

ROP Rate of Penetration
DGR Dual Gamma Ray
ADR Azimuthal Deep Resistivity
EWR Electromagnetic Wave Resistivity
ALD Azimuthal Lithodensity
CTN Compensated Thermal Neutron
XCAL Azimuthal Acoustic Caliper
XBAT Azimuthal Bimodal Acoustic Tool

PROPRIETARY

1 : 1200

Country : USA				
Field : Posey 6912				
Location : Lat: 71° 10' 24.06" North Long: 163° 28' 18.67" West				
Well : OCS-Y-2321 BJ001 ST00BP00				
Company : Shell Gulf of Mexico Inc.				
Rig : Polar Pioneer				
LOCATION Latitude : 71° 10' 24.06" North Longitude : 163° 28' 18.67" West Final UTM Easting = 555,034,550 m Final UTM Northing = 7,897,425,308 m		Company : Shell Gulf of Mexico Inc.		
		Rig : Polar Pioneer		
		Well : OCS-Y-2321 BJ001 ST00BP00		
		Field : Posey 6912		
		Country : USA		
		API Number : 55-352-00004-00		
Permanent Datum : Mean Sea Level		Elevation : 0.00 ft	Other Services	
Log Measured From : Drill Floor		76.00 ft Above Permanent Datum	PWD, DDSr MRL-WD	
Drilling Measured From : Drill Floor		MD LOG	Elev. KB N/A DF 76.00 ft GL N/A WD 146.00 ft	
Depth Logged : 222.00 ft To 6,800.00 ft		Unit No. : 1	Job No. : AK-XX-0901604700	
Date Logged : 30-Jul-15 To 21-Sep-15		Plot Type : Final		
Total Depth MD : 6,800.00 ft TVD : 6,795.34 ft		Plot Date : 01-Nov-15		
Spud Date : 30-Jul-15				
Run No.	Borehole Record (MD)		Casing Record (MD)	
	Size	From	Size	Weight
1	8.500 in	222.00 ft	36.000 in	746.00 lbpf
5	17.500 in	1,512.00 ft	22.000 in	224.00 lbpf
6	12.250 in	2,963.00 ft	14.000 in	114.00 lbpf
7	8.500 in	5,423.00 ft	9.625 in	53.00 lbpf

WELL INFORMATION

MWD Run Number	100	600	700		
Date run completed	01-Aug-15	14-Sep-15	22-Sep-15		
Rig Bit Number	1	6	7		
Bit Size (in)	8.500	12.250	8.500		
Tool Nominal OD (in)	6.75	8.000	6.750		
Log Start Depth (MD, ft)	222.00	2,963.00	5,423.00		
Log End Depth (MD, ft)	1,512.00	5,423.00	6,800.00		
Drill or Wipe	Drill	Drill	Drill		
Drill/Wipe Start Date and Time	30-Jul-15 17:05	12-Sep-15 01:20	20-Sep-15 08:52		
Drill/Wipe End Date and Time	01-Aug-15 11:21	13-Sep-15 16:35	21-Sep-15 23:09		
Min Inc (deg) @ Depth (MD, ft)	0.00 @ 0.00	0.58 @ 3,074.55	3.42 @ 5,980.70		
Max Inc (deg) @ Depth (MD, ft)	0.51 @ 320.88	3.70 @ 5,299.05	3.99 @ 6,745.05		
Bit TFA(in2) / Bit Type	0.71 / Tricone	0.99 / PDC	0.55 / PDC		
Flow Rate (gpm)	449.40	828.00	550.00		
Max AV (fpm) / CV (fpm) @ MWD	774.0 / 984.0	239.0 / 357.0	549.0 / 1,000.0		
Fluid Type	Sea Water	Polymer	Polymer		
Density (ppg) / Viscosity (spqt)	8.55 / 27.00	11.40 / 56.00	12.00 / 79.00		
Filtrate CL (ppm)	35,000.00	100,000.00	135,000.00		
pH / Fluid Loss (mptm)	8.50 / 0	9.10 / 4	9.30 / 6		
PV (cP) / YP (lhf2)	17 / 31.00	20 / 27.00	23 / 33.00		
% Solids / % Sand	.01 / .01	16 / 0.5	18 / 0.5		
% Oil / Oil:Water Ratio	0 / 0:100	0 / 0:84	0 / 0:79		
Rm @ Measured Temp (degF)	0.350 @ 35.60	0.080 @ 88.00	0.070 @ 70.00		
Rmf @ Measured Temp (degF)	N/A @ N/A	0.050 @ 88.00	0.060 @ 70.00		
Rmc @ Measured Temp (degF)	N/A @ N/A	0.120 @ 88.00	0.140 @ 70.00		
Max Tool Temp (degF) / Source	42.60 / HCIM	144.94 / HCIM	152.00 / HCIM		

Rm @ Max Tool Temp (degF)	0.3004 @ 42.60	0.0849 @ 144.94	0.0338 @ 152.00	
Lead MWD Engineer	Nick Weeks	Jack Kleinhans	Jack Kleinhans	
Customer Representative	Doug Sloan	Matt Cazalet	Scott Lapiene	

SENSOR INFORMATION

Downhole Processor Information

Tool Type	HCIM	HCIM	HCIM	
Software Version	88.58	88.58	88.58	
Sub Serial Number	12272466	11902800	11320539	
Insert Serial Number	14776659	12136690	11752800	
Date and Time Initialized	30-Jul-15 10:14	11-Sep-15 01:12	19-Sep-15 15:17	
Date and Time Read	01-Aug-15 18:48	18-Sep-15 18:26	25-Sep-15 08:40	
ECMB SW Version	N/A	N/A	generic 1.1.1 Linux 2.6.23.1	

Directional Sensor Information

Tool Type	PCDC	PCDC	PCDC	
Distance From Bit (ft)	16.80	56.82	48.80	
Software Version	6.33	6.33	6.33	
Sub Serial Number	12510194	12606713	12460872	
Sonde Serial Number	12059421	12059488	11902192	
Sensor ID Number	N/A	N/A	N/A	
Toolface Offset (deg)	0.00	208.54	301.32	

Gamma Ray Sensor Information

Tool Type	DGR	DGR	DGR	
Distance From Bit (ft)	6.67	37.22	38.40	
Recorded Sample Period (sec)	14	10	10	
Software Version	N/A	N/A	N/A	
Sub Serial Number	12519619	11651705	12519617	
Insert/Sonde Serial Number	12464236	12351708	12041832	

Neutron Sensor Information

Tool Type	CTN	CTN	CTN	
Distance From Bit (ft)	92.13	106.44	126.09	
Recorded Sample Period (sec)	14	10	10	
Sub Serial Number	12473205	12228154	12120657	
Insert Serial Number	12428642	11524484	12034145	
Source Serial Number	23646G	23647G	59459B	
Source Factor	N/A	N/A	N/A	
Pin Orientation	Down	Down	Down	

Density Sensor Information

Tool Type	ALD	ALD	ALD	
Distance From Bit (ft)	79.17	87.77	113.16	
Recorded Sample Period (sec)	14	10	10	
Software Version	3.13	3.12	3.12	
Sub Serial Number	12522518	12279568	10853150	
Insert Serial Number	12541284	10718012	11496392	
Sensor ID Number	32767	32767	2	
Source Serial Number	46836B	39634B	39364b	
Pin Orientation	Down	Down	Down	
Stabilizer Blade O.D. (in)	8.25	11.90	8.20	
DPA Offset	135.00	45.00	135.00	

