

**DGR Dual Gamma Ray  
EWR-Phase 4 Resistivity  
ALD Azimuthal Lithodensity  
CTN Compensated Thermal Neutron  
BAT Bi-Modal Acoustic  
ACAL Acoustic Caliper**

**1 : 500**

WELL INFORMATION					
MWD Run Number	400	500	600	700	
Date run completed	26-Jan-10	27-Jan-10	30-Jan-10	04-Feb-10	
Rig Bit Number	4	5	6	7	
Bit Size (mm)	216	216	216	216	
Tool Nominal OD (in)	6.75	6.75	6.75	6.75	
Log Start Depth (TVD, m)	2,111.03	2,994.57	3,038.86	3,117.33	
Log End Depth (TVD, m)	2,994.57	3,025.45	3,096.09	3,257.74	
Drill or Wipe	Wiping/Drilling	Drilling	Wiping/Drilling	Wiping/Drilling	
Drill/Wipe Start Date and Time	22-Jan-10 06:31	27-Jan-10 04:19	29-Jan-10 19:27	02-Feb-10 15:45	
Drill/Wipe End Date and Time	25-Jan-10 18:18	27-Jan-10 13:25	30-Jan-10 06:32	03-Feb-10 14:23	
Min Inc (deg) @ Depth (TVD, m)	10.33 @ 2,101.74	35.32 @ 3,145.40	35.56 @ 3,203.43	35.03 @ 3,293.65	
Max Inc (deg) @ Depth (TVD, m)	36.74 @ 2,483.19	35.70 @ 3,185.27	35.91 @ 3,234.73	36.10 @ 3,439.04	
Bit TFA(in2) / Bit Type	1.49 / Reed RSX616M	0.85 / SDBS FMF3653Z	0.85 / SDBS FMF3653Z	0.85 / SDBS FMF3653Z	
Flow Rate (gpm)	574	604	580	594	
Max AV (mps) / CV (mps) @ MWD	2.97 / 2.79	2.82 / 3.05	2.82 / 2.45	2.90 / 2.70	
Fluid Type	KCl/Polymer	KCl/Polymer	KCl/Polymer	KCL/Polymer	
Density (ppg) / Viscosity (spqt)	9.40 / 65.00	9.40 / 63.00	9.35 / 62.00	9.40 / 73.00	
Filtrate CL (ppm)	37,000	37,500	38,000	38,000	
pH / Fluid Loss (mptm)	9.50 / 4.0	9.00 / 4.2	9.00 / 4.3	9.00 / 4.0	
PV (cP) / YP (Ihf2)	19 / 30.00	20 / 37.00	15 / 25.00	18 / 28.00	
% Solids / % Sand	3.40 / 0.20	3.4 / 0.20	2.9 / 0.15	3.5 / 0.20	
% Oil / Oil:Water Ratio	0 / 0:94	0 / 0:94	0 / 0:94	0 / 0:100	
Rm @ Measured Temp (degC)	0.14 @ 22.00	0.14 @ 22.00	0.15 @ 21.60	0.14 @ 22.20	
Rmf @ Measured Temp (degC)	0.16 @ 22.00	0.16 @ 22.00	0.13 @ 21.60	0.11 @ 22.20	
Rmc @ Measured Temp (degC)	0.20 @ 22.00	0.20 @ 22.00	0.19 @ 21.60	0.18 @ 22.20	
Max Tool Temp (degC) / Source	76.00 / EWR-P4	109.30 / EWR-P4	86.00 / EWR-P4	127.00 / EWR-P4	
Rm @ Max Tool Temp (degC)	0.06 @ 76.00	0.05 @ 109.30	0.06 @ 86.00	0.04 @ 127.00	
Lead MWD Engineer	J. Lau	J. Lau	J. Lau	J. Lau	
Customer Representative	B. Houston	B. Houston	B. Houston	B. Houston	

## SENSOR INFORMATION

Downhole Processor Information					
Tool Type	HCIM	HCIM	HCIM	HCIM	
Software Version	88.20	88.20	88.20	88.20	
Sub Serial Number	222936	225649	225649	225649	
Insert Serial Number	10911832	11113292	11113292	11113292	
Date and Time Initialized	21-Jan-10 23:31	26-Jan-10 15:52	29-Jan-10 11:38	02-Feb-10 06:38	
Date and Time Read	26-Jan-10 10:15	27-Jan-10 23:11	30-Jan-10 18:16	04-Feb-10 06:19	
ECMB SW Version	N/A	N/A	N/A	N/A	

Directional Sensor Information					
Tool Type	PCDC	PCDC	PCDC	PCDC	
Distance From Bit (m)	8.730	8.690	8.690	8.690	
Software Version	6.09	6.09	6.09	6.09	
Sub Serial Number	CP1005711	CP919968	CP919968	CP919968	
Sonde Serial Number	300348	300351	300351	300351	
Sensor ID Number	10993464	10993467	10993467	10993467	
Toolface Offset (deg)	0	0	0	0	

Gamma Ray Sensor Information					
Tool Type	DGR	DGR	DGR	DGR	
Distance From Bit (m)	11.510	11.356	11.356	11.356	
Recorded Sample Period (sec)	10	10	10	10	
Software Version	N/A	N/A	N/A	N/A	
Sub Serial Number	218750	10909632	10909632	10909632	
Insert/Sonde Serial Number	254375	253591	253591	253591	

Resistivity Sensor Information					
Tool Type	EWR-P4	EWR-P4	EWR-P4	EWR-P4	
Distance From Bit (m)	13.850	13.680	13.680	13.680	
Recorded Sample Period (sec)	10	10	10	10	
Software Version	1.50	1.50	1.50	1.50	
Sub Serial Number	175801	94034	94034	94034	
Receiver Insert Serial Number	113356	205854	205854	205854	
Transmitter Insert Serial Number	225155	239292	239292	239292	
Receiver Orientation	Down	Down	Down	Down	

Neutron Sensor Information					
Tool Type	CTN	CTN	CTN	CTN	
Distance From Bit (m)	24.840	25.310	25.310	25.310	
Recorded Sample Period (sec)	14	14	14	14	
Sub Serial Number	11211115	161970	161970	161970	
Insert Serial Number	11324280	175364	175364	175364	
Source Serial Number	0102NN	0102NN	0102NN	0102NN	
Source Factor	N/A	N/A	N/A	N/A	
Pin Orientation	Up	Up	Up	Up	

Density Sensor Information					
Tool Type	ALD	ALD	ALD	ALD	
Distance From Bit (m)	20.760	21.320	21.320	21.320	
Recorded Sample Period (sec)	14	14	14	14	
Software Version	3.04	3.04	3.04	3.04	
Sub Serial Number	82792	10507525	10507525	10507525	
Insert Serial Number	227106	10718194	10718194	10718194	
Sensor ID Number	12047	32033	32033	32033	
Source Serial Number	3083GW	39382B	39382B	39382B	
Pin Orientation	Up	Up	Up	Up	
Stabilizer Blade O.D. (mm)	209.6	209.6	209.6	209.6	
DPA Offset	0	0	0	0	

Caliper Sensor Information					
Tool Type	ACAL	ACAL	ACAL	ACAL	
Distance From Bit (m)	20.760	21.320	21.320	21.320	
Recorded Sample Period (sec)	14	14	14	14	
Software Version	3.04	3.04	3.04	3.04	
Sub Serial Number	82792	10507525	10507525	10507525	
Insert Serial Number	227106	10718194	10718194	10718194	
Sensor ID Number	12047	32033	32033	32033	
Source Serial Number	3083GW	39382B	39382B	39382B	
Pin Orientation	Up	Up	Up	Up	
Stabilizer Blade O.D. (mm)	209.6	209.6	209.6	209.6	
DPA Offset	0	0	0	0	

