

1 : 500

Sperry Drilling Services

Country : Australia		Company : Origin Energy Resources Ltd	
Field : Rockhopper		Rig : Kan Tan IV	
Location : Lat: 39° 47' 34.18" South GDA94 Long: 145° 26' 21.47" East GDA94		Well : Rockhopper-1	
Well : Rockhopper-1		Field : Rockhopper	
Company : Origin Energy Resources Ltd		Country : Australia	
Rig : Kan Tan IV		DOE Number :	
LOCATION		Other Services	
Latitude : Lat: 39° 47' 34.18" South GDA94 Longitude : Long: 145° 26' 21.47" East GDA94		Directional Drilling	
UTM Easting = 366,374.03 m UTM Northing = 5,594,071.42 m		Pressure While Drilling	
Permanent Datum : LAT		Elev. KB	
Log Measured From : Drill Floor		DF 26.00 m GL	
Drilling Measured From : Drill Floor		WD 74.30 m	
Depth Logged : 158.00 m To 3,522.00 m		Unit No. : SSH-40	
Date Logged : 02-Dec-09 To 28-Dec-09		Job No. :AU-FE-0006714150	
Total Depth MD : 3,522.00 m TVD: 3,191.93 m		Plot Type : Final	
Spud Date : 30-Nov-09		Plot Date : 12-Jan-10	
Run No.	Borehole Record (MD)		Borehole Record (MD)
	Size From To	Run No.	Size From To
100	445,000 mm 158.00 m 966.00 m		
200	311,000 mm 966.00 m 1,972.00 m		
400	216,000 mm 1,972.00 m 2,019.00 m		
500	216,000 mm 2,019.00 m 2,023.00 m		
600	216,000 mm 2,023.00 m 3,522.00 m		
		Casing Record (MD)	
		Size Weight From To	
		30,000 in 458.00 kgpm 100.30 m 157.00 m	
		13.375 in 101.00 kgpm 100.30 m 961.00 m	
		9.625 in 47.00 kgpm 100.30 m 1,964.00 m	

WELL INFORMATION					
MWD Run Number	100	200	400	500	600
Date run completed	04-Dec-09	12-Dec-09	20-Dec-09	20-Dec-09	28-Dec-09
Rig Bit Number	2	3	5	6	6rr
Bit Size (mm)	445	311	216.00	216	216
Tool Nominal OD (in)	9.50	8.00	6.75	6.75	6.75
Log Start Depth (MD, m)	158.00	966.00	1,972.00	2,019.00	2,023.00
Log End Depth (MD, m)	966.00	1,972.00	2,019.00	2,023.00	3,522.00
Drill or Wipe	Drilling	Drilling	Drilling	Drilling	Drilling
Drill/Wipe Start Date and Time	02-Dec-09 17:59	09-Dec-09 15:39	19-Dec-09 11:43	20-Dec-09 13:23	21-Dec-09 08:35
Drill/Wipe End Date and Time	04-Dec-09 09:20	12-Dec-09 04:45	19-Dec-09 21:07	20-Dec-09 16:30	27-Dec-09 19:00
Min Inc (deg) @ Depth (MD, m)	0.10 @ 733.40	0.00 @ 980.35	0.69 @ 1,968.42	4.80 @ 2,006.90	7.43 @ 2,047.71
Max Inc (deg) @ Depth (MD, m)	0.43 @ 414.83	0.91 @ 1,934.76	4.80 @ 2,006.90	4.80 @ 2,006.90	43.48 @ 2,857.71
Bit TFA(in2) / Bit Type	1.24 / Smith XR + VCPS	1.03 / Reed RSR616M-A21	0.92 / Huges GT1	0.78 / SDBS FMF3755	0.78 / SDBS FMF3755
Flow Rate (gpm)	996	917	552	543	580
Max AV (mps) / CV (mps) @ MWD	0.6 / 0.9	1.5 / 1.7	2.7 / 2.0	2.6 / 2.1	2.8 / 3.0
Fluid Type	Sea Water	KCl Polymer	KCL/Polymer	KCL/Polymer	KCL/Polymer
Density (ppg) / Viscosity (spqt)	8.76 / N/A	9.2 / 63	9.6 / 64	9.6 / 53	9.6 / 55
Filtrate CL (ppm)	N/A	39,000	35,000	35,000	29,000
pH / Fluid Loss (mptm)	N/A / N/A	9.0 / 5.8	9.5 / 4	9.0 / 5.0	9.0 / 4
PV (cP) / YP (lhf2)	N/A / N/A	11 / 22	12 / 19	12 / 20	18 / 37
% Solids / % Sand	0 / 0	3.5 / 0.25	4.1 / 0.15	4.2 / 0.20	4.7 / 0.30
% Oil / Oil:Water Ratio	0 / 0:100	0 / 0:100	0 / 0:100	0 / 0:100	0 / 0:100
Rm @ Measured Temp (degC)	N/A @ N/A	0.11 @ 23.33	N/A @ N/A	0.08 @ 20.0	0.08 @ 20.0
Rmf @ Measured Temp (degC)	N/A @ N/A	0.07 @ 24.44	N/A @ N/A	0.04 @ 20.0	0.04 @ 20.0
Rmc @ Measured Temp (degC)	N/A @ N/A	0.16 @ 24.44	N/A @ N/A	0.10 @ 20.0	0.10 @ 20.0
Max Tool Temp (degC) / Source	25.6 / PCM	59.2 / EWR-P4	53.7 / PCM	80.0 / EWR-P4	111.8 / HCIM
Rm @ Max Tool Temp (degC)	N/A @ N/A	0.06 @ 59.20	N/A @ 53.7	0.03 @ 80.0	0.03 @ 111.8
Lead MWD Engineer	J. Lau	J. Lau	J. Ma	J. Ma	J. Ma
Customer Representative	B. Houston	M. Lenzor	M. Lenzor	M. Lenzor	M. Lenzor

Customer Representative	B. Houston	M. Lanzer	M. Lanzer	M. Lanzer	M. Lanzer
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## SENSOR INFORMATION

Downhole Processor Information					
Tool Type	PCM	HCIM	PCM	HCIM	HCIM
Software Version	5.28	88.20	5.28	88.20	88.20
Sub Serial Number	46811	245814	46811	246857	246857
Insert Serial Number	10921470	103485	11226946	240992	240992
Date and Time Initialized	01-Dec-09 22:15	09-Dec-09 00:53	18-Dec-09 20:03	20-Dec-09 05:35	21-Dec-09 02:24
Date and Time Read	04-Dec-09 18:40	12-Dec-09 14:47	20-Dec-09 20:17	20-Dec-09 22:34	28-Dec-09 12:08
ECMB SW Version	N/A	N/A	N/A	N/A	N/A

Directional Sensor Information					
Tool Type	PCDC	PCDC	PCDC	PCDC	PCDC
Distance From Bit (m)	7.375	19.790	11.760	7.760	8.730
Software Version	6.09	6.09	6.09	6.09	6.09
Sub Serial Number	46811	246907	194443	203846	203846
Sonde Serial Number	300454	300454	300351	300517	300480
Sensor ID Number	11062084	11062084	10993467	11219509	11062104
Toolface Offset (deg)	0	219.44	20.11	0	0

Gamma Ray Sensor Information					
Tool Type		DGR		DGR	DGR
Distance From Bit (m)		12.370		10.520	11.500
Recorded Sample Period (sec)		10		10	10
Software Version		N/A		N/A	N/A
Sub Serial Number		11158407		11109929	11109929
Insert/Sonde Serial Number		263664		1324474	132474

Resistivity Sensor Information					
Tool Type		EWR-P4		EWR-P4	EWR-P4
Distance From Bit (m)		14.840		12.850	13.860
Recorded Sample Period (sec)		10		10	10
Software Version		1.50		1.50	1.50
Sub Serial Number		11131559		226817	226817
Receiver Insert Serial Number		11079093		10935323	10935323
Transmitter Insert Serial Number		11072204		11118828	11118828
Receiver Orientation		Down		Down	Down

Neutron Sensor Information					
Tool Type				CTN	CTN
Distance From Bit (m)				25.910	26.890
Recorded Sample Period (sec)				14	14
Sub Serial Number				231177	231177
Insert Serial Number				230786	230786
Source Serial Number				0102NN	0102NN
Source Factor				N/A	N/A
Pin Orientation				Up	Up

Density Sensor Information					
Tool Type				ALD	ALD
Distance From Bit (m)				21.870	22.850
Recorded Sample Period (sec)				14	14
Software Version				3.04	3.04
Sub Serial Number				11062362	11062362
Insert Serial Number				11065333	11065333
Sensor ID Number				32149	32149

Source Serial Number				2579GW	2579GW
Pin Orientation				Up	Up
Stabilizer Blade O.D. (mm)				209.6	209.6
DPA Offset				0	0

Caliper Sensor Information					
Tool Type				ACAL	ACAL
Distance From Bit (m)				38.320	31.480
Software Version				0	0
Sub Serial Number				138159	138159
Insert Serial Number				132768	132768

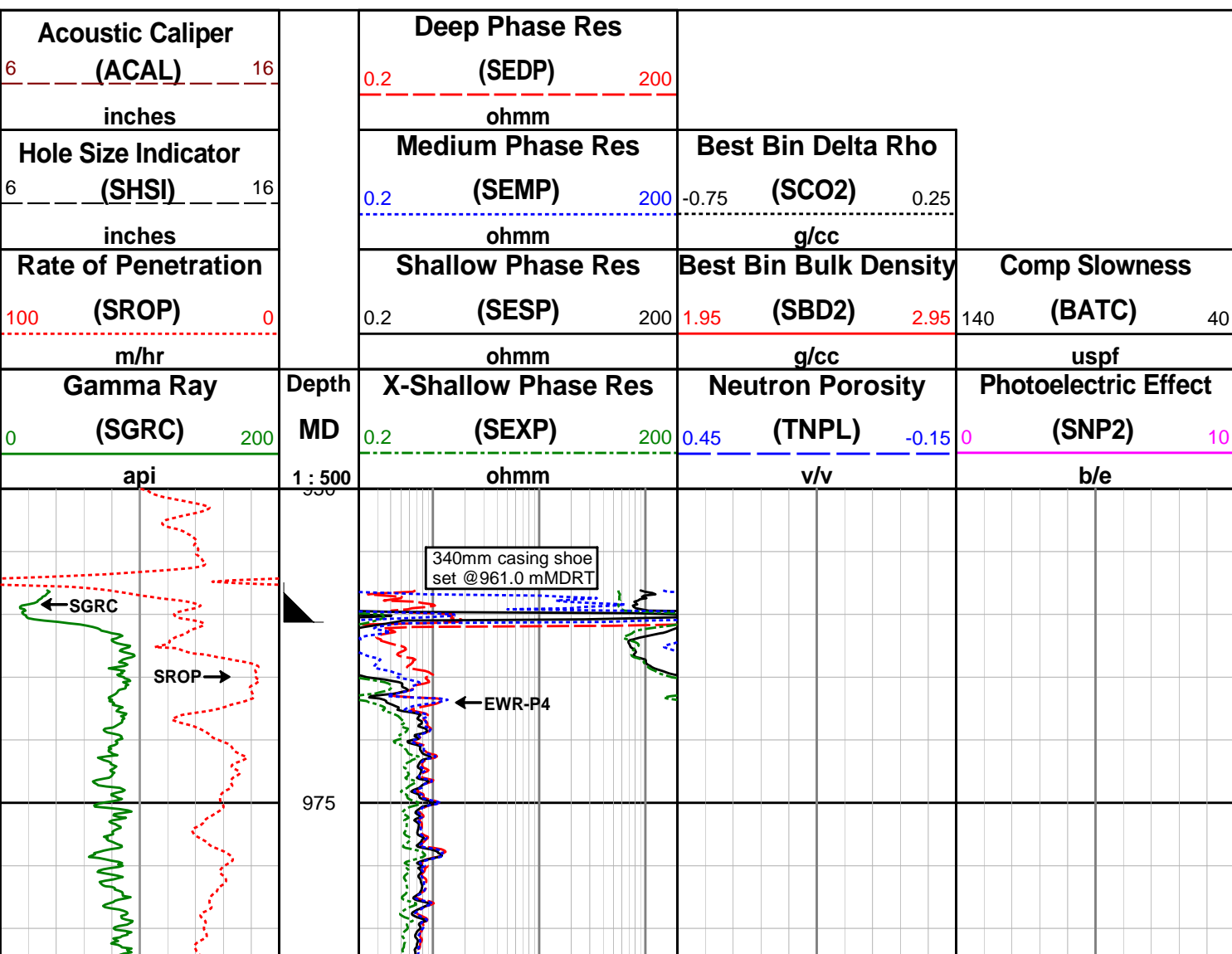
Sonic Sensor Information					
Tool Type				BAT	BAT
Distance From Bit (m)				30.500	31.480
Recorded Sample Period (sec)				18	18
Sub Serial Number				11378929	11378929
Receiver Insert Serial Number				11215930	11215930
Transmitter Insert Serial Number				133714	133714
MIT File				QBAT_ggss_m12_m	QBAT_ggss_m12_m
Config File				R5Listen_512_DS	R5Listen_512_DS
Real-Time Window (uspf)	-	-	-	75 - 135	75 - 135
Battery Insert Serial Number				231589	231589
MCM Software Version				20.02	20.02
DAQ1/DAQ2 Software Version	/	/	/	20.01 / 20.01	20.01 / 20.01
DSM Software Version				36.65	36.65

