HALLIBURTON

MICROLOG

COMPANY	OXY USA INC
WELL	HENTSCHEL C-3
FIELD	MUSTANG EAST
COUNTY	MORTON
STATE	KANSAS

COMPANY **OXY USA INC**
WELL **HENTSCHEL C-3**
FIELD **MUSTANG EAST**
COUNTY **MORTON** STATE **KANSAS**

API No. 15-129-21942
Location (SHL) 2250' FNL & 1450' FEL

Other Services:
DSN/SDL
ACRT
BSAT

Sect. 8 Twp. 33 S Rge. 42 W

Permanent Datum GL Elev. 3511.0 ft
Log measured from KB 14.0 ft above perm. Datum
Drilling measured from KB

Elev.: K.B. 3525.0 ft
D.F. 3524.0 ft
G.L. 3511.0 ft

Date	22-Aug-12		
Run No.	ONE		
Depth - Driller	3935.00 ft		
Depth - Logger	3918.0 ft		
Bottom - Logged Interval	3879		
Top - Logged Interval	1417		
Casing - Driller	8.625 in @ 1419.0 ft	@	@
Casing - Logger	1417.0 ft		
Bit Size	7.875 in	@	@
Type Fluid in Hole	WATER BASED		
Density / Viscosity	8.9 ppg / 42.00 s/qt		
PH / Fluid Loss	10.10 pH / 13.0 cptm		
Source of Sample	FLOWLINE		
Rm @ Meas. Temperature	1.870 ohmm @ 82.00 degF	@	@
Rmf @ Meas. Temperature	1.78 ohmm @ 78.00 degF	@	@
Rmc @ Meas. Temperature	2.200 ohmm @ 78.00 degF	@	@
Source Rmf / Rmc	MEASURED / MEASURED		
Rm @ BHT	1.30 ohmm @ 121.0 degF	@	@
Time Since Circulation	12.0 hr		
Time on Bottom	22-Aug-12 16:23		
Max. Rec. Temperature	121.0 degF @ 3914.0 ft	@	@
Equipment / Location	10782954 / LIBERAL		
Recorded By	SHELDON INGERSOLL		
Witnessed By	A. GARNER		

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Service Ticket No.: 9756667 API Serial No.: 15-129-21942 PGM Version: WL INSITE R3.6.0 (Build 3)

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.	
	I1256_S0784			

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	10811258	Serial No.	10747683	Serial No.	I066_M85803_P45	Serial No.	10755066
Model No.	GTET	Model No.	BSAT	Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.	2	Diameter	4.5"	Diameter	3.625"
Detector Model No.	GTET	Spacing	.5	Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS-137	Source Type	AM-241BE
Length	8"	LSA [Y/N]		Serial No.	5073GW	Serial No.	DSN-436
Distance to Source	N/A	FWDA [Y/N]		Strength	1.5 CI	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	3914	1419	REC	0	150	30	-10	47.6	30	-10	2.71 gm/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

SP, GTET, DSNT, SDLT, BSAT, ACRT RAN IN COMBINATION.

CHLORIDES REPORTED AT 2000 mg/L.

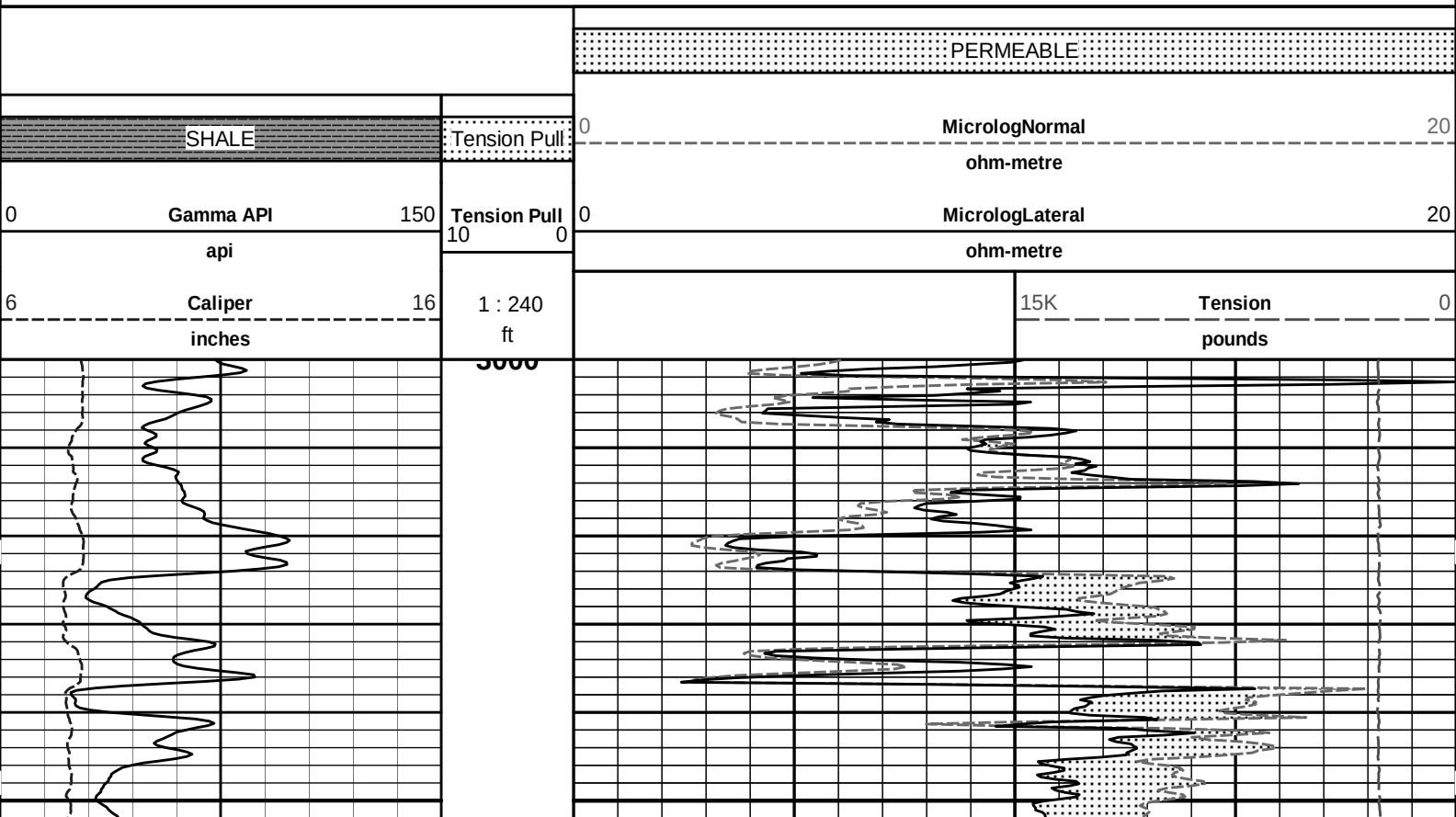
LCM REPORTED AT 6 lb/bbl.

