

**SPECTRAL DENSITY
DUAL SPACED NEUTRON
LOG**

Fold here

Service Ticket No.: 902259578						API Serial No.: 15-097-21816-00-00						PGM Version: WL INSITE R4.6.4 (Build 3)					
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						RESISTIVITY SCALE CHANGES											
Date	Sample No.					Type Log	Depth	Scale Up Hole		Scale Down Hole							
Depth-Driller																	
Type Fluid in Hole																	
Density	Viscosity																
Ph	Fluid Loss																
Source of Sample						RESISTIVITY EQUIPMENT DATA											
Rm @ Meas. Temp		@		@		Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other							
Rmf @ Meas. Temp.		@		@		ONE	MICROLOG	RUBBER	ADJ	N/A							
Rmc @ Meas. Temp.		@		@			11014296										
Source Rmf	Rmc																
Rm @ BHT		@		@													
Rmf @ BHT		@		@													
Rmc @ BHT		@		@													
EQUIPMENT DATA																	
GAMMA			ACOUSTIC			DENSITY			NEUTRON								
Run No.	ONE		Run No.			Run No.	ONE		Run No.	ONE							
Serial No.	11048627		Serial No.			Serial No.	10865884		Serial No.	11055304							
Model No.	GTET		Model No.			Model No.	SDLT		Model No.	DSNT							
Diameter	3.625"		No. of Cent.			Diameter	4.5"		Diameter	3.625"							
Detector Model No.	T-102		Spacing			Log Type	GAM-GAM		Log Type	NEU-NEU							
Type	SCINT					Source Type	CS-137		Source Type	AM241BE							
Length	8"		LSA [Y/N]			Serial No.	5168 GW		Serial No.	DSN-424							
Distance to Source	10"		FWDA [Y/N]			Strength	1.5 CI		Strength	15 CI							
LOGGING DATA																	
GENERAL				GAMMA		ACOUSTIC		DENSITY		NEUTRON							
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix			
No.	From	To	ft/min	L	R	L	R		L	R		L	R				
ONE	TD	3900'	REC	0	150				30	-10	2.71	30	-10	LIME			

DIRECTIONAL INFORMATION															
Maximum Deviation @								KOP @							
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5" CASING															
CHLORIDES REPORTED AT 4500 PPM															
LCM REPORTED AT 2 PPM															
GTET-DSN-SDL RUN IN COMBINATION IN THE SECOND RUN															
TODAY'S CREW:F.VILLA & A.ESTRADA															
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL,KS 620-624-8123															
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.															
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Plot Time: 31-Mar-15 02:23:35

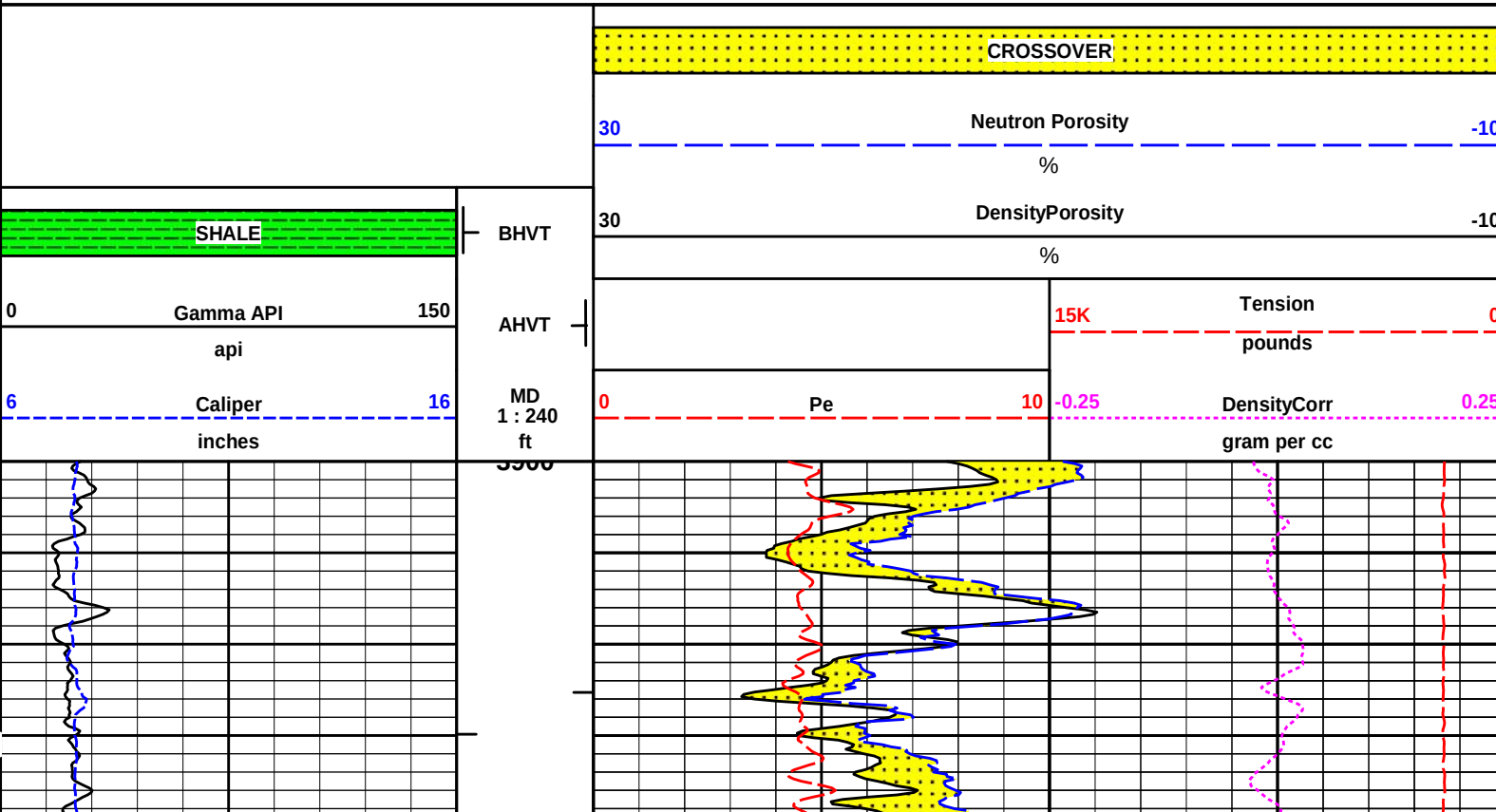
Plot Range: 3900 ft to 4843 ft

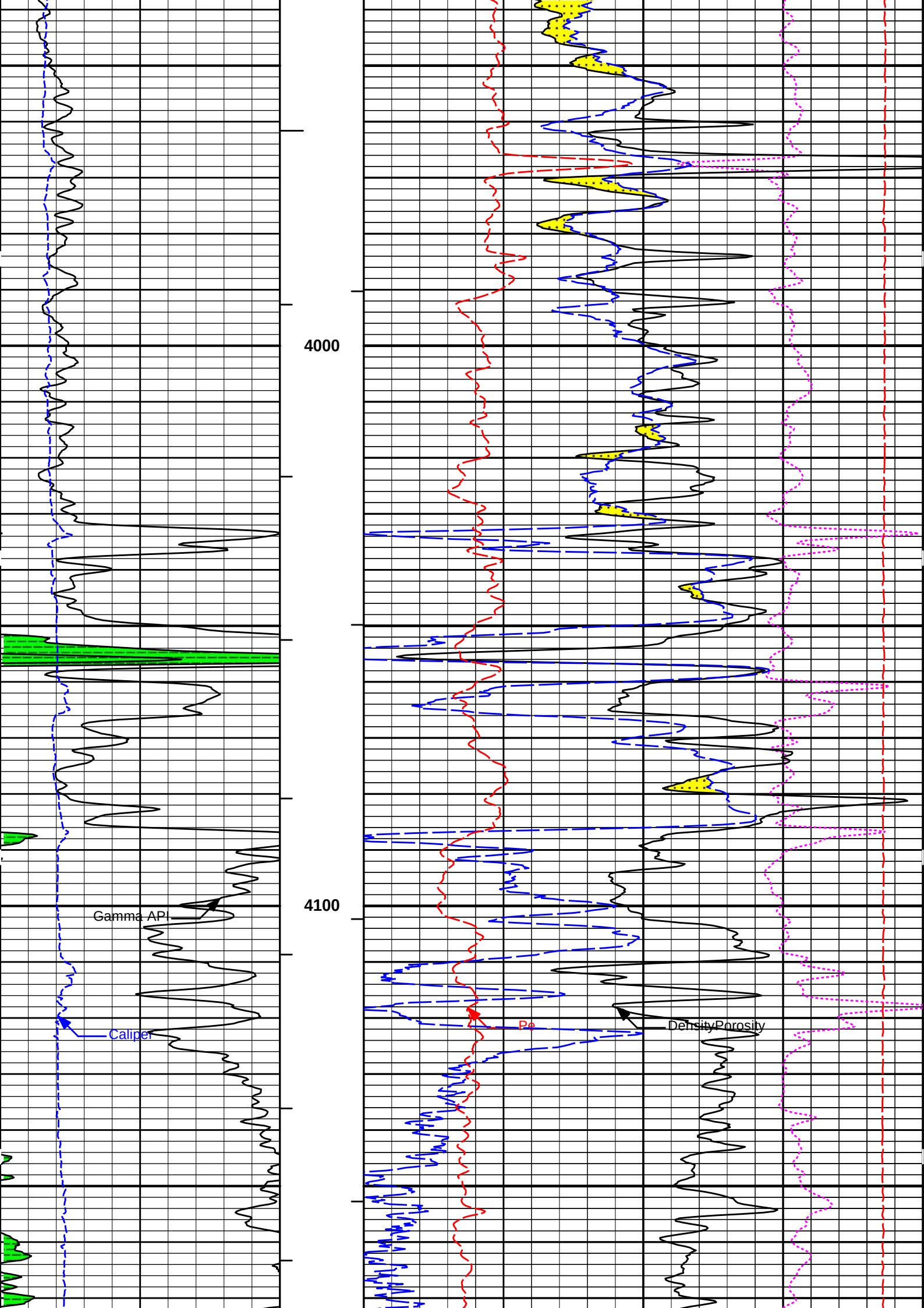
Data: YOST 2-28\Well Based\PORO DETAILS\

