

HALLIBURTON

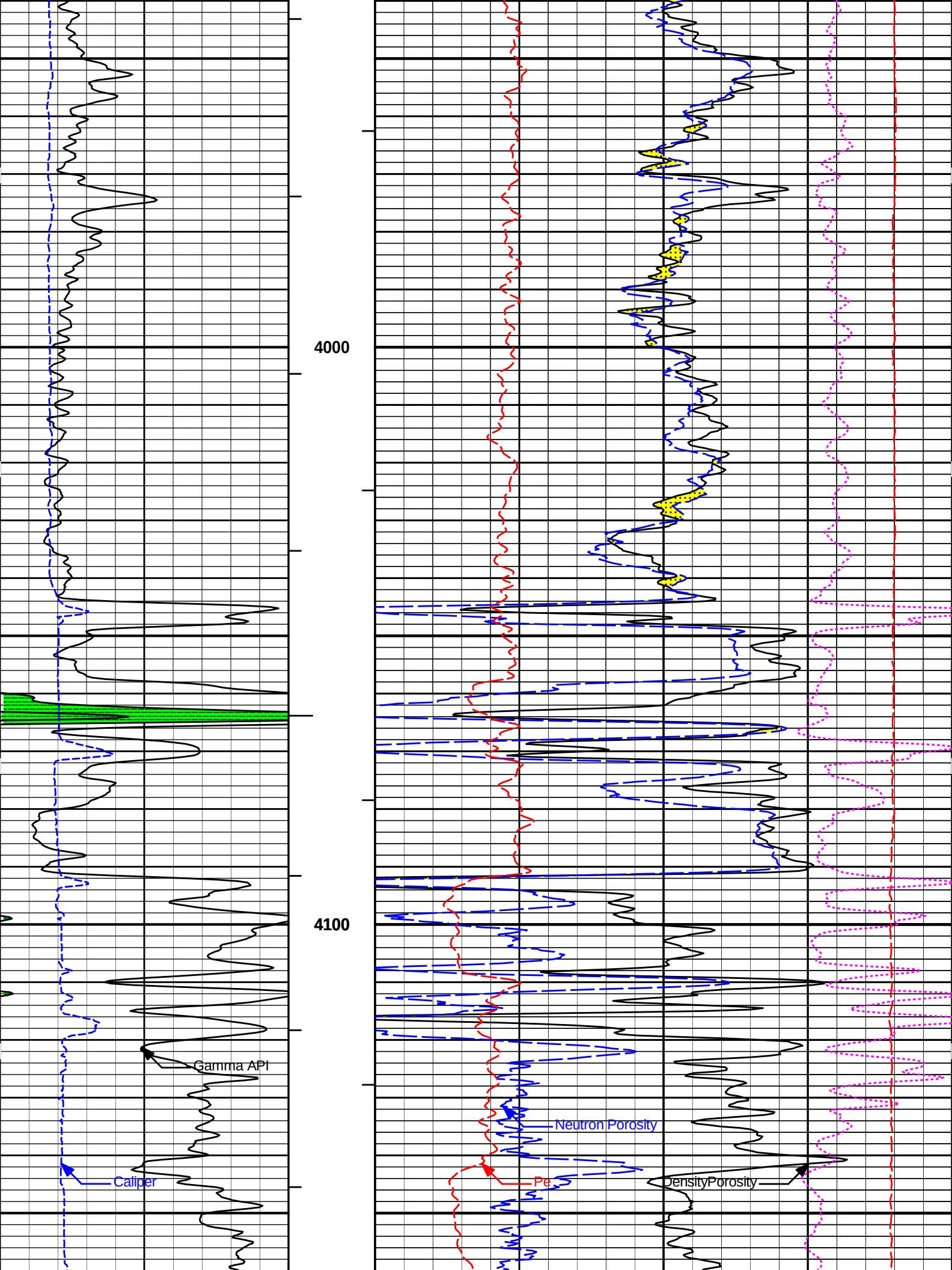
DUAL SPACED NEUTRON SPECTRAL DENSITY LOG

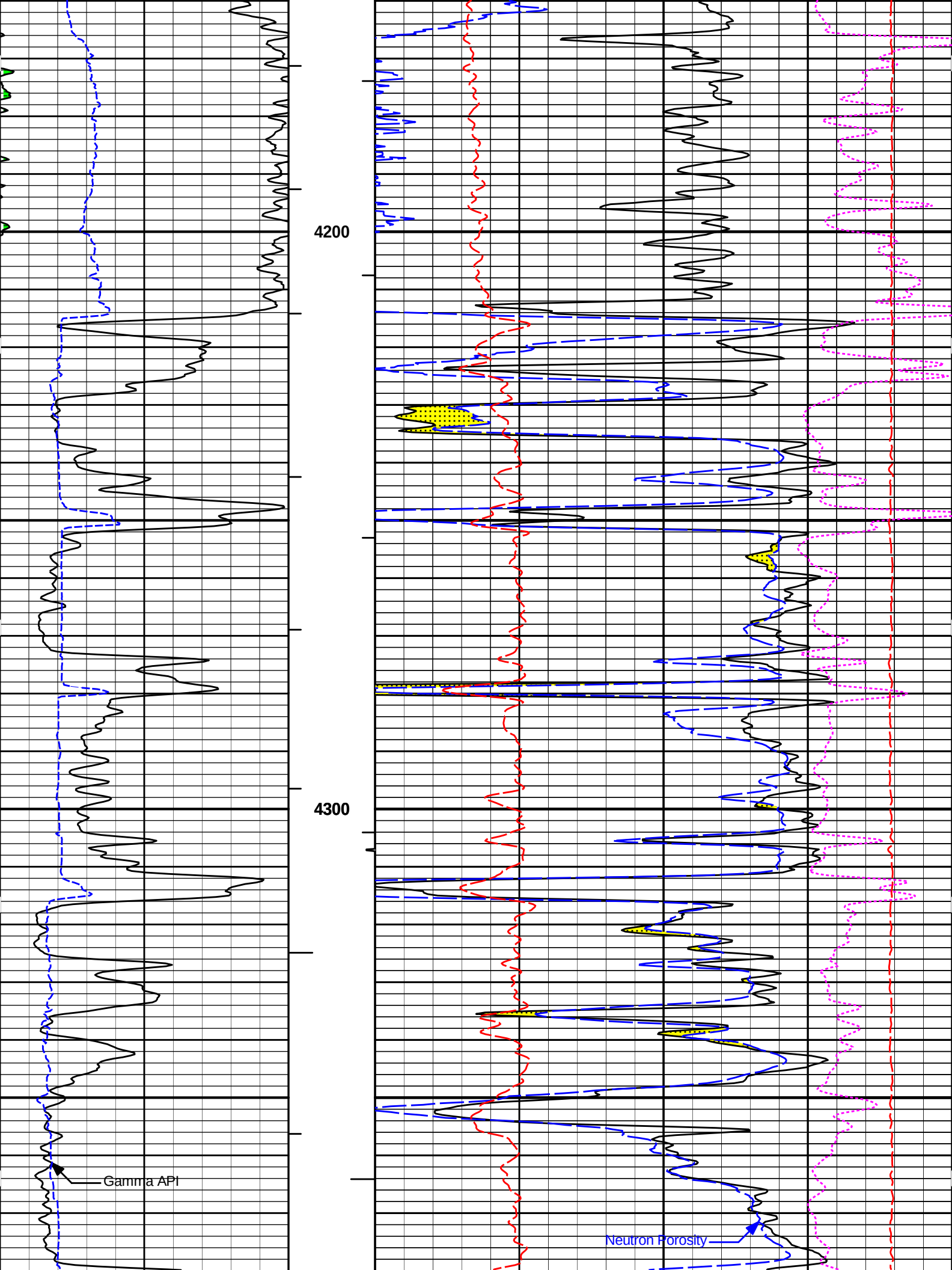
COMPANY		STRATA EXPLORATION			
WELL		RICHARDSON 1-3			
FIELD		GREENSBURG			
COUNTY		KIOWA			
STATE		KANSAS			
Permanent Datum		GL	Elev. 2208.0 ft		Other Services: ACRT MICRO MRIL
Log measured from		KB	D.F. 2217.0 ft		
Drilling measured from		KB	G.L. 2208.0 ft		
Date	10-Apr-12				
Run No.	ONE				
Depth - Driller	4890.00 ft				
Depth - Logger	4890.0 ft				
Bottom - Logged Interval	4862.0 ft				
Top - Logged Interval	3900.0 ft				
Casing - Driller	8.625 in @ 622.0 ft				
Casing - Logger	622.0 ft				
Bit Size	7.875 in				
Type Fluid in Hole	WATER BASED MUD				
Density	9.2 ppq	65.00	s/qt		
PH	10.00 pH	10.8	cpm		
Source of Sample	FLOW LINE				
Rm @ Meas. Temperature	0.310 ohmm @ 75.00 degF				
Rmf @ Meas. Temperature	0.27 ohmm @ 75.00 degF				
Rmc @ Meas. Temperature	0.360 ohmm @ 75.00 degF				
Source Rmf	MEAS Rmc				
Rm @ BHT	0.22 ohmm @ 109.0 degF				
Time Since Circulation	10.0 hr				
Time on Bottom	10-Apr-12 09:46				
Max. Rec. Temperature	109.0 degF @ 4890.0 ft				
Equipment	10546696 LIBERAL				
Recorded By	T. HYDE				
Witnessed By	J. CHRISTENSEN				