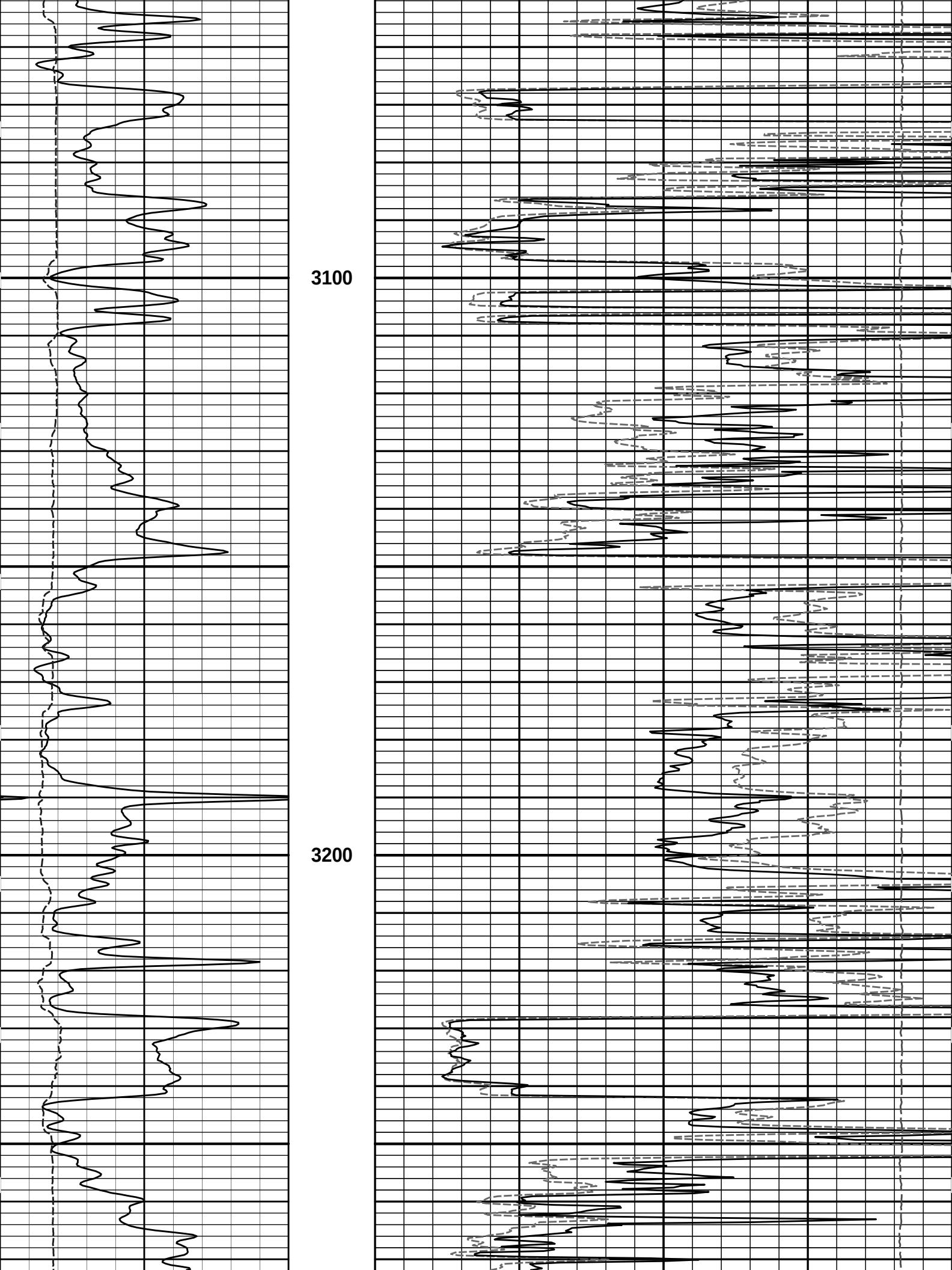
POST CALS NOT DONE AT CUSTOMER REQUEST.

HALLIBURTON

Plot Time: 22-Aug-12 19:13:53
Plot Range: 3000 ft to 3920.17 ft
Data: HENTSCHEL_C-3\Well Based\DAQ-0001-003
Plot File: \\-LOCAL-\HENTSCHEL_C-3\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CH\MICROLOG\Microlog_IQ_5_main_lib