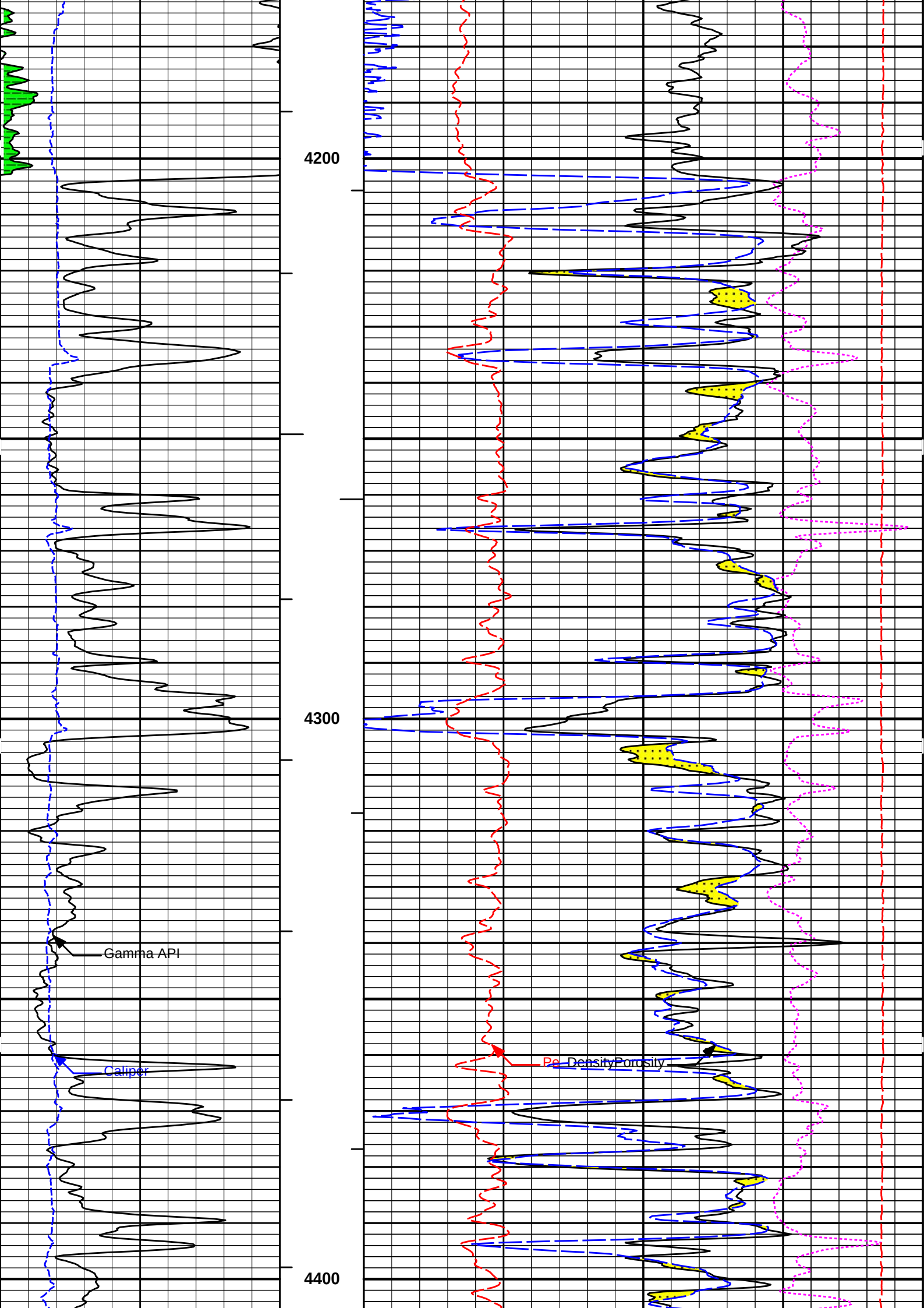
Plot File: \\PORO\Poros_IQ_5_MAIN_LIB

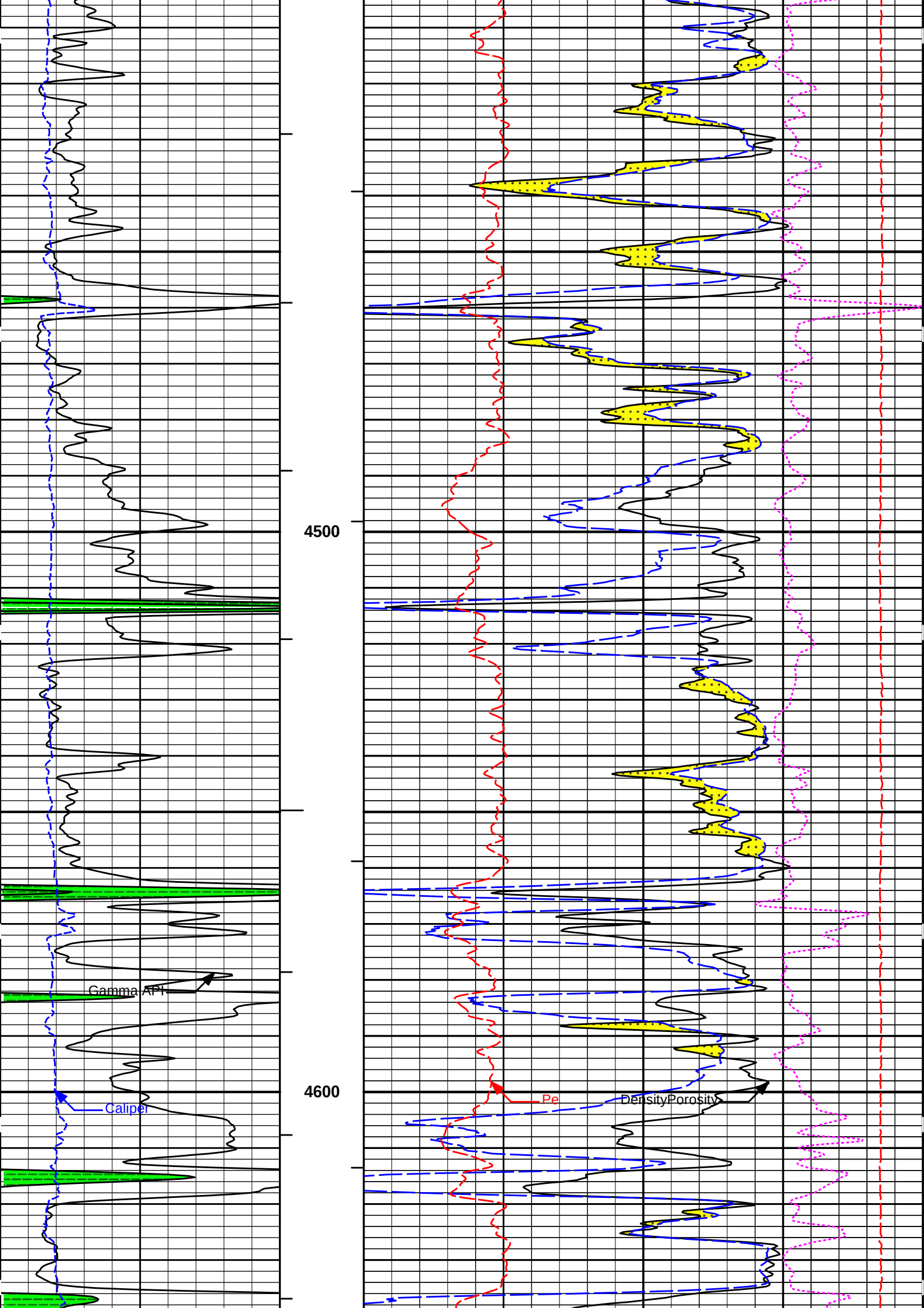
5 INCH MAIN LOG

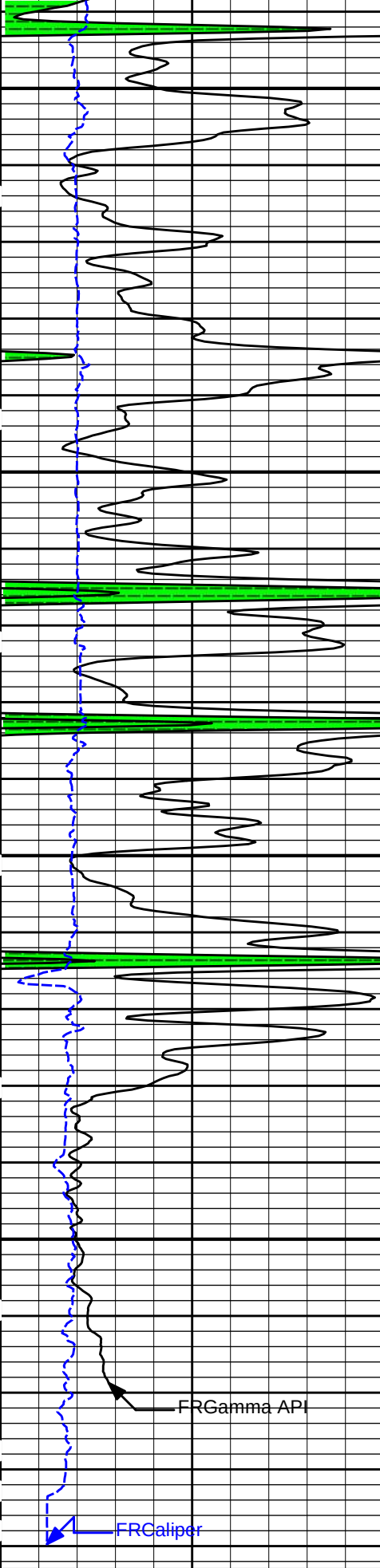
MEASURED DEPTH
MAIN SECTION 5" PER 100'