Distance From Bit (m)	23.780	39.170	39.130	39.130	
Software Version	0	0	0	0	
Sub Serial Number	123087	142854	142854	142854	
Insert Serial Number	113327	159344	159344	159344	

Sonic Sensor Information					
Tool Type	BAT	BAT	BAT	BAT	
Distance From Bit (m)	31.880	32.360	32.325	32.325	
Recorded Sample Period (sec)	20	20	20	20	
Sub Serial Number	169877	125780	169877	169877	
Receiver Insert Serial Number	120447	125341	120447	120447	
Transmitter Insert Serial Number	191709	192316	191709	191709	
MIT File	R5Max_Run.mit	R5Max_Run.mit	R5Max_Run.mit	R5Max_Run.mit	
Config File	R5Max_Run.cfn	R5Max_Run.cfn	R5Max_Run.cfn	R5Max_Run.cfn	
Real-Time Window (uspf)	75 - 135	75 - 135	75 - 110	73 - 100	
Battery Insert Serial Number	231588	129442	231588	231588	
MCM Software Version	5.07	4.45	5.07	5.07	
DAQ1/DAQ2 Software Version	2.65 / 2.65	2.41 / 2.41	2.65 / 2.65	2.65 / 2.65	
DSM Software Version	15.69	15.69	15.69	15.69	

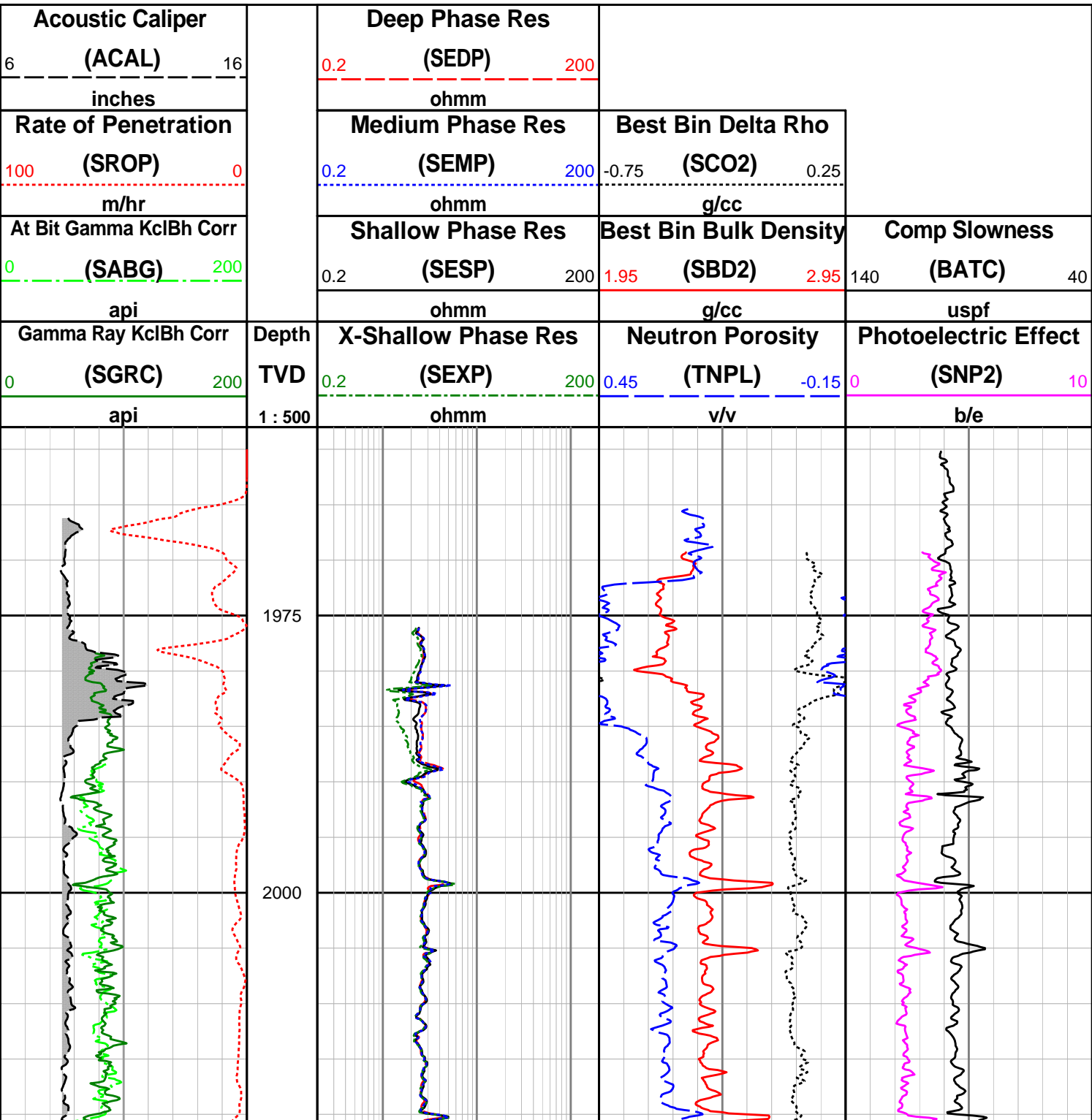
Pulser Controller Sensor Information					
Tool Type	PCM	PCM	PCM	PCM	
Software Version	8.04	8.04	8.04	8.04	
PIC Software Version	1.20 /	1.20 /	1.20 /	1.20 /	
Sub/HOC Serial Number	302846	203842	203842	203842	
Insert/Probe/Module SN	10921470	11145579	11145579	11145579	
Battery Serial Number	N/A	N/A	N/A	N/A	
Valve Insert SN	N/A	N/A	N/A	N/A	
DC Insert Serial Number	N/A	N/A	N/A	N/A	
Choke Size (32nd)	N/A	N/A	N/A	N/A	
Driver Current (uA)	N/A	N/A	N/A	N/A	
Driver SMI Current (uA)	N/A	N/A	N/A	N/A	
Boot Strap Version	4,130.00	4,128.00	4,128.00	4,128.00	