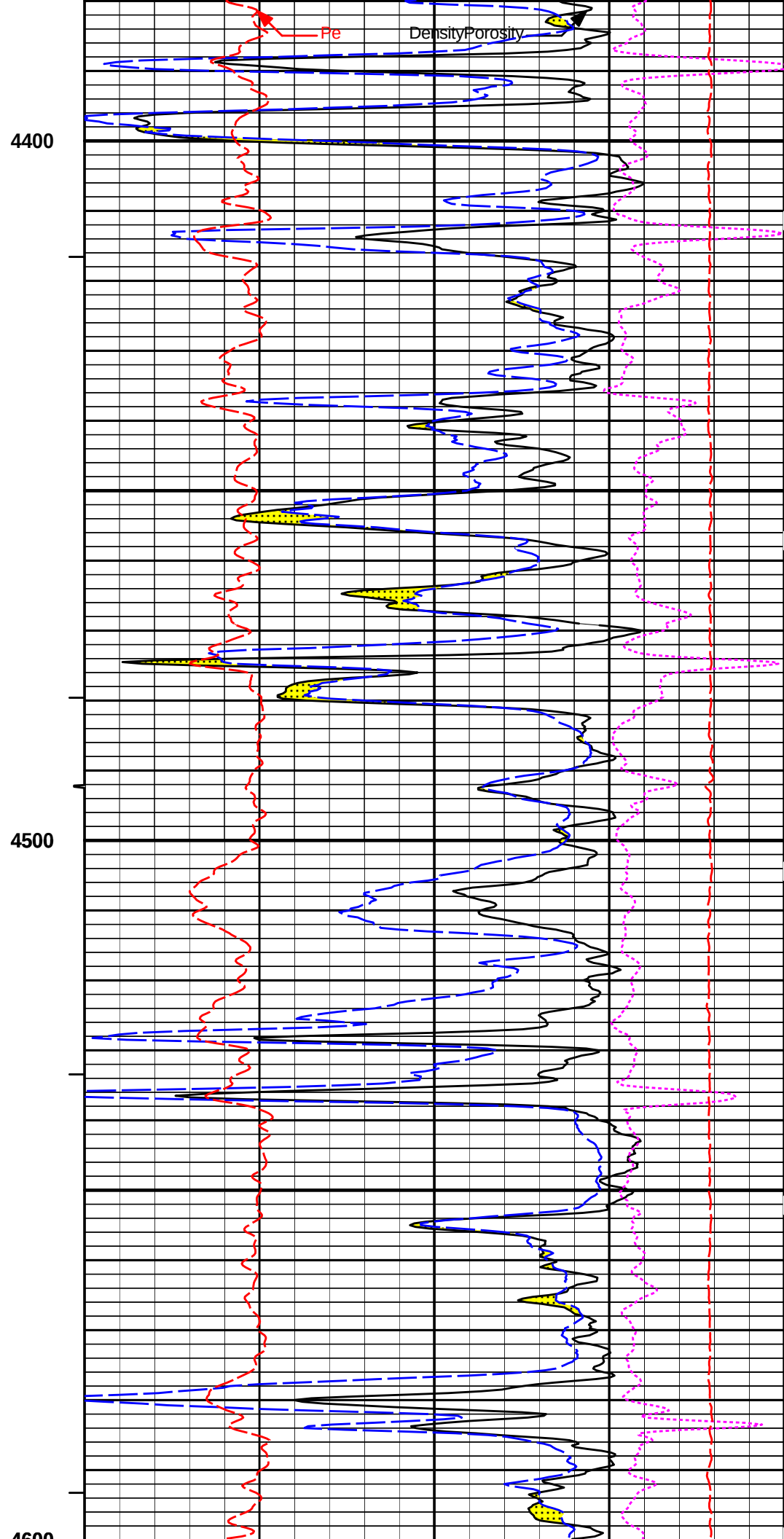
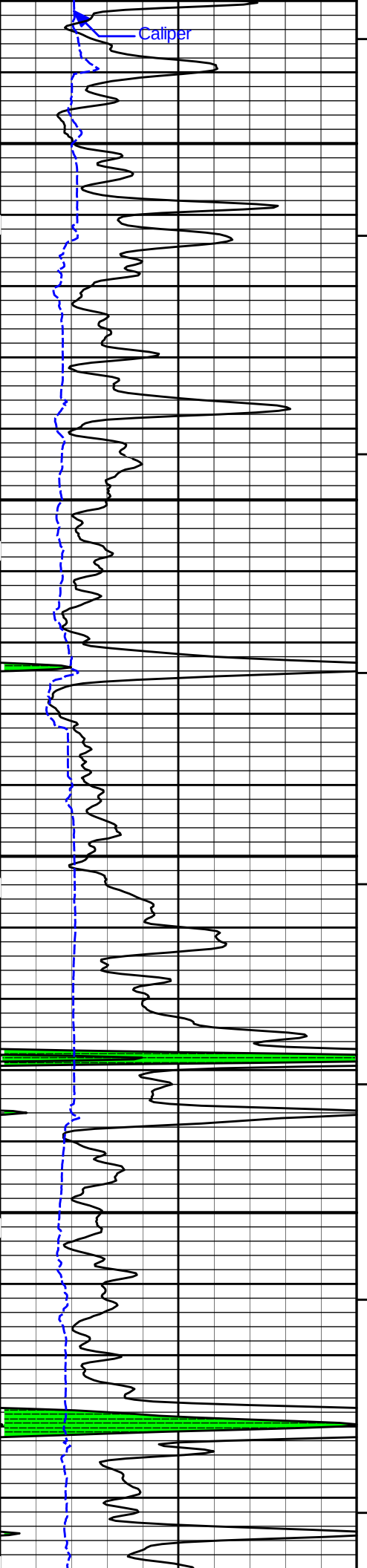
Fold here

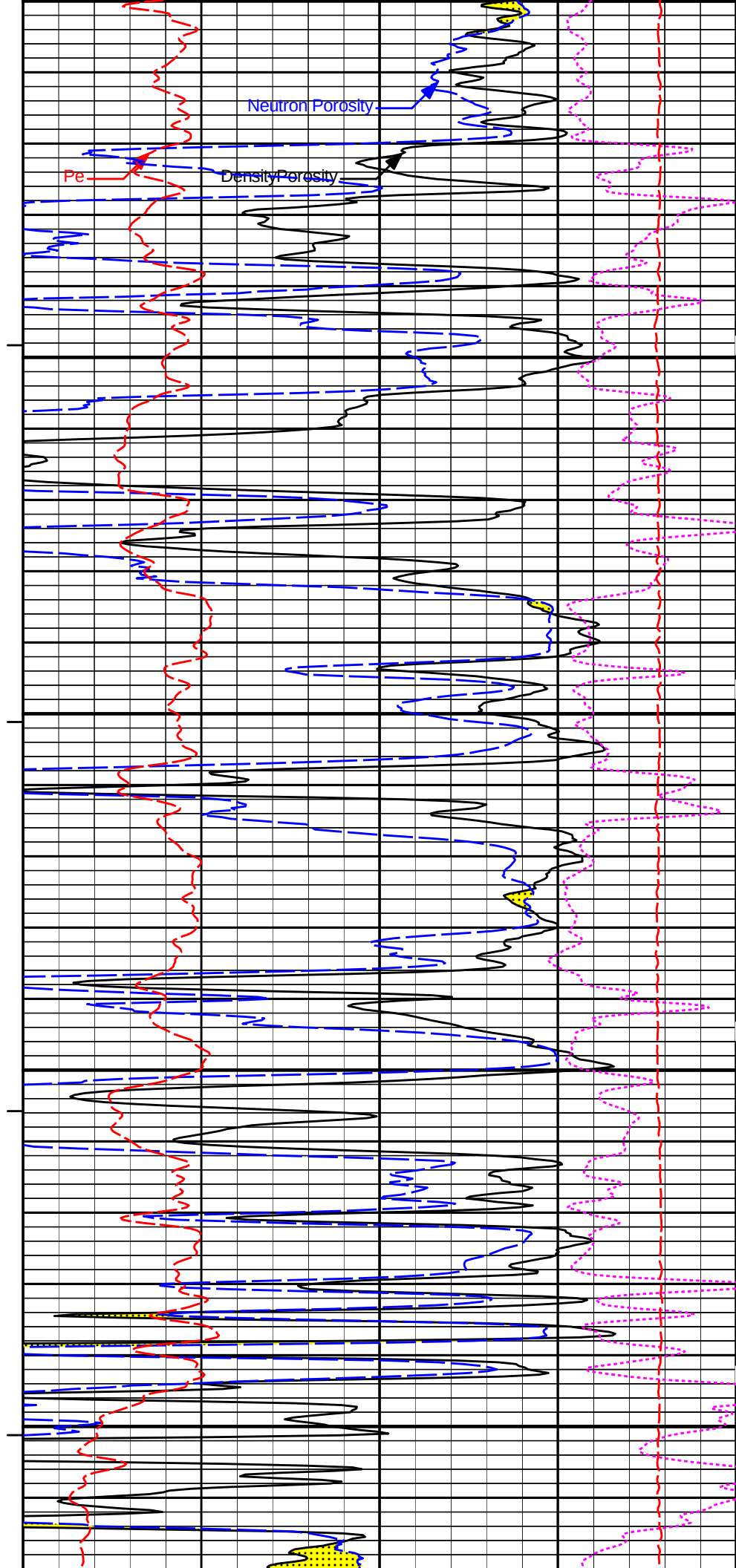
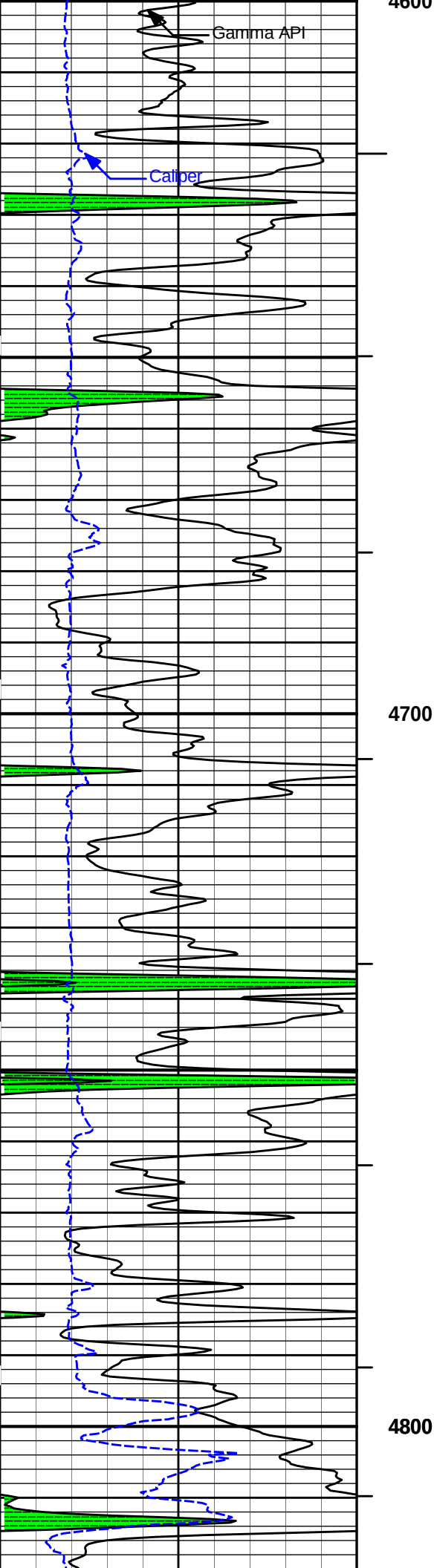
Service Ticket No.: 9425816				API Serial No.: 15-097-21721-00-00				PGM Version: WL INSITE R3.4.2 (Build 2)											
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						RESISTIVITY SCALE CHANGES													
Date	Sample No.					Type Log	Depth	Scale Up Hole	Scale Down Hole										
Depth-Driller																			
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.	@		@																
Rmc @ Meas. Temp.	@		@																
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		Run No.	ONE							
Serial No.	11039640		Serial No.		Serial No.	I43_M296		Serial No.			Serial No.	11019643							
Model No.	GTET		Model No.		Model No.	SDLT		Model No.			Model No.	DSNT							
Diameter	3.625"		No. of Cent.		Diameter	4.5"		Diameter			Diameter	3.625"							
Detector Model No.	T-102		Spacing		Log Type	GAM-GAM		Log Type			Log Type	NEU-NEU							
Type	SCINT				Source Type	Cs137		Source Type			Source Type	Am241Be							
Length	8"		LSA [Y/N]		Serial No.	5168 GW		Serial No.			Serial No.	DSN-424							
Distance to Source	10'		FWDA [Y/N]		Strength	1.5 Ci		Strength			Strength	15 Ci							
LOGGING DATA																			
GENERAL				GAMMA				ACOUSTIC				DENSITY				NEUTRON			