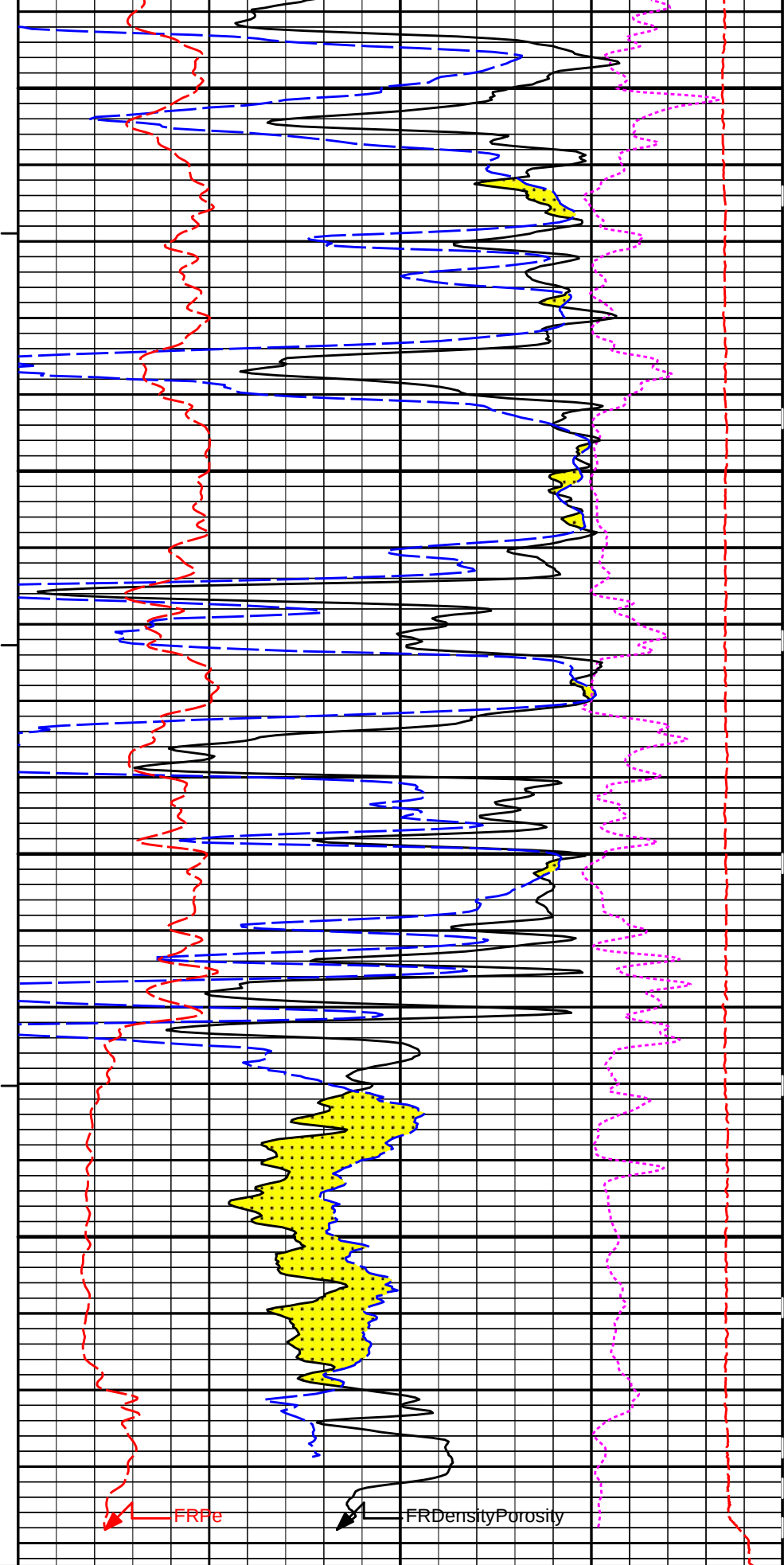


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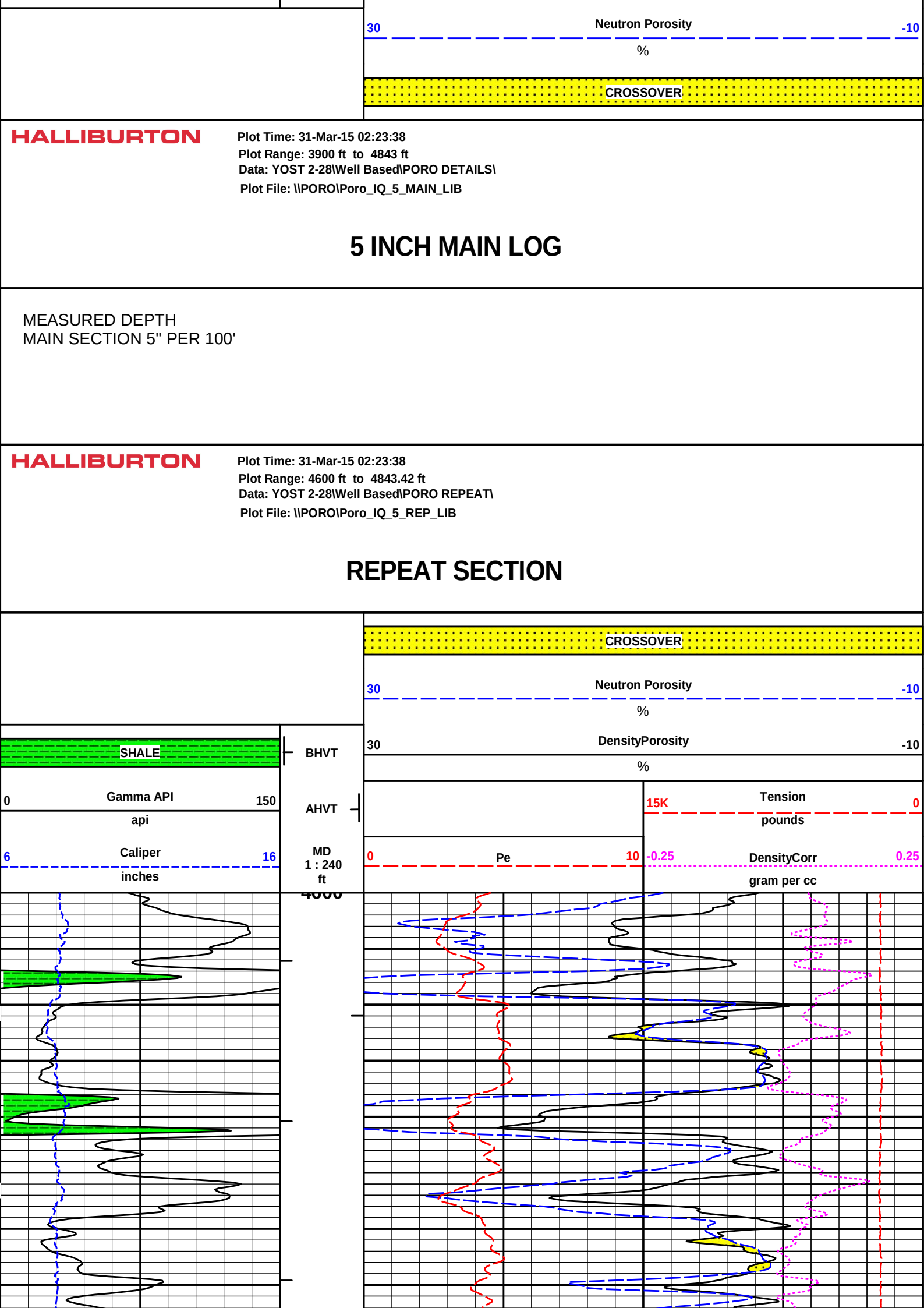
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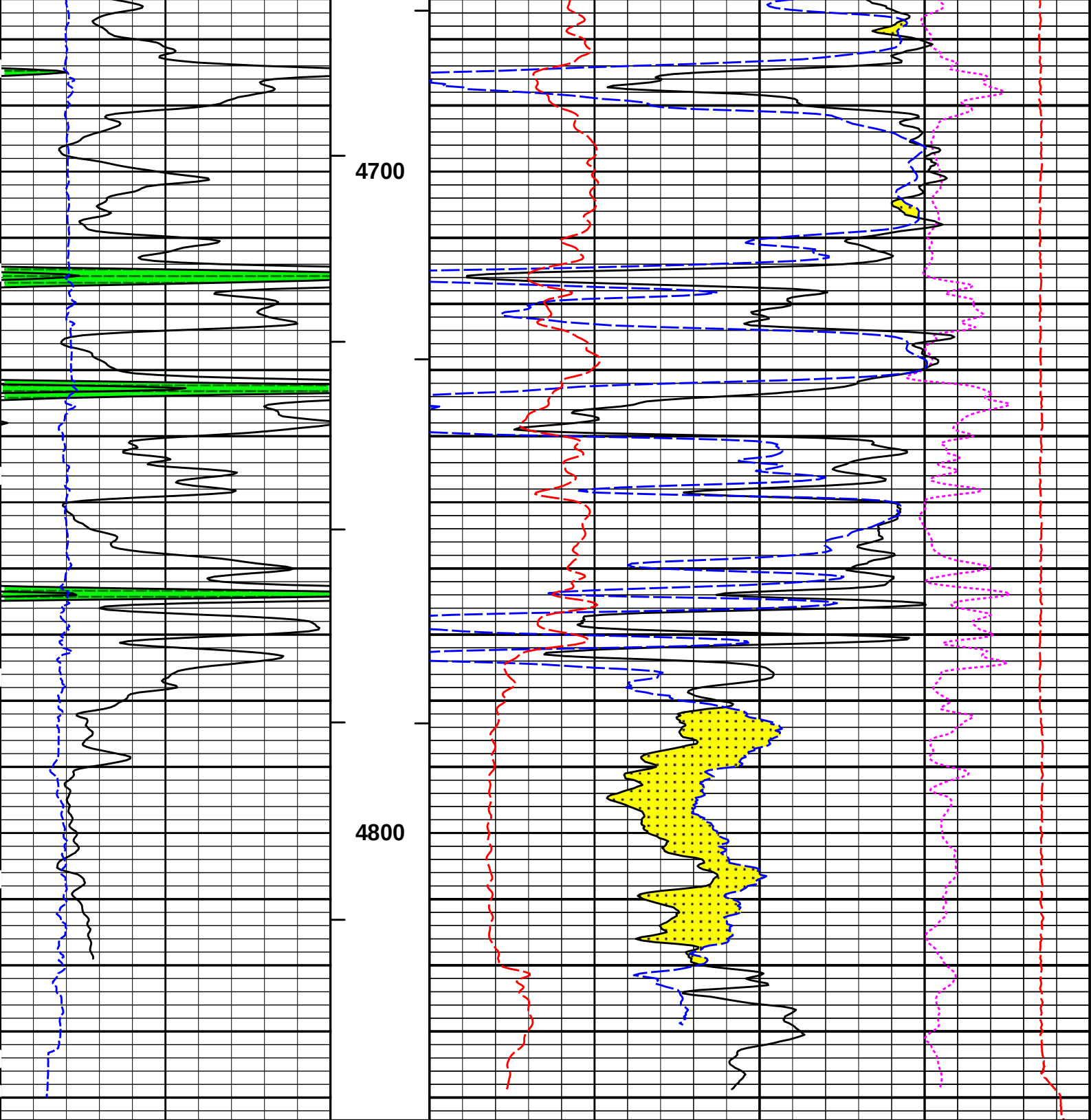
6	Caliper	16
inches		
0	Gamma API	150
api		
SHALE		

MD
1 : 240
ft
AHVT
BHVT



0	Pe	10	-0.25	DensityCorr	0.25
			gram per cc		
			15K	Tension	0
			pounds		
30	DensityPorosity				-10
%					





6	Caliper inches	16	MD 1 : 240 ft	0	Pe	10	-0.25	DensityCorr gram per cc	0.25
0	Gamma API api	150	AHVT				15K	Tension pounds	0
			BHVT	30	DensityPorosity				-10
					%				
				30	Neutron Porosity				-10
					%				
					CROSSOVER				

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Plot Time: 31-Mar-15 02:23:40
Plot Range: 4600 ft to 4843.42 ft
Data: YOST 2-28\Well Based\PORO REPEAT\
Plot File: \\PORO\Poros_IQ_5_REP_LIB

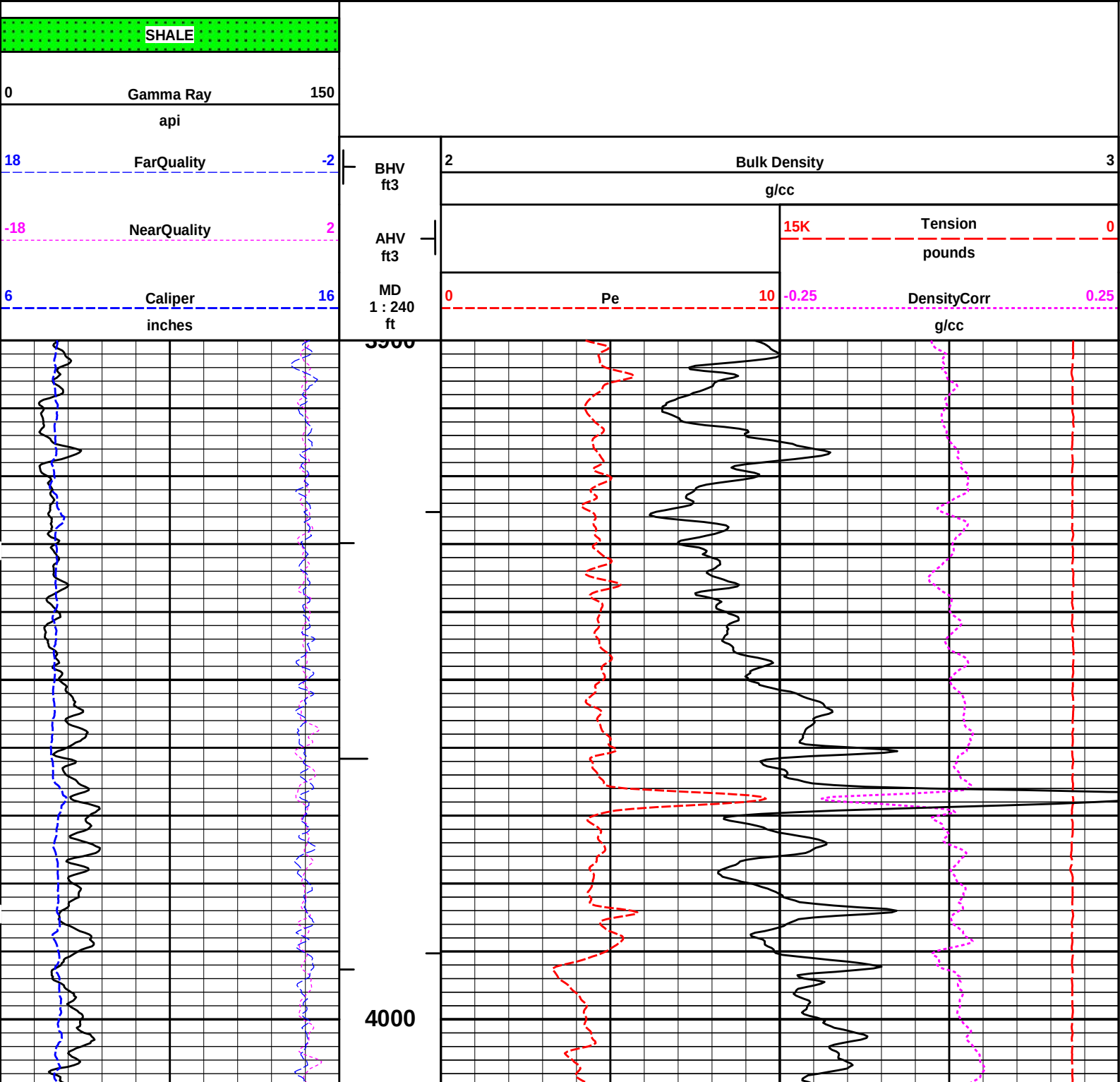
REPEAT SECTION

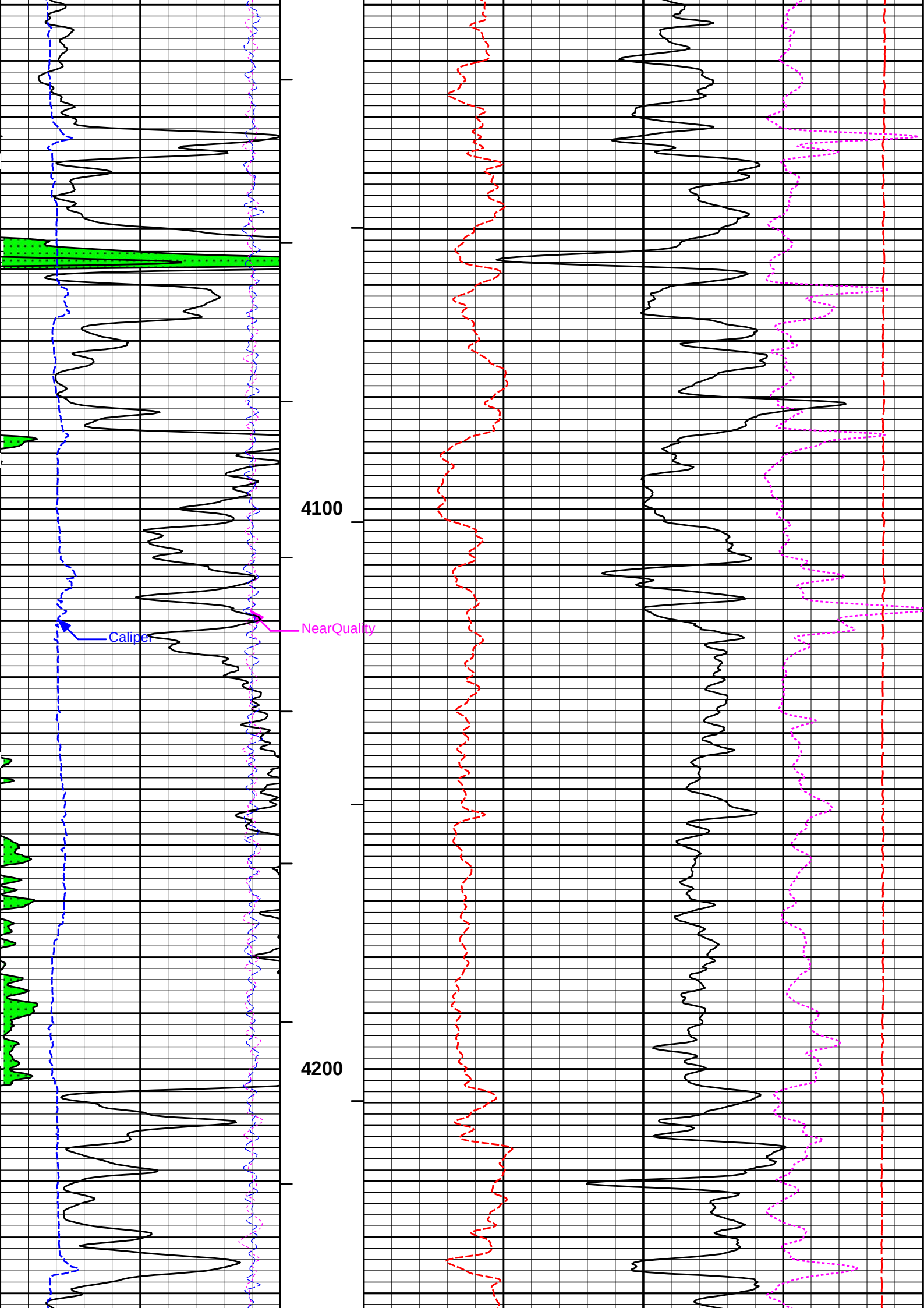
HALLIBURTON

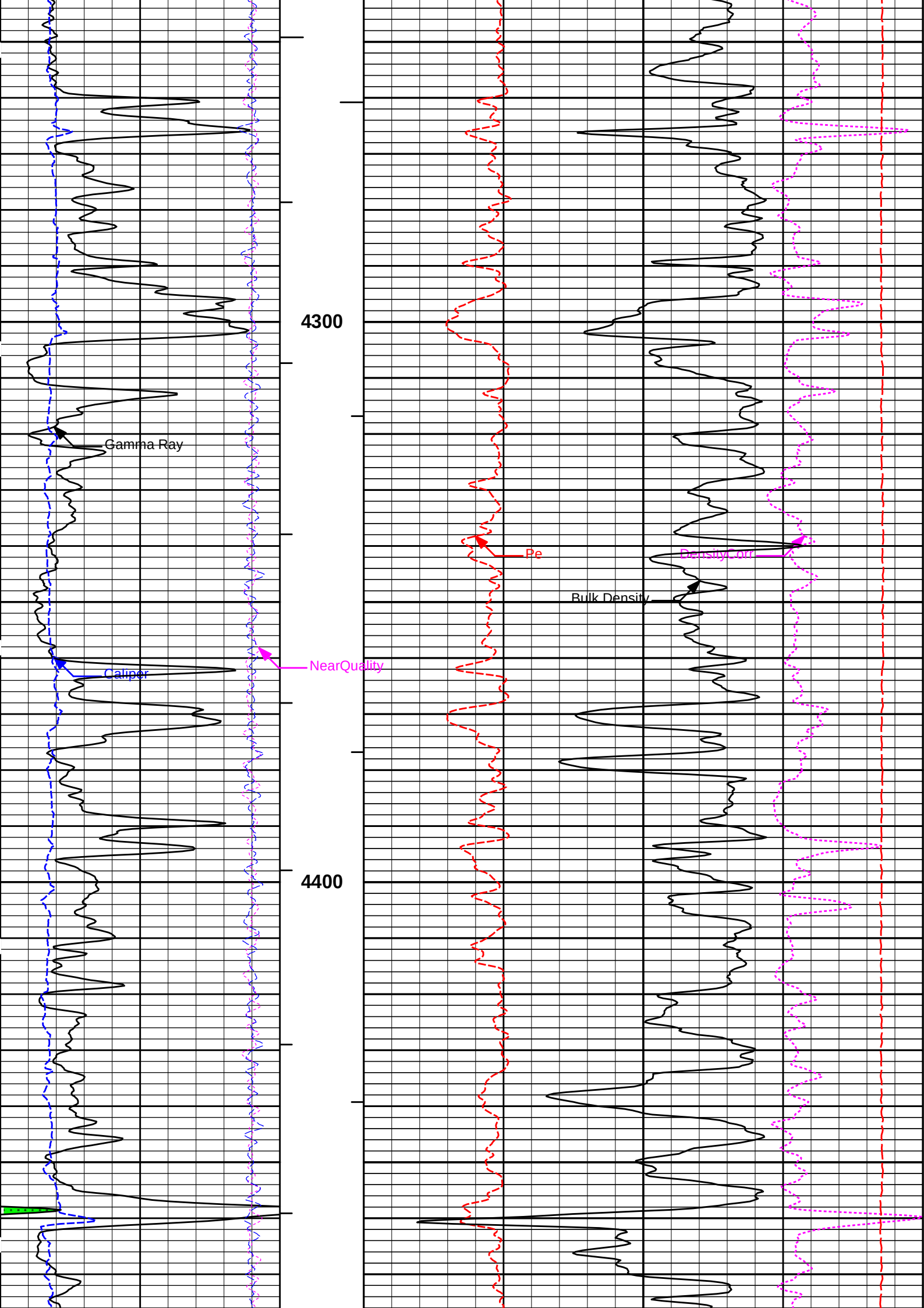
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Plot Range: 3900 ft to 4843 ft
Data: YOST 2-28\Well Based\PORO DETAILS\
Plot File: \\-LOCAL-YOST 2-28\Well Based\PORO\BULKD_5_MAIN_LIB

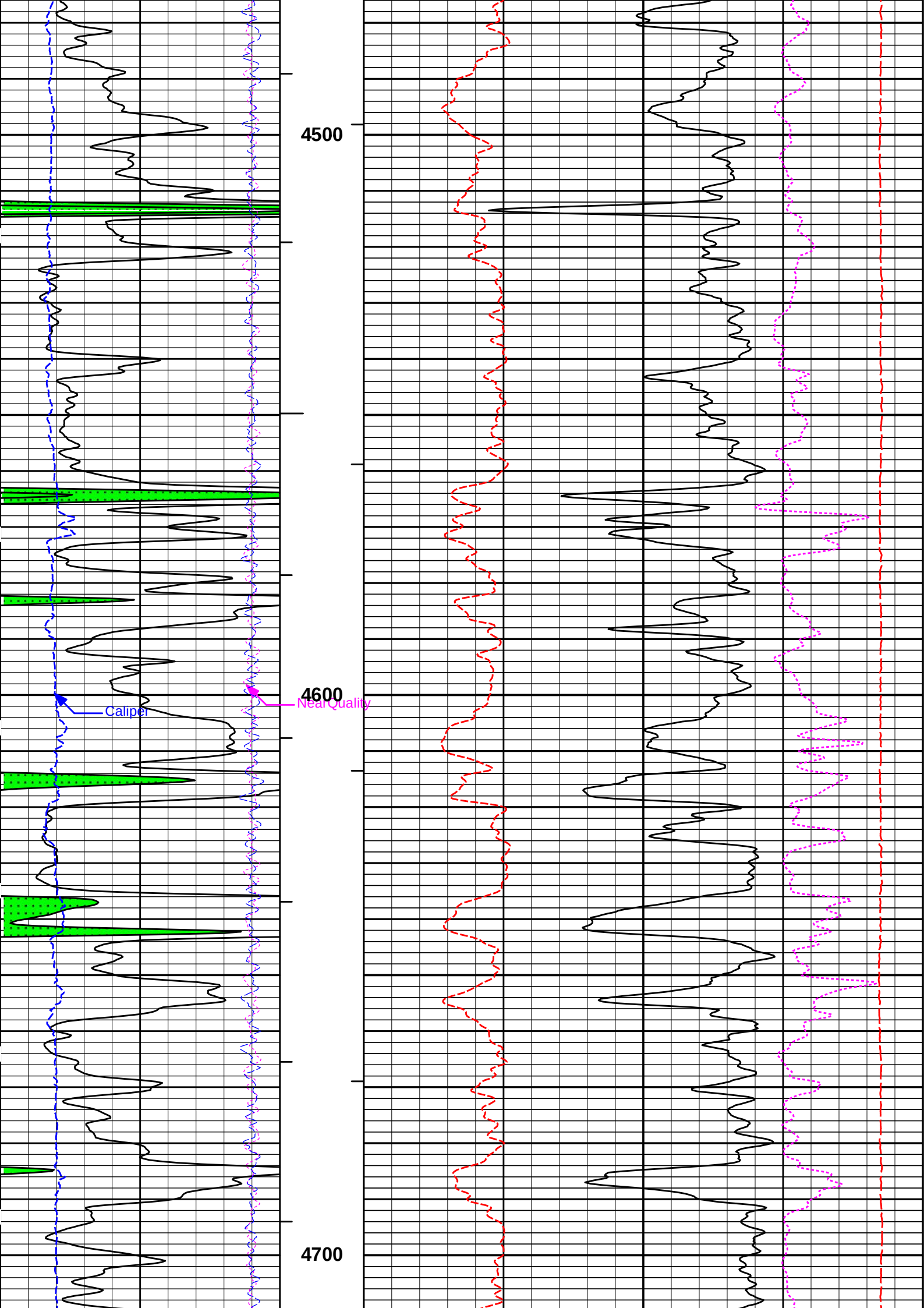
5 INCH MAIN LOG

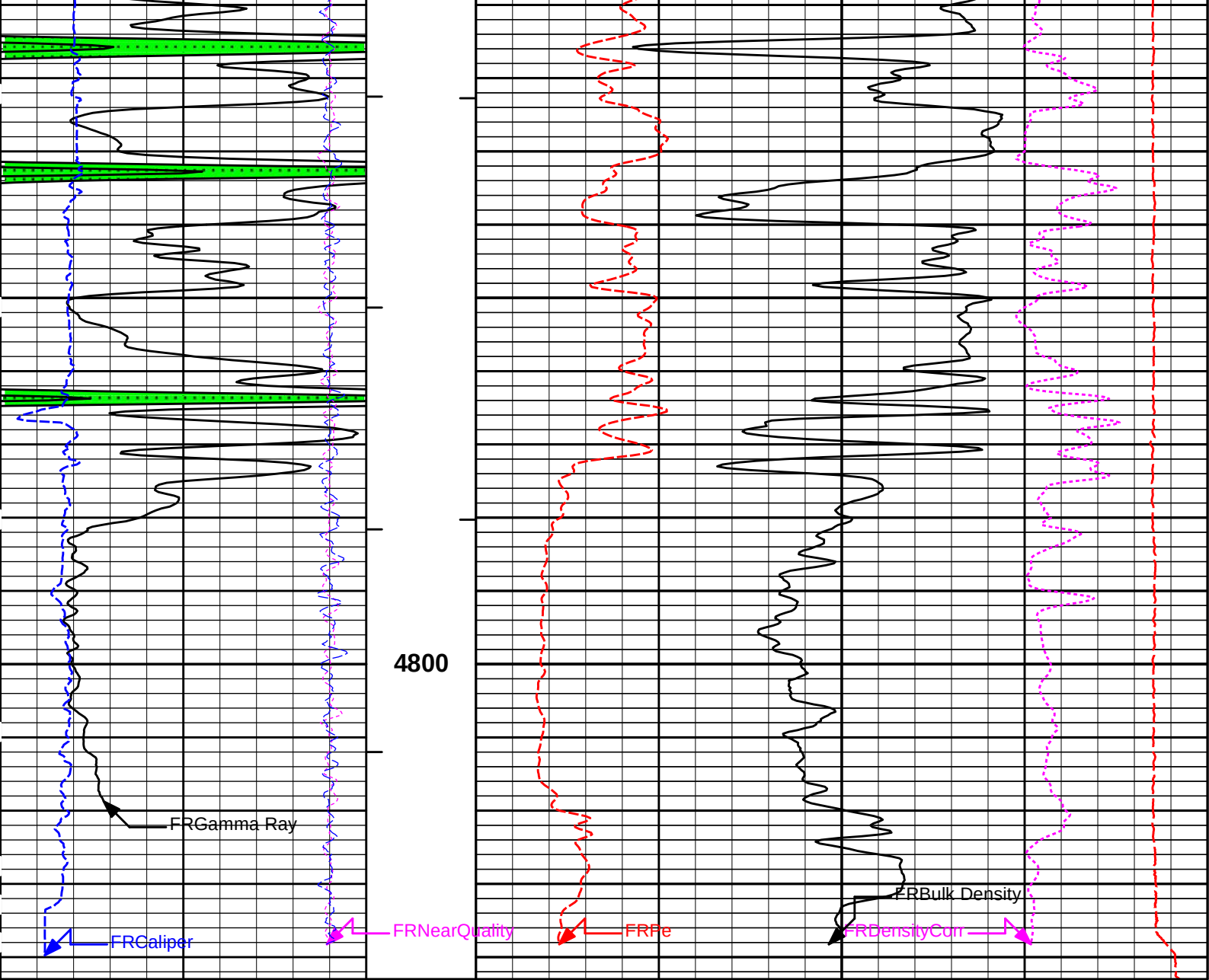
MEASURED DEPTH
MAIN SECTION 5" PER 100'











6	Caliper	16	MD	0	Pe	10	-0.25	DensityCorr	0.25
	inches		1 : 240					g/cc	
-18	NearQuality	2	AHV				15K	Tension	0
			ft3					pounds	
18	FarQuality	-2	BHV	2	Bulk Density			3	
			ft3		g/cc				
0	Gamma Ray	150							
	api								
	SHALE								

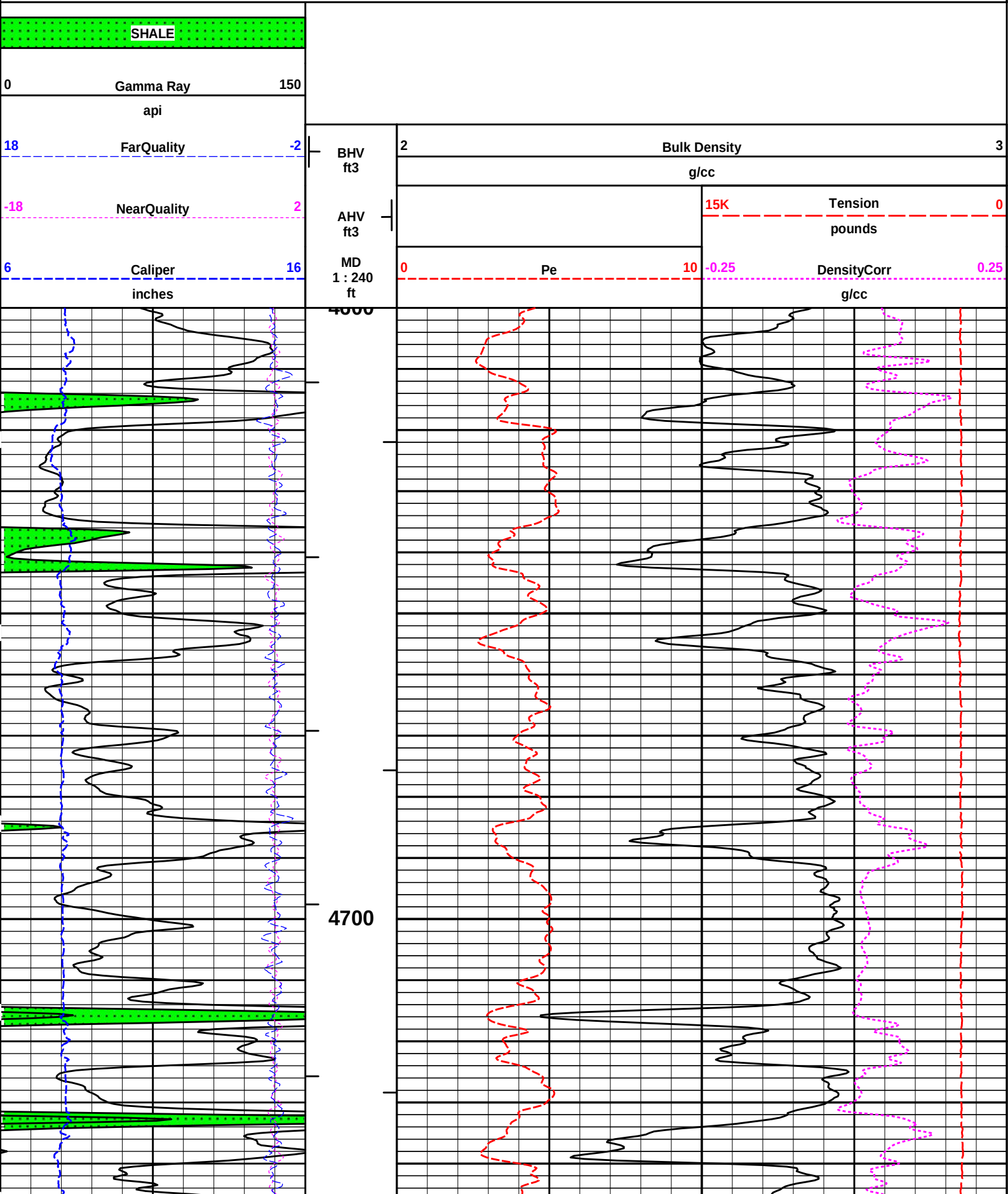
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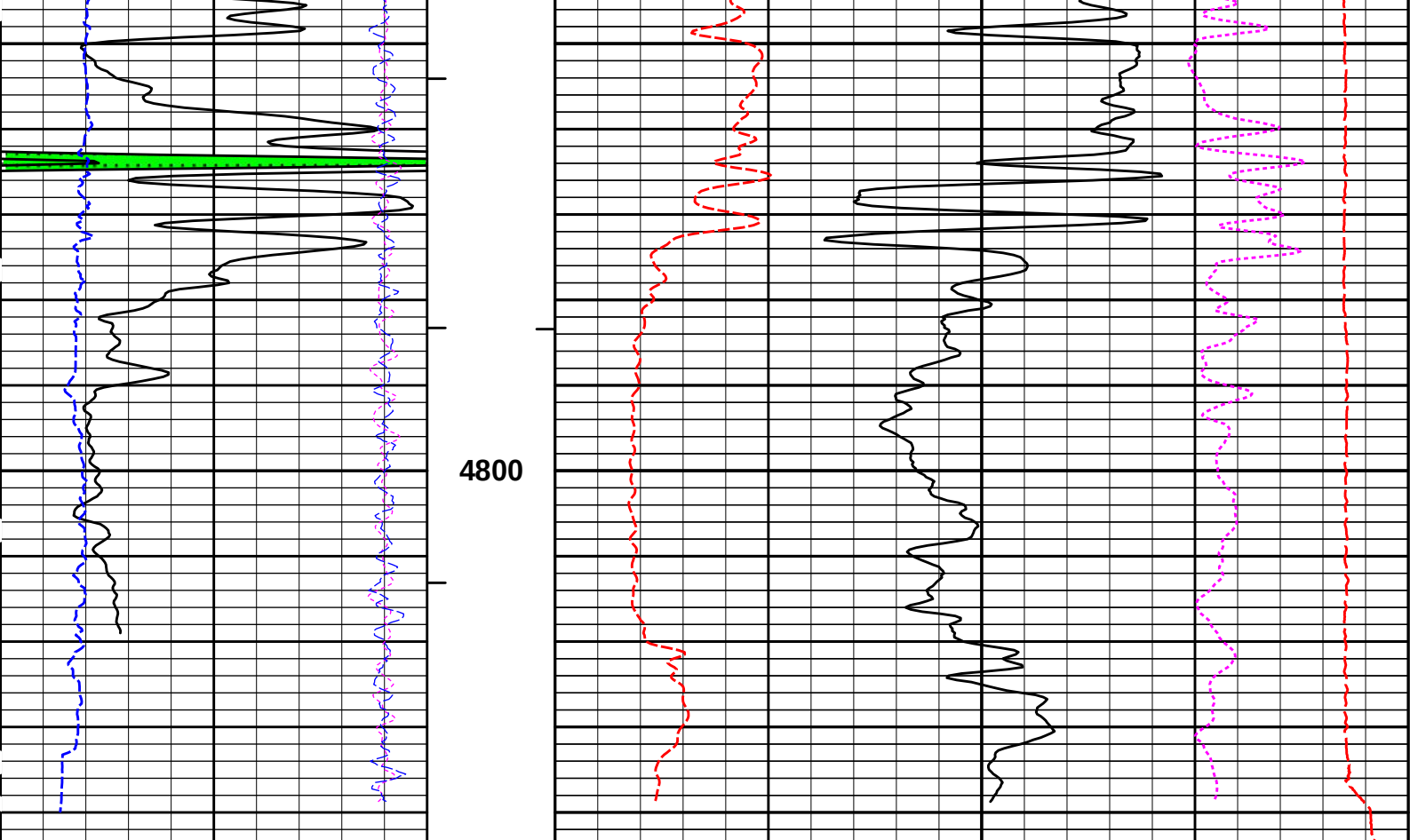
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Plot Range: 3900 ft to 4843 ft
Data: YOST 2-28\Well Based\PORO DETAILS\
Plot File: \\-LOCAL-YOST 2-28\Well Based\PORO\BULKD_5_MAIN_LIB

5 INCH MAIN LOG

MEASURED DEPTH
MAIN SECTION 5" PER 100'

REPEAT SECTION





6	Caliper	16	MD 1 : 240 ft	0	Pe	10	-0.25	DensityCorr	0.25	
	inches									
	NearQuality									2
	FarQuality									-2
-18			AHV ft3	2	Bulk Density					3
18			BHV ft3		g/cc					
0	Gamma Ray	150								
			api							
			SHALE							

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Plot Time: 31-Mar-15 02:23:43
Plot Range: 4600 ft to 4843.42 ft
Data: YOST 2-28\Well Based\PORO REPEAT\
Plot File: \\-LOCAL-YOST 2-28\Well Based\PORO\BULKD_5_REP_LIB

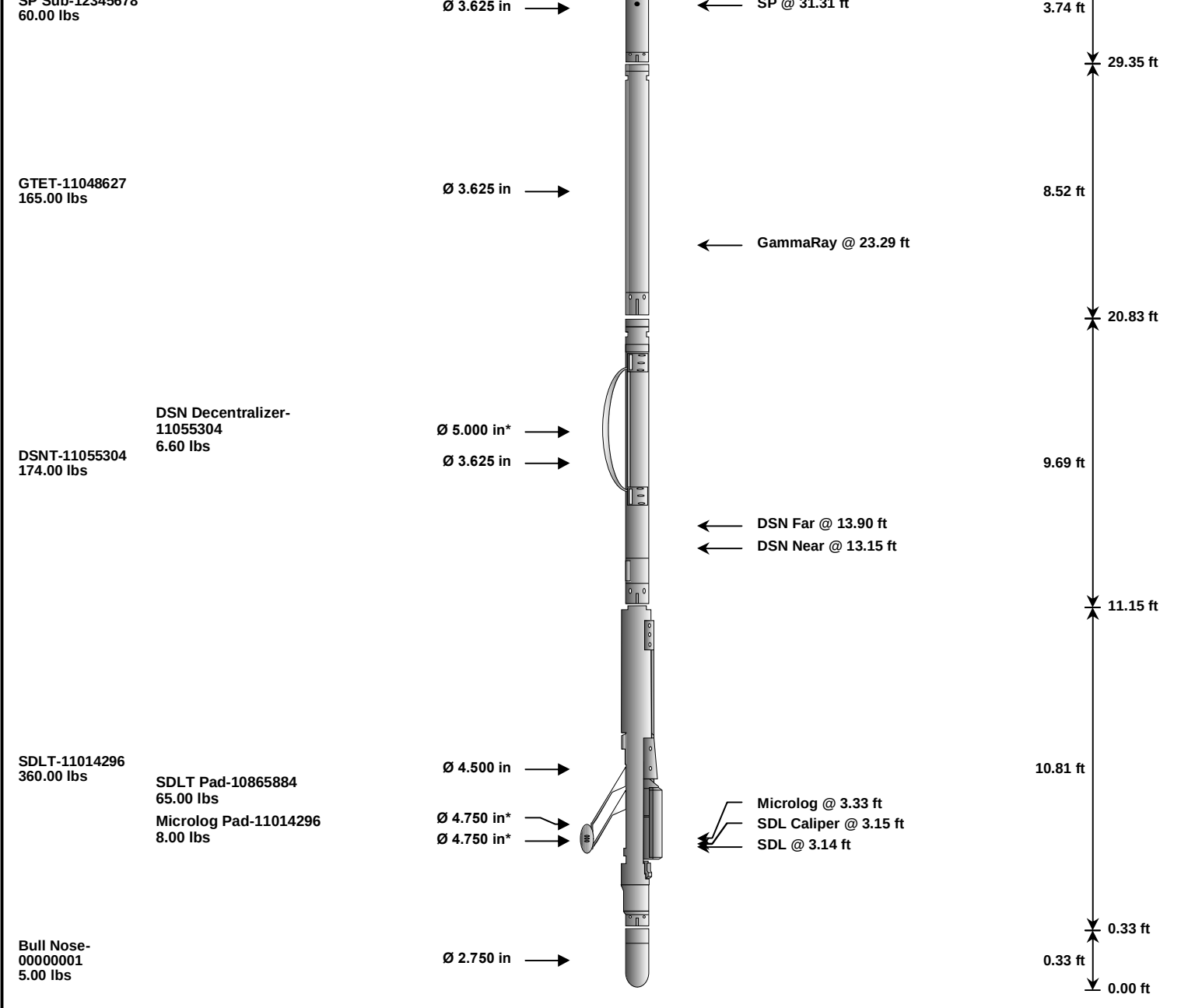
REPEAT SECTION

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TOOL STRING DIAGRAM : SP-GTET-DSN-SDL-BN

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-12156658 135.00 lbs		Ø 3.625 in		Load Cell @ 35.66 ft BH Temperature @ 35.09 ft	39.34 ft 6.25 ft 33.09 ft	

SP Sub 12345678



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	12156658	135.00	6.25	33.09	300.00
SP	SP Sub	12345678	60.00	3.74	29.35	300.00
GTET	Gamma Telemetry Tool	11048627	165.00	8.52	20.83	60.00
DSNT	Dual Spaced Neutron	11055304	174.00	9.69	11.15	60.00
DCNT	DSN Decentralizer	11055304	6.60	5.13 *	14.48	300.00
SDLT	Spectral Density Tool	11014296	360.00	10.81	0.33	60.00
SDLP	Density Insite Pad	10865884	65.00	2.55 *	2.54	60.00
MICP	Microlog Pad	11014296	8.00	1.00 *	2.83	60.00
BLNS	Bull Nose	00000001	5.00	0.33	0.00	300.00
Total			978.60	39.34		
* Not included in Total Length and Length Accumulation.						
Data: SP-GTET-DSN-SDL-BN					Date: 31-Mar-15 00:47:41	

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CALIBRATION REPORT			
NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11048627	Reference Calibration Date:	30-Mar-15 15:50:45
Engineer:	SUHAIL BISHTI	Calibration Date:	30-Mar-15 15:53:53
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1

Calibrator Source S/N: Error

Calibrator API Reference:265.00 api
Equivalent Calibrator API Reference:269.6 api

Measurement	Measured	Calibrated	Units
Background	52.6	52.1	api
Background + Calibrator	324.9	321.7	api
Calibrator	272.3	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	GTET - 11048627	Reference Calibration Date:	30-Mar-15 15:53:53
Engineer:	SUHAIL BISHTI	Calibration Date:	30-Mar-15 15:56:51
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1

Calibrator Source S/N: Error
Calibrator API Reference:265.00 api
Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	52.1	52.3	api
Background + Calibrator	321.7	323.7	api
Calibrator	269.6	271.4	api

Shop	Field	Difference	Tolerance
269.6	271.4	-1.8	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 11055304	Reference Calibration Date:	30-Mar-15 13:58:48
Engineer:	SUHAIL BISHTI	Calibration Date:	30-Mar-15 14:11:46
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1

Logging Source S/N: DSN-424
Tank Serial Number: LIBERAL WATER TANK
Reference value assigned to Tank: 51.680
Snow Block S/N: 10013313
Calibration Tank Water Temperature: 65 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.982	0.981	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)				
Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2114	0.2110	0.0004	+/- 0.0020
Calibrated Ratio:	9.74	9.73	0.014	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0619	0.02000 - 0.09000

PASS/FAIL SUMMARY	
Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name:	DSNT - 11055304	Reference Calibration Date:	30-Mar-15 14:11:46
Engineer:	SUHAIL BISHTI	Calibration Date:	30-Mar-15 14:15:08

Software Version: WL INSITE R4.6.4 (Build 3)		Calibration Version: 1		
Logging Source S/N: DSN-424				
Snow Block S/N: 10013313				
NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0619	0.0689	0.0070	+/- 0.0150
PASS/FAIL SUMMARY				
Block Change Check:			Passed	
Snow Block Stat Check:			Passed	
Temperature Check:			Passed	

DENSITY CALIPER SHOP CALIBRATION				
Tool Name:	SDLT - 11014296		Reference Calibration Date:	25-Feb-15 19:46:54
Engineer:	SUHAIL BISHTI		Calibration Date:	30-Mar-15 16:07:22
Software Version:	WL INSITE R4.6.4 (Build 3)		Calibration Version:	1
Host Tool Name:	DSNT - 11055304			

CALIBRATION COEFFICIENTS				
Measurement	Previous Value	New Value	Control Limit On New Value	
Pad Offset	-4048.80	-4218.86	-7000.00 - -1000.00	
Pad Gain	0.0003927	0.0003966	0.000200 - 0.000600	
Arm Offset	-3051.62	-3303.10	-5000.00 - 3000.00	
Arm Gain	0.0004840	0.0005053	0.000300 - 0.000700	
Arm Power	-0.000002972	-0.000003598	-0.000010000 - 0.000010000	
The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER				
Tool Diameter: 4.50 in				
CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	2.05	2.00	-0.05	+/- 0.20
Medium Ring (in)	3.78	3.75	-0.03	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.61	6.50	-0.11	+/- 0.20
Medium Ring (in)	8.29	8.25	-0.04	+/- 0.20
Large Ring (in)	14.88	15.00	0.12	+/- 0.20
PASS/FAIL SUMMARY				
Calibration-Coefficients Range Check:			Passed	
Ring-Measurement Check:			Passed	
PASS/FAIL SUMMARY				
Calibration-Coefficients Range Check:			Passed	

SDLT CALIPER FIELD CALIBRATION				
Tool Name:	SDLT - 11014296		Reference Calibration Date:	30-Mar-15 16:07:22
Engineer:	SUHAIL BISHTI		Calibration Date:	30-Mar-15 16:10:25
Software Version:	WL INSITE R4.6.4 (Build 3)		Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.73	-0.02	+/- 0.10
Ring Diameter	8.25	8.16	-0.09	+/- 0.15

PASS/FAIL SUMMARY				
Pad Extension Check:		Passed		
Diameter Check:		Passed		
SPECTRAL DENSITY SHOP CALIBRATION				
Tool Name:	SDLT Pad - 10865884		Reference Calibration Date:	30-Mar-15 15:21:25
Engineer:	SUHAIL BISHTI		Calibration Date:	30-Mar-15 15:40:38
Software Version:	WL INSITE R4.6.4 (Build 3)		Calibration Version:	1
Logging Source S/N: 5168 GW				
Aluminum Block S/N: LIBERAL ALUMINUM		Density: 2.598g/cc	Pe: 3.170	
Magnesium Block S/N: LIBERAL MAGNESIUM		Density: 1.684g/cc	Pe: 2.598	
DENSITY CALIBRATION SUMMARY				
Measurement	Previous Value	New Value	Control Limit	
Near Bar Gain	1.0190	1.0446	0.90 - 1.10	
Near Dens Gain	1.0070	1.0310	0.90 - 1.10	
Near Peak Gain	1.0048	1.0258	0.90 - 1.10	
Near Lith Gain	0.9599	0.9824	0.90 - 1.10	
Far Bar Gain	1.0137	1.0116	0.90 - 1.10	
Far Dens Gain	1.0013	1.0022	0.90 - 1.10	
Far Peak Gain	0.9903	0.9925	0.90 - 1.10	
Far Lith Gain	0.9610	0.9628	0.90 - 1.10	
Near Bar Offset	0.0598	-0.1770	NONE	
Near Dens Offset	0.1445	-0.0678	NONE	
Near Peak Offset	0.1409	-0.0376	NONE	
Near Lith Offset	0.4863	0.2983	NONE	
Far Bar Offset	0.0568	0.0770	NONE	
Far Dens Offset	0.1323	0.1242	NONE	
Far Peak Offset	0.1782	0.1569	NONE	
Far Lith Offset	0.3305	0.3154	NONE	
Near Bar Background	785.80	782.55	700 - 1450	
Near Dens Background	262.22	261.86	230 - 480	
Near Peak Background	116.57	114.91	100 - 210	
Near Lith Background	141.71	140.79	125 - 260	
Far Bar Background	489.51	492.11	450 - 900	
Far Dens Background	190.84	189.89	175 - 345	
Far Peak Background	75.80	75.89	70 - 140	
Far Lith Background	78.78	79.26	75 - 145	
CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.683	1.684	0.001	+/- 0.015
Pe	2.580	2.561	-0.019	+/- 0.150
ALUMINUM				
Density (g/cc)	2.601	2.598	-0.003	+/- 0.01500
Pe	3.146	3.129	-0.017	+/- 0.150
TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0005	+/- 0.0110	0.0009	+/- 0.0140

Magnesium Block	-0.0008	+/- 0.0110	-0.0007	+/- 0.0140
Aluminum Block	-0.0009	+/- 0.0110	0.0011	+/- 0.0140
Resolution	8.50	6.00 - 11.50	8.99	6.00 - 11.50
Internal Verifier(B+D+P+L)	1300	1200 - 2700	837	800 - 1700

PASS/FAIL SUMMARY	
Background Quality Check:	Passed
Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

SPECTRAL DENSITY FIELD CHECK

Tool Name:	SDLT Pad - 10865884	Reference Calibration Date:	30-Mar-15 15:40:38
Engineer:	SUHAIL BISHTI	Calibration Date:	30-Mar-15 15:45:38
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1

Pad Temperature: 78.8 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1300.104	1305.028	4.924	14.598
Far (B+D+P+L) cps	837.151	834.199	-2.952	15.912
Near Resolution	8.50	8.46	-0.040	0.50
Far Resolution	8.99	8.92	-0.070	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	271.4	-----	-1.8	+/- 9.00	api
DSNT-11055304						
Snow-Block Porosity	0.0619	0.0689	-----	-0.0070	+/- 0.0150	decp
SDLT-11014296						
Pad Extension	3.75	3.73	-----	0.02	+/-0.10	in
Ring Diameter	8.25	8.16	-----	0.09	+/-0.15	in
SDLT Pad-10865884						
Near(B+D+P+L)	1300.104	1305.028	-----	-4.924	+/-14.598	cps
Far(B+D+P+L)	837.151	834.199	-----	2.952	+/-15.912	cps

Data: YOST 2-28\0002 SP-GTET-DSN-SDI -BN\DI F Date: 31-Mar-15 01:19:31

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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	

