

Sperry Drilling Services



DDS Drill String Dynamics

Country : Australia		Field :		Location : Lat: 38° 34' 45.67" South GDA94 Long: 142° 43' 50.82" East GDA94		Well : Halladale-1 DW2		Company : Woodside Energy Ltd		Rig : Ocean Patriot					
Permanent Datum : LAT				Elevation : 0.00 m		Unit No. : 197		Job No. : AU-FE-000325468							
Log Measured From : Drill Floor				21.50 m Above Permanent Datum		Plot Type : Final		Plot Date : 06-May-05							
Drilling Measured From : Drill Floor				TIME LOG											
Depth Logged : 853.00 m To 1,941.00 m															
Date Logged : 10-Apr-05 To 18-Apr-05															
Total Depth MD : 1,941.00 m TVD: 1,879.96 m															
Spud Date : 10-Apr-05															
Run No.		Borehole Record (MD)				Run No.		Borehole Record (MD)							
1		Size		From		To		1		Size		From		To	
2		216,000 mm		853.00 m		1,514.00 m		2		216,000 mm		1,514.00 m		1,808.00 m	
4		216,000 mm		1,808.00 m		1,941.00 m		4		216,000 mm		1,808.00 m		1,941.00 m	

SENSOR INFORMATION

Downhole Processor Information

Tool Type	HCIM	HCIM	HCIM		
Software Version	68.18	68.18	68.18		
Sub Serial Number	107429	107429	10562757		
Insert Serial Number	76442	76442	160772		
Logging String Serial Number	90069311XHWRG6	90069311XHWRG6	90069312XHWRG6		
Date and Time Initialized	10-Apr-05 11:20	13-Apr-05 07:46	16-Apr-05 21:50		
Date and Time Read	01-Jan-70 00:00	01-Jan-70 00:00	03-Apr-05 01:24:00		

Directional Sensor Information

Tool Type	DM	DM	DM		
Distance From Bit (m)	8.97	8.98	3.14		
Software Version	3.15	3.15	3.15		
Sub Serial Number	783004	783004	30534076		
Sonde Serial Number	87896	87896	581139		
Sensor ID Number	N/A	N/A	N/A		
Survey String Serial Number	N/A	N/A	N/A		
Toolface Offset (deg)	N/A	N/A	N/A		

Gamma Ray Sensor Information

Tool Type	DGR	DGR	DGR		
Distance From Bit (m)	11.53	11.54	5.57		
Recorded Sample Period (sec)	12	12	12		
Software Version	N/A	N/A	N/A		
Sub Serial Number	070755	070755	131257		
Insert/Sonde Serial Number	10505416	10505416	176691		

Drillstring Dynamics Sensor Information

Tool Type	DDS	DDS	DDS		
Distance From Bit (m)	0	0	0		
Recorded Sample Period (sec)	12	12	12		
Software Version	.50	.50	0.50		
Sub Serial Number	70755	70755	131257		
Insert Serial Number	891	891	622		
Sensor ID Number	891	891	622		

REMARKS

1. All depths are bit depths and referenced to the drillers pipe tally.
2. AV/CV is calculated at the MWD collar using the Powers Law for water based muds and is in m/min.
3. Curve mnemonics are:
 - SRP - Smoothed Rate of Penetration, m/hr
 - SAAX - Smoothed Average X-Axis Accelerometer, g's
 - SAAY - Smoothed Average Y-Axis Accelerometer, g's
 - SAAZ - Smoothed Average Z-Axis Accelerometer, g's
 - SPAX - Smoothed Peak X-Axis Accelerometer, g's
 - SPAY - Smoothed Peak Y-Axis Accelerometer, g's
 - SPAZ - Smoothed Peak Z-Axis Accelerometer, g's
 - WOB - Weight on Bit, klb
 - RPM - Surface Drillstring Revolutions Per Minute, rpm
 - TORQUE - Surface Torque, ft-klbs
4. MWD data from 1808.0 to 1835.0 mMDRT was wiped after coring this interval prior to Run 400. SDL data is not displayed as it was acquired whilst coring.

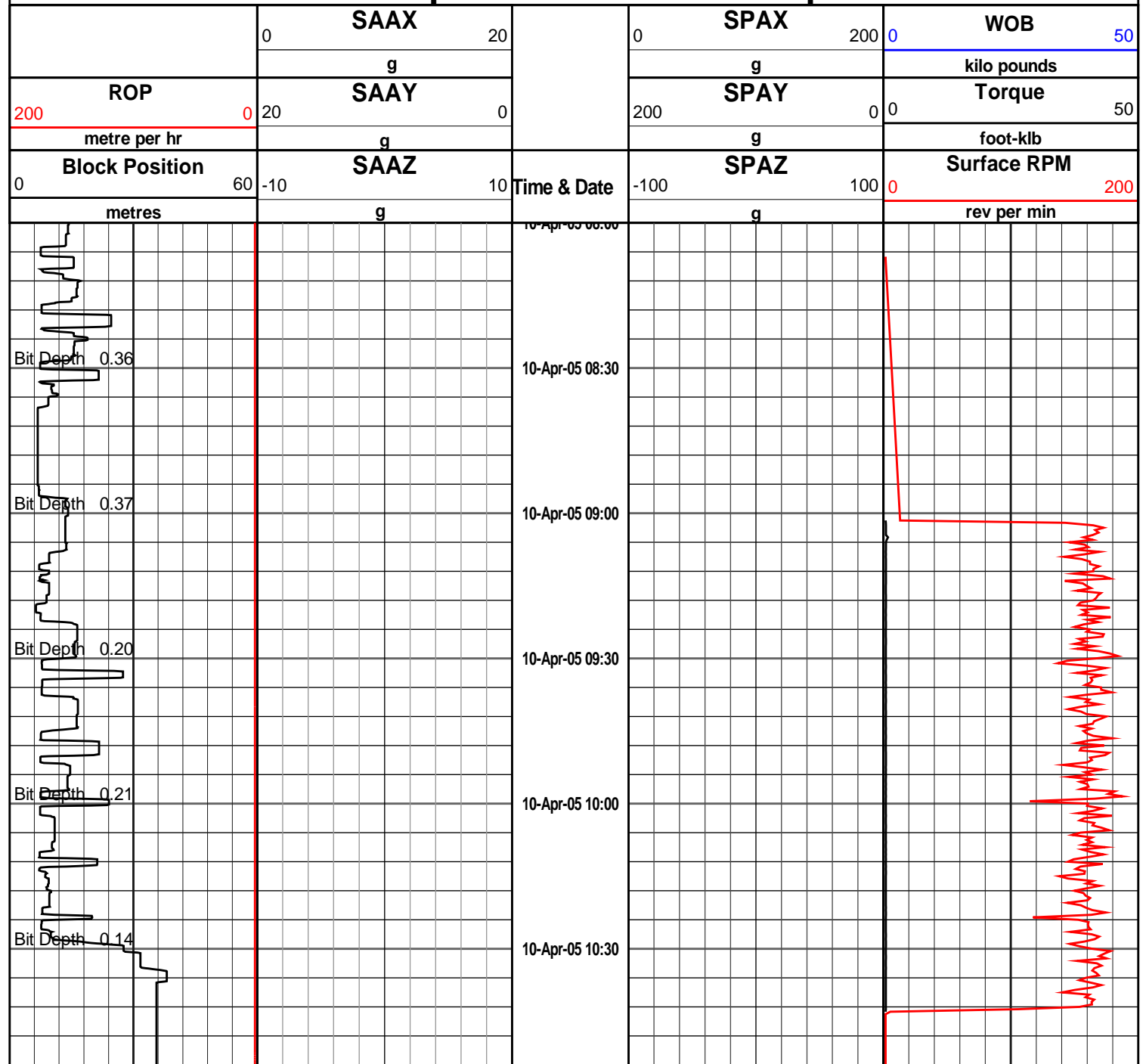
WARRANTY

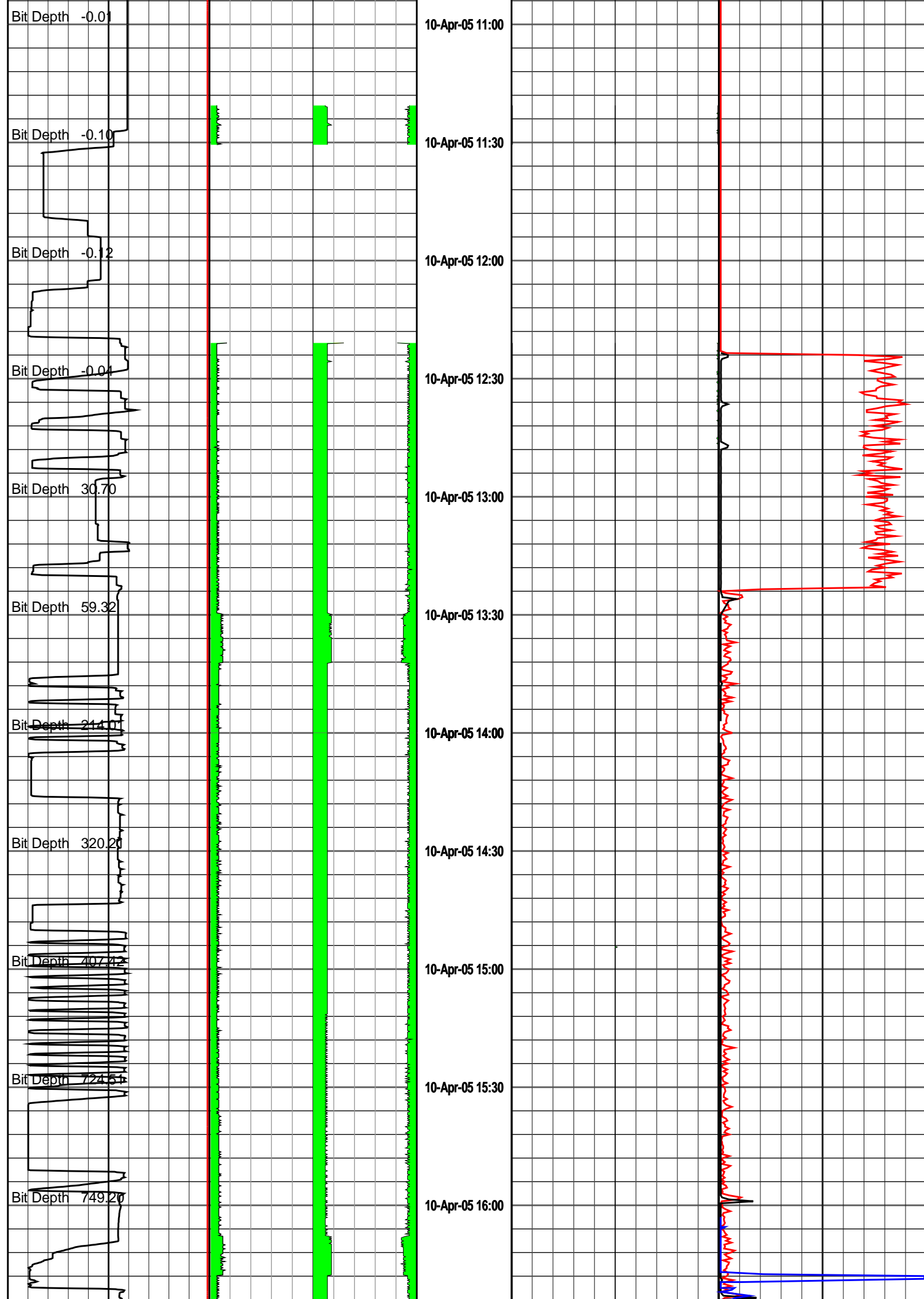
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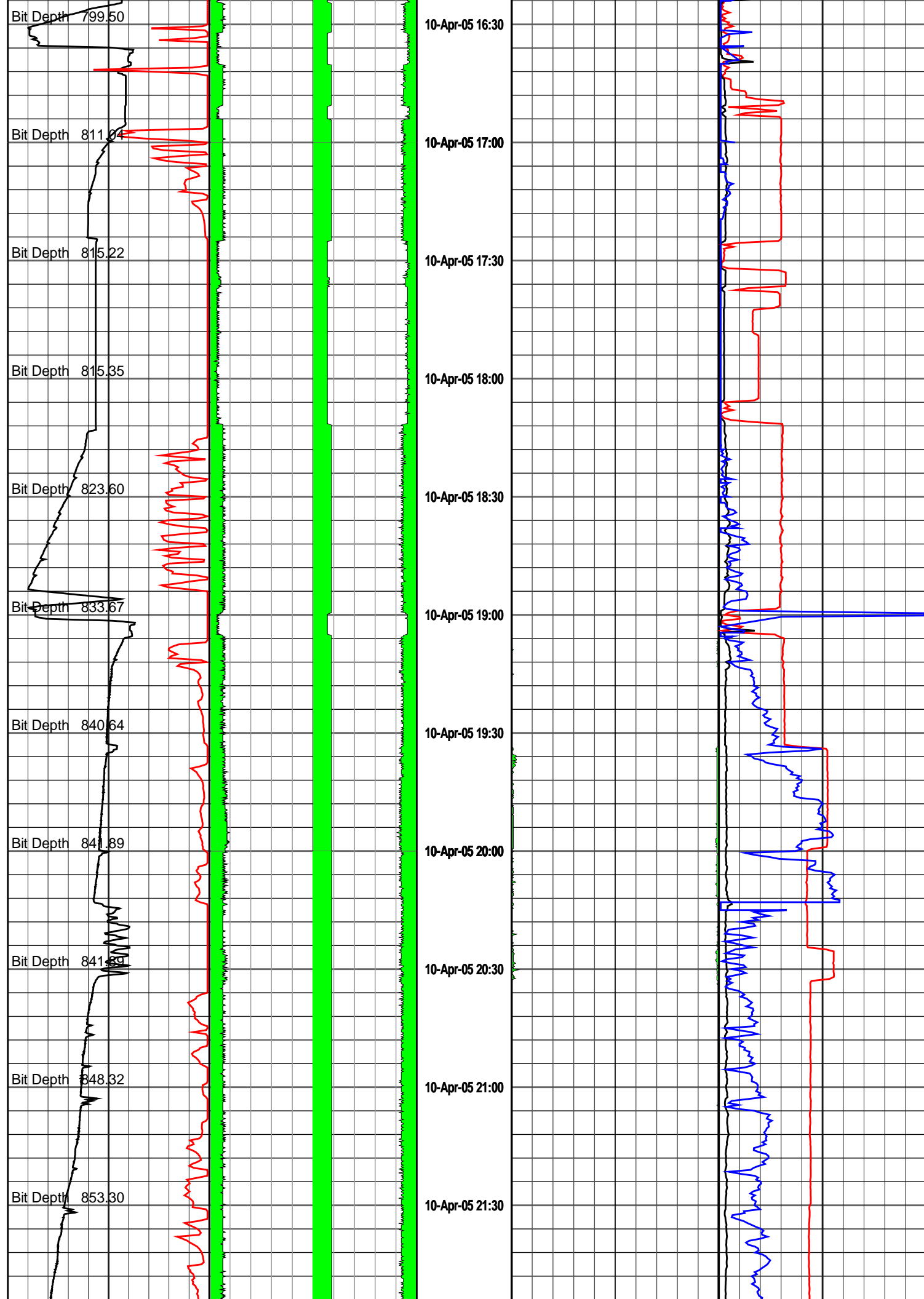
Run 100 : 216 mm Hole Section

