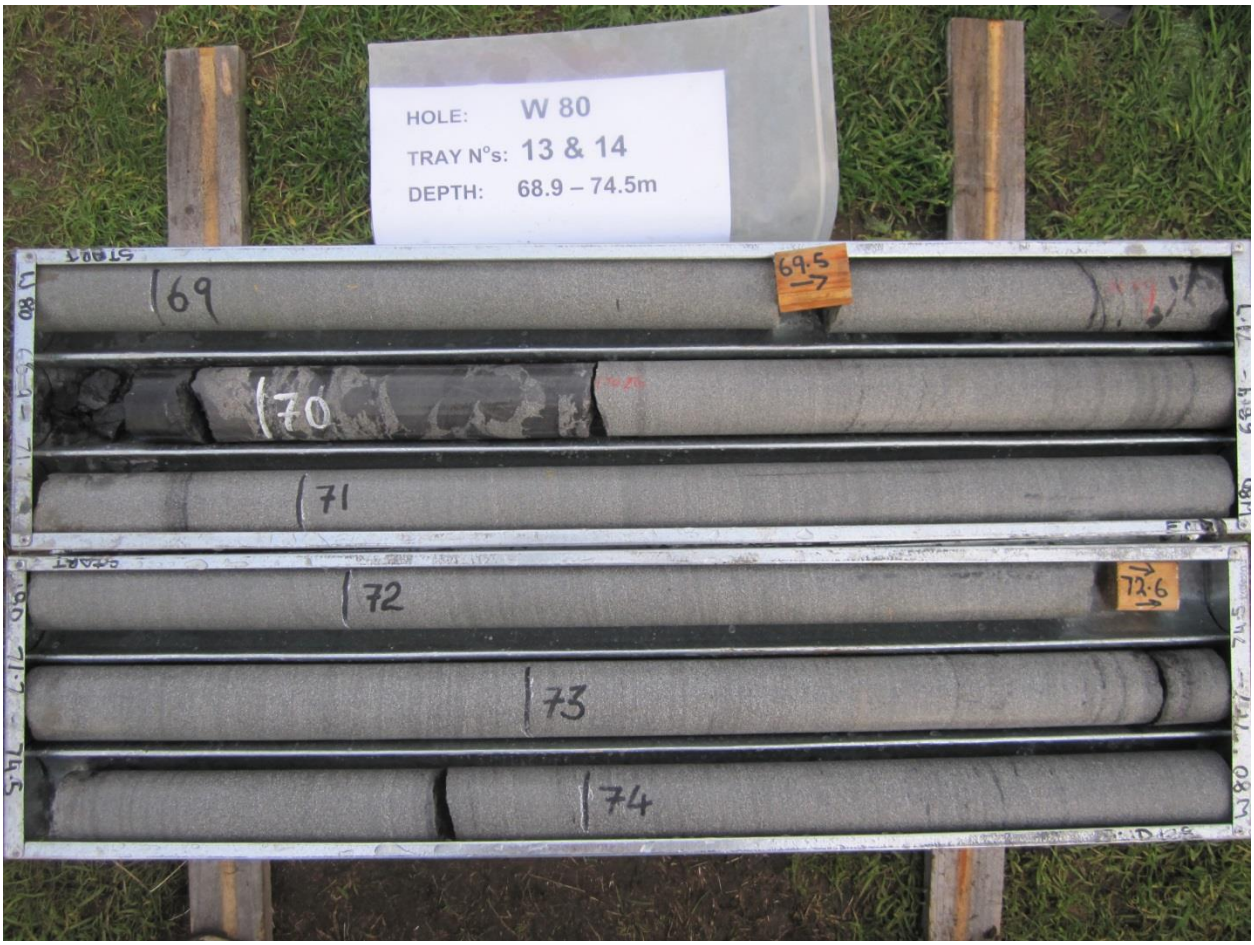
HOLE: W 80
TRAY N°s: 3 & 4
DEPTH: 41.6 – 47.0m
42
43
44
45
46

HOLE: W 80
TRAY N°s: 5 & 6
DEPTH: 47.0 – 52.5m
47
48
49
50
51
52
47.65
48.65
END

HOLE: W 80
TRAY N°s: 7 & 8
DEPTH: 52.5 – 57.8m
53
54
55
54.3
56
57
57.5

HOLE: W 80
TRAY N°s: 9 & 10
DEPTH: 57.8 – 63.25m
58
59
60
61
62
63

HOLE: W 80
TRAY N°s: 11 & 12
DEPTH: 63.25 – 68.90m
63.5
64
65
66
66.5
67
68


HOLE: W 80
TRAY N°s: 13 & 14
DEPTH: 68.9 – 74.5m
69
70
71
72
73
74
69.5
72.6

HOLE: W 80
TRAY N°s: 15 & 16
DEPTH: 74.5 – 80.1m
75
75.6
76
77
END
78.6
79
80
END

HOLE: W 80
TRAY N°s: 17 & 18
DEPTH: 80.1 – 85.6m
81
81.6
82
83
84
84.6
85

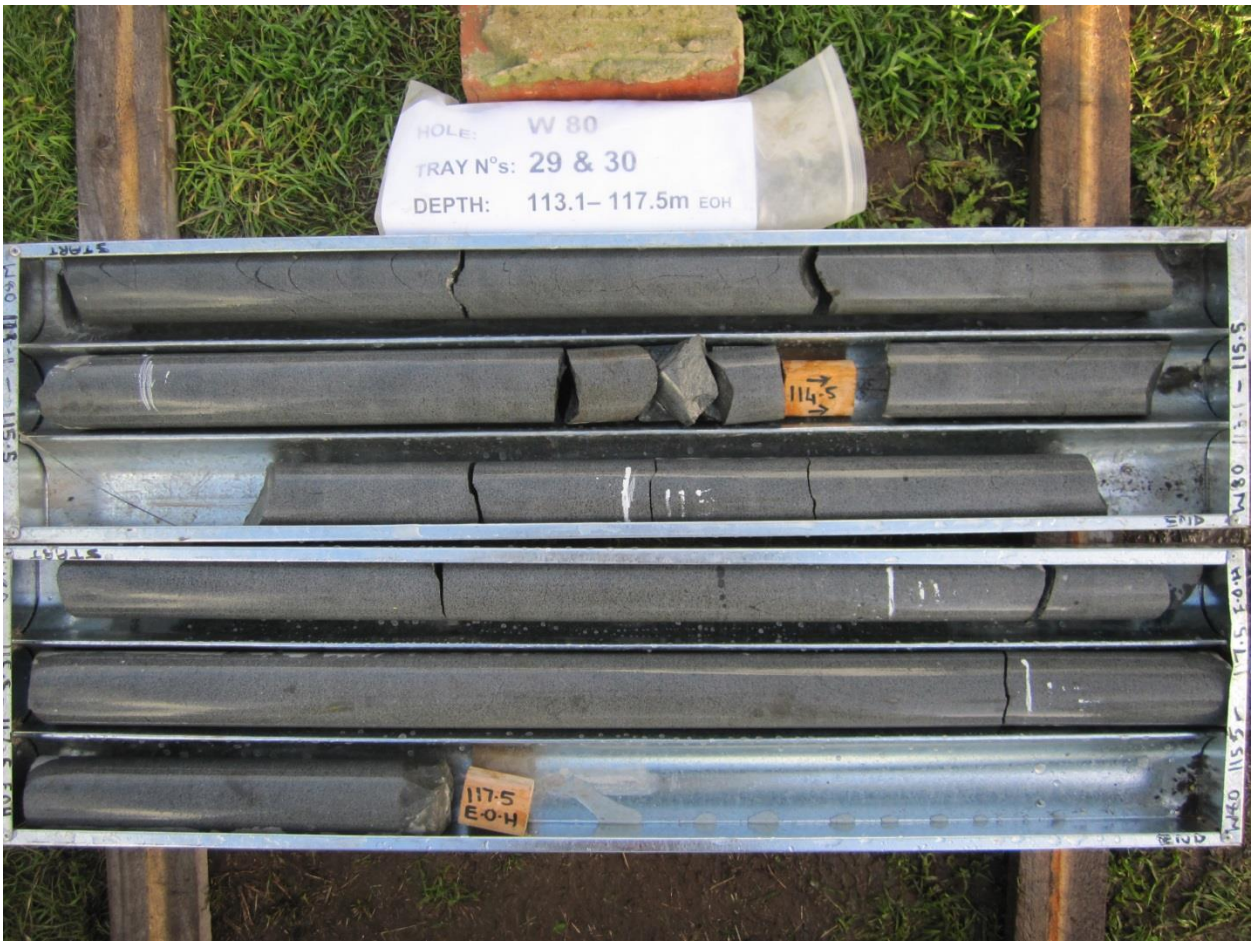
HOLE: W 80
TRAY N°s: 19 & 20
DEPTH: 85.6 – 90.8m
86
87
88
87·6
END
89
90
90·6
END