ADR SENSOR INFORMATION

Tool Type	ADR		ADR	
Tool Orientation	Deep Receiver Down		Deep Receiver Down	
Distance From SWRO to Bit (ft)	59.89		95.88	
Recorded Sample Period (sec)	14		10	
Tool SAP	11747086		12005268	
Receiver Insert SAP	11557203		11724109	
Transmitter Insert SAP	11829390		11292744	
Antenna Collar SAP	11747085		12005268	
App Firmware Version	415		415	
Processor Board FirmWare Version	306		306	
Processor FPGA FirmWare Version	4		4	
Transmitter PIC SW Version	1,025		1,025	
Tool Size	6.75"		6.75"	
Processor SIDS No.	281475276964047		281475276977376	
Processor PCB Rev.	N/A		N/A	
Receiver Board Upper SIDS No.	16607023626362025		16607023626541899	
Receiver Board Upper PCB Rev.	N/A		N/A	
Receiver Board Lower SIDS No.	16607023626361630		16607023626763496	
Receiver Board Lower PCB Rev.	N/A		N/A	
Receiver Board Deep SIDS No.	16607023626341336		16607023626764947	
Receiver Board Deep PCB Rev.	N/A		N/A	
Receiver Insert SIDS No.	11258999109368272		11258999116242384	
Transmitter Insert SIDS No.	4503634027974443		4503634016072279	
Antenna Collar SIDS No.	12666374086518188		12666374059062624	

XBAT Sensor Information

Tool Type	XBAT	XBAT	XBAT	
Dist from Bit	32.85	130.62	64.79	
Recorded Sample Period	20	15	15	
Electronics Insert SN	11215931	12451413	12465296	
Receiver Insert SN	12267657	12405002	12565577	
Transmitter Insert SN	10603805	12277635	12280476	
Collar SN	12323024	12389351	102064794	
CBM SPROG Version	ssprog 1.0.9-1	ssprog 1.0.9-1	ssprog 1.0.9-1	
CBM Supprt Version	support 1.9.2-1	support 1.9.2-1	support 1.9.2-1	
XBAT Version	xbat 1.2.7-1	xbat 1.2.7-1	xbat 1.2.7-1	
XBAT Caliper ARM Version	122.00	122.00	122.00	
TCM Version	20.08	20.08	20.08	
QXCB DSP Version	52.00	52.00	52.00	
QXDAQ ARM Version	142.00	142.00	121.00	
DAQ DSP Version	53.00	53.00	53.00	
Sequence File Version	120829	131212	131212	
Sequence Selected	13:M9_D5_Q5	8:M9_D9_D4	8:M9_D9_D4	

REMARKS

1. ALL DEPTHS ARE MEASURED DEPTHS (MD), UNLESS OTHERWISE NOTED. THESE DEPTHS ARE BIT DEPTHS AND ARE CALIBRATED TO THE DRILLERS PIPE TALLY. NO DEPTH CORRECTIONS HAVE BEEN MADE FOR PIPE STRETCH OR COMPRESSION.
2. ALL VERTICAL DEPTHS ARE TRUE VERTICAL DEPTHS (TVD), UNLESS OTHERWISE NOTED. ONLY INVERTED / REVERTED SECTIONS GREATER THAN 30' TVD ARE PRESENTED
3. ALL DATA PRESENTED IS RECORDED DATA UNLESS OTHERWISE STATED.
4. LWD RUN 1 WAS COMPRISED OF DIRECTIONAL, DUAL GAMMA RAY (DGR) UTILIZING GEIGER-MUELLER TUBE TYPE DETECTORS, AZIMUTHAL DEEP ELECTROMAGNETIC WAVE RESISTIVITY (ADR), PRESSURE WHILE DRILLING (PWD) DRILLSTRING DYNAMICS SENSOR (DDSr), AZIMUTHAL LITHODENSITY (ALD), COMPENSATED THERMAL NEUTRON (CTN), MAGNETIC RESONANCE WHILE DRILLING (MRIL-WD), AZIMUTHAL BIMODAL ACOUSTIC TOOL (XBAT), AND THE AZIMUTHAL ACOUSTIC CALIPER TOOL (XCAL)

- AZIMUTHAL ACOUSTIC CALIPER TOOL (XCAL).
5. RUN 200 WAS A 36" HOLE OPENING RUN, RUN 300 WAS A 42" HOLE OPENING RUN, RUN 400 WAS A CLEANOUT RUN TO DRILL OUT THE SHOE TRACK AND 30' OF NEW FORMATION. NO LWD SENSORS WERE UTILIZED. THEREFOR THEY ARE NOT PRESENTED.
 6. MWD RUN 500 WAS A 17.5" DRILLING RUN UTILIZING DIRECTIONAL AND PWD. NO LOGGING SENSORS WERE PRESENT, ONLY ROP IS PRESENTED.
 7. LWD RUN 6 WAS COMPRISED OF DIRECTIONAL, DUAL GAMMA RAY (DGR) UTILIZING GEIGER-MUELLER TUBE TYPE DETECTORS, ELECTROMAGNETIC WAVE RESISTIVITY PHASE 4 (EWR-P4), PRESSURE WHILE DRILLING (PWD) DRILLSTRING DYNAMICS SENSOR (DDSr), AZIMUTHAL LITHODENSITY (ALD), COMPENSATED THERMAL NEUTRON (CTN), AZIMUTHAL BIMODAL ACOUSTIC TOOL (XBAT), AND THE AZIMUTHAL ACOUSTIC CALIPER TOOL (XCAL).
 8. LWD RUN 7 WAS COMPRISED OF DIRECTIONAL, DUAL GAMMA RAY (DGR) UTILIZING GEIGER-MUELLER TUBE TYPE DETECTORS, AZIMUTHAL DEEP ELECTROMAGNETIC WAVE RESISTIVITY (ADR), PRESSURE WHILE DRILLING (PWD) DRILLSTRING DYNAMICS SENSOR (DDSr), AZIMUTHAL LITHODENSITY (ALD), COMPENSATED THERMAL NEUTRON (CTN), MAGNETIC RESONANCE WHILE DRILLING (MRIL-WD), AZIMUTHAL BIMODAL ACOUSTIC TOOL (XBAT), AND THE AZIMUTHAL ACOUSTIC CALIPER TOOL (XCAL).
 9. OVER THE COURSE OF THE 12.25" HOLE SECTION THERE ARE SEVERAL INSTANCES WHERE THE BOREHOLE RUGOSITY HAS CREATED "SPIKES" IN THE RESISTIVITY DATA. THIS IS DUE TO ONE RECIEVER READING THE HIGH SALINITY BOREHOLE FLUID (WASHOUT) AND THE OTHER READING THE FORMATION. THERE ARE ALSO AREAS ACROSS THE LOGGED INTERVAL THAT SHOW AN UNDERGAUGE HOLE.
 10. LWD RUN 100 XBAT WAS SETUP TO FIRE 3 DIFFERENT ACTIVATIONS. ACTIVATION 1 WAS A 9KHz MONOPOLE FIRING, ACTIVATION 2 WAS A 5KHz DIPOLE FIRING, AND ACTIVATION 3 WAS A 5KHz QUADRAPOLE. COMPRESSIONAL WAS PICKED ONLY FROM THE DIPOLE ACTIVATION - A,C AND A-C ARRAYS. THE DIPOLE A AND C ARRAY'S SEMBLANCE IS PRESENTED ON THIS LOG.
 11. REGARDING THE LWD RUN 100 XBAT LOG, THERE ARE SEVERAL INSTANCES ABOVE 530' MD/TVD WHERE THE COMPRESSIONAL ARRIVAL APPEARS TO BE CONTAMINATED/DOMINATED BY THE FLUID ARRIVAL. PICKS WERE NOT MADE WHERE THERE IS LITTLE CONFIDENCE THAT THE PICK IS CORRECT. ADDITIONALLY THERE WAS ONLY A HIGH ENOUGH SIGNAL TO NOISE RATIO IN THE FLEXURAL INTERFACE WAVE TO MAKE RELIABLE PICKS OVER A SMALL SECTION OF THE LOG, FROM 1276'MD TO 1324'MD. THE DIPOLE WAVEFORMS HAVE BEEN PROCESSED USING THE bp3_9 FILTER. THERE WAS NO REFRACTED SHEAR PRESENT OVER THE LOGGED INTERVAL TO CALIBRATE THE MUD VELOCITY FOR THE SLOW SHEAR CORRECTION. SLOW SHEAR CORRECTION PERFORMED USING A DYNAMIC HOLE SIZE FROM THE XCAL, MUD SPEED OF 189μSECS/FT AND A MUD WEIGHT OF 8.6 PPG.
 12. LWD RUN 600 XBAT WAS SETUP TO FIRE 3 DIFFERENT ACTIVATIONS. ACTIVATION 1 WAS A 9KHz MONOPOLE FIRING, ACTIVATION 2 WAS A 9KHz DIPOLE FIRING, AND ACTIVATION 3 WAS A 4KHz DIPOLE. COMPRESSIONAL WAS PICKED ONLY FROM THE MONOPOLE ACTIVATION - A,B,C & D ARRAYS. THE MONOPOLE B ARRAY AND THE DIPOLE C ARRAY SEMBLANCE IS PRESENTED ON THIS LOG, PICKS WERE MADE FROM ALL MONOPOLE ACTIVATION ARRAYS, AS WELL AS THE A, C AND A-C ARRAYS FOR THE DIPOLE ACTIVATION. MONOPOLE WAVEFORMS HAVE BEEN PROCESSED USING A bp5_16 FILTER, DIPOLE WAVEFORMS HAVE BEEN PROCESSED WITH A bp3_12 FILTER. SLOW SHEAR CORRECTION PERFORMED USING A DYNAMIC HOLE SIZE FROM THE XCAL, MUD SPEED OF 185μSECS/FT AND A MUD WEIGHT OF 11.1 PPG.
 13. LWD RUN 700 XBAT WAS SETUP TO FIRE 3 DIFFERENT ACTIVATIONS. ACTIVATION 1 WAS A 9KHz MONOPOLE FIRING, ACTIVATION 2 WAS A 9KHz DIPOLE FIRING, AND ACTIVATION 3 WAS A 4KHz DIPOLE. COMPRESSIONAL WAS PICKED ONLY FROM THE MONOPOLE ACTIVATION - A,B,C & D ARRAYS. THE MONOPOLE AND DIPOLE A ARRAY'S SEMBLANCE IS PRESENTED ON THIS LOG, PICKS WERE MADE FROM ALL MONOPOLE ACTIVATION ARRAYS, AS WELL AS THE A, C AND A-C ARRAYS FOR THE DIPOLE ACTIVATION. MONOPOLE WAVEFORMS HAVE BEEN PROCESSED USING A hp_13 FILTER, DIPOLE WAVEFORMS HAVE BEEN PROCESSED WITH A bp3_9 FILTER. SLOW SHEAR CORRECTION PERFORMED USING A DYNAMIC HOLE SIZE FROM THE XCAL, MUD SPEED OF 190μSECS/FT AND A MUD WEIGHT OF 12 PPG.
 14. ALL XBAT WAVEFORMS WERE SAMPLED AT 10μSECS.
 15. RUNS 1- 7 REPRESENT THE OCS-Y-2321 BJ001 ST00BP00 WELL WITH AN API# OF 55-352-00004-00. THIS WELL REACHED A TOTAL DEPTH OF 6,800'MD / 6,795'TVD

