COMPANY	HARTMAN OIL COMPANY, INC.
WELL	BECKER #7
FIELD/BLOCK	DAMME
COUNTY	FINNEY
STATE	KANSAS

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

COMPANY	**HARTMAN OIL COMPANY, INC.**
WELL	**BECKER #7**
FIELD/BLOCK	**DAMME**
COUNTY	**FINNEY**
STATE	**KANSAS**

API No. 15-055-22458-00

Location (SHL) 660' FSL 1320' FEL S2 SE

Other Services: DSNT/SDLT MICROLOG ACRT

Sect. 8 Twp. 22S Rge. 33E

Permanent Datum	GL	Elev. 2892.0 ft	Elev.: K.B. 2900.0 ft
Log measured from	KB	8.0 ft above perm. Datum	D.F. 2900.0 ft
Drilling measured from	KB		G.L. 2892.0 ft

Date	10-Sep-17		
Run No.	ONE		
Depth - Driller	4810.0 ft		
Depth - Logger	4801.0 ft		
Bottom - Logged Interval	4792.00 ft		
Top - Logged Interval	347.00 ft		
Casing - Driller	8.625 in @ 347.0 ft	@	@
Casing - Logger	347.0 ft		
Bit Size	7.875 in	@	@
Type Fluid in Hole	Water Based Mud		
Density / Viscosity	8.9 ppg / 57.00 s/qt		
PH / Fluid Loss	8.50 pH / 10.8 cptm		
Source of Sample	MUD PIT		
Rm @ Meas. Temperature	0.79 ohmm @ 75.00 degF	@	@
Rmf @ Meas. Temperature	0.65 ohmm @ 75.00 degF	@	@
Rmc @ Meas. Temperature	0.93 ohmm @ 75.00 degF	@	@
Source Rmf / Rmc	MEASURED / MEASURED		
Rm @ BHT	0.52 ohmm @ 118.0 degF	@	@
Time Since Circulation	7.0 hr		
Time on Bottom	10-Sep-17 15:30		
Max. Rec. Temperature	118.00 degF @ 75.0 ft	@	@
Equipment / Location	11230668 / EL RENO, OK		
Recorded By	JORGE ORLANDO PEREZ		
Witnessed By	CHRIS PETERS		

Fold here

Service Ticket No.: 904287619 API No.: 15-055-22458-00 PGM Version: WL INSITE R5.0.5 (Build 8)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE					
Date	Sample No.				
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
Ph	Fluid Loss				
Source of Sample					
Rm @ Meas. Temp		@		@	
Rmf @ Meas. Temp.		@		@	
Rmc @ Meas. Temp.		@		@	
Source Rmf	Rmc				
Rm @ BHT		@		@	
Rmf @ BHT		@		@	
Rmc @ BHT		@		@	

RESISTIVITY SCALE CHANGES			
Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA				
Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
ONE	ACRT	N/A	1.5 S.O.	N/A
	I-12109517			
	S-12109515			

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	10971172	Serial No.		Serial No.	12153520	Serial No.	11019643
Model No.	GTET	Model No.		Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.		Diameter	5.5"	Diameter	3.625"
Detector Model No.	T-102	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS137	Source Type	AM241BE
Length	8"	LSA [Y/N]		Serial No.	20791B	Serial No.	DSN-438
Distance to Source	N/A	FWDA [Y/N]		Strength	1.5 Ci	Strength	15.0 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	CSG	REC	0	150				30	-10	2.71 gr/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