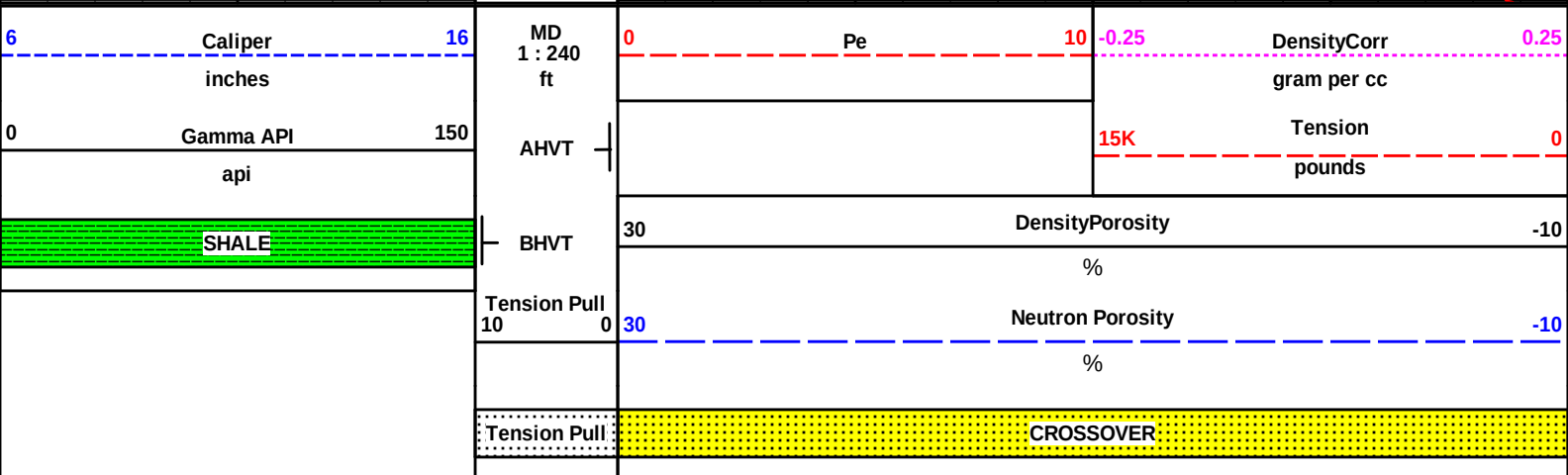
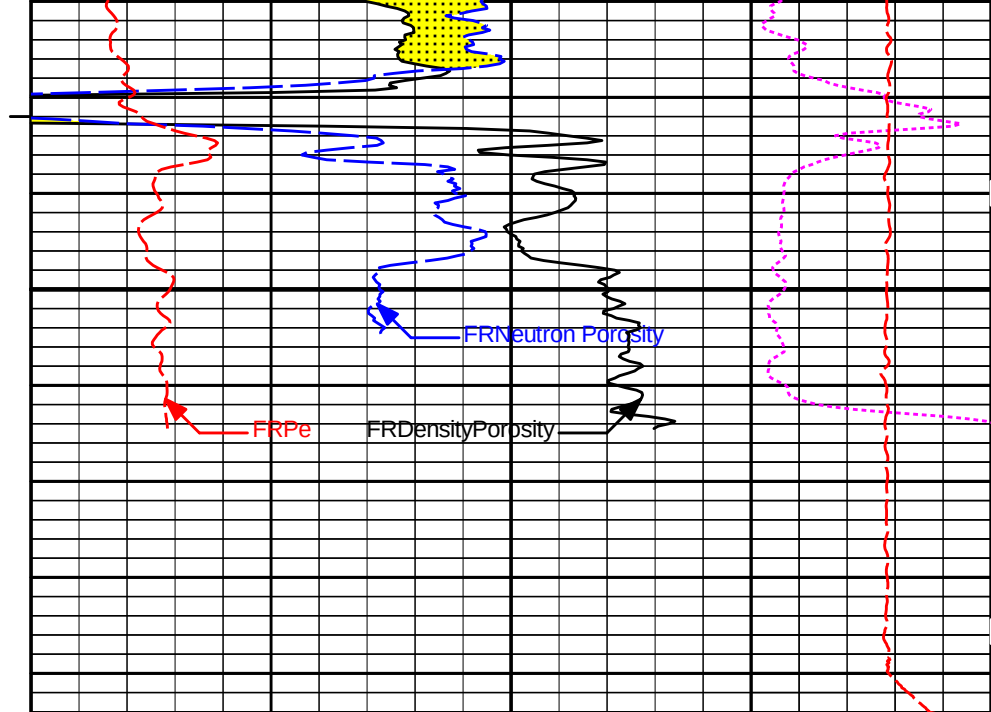
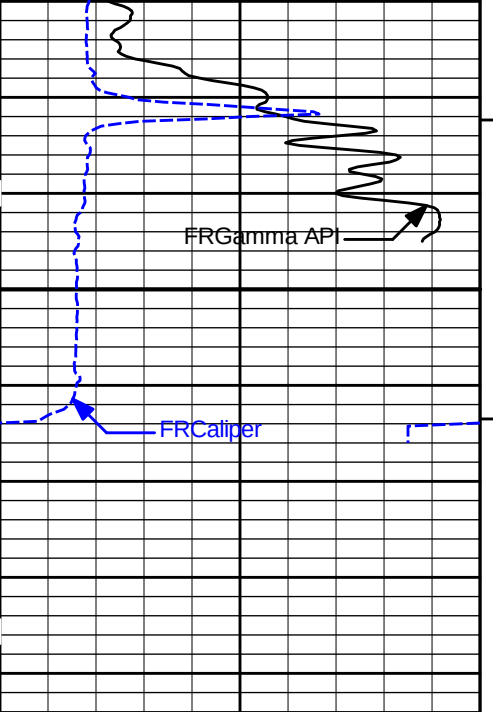
GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON						
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix	
No.	From	To	ft/min	L	R	L	R		L	R		L	R		
ONE	4890	3900	REC	0	150				30	-10	2.71	30	-10	LIME	
DIRECTIONAL INFORMATION															
Maximum Deviation									@		KOP				@
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING															
CHLORIDES 7000 MG/L															
LCM 1 PPB															
TODAY'S CREW K. KING V. JAMIE															
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KANSAS 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.															
HALLIBURTON															











HALLIBURTON

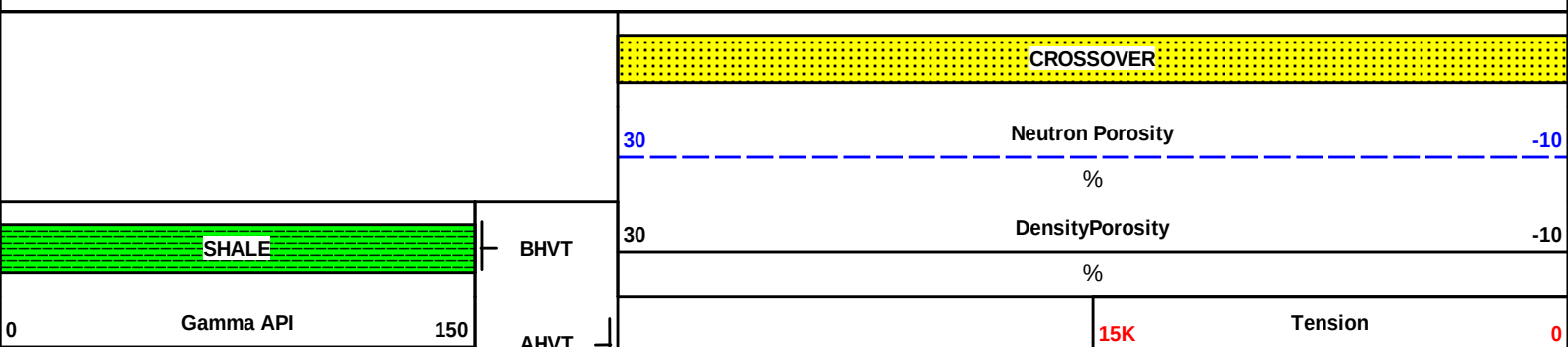
Plot Time: 10-Apr-12 11:15:36
Plot Range: 3898 ft to 4894.25 ft
Data: RICHARDSON_1_3IWell Based\DAQ-0001-004\
Plot File: \\PORA\Poros IQ_5_MAIN_LIB