HOLE: W 80
TRAY N°s: 21 & 22
DEPTH: 90.8– 96.4m
91
92
93
93.6
94
95
96

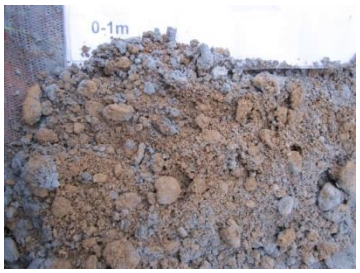
HOLE: W 80
TRAY N°s: 23 & 24
DEPTH: 96.4– 103.3m
START
96.6
97
98
99
END
START
99.6
100
101
102
END

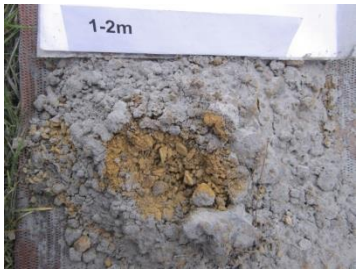
HOLE: W 80
TRAY N°s: 25 & 26
DEPTH: 103.3 – 107.8m
START
W80
103.3 - 105
102.6
103
104
105
END
W80
105 - 107.9
105.3
106
107
END

HOLE: W 80
TRAY N°s: 27 & 28
DEPTH: 107.8 – 113.1m
108
108.5
109
110
111
111.5
112
END


HOLE: W 80
TRAY N°s: 29 & 30
DEPTH: 113.1– 117.5m EOH
114·5
117·5
E·O·H

W 81 Percussion Chip Samples and Core Tray Photographs





10-11m

15-16m

20-21m

11-12m

16-17m

21-22m

12-13m

17-18m

22-23m

13-14m

18-19m

23-24m

14-15m

19-20m

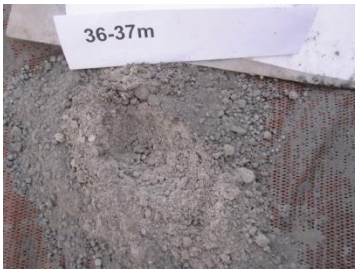
24-25m

25-26m

30-31m

35-36m

26-27m


36-37m

27-28m

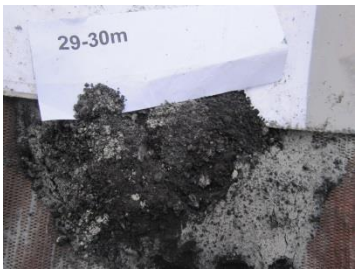
32-33m

37-38m

28-29m

33-34m

38-39m


29-30m

34-35m

39-40m

40-41m

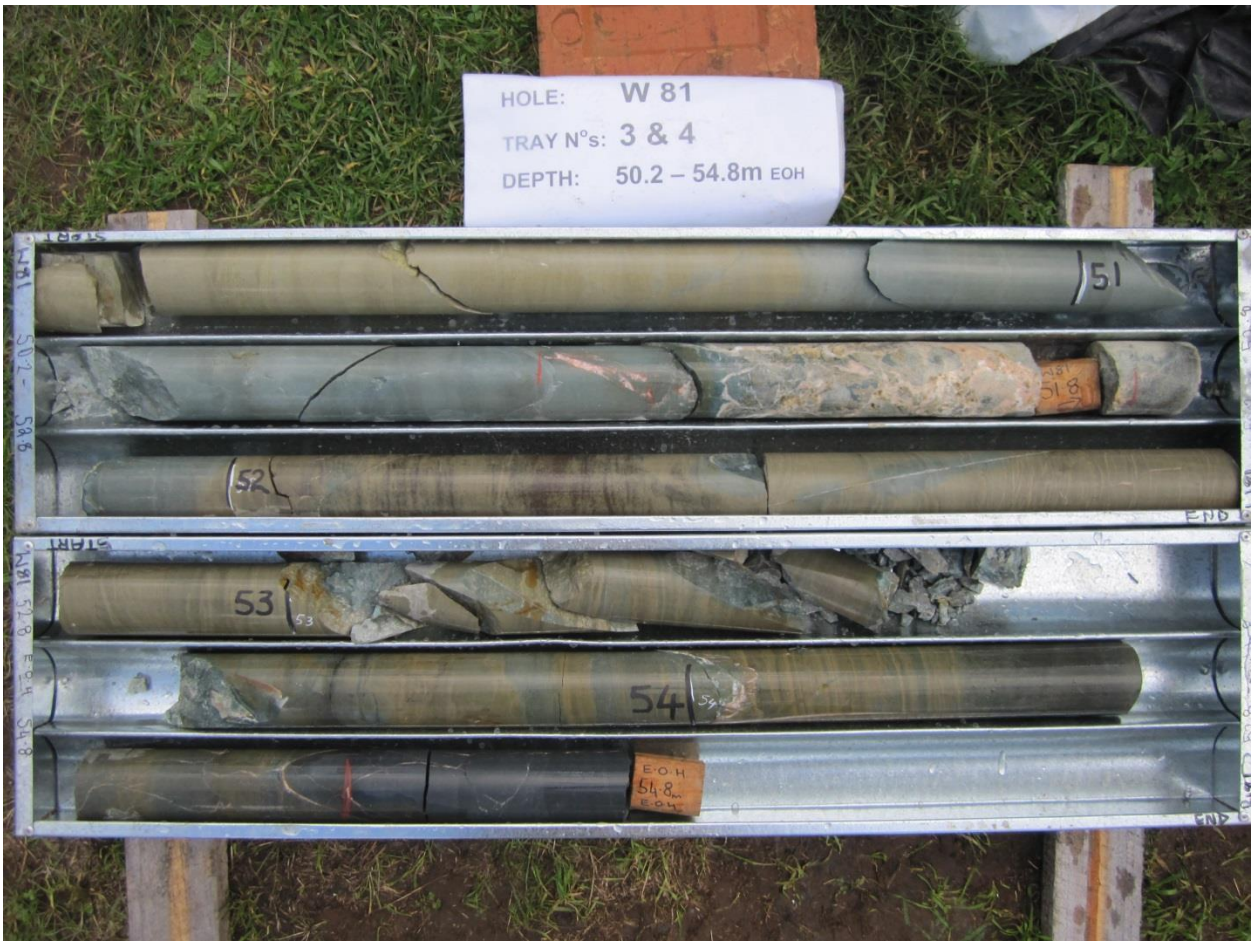
41-42m

42-43m

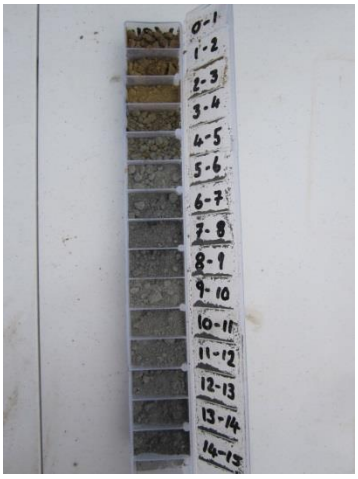
43-44m

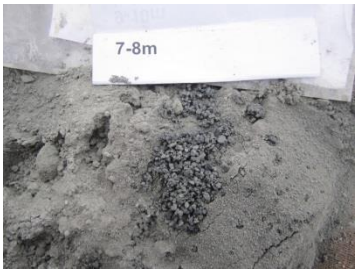
44-45m

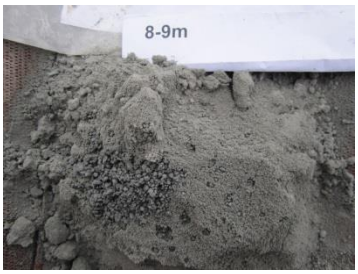
HOLE: W 81
TRAY N°s: 1 & 2
DEPTH: 45.0 – 50.2m
46
47
48
49
50
END