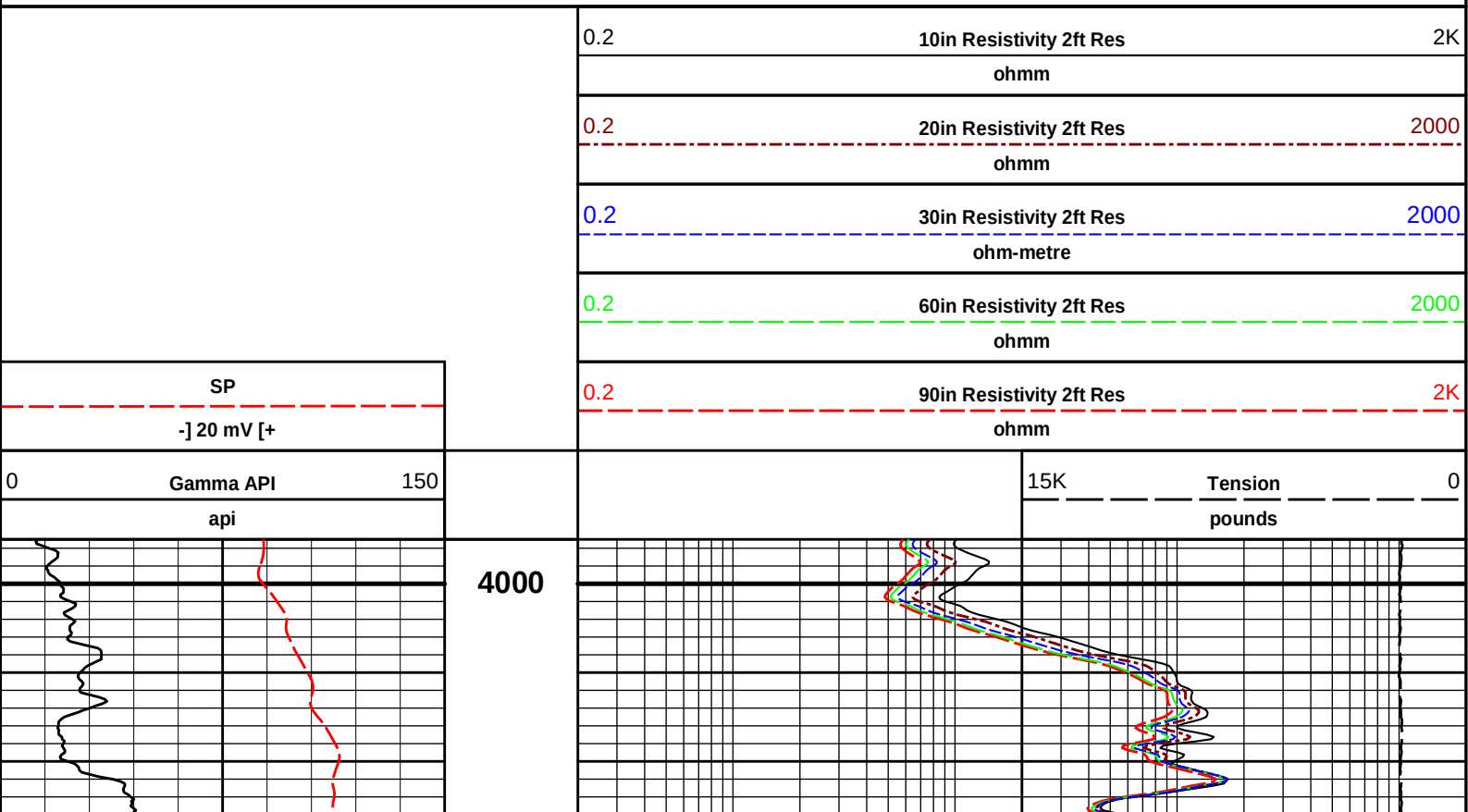
CHLORIDES REPORTED AT 2450 ppm

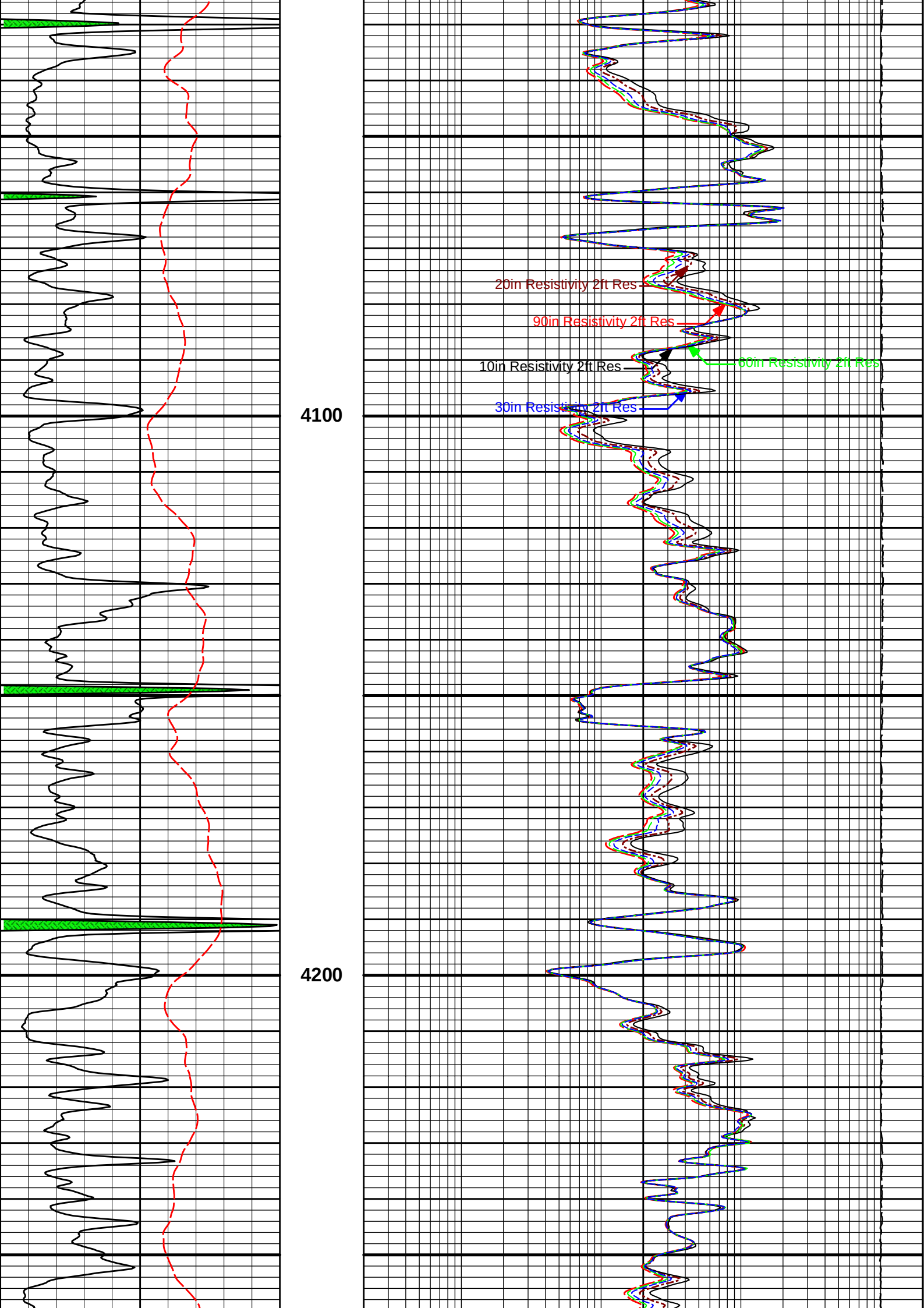
HALLIBURTON

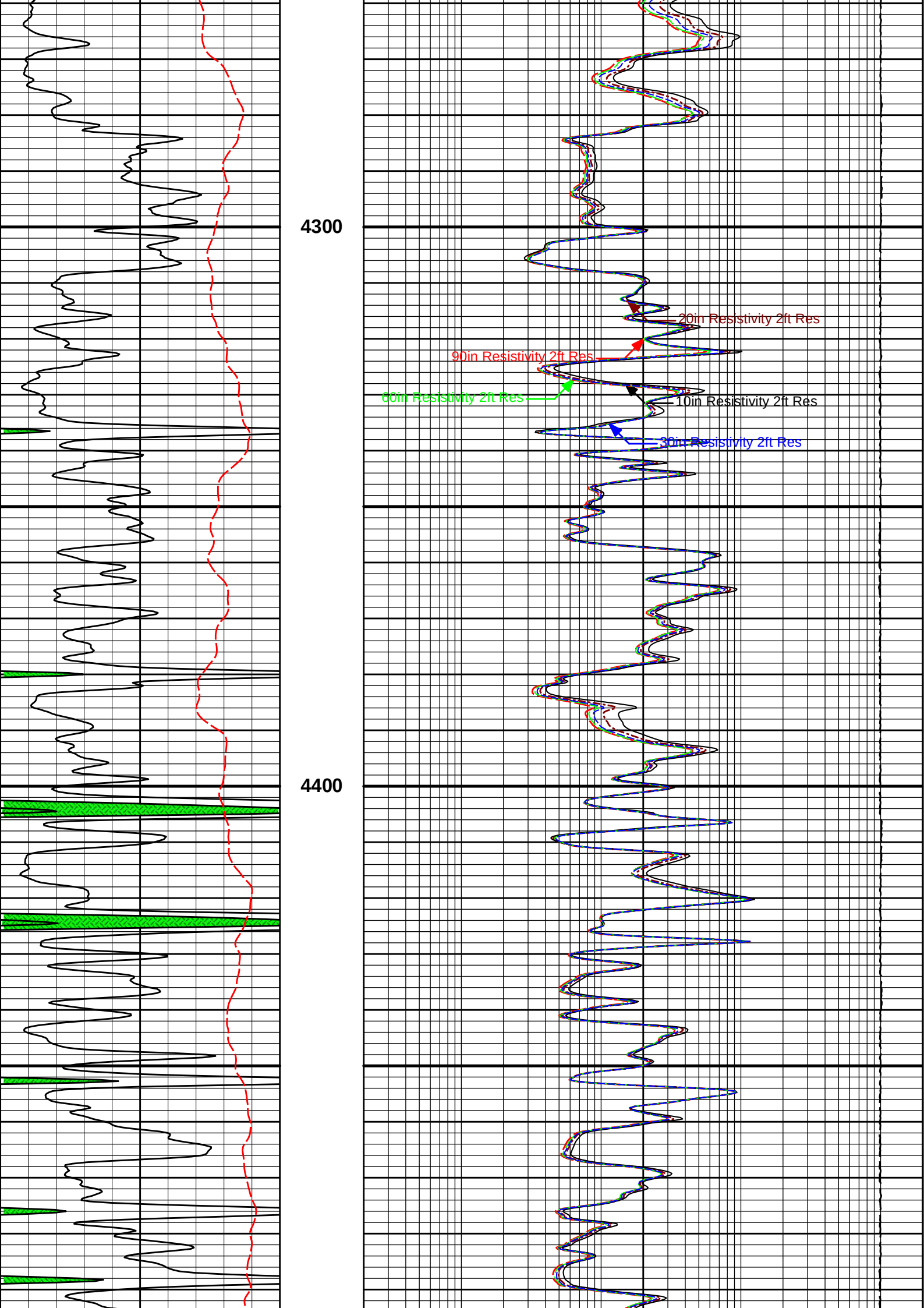
Plot Time: 10-Sep-17 15:39:57
Plot Range: 3995 ft to 4806.17 ft
Data: BECKER_7\Well Based\DAQ-0001-004
Plot File: \\-LOCAL-\BECKER_7\Well Based\ACRT-DETAIL\ACRT_5inch_main