MNEMONICS CURVE DESCRIPTION

ROPA	AVERAGE RATE OF PENETRATION
DGRCC	DGR COMBINED GAMMA RAY BC
ARH16PC	ADR AVERAGE 2mhz 16" PHASE RESISTIVITY BC
ARH32PC	ADR AVERAGE 2mhz 32" PHASE RESISTIVITY BC
ARH48PC	ADR AVERAGE 2mhz 48" PHASE RESISTIVITY BC
R09PC	EWR AVERAGE 2mhz 09" PHASE RESISTIVITY BC
R15PC	EWR AVERAGE 2mhz 15" PHASE RESISTIVITY BC
R27PC	EWR AVERAGE 2mhz 27" PHASE RESISTIVITY BC
R39PC	EWR AVERAGE 2mhz 39" PHASE RESISTIVITY BC
ADXT	ADR FORMATION EXPOSURE TIME
EWXT	EWR FORMATION EXPOSURE TIME
TNPS	CTN NEUTRON POROSITY - SANDSTONE
ALCDLC	ALD LOW COUNT RATE BIN DENSITY
ALDCLC	ALD LOW COUNT RATE BIN STAND OFF CORRECTION
ALPELC	ALD LOW COUNT RATE BIN PHOTOELECTRIC FACTOR
XBEDA	XCAL EQUIVALENT HOLE DIAMETER
XBVPVS	XBAT VP/Vs RATIO
XBCS	XBAT COMPRESSIONAL SLOWNESS
XBCSS	XBAT COMBINED SHEAR SLOWNESS
XBDFX	XBAT DIPOLE FLEXURAL SLOWNESS
XBSFLAG	XBAT SHEAR FLAG

PARAMETERS USED IN LOG PROCESSING:

HOLE SIZE:	FIXED @ 8.50" AND 12.25"
MUD WEIGHT:	8.6 – 12.0 PPG
WHOLE MUD CHLORIDES:	18,000 PPM Cl- R100, 100,000-125,000 PPM Cl-
FORMATION WATER SALINITY:	21,200 PPM Cl-
FLUID DENSITY:	1.0 g/cc
MATRIX DENSITY:	2.65 g/cc
LITHOLOGY:	SANDSTONE

ALL 1:1200 DATA CURVES ARE PRESENTED AT A STEP OF 1.0', AND SMOOTHED OVER A 3.0' WINDOW. GAP FILL IS SET TO 5'. ALL 1:240 DATA CURVES ARE PRESENTED AT A STEP OF 0.5 FT, WITH A WINDOW OF 0.6FT EXCEPT THE ACOUSTIC CURVES, THEY ARE SMOOTHED TO A STEP OF 0.5 WITH A 1.2FT WINDOW. GAP FILL IS SET TO 3FT FOR ALL CURVES.

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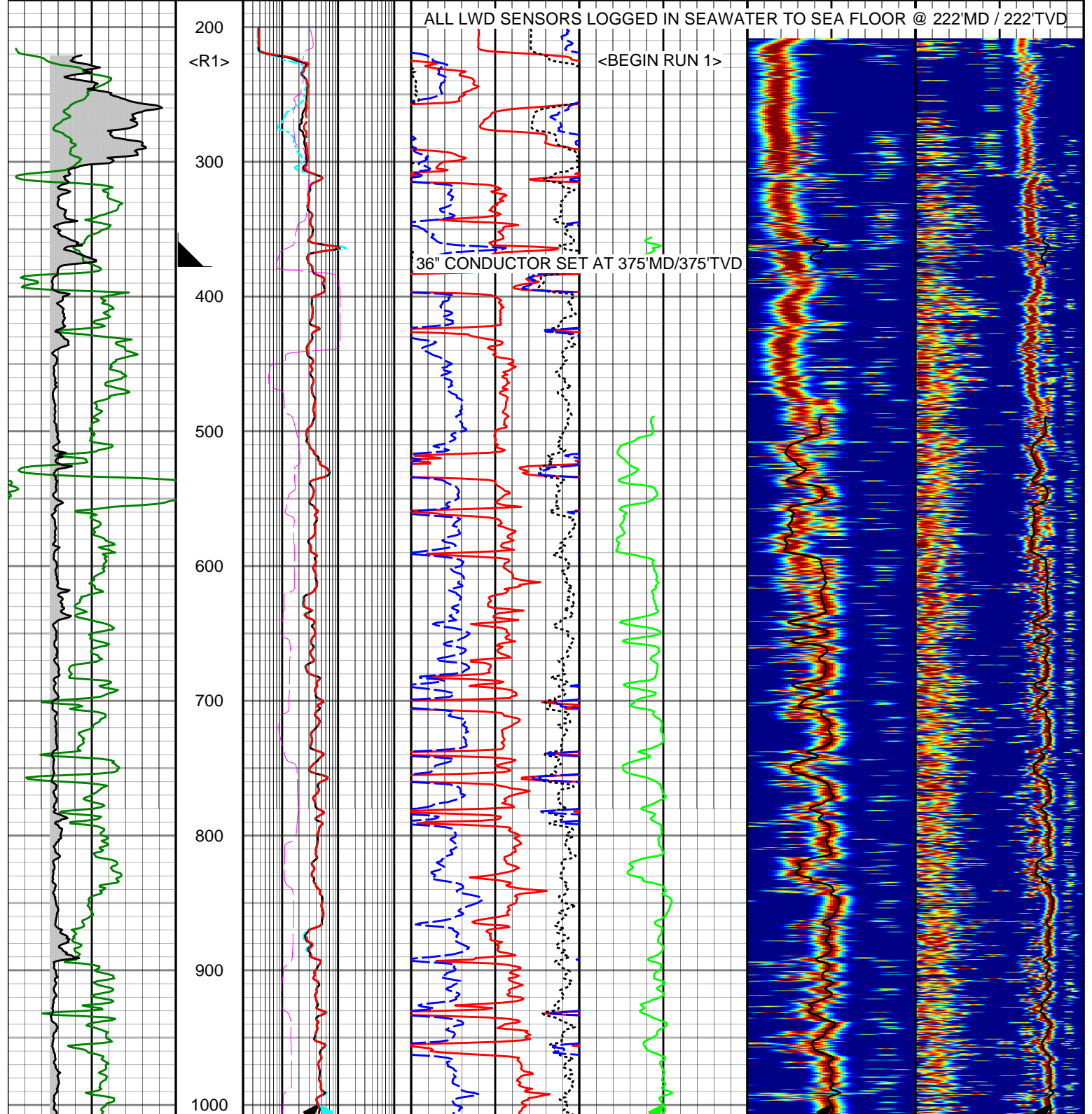
LWD RUN 100 - 8.50" PILOT HOLE