HOLE: W 81
TRAY N°s: 3 & 4
DEPTH: 50.2 – 54.8m EOH
START
51
52
53
54
E.O.H
54.8m
END

W 81A Percussion Sample Chips and Core Tray Photographs

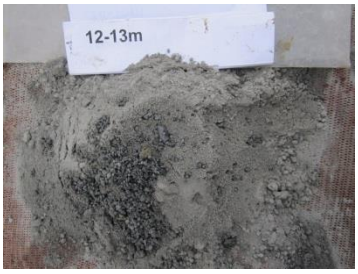






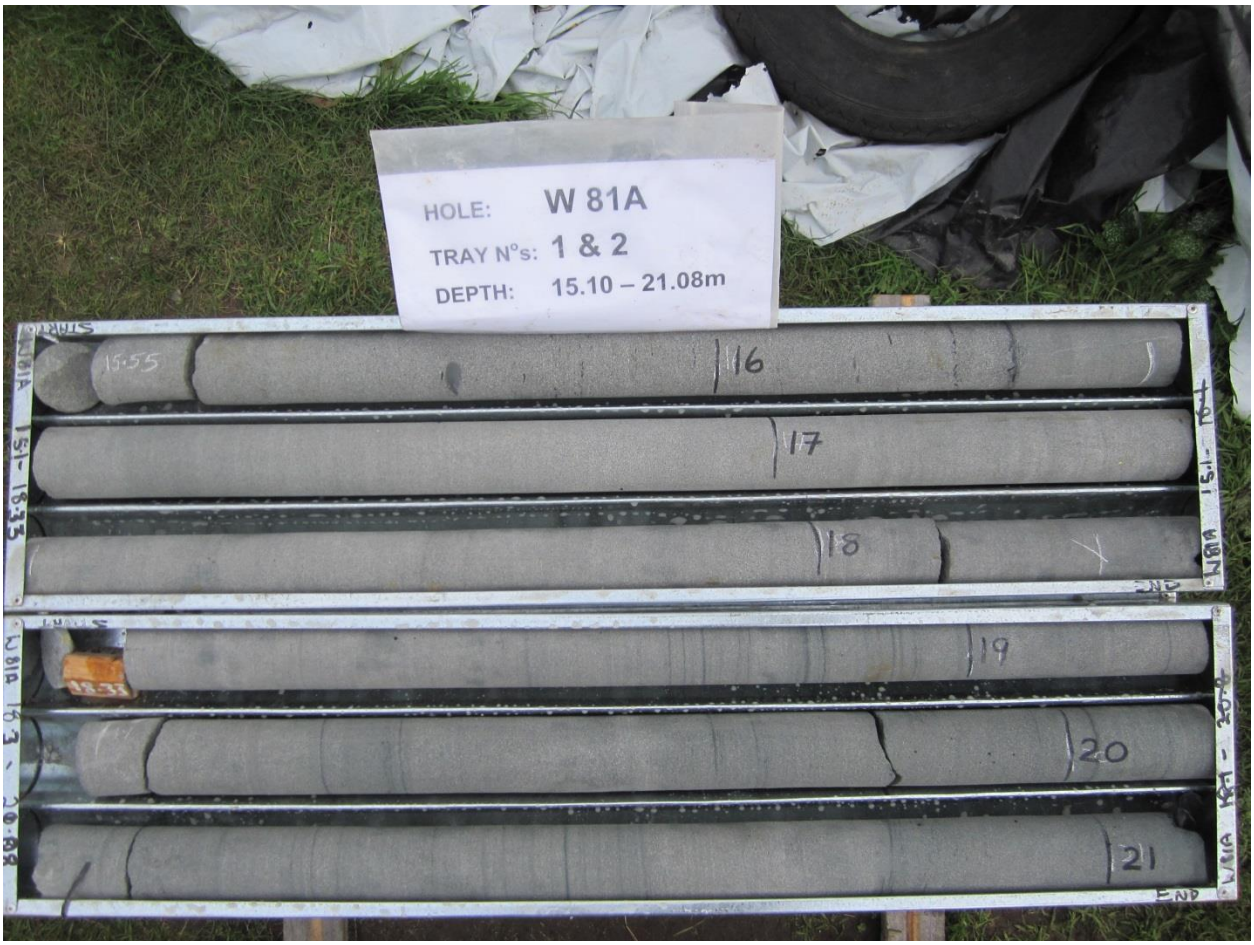
10-11m

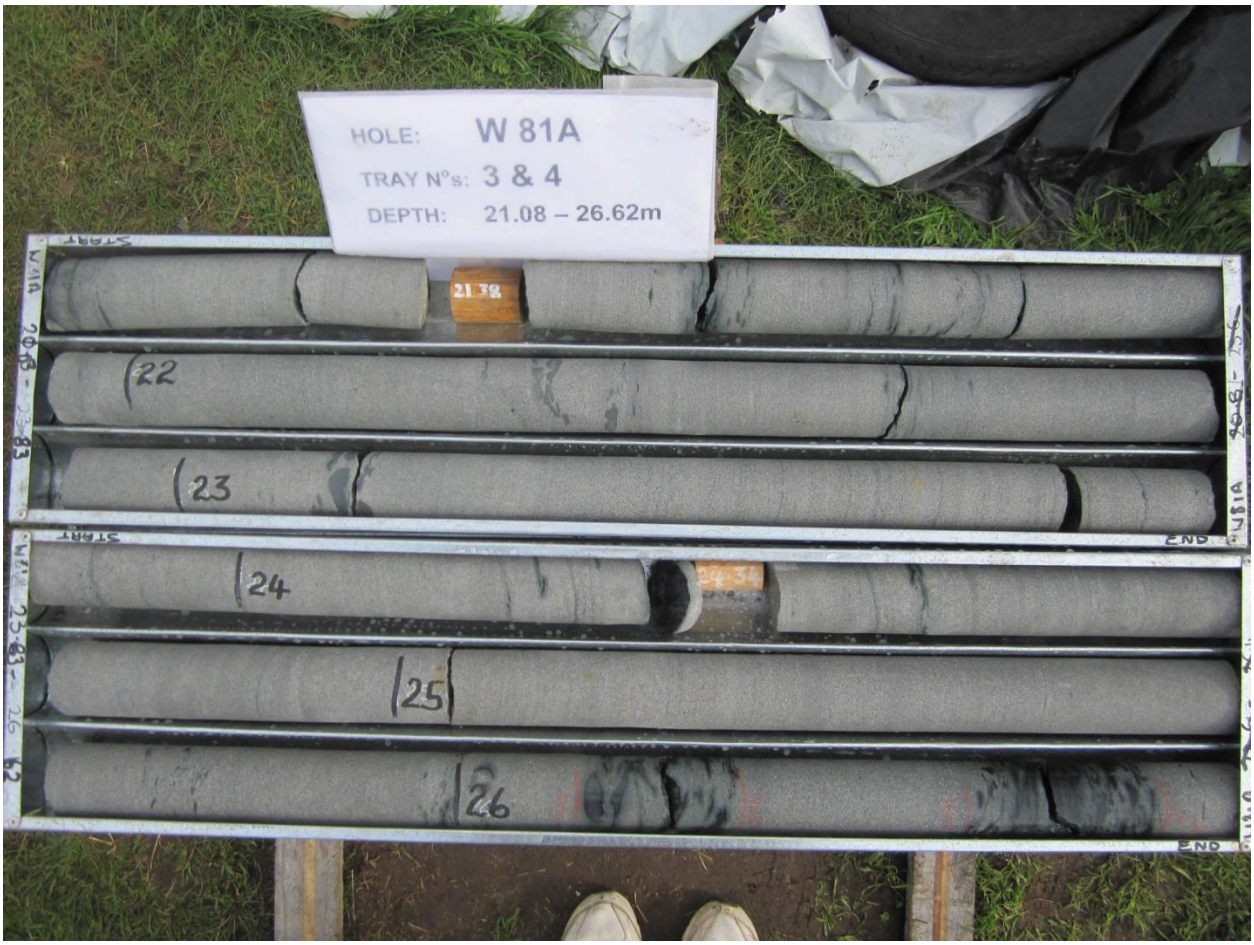
11-12m


12-13m

13-14m

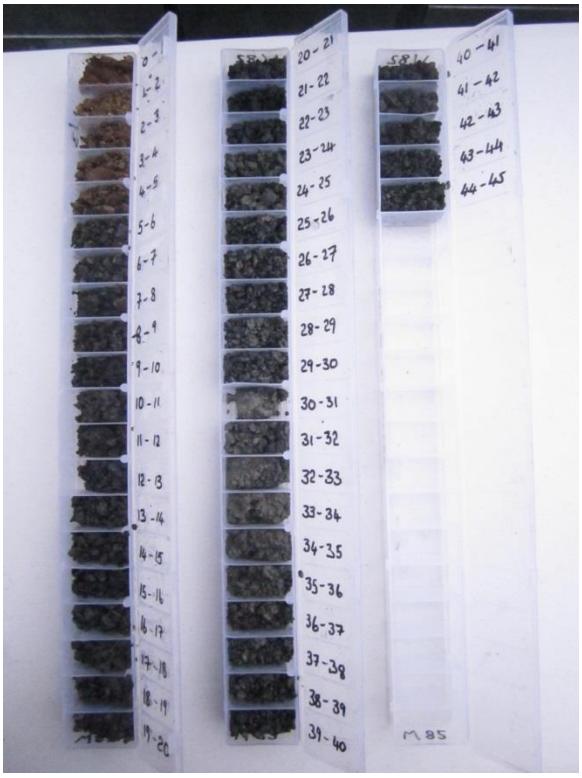
14-15m


HOLE: W 81A
TRAY N°s: 1 & 2
DEPTH: 15.10 – 21.08m
15.55
16
17
18
19
20
21


HOLE: W 81A
TRAY N°s: 3 & 4
DEPTH: 21.08 – 26.62m
21.38
22
23
24
25
26
START
END

HOLE: W 81A
TRAY N°s: 5 & 6
DEPTH: 26.62 – 32.30m
27
28
29
30
31
32

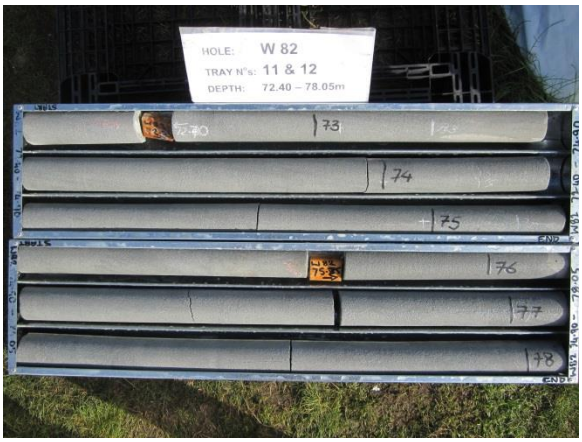
W 82 Percussion Chips and Core Tray Photographs



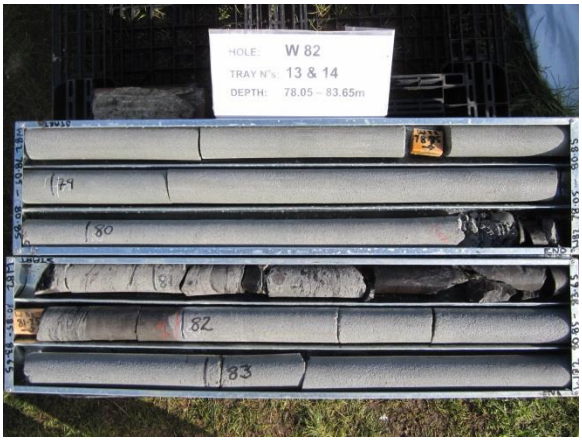