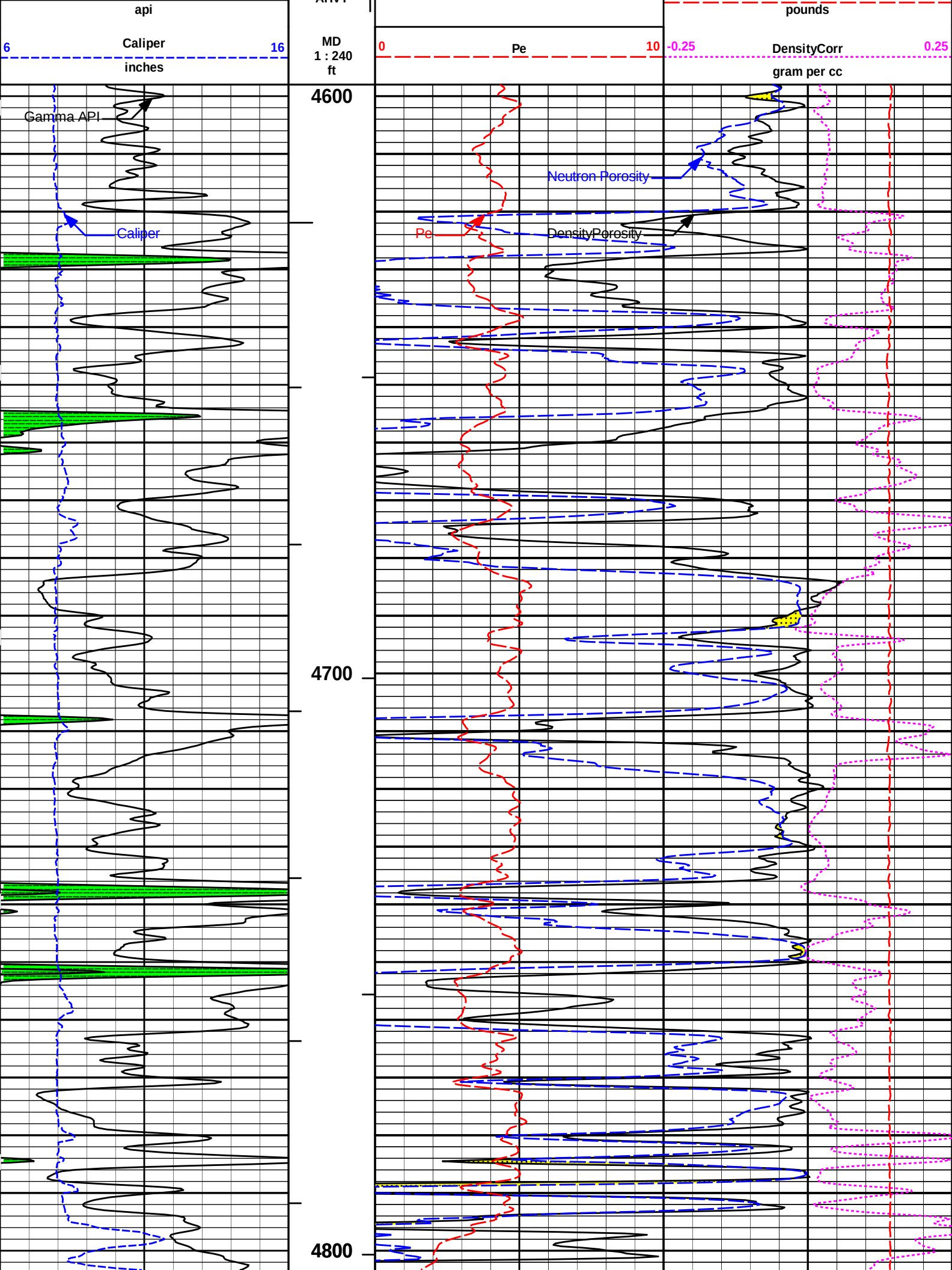
5 INCH MAIN LOG

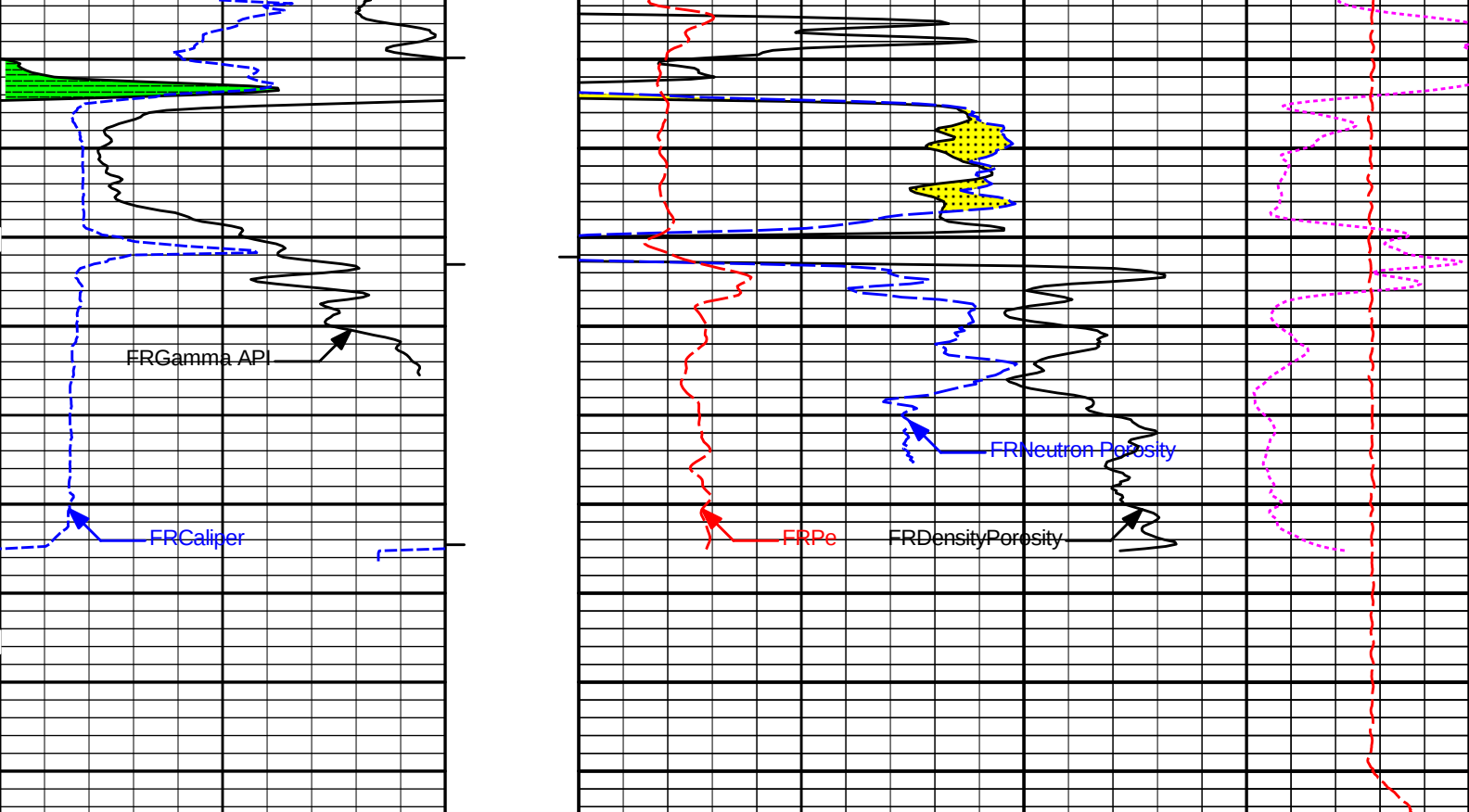
HALLIBURTON

Plot Time: 10-Apr-12 11:15:37
Plot Range: 4598 ft to 4894.75 ft
Data: RICHARDSON_1_3\Well Based\DAQ-0001-003\
Plot File: \\PORO\Porosity\IQ_5_REP_LIB

REPEAT SECTION







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

HALLIBURTON

Plot Time: 10-Apr-12 11:15:39
Plot Range: 4598 ft to 4894.75 ft
Data: RICHARDSON_1_3\Well Based\DAQ-0001-003\
Plot File: \\PORO\Poros_IQ_5_REP_LIB

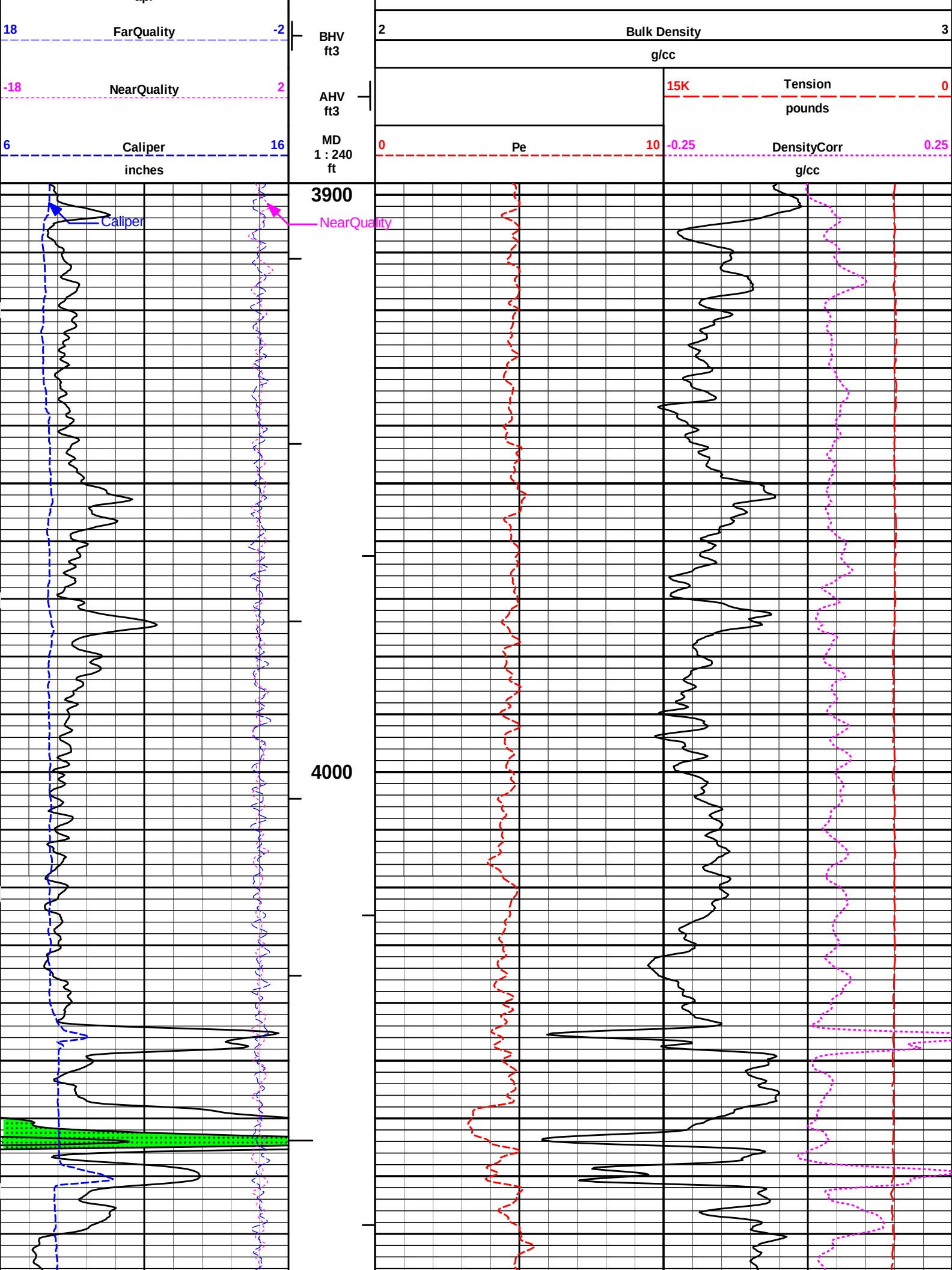
REPEAT SECTION

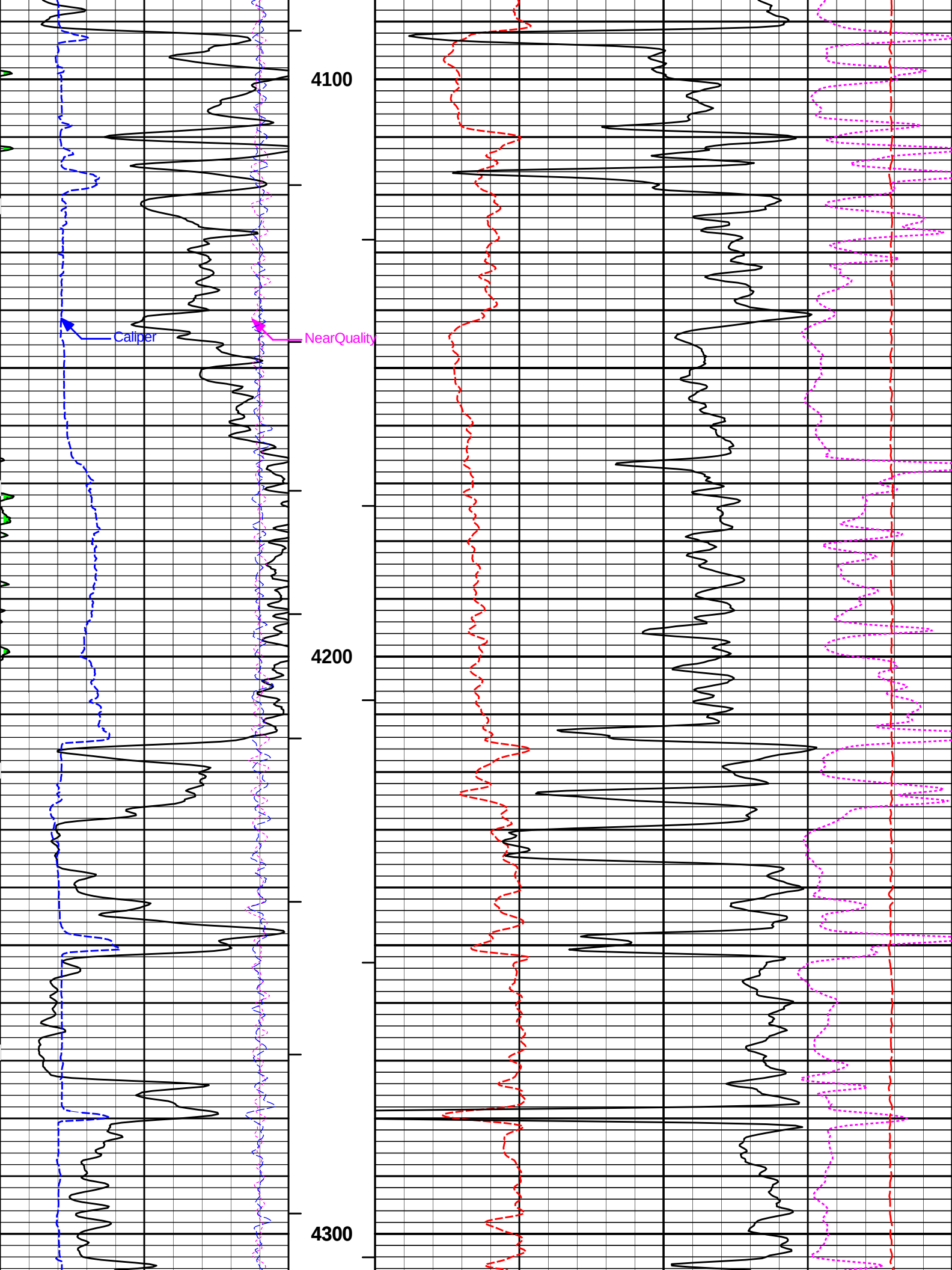
HALLIBURTON

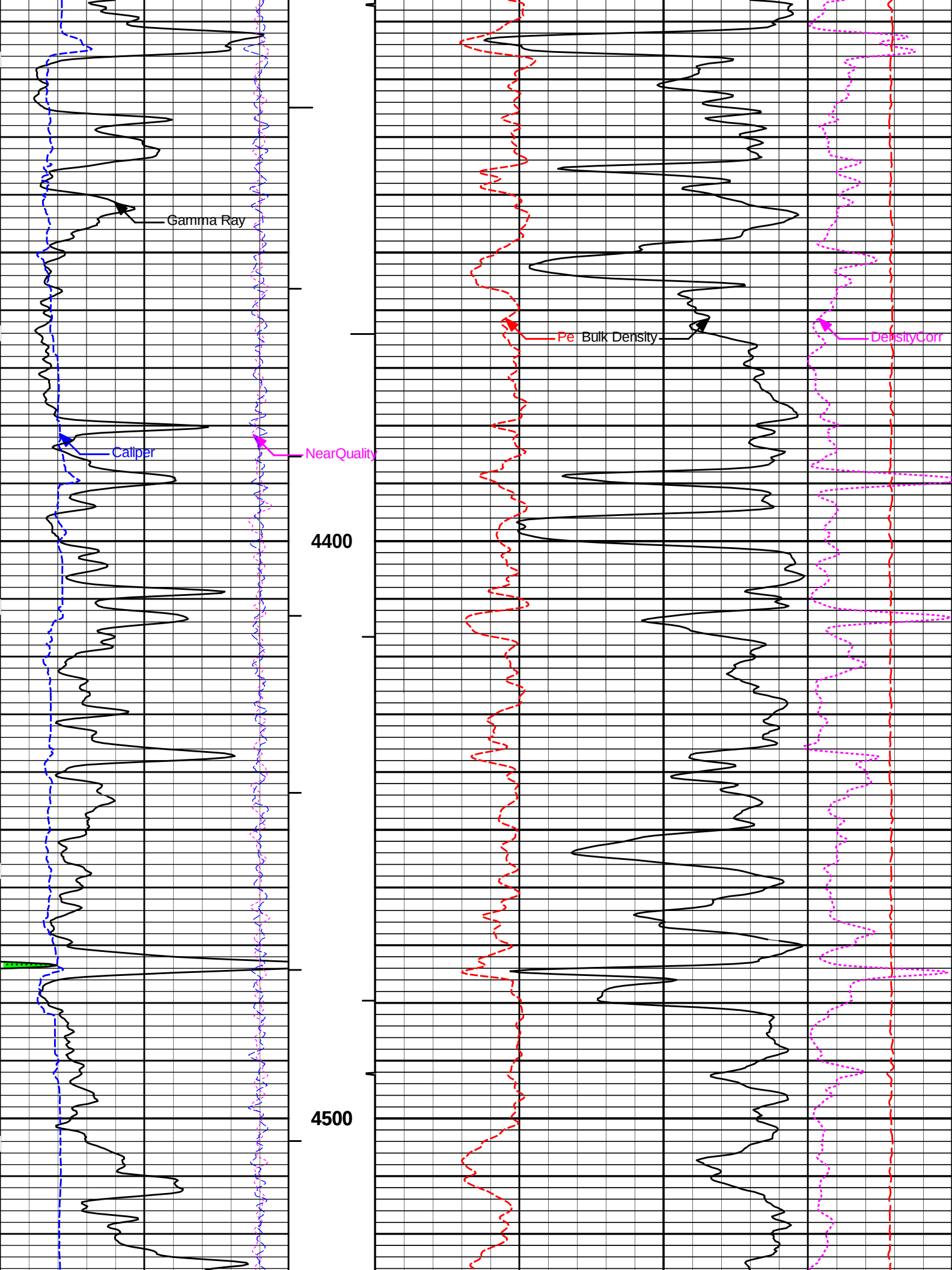
Plot Time: 10-Apr-12 11:15:40
Plot Range: 3898 ft to 4894.25 ft
Data: RICHARDSON_1_3\Well Based\DAQ-0001-004\
Plot File: \\LOCAL-RICHARDSON_1_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIPORO\BULKD_5_MAIN_LIB

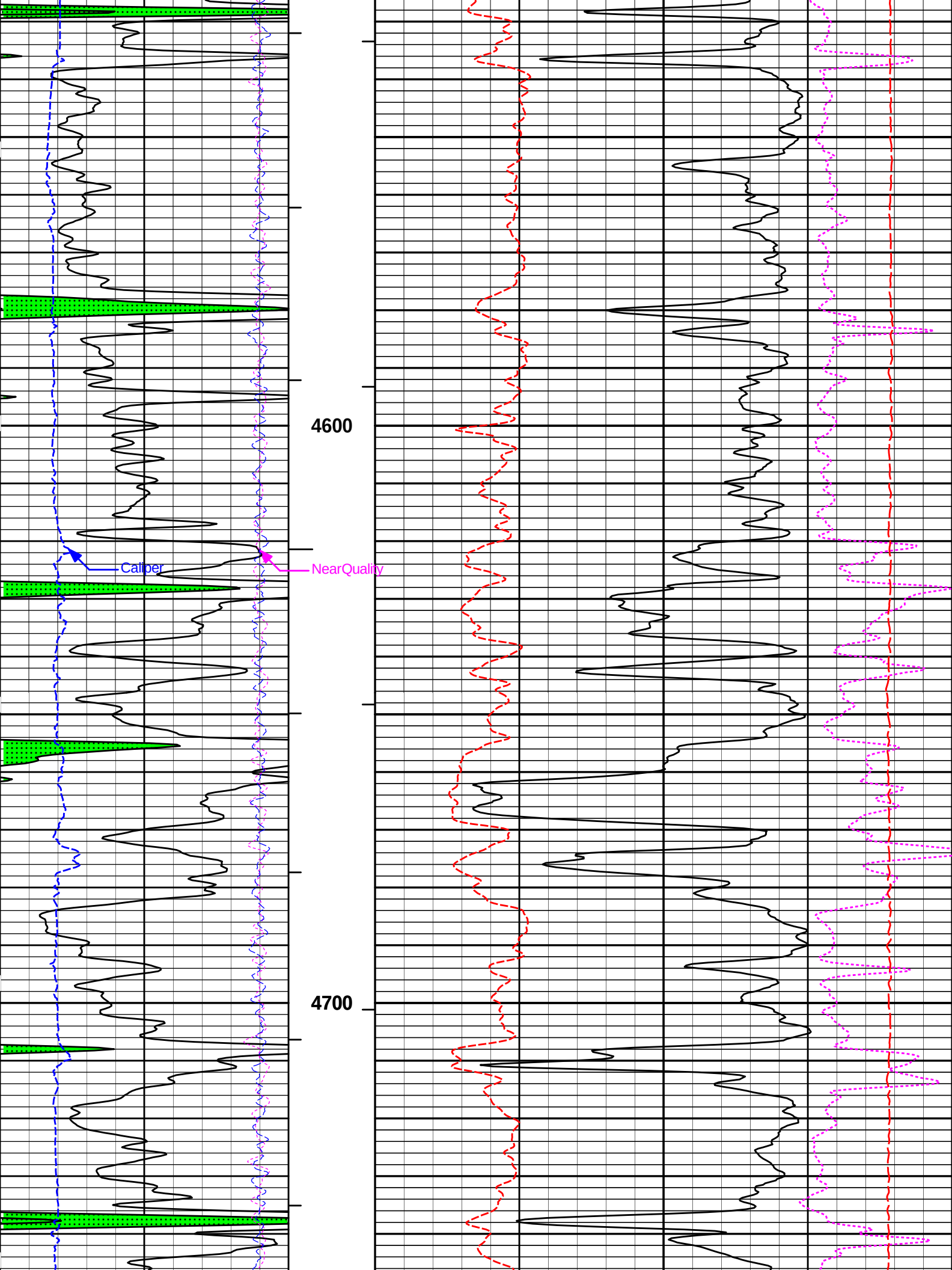
5 INCH MAIN LOG

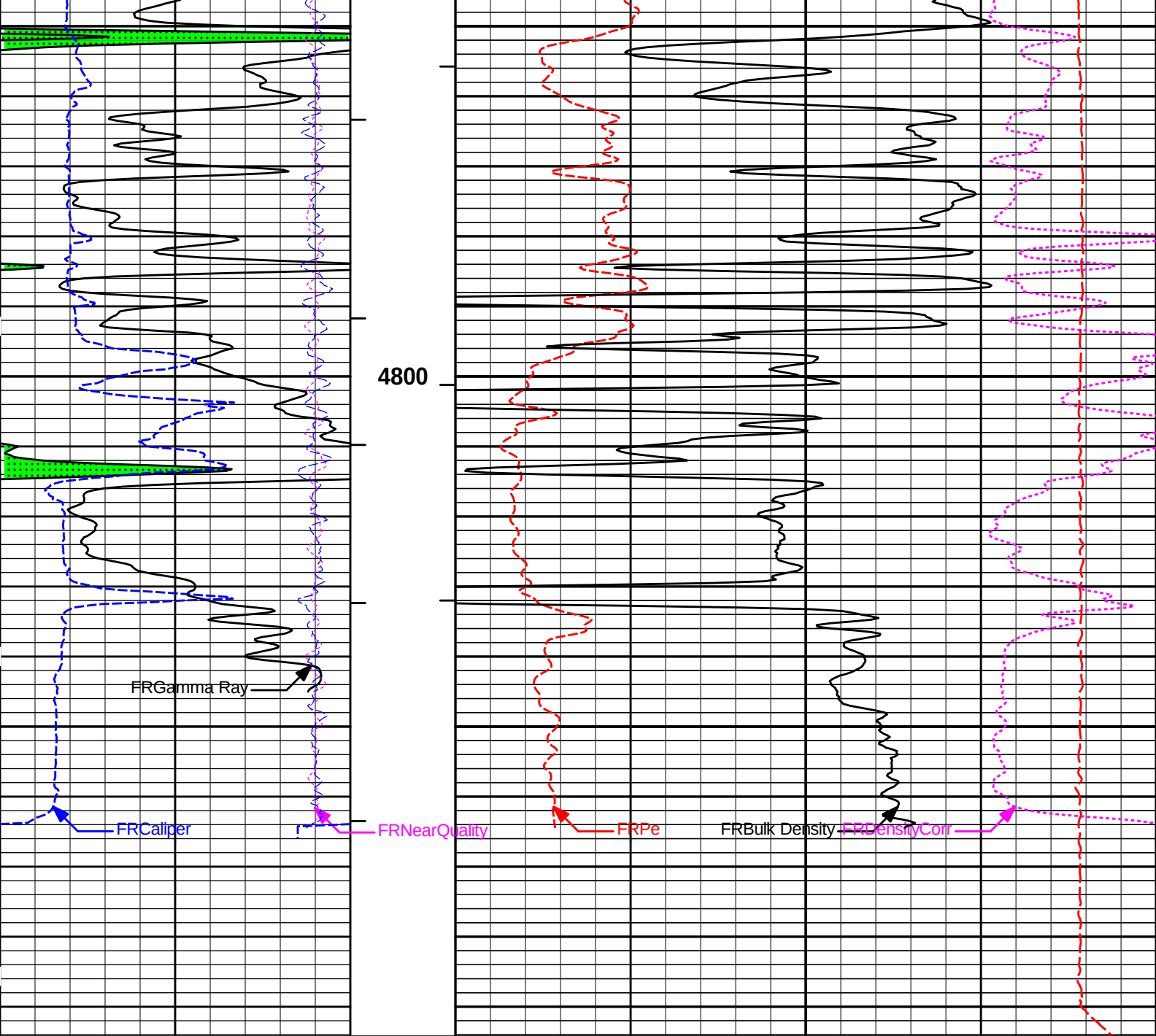
	SHALE	Tension Pull
0	Gamma Ray	Tension Pull
	api	10 0









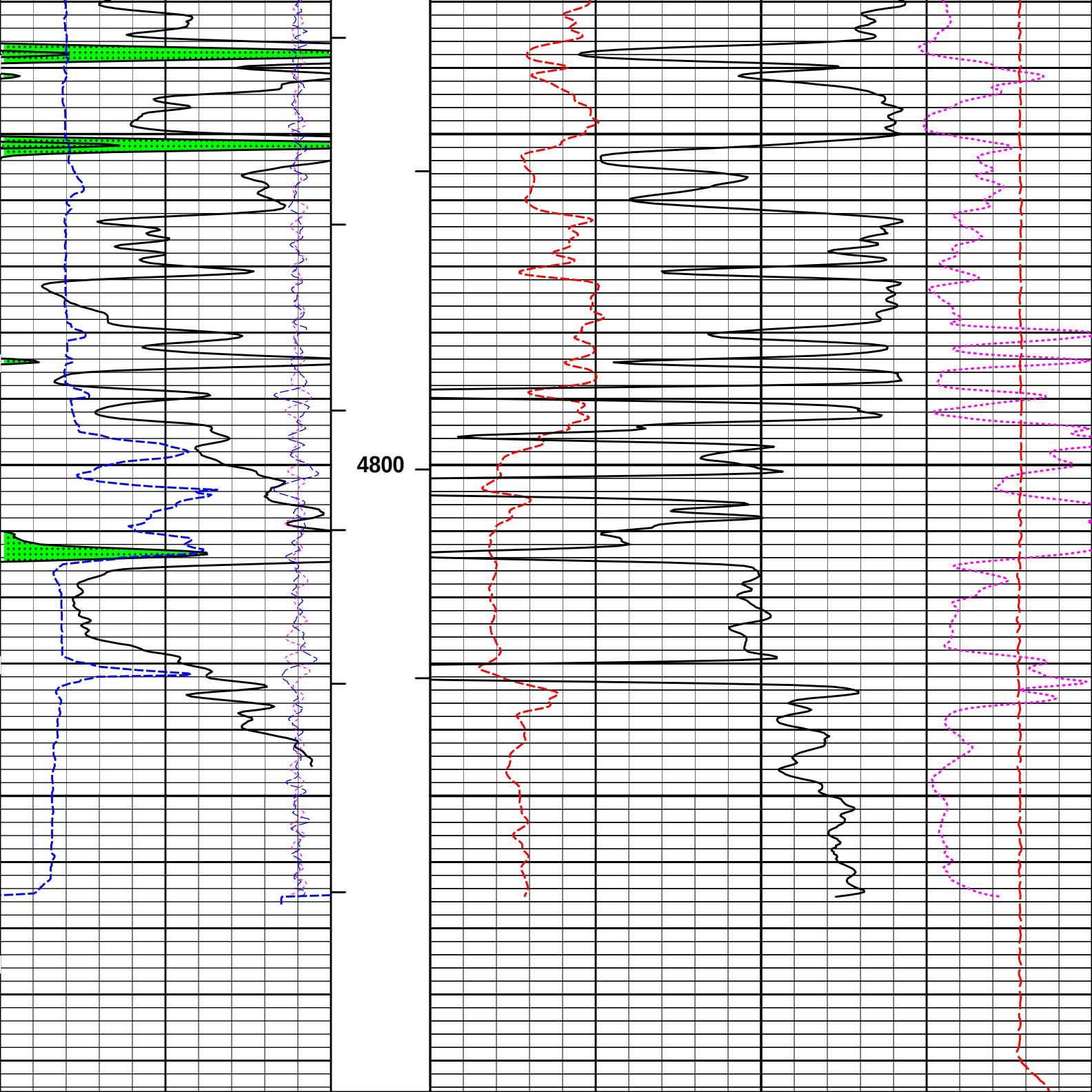


6 Caliper inches 16	MD 1 : 240 ft	0 Pe 10	-0.25 DensityCorr g/cc 0.25
-18 NearQuality 2	AHV ft3		15K Tension pounds 0
18 FarQuality -2	BHV ft3	2 Bulk Density g/cc 3	
0 Gamma Ray 150 api	Tension Pull 10 0		
SHALE	Tension Pull		

HALLIBURTON

Plot Time: 10-Apr-12 11:15:42
 Plot Range: 3898 ft to 4894.25 ft
 Data: RICHARDSON_1_3\Well Based\DAQ-0001-004\
 Plot File: \\-LOCAL-IRICHARDSON_1_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIPORO\BULKD_5_MAIN_LIB

HALLIBURTON



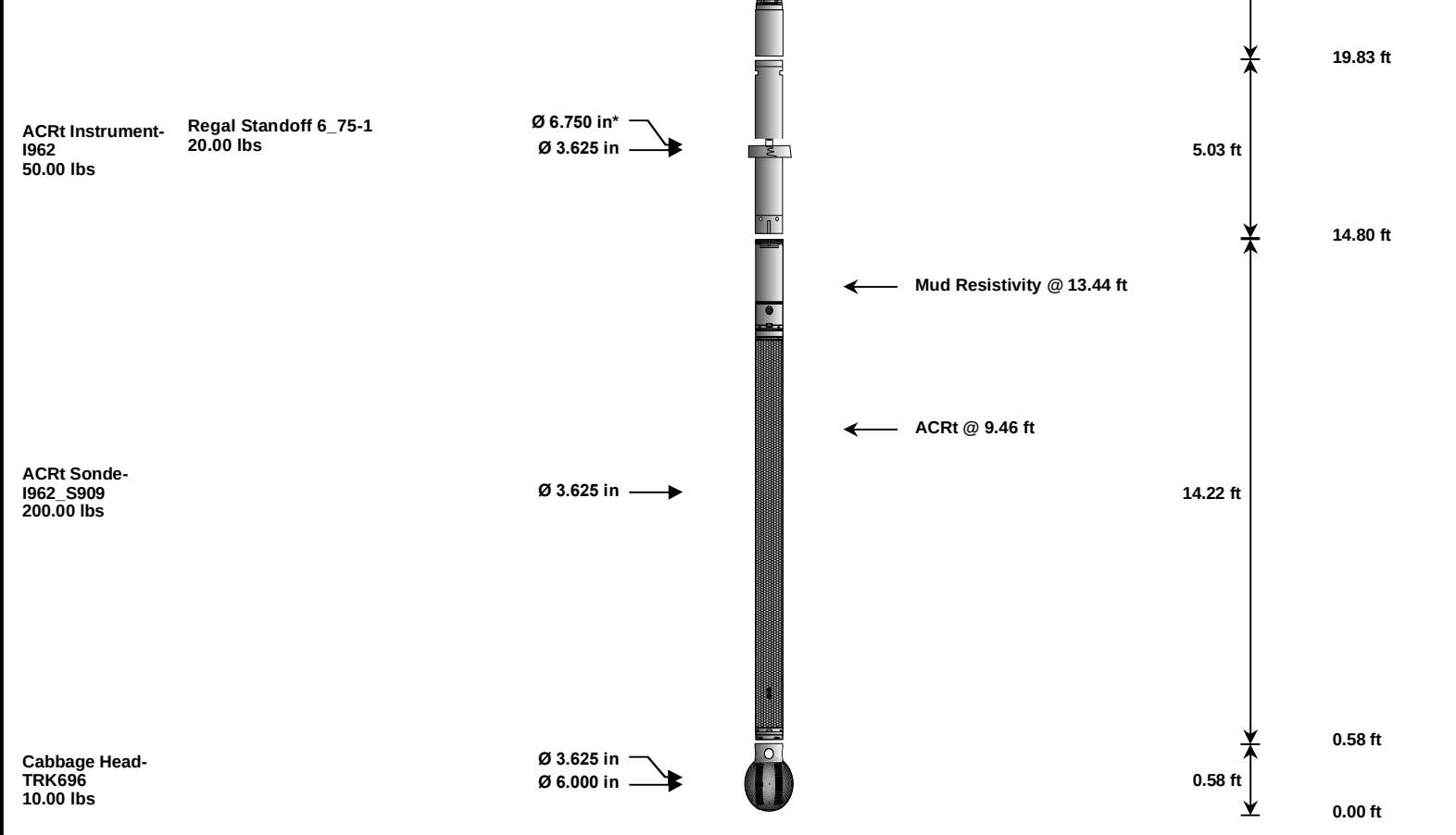
6 Caliper inches -18 NearQuality 2 18 FarQuality -2 0 Gamma Ray api 150 SHALE	MD 1 : 240 ft AHV ft3 BHV ft3	0 Pe 10	-0.25 DensityCorr g/cc 0.25
			15K Tension pounds 0
		2 Bulk Density g/cc 3	

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in →		← Temperature @ 61.21 ft	3.03 ft	62.24 ft
XOHD-TRK696 20.00 lbs		Ø 2.750 in → Ø 3.625 in →			0.95 ft	59.21 ft
SP Sub-001 60.00 lbs		Ø 3.625 in →		← SP @ 56.48 ft	3.74 ft	58.26 ft
						54.52 ft
GTET-11039640 165.00 lbs		Ø 3.625 in →		← GammaRay @ 48.46 ft	8.52 ft	
						46.00 ft
DSNT-11019643 174.00 lbs	DSN Decentralizer- 11005605 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 39.06 ft ← DSN Near @ 38.31 ft	9.69 ft	
						36.31 ft
SDLT-I43_M296 360.00 lbs	SDLT Pad-P84 65.00 lbs Microlog Pad-M296 8.00 lbs	Ø 4.500 in → Ø 4.750 in* → Ø 4.750 in* →		Microlog @ 28.50 ft SDL Caliper @ 28.32 ft SDL @ 28.31 ft	10.81 ft	
						25.50 ft
Flex Joint-001 140.00 lbs		Ø 3.625 in →			5.67 ft	



Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH HOS	Hostile Cable Head with Load Cell		CH 696	37.50	3.03	59.21	300.00
XOHD	Hostile to Dits Cross Over		TRK696	20.00	0.95	58.26	300.00
SP	SP Sub		001	60.00	3.74	54.52	300.00
GTET	Gamma Telemetry Tool		11039640	165.00	8.52	46.00	60.00
DSNT	Dual Spaced Neutron		11019643	174.00	9.69	36.31	60.00
DCNT	DSN Decentralizer		11005605	6.60	5.13	* 39.64	300.00
SDLT	Spectral Density Tool		I43 M296	360.00	10.81	25.50	60.00
SDLP	Density Insite Pad		P84	65.00	2.55	* 27.71	60.00
MICP	Microlog Pad		M296	8.00	1.00	* 28.00	60.00
FLEX	Flex Joint		001	140.00	5.67	19.83	300.00
ACRt	Array Compensated True Resistivity Instrument Section		I962	50.00	5.03	14.80	300.00
RSOF	Regal Standoff 6.75in		1	20.00	0.52	* 17.08	300.00
ACRt	Array Compensated True Resistivity		I962_S909	200.00	14.22	0.58	300.00
CBHD	Cabbage Head		TRK696	10.00	0.58	0.00	300.00
Total				1,316.10	62.24		
* Not included in Total Length and Length Accumulation.							
Data: RICHARDSON_1_3I0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIIDLE							
Date: 10-Apr-12 08:50:23							

HALLIBURTON CALIBRATION REPORT			
NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11039640	Reference Calibration Date:	22-Feb-12 20:28:49
Engineer:	C. MARLOWE	Calibration Date:	25-Mar-12 12:10:59
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1
Calibrator Source S/N: TB146 Calibrator API Reference:265.00 api Equivalent Calibrator API Reference:269.6 api			

Measurement	Measured	Calibrated	Units
Background	48.9	48.9	api
Background + Calibrator	318.5	318.5	api
Calibrator	269.6	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11039640

Reference Calibration Date: 25-Mar-12 12:10:59

Engineer: T. HYDE

Calibration Date: 10-Apr-12 08:16:54

Software Version: WL INSITE R3.4.2 (Build 2)

Calibration Version: 1

Calibrator Source S/N: TB146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	48.9	37.8	api
Background + Calibrator	318.5	307.3	api
Calibrator	269.6	269.5	api

Shop	Field	Difference	Tolerance
269.6	269.5	0.1	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11019643