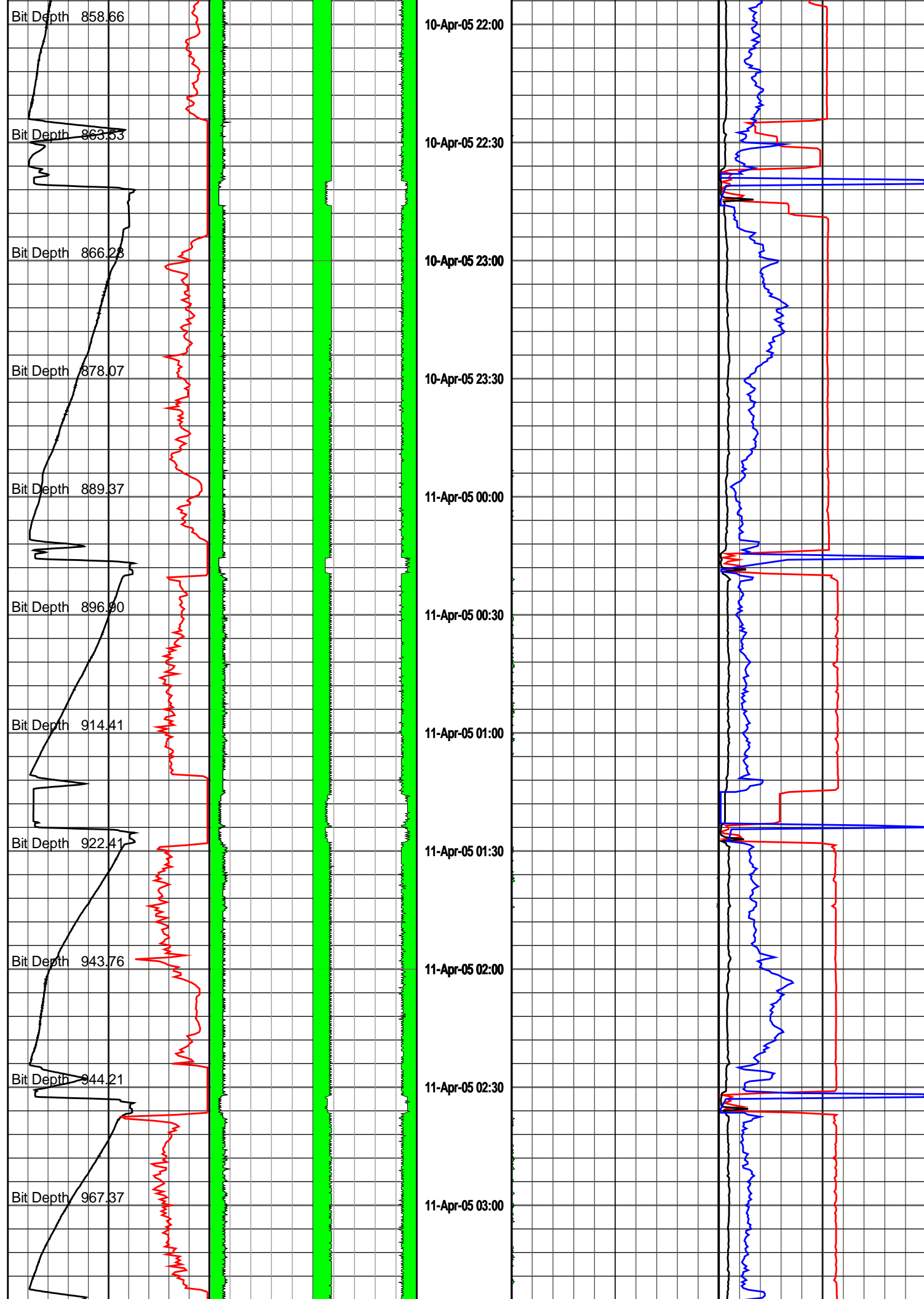
Drilled from 853.0 to 1514.0 mMDRT

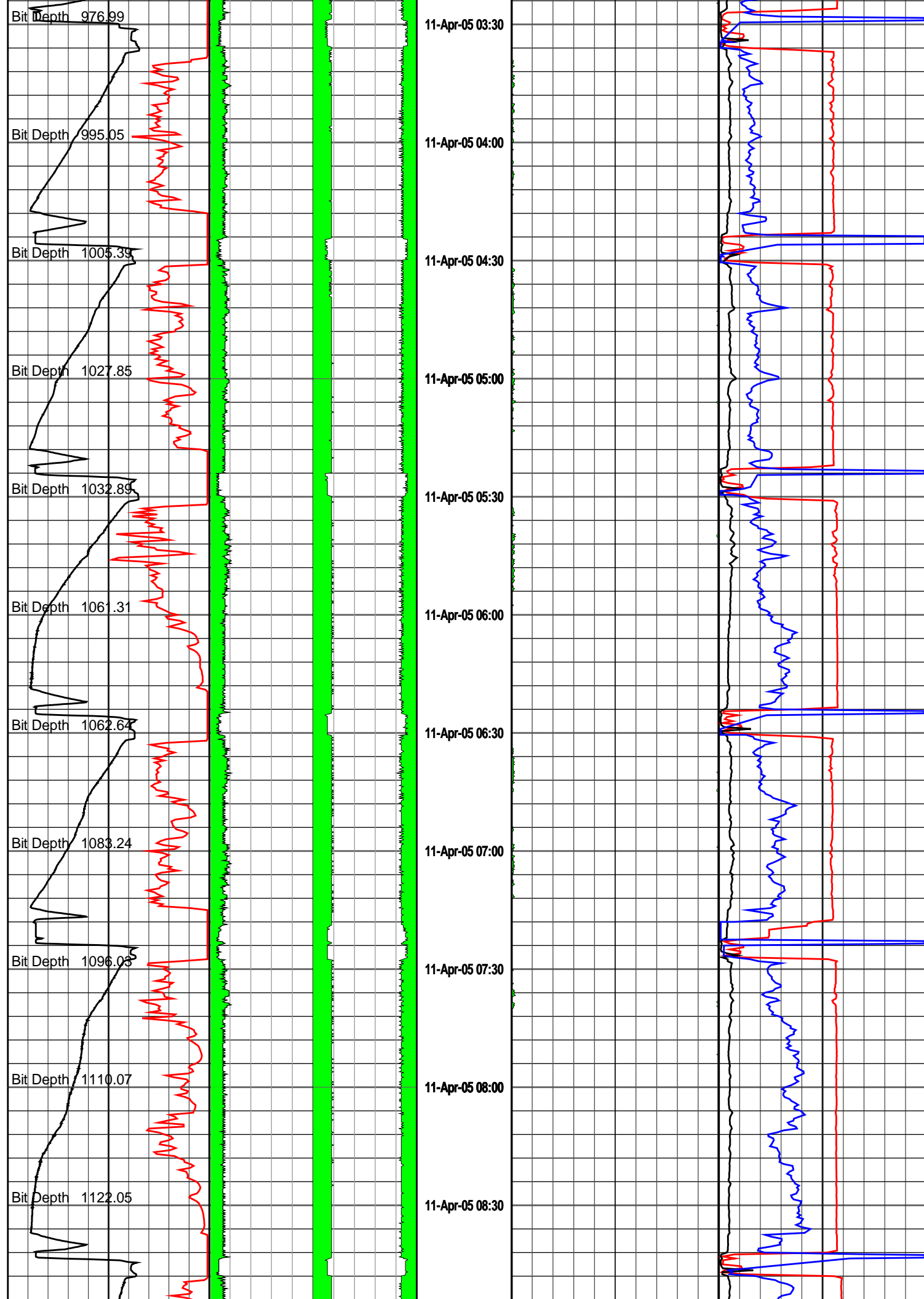
08:00 hrs 10th April to 03:30 hrs 13th April 2005