5 INCH MAIN LOG

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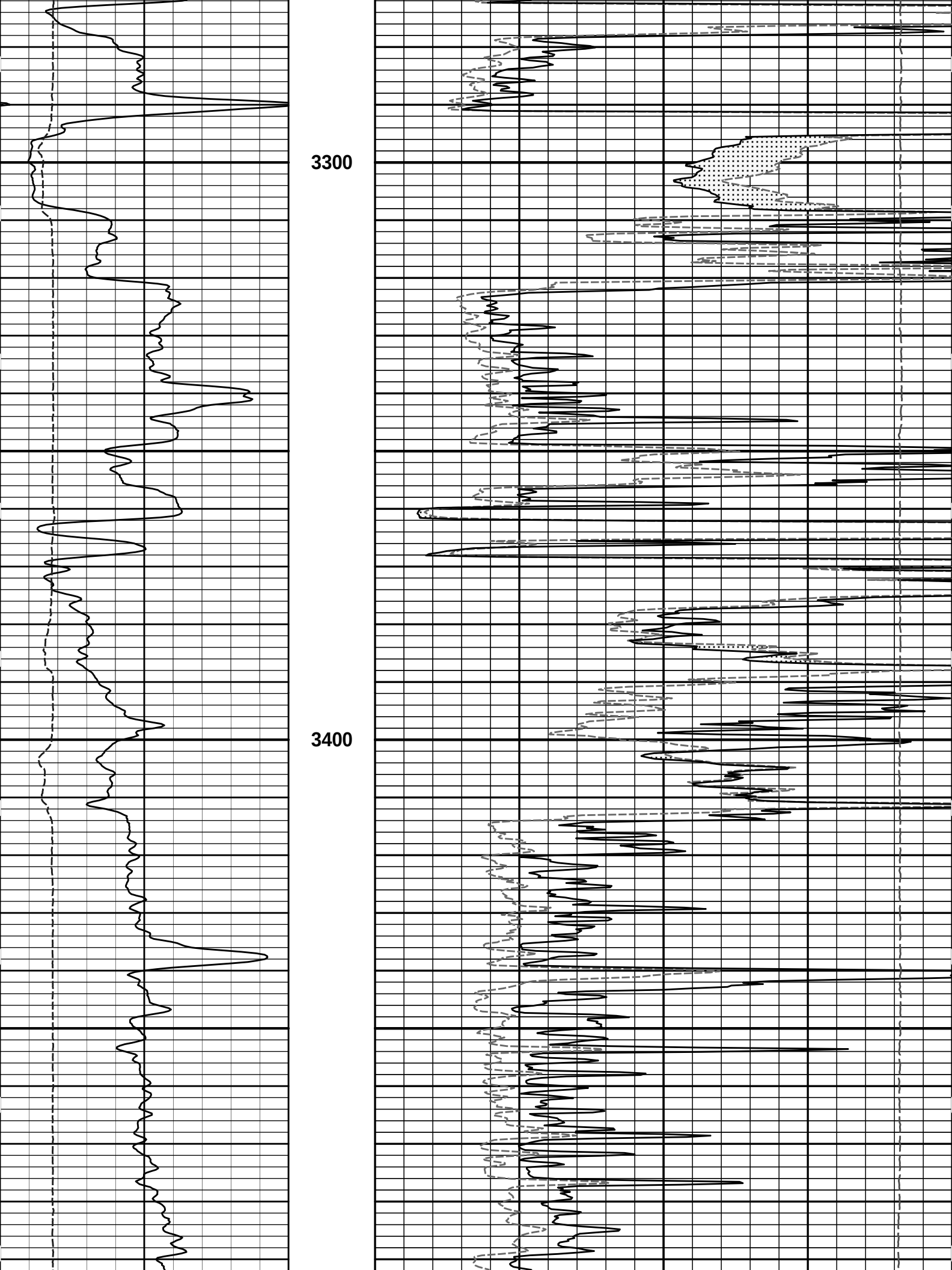
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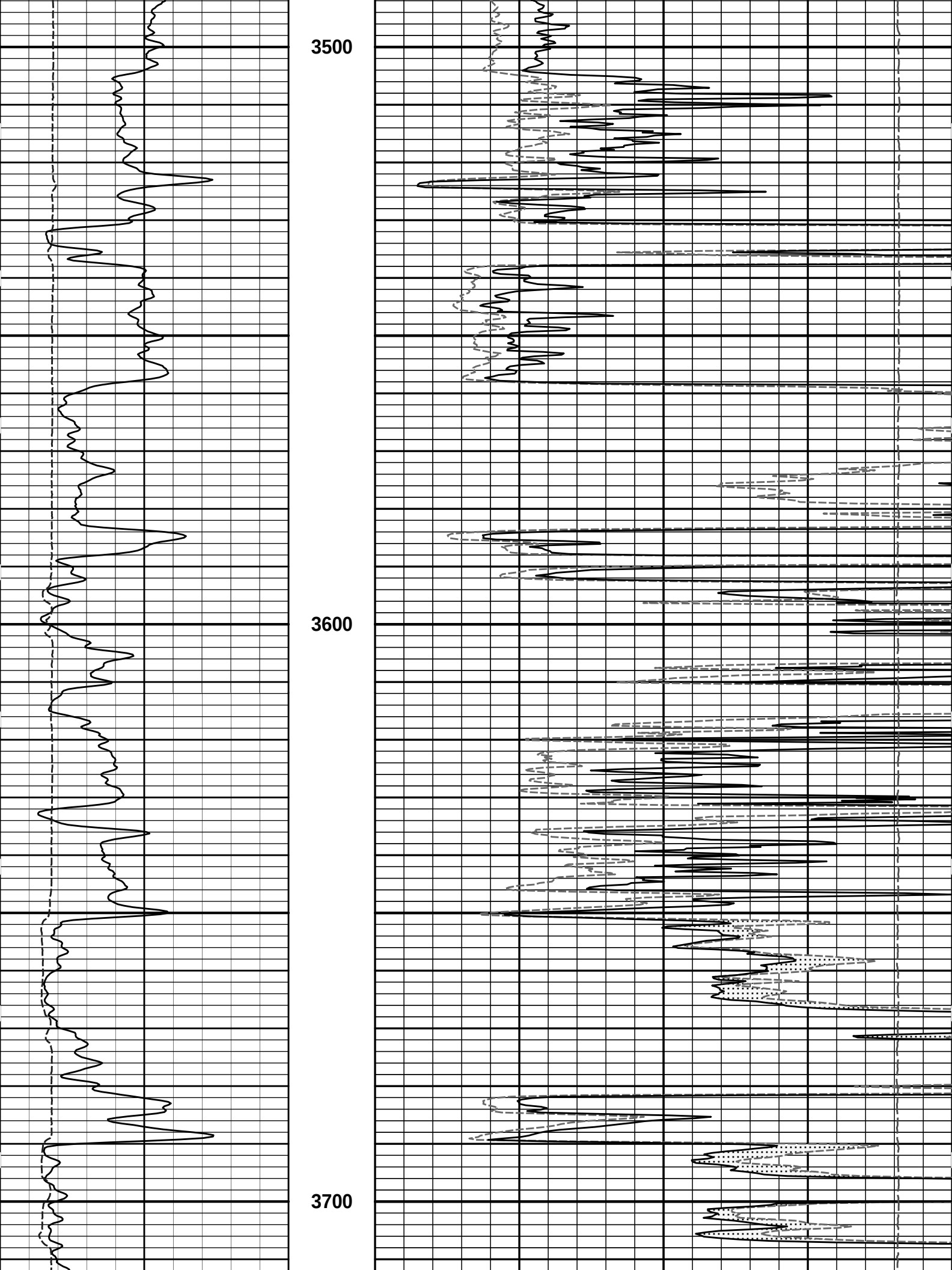
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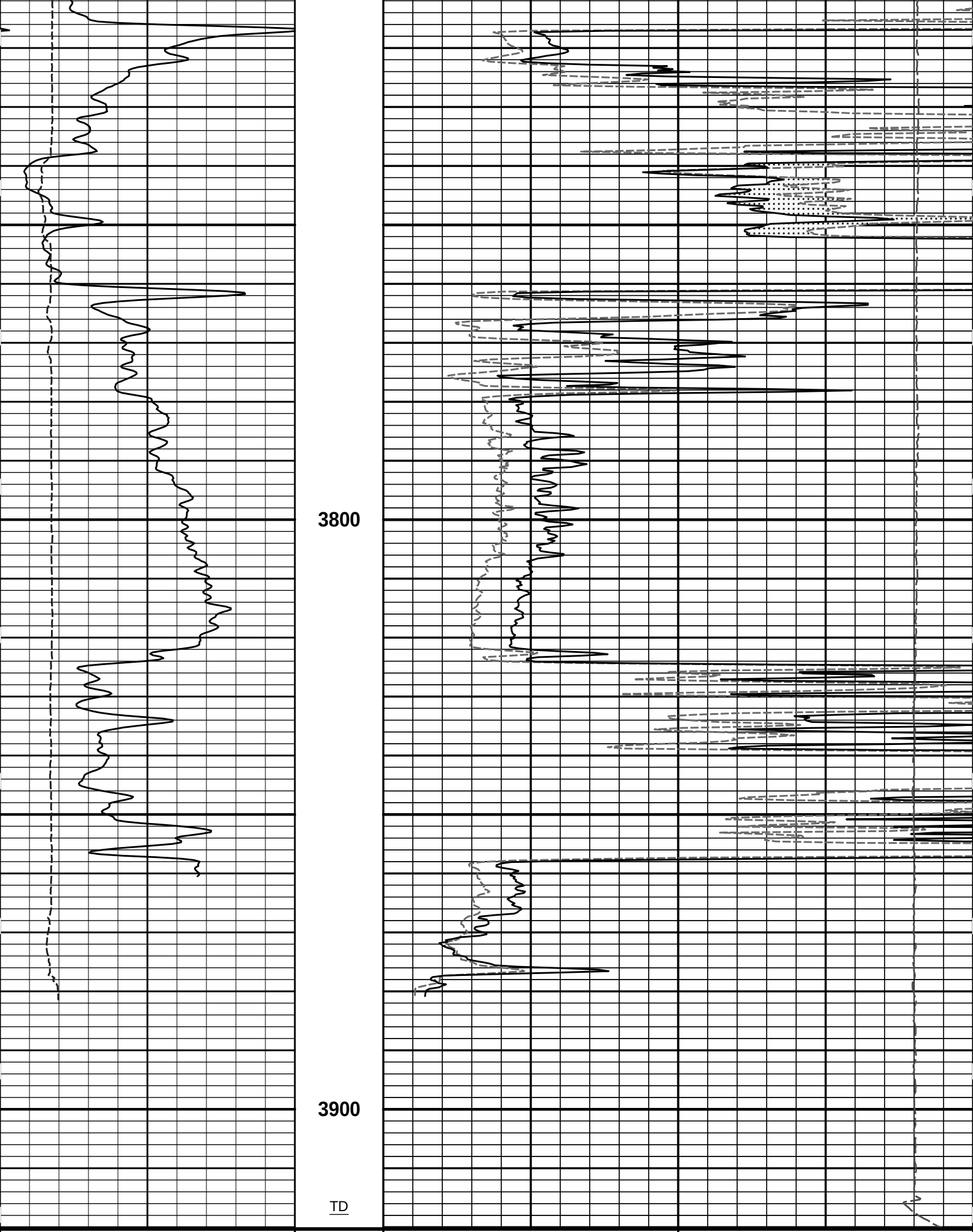
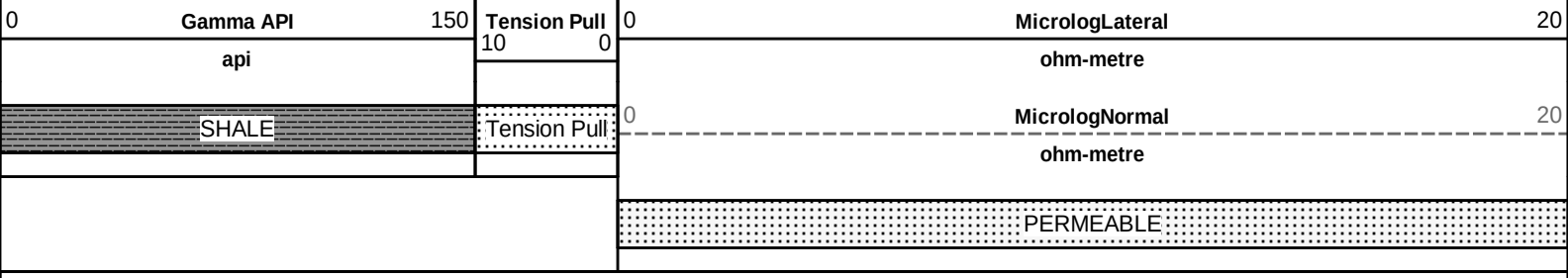