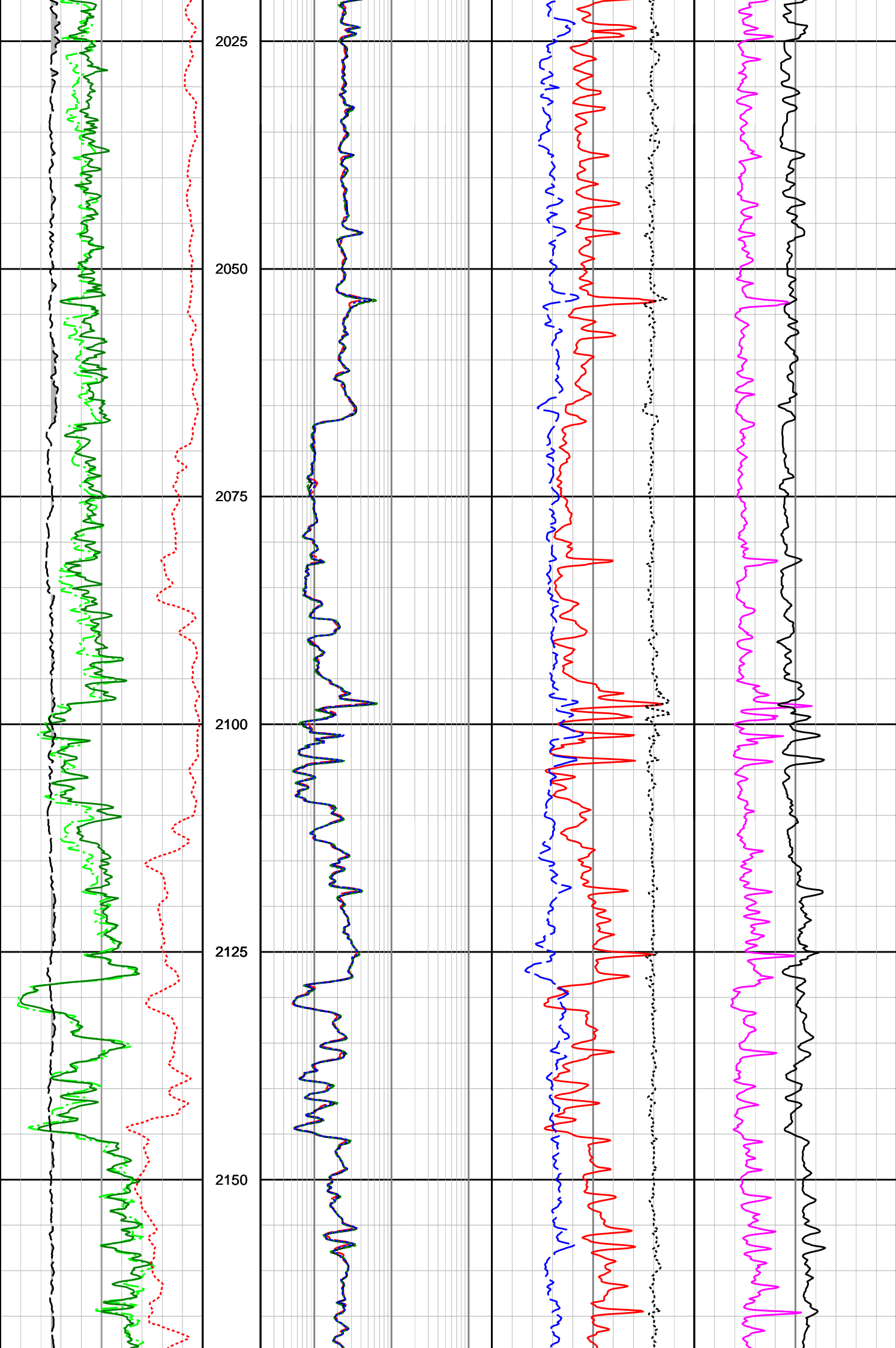
REMARKS
<p>1. All depths are bit depths and referenced to the driller's pipe tally.</p> <p>2. AV/CV is calculated at the MWD collar using the Power Law for water based mud.</p> <p>3. Curve Mnemonics are:  ACAL - Smoothed Acoustic Caliper, in  SROP - Smoothed Rate of Penetration, m/hr  SGRC - Smoothed 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:  MW = 9.35 - 9.40 sg  Formation Salinity = 15,500 - 26,500 ppm NaCl equiv.  Matrix Density = 2.71 g/cc  Fluid Density = 1.00 g/cc</p> <p>5. Data from 1969.95 - 2111.03mTVDRT acquired during wipe.</p> <p>6. Wipe 1st core section from 3025.45 to 3038.86 mTVDRT</p> <p>7. Wipe 2nd and 3rd core section from 3096.09 to 3117.33 mTVDRT.</p> <p>8. All CTN data borehole corrected using acoustic caliper.</p> <p>9. Depth discrepancies between ABG and DGR at intervals 3100.18 to 3105.91 mTVDRT</p>

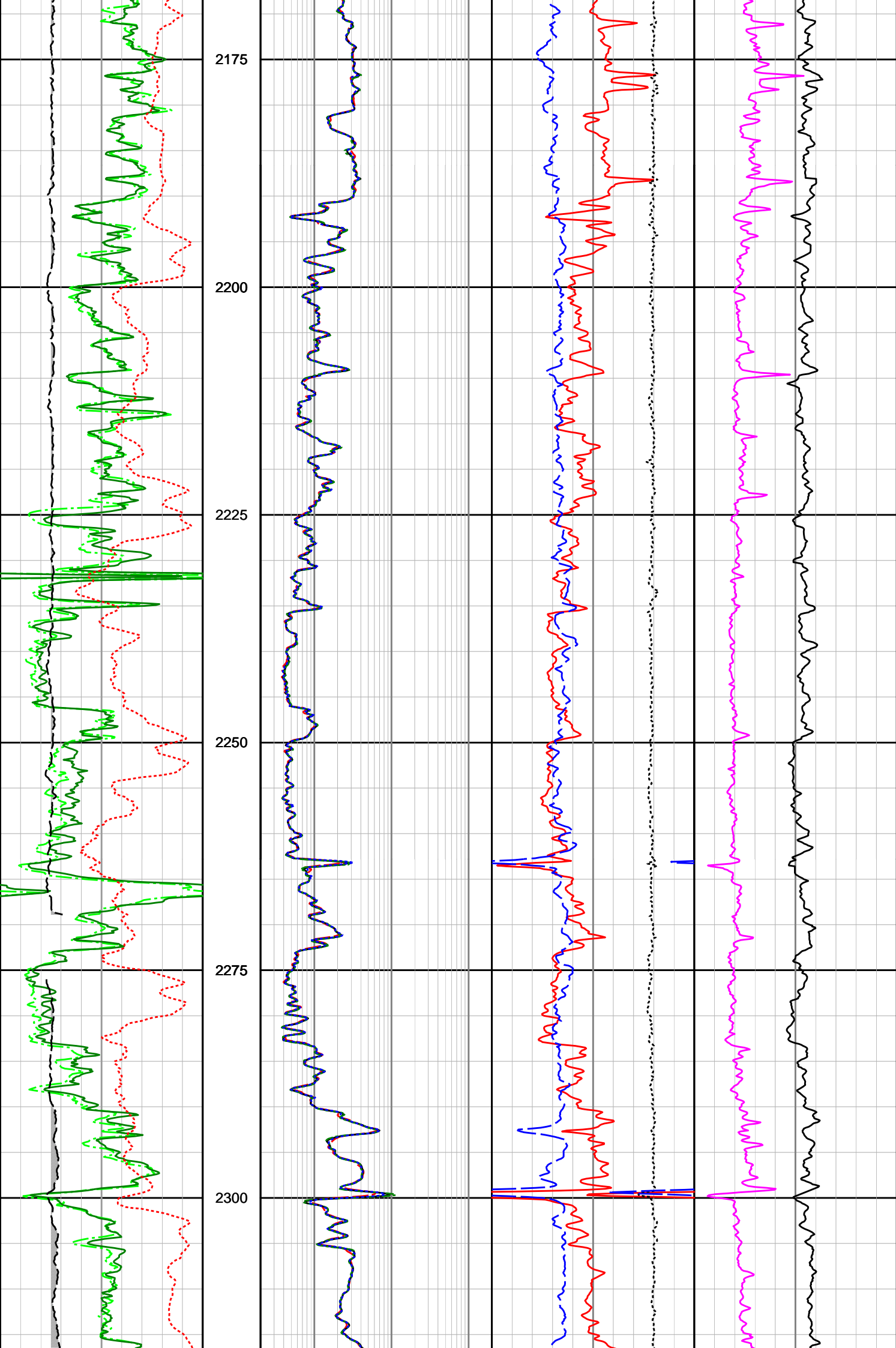
and 3154.68.0 to 3162.82 mTVDRT were due to depth tracking issues.