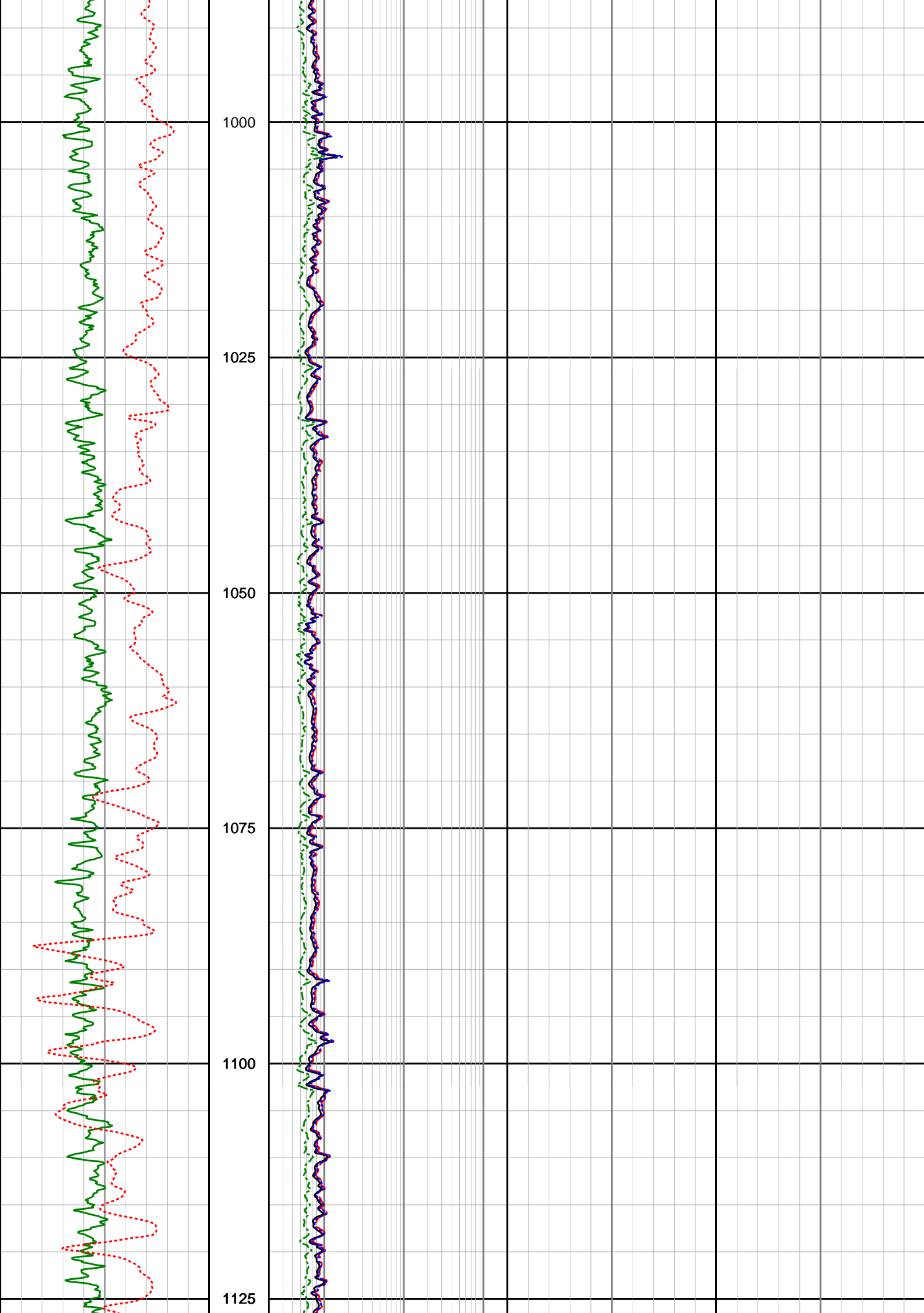
Pulser Controller Sensor Information					
Tool Type	PCM	PCM	PCM	PCM	PCM
Software Version	5.28	8.04	5.28	8.04	8.04
PIC Software Version	1.20 /	1.20 /	1.20 /	1.20 /	1.20 /
Sub/HOC Serial Number	46811	246907	46811	203846	203846
Insert/Probe/Module SN	10921470	11226946	11226946	11055881	11055881
Battery Serial Number	N/A	N/A	N/A	N/A	N/A
Valve Insert SN	N/A	N/A	N/A	N/A	N/A
DC Insert Serial Number	N/A	N/A	N/A	N/A	N/A
Choke Size (32nd)	N/A	N/A	N/A	N/A	N/A
Driver Current (uA)	N/A	N/A	N/A	N/A	N/A
Driver SMI Current (uA)	N/A	N/A	N/A	N/A	N/A
Boot Strap Version	1022	1022	1022	1022	1022

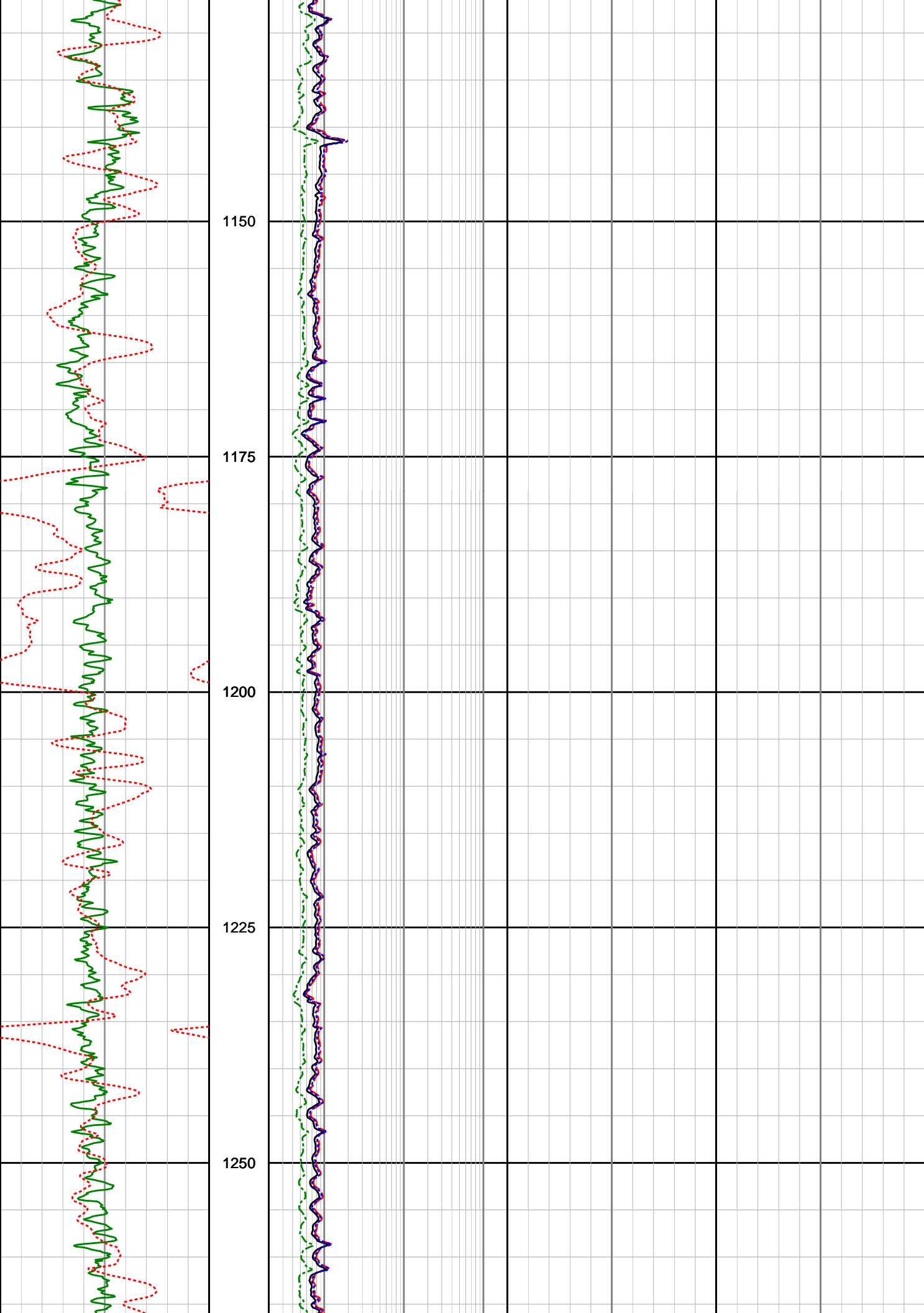
REMARKS
<p>1. All depths are bit depths and referenced to the driller's pipe tally.</p> <p>2. AV/CV is calculated at the MWD collar using the Power Law for water based mud.</p> <p>3. Curve Mnemonics are:  ACAL - Smoothed Acoustic Caliper, in  SROP - Smoothed Rate of Penetration, m/hr  SGRC - Smoothed Gamma Ray Combined, api  SABG - Smoothed At Bit Gamma, api  SEDP - Smoothed Deep Phase-Shift Derived Resistivity, ohm-m  SEMP - Smoothed Medium Phase-Shift Derived Resistivity, ohm-m  SESP - Smoothed Shallow Phase-Shift Derived Resistivity, ohm-m  SEXP - Smoothed Extra Shallow Phase-Shift Derived Resistivity, ohm-m  SC02 - Smoothed Low Count Rate Stand-off Correction, g/cc  SBD2 - Smoothed Low Count Rate Bulk Density, g/cc  TNPL - Smoothed Thermal Neutron Porosity, v/v  BATC - Smoothed Bi-Modal Acoustic Compressional Slowness, us/ft  SNP2 - Smoothed Near Detector Photoelectric Factor, b/e</p> <p>4. CTN data has been processed based on Limestone matrix and using the following parameters:</p>

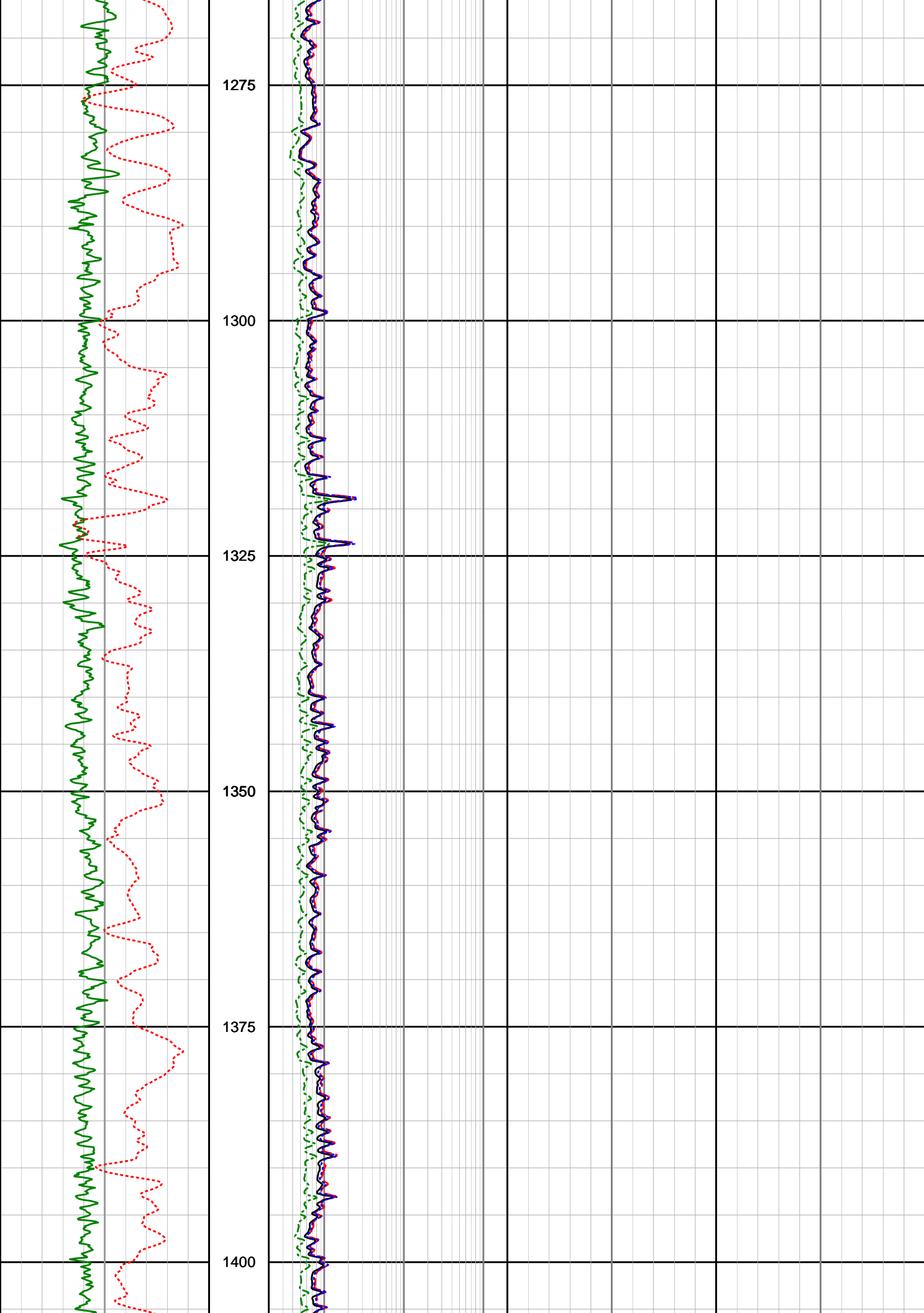
5. Data from 1972.0 - 2019.0m MDRT was obtained during wipe from Run 500
6. Gaps in ACAL from 1985-1990m are due to sensor distance. ACAL stopped recording from 3290m onwards due to memory filled.
7. Recorded CTN data was processed using fixed hole size.