6	Caliper	16	1 : 240		15K	Tension	0
	inches		ft			pounds	



HALLIBURTON

Plot Time: 22-Aug-12 19:14:03
Plot Range: 3000 ft to 3920.17 ft
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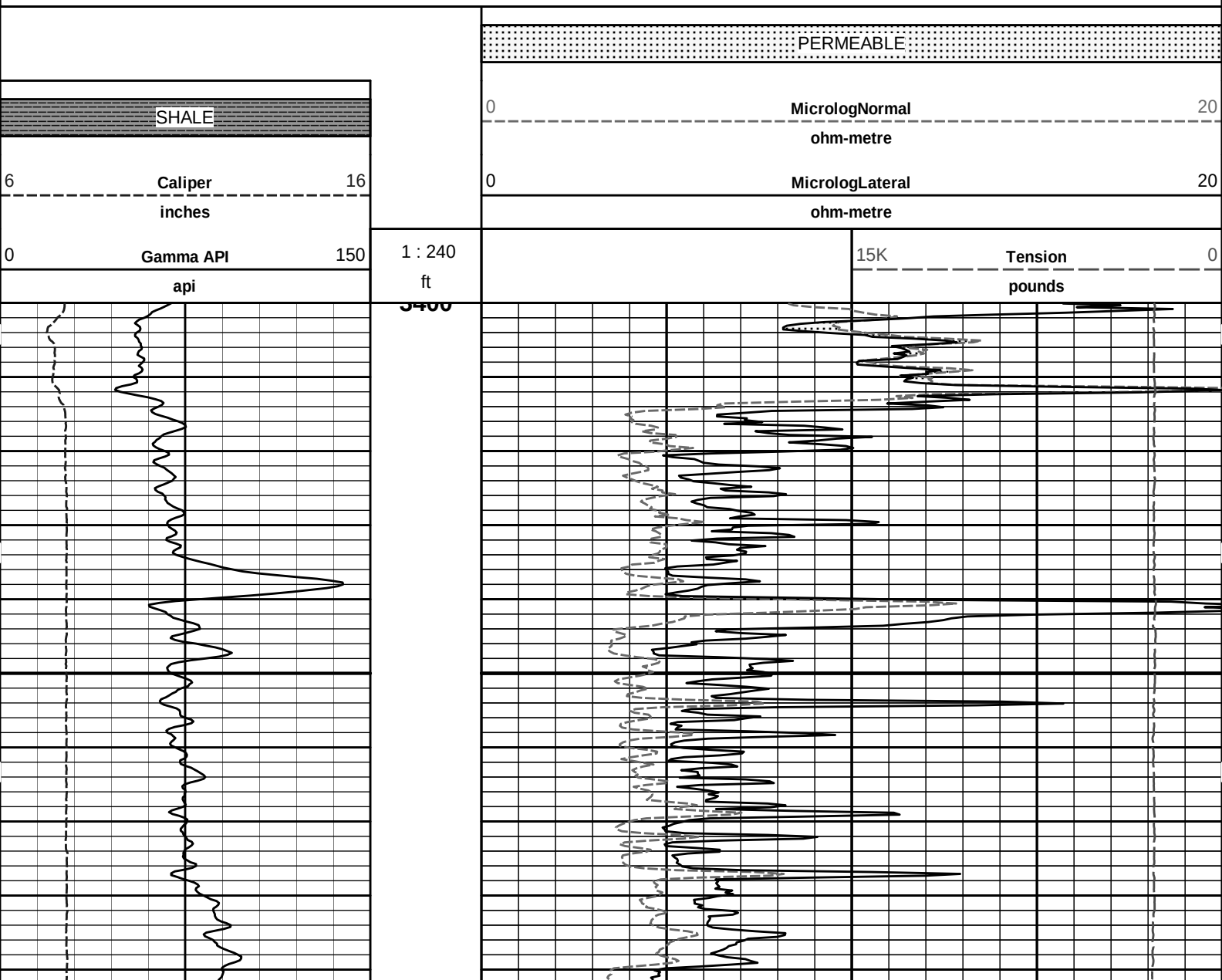
Plot File: \\-LOCAL-\HENTSCHEL_C-3\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CH\MICROLOG\Microlog_IQ_5_main_lib