WARRANTY

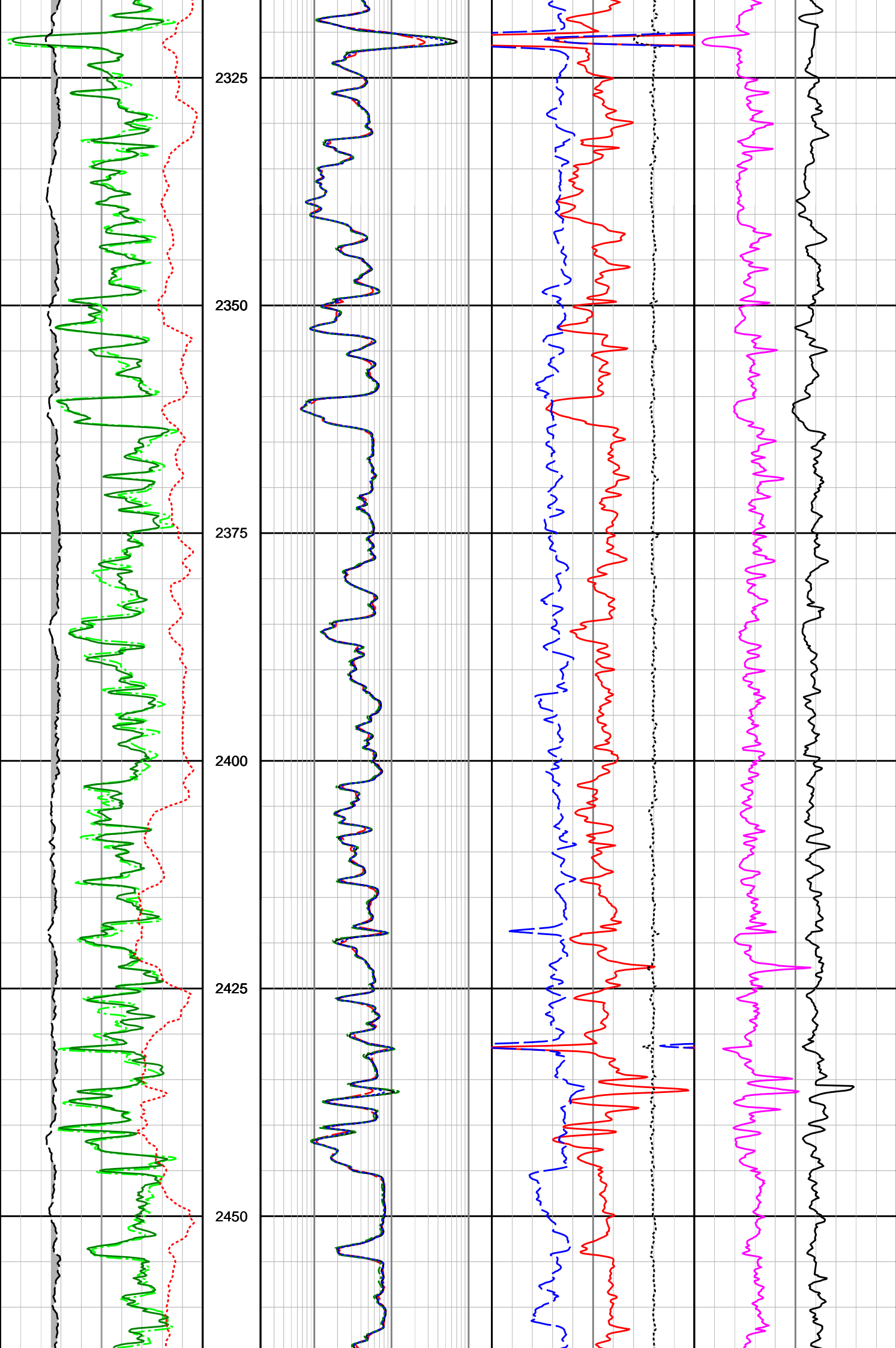
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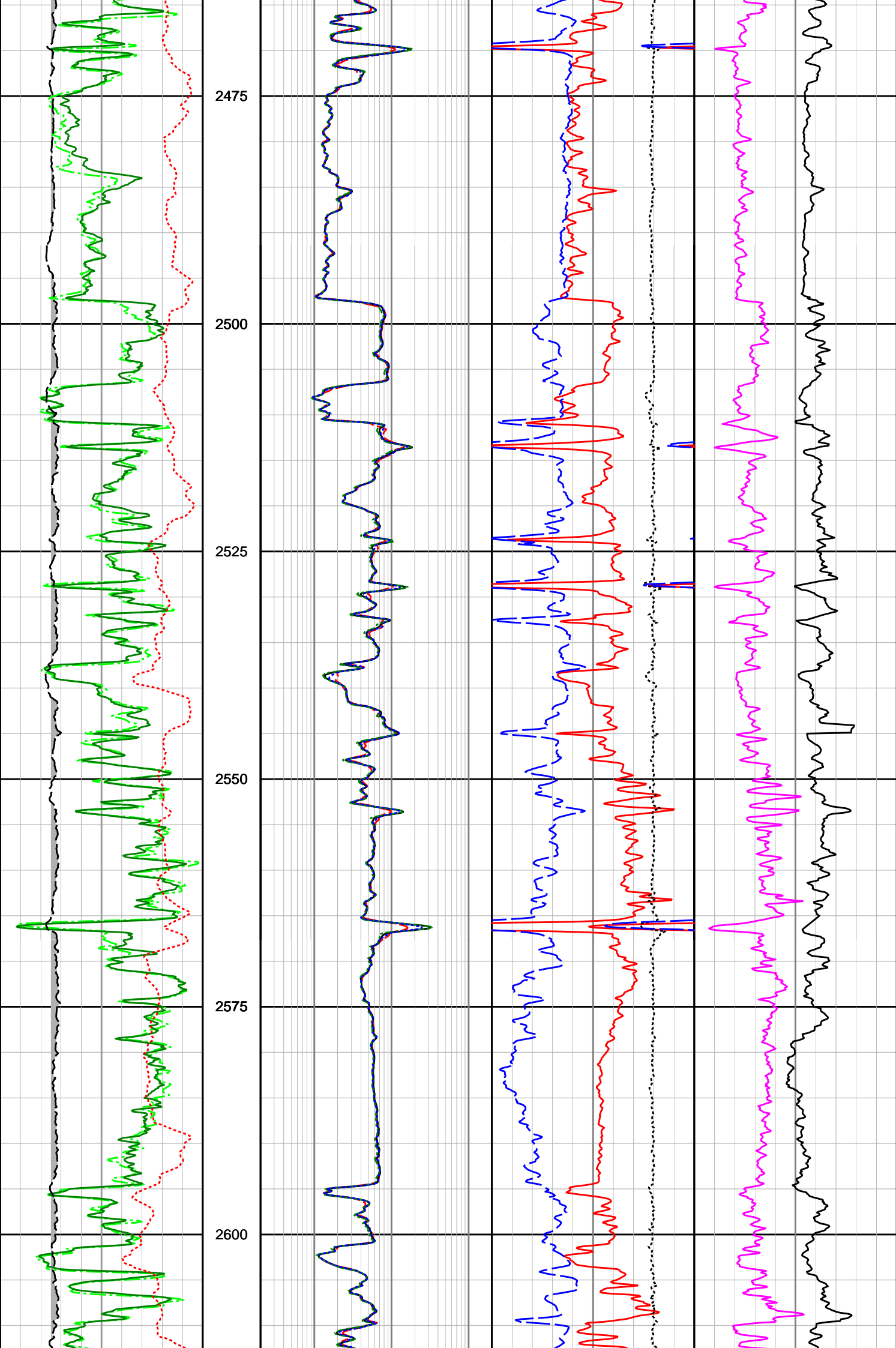