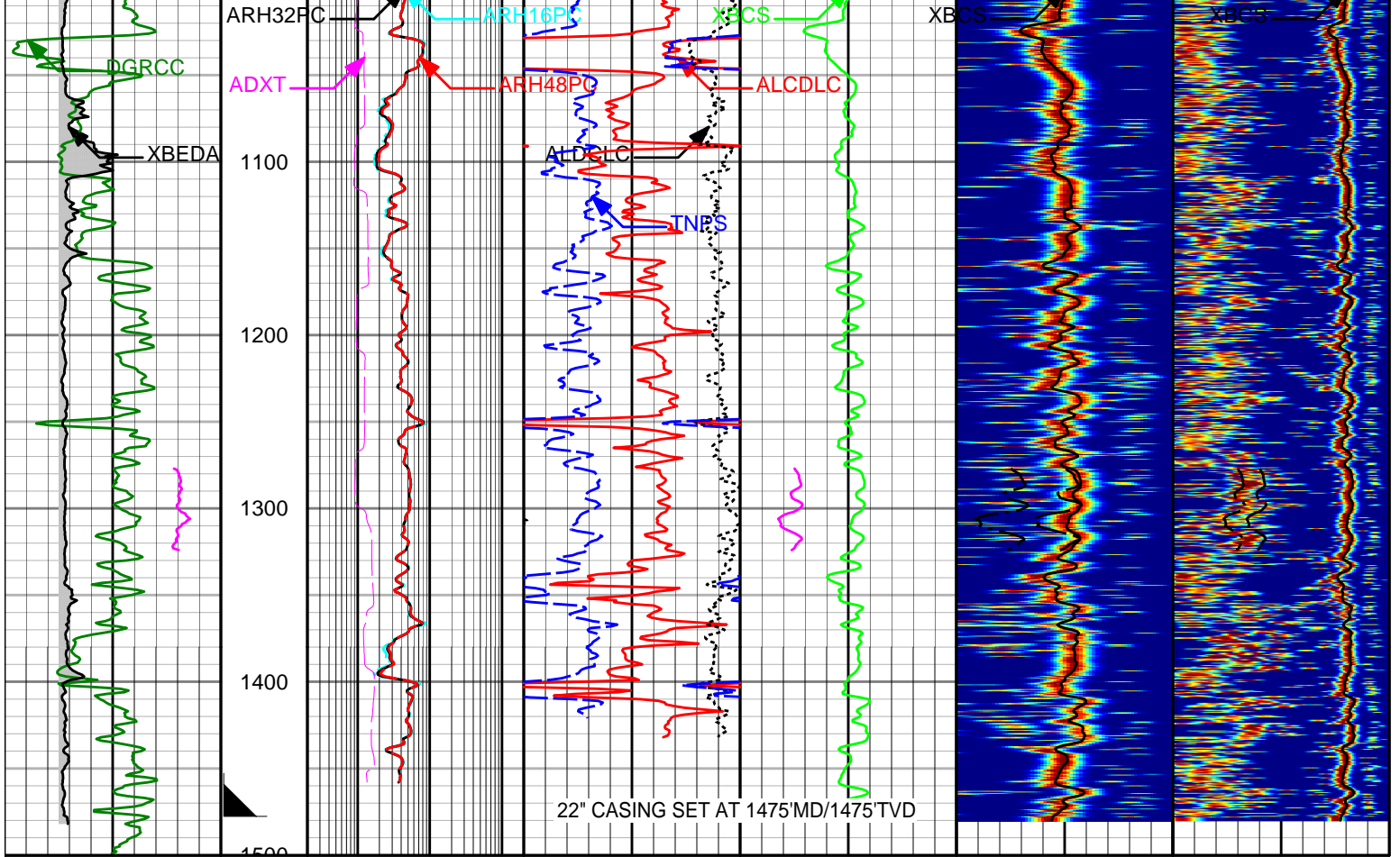
Avg 48in 2M Ph Res Cor
(ARH48PC)

XBAT Dipole Flex Slowness
(XBDFX)

XBAT Dipole Flex Slowness
(XBDFX)

		(ARH48PC)			(XBDPX)				(XBDPX)
		0.2 ohm-metre 200			240 uspf 40				540 uspf 40
KCAL Ellipse Avg Diameter (XBEDA)		Avg 32in 2M Ph Res Cor (ARH32PC)	CTN Porosity Sandstone (TNPS)		XBAT Comp Slowness (XBCS)			XBAT Comb Shear Slowness (XBCSS)	XBAT Comb Shear Slowness (XBCSS)
6 inches 16		0.2 ohm-metre 200	60 pu 0		240 uspf 40			240 uspf 40	540 uspf 40
DGR Comb Gamma Ray BCorr (DGRCC)		Avg 16in 2M Ph Res Cor (ARH16PC)	ALD LCRB Den Correction (ALDCLC)		XBAT Comb Shear Slowness (XBCSS)			XBAT Comp Slowness (XBCS)	XBAT Comp Slowness (XBCS)
0 api 150		0.2 ohm-metre 200	-0.8 g/cc 0.2		440 uspf 40			240 uspf 40	540 uspf 40
XBAT VP/VS Ratio (XBVPVS)		ADR Formation Exp Time (ADXT)	ALD LCRB Comp Density (ALCDLC)					XBAT 5KHz Dipole C Array Semblance	XBAT 5KHz Dipole A Array Semblance
1 3	MD ft 1 : 1200	0.2 hours 200	1.65 g/cc 2.65	Shear Flag				240microsec per ft 40	540microsec per ft 40