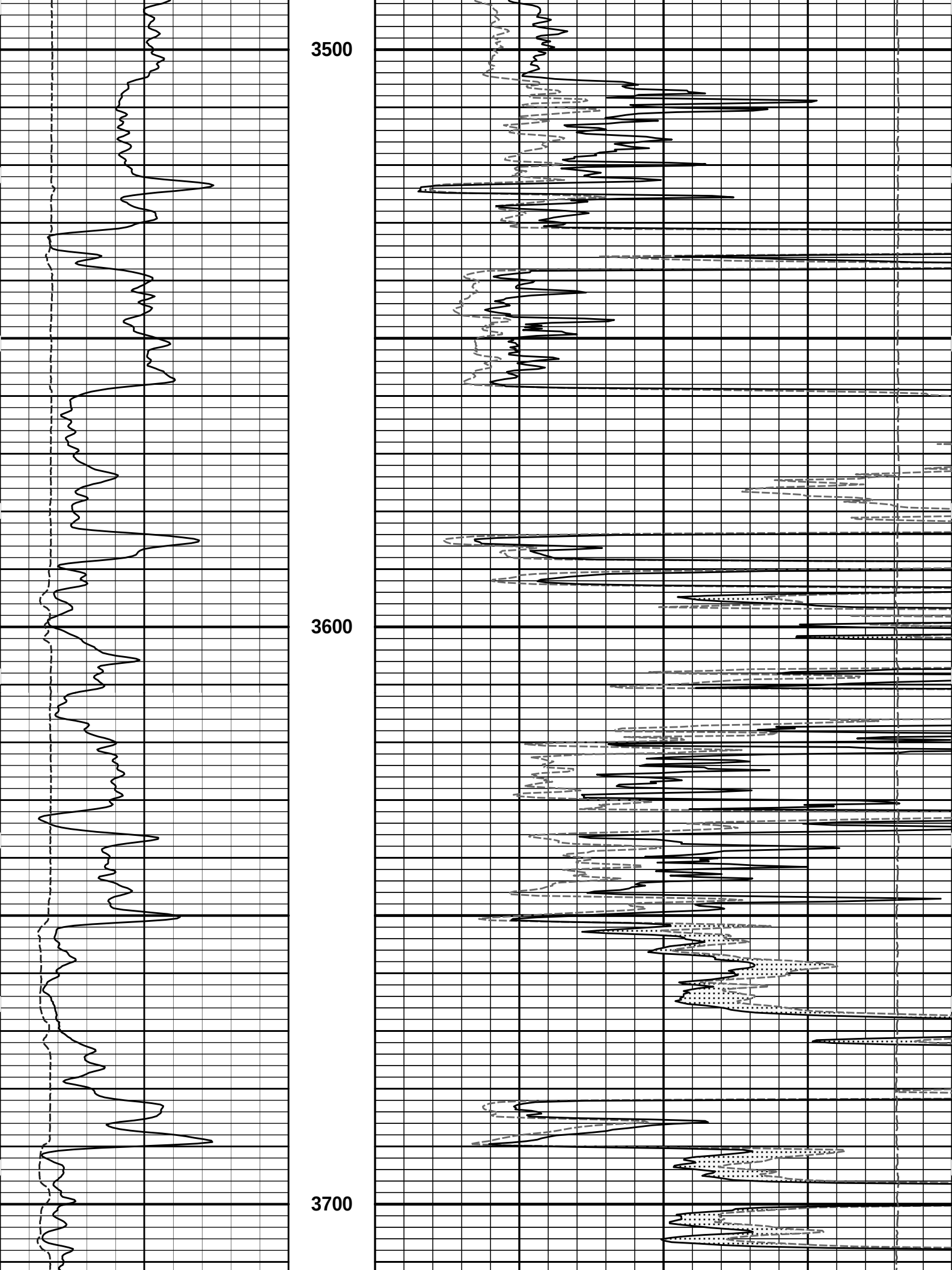
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 22-Aug-12 19:14:03
Plot Range: 3400 ft to 3922.92 ft
Data: HENTSCHEL_C-3\Well Based\DAQ-0001-002.01
Plot File: \\-LOCAL-\HENTSCHEL_C-3\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CH\MICROLOG\Microlog_IQ_5_rep_lib

REPEAT SECTION

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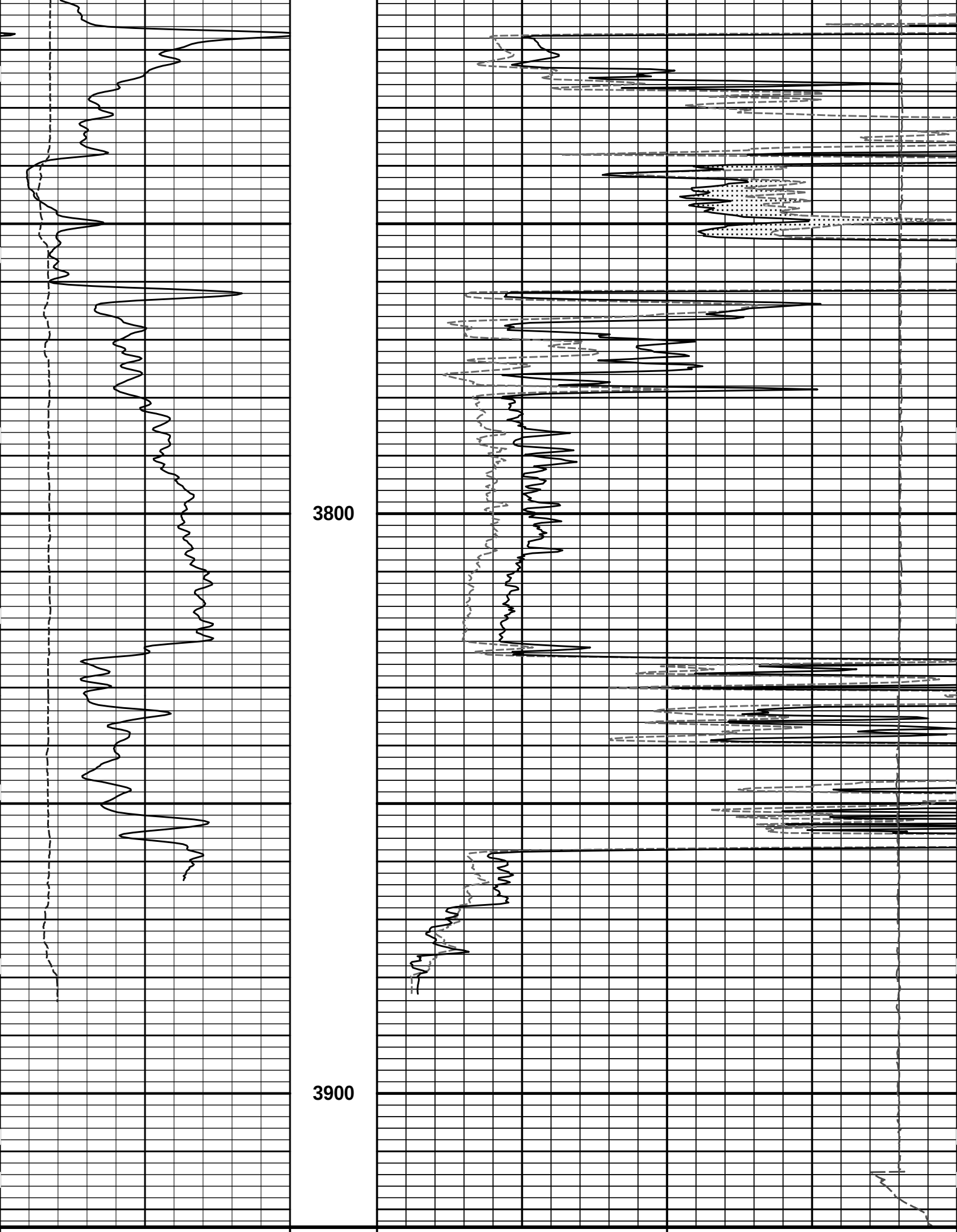
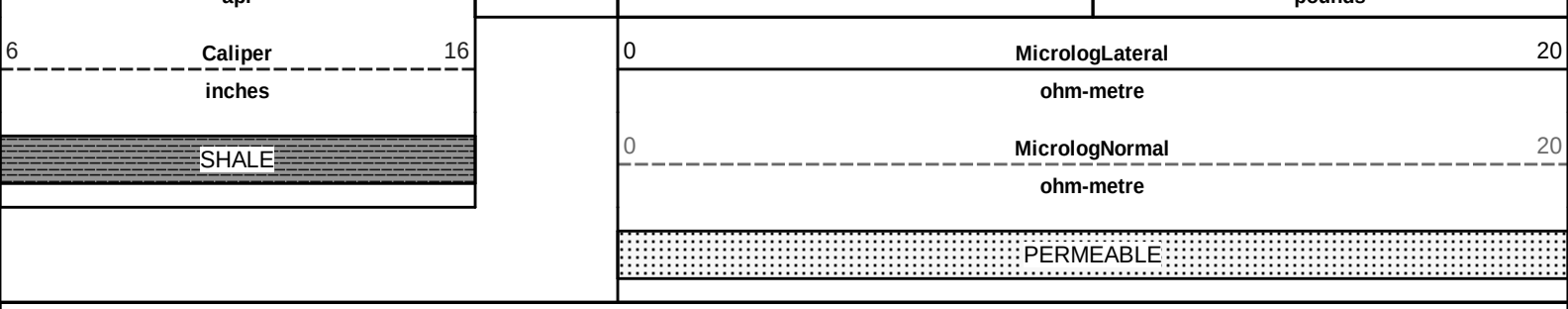