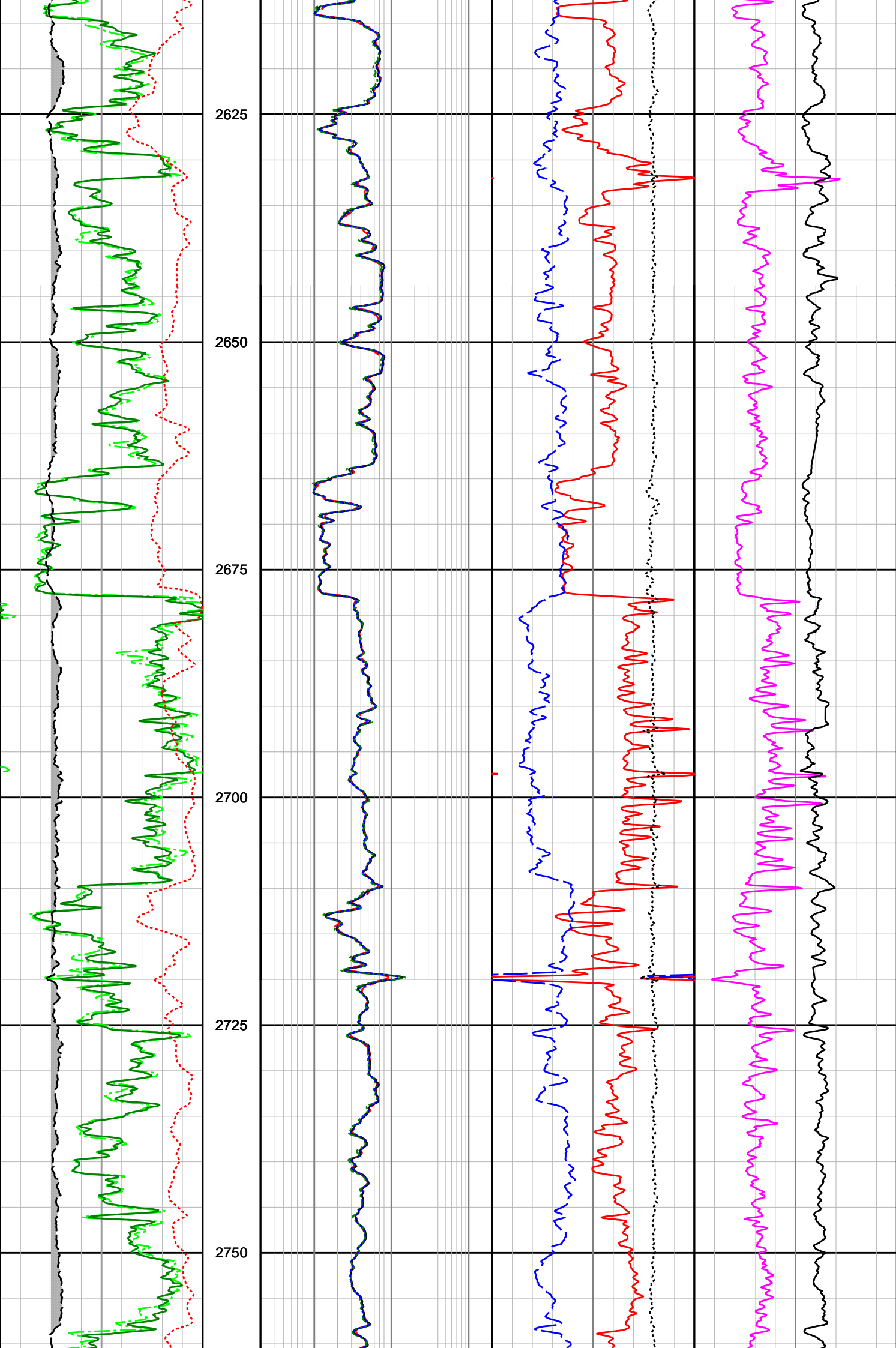


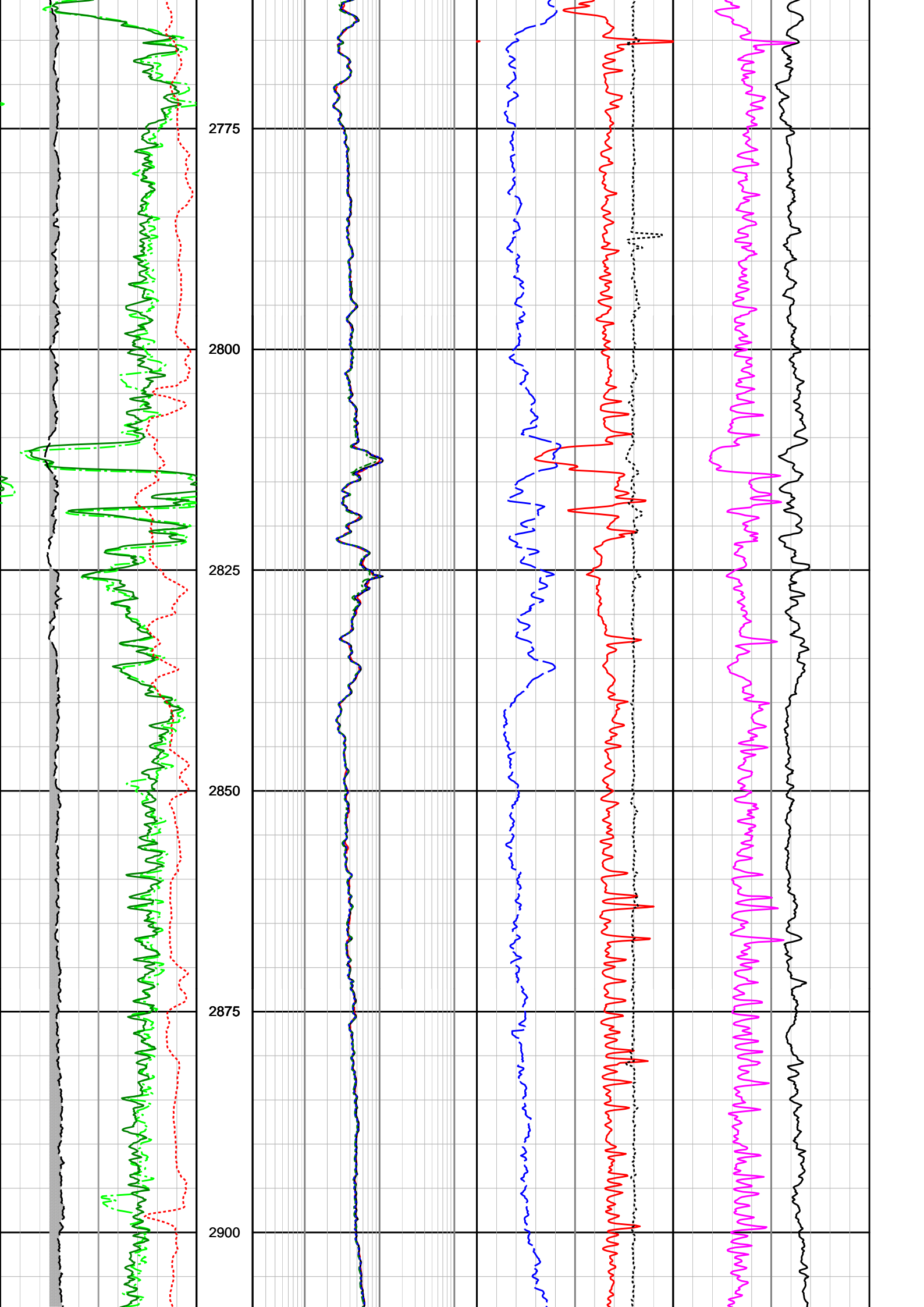


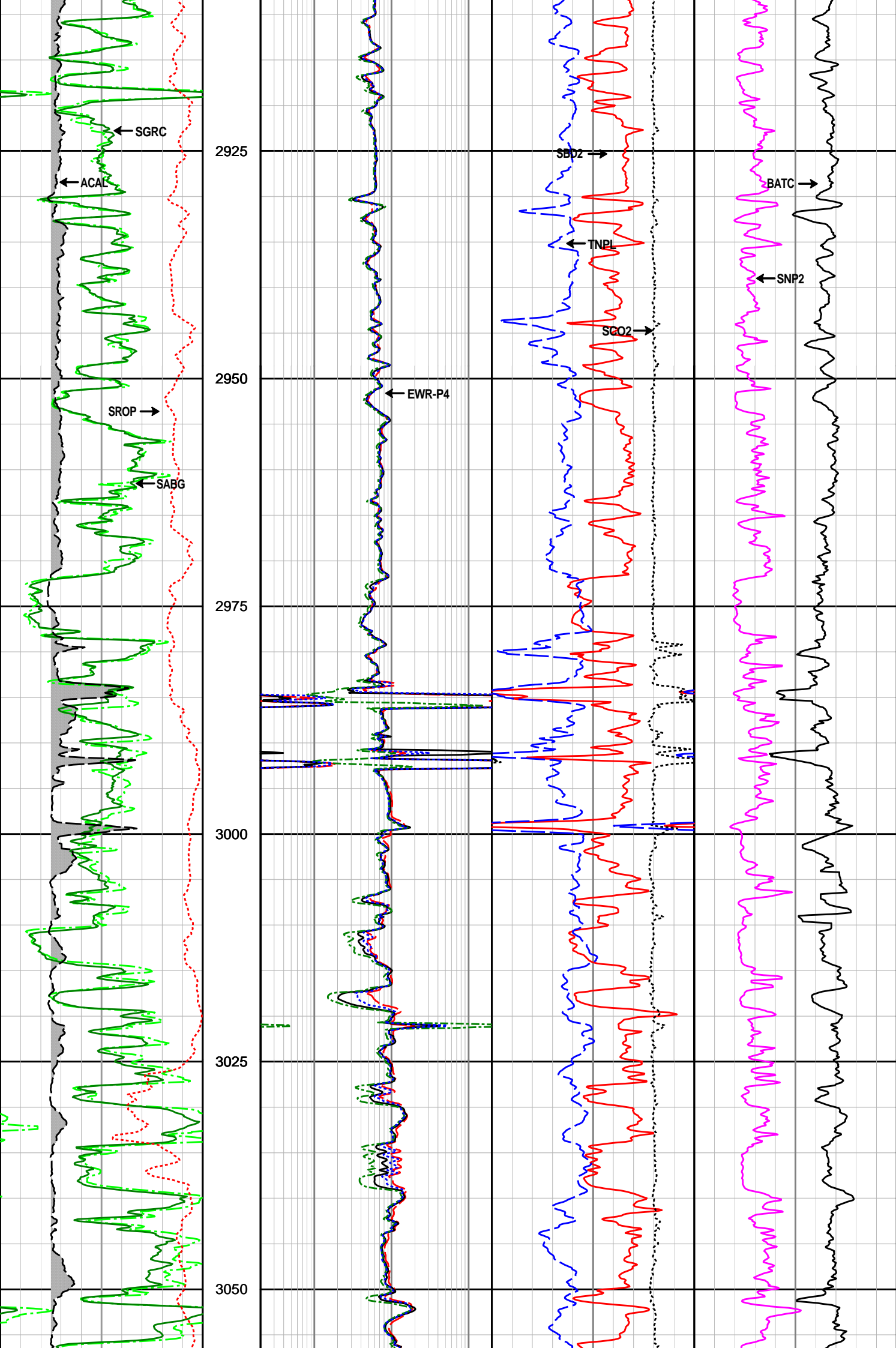


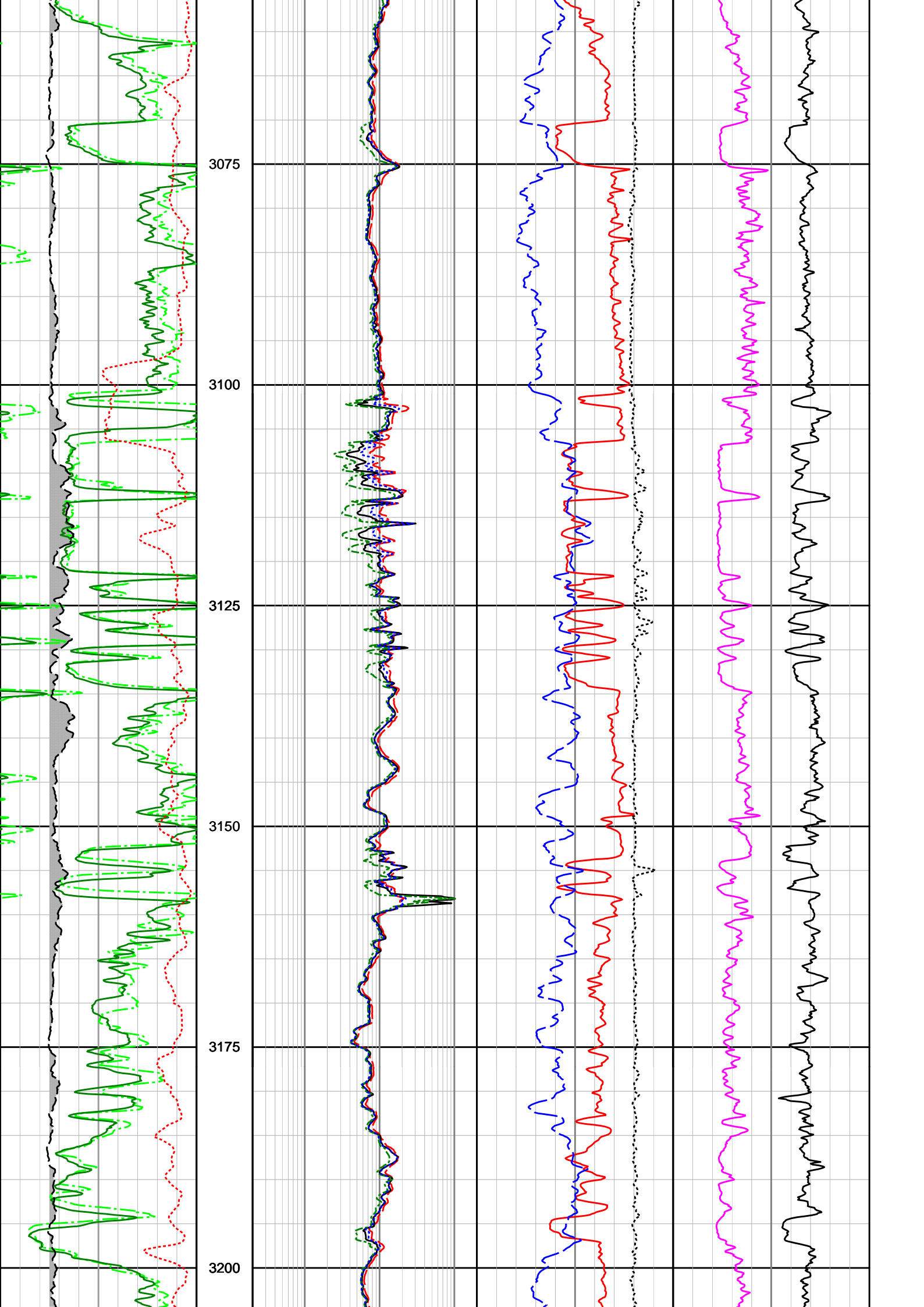


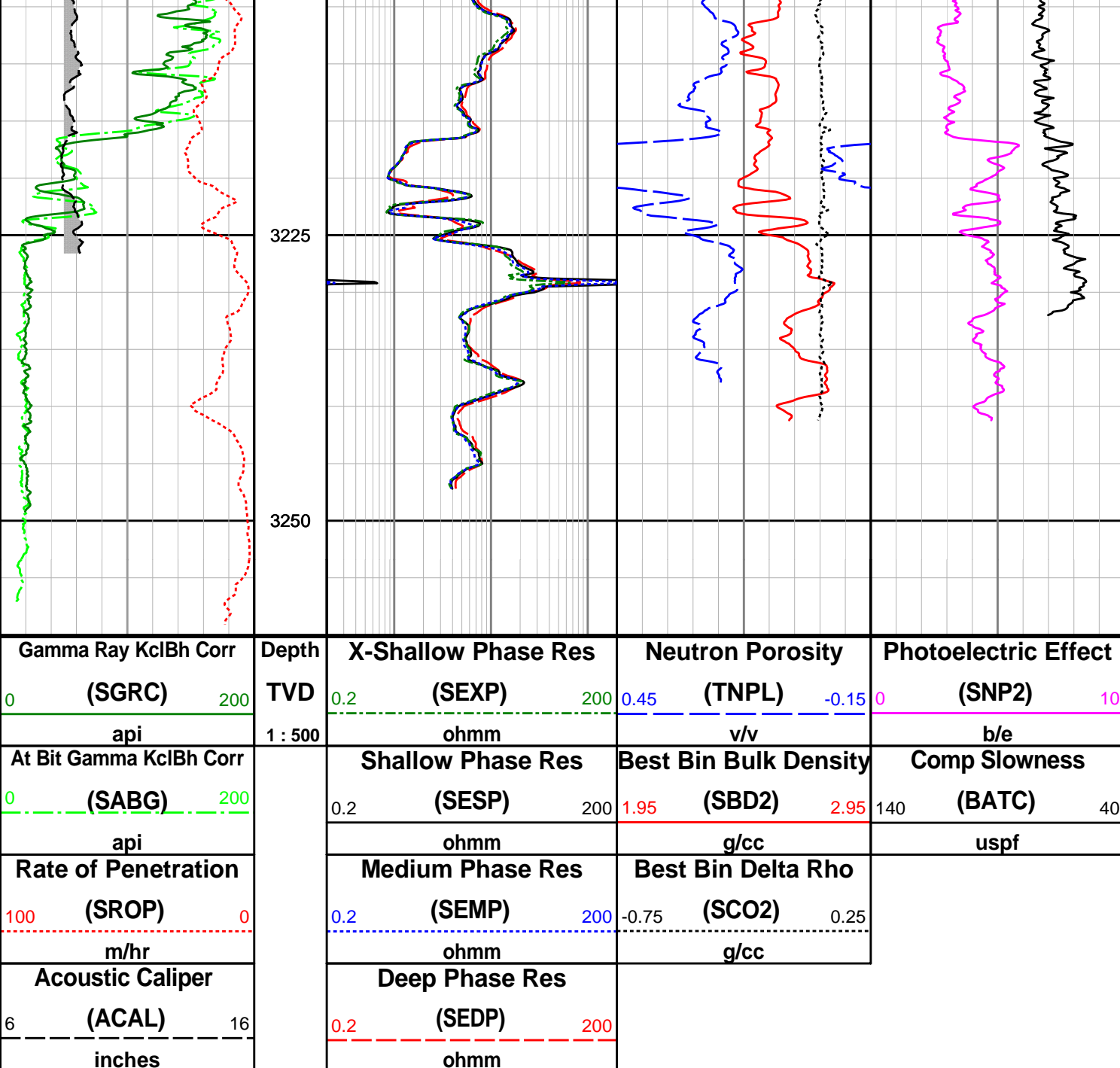












## DIRECTIONAL SURVEY REPORT

Origin Energy Resources Ltd  
Rockhopper-1 ST1  
Rockhopper  
Tasmania  
Australia  
AU-FE-000679100  
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	-0.040	0.05
327.420	0.34	318.42	327.420	0.250 N	0.600 W	-0.260	0.08
356.380	0.16	310.14	356.380	0.340 N	0.690 W	-0.350	0.19
414.830	0.43	334.58	414.830	0.590 N	0.840 W	-0.600	0.15
502.130	0.25	356.62	502.130	1.080 N	1.000 W	-1.090	0.08
559.330	0.33	356.35	559.330	1.370 N	1.010 W	-1.380	0.04

645.930	0.22	77.08	645.920	1.650 N	0.870 W	-1.660	0.13
733.400	0.10	264.51	733.390	1.680 N	0.780 W	-1.690	0.11
819.330	0.13	204.11	819.320	1.590 N	0.890 W	-1.600	0.04
907.200	0.22	337.40	907.190	1.650 N	1.000 W	-1.660	0.11
956.770	0.15	112.45	956.760	1.710 N	0.980 W	-1.730	0.21
980.350	0.00	258.48	980.340	1.700 N	0.950 W	-1.710	0.19
1009.960	0.20	60.48	1009.950	1.730 N	0.900 W	-1.740	0.20
1039.180	0.22	57.43	1039.170	1.780 N	0.810 W	-1.790	0.02
1068.020	0.25	56.38	1068.010	1.850 N	0.710 W	-1.860	0.03
1096.690	0.09	334.71	1096.680	1.900 N	0.670 W	-1.910	0.26
1125.200	0.25	23.41	1125.190	1.980 N	0.650 W	-1.990	0.21
1153.520	0.31	18.55	1153.510	2.110 N	0.610 W	-2.120	0.07
1182.120	0.26	64.52	1182.110	2.210 N	0.520 W	-2.220	0.24
1210.690	0.31	28.33	1210.680	2.310 N	0.430 W	-2.310	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	-3.290	0.10
1441.660	0.57	57.51	1441.650	3.450 N	0.660 E	-3.450	0.14