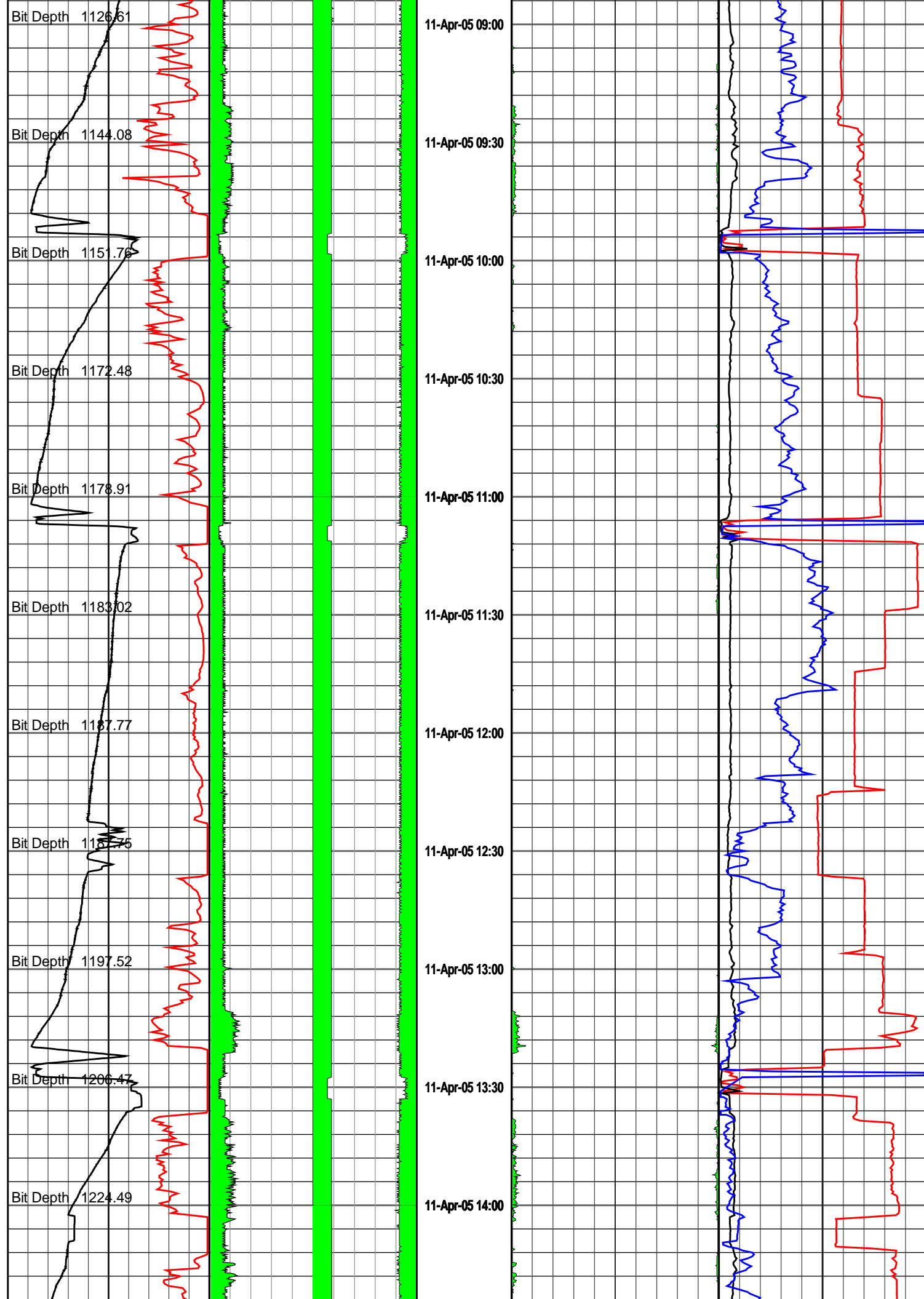


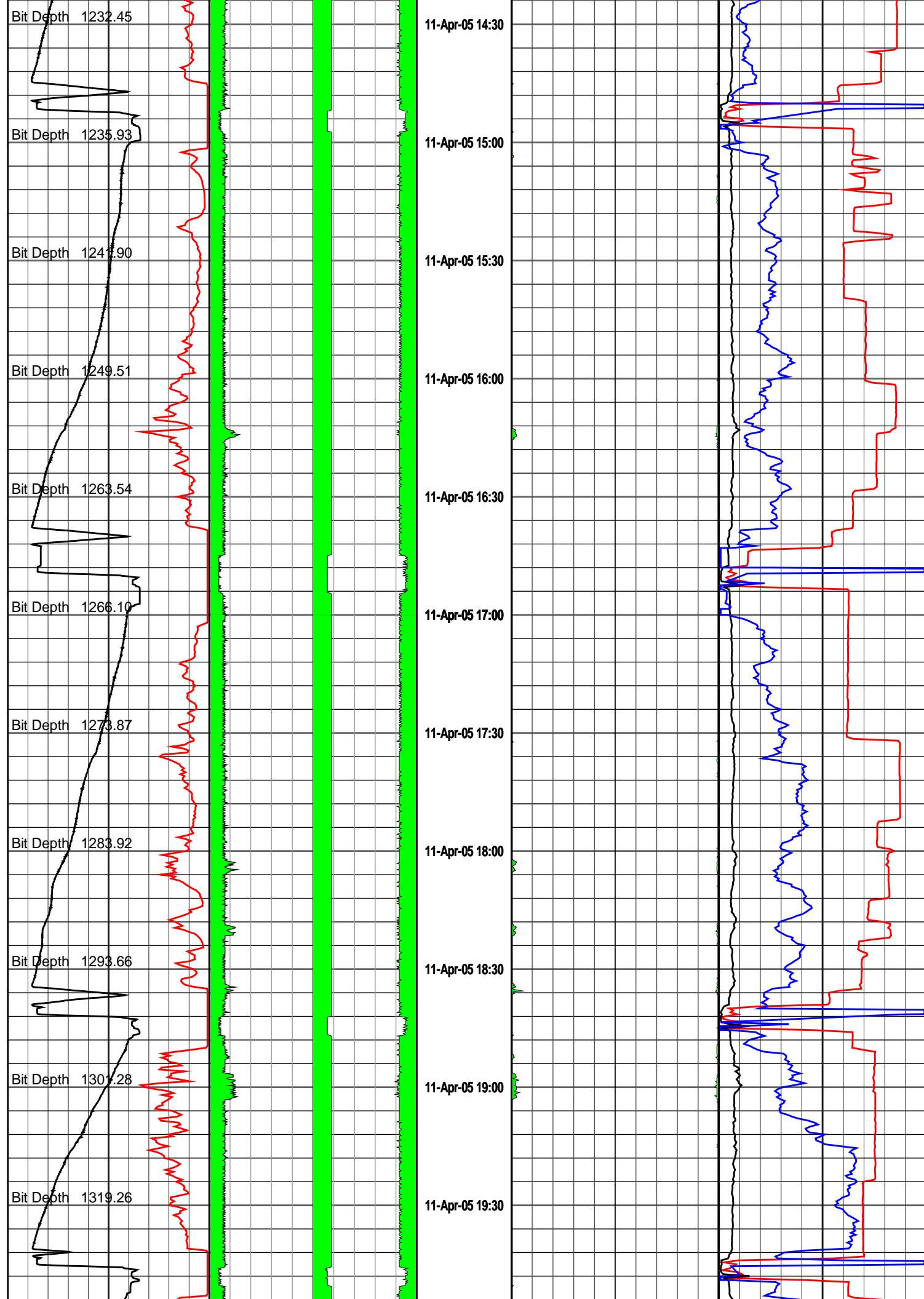


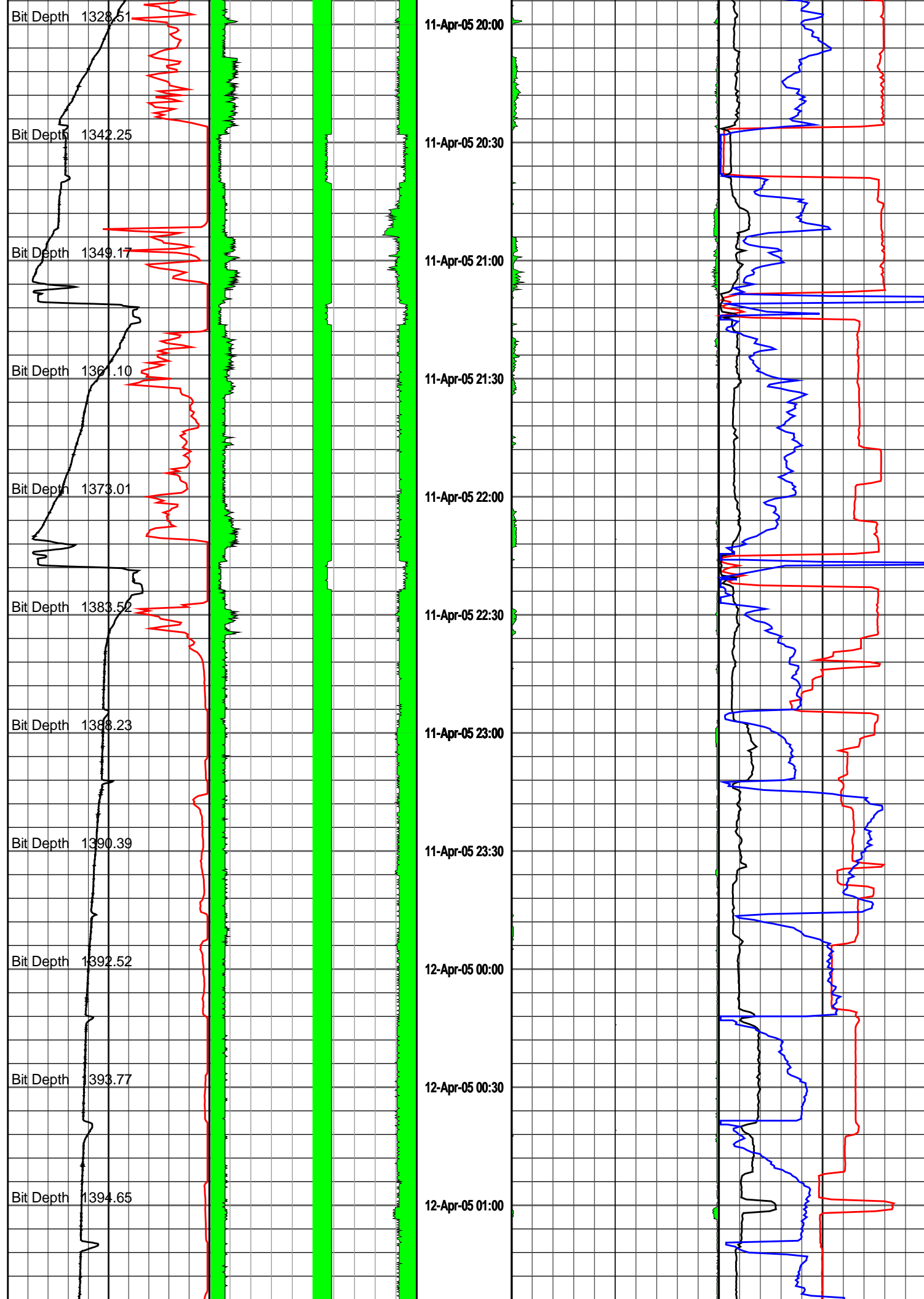


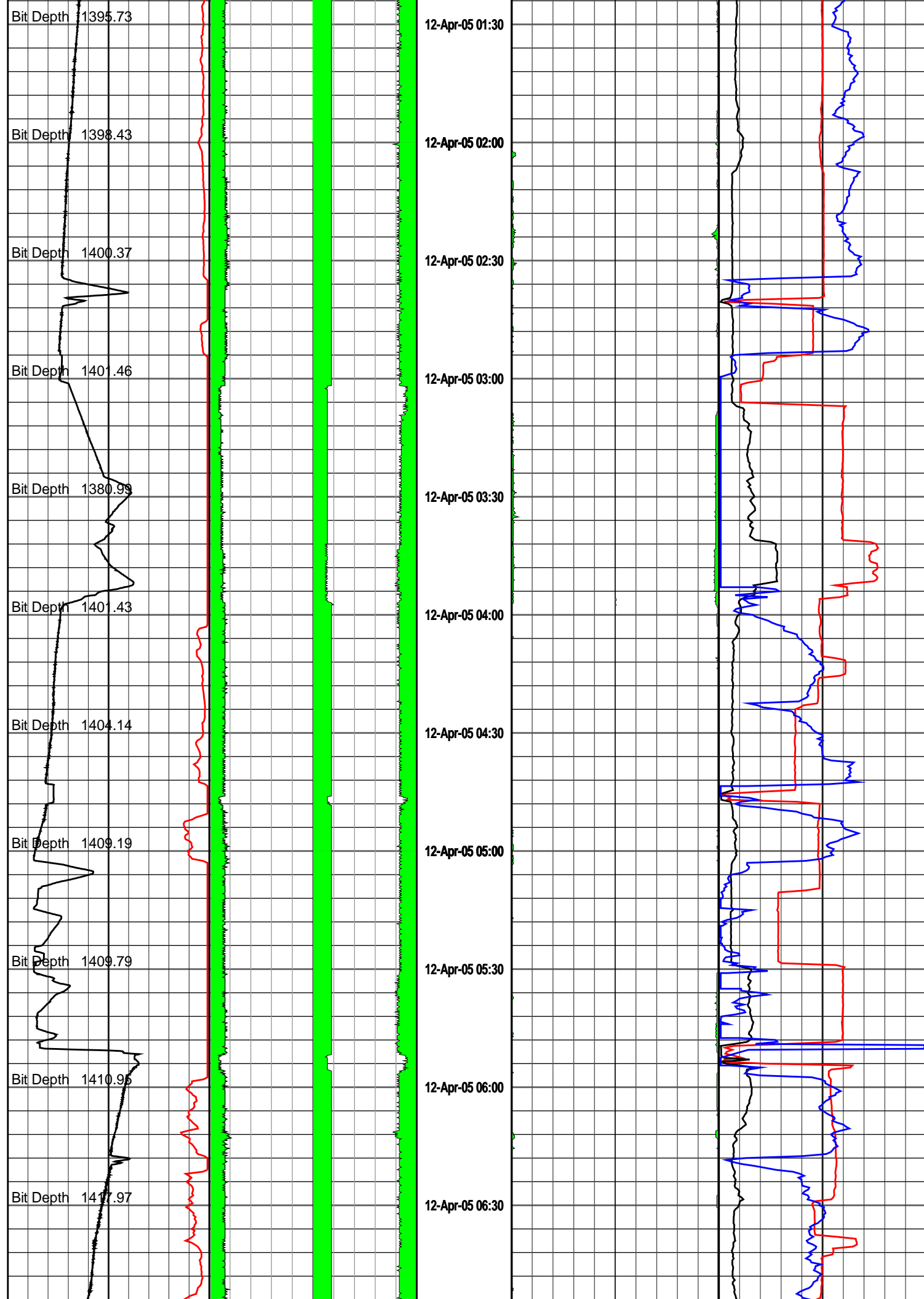


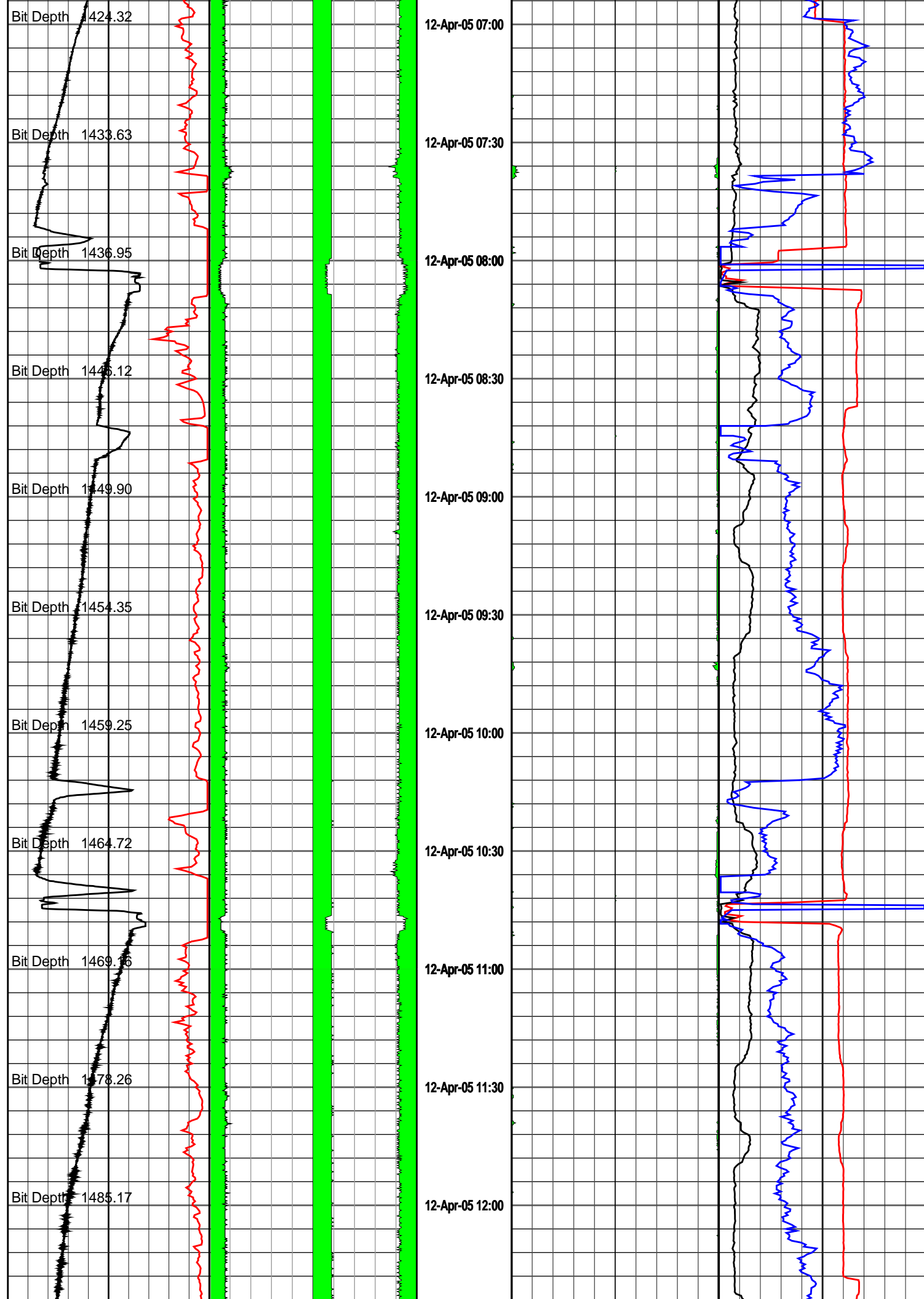