0 Gamma API 150	1 : 240	15K Tension 0
api	ft	pounds



HALLIBURTON

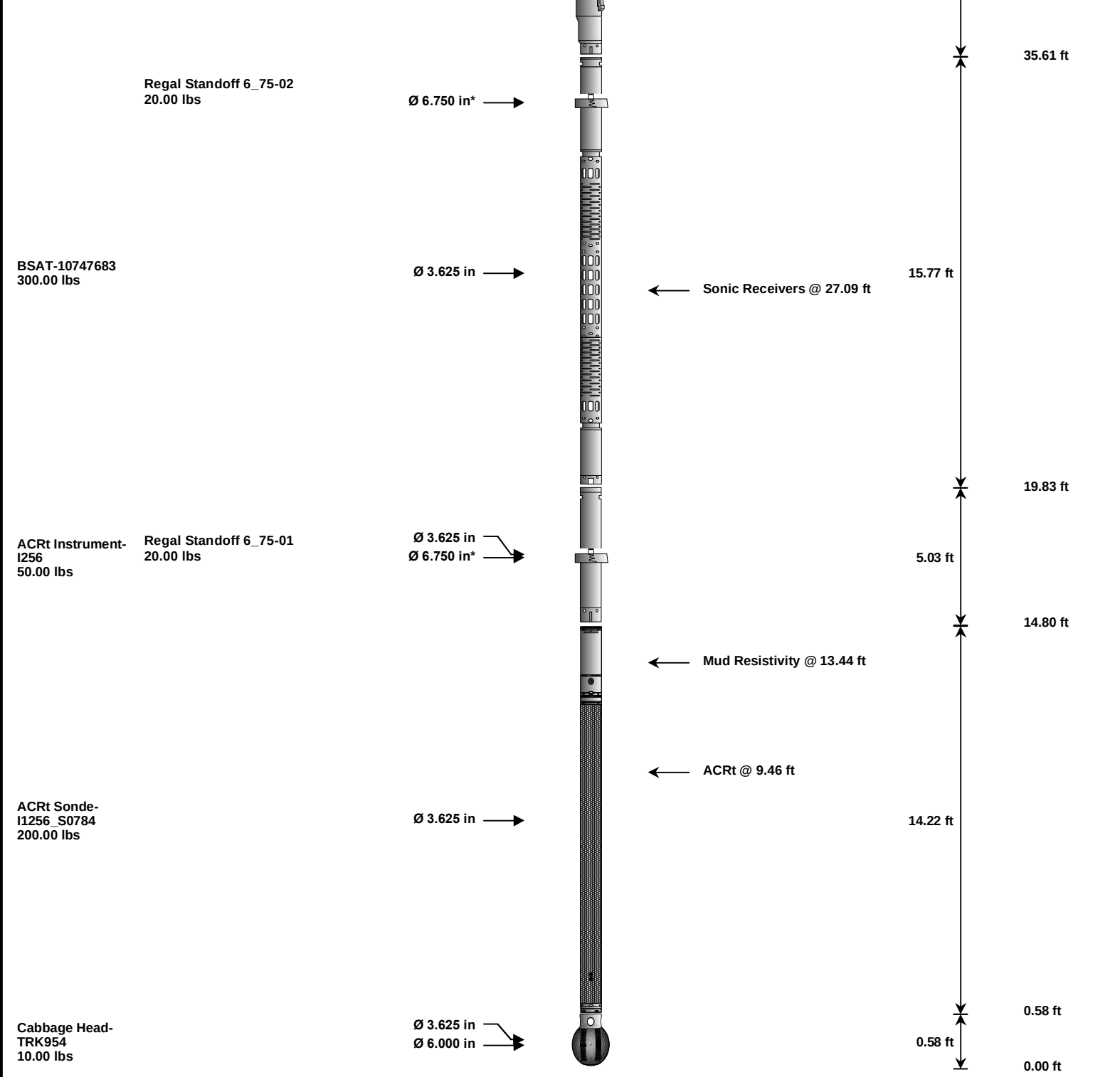
Plot Time: 22-Aug-12 19:14:05
Plot Range: 3400 ft to 3922.92 ft
Data: HENTSCHEL_C-3\Well Based\DAQ-0001-002.01\
Plot File: \\-LOCAL-\HENTSCHEL_C-3\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CH\MICROLOG\Microlog_IQ_5_rep_lib

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						70.28 ft
Cable Head-PROT01 30.00 lbs		Ø 3.625 in			1.92 ft	
						68.36 ft
SP Sub-11441709 60.00 lbs		Ø 3.625 in		SP @ 66.59 ft	3.74 ft	
						64.63 ft
GTET-10811258 165.00 lbs		Ø 3.625 in			8.52 ft	
				GammaRay @ 58.56 ft		
						56.11 ft
	DSN Decentralizer-10755066 6.60 lbs	Ø 5.000 in*				
DSNT-10755066 174.00 lbs		Ø 3.625 in			9.69 ft	
				DSN Far @ 49.17 ft DSN Near @ 48.42 ft		
						46.42 ft
SDLT-I066_M85803_P45 360.00 lbs		Ø 4.500 in			10.81 ft	
	SDLT Pad-45 65.00 lbs					
	Microlog Pad-I066_M85803_P45 8.00 lbs	Ø 4.750 in* Ø 4.750 in*		Microlog @ 38.61 ft SDL Caliper @ 38.42 ft SDL @ 38.41 ft		



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH	Standard OH Cable Head	PROT01	30.00	1.92		68.36	300.00
SP	SP Sub	11441709	60.00	3.74		64.63	300.00
GTET	Gamma Telemetry Tool	10811258	165.00	8.52		56.11	60.00
DSNT	Dual Spaced Neutron	10755066	174.00	9.69		46.42	60.00
DCNT	DSN Decentralizer	10755066	6.60	5.13	*	49.75	300.00
SDLT	Spectral Density Tool	I066_M85803_P45	360.00	10.81		35.61	60.00
MICP	Microlog Pad	I066_M85803_P45	8.00	1.00	*	38.11	60.00
SDLP	Density Insite Pad	45	65.00	2.55	*	37.82	60.00
BSAT	Borehole Sonic Array Tool	10747683	300.00	15.77		19.83	60.00
RSOF	Regal Standoff 6.75in	02	20.00	0.52	*	33.69	300.00
ACRt	Array Compensated True Resistivity Instrument Section	I256	50.00	5.03		14.80	300.00
RSOF	Regal Standoff 6.75in	01	20.00	0.52	*	17.02	300.00
ACRt	Array Compensated True Resistivity Sonde Section	I1256_S0784	200.00	14.22		0.58	300.00
CBHD	Cabbage Head	TRK954	10.00	0.58		0.00	300.00
Total			**1,468.60**	**70.28**			

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 10811258**	**Reference Calibration Date:**	**29-Jun-12 10:47:38**
Engineer:	**C. HAVERKAMP**	**Calibration Date:**	**11-Aug-12 06:02:48**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**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	33.3	33.0	api
Background + Calibrator	267.7	265.0	api
Calibrator	234.4	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 10811258**	**Reference Calibration Date:**	**11-Aug-12 06:02:48**
Engineer:	**SHELDON INGERSOLL**	**Calibration Date:**	**22-Aug-12 15:07:15**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**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	33.0	25.8	api
Background + Calibrator	265.0	258.3	api
Calibrator	232.0	232.5	api