1470.690	0.57	43.73	1470.680	3.640 N	0.880 E	-3.630	0.14
1499.950	0.59	47.75	1499.930	3.840 N	1.100 E	-3.830	0.05
1529.470	0.61	56.99	1529.450	4.030 N	1.340 E	-4.010	0.10
1558.730	0.62	46.69	1558.710	4.220 N	1.590 E	-4.200	0.11
1587.900	0.64	49.02	1587.880	4.440 N	1.820 E	-4.420	0.03
1616.890	0.68	52.55	1616.870	4.650 N	2.080 E	-4.620	0.06
1645.390	0.64	67.47	1645.360	4.810 N	2.360 E	-4.780	0.19
1673.840	0.66	56.91	1673.810	4.960 N	2.650 E	-4.930	0.13
1702.240	0.67	57.55	1702.210	5.140 N	2.930 E	-5.110	0.01
1759.920	0.72	70.24	1759.890	5.450 N	3.550 E	-5.400	0.08
1789.630	0.84	75.16	1789.590	5.570 N	3.940 E	-5.520	0.14
1848.620	0.80	79.00	1848.580	5.750 N	4.760 E	-5.690	0.03
1876.780	0.90	76.63	1876.730	5.840 N	5.170 E	-5.780	0.11
1905.300	0.76	78.61	1905.250	5.930 N	5.570 E	-5.860	0.15
1934.760	0.91	50.85	1934.710	6.120 N	5.940 E	-6.040	0.43
1951.760	0.68	51.65	1951.710	6.270 N	6.130 E	-6.190	0.41
1968.420	0.69	57.75	1968.370	6.380 N	6.290 E	-6.300	0.13
1995.260	1.12	112.40	1995.200	6.370 N	6.670 E	-6.280	1.02
2020.270	4.56	164.56	2020.180	5.320 N	7.160 E	-5.230	4.77
2076.850	8.58	180.86	2076.380	1.080 S	7.700 E	1.170	2.33
2097.430	9.89	180.78	2096.700	4.380 S	7.650 E	4.470	1.91
2101.740	10.33	180.02	2100.940	5.130 S	7.640 E	5.230	3.20
2133.860	11.00	184.57	2132.500	11.070 S	7.400 E	11.160	1.00
2162.640	12.26	191.23	2160.690	16.800 S	6.580 E	16.890	1.92
2191.040	14.09	193.69	2188.350	23.120 S	5.180 E	23.180	2.02
2221.570	17.24	200.87	2217.740	30.960 S	2.690 E	30.990	3.63
2249.960	21.12	203.77	2244.550	39.580 S	0.870 W	39.560	4.22
2279.090	25.17	203.19	2271.330	50.080 S	5.430 W	50.010	4.18
2305.360	27.89	201.28	2294.830	60.940 S	9.860 W	60.810	3.26
2335.320	29.38	198.65	2321.130	74.430 S	14.760 W	74.240	1.95
2364.040	31.58	195.91	2345.880	88.340 S	19.070 W	88.100	2.72
2393.220	33.12	193.25	2370.530	103.450 S	22.990 W	103.160	2.16
2424.120	34.46	191.99	2396.210	120.220 S	26.740 W	119.880	1.47
2453.550	35.45	189.16	2420.330	136.790 S	29.830 W	136.410	1.94
2483.190	36.74	186.44	2444.280	154.090 S	32.200 W	153.680	2.08
2512.340	35.42	185.57	2467.840	171.160 S	33.990 W	170.720	1.46
2539.220	36.20	185.30	2489.640	186.820 S	35.480 W	186.360	0.89
2567.350	35.96	183.83	2512.380	203.330 S	36.800 W	202.850	0.96
2596.630	35.85	183.27	2536.090	220.470 S	37.870 W	219.980	0.35
2623.250	35.76	182.90	2557.680	236.020 S	38.700 W	235.520	0.26
2653.750	34.92	179.74	2582.560	253.650 S	39.110 W	253.140	1.98
2684.950	36.05	178.78	2607.970	271.760 S	38.880 W	271.250	1.21
2711.610	35.74	177.14	2629.570	287.380 S	38.320 W	286.880	1.14
2739.680	35.53	177.12	2652.380	303.720 S	37.500 W	303.220	0.22
2771.600	35.60	176.05	2678.350	322.250 S	36.400 W	321.760	0.59
2799.250	35.65	174.76	2700.820	338.300 S	35.110 W	337.830	0.82
2830.330	35.66	174.48	2726.070	356.340 S	33.410 W	355.890	0.16
2858.860	35.48	174.28	2749.280	372.850 S	31.780 W	372.420	0.23
2886.550	35.51	174.82	2771.830	388.860 S	30.260 W	388.450	0.34
2912.810	35.67	174.71	2793.180	404.080 S	28.860 W	403.680	0.20
2944.720	35.81	174.86	2819.080	422.640 S	27.170 W	422.260	0.16
2970.130	33.67	176.07	2839.960	437.070 S	26.020 W	436.710	2.65
3001.240	33.20	177.20	2865.920	454.180 S	25.010 W	453.830	0.75
3026.700	33.66	177.54	2887.170	468.190 S	24.370 W	467.850	0.59
3059.360	34.73	177.11	2914.180	486.530 S	23.510 W	486.200	1.01