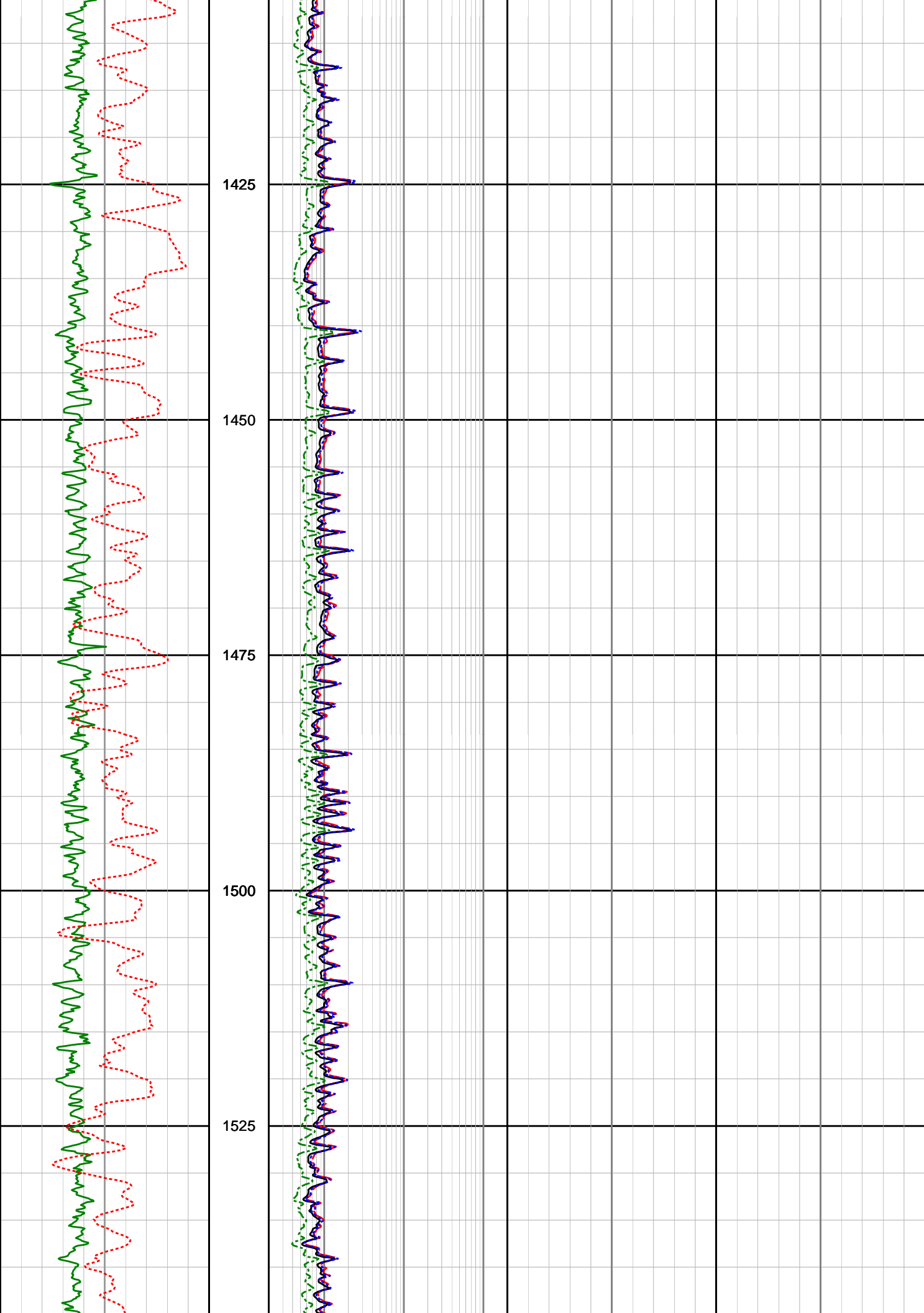
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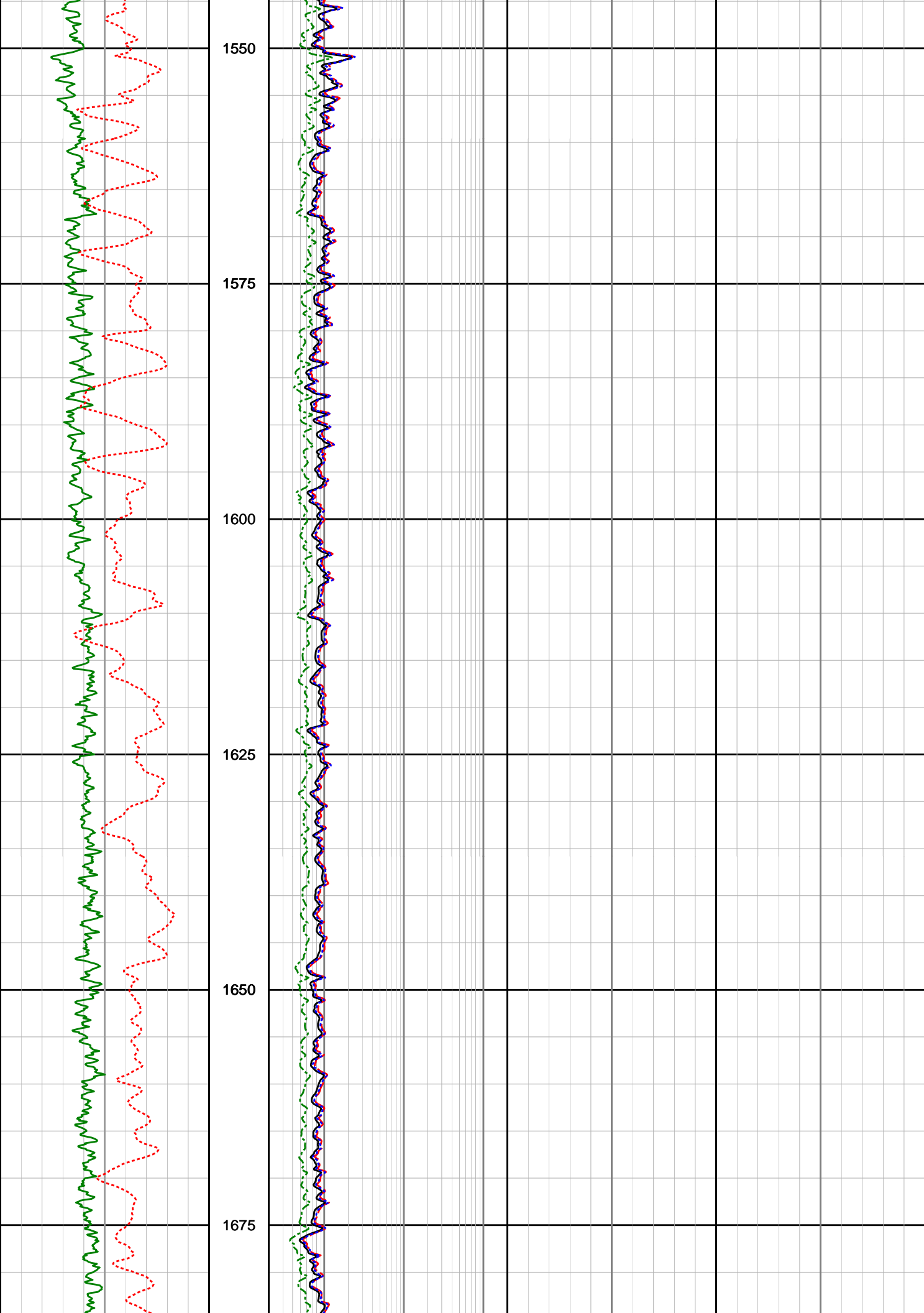