Reference Calibration Date: 16-Feb-12 09:05:04

Engineer: C. HAVERKAMP

Calibration Date: 22-Mar-12 09:23:57

Software Version: WL INSITE R3.4.2 (Build 2)

Calibration Version: 1

Logging Source S/N: 696

Tank Serial Number: LIBERAL_NEUTRON

Reference value assigned to Tank: 51.680

Snow Block S/N: 696

Calibration Tank Water Temperature: 62 degF

Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.956	0.958	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):	0.2098	0.2106	0.0008	+/- 0.0020
Calibrated Ratio:	9.69	9.72	0.028	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0842	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 - 11019643

Reference Calibration Date: 22-Mar-12 09:23:57

Tool Name: DSN1 - 11019043		Reference Calibration Date: 22-Mar-12 09:23:37	
Engineer:	T. HYDE	Calibration Date:	10-Apr-12 08:23:55
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1
Logging Source S/N: 696			
Snow Block S/N: 696			
NEUTRON FIELD-CHECK SUMMARY			
	Shop	Field	Control Limit On Change
Snow-Block Porosity (decp):	0.0842	0.0724	-0.0118 +/- 0.0150
PASS/FAIL SUMMARY			
Block Change Check:		Passed	
Snow Block Stat Check:		Passed	
Temperature Check:		Passed	

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - I43_M296	Reference Calibration Date:	01-Jan-70 00:00:00
Engineer:	C. HAVERKAMP	Calibration Date:	22-Mar-12 14:41:37
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1
CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3452.47	-3452.47	-7000.00 - -1000.00
Pad Gain	0.0003831	0.0003831	0.000200 - 0.000600
Arm Offset	-2502.15	-2502.15	-5000.00 - 3000.00
Arm Gain	0.0005098	0.0005098	0.000300 - 0.000700
Arm Power	-0.000004714	-0.000004714	-0.000010 - 0.000010
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.)	Control Limit On New Value
PAD EXTENSION:			
Small Ring (in)	2.00	2.00	+/- 0.20
Medium Ring (in)	3.75	3.75	+/- 0.20
RING DIAMETER:			
Small Ring (in)	6.50	6.50	+/- 0.20
Medium Ring (in)	8.25	8.25	+/- 0.20
Large Ring (in)	15.00	15.00	+/- 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 - I43_M296	Reference Calibration Date:	22-Mar-12 14:41:37
Engineer:	T. HYDE	Calibration Date:	10-Apr-12 08:27:18
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1
MEASURED CALIPER VALUES			
Measurement	Shop	Field	Control Limit On New Value

Pad Extension	3.75	3.82	0.07	+/- 0.10
Ring Diameter	8.25	8.31	0.06	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed
Diameter Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	SDLT Pad - P84	Reference Calibration Date:	25-Jan-12 13:24:15
Engineer:	C. HAVERKAMP	Calibration Date:	22-Mar-12 13:54:41
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Logging Source S/N: 5168GW			
Aluminum Block S/N: LIBERAL	Density: 2.598g/cc		Pe: 3.170
Magnesium Block S/N: LIBERAL	Density: 1.684g/cc		Pe: 2.598

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0662	1.0534	0.90 - 1.10
Near Dens Gain	1.0190	1.0244	0.90 - 1.10
Near Peak Gain	1.0172	1.0169	0.90 - 1.10
Near Lith Gain	0.9937	1.0038	0.90 - 1.10
Far Bar Gain	1.0164	1.0144	0.90 - 1.10
Far Dens Gain	1.0039	1.0034	0.90 - 1.10
Far Peak Gain	0.9997	0.9964	0.90 - 1.10
Far Lith Gain	0.9799	0.9775	0.90 - 1.10
Near Bar Offset	-0.4561	-0.3282	NONE
Near Dens Offset	-0.0509	-0.0887	NONE
Near Peak Offset	-0.0587	-0.0443	NONE
Near Lith Offset	0.1062	0.0330	NONE
Far Bar Offset	-0.0464	-0.0209	NONE
Far Dens Offset	0.0447	0.0576	NONE
Far Peak Offset	0.0676	0.1034	NONE
Far Lith Offset	0.2037	0.2287	NONE
Near Bar Background	759.66	754.72	700 - 1450
Near Dens Background	248.20	247.80	230 - 480
Near Peak Background	107.50	107.83	100 - 210
Near Lith Background	134.55	135.66	125 - 260
Far Bar Background	523.51	523.82	450 - 900
Far Dens Background	203.91	204.65	175 - 345
Far Peak Background	80.87	80.93	70 - 140
Far Lith Background	84.19	83.77	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.678	1.684	0.006	+/- 0.015
Pe	2.583	2.554	-0.029	+/- 0.150
ALUMINUM				
Density (g/cc)	2.592	2.598	0.006	+/- 0.01500
Pe	3.106	3.122	0.016	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0012	+/- 0.0110	-0.0010	+/- 0.0140
Magnesium Block	-0.0008	+/- 0.0110	-0.0004	+/- 0.0140
Aluminum Block	-0.0003	+/- 0.0110	0.0008	+/- 0.0140
Resolution	9.19	6.00 - 11.50	8.95	6.00 - 11.50
Internal Verifier(B+D+P+L)	1246	1200 - 2700	893	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

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11039640						
Gamma Ray Calibrator	269.6	269.5	-----	0.1	+/- 9.00	api
DSNT-11019643						
Snow-Block Porosity	0.0842	0.0724	-----	0.0118	+/- 0.0150	decp
SDLT-I43_M296						
Pad Extension	3.75	3.82	-----	-0.07	+/-0.10	in
Ring Diameter	8.25	8.31	-----	-0.060	+/-0.15	in
SDLT Pad-P84						
Near(B+D+P+L)	1246.006	-----	-----	0.000	+/-12.529	cps
Far(B+D+P+L)	893.169	-----	-----	0.000	+/-14.761	cps
Data: RICHARDSON_1_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIDLE					Date: 10-Apr-12 09:20:48	

HALLIBURTON	
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	9.300	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	2.000	ohmm
	SHARED	TRM	Temperature of Mud	75.0	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	4890.00	ft
SHARED	BHT	Bottom Hole Temperature	117.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	Temperature Master Tool	NONE	
SHARED	BHSM	Borehole Size 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	
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	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DSNO	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	
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
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	

BOTTOM

INPUTS, DELAYS AND FILTERS TABLE

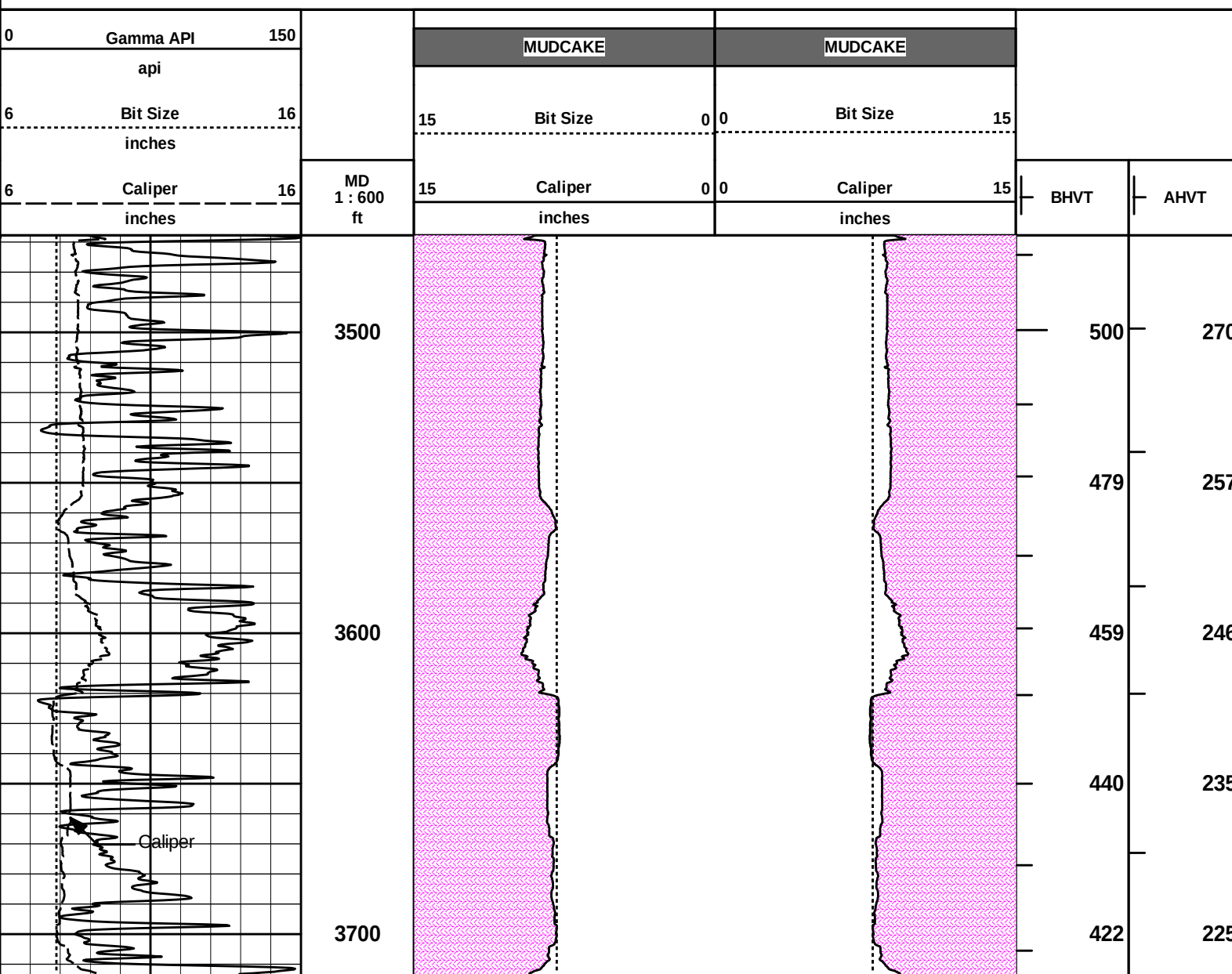
Mnemonic		Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel					
TENS		Tension	0.00	NO	
CH_HOS					
DHTN		DownholeTension	0.00	BLK	0.000
SP Sub					
PLTC		Plot Control Mask	56.48	NO	
SP		Spontaneous Potential	56.48	BLK	1.250
SPR		Raw Spontaneous Potential	56.48	NO	
SPO		Spontaneous Potential Offset	56.48	NO	
GTET					
TPUL		Tension Pull	48.46	NO	
GR		Natural Gamma Ray API	48.46	TRI	1.750
GRU		Unfiltered Natural Gamma Ray API	48.46	NO	
EGR		Natural Gamma Ray API with Enhanced Vertical Resolution	48.46	W	1.416 , 0.750
ACCZ		Accelerometer Z	0.00	BLK	0.083
DEVI		Inclination	0.00	NO	
DSNT					
TPUL		Tension Pull	38.21	NO	
RNDS		Near Detector Telemetry Counts	38.31	BLK	1.417
RFDS		Far Detector Telemetry Counts	39.06	TRI	0.583
DNTT		DSN Tool Temperature	38.31	NO	
DSNS		DSN Tool Status	38.21	NO	
ERND		Near Detector Telemetry Counts EVR	38.31	BLK	0.000
ERFD		Far Detector Telemetry Counts EVR	39.06	BLK	0.000
ENTM		DSN Tool Temperature EVR	38.31	NO	
SDLT					
TPUL		Tension Pull	28.32	NO	
PCAL		Pad Caliper	28.32	TRI	0.250
ACAL		Arm Caliper	28.32	TRI	0.250
ACRt Sonde					
TPUL		Tension Pull	2.97	NO	
F1R1		ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1		ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2		ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2		ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3		ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3		ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4		ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4		ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5		ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5		ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6		ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6		ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1		ACRT 36KHz - 80in R value	9.22	BLK	0.000