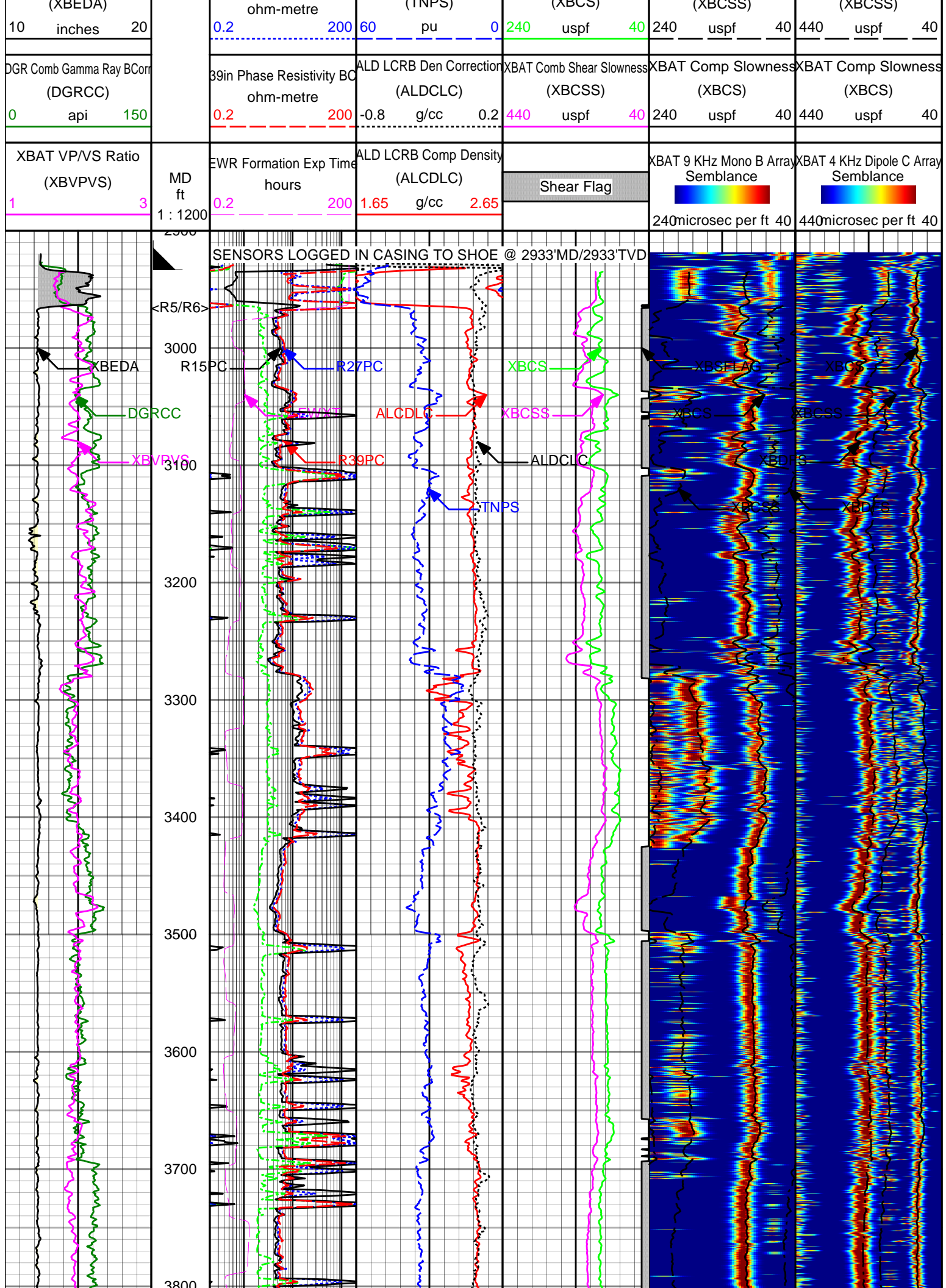


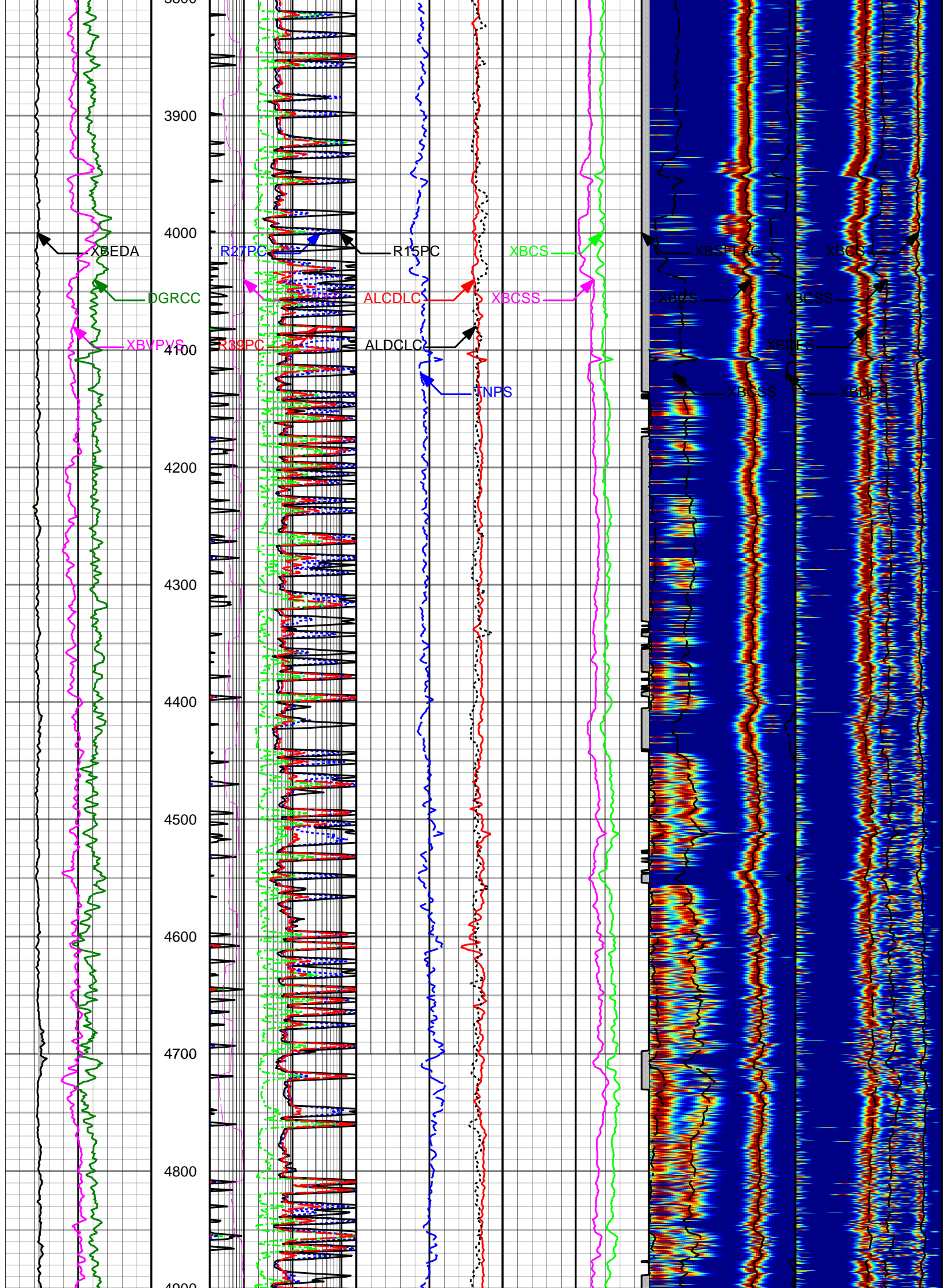


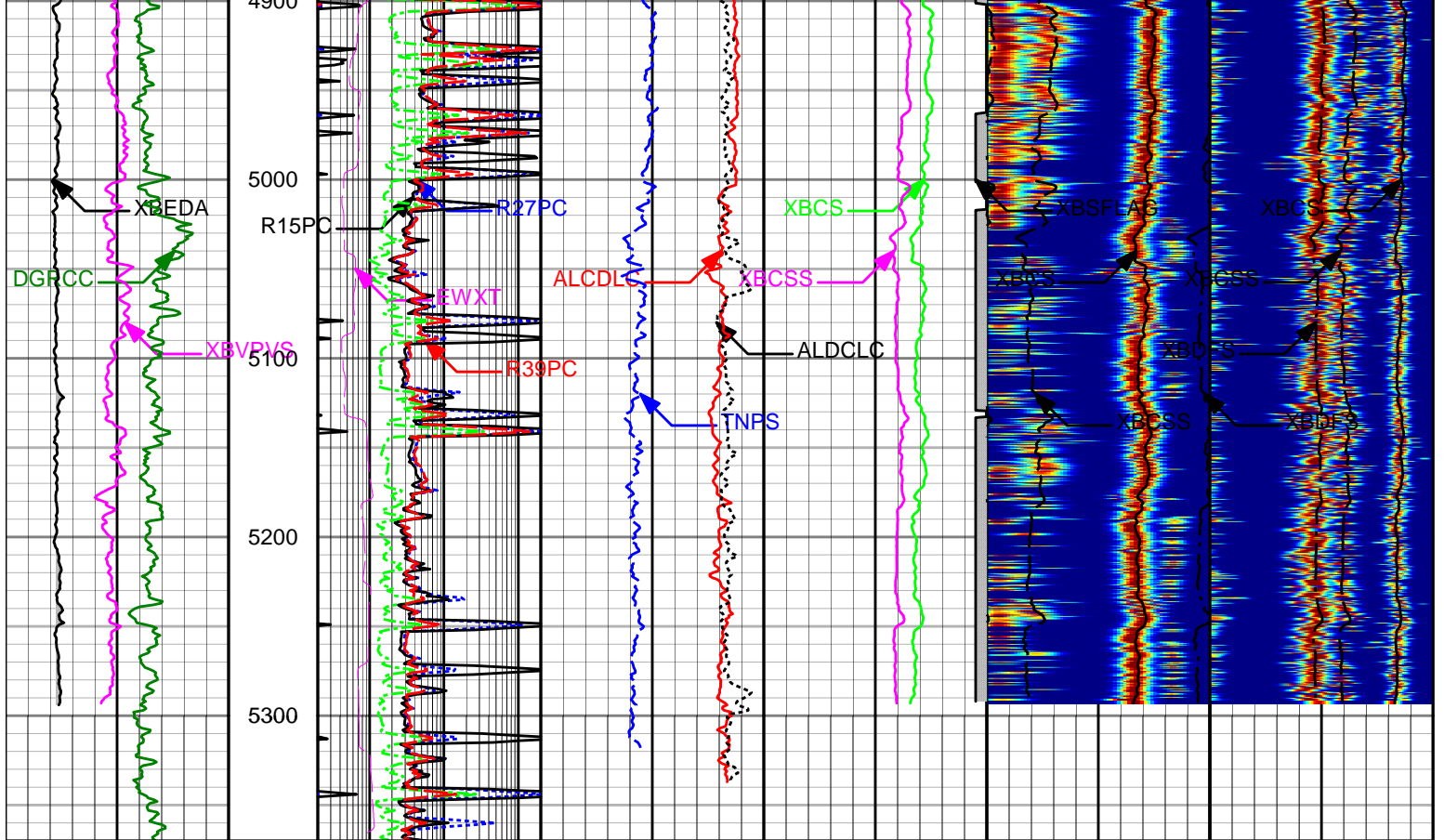
XBAT VP/VS Ratio (XBVPVS) 1 3	MD ft 1 : 1200	ADR Formation Exp Time (ADXT) 0.2 hours 200	ALD LCRB Comp Density (ALCDLC) 1.65 g/cc 2.65	Shear Flag	XBAT 5KHz Dipole C Array Semblance 240microsec per ft 40	XBAT 5KHz Dipole A Array Semblance 540microsec per ft 40
		DGR Comb Gamma Ray BCorr (DGRCC) 0 api 150	Avg 16in 2M Ph Res Cor (ARH16PC) 0.2 ohm-metre 200	ALD LCRB Den Correction (ALDCLC) -0.8 g/cc 0.2	XBAT Comb Shear Slowness (XBCSS) 440 uspf 40	XBAT Comp Slowness (XBCS) 240 uspf 40
KCAL Ellipse Avg Diameter (XBEDA) 6 inches 16		Avg 32in 2M Ph Res Cor (ARH32PC) 0.2 ohm-metre 200	CTN Porosity Sandstone (TNPS) 60 pu 0	XBAT Comp Slowness (XBCS) 240 uspf 40	XBAT Comb Shear Slowness (XBCSS) 240 uspf 40	XBAT Comb Shear Slowness (XBCSS) 540 uspf 40
		Avg 48in 2M Ph Res Cor (ARH48PC) 0.2 ohm-metre 200			XBAT Dipole Flex Slowness (XBDFX) 240 uspf 40	XBAT Dipole Flex Slowness (XBDFX) 540 uspf 40

LWD RUN 600 - 12.25" HOLE SECTION

KCAL Ellipse Avg Diameter (XBEDA)	9in Phase Resistivity BC ohm-metre 0.2 200	CTN Porosity Sandstone (TNPS)	XBAT Comp Slowness (XBCS)	XBAT Comb Shear Slowness (XBCSS)	XBAT Dipole Flex Slowness (XBDFX) 240 uspf 40	XBAT Dipole Flex Slowness (XBDFX) 440 uspf 40
	15in Phase Resistivity BC ohm-metre 0.2 200					
	27in Phase Resistivity BC					