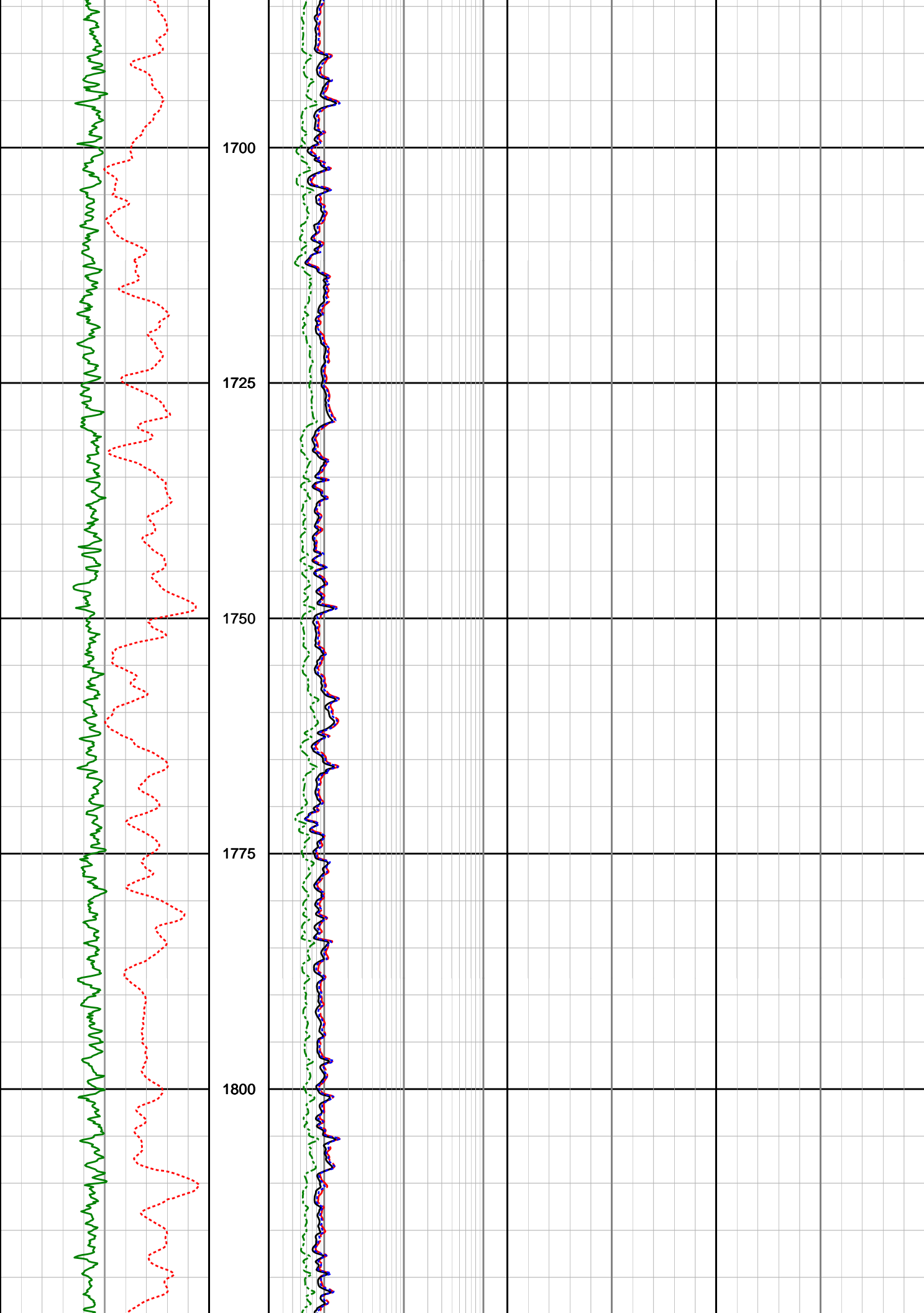


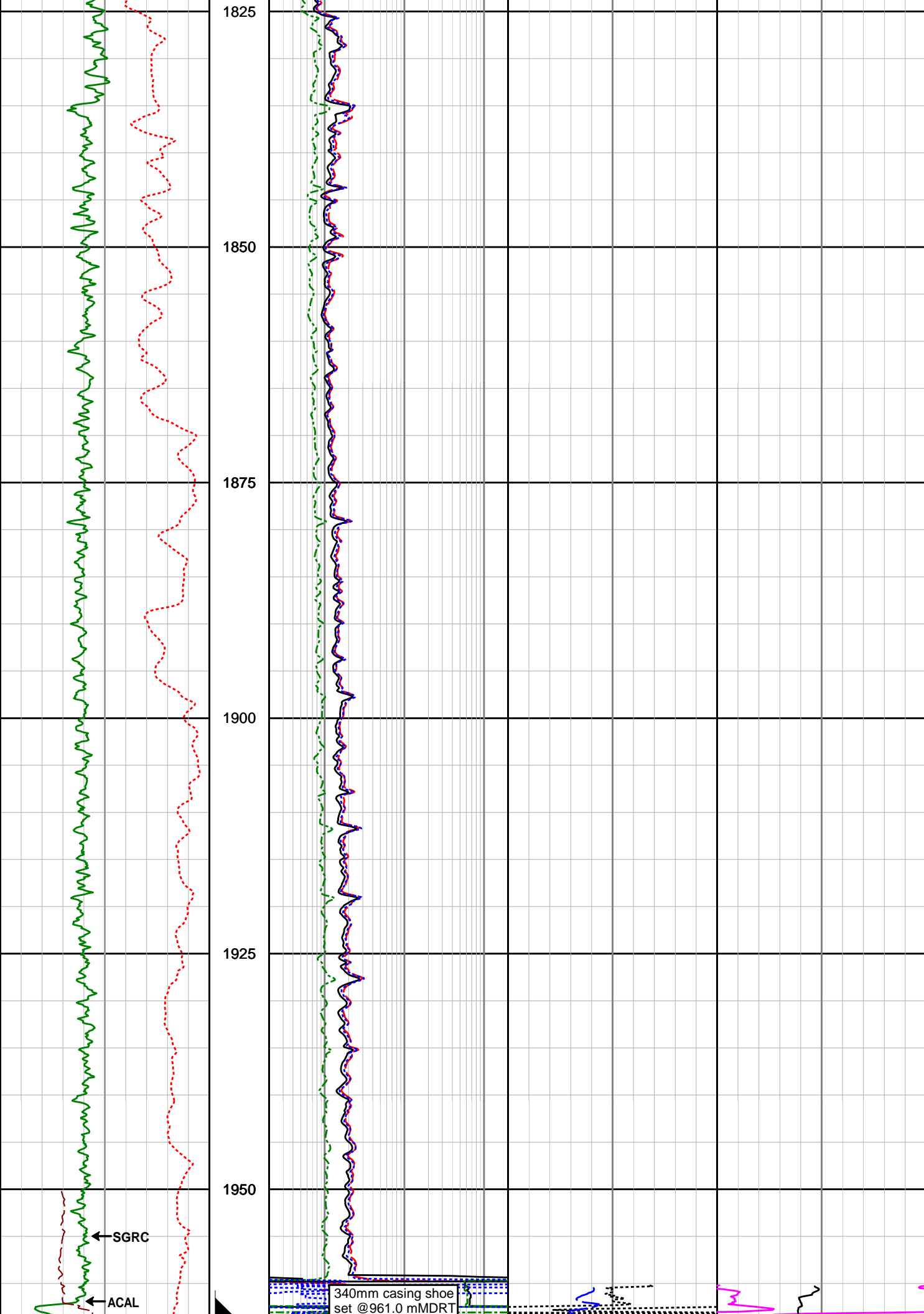


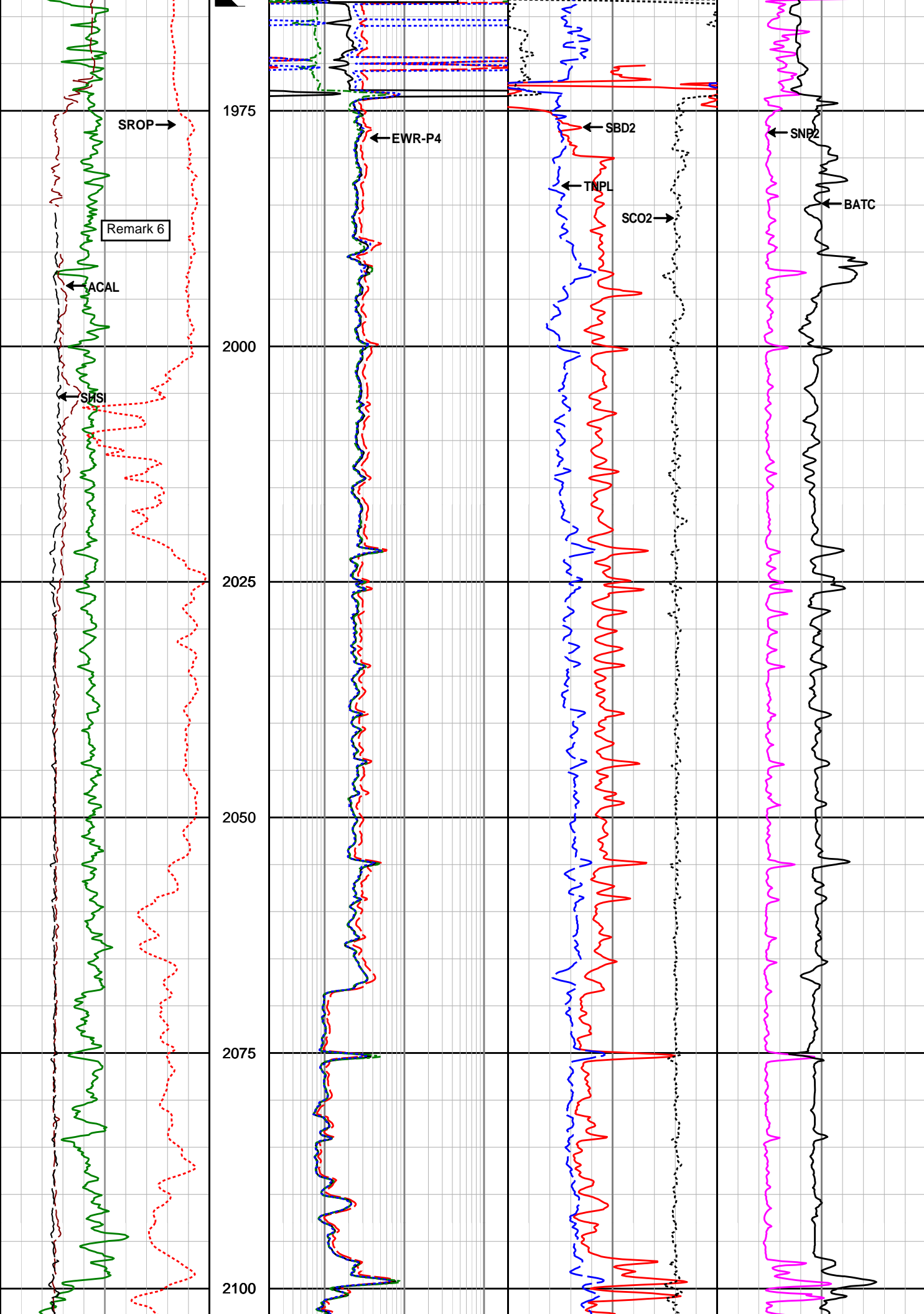


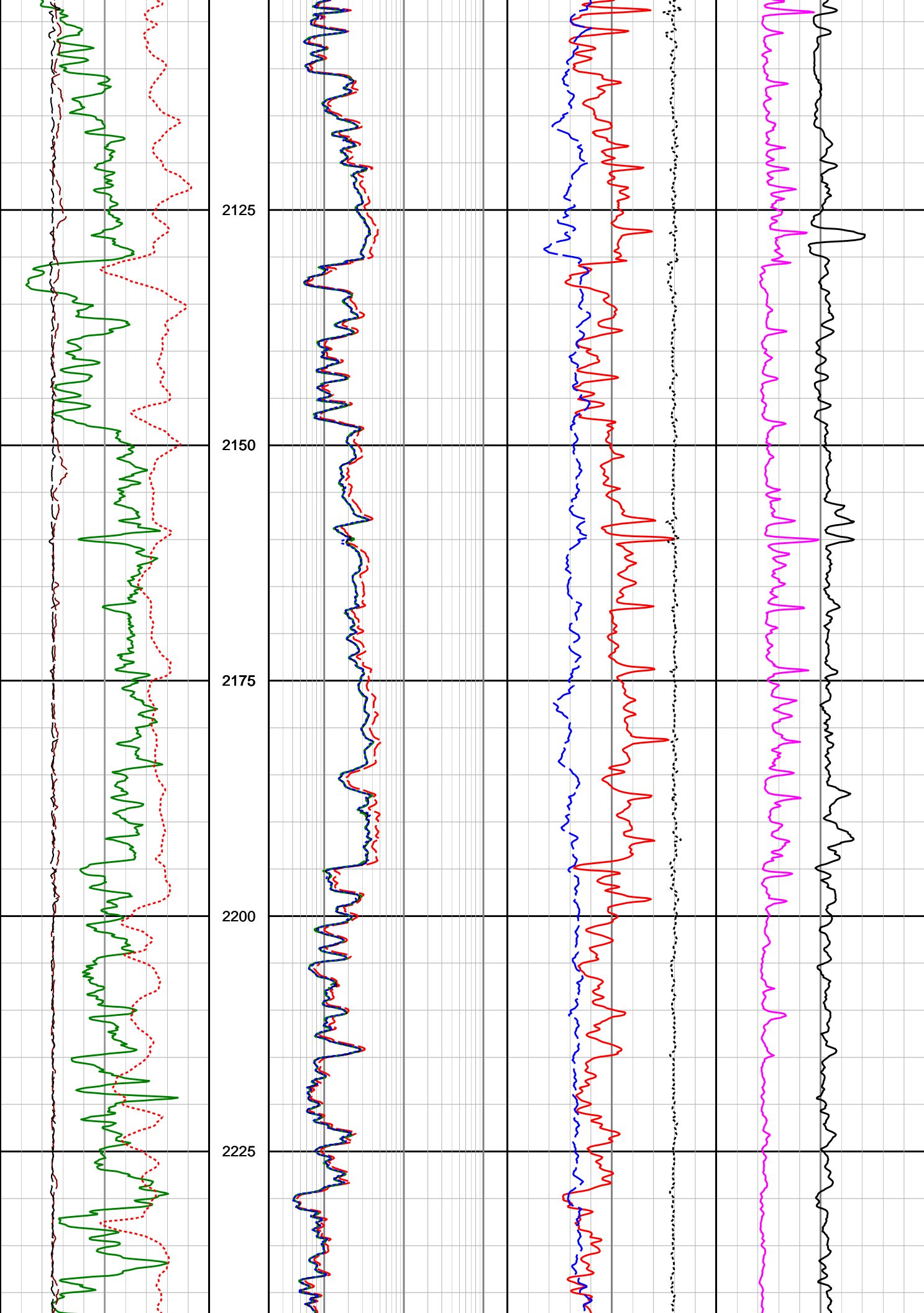


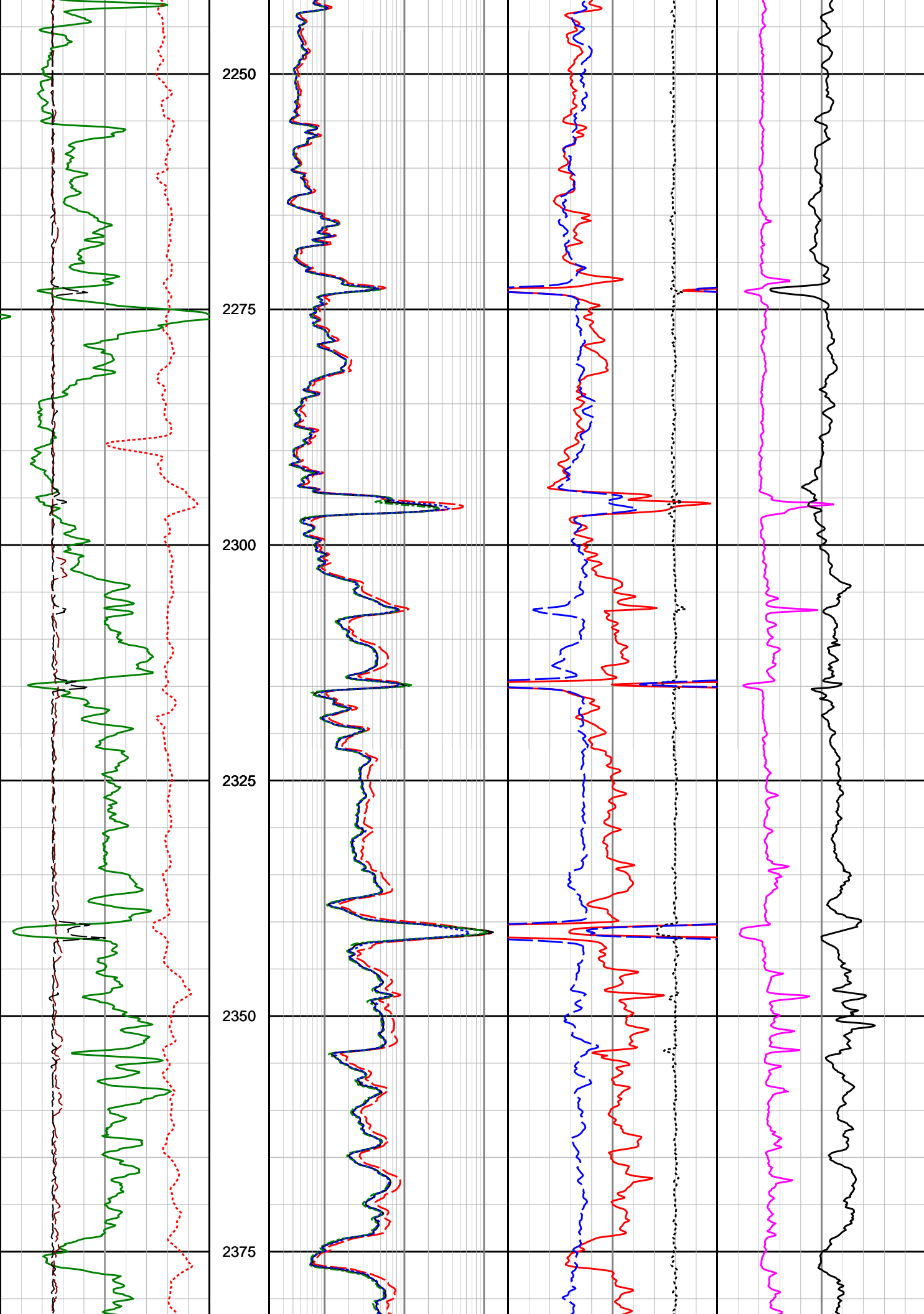


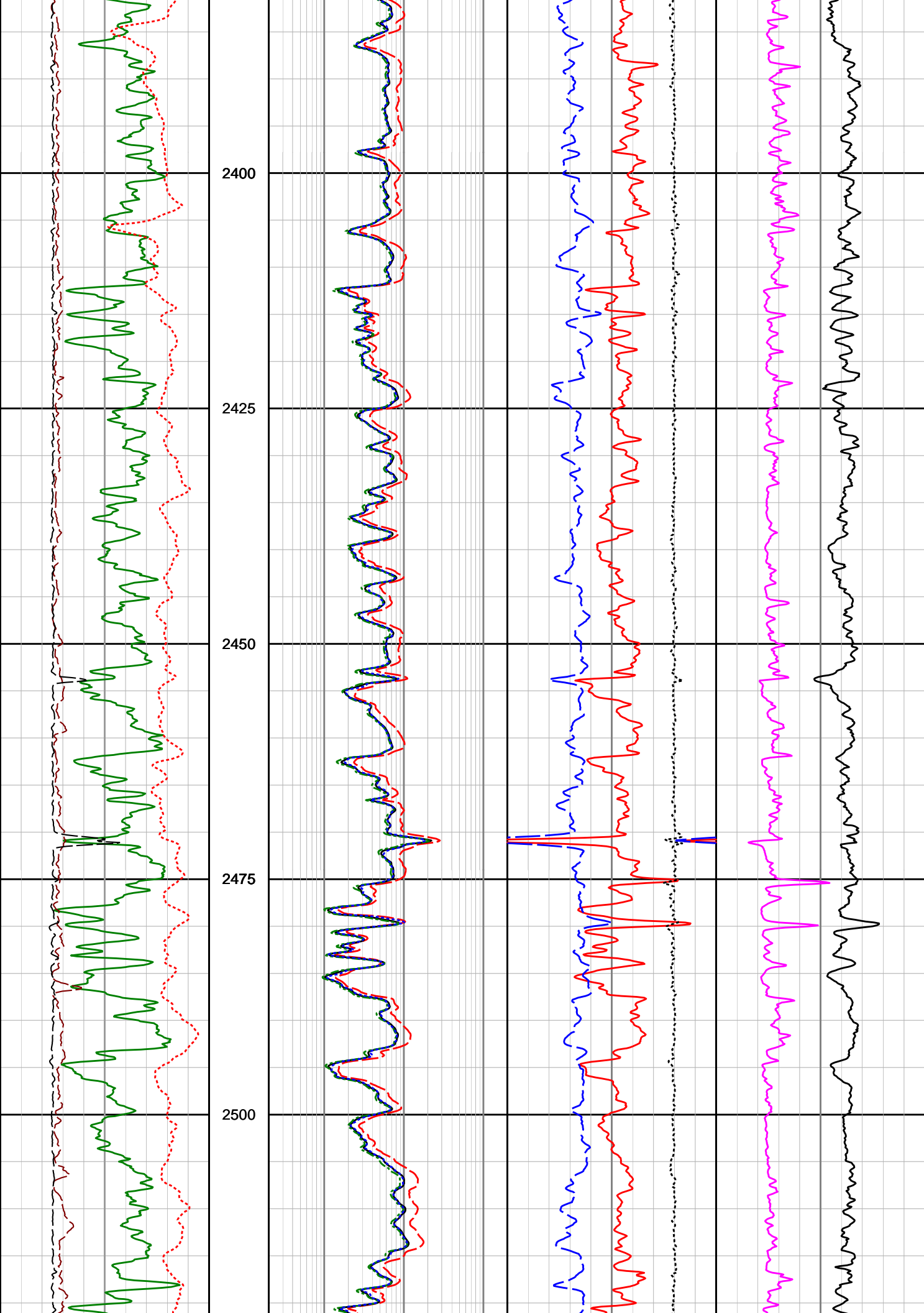


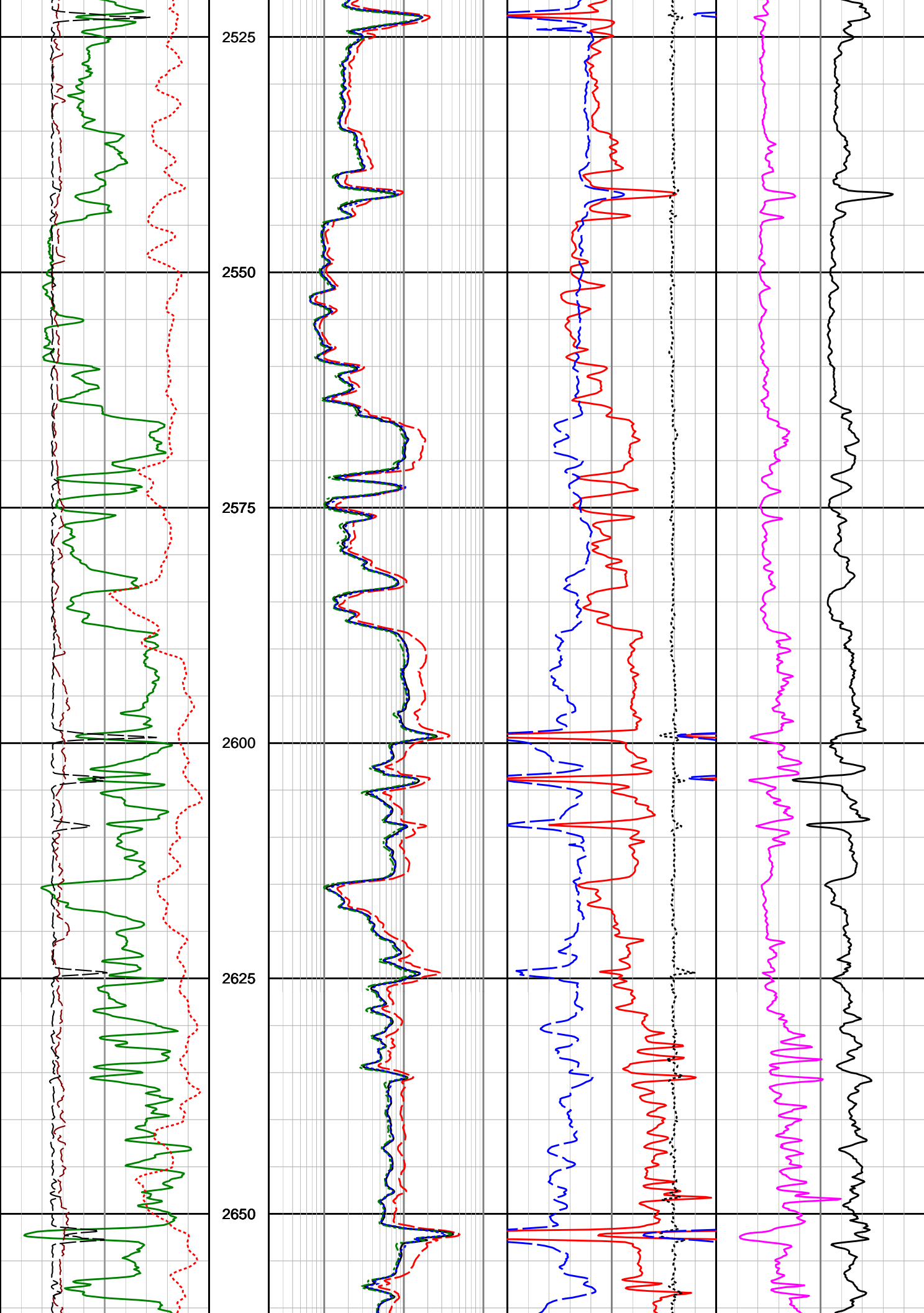




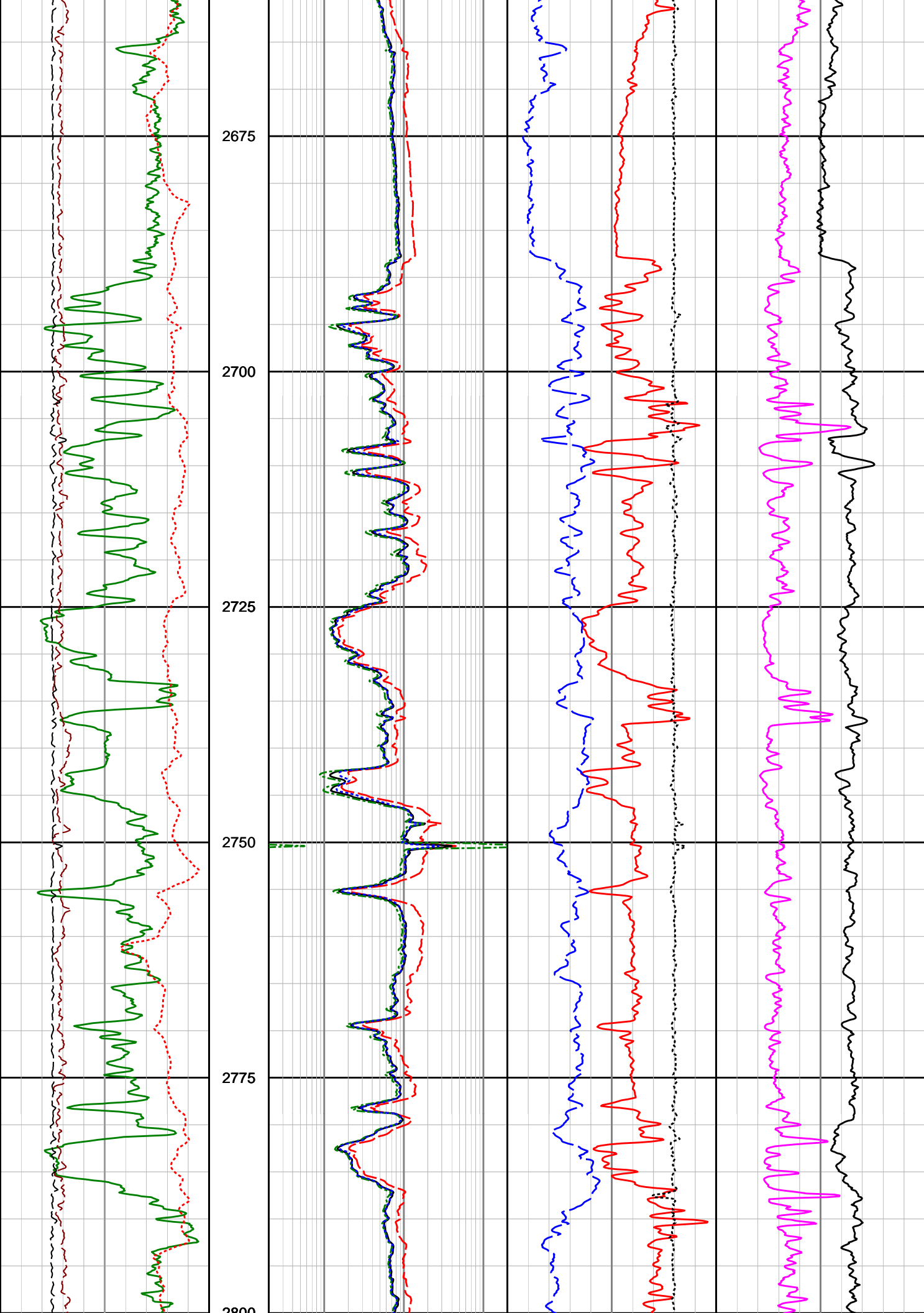


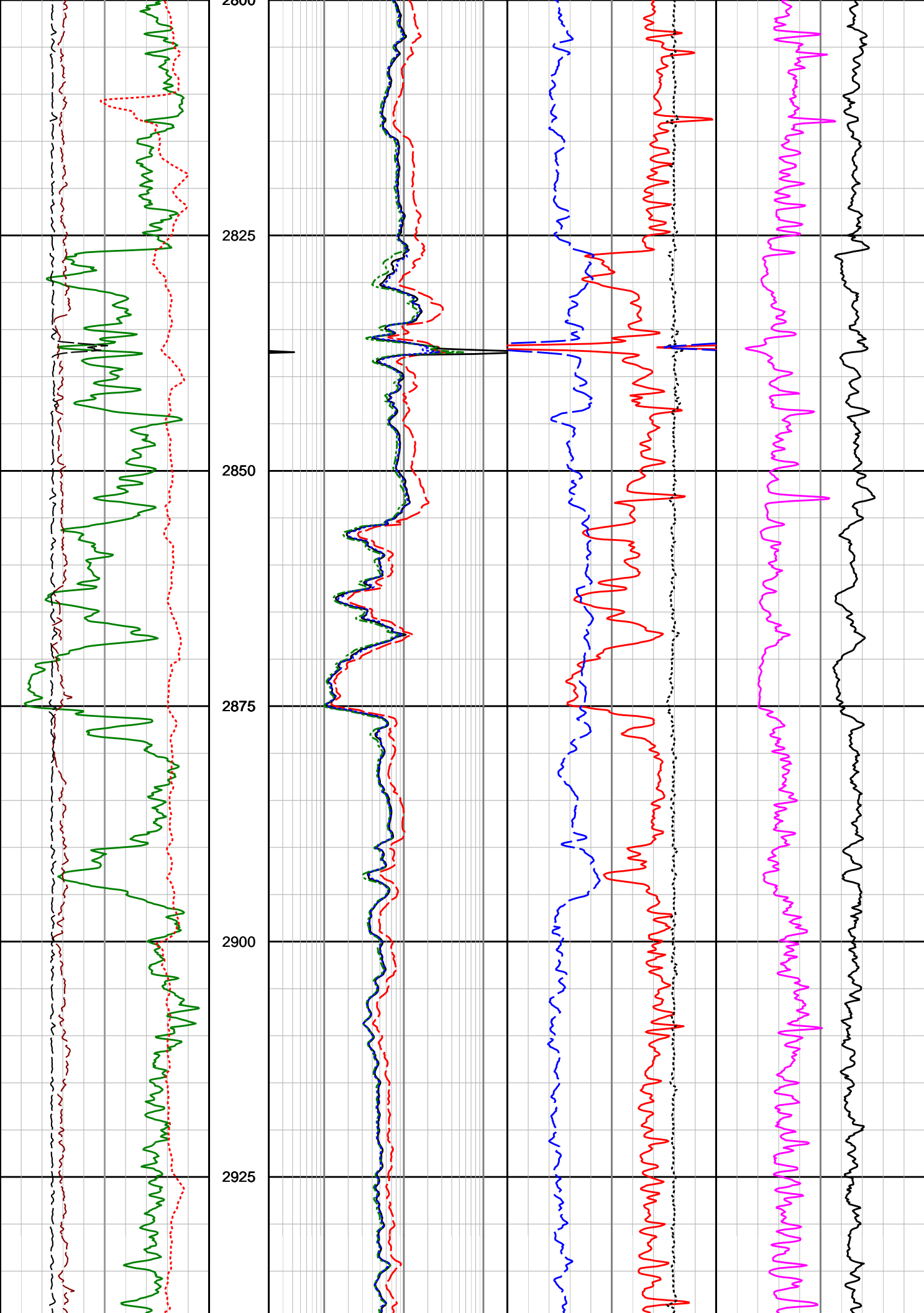


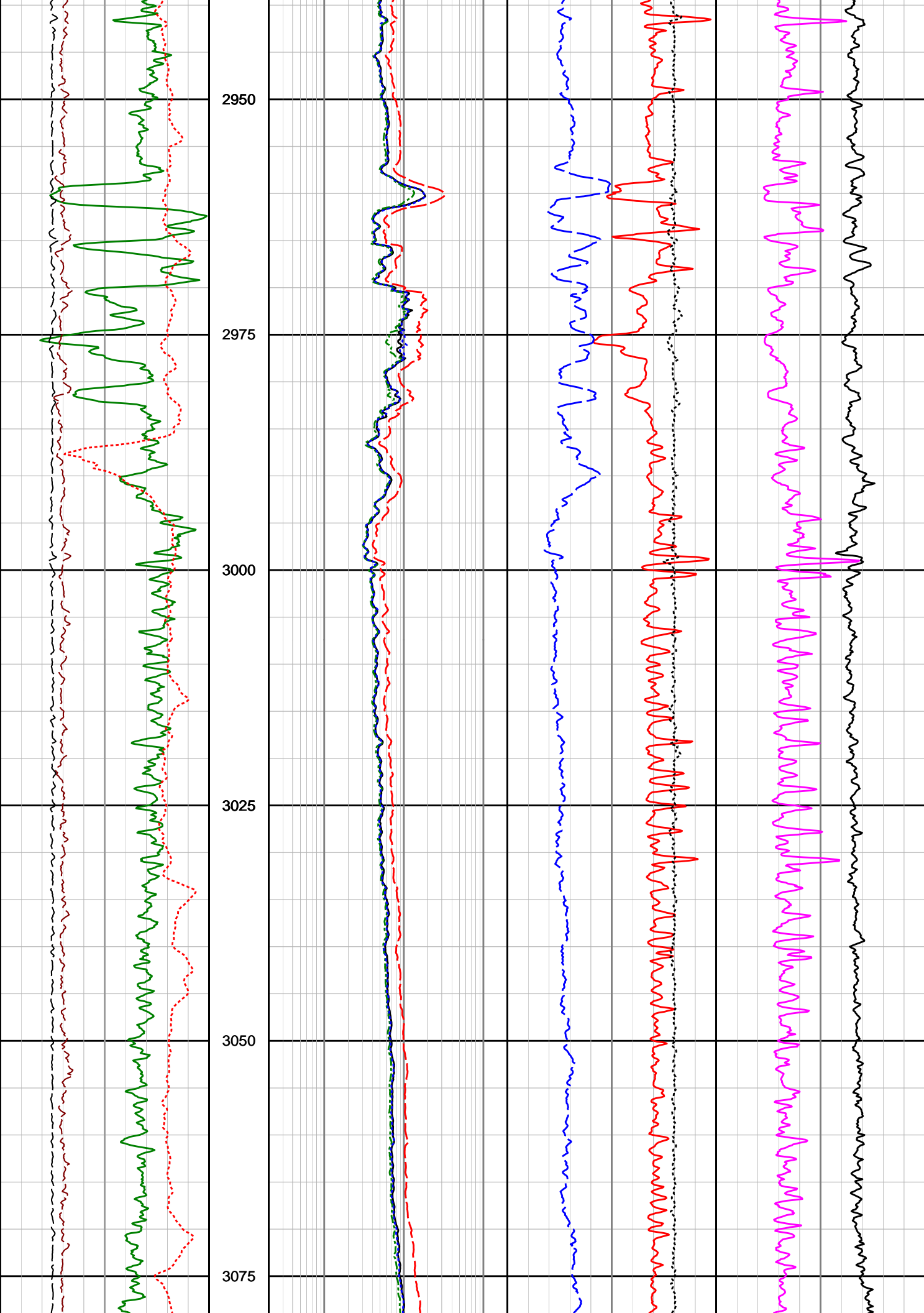


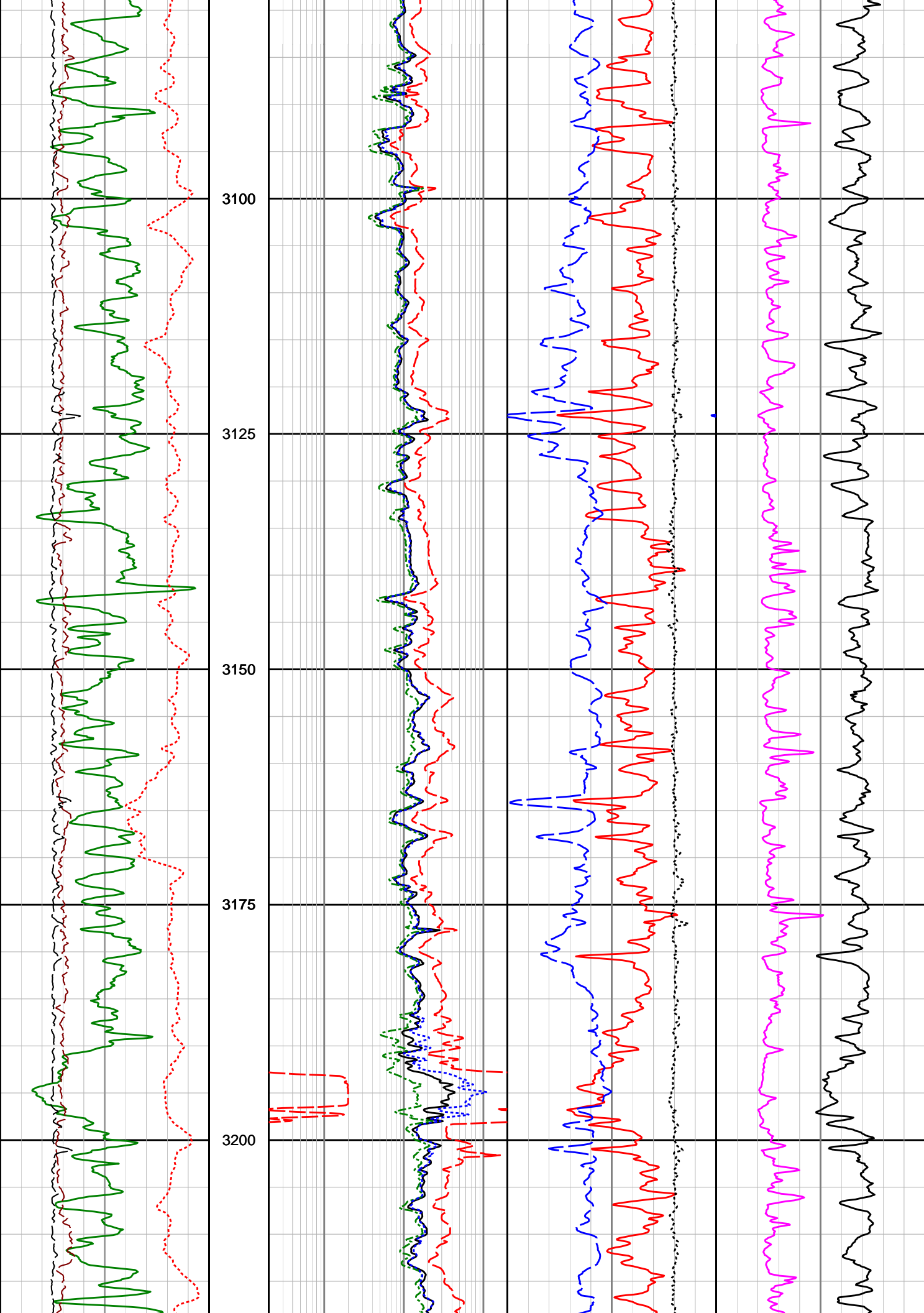