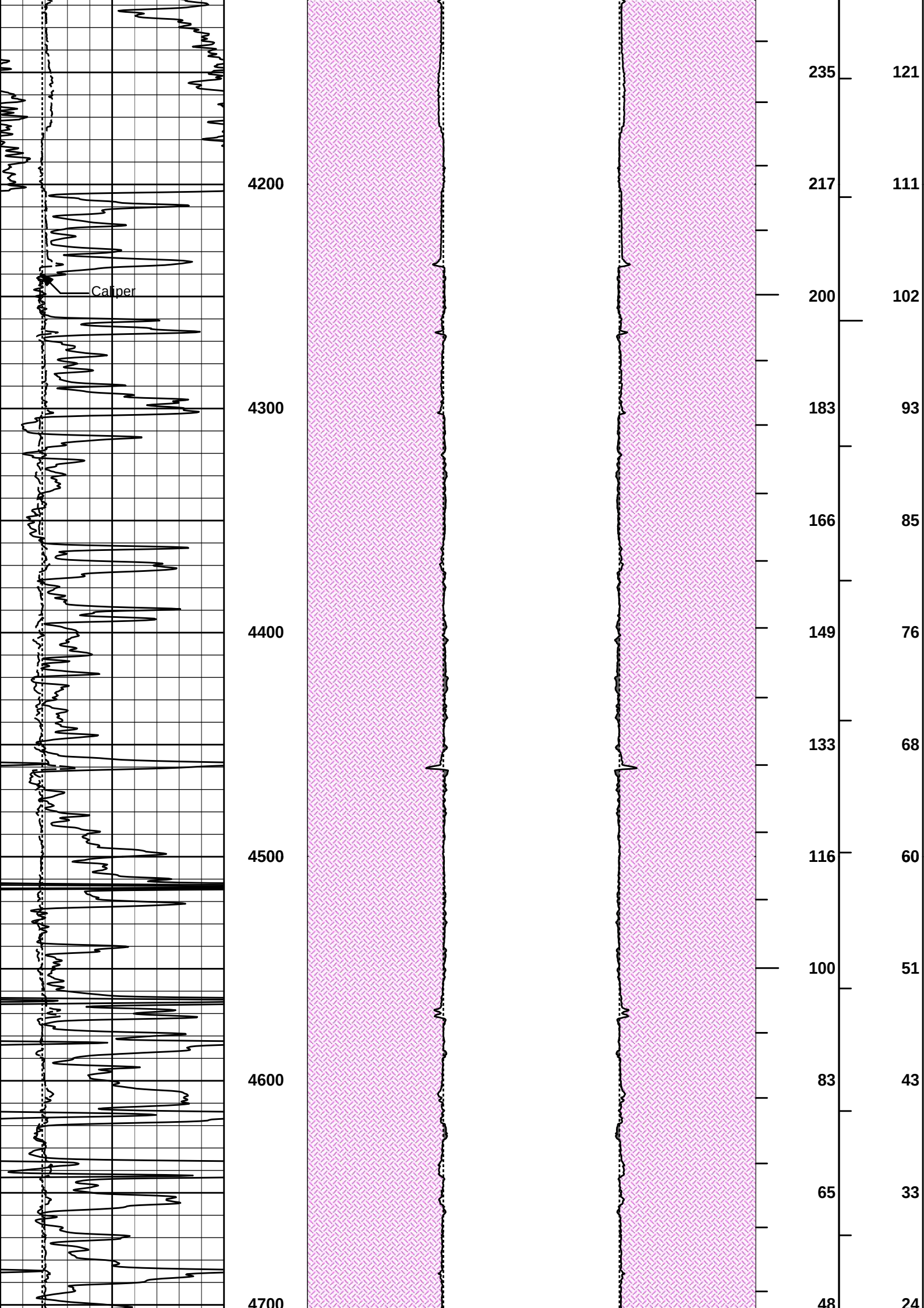
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.200	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	0.670	ohmm
	SHARED	TRM	Temperature of Mud	74.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	4839.00	ft
	SHARED	BHT	Bottom Hole Temperature	200.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
	Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
	Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
	Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
	Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
	Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
	GTET	BHSM	Borehole Size Source Tool	SDLT	
	DSNT	DNOK	Process DSN?	Yes	
	DSNT	DEOK	Process DSN EVR?	No	
	DSNT	NLIT	Neutron Lithology	Limestone	
	DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
	DSNT	DNTP	Temperature Correction Type	None	
	DSNT	DPRS	DSN Pressure Correction Type	None	
	DSNT	SHCO	View More Correction Options	No	
	DSNT	UTVD	Use TVD for Gradient Corrections?	No	
	DSNT	LHWT	Logging Horizontal Water Tank?	No	
	DSNT	BHSM	Borehole Size Source Tool	SDLT	
	SDLT	CLOK	Process Caliper Outputs?	Yes	
	SDLT Pad	DNOK	Process Density?	Yes	
	SDLT Pad	DNOK	Process Density EVR?	No	
	SDLT Pad	CB	Logging Calibration Blocks?	No	
	SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
	SDLT Pad	DTWN	Disable temperature warning	No	
	SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
	SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
	SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
	Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
BOTTOM					
Data: YOST 2-28\0002 SP-GTET-DSN-SDL-BN\IDLE				Date: 31-Mar-15 01:18:37	

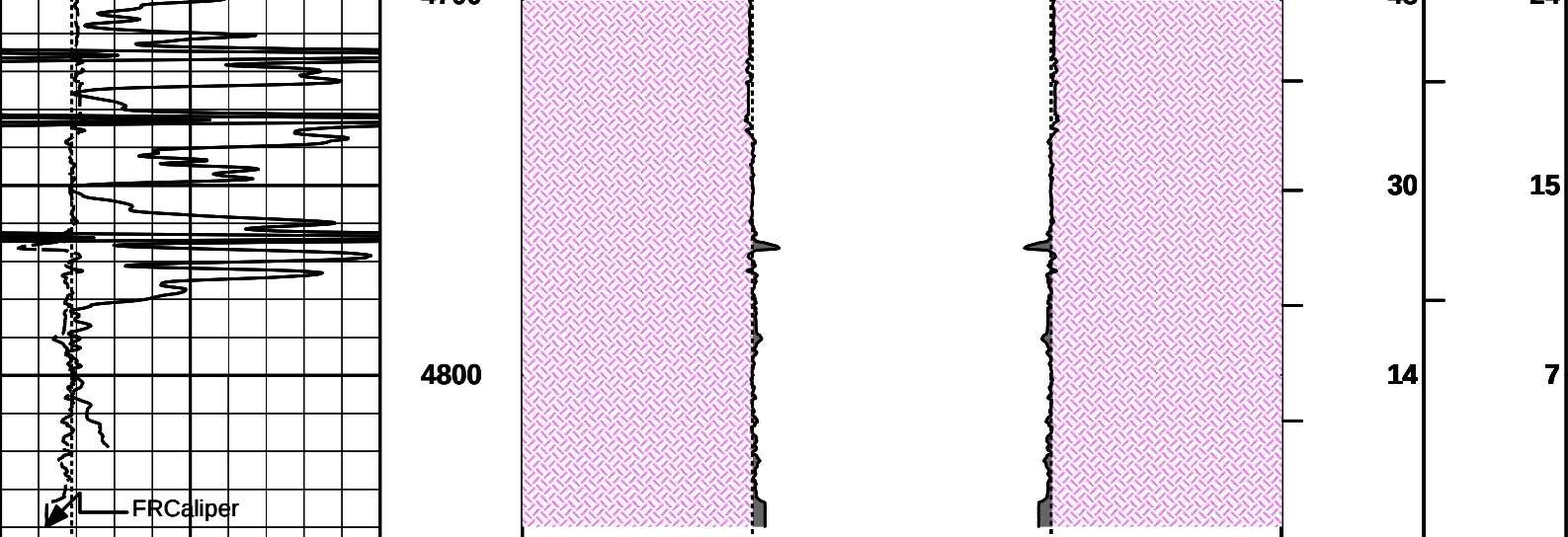
INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
Rwa / CrossPlot				
TPUL	Tension Pull	39.34	NO	
BS	Bit Size	39.34	NO	
HDIA	Measured Hole Diameter	0.00	NO	
RWCH				
DHTN	DownholeTension	0.00	BLK	0.000
SP Sub				
PLTC	Plot Control Mask	31.31	NO	
SP	Spontaneous Potential	31.31	BLK	1.250
SPR	Raw Spontaneous Potential	31.31	NO	
SPO	Spontaneous Potential Offset	31.31	NO	
GTET				
TPUL	Tension Pull	23.29	NO	
GR	Natural Gamma Ray API	23.29	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	23.29	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	23.29	W	1.416 , 0.750
HDIA	Measured Hole Diameter	0.00	NO	
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	13.05	NO	
RNDS	Near Detector Telemetry Counts	13.15	BLK	1.417
RFDS	Far Detector Telemetry Counts	13.90	TRI	0.583
DNTT	DSN Tool Temperature	13.15	NO	
DSNS	DSN Tool Status	13.05	NO	
ERND	Near Detector Telemetry Counts EVR	13.15	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	13.90	BLK	0.000
ENTM	DSN Tool Temperature EVR	13.15	NO	
HDIA	Measured Hole Diameter	0.00	NO	
SDLT				
TPUL	Tension Pull	3.15	NO	
PCAL	Pad Caliper	3.15	TRI	0.250
ACAL	Arm Caliper	3.15	TRI	0.250
SDLT Pad				
TPUL	Tension Pull	3.14	NO	
NAB	Near Above	2.96	BLK	0.920
NHI	Near Cesium High	2.96	BLK	0.920
NLO	Near Cesium Low	2.96	BLK	0.920
NVA	Near Valley	2.96	BLK	0.920
NBA	Near Barite	2.96	BLK	0.920
NDE	Near Density	2.96	BLK	0.920
NPK	Near Peak	2.96	BLK	0.920
NLI	Near Lithology	2.96	BLK	0.920
NBAU	Near Barite Unfiltered	2.96	BLK	0.250

Microlog Pad				
TPUL	Tension Pull	3.33	NO	
MINV	Microlog Lateral	3.33	BLK	0.750
MNOR	Microlog Normal	3.33	BLK	0.750
Data: YOST 2-28\0002 SP-GTET-DSN-SDL-BN\IDLE				Date: 31-Mar-15 01:18:54

0			Gamma API		150				MUDCAKE		MUDCAKE			
api														
6			Bit Size		16		20		0 0		Bit Size		20	
inches														
6			Caliper		16		20		0 0		Caliper		20	
inches														
			MD 1 : 600 ft		3500						315		104	
					4000						304		156	
											288		148	
											271		140	
					4100						253		130	





6	Caliper	16	MD 1 : 600 ft	20	Caliper	0 0	20	BHVT	AHVT
	inches				inches				
6	Bit Size	16		20	Bit Size	0 0	20		
	inches								
0	Gamma API	150			MUDCAKE		MUDCAKE		
	api								

HALLIBURTON

Plot Time: 31-Mar-15 02:23:48
Plot Range: 3900 ft to 4843 ft
Data: YOST 2-28\Well Based\PORO DETAILS\
Plot File: \\LOCAL-YOST 2-28\Well Based\PORO\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	HERMAN L. LOEB, LLC		
WELL	YOST 2-28		
FIELD	EINSEL		
COUNTY	KIOWA	STATE	KANSAS
HALLIBURTON		SPECTRAL DENSITY DUAL SPACED NEUTRON LOG	