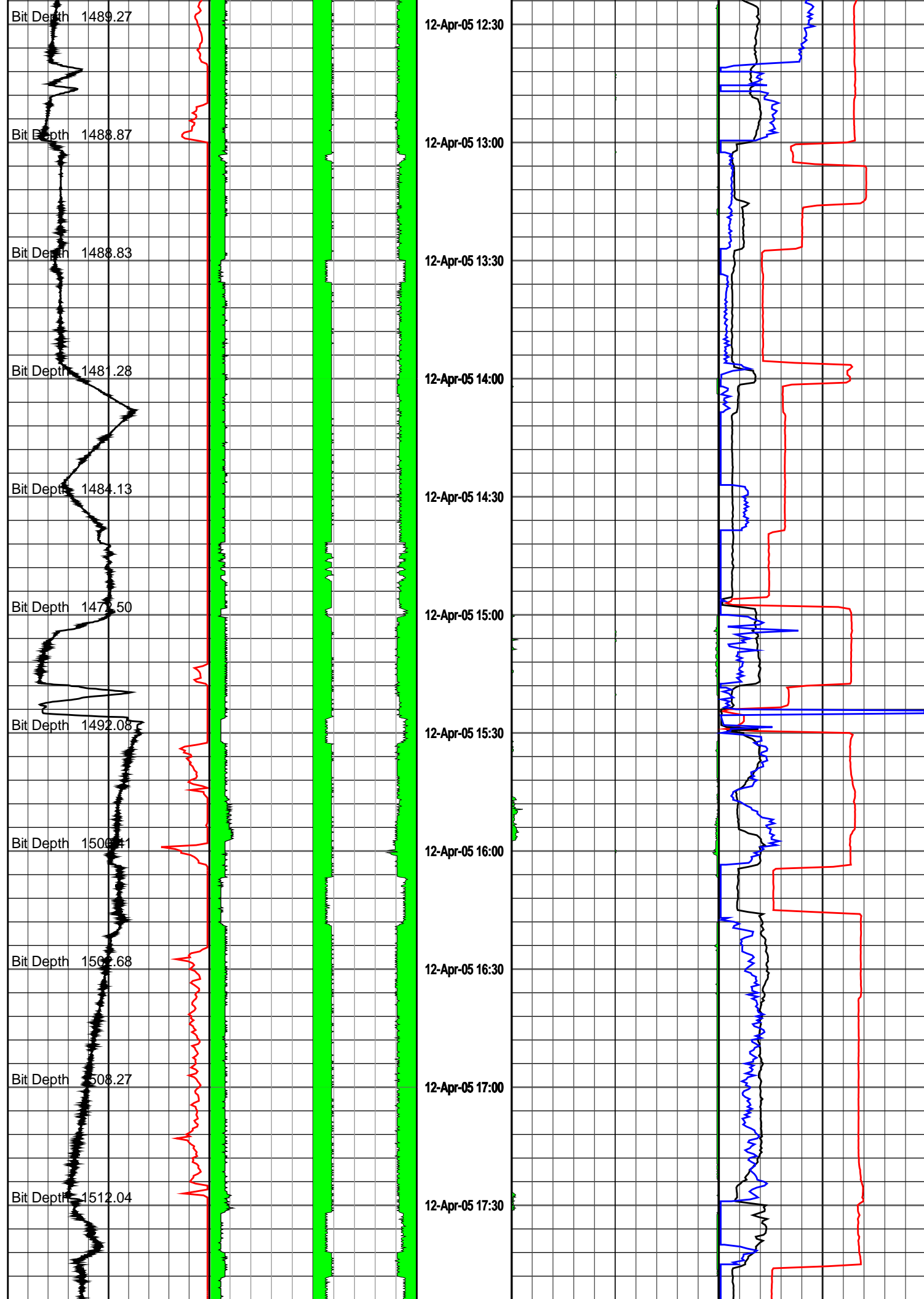


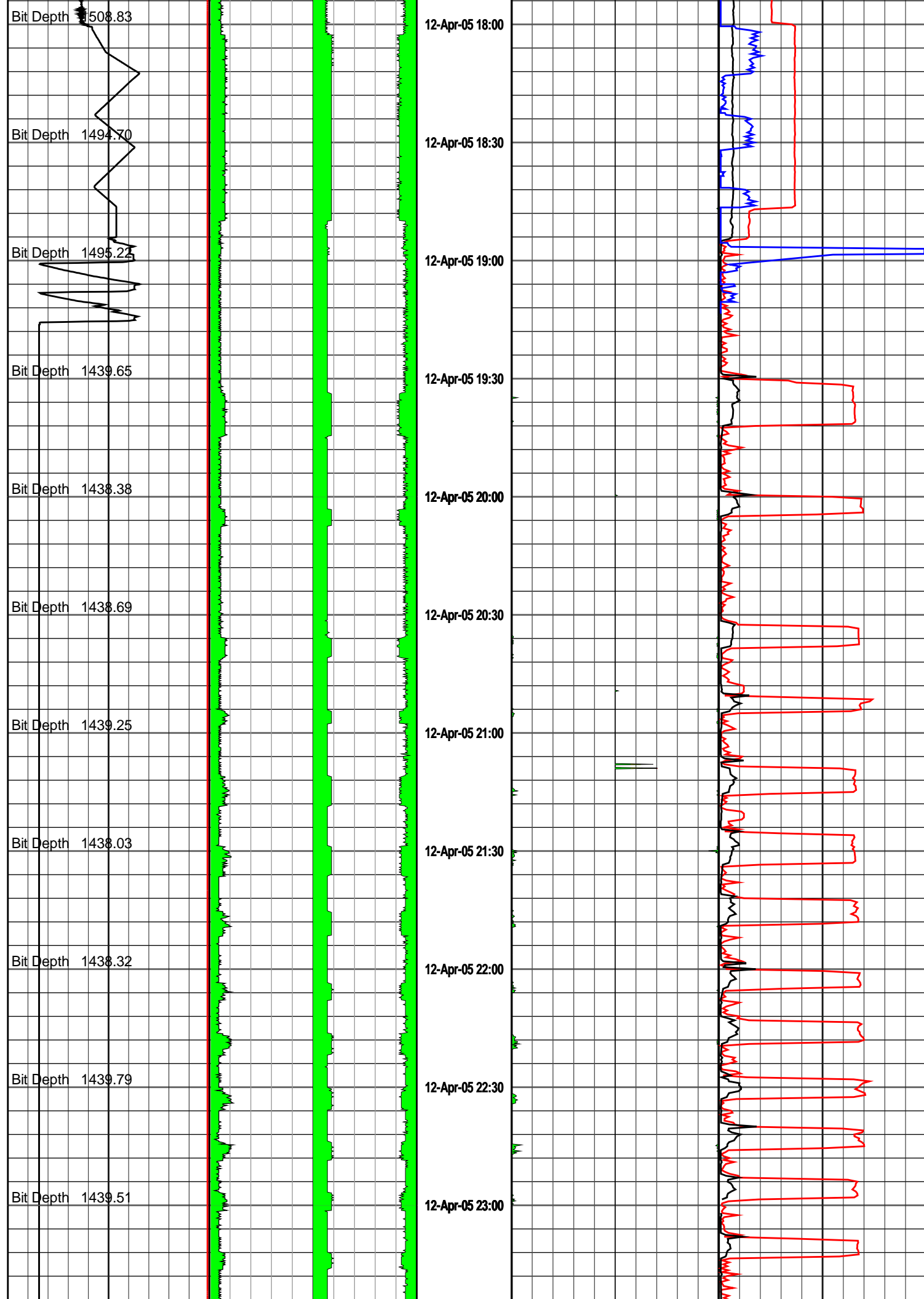


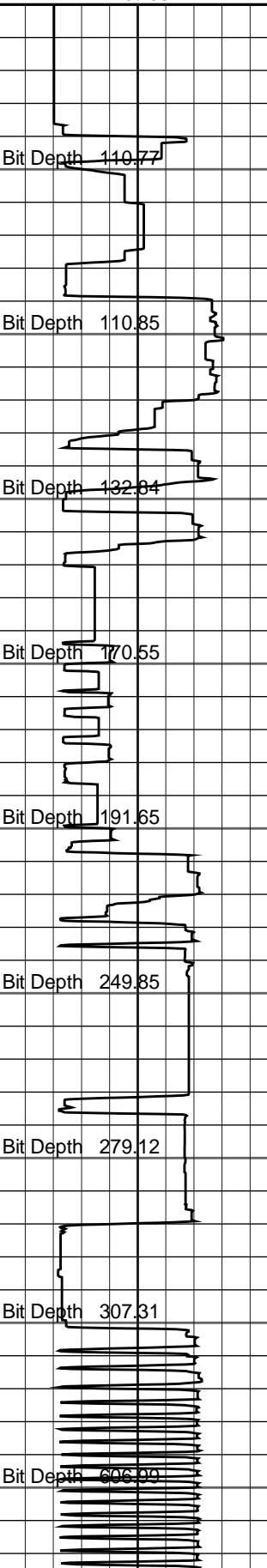
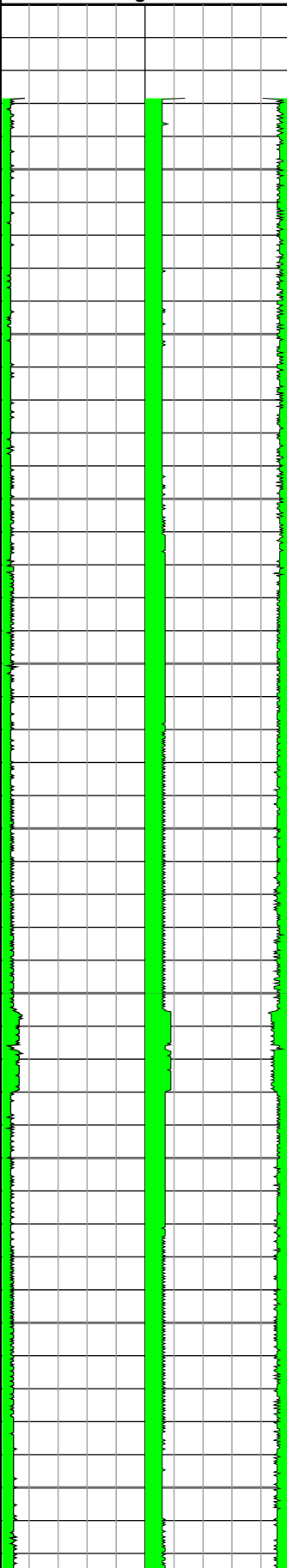
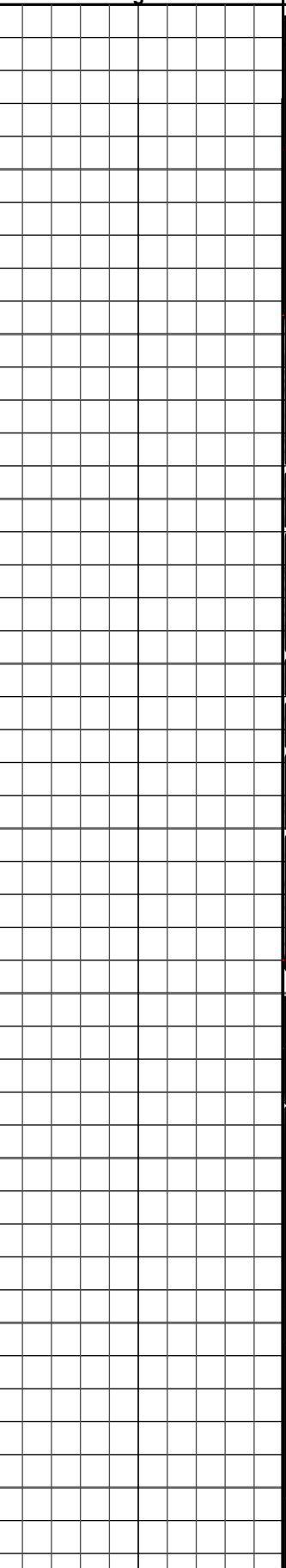
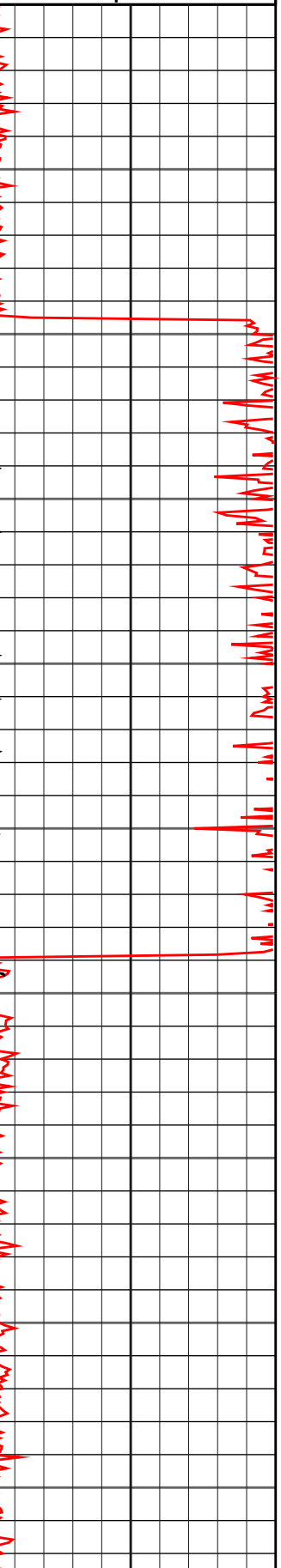