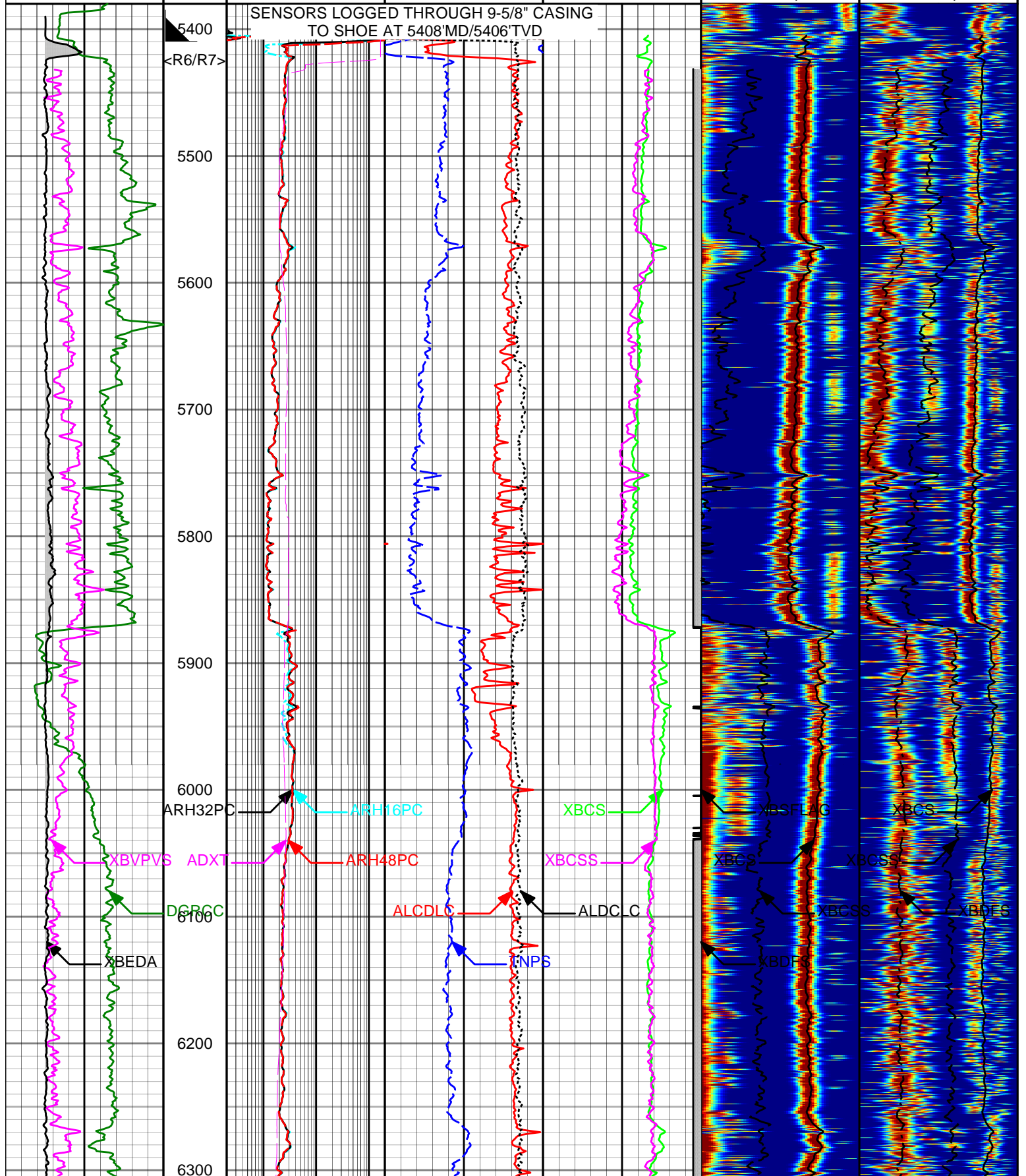


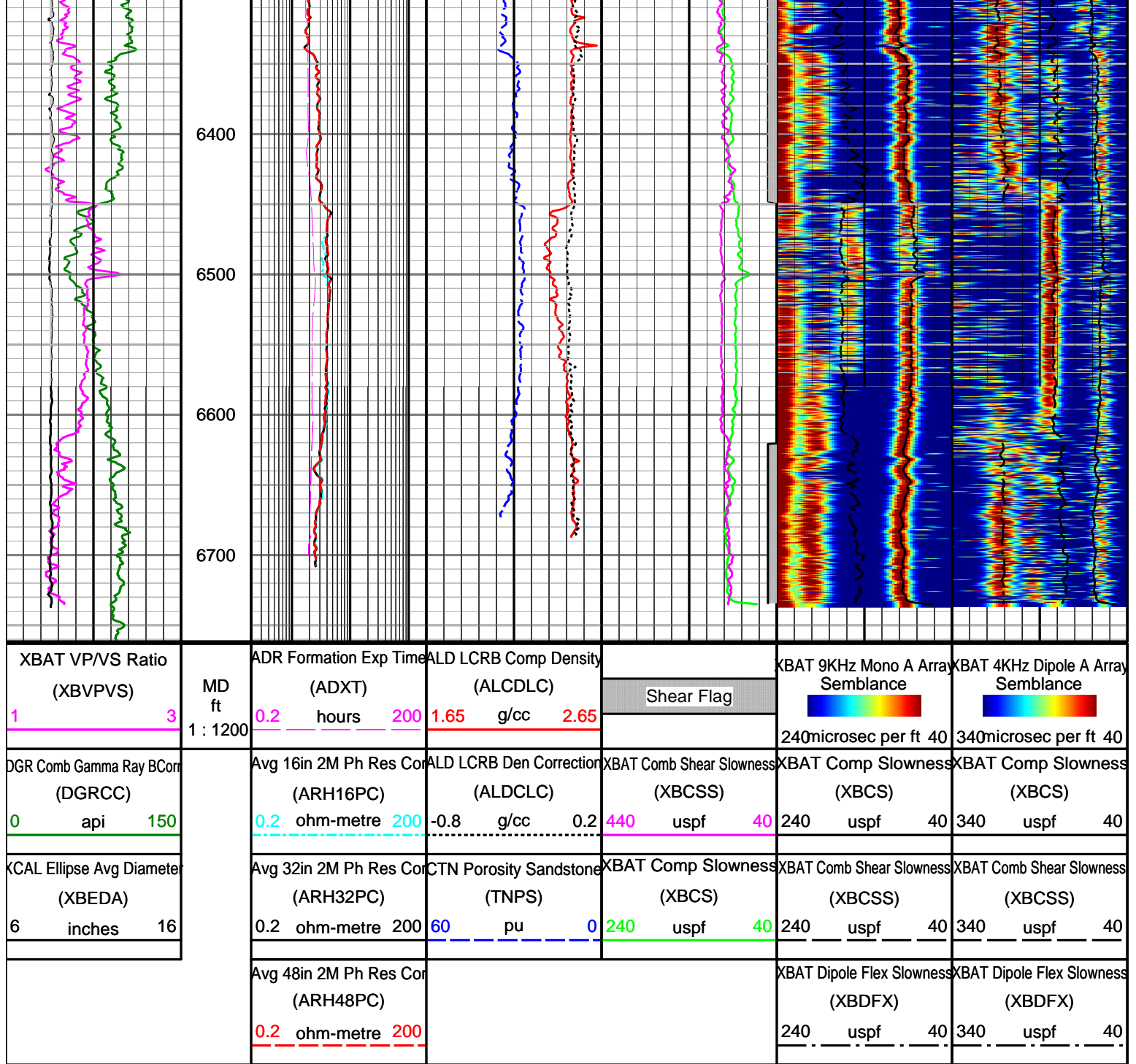
XBAT VP/VS Ratio (XBVPVS) 1 3	MD ft 1 : 1200	EWR Formation Exp Time hours 0.2 200	ALD LCRB Comp Density (ALCDLC) 1.65 g/cc 2.65	Shear Flag	XBAT 9 KHz Mono B Array Semblance 240microsec per ft 40	XBAT 4 KHz Dipole C Array Semblance 440microsec per ft 40
DGR Comb Gamma Ray BC (DGRCC) 0 api 150		39in Phase Resistivity BC ohm-metre 0.2 200	ALD LCRB Den Correction (ALDCLC) -0.8 g/cc 0.2	XBAT Comb Shear Slowness (XBCSS) 440 uspf 40	XBAT Comp Slowness (XBCS) 240 uspf 40	XBAT Comp Slowness (XBCS) 440 uspf 40
KCAL Ellipse Avg Diameter (XBEDA) 10 inches 20		27in Phase Resistivity BC ohm-metre 0.2 200	CTN Porosity Sandstone (TNPS) 60 pu 0	XBAT Comb Shear Slowness (XBCS) 240 uspf 40	XBAT Comb Shear Slowness (XBCSS) 240 uspf 40	XBAT Comb Shear Slowness (XBCSS) 440 uspf 40
		15in Phase Resistivity BC ohm-metre 0.2 200			XBAT Dipole Flex Slowness (XBDFX) 240 uspf 40	XBAT Dipole Flex Slowness (XBDFX) 440 uspf 40
		9in Phase Resistivity BC ohm-metre 0.2 200				

LWD RUN 700 - 8.50" ZONE OF INTEREST

	Avg 48in 2M Ph Res Cor (ARH48PC) 0.2 ohm-metre 200		XBAT Dipole Flex Slowness (XBDFX) 240 uspf 40	XBAT Dipole Flex Slowness (XBDFX) 340 uspf 40
KCAL Ellipse Avg Diameter (XBEDA) 6 inches 16	Avg 32in 2M Ph Res Cor (ARH32PC) 0.2 ohm-metre 200	CTN Porosity Sandstone (TNPS) 60 pu 0	XBAT Comp Slowness (XBCS) 240 uspf 40	XBAT Comb Shear Slowness (XBCSS) 240 uspf 40

0	Inches	10	0.2	ohm-metre	200	0.0	pa	0	0.2	uspf	40	240	uspf	40	340	uspf	40
DGR Comb Gamma Ray BCOR	(DGRCC)	0	Avg 16in 2M Ph Res Cor	(ARH16PC)	200	ALD LCRB Den Correction	(ALDCLC)	0.2	XBAT Comb Shear Slowness	(XBCSS)	40	XBAT Comp Slowness	(XBCS)	40	XBAT Comp Slowness	(XBCS)	40
0	api	150	0.2	ohm-metre	200	-0.8	g/cc	0.2	440	uspf	40	240	uspf	40	340	uspf	40
XBAT VP/VS Ratio	(XBVPVS)	1	ADR Formation Exp Time	(ADXT)	200	ALD LCRB Comp Density	(ALCDLC)	1.65	g/cc	2.65	Shear Flag	XBAT 9KHz Mono A Array Semblance	XBAT 4KHz Dipole A Array Semblance				
3	MD ft 1 : 1200	0.2	hours	200	1.65	g/cc	2.65				240microsec per ft 40	340microsec per ft 40					