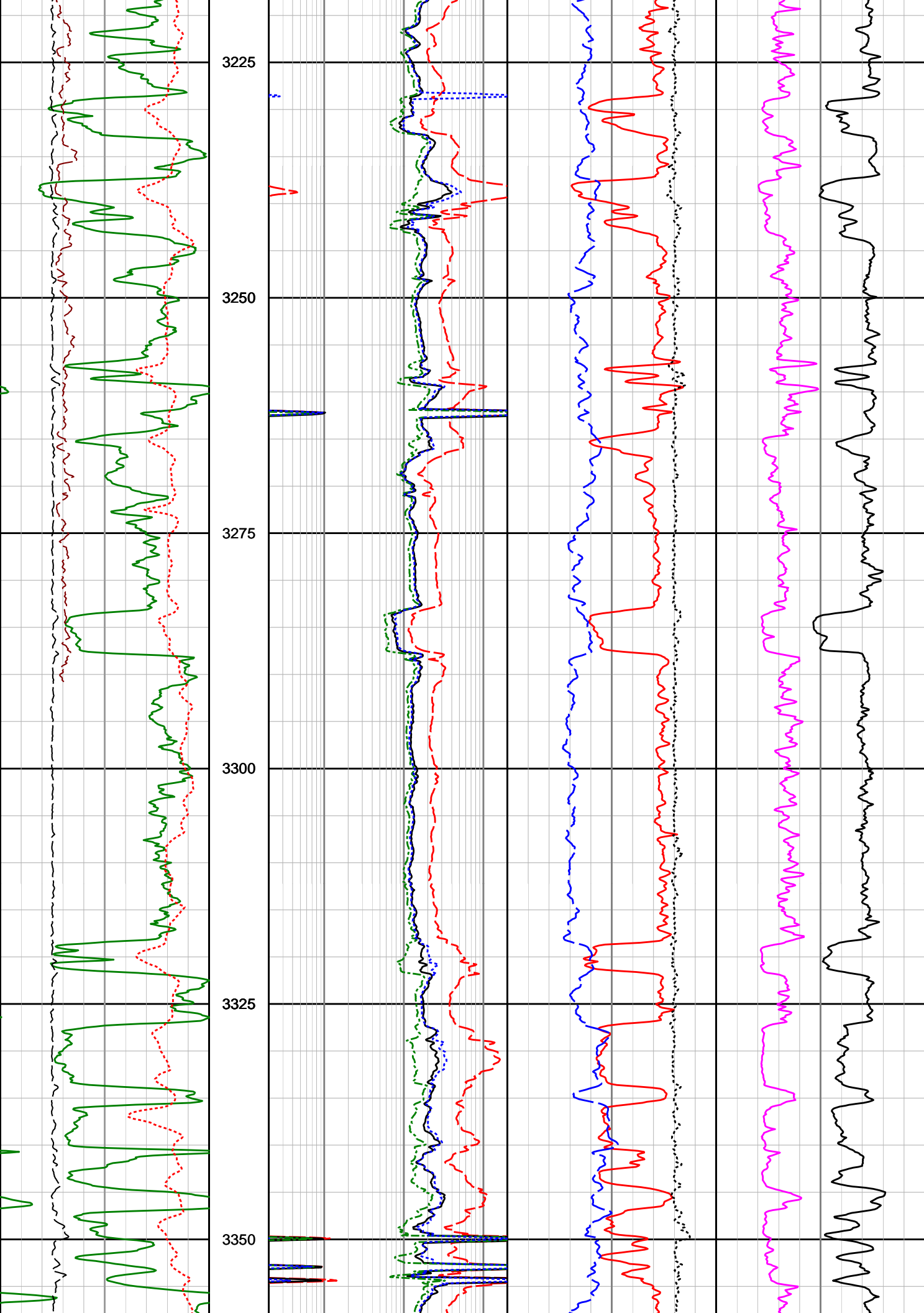


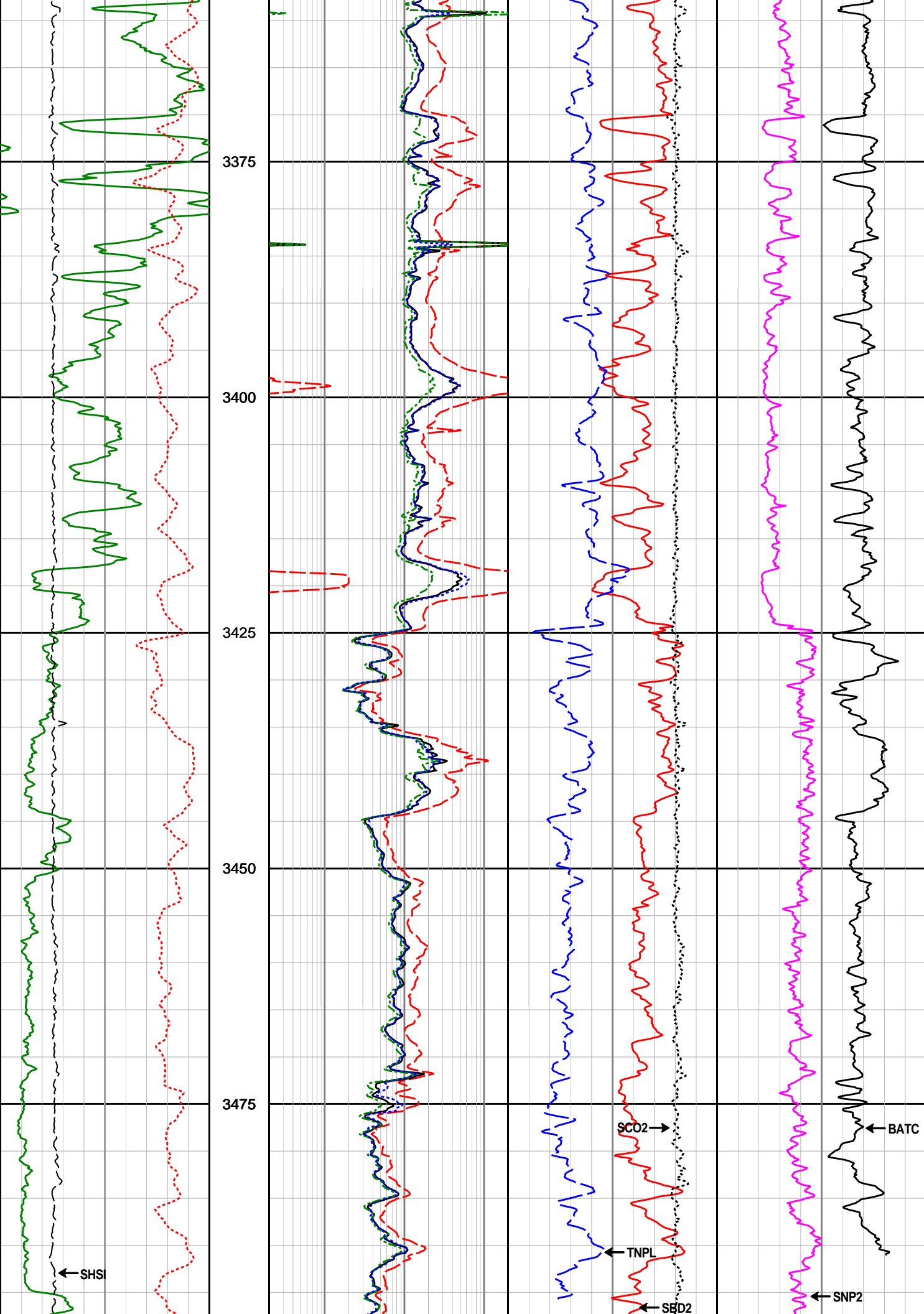


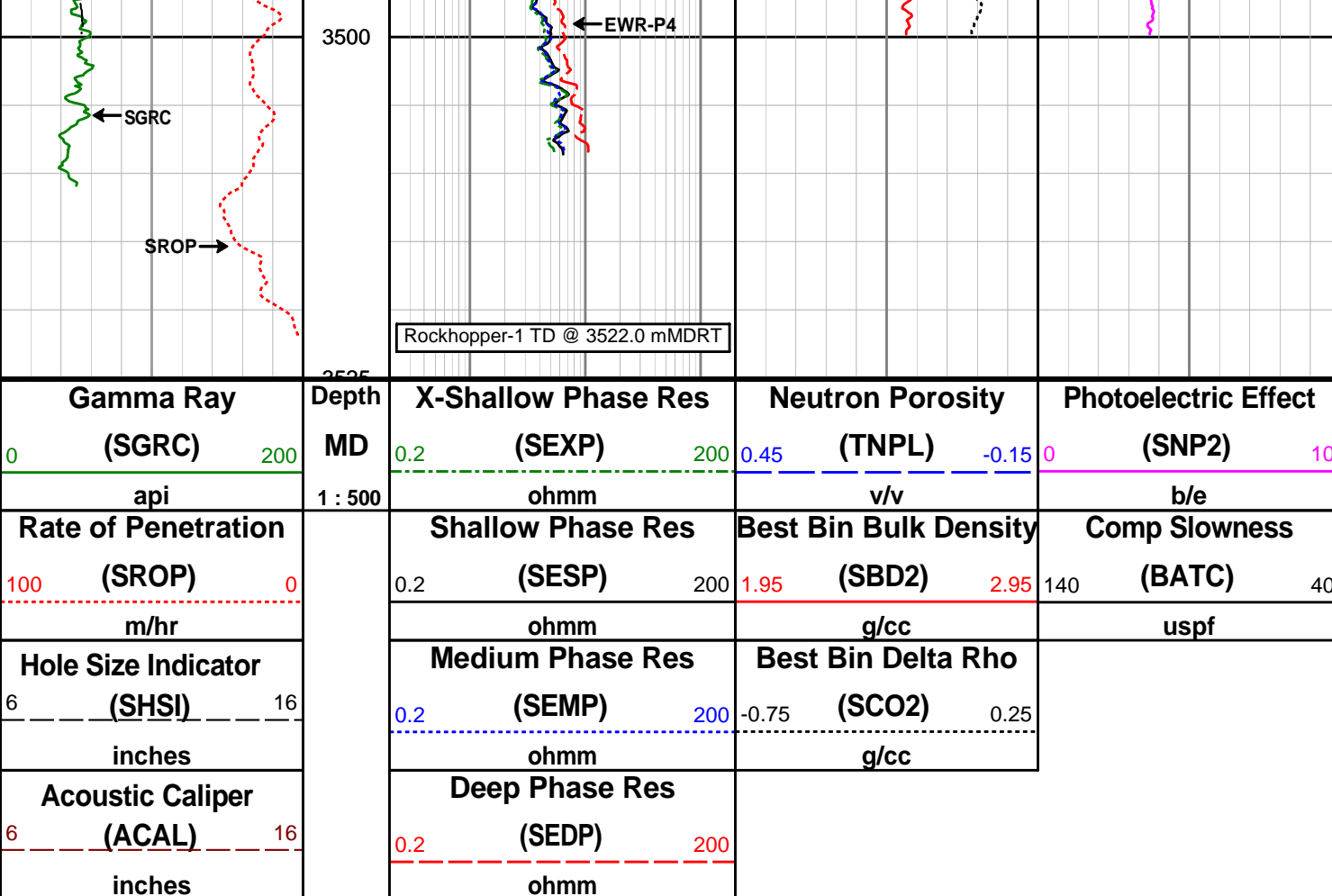












## DIRECTIONAL SURVEY REPORT

Origin Energy Resources Ltd  
Rockhopper-1  
Rockhopper  
Tasmania  
Australia  
AU-FE-000671415  
UTM Zone 55S, GDA 1994  
RT-LAT = 26.0m

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
0.000	0.00	0.00	0.000	0.000 N	0.000 E	0.000	TIE-IN