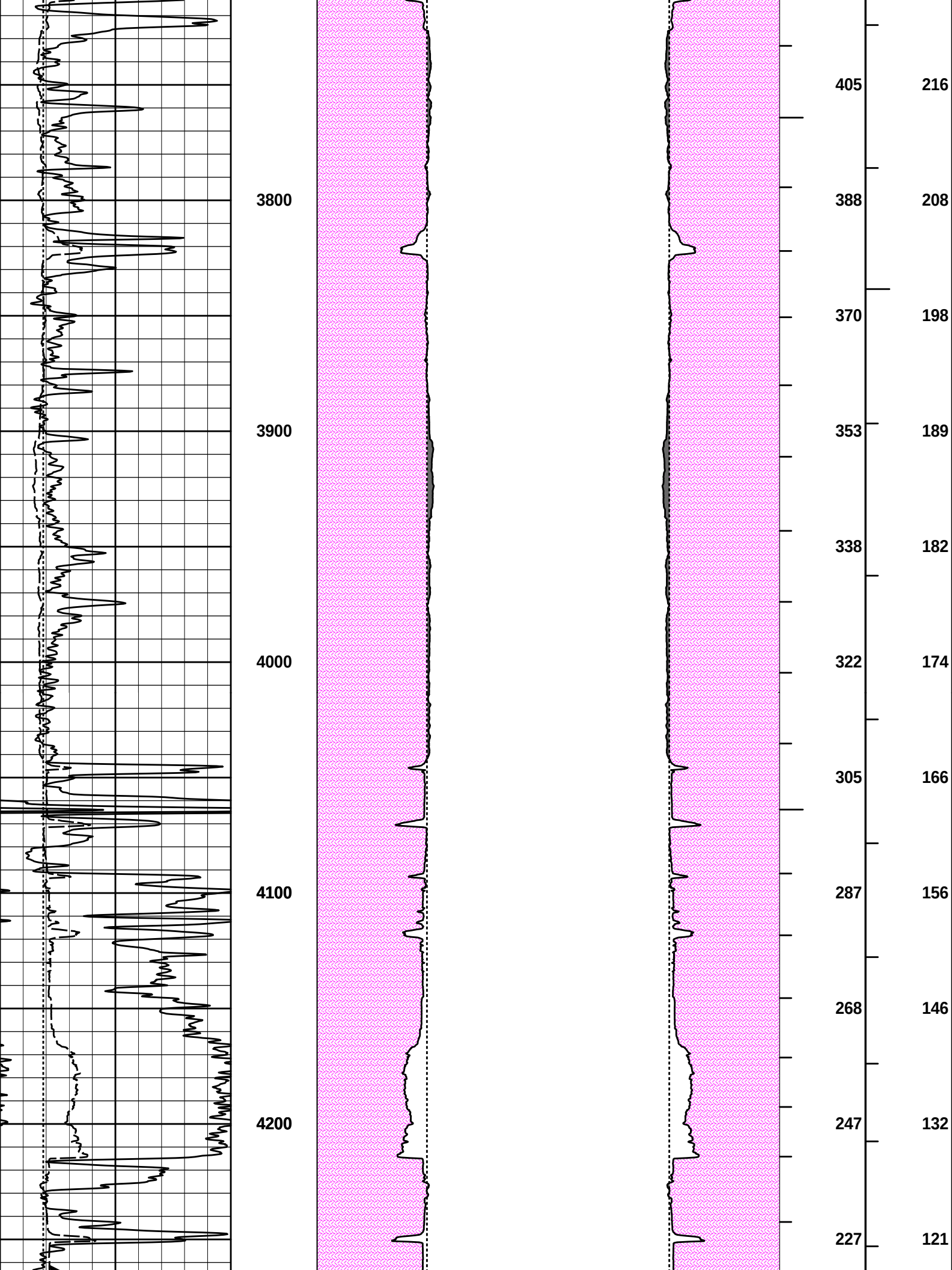
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	
SDLT Pad				
TPUL	Tension Pull	28.31	NO	
NAB	Near Above	28.13	BLK	0.920
NHI	Near Cesium High	28.13	BLK	0.920
NLO	Near Cesium Low	28.13	BLK	0.920
NVA	Near Valley	28.13	BLK	0.920
NBA	Near Barite	28.13	BLK	0.920
NDE	Near Density	28.13	BLK	0.920
NPK	Near Peak	28.13	BLK	0.920
NLI	Near Lithology	28.13	BLK	0.920
NBAU	Near Barite Unfiltered	28.13	BLK	0.250
NLIU	Near Lithology Unfiltered	28.13	BLK	0.250
FAB	Far Above	28.48	BLK	0.250
FHI	Far Cesium High	28.48	BLK	0.250
FLO	Far Cesium Low	28.48	BLK	0.250
FVA	Far Valley	28.48	BLK	0.250
FBA	Far Barite	28.48	BLK	0.250

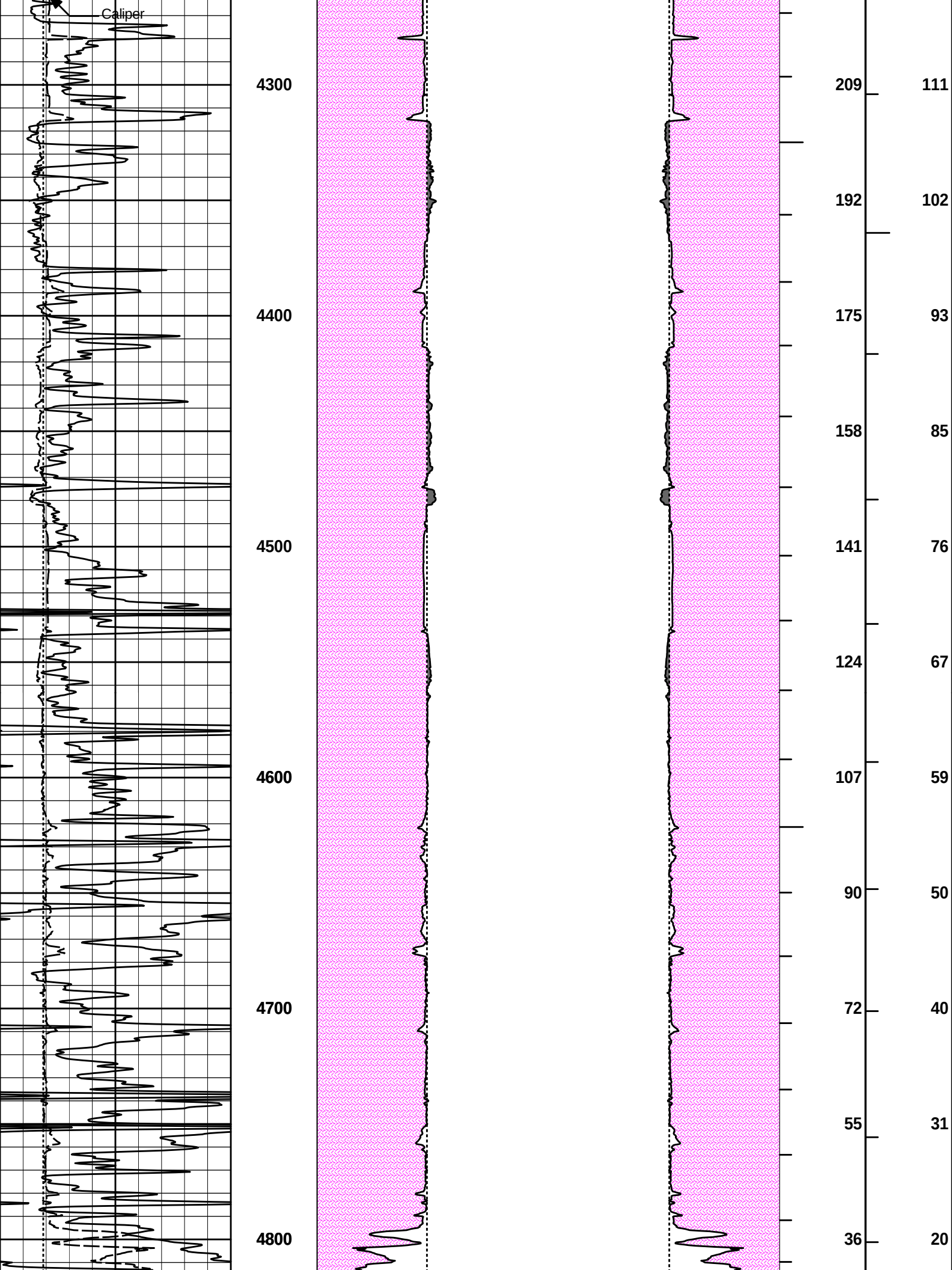
FDE	Far Density	28.48	BLK	0.250
FPK	Far Peak	28.48	BLK	0.250
FLI	Far Lithology	28.48	BLK	0.250
PTMP	Pad Temperature	28.32	BLK	0.920
NHV	Near Detector High Voltage	27.71	NO	
FHV	Far Detector High Voltage	27.71	NO	
ITMP	Instrument Temperature	27.71	NO	
DDHV	Detector High Voltage	27.71	NO	

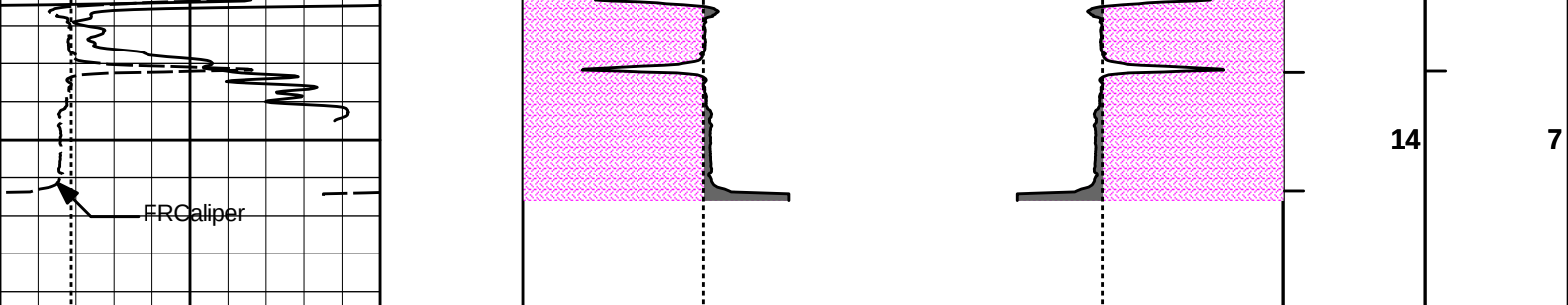
HALLIBURTON Plot Time: 10-Apr-12 11:15:44
 Plot Range: 3467.75 ft to 4894.25 ft
 Data: RICHARDSON_1_3\Well Based\DAQ-0001-004\
 Plot File: \\-LOCAL-\\RICHARDSON_1_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\PORO\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT









6	Caliper	16	MD 1 : 600 ft	15	Caliper	0 0	15	BHVT	AHVT
	inches				inches				
6	Bit Size	16		15	Bit Size	0 0	15		
	inches								
0	Gamma API	150			MUDCAKE		MUDCAKE		
	api								

HALLIBURTON

Plot Time: 10-Apr-12 11:15:46
Plot Range: 3467.75 ft to 4894.25 ft
Data: RICHARDSON_1_3\Well Based\DAQ-0001-004\
Plot File: \\-LOCAL-\\RICHARDSON_1_3\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIPORO\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	STRATA EXPLORATION		
WELL	RICHARDSON 1-3		
FIELD	GREENSBURG		
COUNTY	KIOWA	STATE	KANSAS
HALLIBURTON		MICRO LOG	