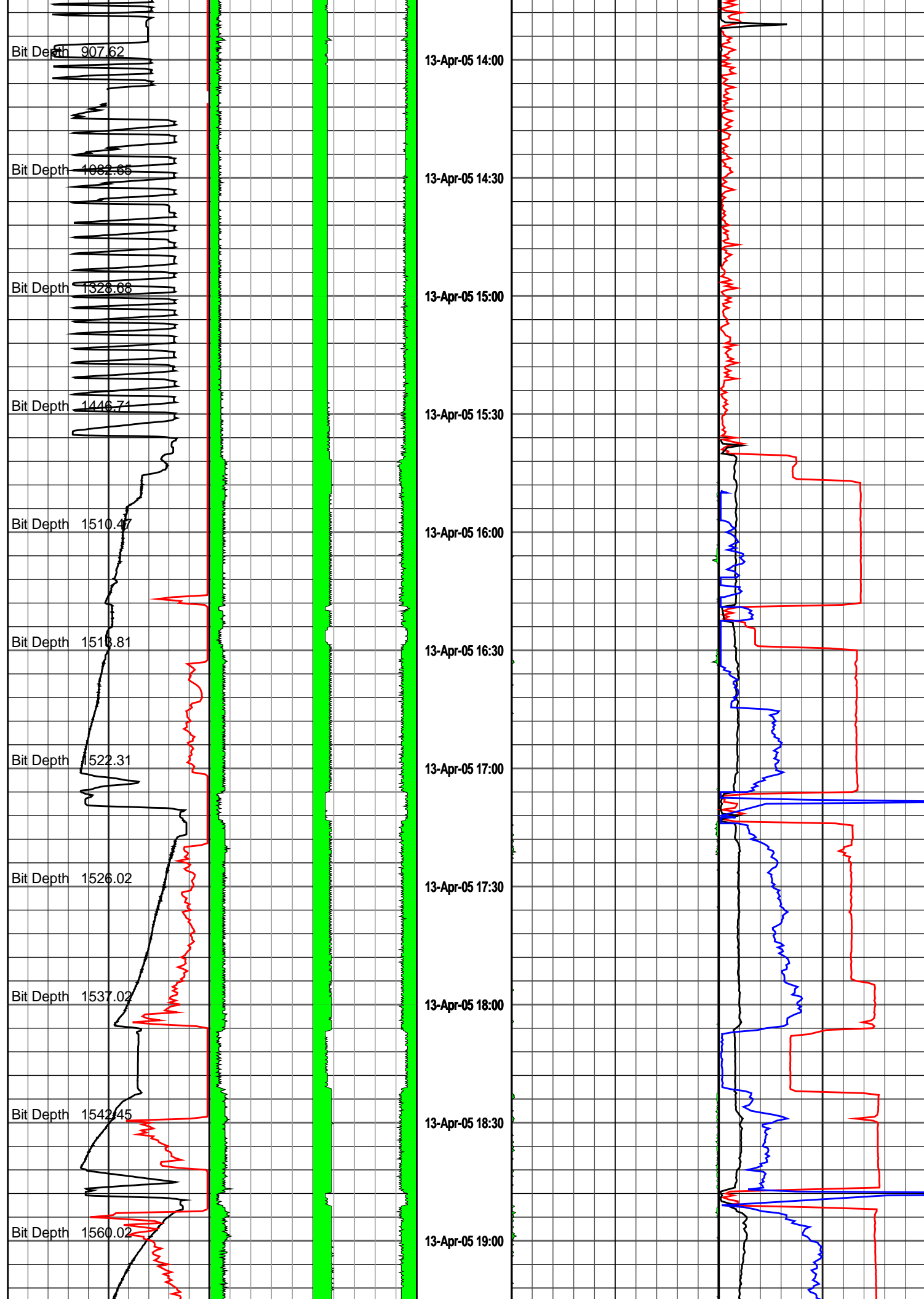


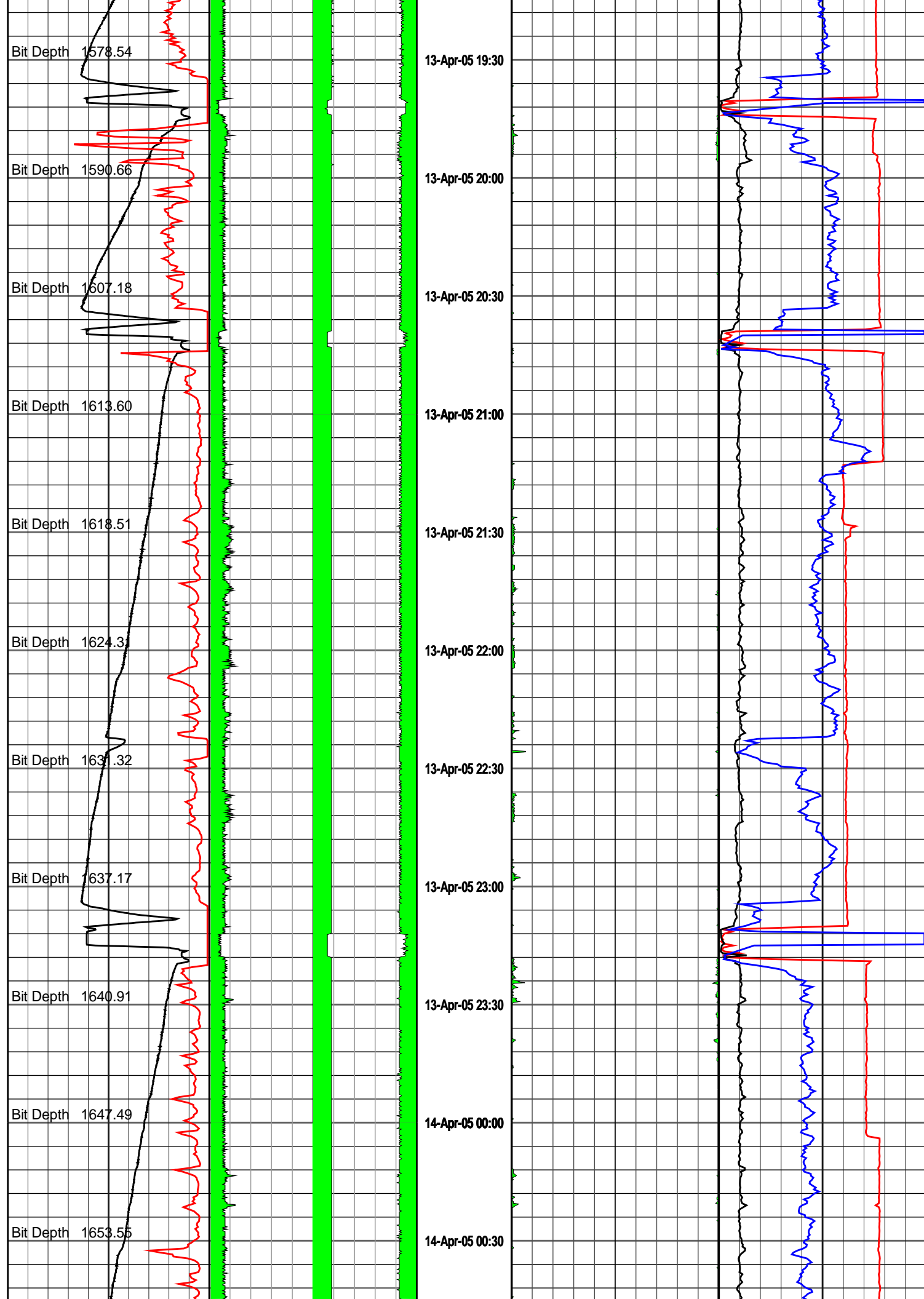


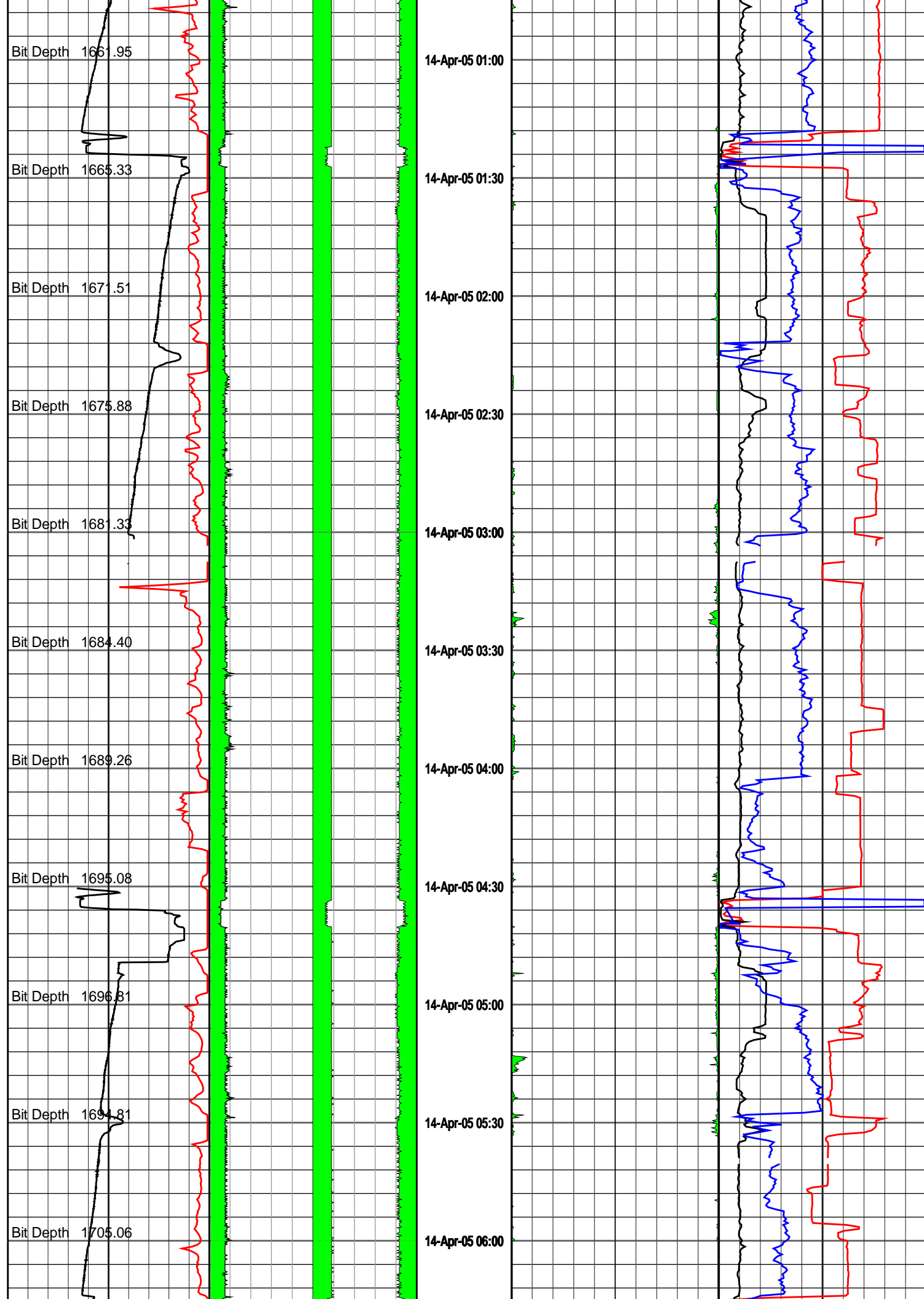


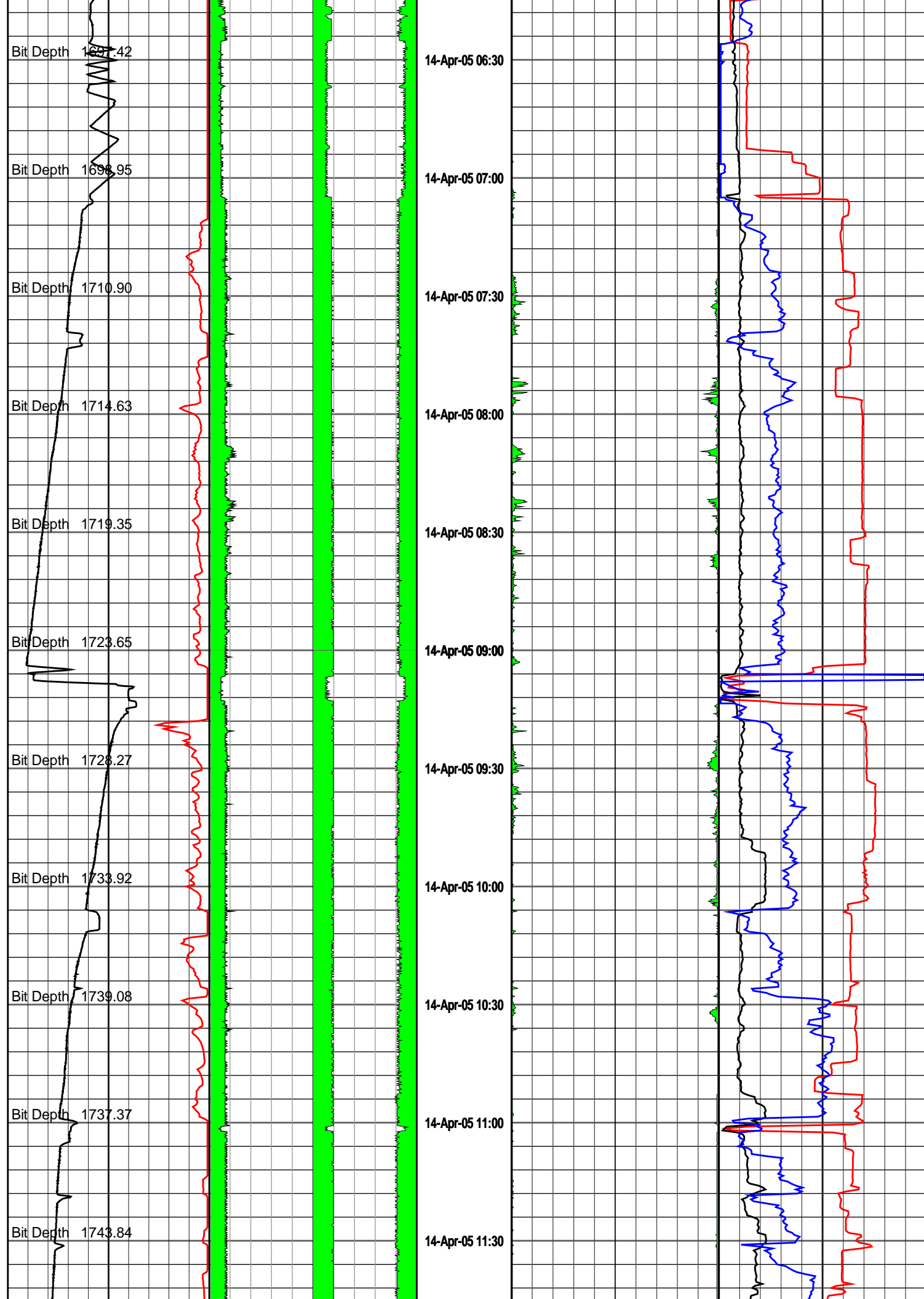


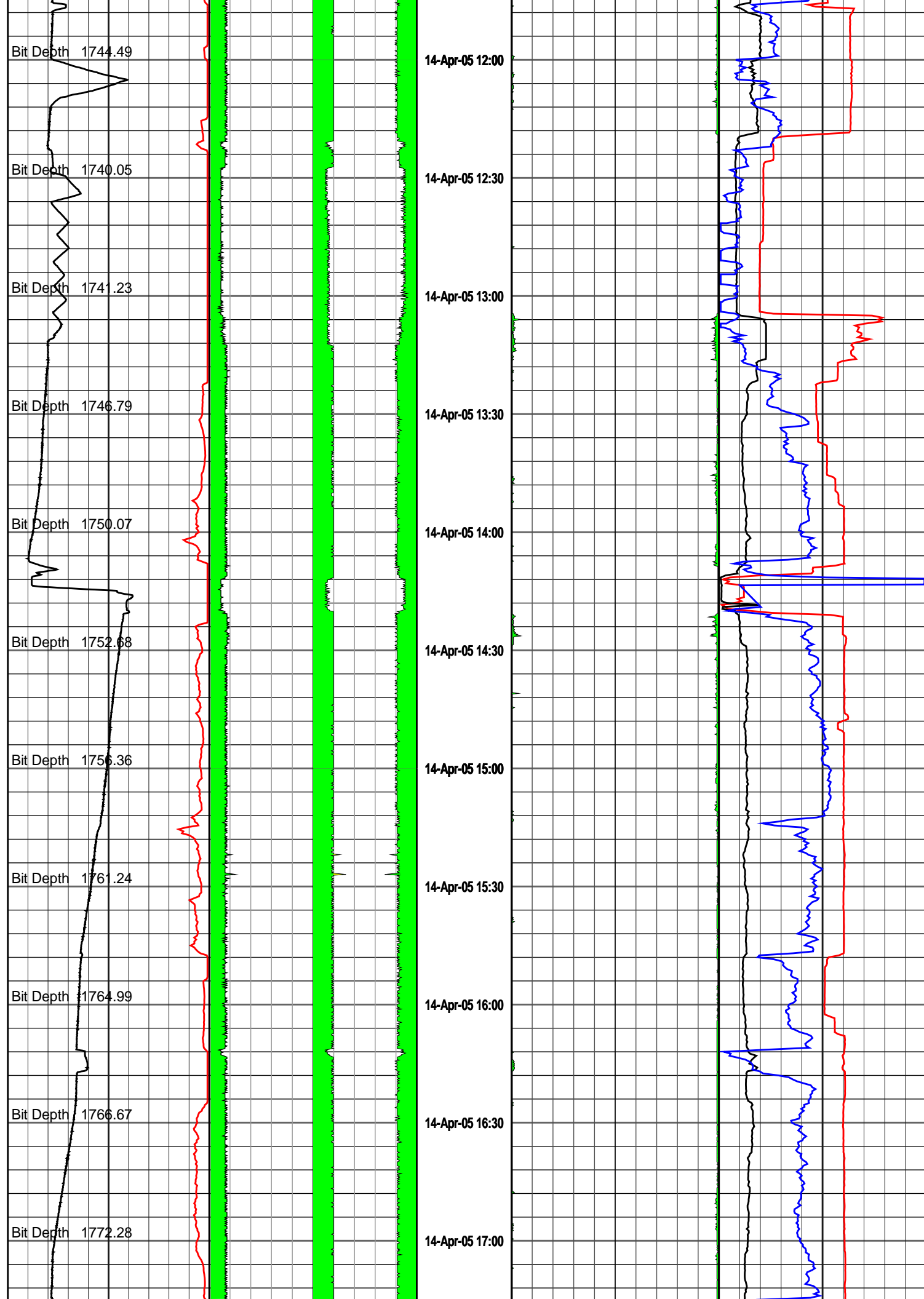
		SAAX				SPAX		WOB	
		g				g		kilo pounds	
ROP		SAAY				SPAY		Torque	
metre per hr		g				g		foot-klb	
Block Position		SAAZ		Time & Date		SPAZ		Surface RPM	
metres		g				g		rev per min	
0	60	-10	10	13-Apr-05 09:00		-100	100	0	200
				13-Apr-05 09:30					
Bit Depth 110.77				13-Apr-05 09:30					
Bit Depth 110.85				13-Apr-05 10:00					
Bit Depth 132.84				13-Apr-05 10:30					
Bit Depth 170.55				13-Apr-05 11:00					
Bit Depth 191.65				13-Apr-05 11:30					
Bit Depth 249.85				13-Apr-05 12:00					
Bit Depth 279.12				13-Apr-05 12:30					
Bit Depth 307.31				13-Apr-05 13:00					
Bit Depth 606.99				13-Apr-05 13:30					