100.300	0.00	0.00	100.300	0.000 N	0.000 E	0.000	0.00
242.360	0.22	278.10	242.360	0.040 N	0.270 W	0.050	0.05
327.420	0.34	318.42	327.420	0.250 N	0.600 W	0.270	0.08
356.380	0.16	310.14	356.380	0.340 N	0.690 W	0.360	0.19
414.830	0.43	334.58	414.830	0.590 N	0.840 W	0.620	0.15
502.130	0.25	356.62	502.130	1.080 N	1.000 W	1.110	0.08
559.330	0.33	356.35	559.330	1.370 N	1.010 W	1.400	0.04
645.930	0.22	77.08	645.920	1.650 N	0.870 W	1.680	0.13
733.400	0.10	264.51	733.390	1.680 N	0.780 W	1.710	0.11
819.330	0.13	204.11	819.320	1.590 N	0.890 W	1.620	0.04
907.200	0.22	337.40	907.190	1.650 N	1.000 W	1.680	0.11
956.770	0.15	112.45	956.760	1.710 N	0.980 W	1.750	0.21
980.350	0.00	258.48	980.340	1.700 N	0.950 W	1.730	0.19
1009.960	0.20	60.48	1009.950	1.730 N	0.900 W	1.760	0.20
1039.180	0.22	57.43	1039.170	1.780 N	0.810 W	1.810	0.02
1068.020	0.25	56.38	1068.010	1.850 N	0.710 W	1.870	0.03
1088.000	0.22	58.34	1088.000	1.880 N	0.670 W	1.880	0.02