HALLIBURTON

DIRECTIONAL SURVEY REPORT

Shell Gulf of Mexico Inc.
OCS-Y-2321 BJ001 ST00BP00
Posey 6912
Alaska
USA
AK-XX-0901604700

Final Survey is projected to well TD

Measured Depth (feet)	Inclination (degrees)	Direction (degrees)	Vertical Depth (feet)	Latitude (feet)	Departure (feet)	Vertical Section (feet)	Dogleg (deg/100ft)
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	TIE-IN
220.00	0.00	0.00	220.00	0.00 N	0.00 E	0.00	0.00
320.88	0.51	129.60	320.88	0.29 S	0.35 E	-0.29	0.50
406.77	0.31	89.93	406.76	0.53 S	0.88 E	-0.53	0.39

495.25	0.99	122.22	495.24	0.93 S	1.76 E	-0.93	0.84
590.43	0.31	82.72	590.41	1.34 S	2.71 E	-1.34	0.81
684.05	0.64	327.24	684.03	0.87 S	2.68 E	-0.87	0.88
866.10	0.28	101.20	866.08	0.09 S	2.55 E	-0.09	0.47
957.99	0.00	269.46	957.97	0.13 S	2.77 E	-0.13	0.30
1051.65	0.14	176.72	1051.63	0.24 S	2.78 E	-0.24	0.15
1144.54	0.26	120.65	1144.52	0.46 S	2.97 E	-0.46	0.23
1235.66	0.41	134.11	1235.63	0.80 S	3.38 E	-0.80	0.19
1328.60	0.51	59.75	1328.58	0.83 S	3.98 E	-0.83	0.61
1378.50	0.25	111.62	1378.48	0.76 S	4.27 E	-0.76	0.81
1540.18	0.12	50.83	1540.15	0.78 S	4.74 E	-0.78	0.14
1723.74	0.39	34.99	1723.71	0.14 S	5.26 E	-0.14	0.15
1818.58	0.58	50.01	1818.55	0.43 N	5.81 E	0.43	0.24
2003.18	1.06	39.81	2003.12	2.35 N	7.62 E	2.35	0.27
2095.93	0.87	35.51	2095.87	3.57 N	8.57 E	3.57	0.22
2186.15	0.69	72.12	2186.07	4.30 N	9.49 E	4.30	0.57
2373.34	0.75	76.36	2373.25	4.93 N	11.76 E	4.93	0.04
2463.93	0.78	75.65	2463.83	5.23 N	12.93 E	5.23	0.03
2555.30	0.79	70.25	2555.19	5.59 N	14.13 E	5.59	0.08
2646.22	0.79	76.51	2646.11	5.95 N	15.33 E	5.95	0.10
2743.03	0.70	74.08	2742.91	6.27 N	16.55 E	6.27	0.10
2837.42	0.74	67.59	2837.29	6.66 N	17.68 E	6.66	0.10
2875.38	0.64	69.95	2875.25	6.83 N	18.10 E	6.83	0.27
2978.31	0.74	64.69	2978.17	7.31 N	19.25 E	7.31	0.11
3074.55	0.58	52.33	3074.40	7.88 N	20.20 E	7.88	0.22
3169.04	0.67	47.05	3168.89	8.55 N	20.99 E	8.55	0.11
3258.93	0.77	27.36	3258.77	9.44 N	21.65 E	9.44	0.30
3351.80	0.94	33.05	3351.63	10.64 N	22.35 E	10.64	0.21
3445.40	0.89	33.34	3445.22	11.90 N	23.18 E	11.90	0.06
3537.90	0.88	39.68	3537.71	13.05 N	24.03 E	13.05	0.11
3630.29	0.86	29.57	3630.09	14.20 N	24.82 E	14.20	0.17
3724.13	1.05	46.97	3723.91	15.40 N	25.80 E	15.40	0.37
3815.47	1.16	37.46	3815.23	16.71 N	26.98 E	16.71	0.24
3909.95	1.11	27.77	3909.70	18.28 N	27.99 E	18.28	0.21
4001.96	1.54	18.87	4001.69	20.24 N	28.80 E	20.24	0.52
4095.18	1.55	21.22	4094.87	22.60 N	29.67 E	22.60	0.07
4189.17	1.52	19.27	4188.83	24.97 N	30.54 E	24.97	0.06
4280.67	1.73	13.84	4280.29	27.46 N	31.27 E	27.46	0.28
4373.26	2.11	22.24	4372.83	30.39 N	32.25 E	30.39	0.51
4465.71	1.69	19.56	4465.23	33.26 N	33.35 E	33.26	0.46
4559.04	2.02	19.56	4558.51	36.11 N	34.37 E	36.11	0.35
4651.17	2.19	23.91	4650.58	39.24 N	35.62 E	39.24	0.25
4743.27	2.64	25.07	4742.59	42.77 N	37.23 E	42.77	0.49
4836.87	3.09	32.03	4836.08	46.87 N	39.49 E	46.87	0.61
4929.20	3.15	34.87	4928.26	51.06 N	42.26 E	51.06	0.18
5021.52	3.28	37.85	5020.45	55.22 N	45.33 E	55.22	0.23
5113.59	3.34	39.69	5112.36	59.37 N	48.66 E	59.37	0.13
5206.14	3.59	47.76	5204.74	63.39 N	52.52 E	63.39	0.59
5299.05	3.70	48.27	5297.46	67.34 N	56.92 E	67.34	0.12
5364.19	3.45	52.11	5362.48	69.95 N	60.04 E	69.95	0.54
5429.81	3.65	46.91	5427.97	72.59 N	63.12 E	72.59	0.58
5518.31	3.73	45.18	5516.29	76.55 N	67.22 E	76.55	0.15
5612.70	3.58	42.26	5610.48	80.90 N	71.39 E	80.90	0.25
5704.09	3.56	42.97	5701.70	85.09 N	75.24 E	85.09	0.06
5795.19	3.47	41.51	5792.62	89.22 N	79.00 E	89.22	0.13
5889.32	3.48	42.48	5886.58	93.46 N	82.82 E	93.46	0.06
5980.70	3.42	42.67	5977.80	97.52 N	86.54 E	97.52	0.07
6075.07	3.43	41.69	6072.00	101.69 N	90.33 E	101.69	0.06
6167.81	3.55	39.12	6164.57	105.99 N	93.98 E	105.99	0.21
6259.59	3.53	39.52	6256.17	110.37 N	97.57 E	110.37	0.03
6346.61	3.75	37.26	6343.02	114.70 N	100.99 E	114.70	0.30
6445.34	3.99	34.54	6441.52	120.10 N	104.89 E	120.10	0.31
6536.48	3.96	35.37	6532.44	125.27 N	108.51 E	125.27	0.07
6628.63	3.92	37.01	6624.37	130.38 N	112.25 E	130.38	0.13
6721.62	3.89	35.41	6717.15	135.49 N	115.99 E	135.49	0.12
6745.05	3.99	35.86	6740.52	136.80 N	116.93 E	136.80	0.46
6800.00	3.99	35.86	6795.34	139.90 N	119.17 E	139.90	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 0.00 DEGREES (GRID)
A TOTAL CORRECTION OF 10.95 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED**

**HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 6800.00 FEET
IS 183.78 FEET ALONG 40.42 DEGREES (GRID)**

**Map System: NAD 83 UTM Zones
Geo Datum: North American Datum of 1983
Map Zone: Universal Transverse Mercator Zone 03N**

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