HOLE: W 82
TRAY N°s: 3 & 4
DEPTH: 50.40 – 55.95m

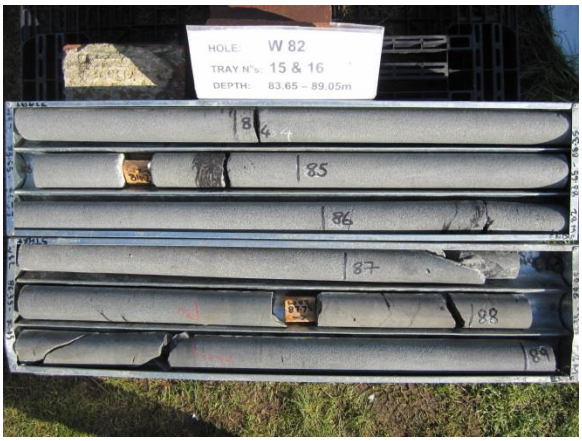
HOLE: W 82
TRAY N°s: 9 & 10
DEPTH: 67.15 – 72.40m

HOLE: W 82
TRAY N°s: 5 & 6
DEPTH: 55.95 – 61.65m


HOLE: W 82
TRAY N°s: 11 & 12
DEPTH: 72.40 – 78.05m

HOLE: W 82
TRAY N°s: 7 & 8
DEPTH: 61.65 – 67.15m


HOLE: W 82
TRAY N°s: 13 & 14
DEPTH: 78.05 – 83.65m


HOLE: W 82
TRAY N°s: 15 & 16
DEPTH: 83.65 – 89.05m

HOLE: W 82
TRAY N°s: 21 & 22
DEPTH: 99.95 – 105.50m

HOLE: W 82
TRAY N°s: 17 & 18
DEPTH: 89.05 – 94.50m

HOLE: W 82
TRAY N°s: 23 & 24
DEPTH: 105.50 – 110.90m

HOLE: W 82
TRAY N°s: 19 & 20
DEPTH: 94.50 – 97.25m

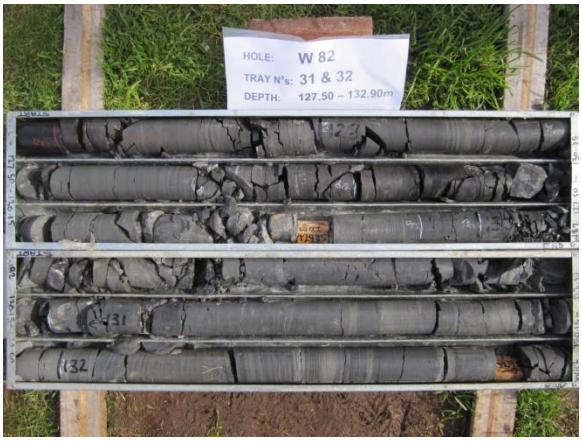
HOLE: W 82
TRAY N°s: 25 & 26
DEPTH: 110.90 – 116.35m