1096.690	0.09	334.71	1096.680	1.900 N	0.670 W	1.920	0.26
1125.200	0.25	23.41	1125.190	1.980 N	0.650 W	2.000	0.21
1153.520	0.31	18.55	1153.510	2.110 N	0.610 W	2.130	0.07
1182.120	0.26	64.52	1182.110	2.210 N	0.520 W	2.230	0.24
1210.690	0.31	28.33	1210.680	2.310 N	0.430 W	2.320	0.19
1239.340	0.36	49.88	1239.330	2.430 N	0.320 W	2.440	0.14
1298.150	0.40	29.51	1298.140	2.730 N	0.080 W	2.730	0.07
1327.530	0.39	32.18	1327.520	2.900 N	0.020 E	2.900	0.02
1356.770	0.31	47.29	1356.760	3.040 N	0.140 E	3.040	0.12
1385.600	0.44	56.10	1385.590	3.160 N	0.290 E	3.150	0.15
1412.810	0.48	46.30	1412.800	3.290 N	0.450 E	3.280	0.10
1441.660	0.57	57.51	1441.650	3.450 N	0.660 E	3.430	0.14
1470.690	0.57	43.73	1470.680	3.640 N	0.880 E	3.600	0.14
1499.950	0.59	47.75	1499.930	3.840 N	1.100 E	3.800	0.05
1529.470	0.61	56.99	1529.450	4.030 N	1.340 E	3.980	0.10
1558.730	0.62	46.69	1558.710	4.220 N	1.590 E	4.170	0.11
1587.900	0.64	49.02	1587.880	4.440 N	1.820 E	4.380	0.03
1616.890	0.68	52.55	1616.870	4.650 N	2.080 E	4.580	0.06
1645.390	0.64	67.47	1645.360	4.810 N	2.360 E	4.730	0.19
1673.840	0.66	56.91	1673.810	4.960 N	2.650 E	4.870	0.13
1702.240	0.67	57.55	1702.210	5.140 N	2.930 E	5.040	0.01
1759.920	0.72	70.24	1759.890	5.450 N	3.550 E	5.320	0.08
1789.630	0.84	75.16	1789.590	5.570 N	3.940 E	5.430	0.14
1848.620	0.80	79.00	1848.580	5.750 N	4.760 E	5.590	0.03
1876.780	0.90	76.63	1876.730	5.840 N	5.170 E	5.670	0.11
1905.300	0.76	78.61	1905.250	5.930 N	5.570 E	5.740	0.15
1934.760	0.91	50.85	1934.710	6.120 N	5.940 E	5.910	0.43
1951.760	0.68	51.65	1951.710	6.270 N	6.130 E	6.060	0.41
1968.420	0.69	57.75	1968.370	6.380 N	6.290 E	6.170	0.13
1992.640	3.64	23.88	1992.570	7.160 N	6.720 E	6.930	3.83
2006.900	4.80	20.69	2006.790	8.130 N	7.120 E	7.890	2.49
2047.710	7.43	22.90	2047.360	12.160 N	8.750 E	11.860	1.94
2076.220	10.04	18.43	2075.540	16.220 N	10.250 E	15.870	2.84
2104.970	12.80	14.68	2103.720	21.680 N	11.850 E	21.270	2.98
2134.780	14.54	10.50	2132.680	28.550 N	13.370 E	28.090	2.01
2164.310	17.43	9.42	2161.070	36.560 N	14.770 E	36.050	2.95
2193.360	20.51	7.83	2188.540	45.900 N	16.180 E	45.330	3.22
2250.020	26.59	5.77	2240.450	68.370 N	18.810 E	67.700	3.25
2278.270	29.06	6.68	2265.440	81.480 N	20.240 E	80.750	2.66
2307.320	31.70	6.12	2290.500	96.080 N	21.870 E	95.290	2.74
2336.990	34.05	2.98	2315.410	112.130 N	23.140 E	111.280	2.93
2366.570	36.34	359.97	2339.590	129.160 N	23.560 E	128.300	2.91
2395.130	37.77	356.94	2362.380	146.360 N	23.090 E	145.500	2.44
2423.370	39.84	355.17	2384.390	164.010 N	21.870 E	163.180	2.49
2452.170	42.32	354.45	2406.090	182.860 N	20.150 E	182.080	2.63
2481.680	43.11	354.88	2427.780	202.790 N	18.290 E	202.060	0.86
2511.390	42.92	354.47	2449.500	222.970 N	16.410 E	222.290	0.34
2540.160	43.10	354.54	2470.540	242.510 N	14.530 E	241.880	0.19
2568.350	43.01	353.48	2491.140	261.650 N	12.520 E	261.070	0.78
2596.310	42.88	354.12	2511.600	280.580 N	10.460 E	280.070	0.49
2626.300	43.28	355.27	2533.510	300.980 N	8.570 E	300.520	0.88
2655.720	43.09	355.77	2554.960	321.050 N	7.000 E	320.630	0.40
2683.980	42.76	356.30	2575.650	340.250 N	5.670 E	339.870	0.52
2712.300	43.19	356.38	2596.370	359.520 N	4.430 E	359.160	0.46
2741.970	43.47	355.92	2617.960	379.830 N	3.070 E	379.510	0.43
2770.220	42.94	356.20	2638.550	399.120 N	1.740 E	398.840	0.60
2799.070	43.15	356.27	2659.630	418.770 N	0.440 E	418.520	0.22
2828.790	42.74	355.82	2681.390	438.970 N	0.950 W	438.760	0.52
2857.710	43.48	356.21	2702.500	458.690 N	2.330 W	458.510	0.82
2886.290	43.02	355.19	2723.320	478.220 N	3.800 W	478.070	0.88
2914.350	43.18	355.63	2743.810	497.330 N	5.330 W	497.220	0.36
2942.960	43.00	355.89	2764.700	516.820 N	6.780 W	516.750	0.27
2972.300	43.13	356.10	2786.130	536.800 N	8.180 W	536.770	0.20
3031.320	43.35	358.13	2829.130	577.180 N	10.210 W	577.200	0.72
3059.740	43.12	357.42	2849.840	596.630 N	10.960 W	596.660	0.57
3116.750	42.91	356.52	2891.520	635.470 N	13.020 W	635.550	0.34
3175.850	42.94	355.93	2934.800	675.630 N	15.670 W	675.770	0.20
3232.850	42.61	354.97	2976.640	714.220 N	18.740 W	714.440	0.38
3261.400	42.02	354.71	2997.750	733.360 N	20.470 W	733.630	0.65
3290.950	42.18	356.09	3019.670	753.110 N	22.060 W	753.420	0.95
3348.870	42.01	356.27	3062.650	791.850 N	24.650 W	792.230	0.11
3377.120	41.91	356.10	3083.660	810.690 N	25.990 W	811.110	0.16



3377.120	41.91	356.10	3083.660	810.690 N	29.900 W	811.110	0.16
3405.960	41.76	356.10	3105.150	829.880 N	27.210 W	830.330	0.16
3435.820	41.85	357.17	3127.410	849.750 N	28.380 W	850.230	0.72
3494.200	41.35	357.89	3171.060	888.480 N	30.050 W	888.990	0.36
3522.000	41.35	357.89	3191.930	906.830 N	30.730 W	907.350	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 358.07 DEGREES (GRID)  
A TOTAL CORRECTION OF 11.50 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.  
HORIZONTAL DISPLACEMENT(CLOSURE) AT 3522.000 METRES  
IS 907.351 METRES ALONG 358.06 DEGREES (GRID)

FINAL SURVEY PROJECTED TO TD



Date Printed:12 January 2010

## MWD RUN 100 - BHA

## MWD RUN 100 - MWD

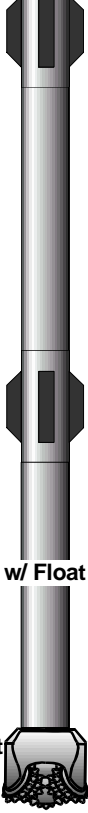


	Cumulative Length (m)
5" X 3" HWDP #49.3 - NC50(IF)	253.92
X-Over Sub	112.71
8 1/4" X 2.8125" - 160.6# Drill Collar	111.62
Jar	92.87
8 1/4" X 2.8125" - 160.6# Drill Collar	83.17
X-Over Sub	26.66
17 1/2" Stabilizer	25.51
	23.04

Sensor Measure Point Distance To Bit (m)
Positive Pulser
PCM
PCDC
7.375

9 1/2" Spiral Drill Collar			
17 1/2" Stabilizer		13.77	
		11.04	
MWD System			PCG
Bit Sub		1.27	
17 1/2" Smith XR + VCPS Mill Tooth Bit		0.44	








MWD RUN 200 - BHA	MWD RUN 200 - MWD
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	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
15 x 5" Heavy Weight Drill Pipe	252.73	Positive Pulser	
Cross-over Sub	111.52		
	110.43	PCM	
2 x 8-1/4" Spiral Drill Collar			
	91.68	PCDC	19.790
8" Drilling Jar			
	81.98	HCIM	
6 x 8-1/4" Spiral Drill Collar			
	25.47		

12-1/8" Integral Blade Stabilizer		23.60	EWB-P4		14.840
MWD System			DDS		
12-1/8" Integral Blade Stabilizer		11.41			
		9.50			
9-5/8" Sperry Drill Lobe 6/7 - 5.0 stg w/ Float			DGR		12.370
12-1/4" Reed RSR616M-A21 PDC Bit		0.28			

MWD RUN 400 - BHA

MWD RUN 400 - MWD





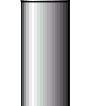
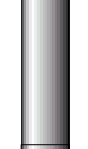



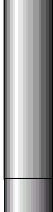
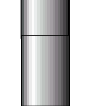

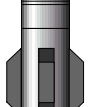
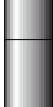

		Cumulative Length (m)			Sensor Measure Point Distance To Bit (m)
5 x HWDP		216.73			
		169.55	Positive Pulser		
6 1/2" Drilling Jar					
		159.71			
9 x HWDP					
		75.14			
6 x Spiral Drill Collar			PCM		
		18.98			

8 1/2" Integral Blade Stabiliser			
Float Sub with Ported Float	17.28		
	16.37		
MWD System			
	10.55		
8 1/8" Integral Blade Stabiliser		PCDC	
	8.52		11.760
6 3/4" SperryDrill Lobe 6/7 5 Stage Motor			
8 1/2" Hughes Christensen GT1 Mill Tooth Bit	0.24		

MWD RUN 500 - BHA
















MWD RUN 500 - MWD

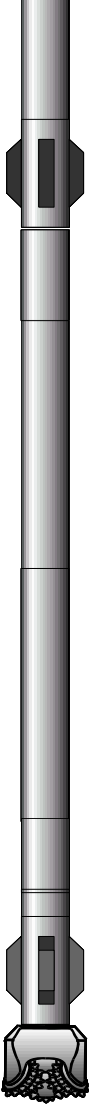



	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
5 x 5" HWDP	202.58	ACAL	38.320
	155.40	Positive Pulser	
6 1/2" Jar		PCM	
	145.56	BAT	30.500
9 x 5" HWDP		CTN	25.910
	60.99	ALD	21.870
3 x Spiral Drill Collar			

Integral Blade Stabiliser		32.79	HCIM		
Float Sub w/ Ported Float		31.09	PWD		15.410
		30.18			
MWD System			EWR-P4		12.850
		9.32			
6 3/4 NM Flex Collar			DGR		10.520
		6.56	DDSr-DGR		0
Geo-Pilot 7600			PCDC		7.760
8 1/2" Security FM3755 PDC		0.43			

MWD RUN 600 - BHA

MWD RUN 600 - MWD

		Cumulative Length (m) 203.33			Sensor Measure Point Distance To Bit (m) 31.480
5 x 5" HWDP			ACAL		
		156.15	Positive Pulser		
6 1/2" Jar			PCM		
		146.31	BAT		31.480
9 x 5" HWDP			CTN		26.890
		61.74	ALD		
3 x Spiral Drill Collar					

					22.850
Integral Blade Stabiliser		33.78	HCIM		
Float Sub w/ Ported Float		32.08	PWD		
		31.17			16.390
MWD System			EWR-P4		13.860
		10.31	DGR		11.500
6 3/4 NM Flex Collar			DDSr-DGR		0
Geo-Pilot 7600		7.50	PCDC		8.730
8 1/2" Security FM3755 PDC		0.43			