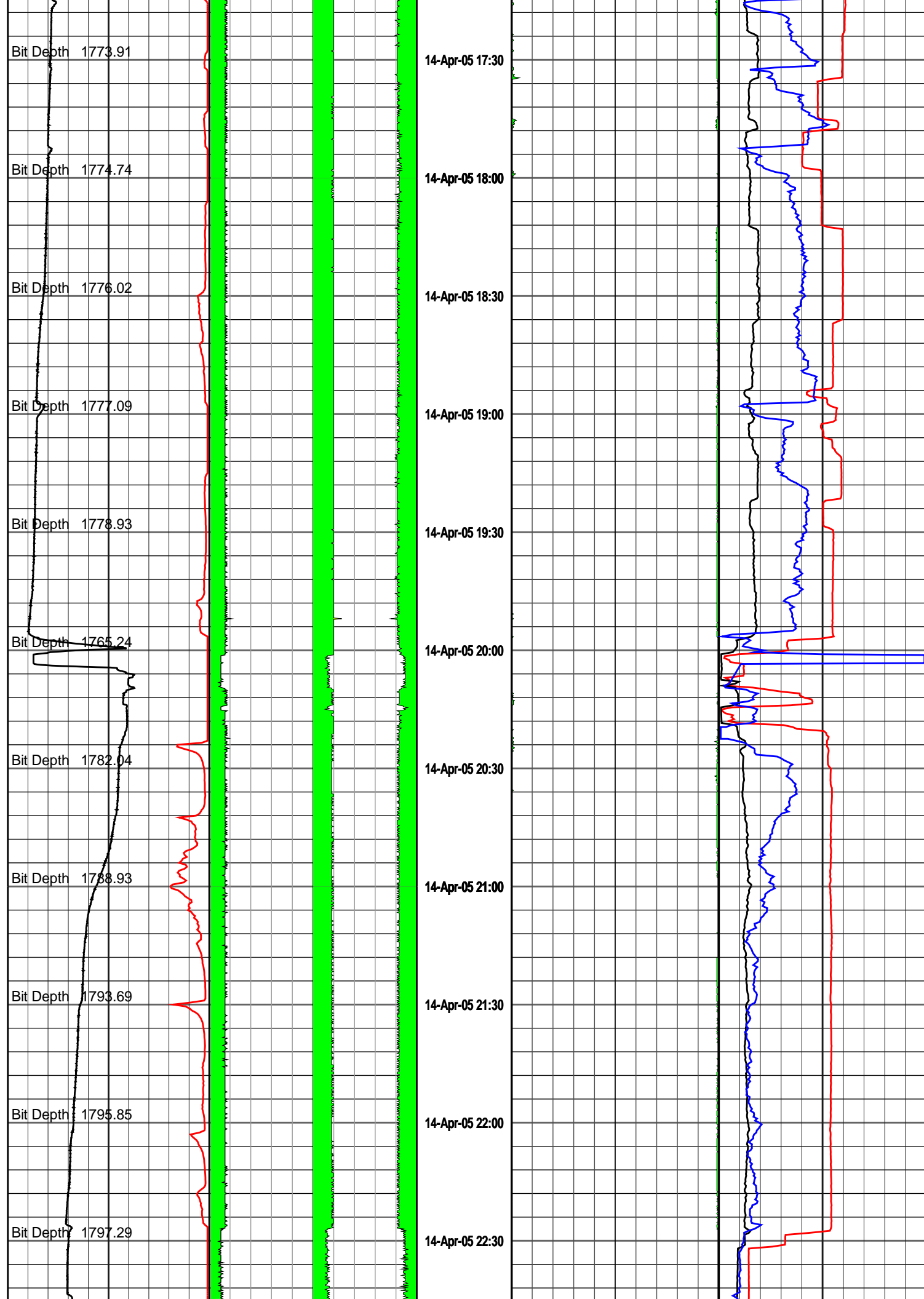


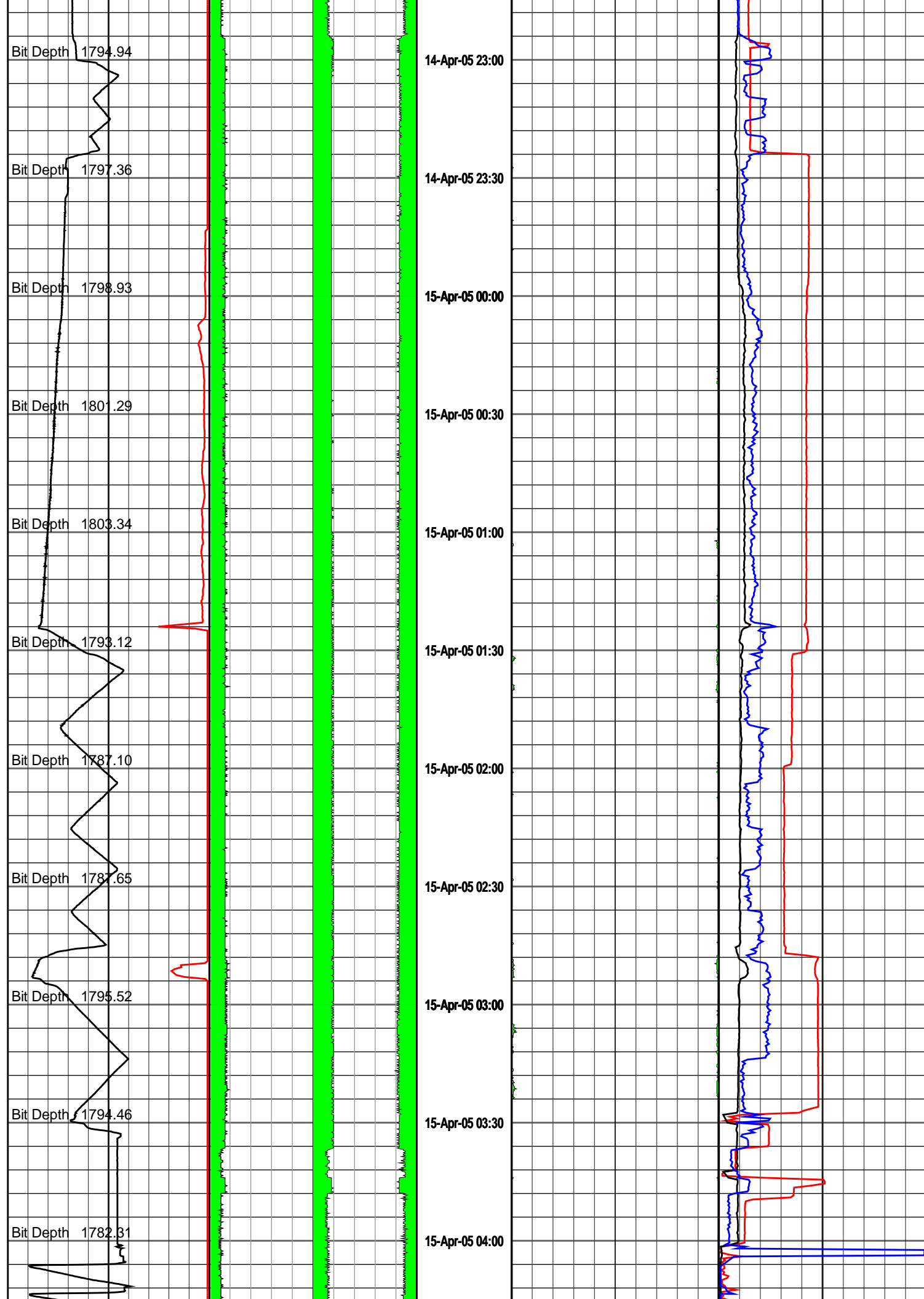


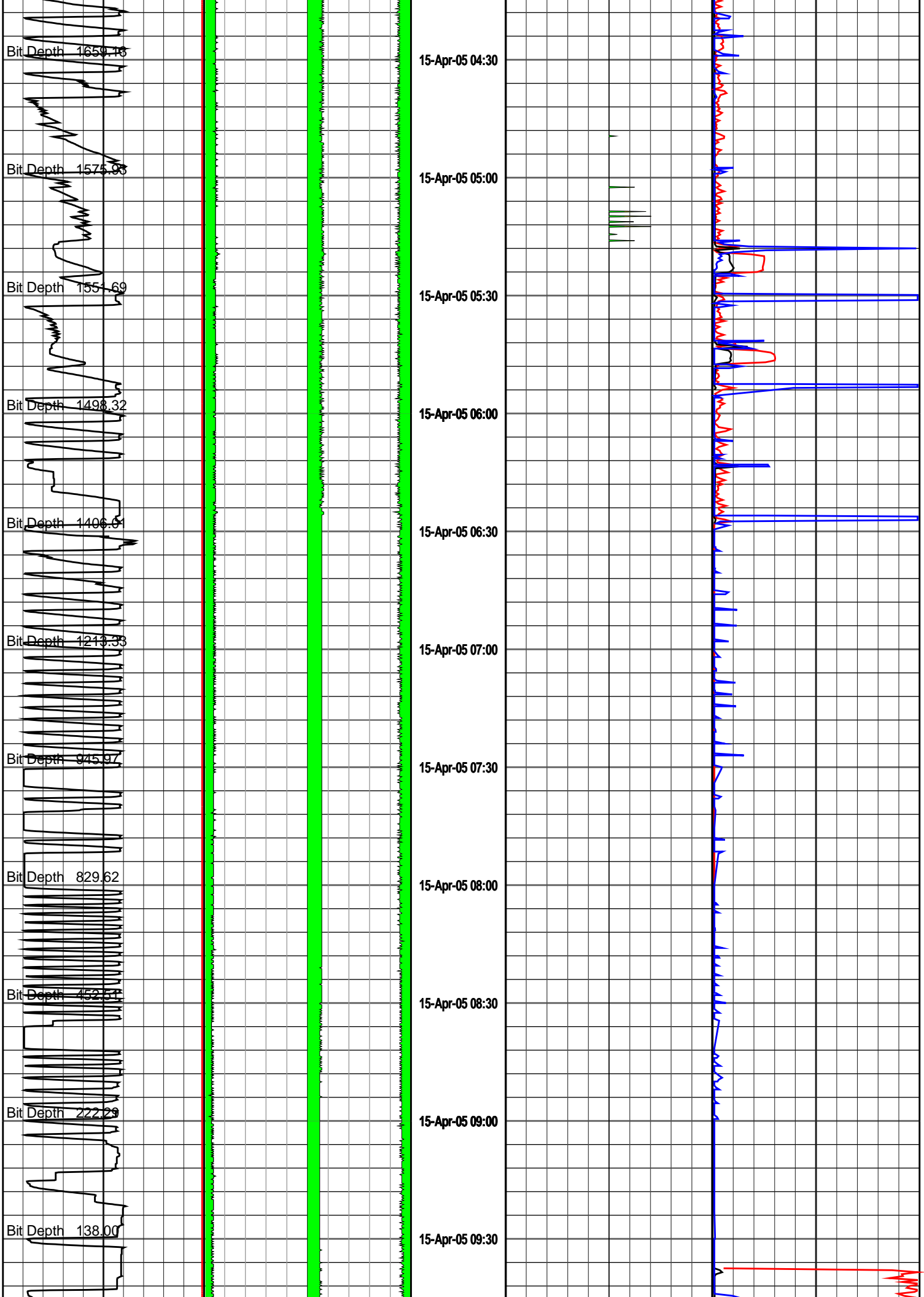


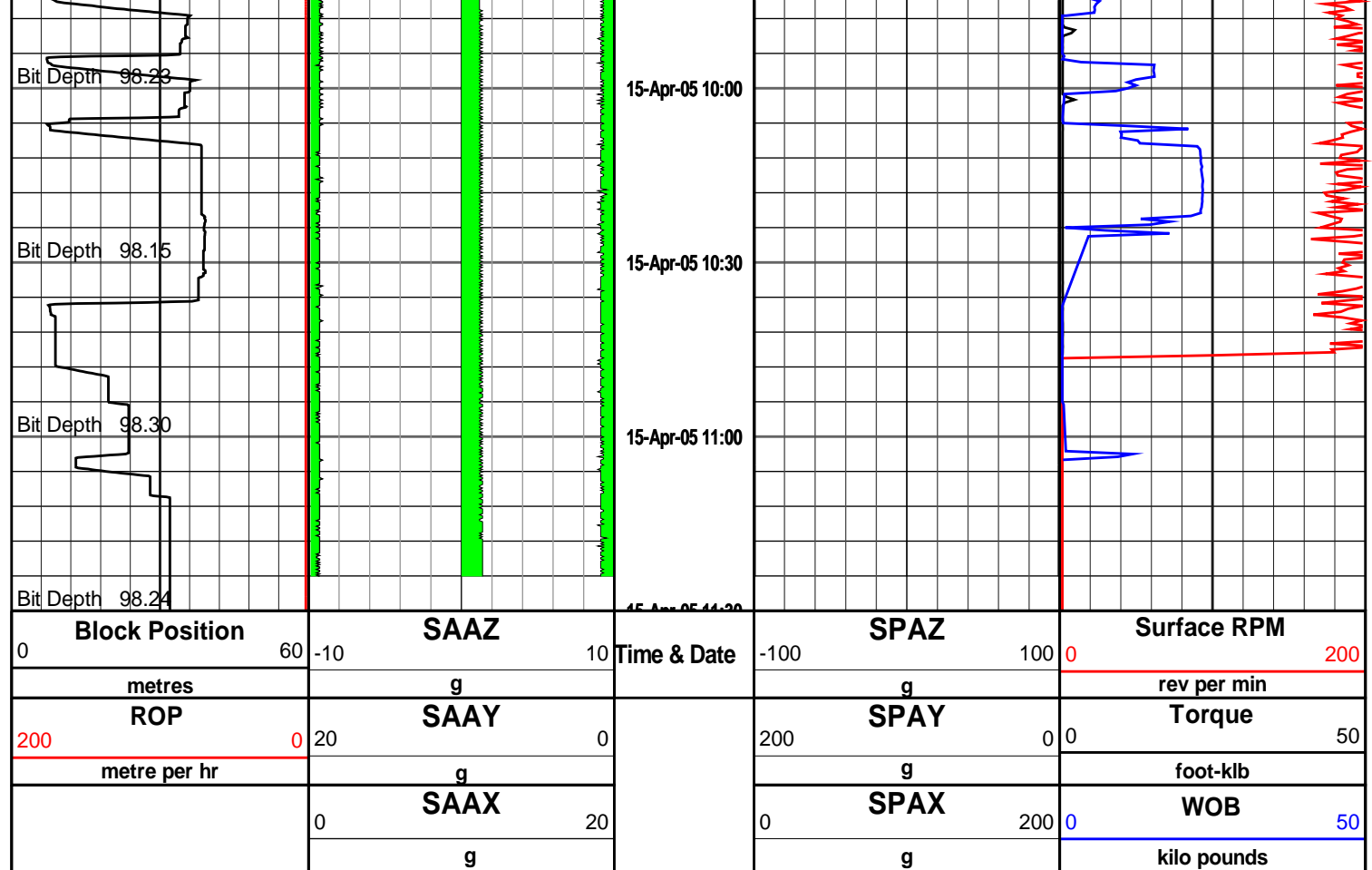








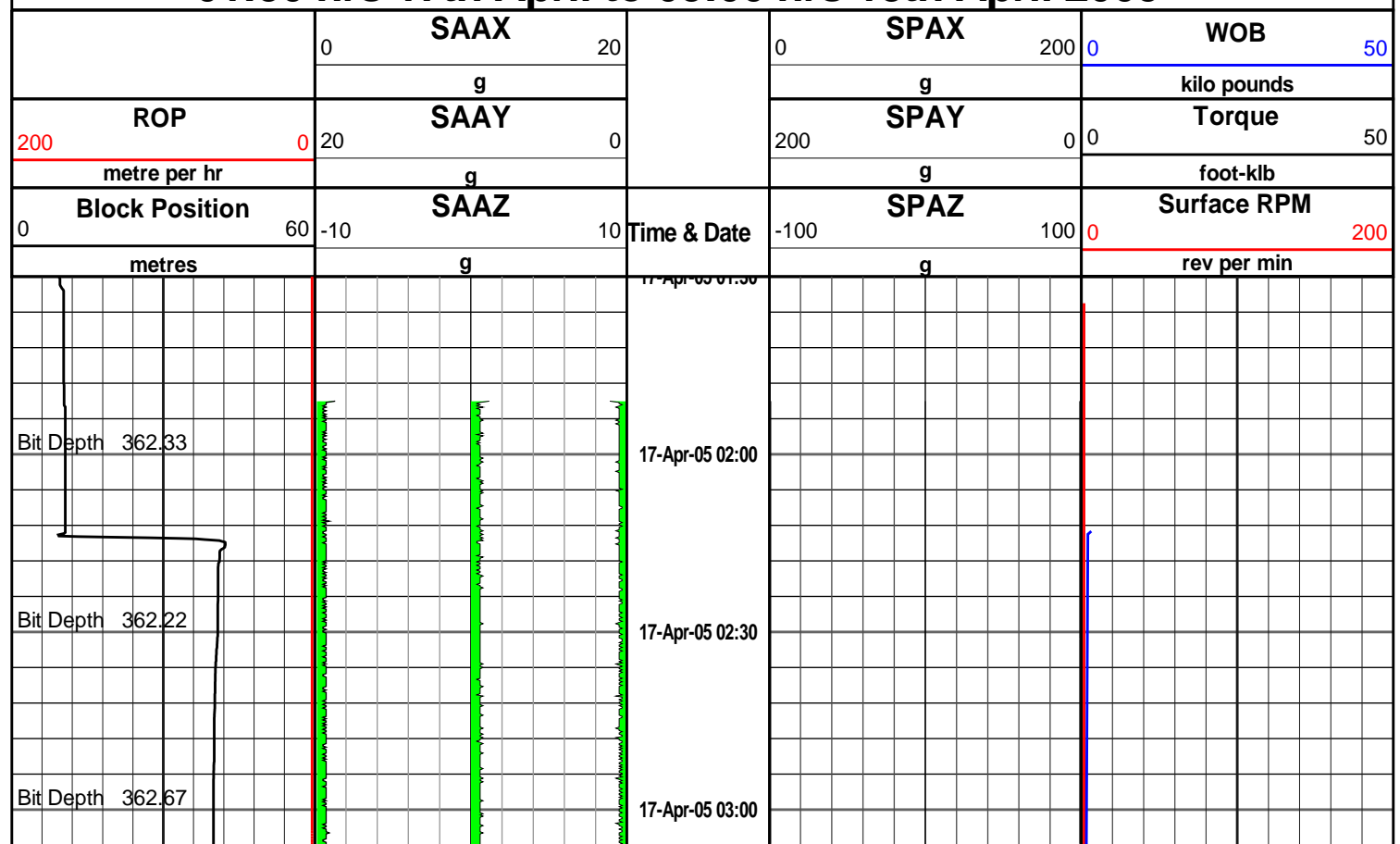


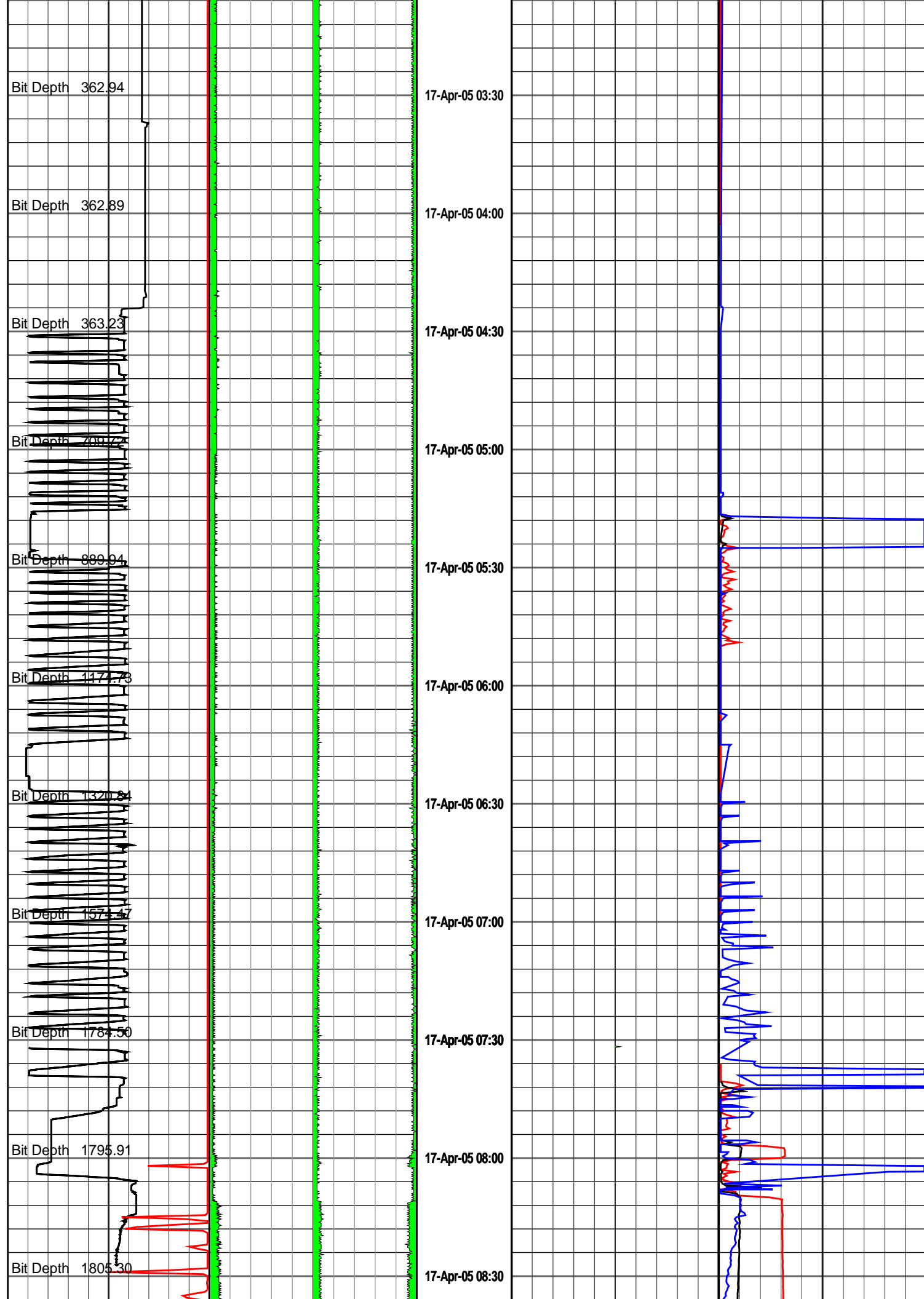


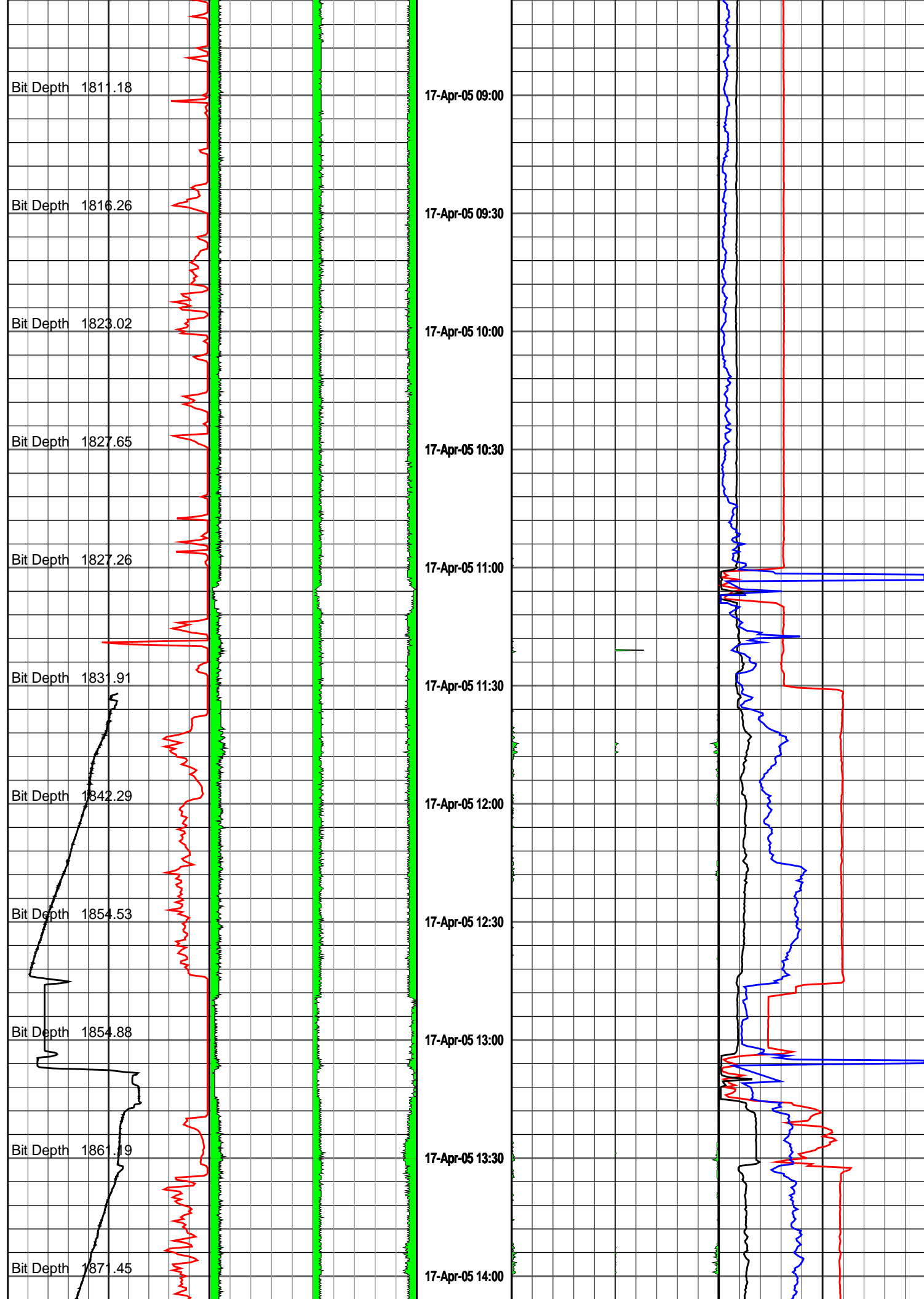
Run 400 : 216 mm Hole Section

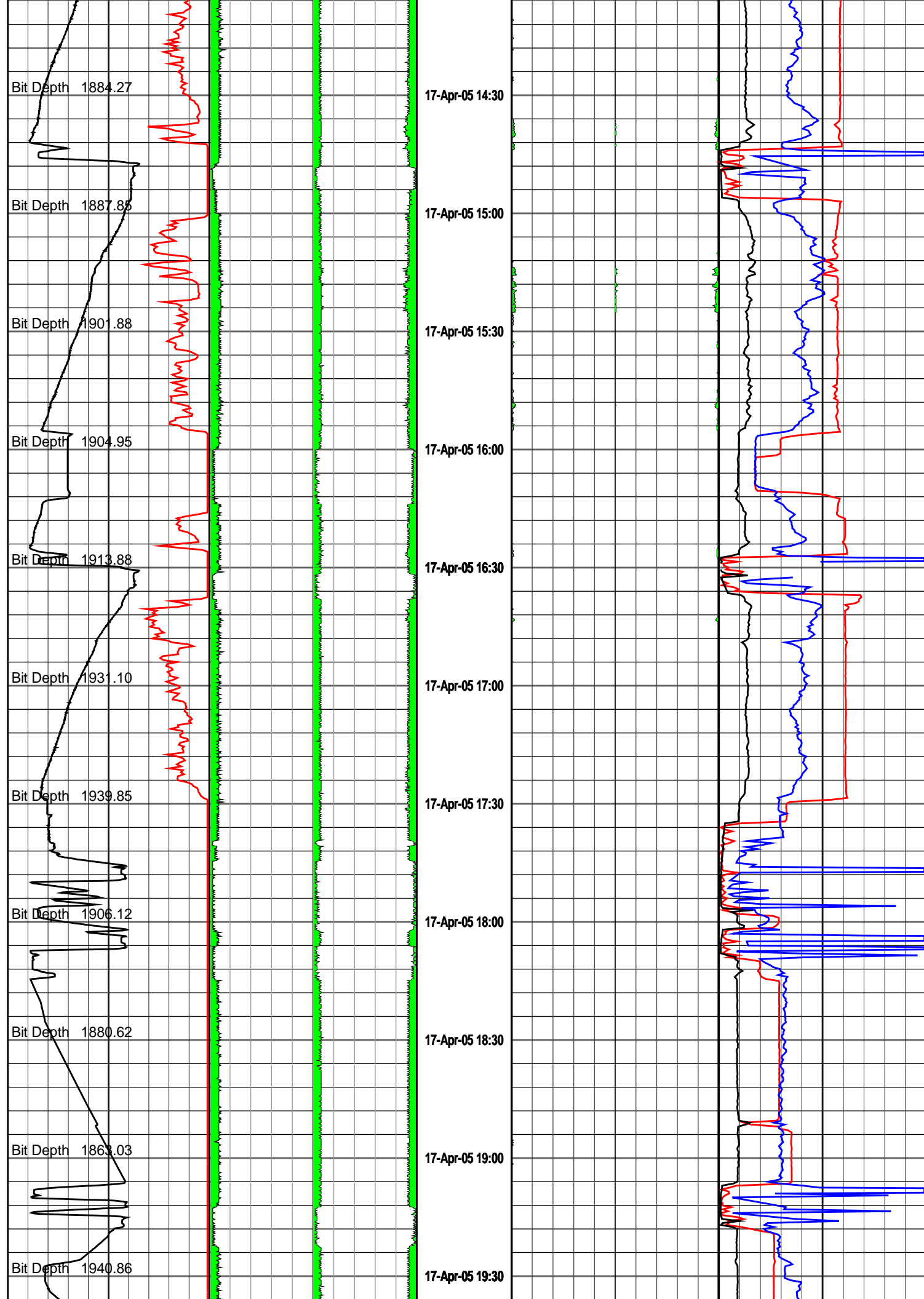
Drilled from 1808.0 to 1941.0 mMDRT

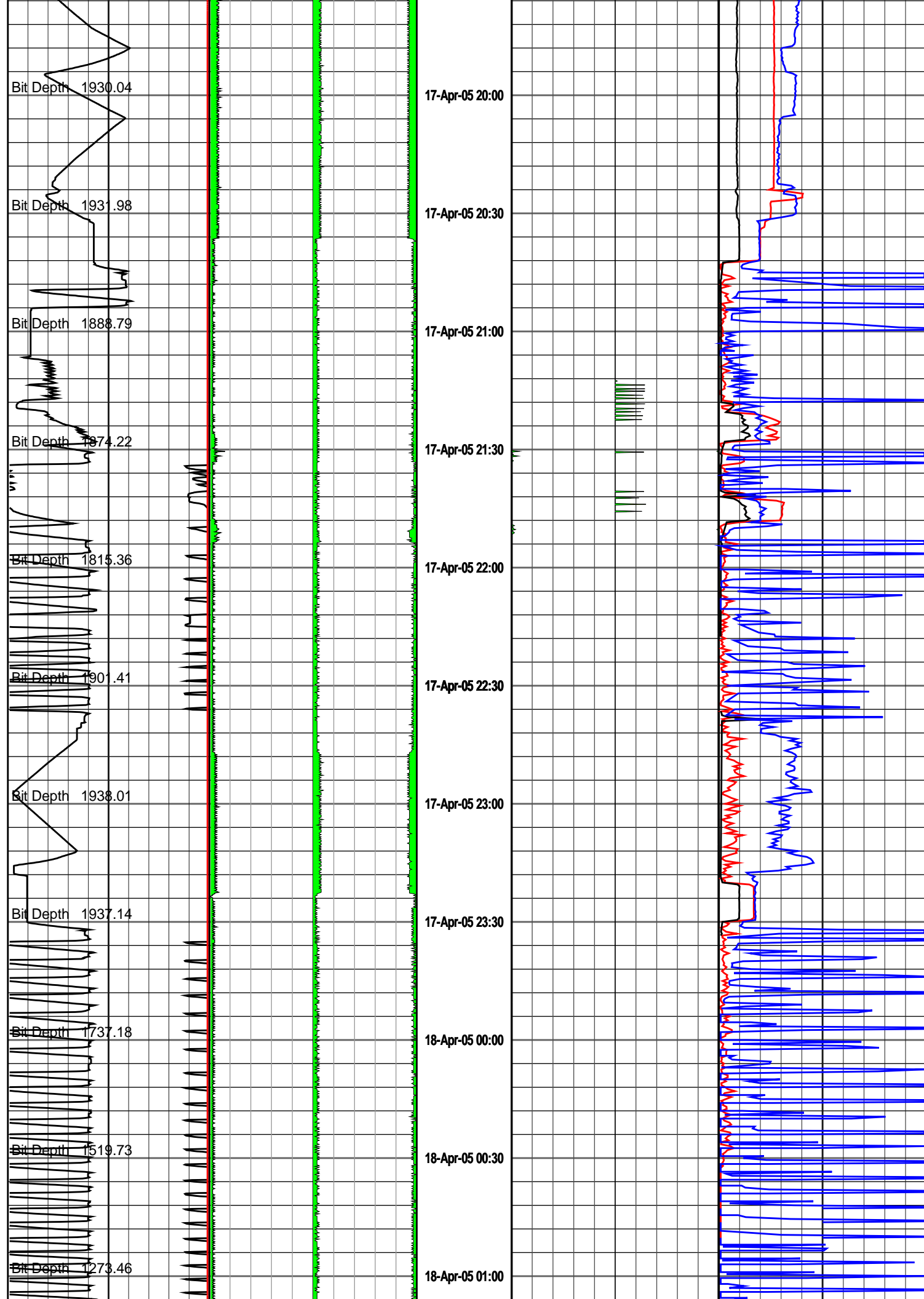
01:30 hrs 17th April to 03:00 hrs 18th April 2005

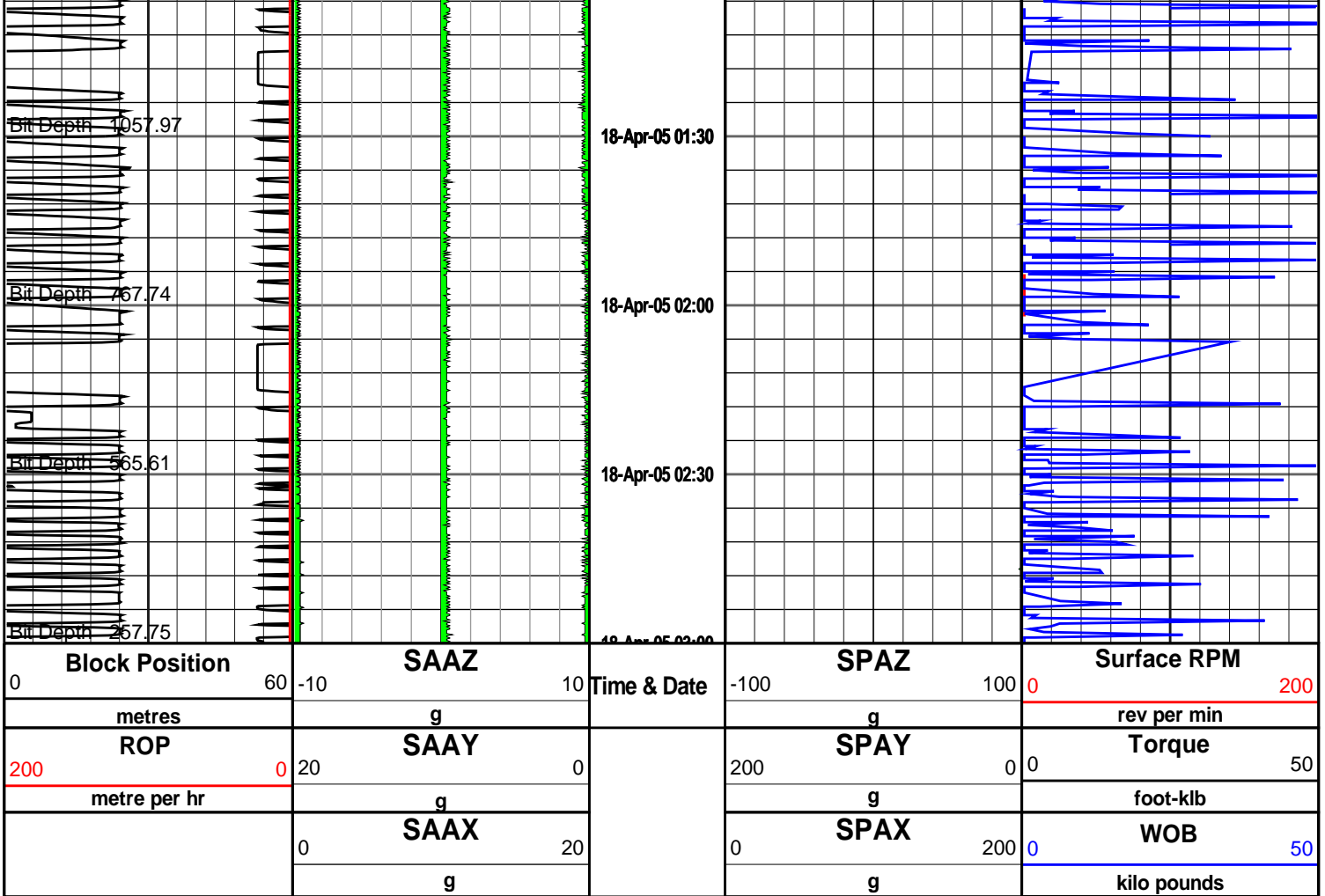












HALLIBURTON

DIRECTIONAL SURVEY REPORT

Woodside Energy Ltd

Halladale-1 DW2

VIC

Australia

AU-FE-0003325468

Final survey projected to TD. RT-LAT=21.5m

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
810.510	4.59	213.32	810.220	1.716 S	9.639 W	-5.042	TIE-IN
852.560	4.74	218.31	852.131	4.485 S	11.640 W	-8.343	0.31
881.040	3.38	227.57	880.539	5.975 S	12.990 W	-10.216	1.59
909.540	2.36	275.21	909.007	6.489 S	14.194 W	-11.125	2.63
938.460	2.99	330.60	937.900	5.777 S	15.158 W	-10.805	2.64
967.340	4.38	356.47	966.721	4.020 S	15.595 W	-9.319	2.22
996.060	7.12	4.58	995.294	1.151 S	15.521 W	-6.612	2.98
1024.960	9.29	0.02	1023.897	2.968 N	15.377 W	-2.713	2.35
1055.560	12.32	353.37	1053.952	8.682 N	15.753 W	2.491	3.21
1084.420	14.52	350.57	1082.023	15.310 N	16.701 W	8.345	2.38
1112.890	16.05	349.61	1109.485	22.702 N	17.996 W	14.789	1.63
1141.340	17.92	346.59	1136.693	30.829 N	19.720 W	21.766	2.18
1169.860	20.36	343.90	1163.635	39.866 N	22.114 W	29.354	2.73
1198.200	21.57	340.05	1190.100	49.500 N	25.259 W	37.232	1.94
1226.910	21.90	339.02	1216.769	59.460 N	28.977 W	45.211	0.53
1256.080	22.21	337.21	1243.804	69.622 N	33.060 W	53.248	0.77
1284.960	21.89	340.96	1270.573	79.744 N	36.931 W	61.323	1.50