Shop	Field	Difference	Tolerance
232.0	232.5	-0.5	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 10755066**	**Reference Calibration Date:**	**25-Jul-12 12:25:59**
Engineer:	**THOMAS HYDE**	**Calibration Date:**	**25-Jul-12 12:41:38**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**Calibration Version:**	**1**

Logging Source S/N: DSN-436
Tank Serial Number: 105060
Reference value assigned to Tank: 51.680
Snow Block S/N: TRK_10782954
Calibration Tank Water Temperature: 85 degF
Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.938	0.943	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):	0.2092	0.2107	0.0015	+/- 0.0020
Calibrated Ratio:	9.67	9.72	0.050	+/- 0.050

VERIFIER		
Measurement	**Value**	**Control Limit**
Snow-Block Porosity (decp):	0.0645	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 - 10755066**	**Reference Calibration Date:**	**25-Jul-12 12:41:38**
Engineer:	**SHELDON INGERSOLL**	**Calibration Date:**	**22-Aug-12 15:15:00**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**Calibration Version:**	**1**

Logging Source S/N: DSN-436

Snow Block S/N: TRK_10782954

NEUTRON FIELD-CHECK SUMMARY				
	Shop	**Field**	**Difference**	**Control Limit On Change**
Snow-Block Porosity (decp):	0.0645	0.0663	0.0018	+/- 0.0150

PASS/FAIL SUMMARY	
Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	**SDLT - I066_M85803_P45**	**Reference Calibration Date:**	**28-Jul-12 20:05:58**
Engineer:	**C. HAVERKAMP**	**Calibration Date:**	**28-Jul-12 20:22:18**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**Calibration Version:**	**1**
Host Tool Name:	**DSNT - 10755066**		

CALIBRATION COEFFICIENTS			
Measurement	**Previous Value**	**New Value**	**Control Limit On New Value**
Pad Offset	-5255.25	-5222.66	-7000.00 - -1000.00
Pad Gain	0.0003793	0.0003763	0.000200 - 0.000600
Arm Offset	-1825.48	-2303.24	-5000.00 - 3000.00
Arm Gain	0.0005413	0.0005791	0.000300 - 0.000700
Arm Power	-0.000006383	-0.000008766	-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)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.77	3.75	-0.02	+/- 0.20
RING DIAMETER:				

Small Ring (in)	6.62	6.50	-0.12	+/- 0.20
Medium Ring (in)	8.29	8.25	-0.04	+/- 0.20
Large Ring (in)	15.14	15.00	-0.14	+/- 0.20

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	**SDLT Pad - 45**	**Reference Calibration Date:**	**29-Jun-12 11:17:55**
Engineer:	**C. HAVERKAMP**	**Calibration Date:**	**05-Aug-12 09:06:17**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**Calibration Version:**	**1**

Logging Source S/N: 5073GW

Aluminum Block S/N: 63061 Density: 2.591g/cc Pe: 3.170

Magnesium Block S/N: 63393 Density: 1.690g/cc Pe: 2.594

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	0.9811	0.9522	0.90 - 1.10
Near Dens Gain	0.9831	0.9524	0.90 - 1.10
Near Peak Gain	0.9806	0.9418	0.90 - 1.10
Near Lith Gain	0.9781	0.9284	0.90 - 1.10
Far Bar Gain	0.9863	0.9872	0.90 - 1.10
Far Dens Gain	0.9793	0.9793	0.90 - 1.10
Far Peak Gain	0.9722	0.9732	0.90 - 1.10
Far Lith Gain	0.9481	0.9473	0.90 - 1.10
Near Bar Offset	0.4083	0.6663	NONE
Near Dens Offset	0.3635	0.6290	NONE
Near Peak Offset	0.3620	0.6787	NONE
Near Lith Offset	0.3425	0.7501	NONE
Far Bar Offset	0.2498	0.2408	NONE
Far Dens Offset	0.2849	0.2903	NONE
Far Peak Offset	0.3024	0.3017	NONE
Far Lith Offset	0.4066	0.4262	NONE
Near Bar Background	994.27	991.23	700 - 1450
Near Dens Background	330.82	328.82	230 - 480
Near Peak Background	143.88	143.64	100 - 210
Near Lith Background	176.25	176.36	125 - 260
Far Bar Background	509.49	505.01	450 - 900
Far Dens Background	197.73	197.12	175 - 345
Far Peak Background	78.43	78.32	70 - 140
Far Lith Background	81.21	81.23	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.700	1.690	-0.010	+/- 0.015
Pe	2.511	2.558	0.047	+/- 0.150
ALUMINUM				

Density (g/cc)	2.592	2.591	-0.001	+/- 0.01500
Pe	3.148	3.133	-0.015	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0005	+/- 0.0110	-0.0014	+/- 0.0140
Magnesium Block	-0.0006	+/- 0.0110	-0.0012	+/- 0.0140
Aluminum Block	0.0005	+/- 0.0110	0.0008	+/- 0.0140
Resolution	9.88	6.00 - 11.50	9.09	6.00 - 11.50
Internal Verifier(B+D+P+L)	1640	1200 - 2700	862	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 - 45
Reference Calibration Date: 05-Aug-12 09:06:17
Engineer: SHELDON INGERSOLL
Calibration Date: 22-Aug-12 15:06:31
Software Version: WL INSITE R3.6.0 (Build 3)
Calibration Version: 1

Pad Temperature: 92.5 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1640.053	1637.685	-2.368	16.273
Far (B+D+P+L) cps	861.681	871.111	9.430	16.070
Near Resolution	9.88	10.02	0.140	0.50
Far Resolution	9.09	9.88	0.790	1.00

PASS/FAIL SUMMARY

Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

MICRO LOG SHOP CALIBRATION

Tool Name: Microlog Pad - I066_M85803_P45
Reference Calibration Date: 28-Jul-12 20:13:27
Engineer: C. HAVERKAMP
Calibration Date: 06-Aug-12 16:56:57
Software Version: WL INSITE R3.6.0 (Build 3)
Calibration Version: 1
Host Tool Name: DSNT - 10755066

CALIBRATION COEFFICIENT SUMMARY

Measurement	Micro Log Normal		Micro Log Lateral		
	Measured	Calibrated	Measured	Calibrated	Units
Tool Zero	-0.07	-0.10	-0.01	-0.00	ohmm
Calibration Point #1	0.03	0.00	-0.01	0.00	ohmm

Calibration Point #2	20.05	20.00	20.05	20.00	ohmm
Internal Reference	19.98	19.93	20.06	20.01	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	0.92	0.19	V
Calibration Point #1	28.11	0.63	V
Calibration Point #2	5348.31	6937.82	V
Internal Reference	5329.49	6940.80	V

MICRO LOG FIELD CHECK

Tool Name: Microlog Pad - I066_M85803_P45 **Reference Calibration Date:** 06-Aug-12 16:56:57

Engineer: SHELDON INGERSOLL **Calibration Date:** 22-Aug-12 15:08:48

Software Version: WL INSITE R3.6.0 (Build 3) **Calibration Version:** 1

Measurement	Micro Log Normal		Micro Log Lateral		
	Shop	Field	Shop	Field	Units
Tool Zero	-0.10	-0.11	-0.00	0.01	ohmm
Internal Reference	19.93	19.83	20.01	19.90	ohmm