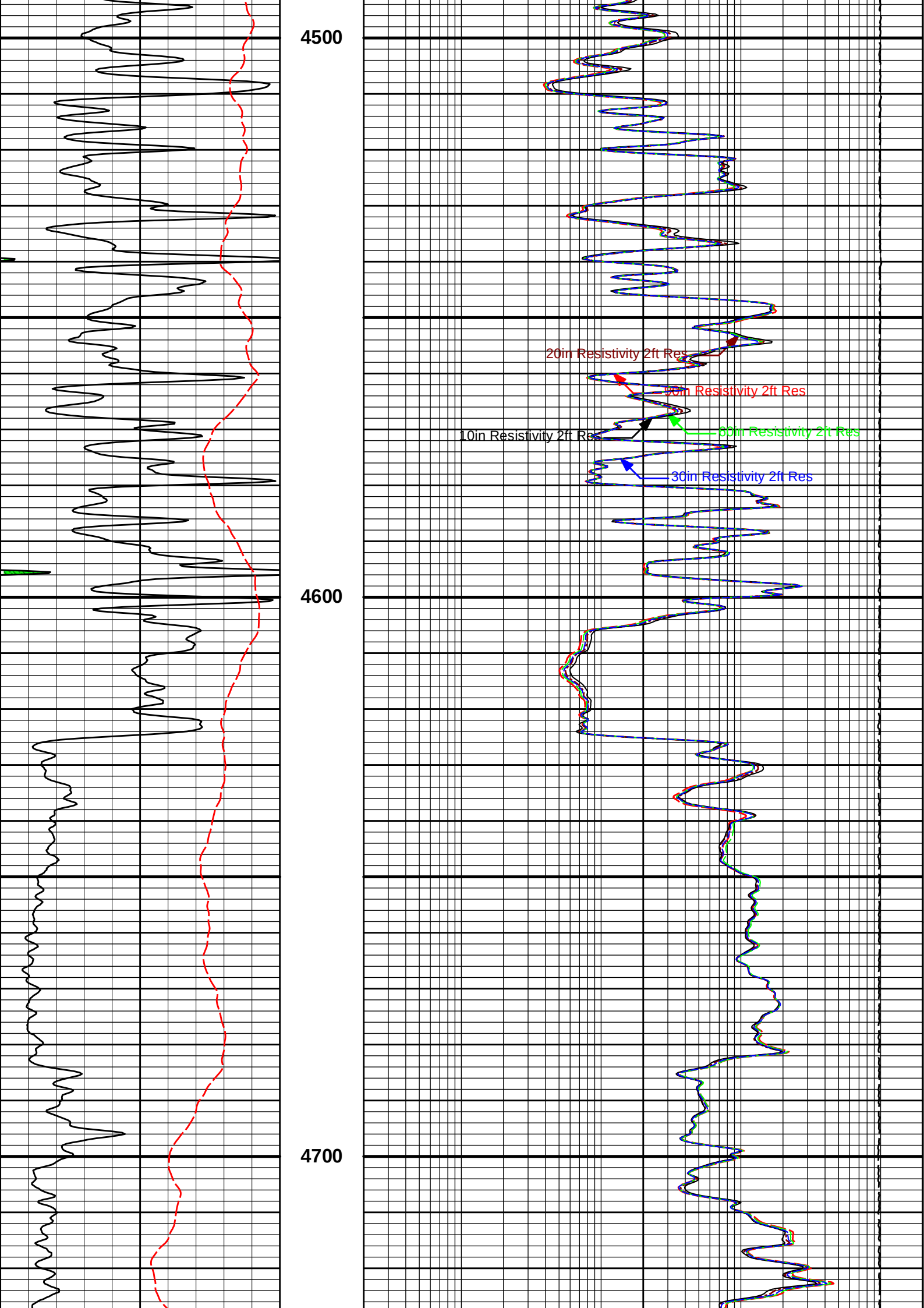
5 INCH MAIN LOG

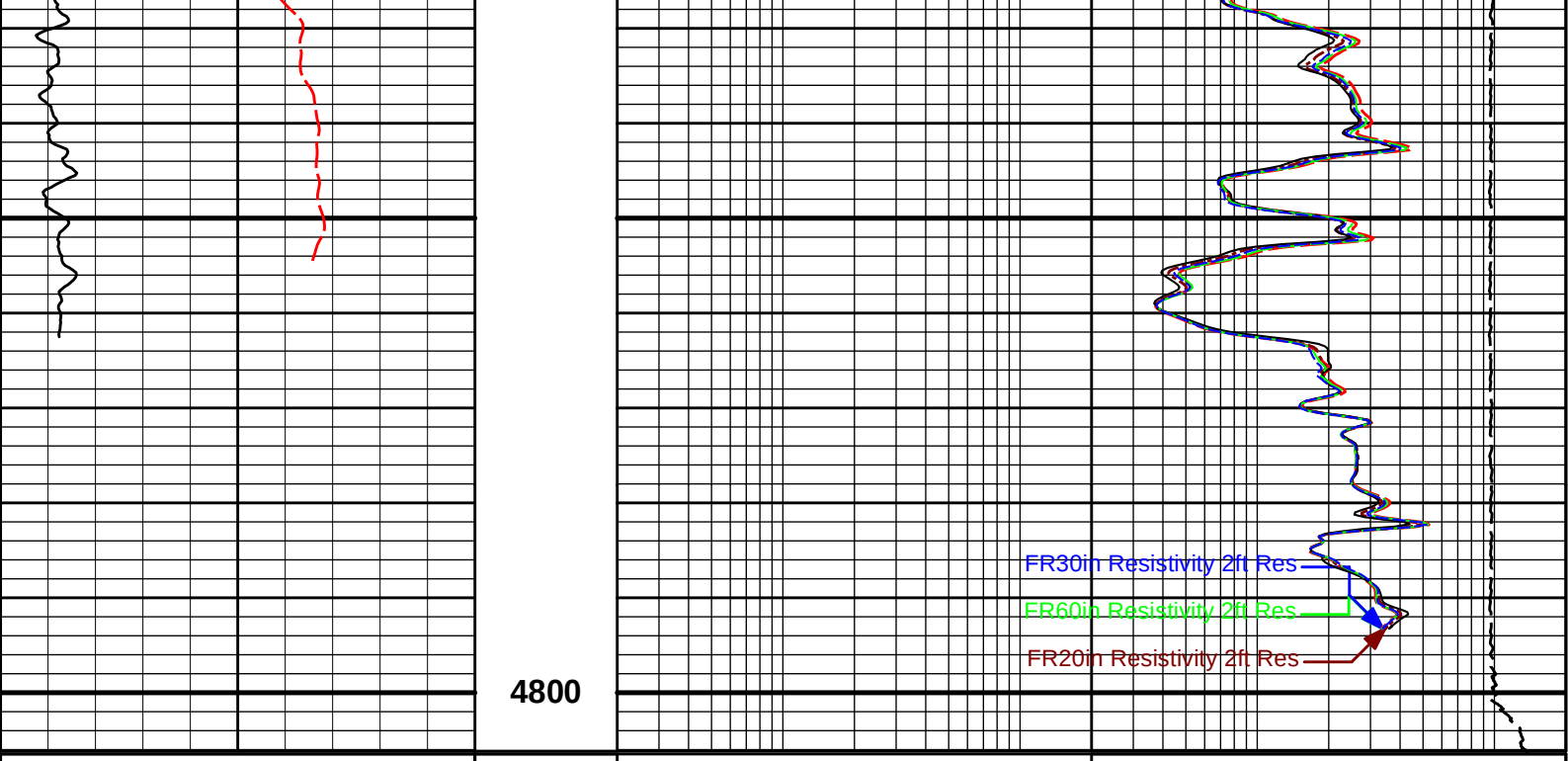
5 INCH MAIN LOG




20in Resistivity 2ft Res
90in Resistivity 2ft Res
10in Resistivity 2ft Res
60in Resistivity 2ft Res
30in Resistivity 2ft Res
4100
4200


4300
4400
20in Resistivity 2ft Res
90in Resistivity 2ft Res
60in Resistivity 2ft Res
10in Resistivity 2ft Res
30in Resistivity 2ft Res


4500
4600
4700
20in Resistivity 2ft Res
90in Resistivity 2ft Res
10in Resistivity 2ft Res
60in Resistivity 2ft Res
30in Resistivity 2ft Res



0	Gamma API	150
	api	
	SP	
	-] 20 mV [+	
15K	Tension	0
	pounds	
0.2	90in Resistivity 2ft Res	2K
	ohmm	
0.2	60in Resistivity 2ft Res	2000
	ohmm	
0.2	30in Resistivity 2ft Res	2000
	ohm-metre	
0.2	20in Resistivity 2ft Res	2000
	ohmm	
0.2	10in Resistivity 2ft Res	2K
	ohmm	

HALLIBURTON

Plot Time: 10-Sep-17 15:40:00
Plot Range: 3995 ft to 4806.17 ft
Data: BECKER_7\Well Based\DAQ-0001-004\
Plot File: \\-LOCAL-\BECKER_7\Well Based\ACRT-DETAIL\ACRT_5inch_main