1311.610	23.12	342.06	1295.194	89.418 N	40.163 W	69.207	1.46
1340.280	23.01	345.53	1321.573	100.200 N	43.297 W	78.161	1.43
1368.830	22.99	346.35	1347.853	111.021 N	46.007 W	87.303	0.34
1397.820	23.70	346.53	1374.470	122.188 N	48.701 W	96.775	0.74
1426.750	22.93	345.84	1401.037	133.307 N	51.434 W	106.188	0.85

1454.770	22.79	347.81	1426.857	143.904 N	53.915 W	115.202	0.83
1503.000	21.72	346.50	1471.494	161.713 N	57.971 W	130.393	0.73
1510.750	21.22	346.89	1478.706	164.473 N	58.623 W	132.739	2.01
1539.560	21.91	348.03	1505.499	174.810 N	60.921 W	141.575	0.84
1568.700	21.37	347.26	1532.586	185.307 N	63.219 W	150.562	0.63
1597.380	21.89	344.99	1559.246	195.568 N	65.756 W	159.243	1.03
1625.950	22.06	342.29	1585.741	205.823 N	68.768 W	167.749	1.08
1654.300	21.72	343.30	1612.047	215.919 N	71.895 W	176.065	0.54
1683.200	21.55	344.71	1638.912	226.161 N	74.831 W	184.586	0.57
1714.560	21.72	343.34	1668.062	237.276 N	78.013 W	193.834	0.51
1742.320	21.67	344.05	1693.856	247.125 N	80.894 W	202.007	0.29
1771.450	21.26	343.64	1720.966	257.364 N	83.860 W	210.514	0.45
1795.600	21.51	343.38	1743.453	265.807 N	86.360 W	217.511	0.33
1855.710	20.58	343.78	1799.553	286.512 N	92.463 W	234.676	0.47
1884.130	19.43	342.64	1826.258	295.820 N	95.268 W	242.370	1.28
1912.690	19.24	343.45	1853.207	304.865 N	98.026 W	249.836	0.35
1936.360	19.03	343.20	1875.569	312.297 N	100.252 W	255.986	0.29
1941.000	19.03	343.20	1879.956	313.746 N	100.690 W	257.183	0.00

CALCULATION BASED ON MINIMUM CURVATURE METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT

TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD



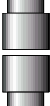

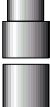






VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 20.90 DEGREES (GRID)