Summary

Signal	Shop	Field	Difference	Tolerence
Microlog Normal	19.93	19.83	0.10	+/- 0.80
Microlog Lateral	20.01	19.90	0.11	+/- 0.80

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - I066_M85803_P45 **Reference Calibration Date:** 28-Jul-12 20:22:18

Engineer: SHELDON INGERSOLL **Calibration Date:** 22-Aug-12 15:19:10

Software Version: WL INSITE R3.6.0 (Build 3) **Calibration Version:** 1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.67	-0.08	+/- 0.10
Ring Diameter	8.25	8.13	-0.12	+/- 0.15

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

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - I1256_S0784 **Reference Calibration Date:** 11-Jul-12 09:38:13

Engineer: J. BOLLOM **Calibration Date:** 18-Aug-12 11:56:49

Software Version: WL INSITE R3.6.0 (Build 3) **Calibration Version:** 1

Host Tool Name: ACRt Instrument - I256

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.01	1.05	0.95	1.01	1.05	0.95	0.99	1.05
A2 (50")	0.95	1.01	1.05	0.95	1.01	1.05	0.95	1.00	1.05
A3 (29")	0.95	1.00	1.05	0.95	1.00	1.05	0.95	0.99	1.05
A4 (17")	0.95	1.02	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.01	1.05	0.95	1.00	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.99	1.05	0.95	0.98	1.05

TYPICAL SONDE OFFSET RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	-0.52	2	-6	-3.86	-2	-8	-4.83	-2
A2 (50")	-7	-1.82	0	-7	-3.65	0	-7	-4.36	0
A3 (29")	-27	-16.08	-9	-9	-4.66	-3	-7	-3.36	-1
A4 (17")	-180	-98.38	-60	-45	-32.76	-15	-39	-26.74	-13
A5 (10")	N/A	N/A	N/A	-150	-98.00	-50	-80	-49.23	-10
A6 (6")	N/A	N/A	N/A	175	296.60	525	90	157.59	270

TRANSMITTER CURRENT GAIN			
Signal	Lower	R	Upper
12K	0.6	0.87	1.3
36K	1.0	1.20	2.0
72K	1.0	1.55	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 RANGE CHK	PASS
Tx CURRENT GAIN	PASS
Rmud VERIFICATION	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10811258						
Gamma Ray Calibrator	232.0	232.5	----------	-0.5	+/- 9.00	api
DSNT-10755066						
Snow-Block Porosity	0.0645	0.0663	----------	-0.0018	+/- 0.0150	decp
SDLT-I066_M85803_P45						
Pad Extension	3.75	3.67	----------	0.08	+/-0.10	in
Ring Diameter	8.25	8.13	----------	0.12	+/-0.15	in
SDLT Pad-45						
Near(B+D+P+L)	1640.053	1637.685	----------	2.368	+/-16.273	cps
Far(B+D+P+L)	861.681	871.111	----------	-9.430	+/-16.070	cps
Microlog Pad-I066_M85803_P45						
MicroLog Normal	19.93	19.83	----------	0.10	+/-0.80	ohmm
MicroLog Lateral	20.01	19.90	----------	0.11	+/-0.80	ohmm
ACRt Sonde-I1256_S0784						
Mud Cell	1.00	----------	----------	0.00	----------	ohm-m

Data: HENTSCHEL_C-3\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CH\003 22-Aug-12 16:23 Up @3920.3f **Date: 22-Aug-12 18:01:25**

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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	8.900	ppg
SHARED	WAGT	Weighting Agent	Natural	
SHARED	BSAL	Borehole salinity	2000.00	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	3935.00	ft
SHARED	BHT	Bottom Hole Temperature	118.0	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	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	
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	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz

	BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
	BSAT	DTFL	Delta -T Fluid	189.00	uspf
	BSAT	DTMT	Delta -T Matrix Type	User define	
	BSAT	DTMA	Delta -T Matrix	47.60	uspf
	BSAT	DTSH	Delta -T Shale	100.00	uspf
	BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
	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	RMIN	Maximum Resistivity for MAP	200.00	ohmm
	ACRt Sonde	THQY	Threshold Quality	0.50	
	ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
BOTTOM					

Data: HENTSCHEL_C-3\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CH\003 22-Aug-12 16:23 Up @3920.3f **Date: 22-Aug-12 18:02:45**

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INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
	Depth Panel			
TENS	Tension	0.00	NO	
	SP Sub			
PLTC	Plot Control Mask	66.58	NO	
SP	Spontaneous Potential	66.58	BLK	1.250
SPR	Raw Spontaneous Potential	66.58	NO	
SPO	Spontaneous Potential Offset	66.58	NO	
	GTET			
TPUL	Tension Pull	58.56	NO	
GR	Natural Gamma Ray API	58.56	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	58.56	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	58.56	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	DSNT			
TPUL	Tension Pull	48.32	NO	
RNDS	Near Detector Telemetry Counts	48.42	BLK	1.417
RFDS	Far Detector Telemetry Counts	49.17	TRI	0.583
DNTT	DSN Tool Temperature	48.42	NO	
DSNS	DSN Tool Status	48.32	NO	
ERND	Near Detector Telemetry Counts EVR	48.42	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	49.17	BLK	0.000
ENTM	DSN Tool Temperature EVR	48.42	NO	
	SDLT			
TPUL	Tension Pull	38.42	NO	
PCAL	Pad Caliper	38.42	TRI	0.250
ACAL	Arm Caliper	38.42	TRI	0.250

BSAT				
TPUL	Tension Pull	27.09	NO	
STAT	Status	27.09	NO	
DLYT	Delay Time	27.09	NO	
SI	Sample Interval	27.09	NO	
TXRX	Raw Telemetry 10 Receivers	27.09	NO	
FRMC	Tool Frame Count	27.09	NO	
GMOD	Gain processing mode	19.83	NO	

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	38.41	NO	
NAB	Near Above	38.24	BLK	0.920
NHI	Near Cesium High	38.24	BLK	0.920
NLO	Near Cesium Low	38.24	BLK	0.920
NVA	Near Valley	38.24	BLK	0.920
NBA	Near Barite	38.24	BLK	0.920
NDE	Near Density	38.24	BLK	0.920
NPK	Near Peak	38.24	BLK	0.920
NLI	Near Lithology	38.24	BLK	0.920
NBAU	Near Barite Unfiltered	38.24	BLK	0.250
NLIU	Near Lithology Unfiltered	38.24	BLK	0.250
FAB	Far Above	38.58	BLK	0.250
FHI	Far Cesium High	38.58	BLK	0.250
FLO	Far Cesium Low	38.58	BLK	0.250
FVA	Far Valley	38.58	BLK	0.250
FBA	Far Barite	38.58	BLK	0.250
FDE	Far Density	38.58	BLK	0.250
FPK	Far Peak	38.58	BLK	0.250
FLI	Far Lithology	38.58	BLK	0.250
PTMP	Pad Temperature	38.42	BLK	0.920
NHV	Near Detector High Voltage	37.81	NO	
FHV	Far Detector High Voltage	37.81	NO	
ITMP	Instrument Temperature	37.81	NO	
DDHV	Detector High Voltage	37.81	NO	

Microlog Pad				
TPUL	Tension Pull	38.60	NO	
MINV	Microlog Lateral	38.60	BLK	0.750
MNOR	Microlog Normal	38.60	BLK	0.750

Data: HENTSCHEL_C-3\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CH\IDLE **Date: 22-Aug-12 18:22:03**

COMPANY	**OXY USA INC**		
WELL	**HENTSCHEL C-3**		
FIELD	**MUSTANG EAST**		
COUNTY	**MORTON**	STATE	**KANSAS**

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