3089.540	35.58	176.65	2938.860	503.880 S	22.570 W	503.560	0.88
3118.070	35.65	177.66	2962.050	520.470 S	21.740 W	520.160	0.62
3145.400	35.32	177.16	2984.310	536.320 S	21.020 W	536.020	0.48
3167.940	35.69	178.03	3002.660	549.400 S	20.480 W	549.100	0.83
3185.270	35.70	178.52	3016.730	559.510 S	20.170 W	559.210	0.50
3203.430	35.56	178.76	3031.490	570.080 S	19.920 W	569.790	0.33
3234.730	35.91	179.25	3056.900	588.360 S	19.600 W	588.070	0.43
3264.810	35.73	178.72	3081.290	605.960 S	19.290 W	605.670	0.36
3293.650	35.03	178.07	3104.800	622.650 S	18.820 W	622.370	0.83
3324.890	36.06	178.66	3130.220	640.810 S	18.310 W	640.530	1.04
3350.050	35.41	178.82	3150.640	655.500 S	17.980 W	655.220	0.78
3379.250	35.71	179.95	3174.400	672.480 S	17.800 W	672.200	0.74
3408.140	35.85	180.50	3197.840	689.370 S	17.870 W	689.090	0.36
3439.040	36.10	180.75	3222.840	707.520 S	18.070 W	707.240	0.28
3467.050	35.47	179.36	3245.560	723.900 S	18.080 W	723.610	1.10
3482.000	35.47	179.36	3257.740	732.570 S	17.990 W	732.290	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 179.28 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 3482.000 METRES  
IS 732.791 METRES ALONG 181.41 DEGREES (GRID)**

**Final survey projected to TD.  
All surveys SAG corrected.**

Date Printed:08 March 2010

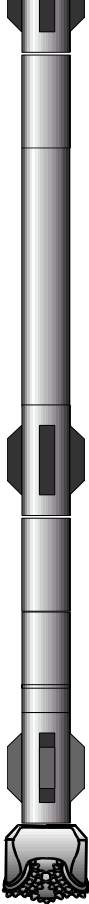

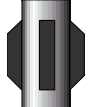


MWD RUN 400 - BHA			MWD RUN 400 - MWD		
	Cumulative Length (m)			Sensor Measure Point Distance To Bit (m)	
5 x 5" X 3" HWDP	210.46		Positive Pulser		
			PCM Sonde		
	163.28				
Jar			BAT Insert		31.880
	153.44		PWD Insert		27.580
9 x 5" X 3" HWDP			ACAL Insert		23.780
	68.87		CTN Insert		24.840
3 x 6 3/4" X 2.8125" Drill Collar			ALD Insert		
	40.95				

Integral Blade				20.760
Float Sub		39.25	HCIM Insert	
		38.34		
MWD System			EWR-P4 Insert	13.850
Stabilizer		11.00	DDSr-DGR	0
Flex Sub		10.33		
		7.52	DGR Insert	11.510
Geo-Pilot 7600				
Reed Hycalog RSX616M		0.44	PCDC Sonde	8.730

## MWD RUN 500 - BHA

## MWD RUN 500 - MWD





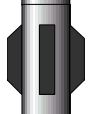


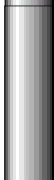
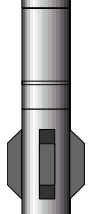


	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
5 x 5" X 3" HWDP	212.73	ACAL Insert	39.170
		Positive Pulser	
Jar	165.55	PCM Sonde	
		BAT Insert	32.360
9 x 5" X 3" HWDP	155.71	PWD Insert	28.040
	71.14	CTN Insert	25.310
3 x 6 3/4" X 2.8125" Drill Collar		ALD Insert	21.320
Integral Blade	43.22		

Float Sub		41.52	HCIM Insert		
		40.61			
MWD System			EWR-P4 Insert		13.680
Stabilizer		10.85	DDSr-DGR		0
Flex Sub		10.23			
		7.47	DGR Insert		11.356
Geo-Pilot 7600			PCDC Sonde		8.690
Security FMF3653Z		0.39			

## MWD RUN 600 - BHA



## MWD RUN 600 - MWD






	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
5 x 5" X 3" HWDP	212.69	ACAL Insert	39.130
	165.51	Positive Pulser	
Jar			
		PCM Sonde	
	155.67		
9 x 5" X 3" HWDP		BAT Insert	32.325
	71.10	PWD Insert	28.040
3 x 6 3/4" X 2.8125" Drill Collar			
		CTN Insert	25.310
Integral Blade	43.18	ALD Insert	21.320

Float Sub		41.48	HCIM Insert		
		40.57			
MWD System			EWR-P4 Insert		13.680
Stabilizer		10.85	DDSr-DGR		0
Flex Sub		10.23			
		7.47	DGR Insert		11.356
Geo-Pilot 7600					
Security FMF3653Z		0.39	PCDC Sonde		8.690

## MWD RUN 700 - BHA

## MWD RUN 700 - MWD

	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
5 x 5" X 3" HWDP	212.79	ACAL Insert	39.130
	165.61	Positive Pulser	
Jar		PCM Sonde	
	155.67	BAT Insert	32.325
9 x 5" X 3" HWDP			
	71.10	PWD Insert	28.040
3 x 6 3/4" X 2.8125" Drill Collar		CTN Insert	25.310
	43.18	ALD Insert	21.320
Integral Blade	41.48		

Float Sub		41.48	HCIM Insert		
		40.57			
MWD System			EWR-P4 Insert		13.680
Stabilizer		10.85	DDSr-DGR		0
Flex Sub		10.23			
		7.47	DGR Insert		11.356
Geo-Pilot 7600					
PDC		0.39	PCDC Sonde		8.690