5 INCH MAIN LOG

5 INCH MAIN LOG

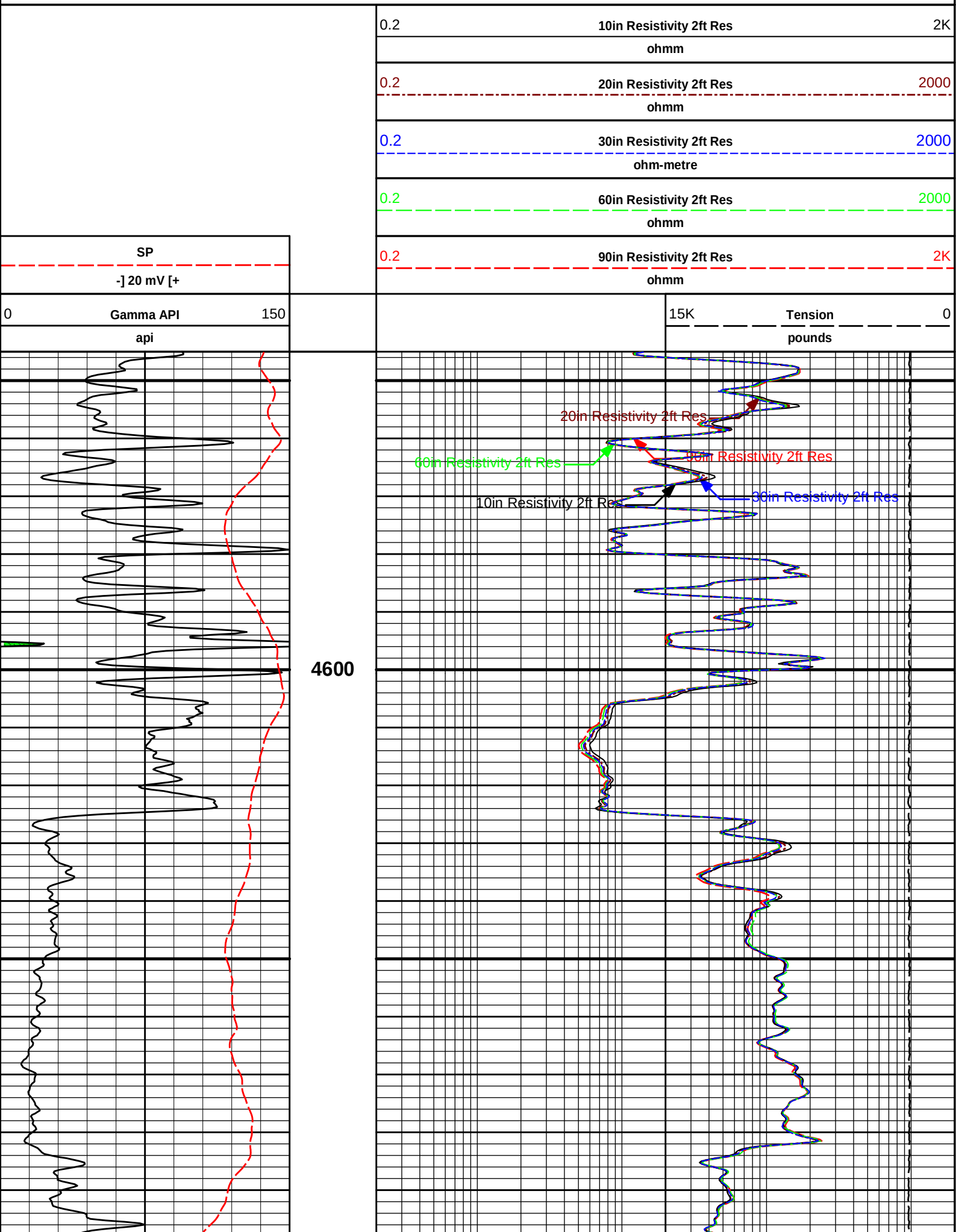
HALLIBURTON

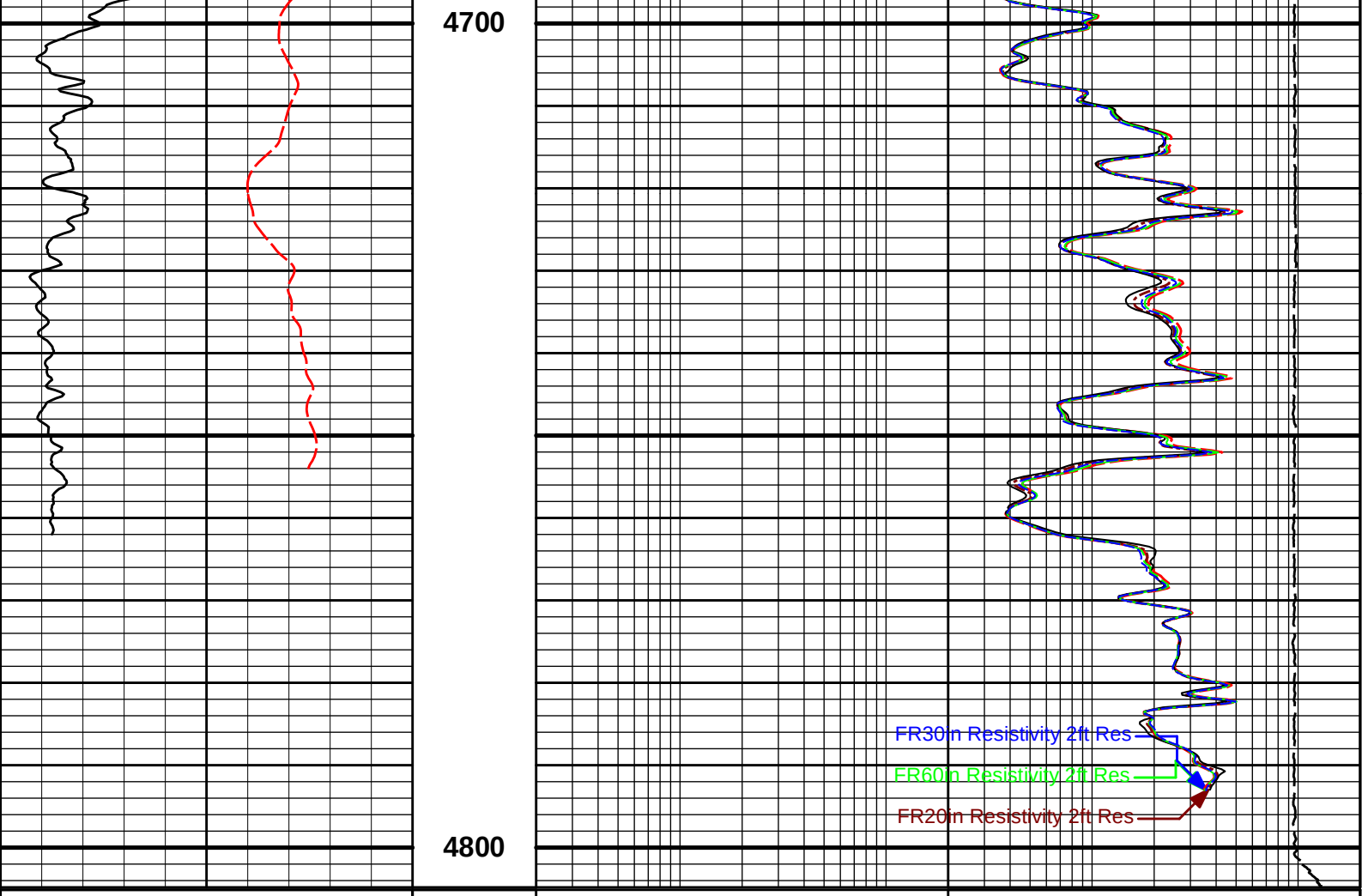
Plot Time: 10-Sep-17 15:40:00
Plot Range: 4545 ft to 4804.83 ft
Data: BECKER_7\Well Based\REPEAT\
Plot File: \\-LOCAL-\BECKER_7\Well Based\ACRT-DETAIL\ACRT_5inch_repeat