HOLE: W 82
TRAY N°s: 27 & 28
DEPTH: 116.35 – 121.85m

HOLE: W 82
TRAY N°s: 33 & 34
DEPTH: 132.90 – 138.25m

HOLE: W 82
TRAY N°s: 29 & 30
DEPTH: 121.85 – 127.50m

HOLE: W 82
TRAY N°s: 35 & 36
DEPTH: 138.25 – 143.75m

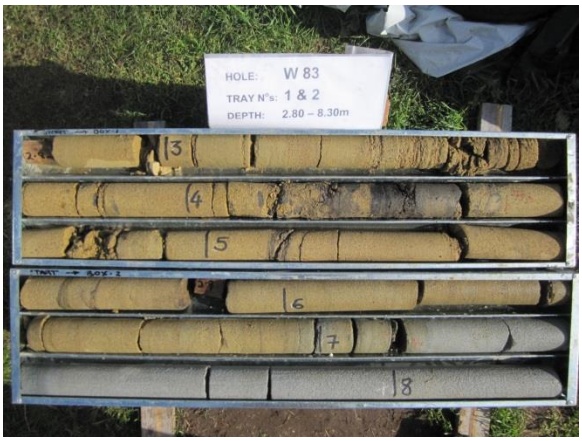

HOLE: W 82
TRAY N°s: 31 & 32
DEPTH: 127.50 – 132.90m

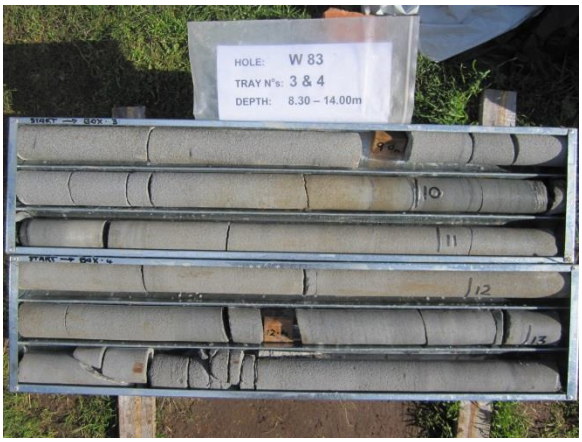
HOLE: W 82
TRAY N°s: 37 & 38
DEPTH: 143.75 – 149.35m

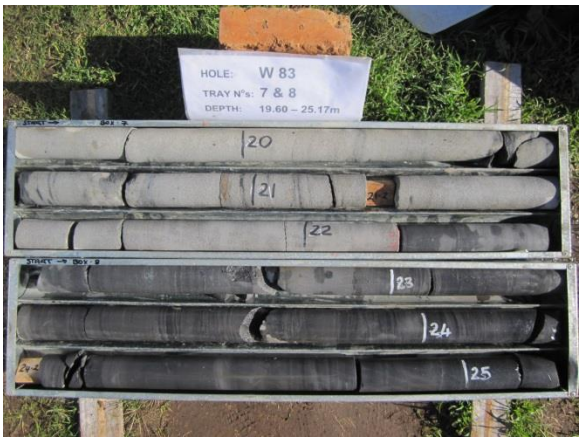
HOLE: W 82
TRAY N°s: 39 & 40
DEPTH: 149.35 – 154.85m

HOLE: W 82
TRAY N°s: 41 EOH
DEPTH: 154.85 – 156.75m

W 83 Percussion Chips and Core Tray Photographs






HOLE: W 83
TRAY N°s: 7 & 8
DEPTH: 19.60 – 25.17m

HOLE: W 83
TRAY N°s: 13 & 14
DEPTH: 36.35 – 42.06m

HOLE: W 83
TRAY N°s: 9 & 10
DEPTH: 25.17 – 30.85m

HOLE: W 83
TRAY N°s: 15 & 16
DEPTH: 42.06 – 47.42m

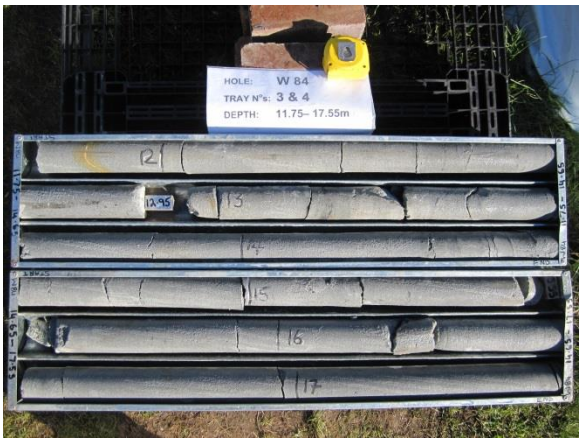
HOLE: W 83
TRAY N°s: 11 & 12
DEPTH: 30.85 – 36.35m

HOLE: W 83
TRAY N°s: 17 & 18EOH
DEPTH: 47.42 – 50.40m

HOLE: W 84
TRAY N°s: 5 & 6
DEPTH: 17.55– 24.75m

HOLE: W 84
TRAY N°s: 1 & 2
DEPTH: 5.15– 11.75m

HOLE: W 84
TRAY N°s: 7 & 8
DEPTH: 24.75– 30.25m


HOLE: W 84
TRAY N°s: 3 & 4
DEPTH: 11.75– 17.55m

HOLE: W 84
TRAY N°s: 9 & 10
DEPTH: 30.25– 35.55m

HOLE: W 84
TRAY N°s: 11 & 12
DEPTH: 35.55– 41.50m

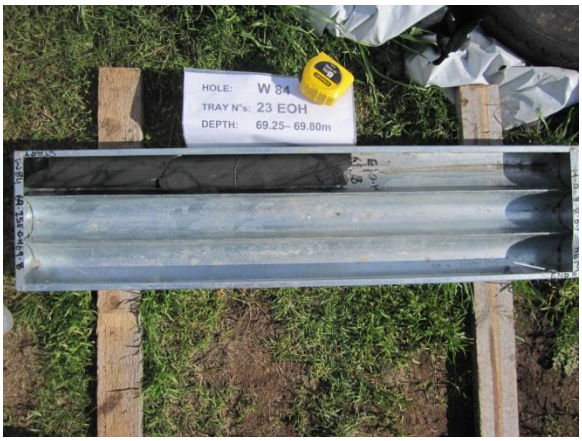
HOLE: W 84
TRAY N°s: 17 & 18
DEPTH: 53.05– 58.45m

HOLE: W 84
TRAY N°s: 13 & 14
DEPTH: 41.50– 47.05m

HOLE: W 84
TRAY N°s: 19 & 20
DEPTH: 58.45– 63.80m

HOLE: W 84
TRAY N°s: 15 & 16
DEPTH: 47.05– 53.05m

HOLE: W 84
TRAY N°s: 21 & 22
DEPTH: 63.80– 69.25m


HOLE: W 84
TRAY N°s: 23 EOH
DEPTH: 69.25– 69.80m

HOLE: W 85
TRAY N°s: 5 & 6
DEPTH: 15.60 – 21.18m

HOLE: W 85
TRAY N°s: 7 & 8
DEPTH: 21.18 – 26.91m

HOLE: W 85
TRAY N°s: 1 & 2
DEPTH: 4.50 – 10.12m

HOLE: W 85
TRAY N°s: 9 & 10
DEPTH: 26.91 – 32.52m

HOLE: W 85
TRAY N°s: 3 & 4
DEPTH: 10.12 – 15.60m

HOLE: W 85
TRAY N°s: 11 & 12
DEPTH: 32.52 – 37.96m

HOLE: W 85
TRAY N°s: 17 & 18
DEPTH: 48.67 – 54.50m

HOLE: W 85
TRAY N°s: 13 & 14
DEPTH: 37.96 – 43.34m

HOLE: W 85
TRAY N°s: 19 & 20
DEPTH: 54.50 – 59.84m

HOLE: W 85
TRAY N°s: 15 & 16
DEPTH: 43.34 – 48.67m

HOLE: W 85
TRAY N°s: 21 & 22
DEPTH: 59.84– 65.48m

HOLE: W 85
TRAY N°s: 23 & 24
DEPTH: 65.48– 71.16m

HOLE: W 85
TRAY N°s: 29 & 30
DEPTH: 82.37– 87.98m

HOLE: W 85
TRAY N°s: 25 & 26
DEPTH: 71.16– 76.73m

HOLE: W 85
TRAY N°s: 31 & 32
DEPTH: 87.98– 93.60m

HOLE: W 85
TRAY N°s: 27 & 28
DEPTH: 76.73– 82.37m

HOLE: W 85
TRAY N°s: 33 & 34
DEPTH: 93.60– 97.30m EOH

DEPTH:
17
18
18.55
19
20
21
21.55

HOLE: W 86
TRAY N°s: 1 & 2
DEPTH: 5.05 – 10.57m
6.55
7
8
9
10

HOLE: W 86
TRAY N°s: 7 & 8
DEPTH: 21.66 – 27.36m
22
23
24
24.5
25
26
27

HOLE: W 86
TRAY N°s: 3 & 4
DEPTH: 10.57 – 16.05m
11
12
12.55
13
14
15
15.55

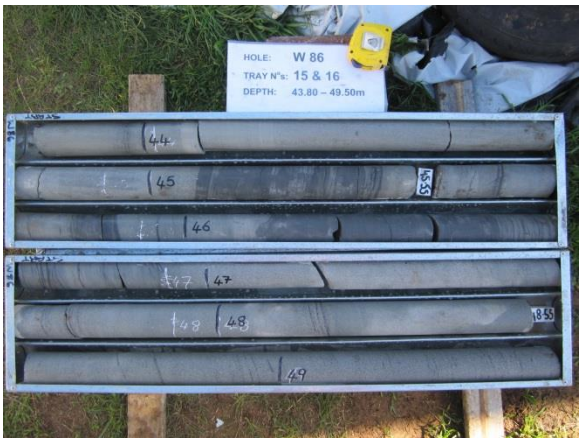
HOLE: W 86
TRAY N°s: 9 & 10
DEPTH: 27.36 – 32.92m
27.55
28
29
30
31
32
32.55

HOLE: W 86
TRAY N°s: 11 & 12
DEPTH: 32.92 – 38.36m

HOLE: W 86
TRAY N°s: 17 & 18
DEPTH: 49.50 – 54.86m

HOLE: W 86
TRAY N°s: 13 & 14
DEPTH: 38.36 – 43.80m

HOLE: W 86
TRAY N°s: 19 & 20
DEPTH: 54.86 – 60.52m


HOLE: W 86
TRAY N°s: 15 & 16
DEPTH: 43.80 – 49.50m

HOLE: W 86
TRAY N°s: 21 & 22
DEPTH: 60.52 – 65.88m

HOLE: W 86
TRAY N°s: 23 & 24
DEPTH: 65.88 – 71.48m

HOLE: W 86
TRAY N°s: 29 & 30
DEPTH: 82.62 – 88.14m

HOLE: W 86
TRAY N°s: 25 & 26
DEPTH: 71.48 – 77.09m

HOLE: W 86
TRAY N°s: 31 & 32
DEPTH: 88.14 – 93.40m

HOLE: W 86
TRAY N°s: 27 & 28
DEPTH: 77.09 – 82.62m

HOLE: W 86
TRAY N°s: 33 & 34
DEPTH: 93.40 – 96.60m

HOLE: W 86
TRAY N°s: 35 & 36
DEPTH: 96.40 – 102.08m

HOLE: W 86
TRAY N°s: 37 & 38EOH
DEPTH: 102.08 – 105.40m

Annual Report 2013 – 2014 for EL65/2007

APPENDIX 6

Woodbury Coal Analysis – Nov 2014

Midland Energy
Woodbury Cores
61mm

Preliminary Results Report
Raw Coal

Statistics																												
No#			70	70	70	70	70	70	70	70	38	38	38	38													
Max			2.94	5.7	5.2049	5.106	7.9	89.7	26.9	64.8	1.62	26.87	6418	2.01													
Min			0.12	0.6	0.1501	0.1477	0.9	16.8	3.9	3.9	0.09	14.6	3486	1.46													
AVG			0.689	2.05	1.6807	1.6449	4.06	47.27	13.32	35.35	0.433	20.873	4985	1.651													
STD DEV			0.613	0.99	1.0600	1.0351	1.62	19.00	6.24	15.41	0.268	3.579	855	0.134													
				AS1038.1			AS1038.3	AS1038.3	AS1038.3	AS1038.3	AS1038.6	AS1038.5	AS1038.5	AS1038.21													
				a.r.	a.r.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	a.d.	d.b.	d.b.	d.a.f.	d.a.f.	d.b.	d.a.f.	d.b.	d.b.	d.b.	d.a.f.			
							Proximate Analysis																				
COAL8 Workorder Number	COAL8 Sample Number	ALS Job Number	LABSYS Sample Number	Hole Number	Seam Name	Client Sample Description	From m	To m	Length m	Free Moisture %	Mass kg	Mass kg	Moisture %	Ash %	Volatile %	Fixed Carbon %	Total Sulphur %	Calorific Value MJ/kg	Calorific Value kcal/kg	Relative Density g/cc	Ash %	Vol %	Vol %	FC %	CV MJ/kg	CV MJ/kg	RD %	TS %	PHOS %	Fuel Ratio %
IP14070601	#001	21014985	RH460516	W73		W73-01	66.55	66.73	0.18	1.7	0.784	0.7703	2.5	77.2	7.1	13.2					79.2	7.3	35.1	64.9	0	0	0	0	0	1.85
IP14070601	#002	21014985	RH460517	W74		W74-02	22.57	22.71	0.14	1.5	0.778	0.766	2.1	89.7	4.3	3.9					91.6	4.4	52.4	47.6	0	0	0	0	0	0.91
IP14070601	#003	21014985	RH460518	W75		W74-03	24.36	25.20	0.84	1.9	5.205	5.106	2.9	87.9	5.3	3.9					90.5	5.5	57.9	42.1	0	0	0	0	0	0.73
IP14070601	#004	21014985	RH460519	W75		W75-04	26.21	29.15	2.94	3.0	0.962	0.932	6.5	46.0	17.3	30.2	0.26	14.60	3486	1.76	49.2	18.5	36.4	63.6	15.61	30.73	1.86	0.28	0	1.75
IP14070601	#005	21014985	RH460520	W75		W75-05	26.85	27.00	0.15	2.9	0.532	0.517	7.3	46.2	17.3	29.2	0.34	14.79	3532	1.73	49.8	18.7	37.3	62.7	15.95	31.77	1.84	0.37	0	1.68
IP14070601	#006	21014985	RH460521	W75		W75-06	27.00	28.15	1.15	2.0	1.338	1.312	3.8	26.8	21.9	47.5	0.61	23.43	5596	1.52	27.9	22.8	31.6	68.4	24.36	33.79	1.55	0.63	0	2.16
IP14070601	#007	21014985	RH460522	W75		W75-07	28.15	29.15	1.00	2.8	0.966	0.939	6.9	54.5	14.1	24.5					58.5	15.1	36.4	63.6	0	0	0	0	0	1.75
IP14070601	#008	21014985	RH460523	W75		W75-08	41.62	41.80	0.18	0.7	0.435	0.432	0.9	75.9	10.8	12.4					76.6	10.9	46.6	53.4	0	0	0	0	0	1.15
IP14070601	#009	21014985	RH460524	W75		W75-09	63.41	63.59	0.18	1.6	0.150	0.148	2.6	31.4	17.0	49.0	0.45	22.77	5438	1.58	32.2	17.5	25.8	74.2	23.38	34.48	1.6	0.46	0	2.88
IP14070601	#010	21014985	RH460525	W75		W75-10	64.21	65.24	1.03	2.0	1.378	1.351	3.7	30.8	18.0	47.5	0.42	21.97	5248	1.59	32	18.7	27.5	72.5	22.81	33.54	1.63	0.44	0	2.64
IP14070601	#011	21014985	RH460526	W75		W75-12	66.71	67.35	0.64	2.1	1.197	1.172	3.3	37.1	15.2	44.4	0.46	20.60	4920	1.64	38.4	15.7	25.5	74.5	21.3	34.58	1.68	0.48	0	2.92
IP14070601	#012	21014985	RH460527	W75		W75-13	95.45	96.14	0.69	1.5	1.422	1.402	2.4	42.9	11.3	43.4	0.23	18.17	4340	1.74	44	11.6	20.7	79.3	18.62	33.25	1.77	0.24	0	3.83
IP14070601	#013	21014985	RH460528	W75		W75-14	108.26	108.48	0.22	2.0	0.549	0.538	2.6	65.5	5.2	26.7					67.2	5.3	16.2	83.8	0	0	0	0	0	5.17
IP14070601	#014	21014985	RH460529	W79A		W79A-15	11.74	13.00	1.26	3.9	2.071	1.990	5.2	24.4	22.4	48.0	0.34	22.99	5490	1.54	25.7	23.6	31.8	68.2	24.25	32.64	1.59	0.36	0	2.14
IP14070601	#015	21014985	RH460530	W79A		W79A-16	12.35	13.00	0.65	4.0	2.043	1.961	4.7	21.1	26.9	47.3	0.40	23.98	5728	1.51	22.1	28.2	36.2	63.8	25.16	32.3	1.55	0.42	0	1.76
IP14070601	#016	21014985	RH460531	W79A		W79A-17	15.28	15.93	0.65	3.9	2.148	2.064	6.1	31.6	22.3	40.0	0.35	19.84	4738	1.60	33.7	23.7	35.7	64.3	21.13	31.87	1.66	0.37	0	1.8
IP14070601	#017	21014985	RH460532	W79A		W79A-18	41.94	42.16	0.22	1.6	0.788	0.776	2.5	63.0	14.3	20.2					64.6	14.7	41.5	58.5	0	0	0	0	0	1.41
IP14070601	#018	21014985	RH460533	W79A		W79A-19	60.20	60.32	0.12	1.7	0.307	0.302	3.4	62.4	15.1	19.1					64.6	15.6	44.1	55.9	0	0	0	0	0	1.27
IP14070601	#019	21014985	RH460534	W79A		W79A-20	63.99	65.92	1.93	2.4	3.090	3.017	5.4	40.5	17.5	36.6	0.28	17.66	4218	1.69	42.8	18.5	32.3	67.7	18.67	32.64	1.76	0.3	0	2.1
IP14070601	#020	21014985	RH460535	W79A		W79A-21	64.70	65.15	0.45	1.9	2.138	2.097	4.3	38.2	21.4	36.1	0.49	18.92	4520	1.64	39.9	22.4	37.3	62.7	19.77	32.9	1.69	0.51	0	1.68
IP14070601	#021	21014985	RH460536	W79A		W79A-22	65.15	65.92	0.77	2.2	3.492	3.414	5.5	37.1	19.0	38.4	0.31	18.54	4428	1.67	39.3	20.1	33.1	66.9	19.62	32.32	1.74	0.33	0	2.02
IP14070601	#022	21014985	RH460537	W79A		W79A-23	67.76	68.05	0.29	2.2	1.283	1.255	6.2	45.1	15.9	32.8	0.36	16.29	3890	1.73	48.1	17	32.8	67.2	17.37	33.47	1.82	0.38	0	2.05
IP14070601	#023	21014985	RH460538	W79A		W79A-24	88.08	90.07	1.99	1.9	2.677	2.626	4.3	30.9	7.6	57.2	0.28	22.16	5292	1.65	32.3	7.9	11.7	88.3	23.16	34.21	1.7	0.29	0	7.55
IP14070601	#024	21014985	RH460539	W79A		W79A-25	88.84	89.10	0.26	1.7	1.078	1.060	2.4	33.3	8.4	55.9	0.32	21.81	5210	1.68	34.1	8.6	13.1	86.9	22.35	33.92	1.71	0.33	0	6.63
IP14070601	#025	21014985	RH460540	W79A		W79A-26	89.44	90.07	0.63	1.5	2.279	2.245	2.6	22.8	9.9	64.7	0.36	25.37	6058	1.60	23.4	10.2	13.3	86.7	26.05	34.01	1.63	0.37	0	6.52
IP14070601	#026	21014985	RH460541	W79A		W79A-27	99.85	100.10	0.25	4.6	2.330	2.223	6.1	54.8	6.0	33.1					58.4	6.4	15.4	84.6	0	0	0	0	0	5.49
IP14070601	#027	21014985	RH460542	W80		W80-28	42.56	43.12	0.56	2.2	2.737	2.676	2.6	72.7	8.2	16.5					74.6	8.4	33.1	66.9	0	0	0	0	0	2.02
IP14070601	#028	21014985	RH460543	W80		W80-29	48.88	49.01	0.13	2.7	1.444	1.404	6.8	80.2	7.6	5.4					86.1	8.2	59	41	0	0	0	0	0	0.69
IP14070601	#029	21014985	RH460544	W80		W80-30	49.14	50.11	0.97	2.3	1.499	1.464	5.1	51.4	12.1	31.4					54.2	12.8	27.9	72.1	0	0	0	0	0	2.58
IP14070601	#030	21014985	RH460545	W80		W80-31	49.47	50.11	0.64	1.3	2.582	2.549	2.4	23.4	18.9	55.3	0.53	25.33	6050	1.52	24	19.4	25.5	74.5	25.95	34.14	1.54	0.54	0	2.92
IP14070601	#031	21014985	RH460546	W80		W80-32	53.70	53.99	0.29	1.6	1.283	1.263	2.8	55.2	11.2	30.8					56.8	11.5	26.6	73.4	0	0	0	0	0	2.76
IP14070601	#032	21014985	RH460547	W80		W80-33	82.14	82.80	0.66	1.6	3.018	2.970	2.5	52.8	7.3	37.4					54.2	7.5	16.4	83.6	0	0	0	0	0	5.1
IP14070601	#033	21014985	RH460548	W80		W80-34	92.24	92.38	0.14	1.8	0.607	0.596	2.1	57.0	6.6	34.3					58.2	6.7	16	84	0	0	0	0	0	5.25
IP14070601	#034	21014985	RH460549	W80		W80-35	99.12	99.83	0.71	2.4	4.259	4.157	4.4	79.4	5.7	10.5					83.1	6	35.5	64.5	0	0	0	0	0	1.82
IP14070601	#035	21014985	RH460550	W81A		W81A-36	29.96	30.40	0.44	2.6	2.145	2.089	3.6	45.9	9.9	40.6	1.62	15.56	3716	2.01	47.6	10.3	19.7	80.3	16.14	30.8	2.09	1.68	0	4.08
IP14070601	#036	21014985	RH460551	W82		W82-37	50.02	50.71	0.69	5.7	1.150	1.085	7.3	45.5	3.9	43.3	0.09	14.90	3560	1.94	49.1	4.2	8.3	91.7	16.07	31.57	2.1	0.1	0	11.05
IP14070601	#037	21014985	RH460552	W82		W82-38	52.62	52.98	0.36	1.5	0.511	0.503	4.8	30.9	18.7	45.6	0.42	21.56	5150	1.58	32.5	19.6	29	71	22.65	33.56	1.63	0.44	0	2.45
IP14070601	#038	21014985	RH460553	W82		W82-39	103.55	104.00	0.45	2.1	1.016	0.995	4.1	34.2	21.6	40.1	0.47	20.05	4788	1.63	35.7	22.5	35	65	20.91	32.52	1.68	0.49	0	1.86
IP14070601	#039	21014985	RH460554	W82		W82-40	104.00	104.24	0.24	2.5	0.478	0.466	5.0	68.0	12.8	14.2					71.6	13.5	47.5	52.5	0	0	0	0	0	1.11
IP14070601	#040	21014985	RH460555	W82		W82-41	105.06	106.18	1.12	2.0	0.690	0.676	3.8	51.5	18.1	26.6					53.5	18.8	40.4	59.6	0	0	0	0	0	1.48
IP14070601	#041	21014985	RH460556	W82		W82-42	105.55	106.18	0.63	2.2	1.083	1.060	4.3	35.4	21.4	38.9	0.32	18.88	4510	1.66	37	22.4	35.6	64.4	19.73	31.32	1.71	0.33	0	1.81
IP14070601	#042	21014985	RH460557	W82		W82-43	107.95	108.25	0.30	3.0	0.704	0.683	7.9	56.2	15.8	20.1					61	17.2	44.1	55.9	0	0	0	0	0	1.27
IP14070601	#043	21014985	RH460558	W82		W82-44	125.19	127.56	2.37	1.5	1.329	1.309	3.0	23.1	21.3	52.6	0.37	24.59	5874	1.53	23.8	22	28.9	71.1	25.35	33.27	1.56	0.38	0	2.46
IP14070601	#044	21014985	RH460559	W82		W82-45	125.95	126.83	0.88	1.4	0.973	0.959	2.7	16.8	26.1	54.4	0.48	26.87	6418	1.46	17.3	26.8	32.4	67.6	27.62	33.4	1.48	0.49	0	2.09
IP14070601	#045	21014985	RH460560	W82		W82-46	126.83	127.56	0.73	1.3	1.823	1.800	2.6	21.8	23.8	51.8	0.41	25.11	5998	1.51	22.4	24.4	31.4	68.6	25.78	33.22	1.53	0.42	0	2.18
IP14070601	#046	21014985	RH460561	W82		W82-47	133.72	134.08	0.36	1.5	0.972	0.957	3.8	46.1	12.5	37.6	0.25	16.47	3932	1.78	47.9	13	25	75	17.12	32.86	1.84	0.26	0	3
IP14070601	#047	21014985	RH460562	W82		W82-48	143.12	143.39	0.27	1.3	1.725	1.702	2.3	57.3	7.2	33.2					58.6	7.4	17.9	82.1	0	0	0	0	0	4.59
IP14070601	#048	21014985	RH460563	W82		W82-49	139.95	142.48	2.53	1.7	2.547	2.503	5.1	54.1	8.1	32.7					57	8.5	19.8	80.2	0	0	0	0	0	4.05
IP14070601	#049	21014985	RH460564	W83		W83-49	26.42	27.40	0.98	4.3	4.184	4.005	4.0	52.5	5.8	37.7					54.7	6	13.2	86.8	0	0	0	0	0	6.58
IP14070601	#050	21014985	RH460565	W84		W84-50	33.32	33.60	0.28	2.0	1.141	1.118	6.4	70.4	8.9	14.3					75.2	9.5	38.3	61.7	0	0	0	0	0	1.61
IP14070601	#051	21014985	RH460566	W84		W84-51	50.63	52.66	2.03	1.2	2.548	2.517	3.7	31.8	16.2	48.3	0.48	20.75	4958	1.68	33	16.8	25.1	74.9	21.55	32.16	1.73	0.5	0	2.98
IP14070601	#052	21014985	RH460567	W84		W84-52	51.34	52.42	1.08	1.2	1.515	1.497	4.0	19.2	22.7	54.1	0.42	25.58	6110	1.48	20	23.6	29.5	70.5	26.65	33.31	1.51	0.44	0	2.39
IP14070601	#053	21014985	RH460568	W84		W84-53	52.42	52.66	0.24	0.9	0.850	0.842	3.4	21.5	20.6	54.5	0.38	25.31	6046	1.52	22.3	21.3	27.4	72.6	26.2	33.72	1.55	0.39	0	2.65
IP14070601	#054	21014985	RH460569	W84		W84-54	52.78	52.94	0.16	1.1	0.660	0.653	3.6	28.3	18.6	49.5	0.32	23.14	5526	1.57	29.4	19.3	27.3	72.7	24	33.99	1.6	0.33	0	2.66
IP14070601	#055	21014985	RH460570	W84		W84-55	53.68	54.05	0.37	1.2	0.989	0.976	4.2	25.0	17.5	53.3	0.28	23.53	5620	1.56	26.1	18.3	24.8	75.2	24.56	33.23	1.6	0.29	0	3.03
IP14070601	#056	21014985	RH460571	W84		W84-56	54.75	55.03	0.28	1.3	0.968	0.956	3.2	79.3	7.9	9.6					81.9	8.2	45.3	54.7	0	0	0	0	0	1.21
IP14070601	#057	21014985	RH460572	W84		W84-57	64.54	64.94	0.40	2.5	2.673	2.608	5.9	63.0	7.4	23.7					67	7.9	23.9	76.1	0	0	0	0	0	3.18
IP14070601	#058	21014985	RH460573	W85		W85-58	5.00	5.52	0.52	3.9	2.356	2.265	7.5	72.5	12.3	7.7					78.4	13.3	61.6	38.4	0	0	0	0	0	0.62
IP14070601	#059	21014985	RH460574	W85		W85-59	7.40	7.80	0.40	1.7	1.554	1.528	2.8	43.1	12.9	41.2	0.25	16.44	3926	1.86	44.3	13.3	23.9	76.1	16.91	30.36	1.91	0.26	0	3.18
IP14070601	#060	21014985	RH460575	W85		W85-60	39.32	39.50	0.18	1.0	0.572	0.566	1.7	75.5	4.6	18.2					76.8	4.7	20.3	79.7	0	0	0	0	0	3.93
IP14070601	#061	21014985	RH460576	W85		W85-61	40.02	40.73	0.71	2.0	3.427	3.357	3.5	42.4	9.8	44.3	0.91	16.28	3888	2.00	43.9	10.2	18.2	81.8	16.87	30.07	2.08	0.94	0	4.49
IP14070601	#062	21014985	RH460577	W86		W86-62	33.32	34.67	1.35	1.2	2.581	2.550	4.2	33.8	16.4	45.6	0.28	20.63	4928	1.67	35.3	17.1	26.4	73.6	21.53	33.28	1.72	0.29	0	2.79
IP14070601	#063	21014985	RH460578	W86		W86-63	34.00	34.67	0.67	0.9	2.478	2.456	3.0	22.3	20.6	54.1	0.47	24.91	5950	1.53	23	21.2	27.5	72.5	25.68	33.35	1.56	0.48	0	2.64
IP14070601	#064	21014985	RH460579	W86		W86-64	38.35	38.72	0.37	1.3	1.577	1.556	4.5	35.4	17.3	42.8	0.30	19.27	4602	1.68	37.1	18.1	28.8	71.2	20.18	32.08	1.74	0.31	0	2.47
IP14070601	#065	21014985	RH460580	W86		W86-65	58.32	58.57	0.25	0.6	1.020	1.013	1.7	52.1	10.2	36.0					53	10.4	22.1	77.9	0	0	0	0	0	3.52
IP14070601	#066	21014985	RH460581	W86		W86-66	59.53	59.85	0.32	1.7	1.459	1.433	5.8	70.3	8.7	15.2					74.6	9.2	36.2	63.8	0	0	0	0	0	1.76
IP14070601	#067	21014985	RH460582	W86		W86-67	83.63	85.47	1.84	1.3	2.231	2.201	3.7	55.1	5.1	36.1					57.2	5.3	12.4	87.6	0	0	0	0	0	7.06
IP14070601	#068	21014985	RH460583	W86		W86-68	84.12	84.63	0.51	1.0	2.221	2.199	2.5	26.3	6.4	64.8	1.15	24.12	5760	1.69	27	6.6	9	91	24.74	33.89	1.72	1.18	0	10.11
IP14070601	#069	21014985	RH460584	W86		W86-69	84.63	85.47	0.84	1.6	4.005	3.941	3.5	54.4	5.7	36.4					56.4	5.9	13.5	86.5	0	0	0	0	0	6.41
IP14070601	#070	21014985	RH460585	W86		W86-70	86.83	86.98	0.15	3.9	0.652	0.626	6.0	59.0	6.6	28.4					62.8	7	18.8	81.2	0	0	0	0	0	4.32