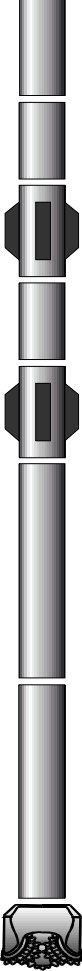

A TOTAL CORRECTION OF 11.97 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.

HORIZONTAL DISPLACEMENT(CLOSURE) AT 1941.000 METRES

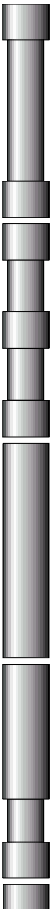

IS 329.507 METRES ALONG 342.21 DEGREES (GRID)

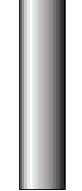



















MWD RUN 100 - BHA			MWD RUN 100 - MWD		
		Cumulative Length (m)			Sensor Measure Point Distance To Bit (m)
Drill Pipe		1139.71	Positive Pulser		
HWDP		286.27	TM		
Drill Collar		147.56	BAT		
Jar		128.87	CTN		26.130
Drill Collar		119.07	SLD		22.050
			LCIM		

				
Sub		35.19		
Reamer		32.91	PWD	16.370
Sub		30.89		
Stabilizer		30.27	EWR-P4	13.850
		29.59		
Drill Collar				
			DGR	11.530
		26.79		
MWD				
			GeoPilot	1.320
Bit		0.42		

MWD RUN 200 - BHA



















MWD RUN 200 - MWD











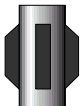





		Cumulative Length (m)			Sensor Measure Point Distance To Bit (m)
		1167.20			
Drill Pipe			Positive Pulser		
		313.76	TM		
HWDP					
		175.05	BAT		
Drill Collar					
		156.36	CTN		26.140
Jar					
		146.63	SLD		22.060

Drill Collar			HCIM		
Sub		34.79			
Reamer		32.51	PWD		16.370
Sub		30.90			
Stabilizer		30.28	EWR-P4		13.860
		29.60			
Drill Collar			DGR		11.540
		26.80			
MWD			GeoPilot		1.330
Bit		0.43			

MWD RUN 400 - BHA

MWD RUN 400 - MWD

		Cumulative Length (m)			Sensor Measure Point Distance To Bit (m)
		2810.48			
Drill Pipe			Positive Pulser		
					
		310.48	TM		
HWDP					
			BAT		
		171.77			
Drill Collar			CTN		20.060
		153.08			

Jar			SLD		16.010
					
Drill Collar		143.35	HCIM		
					
Sub		31.51	PWD		10.400
Sub		29.23			
Stabilizer		28.61	EWR-P4		7.870
		27.94			
MWD			DGR		5.570
		1.67			
Stabilizer			PM		
Bit		0.30			