5 INCH MAIN LOG

5 INCH REPEAT LOG

5 INCH REPEAT LOG





0	Gamma API	150
	api	
	SP	
	-] 20 mV [+	

15K	Tension	0
	pounds	
0.2	90in Resistivity 2ft Res	2K
	ohmm	
0.2	60in Resistivity 2ft Res	2000
	ohmm	
0.2	30in Resistivity 2ft Res	2000
	ohm-metre	
0.2	20in Resistivity 2ft Res	2000
	ohmm	
0.2	10in Resistivity 2ft Res	2K
	ohmm	

HALLIBURTON

Plot Time: 10-Sep-17 15:40:02
Plot Range: 4545 ft to 4804.83 ft
Data: BECKER_7\Well Based\REPEAT\
Plot File: \\-LOCAL-\BECKER_7\Well Based\ACRT-DETAIL\ACRT_5inch_repeat

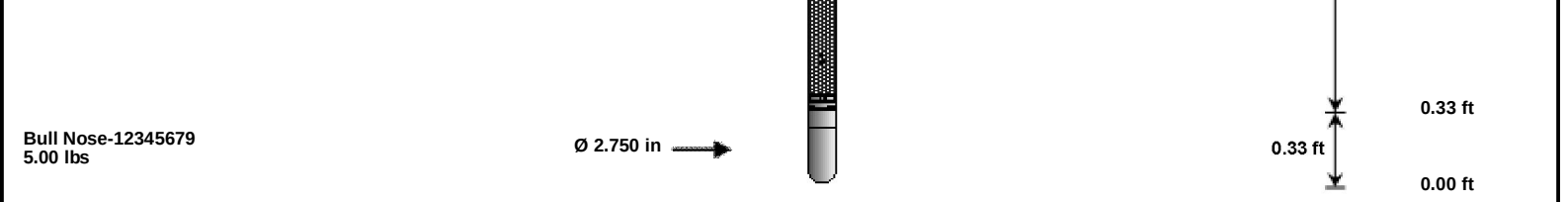
5 INCH MAIN LOG

5 INCH REPEAT LOG

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						55.79 ft
CH_HOS-11459024 37.50 lbs	Weak Point 7000 lbs-12345678 0.01 lbs	Ø 2.750 in Ø 0.010 in*		Temperature @ 55.29 ft	2.50 ft	
						53.29 ft
XOHD-11569312 20.00 lbs		Ø 2.750 in Ø 3.625 in			0.95 ft	
						52.34 ft
SP Sub-11441709 60.00 lbs		Ø 3.625 in		SP @ 50.56 ft	3.74 ft	
						48.60 ft
				Z-Accelerometer @ 48.15 ft		
GTET-10971172 165.00 lbs		Ø 3.625 in			8.52 ft	
				GammaRay @ 42.54 ft		
						40.08 ft
DSNT-11019643 174.00 lbs	DSN Decentralizer-11019643 6.60 lbs	Ø 5.000 in* Ø 3.625 in			9.69 ft	
				DSN Far @ 33.15 ft DSN Near @ 32.40 ft		
						30.40 ft
SDLT-12153520 360.00 lbs	SDLT Pad-10865884 65.00 lbs Microlog Pad-12153520 8.00 lbs RAM-Cs137-00005155 1.00 lbs	Ø 4.500 in Ø 4.500 in* Ø 4.750 in* Ø 0.800 in*		Microlog @ 22.58 ft SDL Caliper @ 22.40 ft SDL @ 22.39 ft	10.81 ft	
						19.58 ft
ACRt Instrument-12109517 50.00 lbs	Centralizer 25-12345678 8.00 lbs	Ø 4.000 in* Ø 3.625 in			5.03 ft	
						14.55 ft
	ALAT Standoff OD 6-12345679 11.60 lbs	Ø 6.000 in*		Mud Resistivity @ 13.19 ft		
				ACRt @ 9.21 ft		
ACRt Sonde-12109515 200.00 lbs		Ø 3.625 in			14.22 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	11459024	37.50	2.50		53.29	300.00
WP7K	Weak Point 7000 lbs	12345678	0.01	0.01	*	54.09	300.00
XOHD	Hostile to Dits Cross Over	11569312	20.00	0.95		52.34	300.00
SP	SP Sub	11441709	60.00	3.74		48.60	300.00
GTET	Gamma Telemetry Tool	10971172	165.00	8.52		40.08	60.00
DSNT	Dual Spaced Neutron	11019643	174.00	9.69		30.40	60.00
DCNT	DSN Decentralizer	11019643	6.60	5.13	*	33.73	300.00
SDLT	Spectral Density Tool	12153520	360.00	10.81		19.58	60.00
SDLP	Density Insite Pad	10865884	65.00	2.55	*	21.79	60.00
Cs137	Logging Source, SDLT-I, 1.78 Ci - Cs137	00005155	1.00	0.80	*	22.02	300.00
MICP	Microlog Pad	12153520	8.00	1.00	*	22.08	60.00
ACRt	Array Compensated True Resistivity Instrument Section	12109517	50.00	5.03		14.55	120.00
OBCEN	Centralizer - 25 in. Overbody	12345678	8.00	2.08	*	16.24	300.00
ACRt	Array Compensated True Resistivity Sonde Section	12109515	200.00	14.22		0.33	120.00
ALATS	Array Laterolog Tool OD 6 Standoff	12345679	11.60	1.00	*	13.19	60.00
BLNS	Bull Nose	12345679	5.00	0.33		0.00	300.00
Total			**1,171.71**	**55.79**			

* Not included in Total Length and Length Accumulation.

Data: BECKER_7\0001 GTET-DSNT-SDLT-ACRt\IDLE **Date: 10-Sep-17 13:43:35**

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	8.950	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	WPHS	OBM Water Phase Salinity NaCl	0.00	ppm
	SHARED	OFOW	Base Oil Fraction from Oil/Water Ratio	1.00	
	SHARED	OBMT	Oil based Mud Type	Diesel	
	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	CSOD	Inner Casing OD size	8.500	in
	SHARED	CSWT	Casing Weight	17.00	lbpf
	SHARED	ISOC	Is Outer Casing Present?	No	
	SHARED	COOD	Outer Casing OD size	0.000	in
	SHARED	CSWT	Outer Casing Weight	0.00	lbpf
	SHARED	CSCM	Casing Cemented	Yes	
	SHARED	CMTY	API Cement Class	H	
	SHARED	CMWT	Cement Weight	16.500	ppg
	SHARED	CSTR	Compressive Strength	1000.00	psia
	SHARED	ST	Surface Temperature	75.0	degF

SHARED	TD	Total Well Depth	4810.00	ft
SHARED	BHT	Bottom Hole Temperature	124.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	CBM Temperature Master Tool	GTET	
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	
Rwa / CrossPlot	ROIN	Input for RO Calculation	Rwa	
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	DNTT	Temperature Correction Type	None	
DSNT	DNTT	DSN Tool Temperature	75.0	degF
DSNT	DNFT	DSN Fixed Temperature Value	200.0	degF
DSNT	DNTT	Top Zone Temperature Value	75.0	degF
DSNT	DNBT	DSN Bottom Zone Temperature Value	200.0	degF
DSNT	DTDT	Top Depth for Temperature Gradient Calculation (Measured Depth)	0	ft
DSNT	DBDT	Bottom Zone Temperature Depth (Measured Depth)	10000	ft
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	DNFP	DSN Fixed Pressure Value	14.70	psia
DSNT	DNTP	DSN Top Zone Pressure Value	14.70	psia
DSNT	DNBP	DSN Bottom Zone Pressure Value	14.70	psia
DSNT	DTDP	Top Depth for Pressure Gradient Calculation (Measured Depth)	0	ft
DSNT	DNDP	Bottom Zone Pressure Depth (Measured Depth)	0	ft
DSNT	SHCO	View More Correction Options	No	
DSNT	HSCO	Correct for Holesize?	Yes	
DSNT	MCCO	Correct for Mud Cake?	No	
DSNT	MWCO	Correct for Mud Weight?	No	
DSNT	BSCO	Correct for Borehole Salinity?	No	
DSNT	FSCO	Correct for Formation Salinity?	No	
DSNT	SGCO	Correct for Formation Sigma?	No	
DSNT	SIGM	Sigma Matrix	0.00	
DSNT	SIGW	Sigma Water	0.00	
DSNT	CTCO	Correct for Casing Thickness?	Yes	
DSNT	CMCO	Correct for Cement Thickness?	Yes	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
DSNT	USND	Use Var StandOff?	Yes	
DSNT	BHSM	Borehole Size Source Tool	SDLT	

SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT	SAO	SDL Backup Arm Offset	0.00	in
SDLT	PAO	Pad Arm Offset	0.00	in
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
Microlog Pad	MINO	Microlog Lateral Offset	0.00	ohmm
Microlog Pad	MNOO	Microlog Normal Offset	0.00	ohmm
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	MLPE	Higher PE Accuracy?	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	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
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	RMAX	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	LSFU	ACRT Long Space Array No of Frequency Used	3	
ACRt Sonde	MSFU	ACRT Middle 17 Space Array No of Frequency Used	3	
ACRt Sonde	SSFU	ACRT Short Space Array No of Frequency Used	2	
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	
ACRt Sonde	HRFL	High-Resistivity Version (Tar Sand Only)?	No	

BOTTOM

Data: BECKER_7\0001 GTET-DSNT-SDLT-ACRt\IDLE **Date: 10-Sep-17 13:45:27**

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 10971172**	**Reference Calibration Date:**	**14-Jul-17 15:53:59**
Engineer:	**WHITLOCK**	**Calibration Date:**	**04-Sep-17 09:33:42**
Software Version:	**WL INSITE R5.0.5 (Build 8)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185
Calibrator API Reference:228.00 api
Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units
Background	25.3	25.1	api
Background + Calibrator	259.0	257.1	api
Calibrator	233.7	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 10971172**	**Reference Calibration Date:**	**04-Sep-17 09:33:42**
Engineer:	**WHITLOCK**	**Calibration Date:**	**04-Sep-17 09:38:31**
Software Version:	**WL INSITE R5.0.5 (Build 8)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185
Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Field Verification	Shop	Field	Units
Background	25.1	24.1	api
Background + Calibrator	257.1	255.9	api
Calibrator	232.0	231.7	api

Shop	Field	Difference	Tolerance
232.0	231.7	0.3	+/- 9.00

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - 12109515
Reference Calibration Date: 10-Mar-17 16:30:34
Engineer: JORGE ORLANDO PEREZ
Calibration Date: 26-Jun-17 09:54:04
Software Version: WL INSITE R5.0.5 (Build 8)
Calibration Version: 1
Host Tool Name: ACRt Instrument - 12109517

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0343	1.05	0.95	1.0158	1.05	0.95	1.0090	1.05
A2 (50")	0.95	1.0478	1.05	0.95	1.0305	1.05	0.95	1.0275	1.05
A3 (29")	0.95	1.0359	1.05	0.95	1.0177	1.05	0.95	1.0125	1.05
A4 (17")	0.95	1.0289	1.05	0.95	1.0091	1.05	0.95	1.0060	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0141	1.05	0.95	1.0089	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9916	1.05	0.95	0.9874	1.05

SONDE OFFSET

Subarray	R12KHz	R36KHz	R72KHz
	(mmho/m)	(mmho/m)	(mmho/m)
A1 (80")	0.785	-4.447	-5.755
A2 (50")	-0.427	-3.982	-5.059
A3 (29")	-14.213	-4.684	-3.616
A4 (17")	-109.833	-33.558	-25.528
A5 (10")	N/A	-77.847	-35.599
A6 (6")	N/A	284.626	148.473

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.91	1.3
36K	1.0	1.90	2.0
72K	1.0	1.15	2.0

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	1.00	1.05

PASS/FAIL SUMMARY

GAIN RANGE CHK	PASS
SONDE OFFSET CHK	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10971172						
Gamma Ray Calibrator	232.0	231.7	----------	0.3	+/- 9.00	api
ACRt Sonde-12109515						
Mud Cell	1.00	----------	----------	0	----------	ohm-m

HALLIBURTON

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	55.79	NO	
BS	Bit Size	55.79	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	CH_HOS			
DHTN	DownholeTension	0.00	BLK	0.000
	SP Sub			
PLTC	Plot Control Mask	50.56	NO	
SP	Spontaneous Potential	50.56	BLK	1.250
SPR	Raw Spontaneous Potential	50.56	NO	
SPO	Spontaneous Potential Offset	50.56	NO	
	GTET			
TPUL	Tension Pull	42.54	NO	
GR	Natural Gamma Ray API	42.54	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	42.54	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	42.54	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	32.30	NO	
RNDS	Near Detector Telemetry Counts	32.40	BLK	1.417
RFDS	Far Detector Telemetry Counts	33.15	TRI	0.583
DNTT	DSN Tool Temperature	32.40	NO	
DSNS	DSN Tool Status	32.30	NO	
ERND	Near Detector Telemetry Counts EVR	32.40	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	33.15	BLK	0.000
ENTM	DSN Tool Temperature EVR	32.40	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	SDLT			
TPUL	Tension Pull	22.40	NO	
PCAL	Pad Caliper	22.40	TRI	0.250
ACAL	Arm Caliper	22.40	TRI	0.250
	ACRt Sonde			
TPUL	Tension Pull	2.73	NO	
F1R1	ACRT 12KHz - 80in R value	8.98	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	8.98	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.48	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.48	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	4.98	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	4.98	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	3.98	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	3.98	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.48	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.48	BLK	0.000

F1R6	ACRT 12KHz - 6in R value	3.23	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.23	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	8.98	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	8.98	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.48	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.48	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	4.98	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	4.98	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	3.98	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	3.98	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.48	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.48	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.23	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.23	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	8.98	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	8.98	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.48	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.48	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	4.98	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	4.98	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	3.98	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	3.98	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.48	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.48	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.23	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.23	BLK	0.000
RMUD	Mud Resistivity	12.52	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.73	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.73	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.73	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.73	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.73	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.73	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.73	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.73	BLK	0.000
ITMP	Instrument Temperature	2.73	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.73	NO	
TIDV	Instrument Temperature Derivative	2.73	NO	
TUDV	Upper Temperature Derivative	2.73	NO	
TLDV	Lower Temperature Derivative	2.73	NO	
TRBD	Receiver Board Temperature	2.73	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	Microlog Pad			
TPUL	Tension Pull	22.58	NO	
MINV	Microlog Lateral	22.58	BLK	0.750
MNOR	Microlog Normal	22.58	BLK	0.750
	SDLT Pad			
TPUL	Tension Pull	22.39	NO	
NAB	Near Above	22.21	BLK	0.920
NHI	Near Cesium High	22.21	BLK	0.920
NLO	Near Cesium Low	22.21	BLK	0.920
NVA	Near Valley	22.21	BLK	0.920
NBA	Near Barite	22.21	BLK	0.920
NDE	Near Density	22.21	BLK	0.920
NPK	Near Peak	22.21	BLK	0.920
NLI	Near Lithology	22.21	BLK	0.920
NBAU	Near Barite Unfiltered	22.21	BLK	0.250

NLIU	Near Lithology Unfiltered	22.21	BLK	0.250
FAB	Far Above	22.56	BLK	0.250
FHI	Far Cesium High	22.56	BLK	0.250
FLO	Far Cesium Low	22.56	BLK	0.250
FVA	Far Valley	22.56	BLK	0.250
FBA	Far Barite	22.56	BLK	0.250
FDE	Far Density	22.56	BLK	0.250
FPK	Far Peak	22.56	BLK	0.250
FLI	Far Lithology	22.56	BLK	0.250
PTMP	Pad Temperature	22.40	BLK	0.920
NHV	Near Detector High Voltage	21.79	NO	
FHV	Far Detector High Voltage	21.79	NO	
ITMP	Instrument Temperature	21.79	NO	
DDHV	Detector High Voltage	21.79	NO	
HDIA	Measured Hole Diameter	0.00	NO	

Data: BECKER_7\0001 GTET-DSNT-SDLT-ACRt\IDLE **Date: 10-Sep-17 13:45:04**

COMPANY	**HARTMAN OIL COMPANY, INC.**
WELL	**BECKER #7**
FIELD	**DAMME**
COUNTY	**FINNEY** STATE **KANSAS**

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG