

HALLIBURTON

MICRO LOG

COMPANY		OXY USA INC	
WELL		GARDEN CITY V-1	
FIELD		GARDEN CITY	
COUNTY		FINNEY	
STATE		KANSAS	
Permanent Datum		GL	Elev. 2959.0 ft
Log measured from		KB	D.F. 2969.0 ft
Drilling measured from		KB	G.L. 2959.0 ft
Date		25-Feb-12	
Run No.		ONE	
Depth - Driller		4960.00 ft	
Depth - Logger		4945.0 ft	
Bottom - Logged Interval		4907.0 ft	
Top - Logged Interval		1824.0 ft	
Casing - Driller		8.625 in @ 1830.0 ft	
Casing - Logger		1824.0 ft	
Bit Size		7.875 in	@
Type Fluid in Hole		WATER BASED MUD	
Density	Viscosity	9.5 ppq	44.00 s/qt
PH	Fluid Loss	9.10 pH	9.6 cpm
Source of Sample		FLOWLINE	
Rm @ Meas. Temperature		0.710 ohmm @ 75.00 degF	@
Rmf @ Meas. Temperature		0.61 ohmm @ 75.00 degF	@
Rmc @ Meas. Temperature		0.820 ohmm @ 75.00 degF	@
Source Rmf	Rmc	MEASURED	MEASURED
Rm @ BHT		0.49 ohmm @ 112.0 degF	@
Time Since Circulation		7.0 hr	
Time on Bottom		25-Feb-12 19:26	
Max. Rec. Temperature		112.0 degF @ 4945.0 ft	@
Equipment	Location	10782954	LIBERAL
Recorded By		T. HYDE	
Witnessed By		A. GARNER	D. COOK

Fold here

Service Ticket No.: 9309817				API Serial No.: 15-055-22128				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.		@		@		ONE	ACRT	N/A	1.5" S.O.	N/A									
Rmc @ Meas. Temp.		@		@			I1256_S0784												
Source Rmf	Rmc					ONE	MICRO	RUBBER	ADJ	N/A									
Rm @ BHT		@		@			I066_M85803 _												
Rmf @ BHT		@		@			P45												
Rmc @ BHT		@		@															
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.		I145_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.		T-102		Spacing		.5		Log Type		GAM-GAM		Log Type		NEU-NEU					
Type		SCINT						Source Type		Cs137		Source Type		Am241Be					
Length		8"		LSA [Y/N]		YES		Serial No.		5073GW		Serial No.		DSN-436					
Distance to Source		10'		FWDA [Y/N]		YES		Strength		1.5Ci		Strength		15Ci					
LOGGING DATA																			
GENERAL				GAMMA				ACOUSTIC				DENSITY				NEUTRON			

				PERMEABLE	
SHALE		Tension Pull	0	MicrologNormal	
				ohm-metre	
0	Gamma API	150	Tension Pull	0	MicrologLateral
	api		10	0	ohm-metre
6	Caliper	16	1 : 240	15K	Tension
	inches		ft		pounds



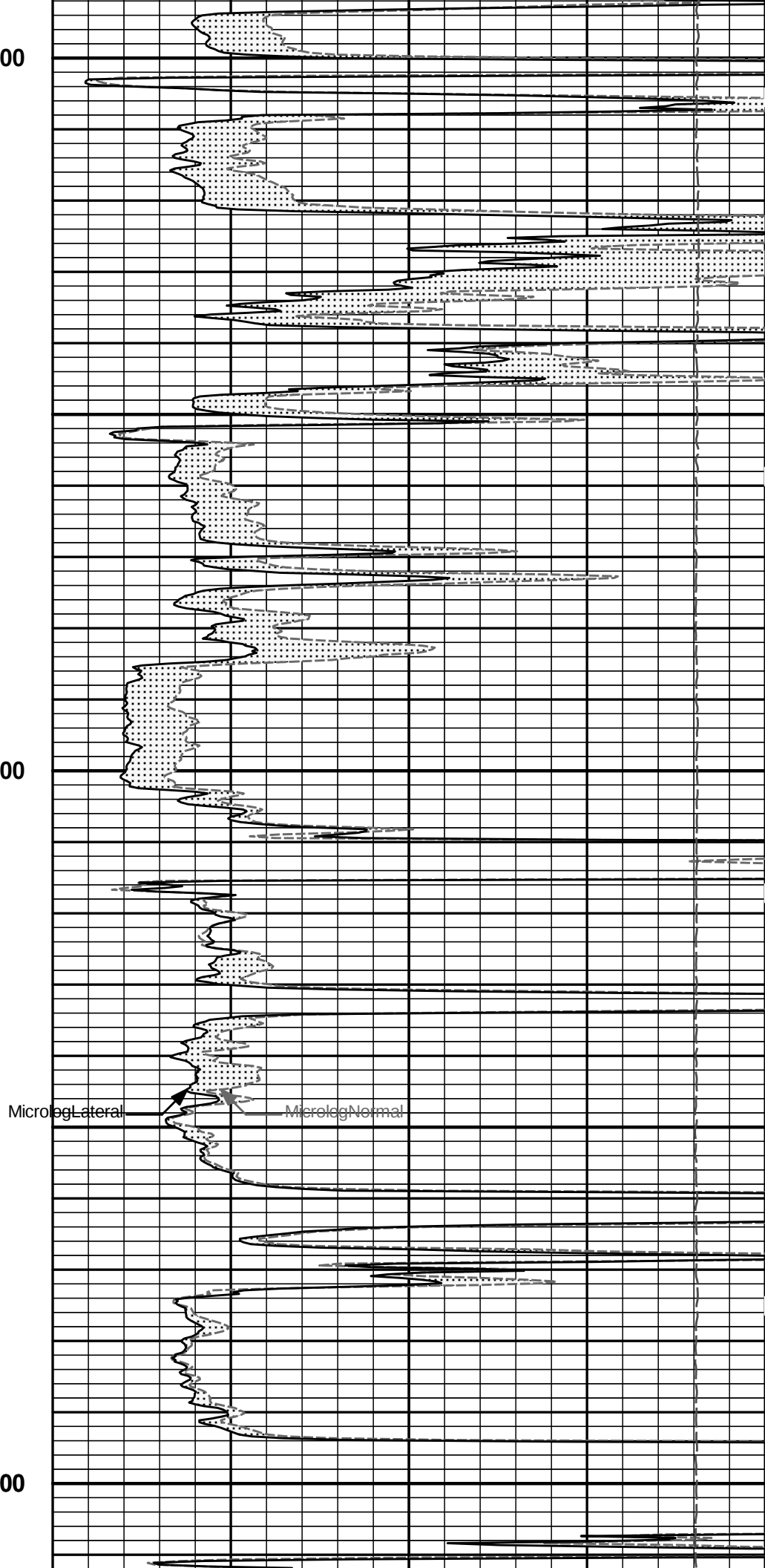
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3900

4000

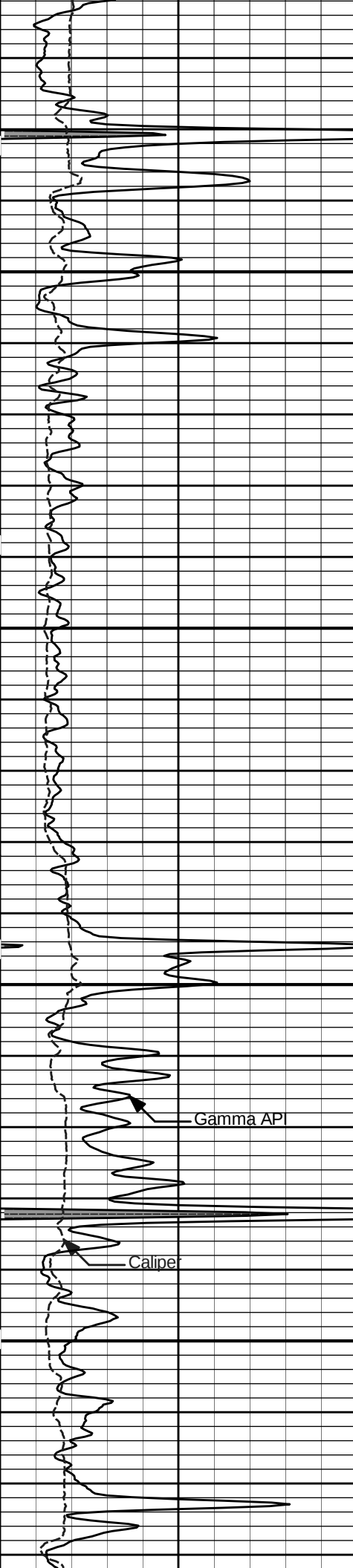
Gamma API

Caliper



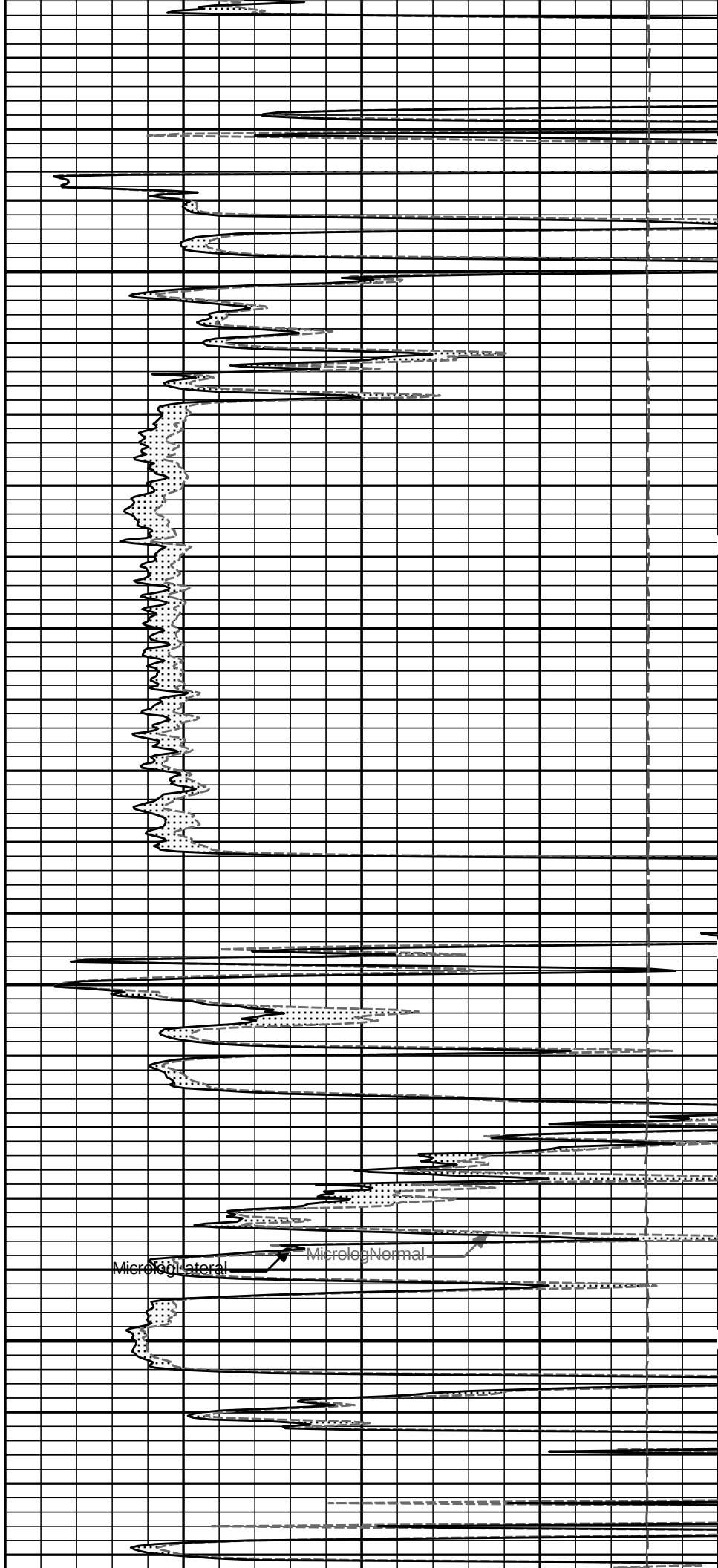
Microlog Lateral

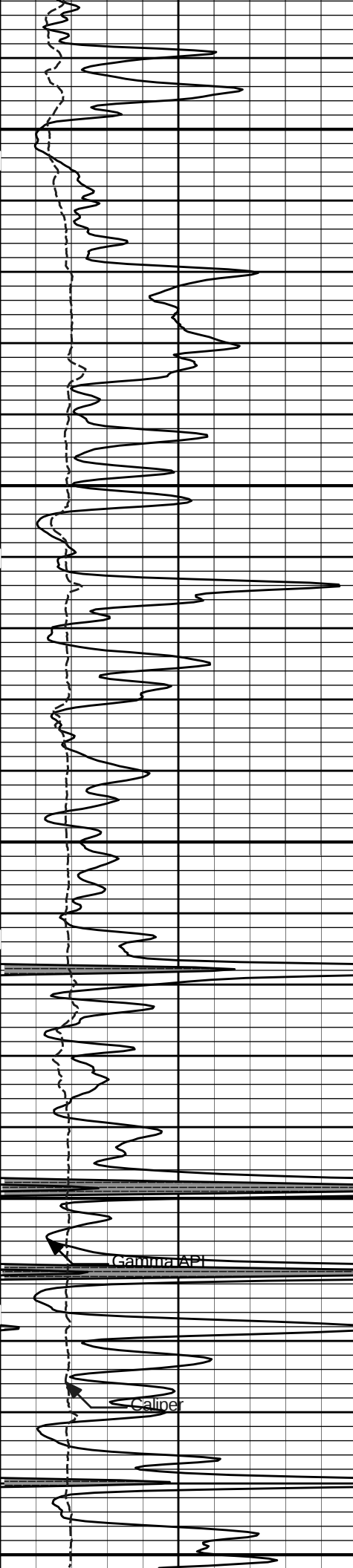
Microlog Normal



4100

4200



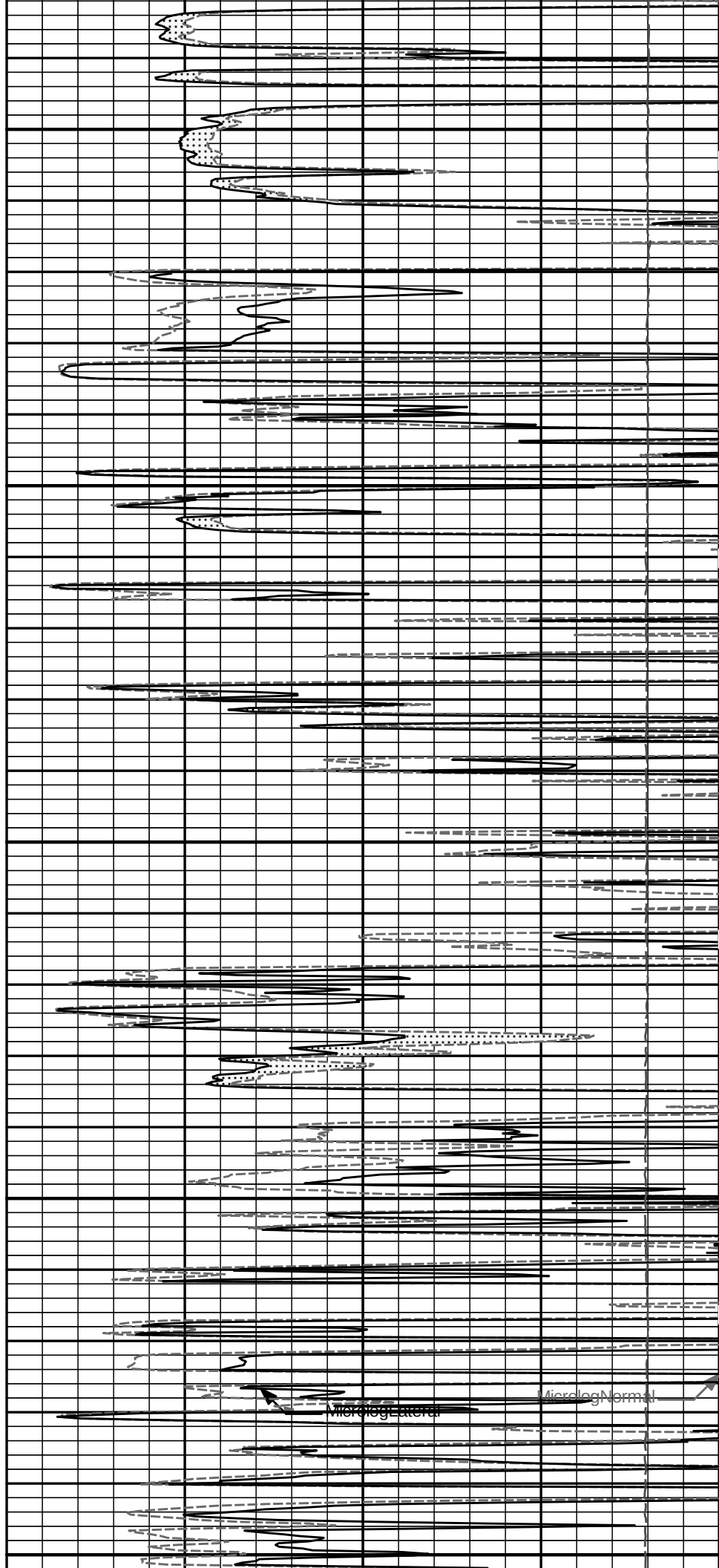


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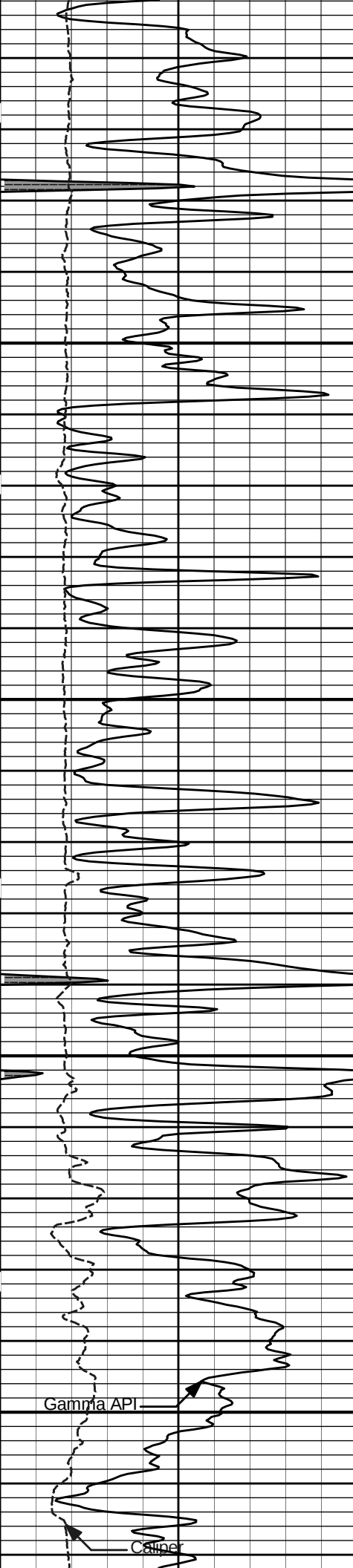
Gamma API

Caliper



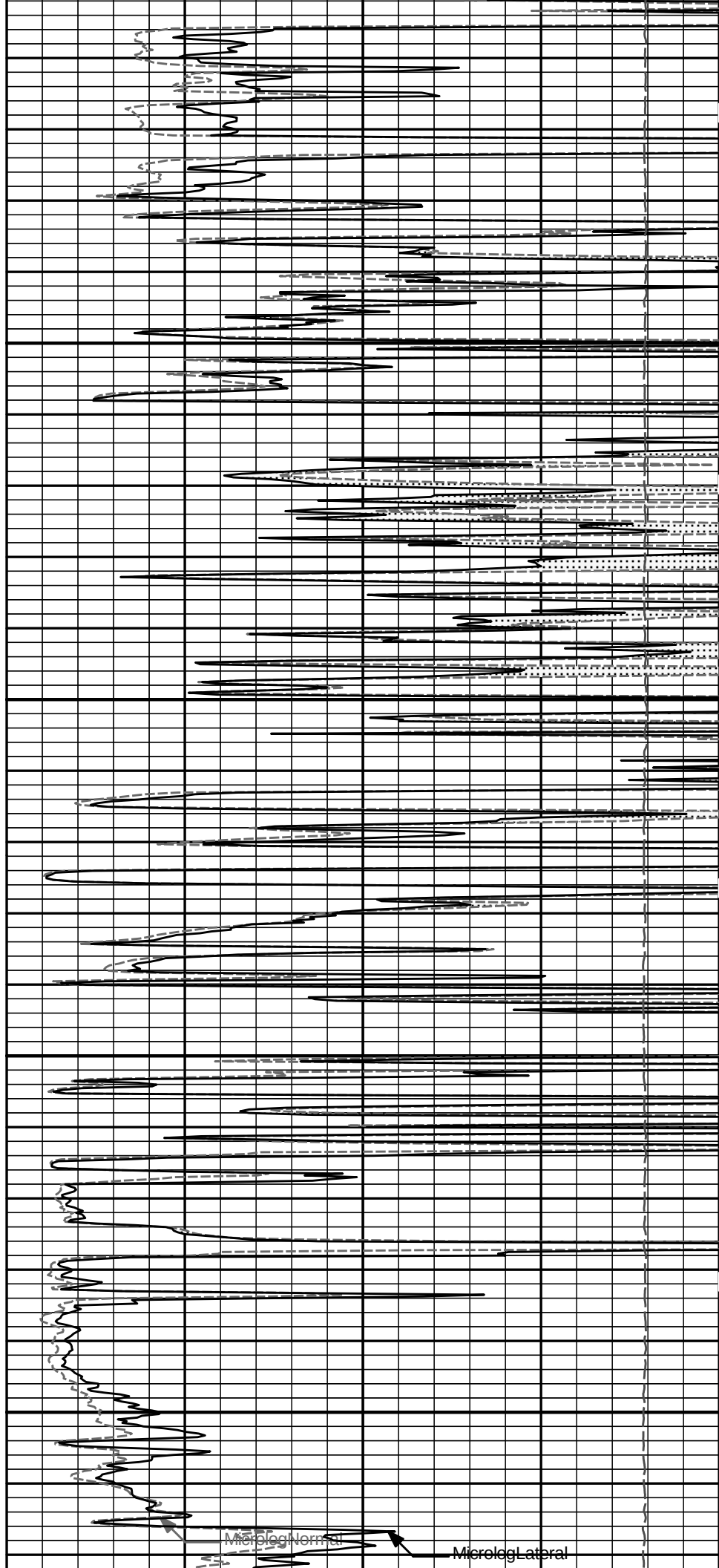
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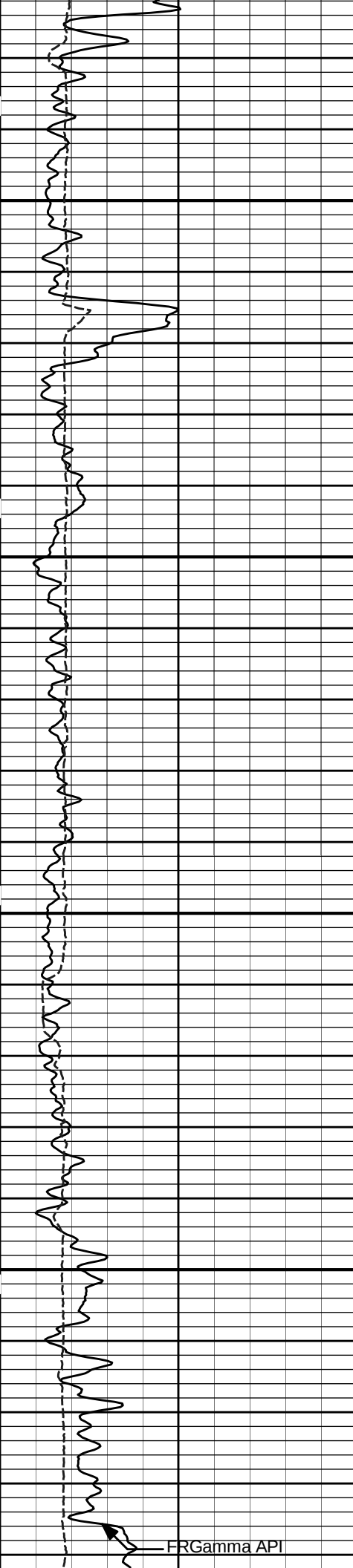
Microlog Normal



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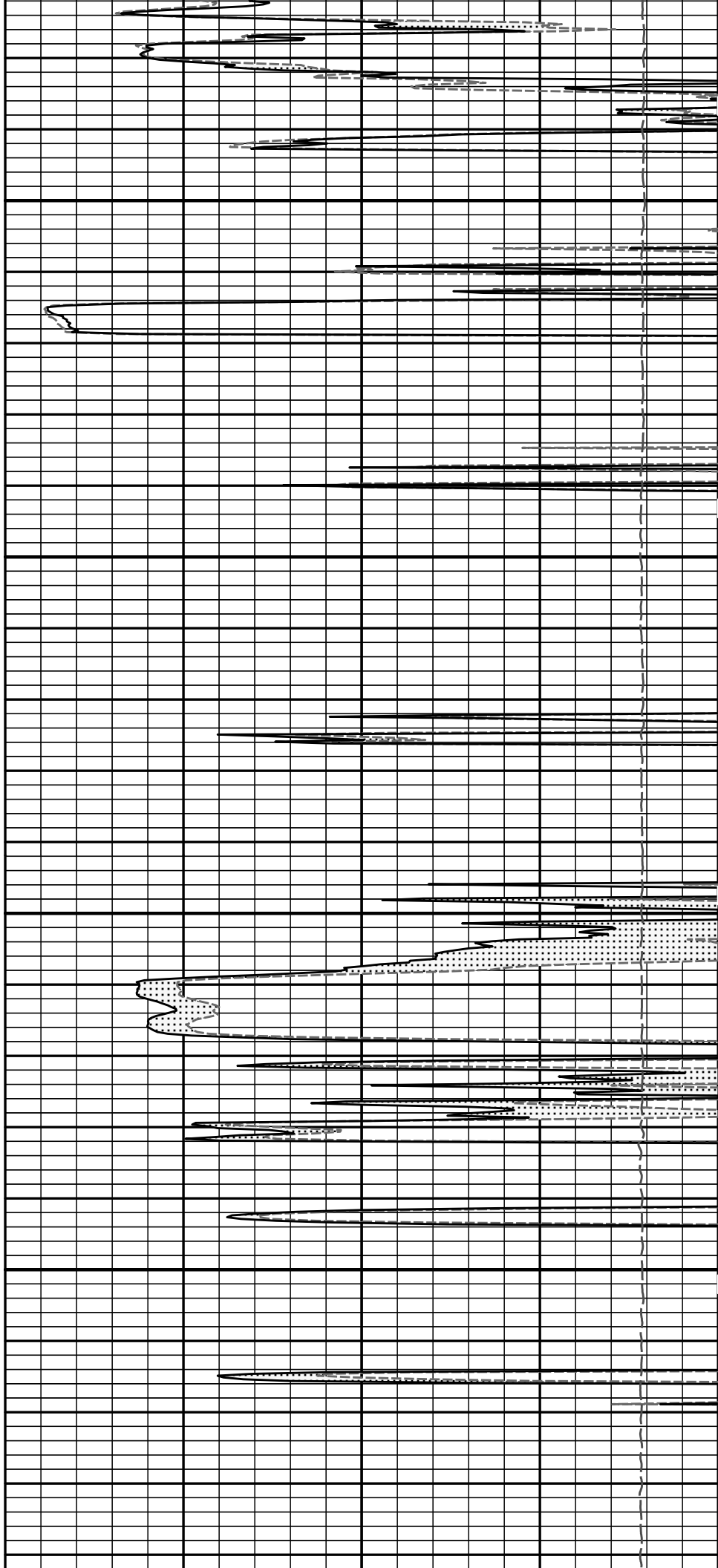
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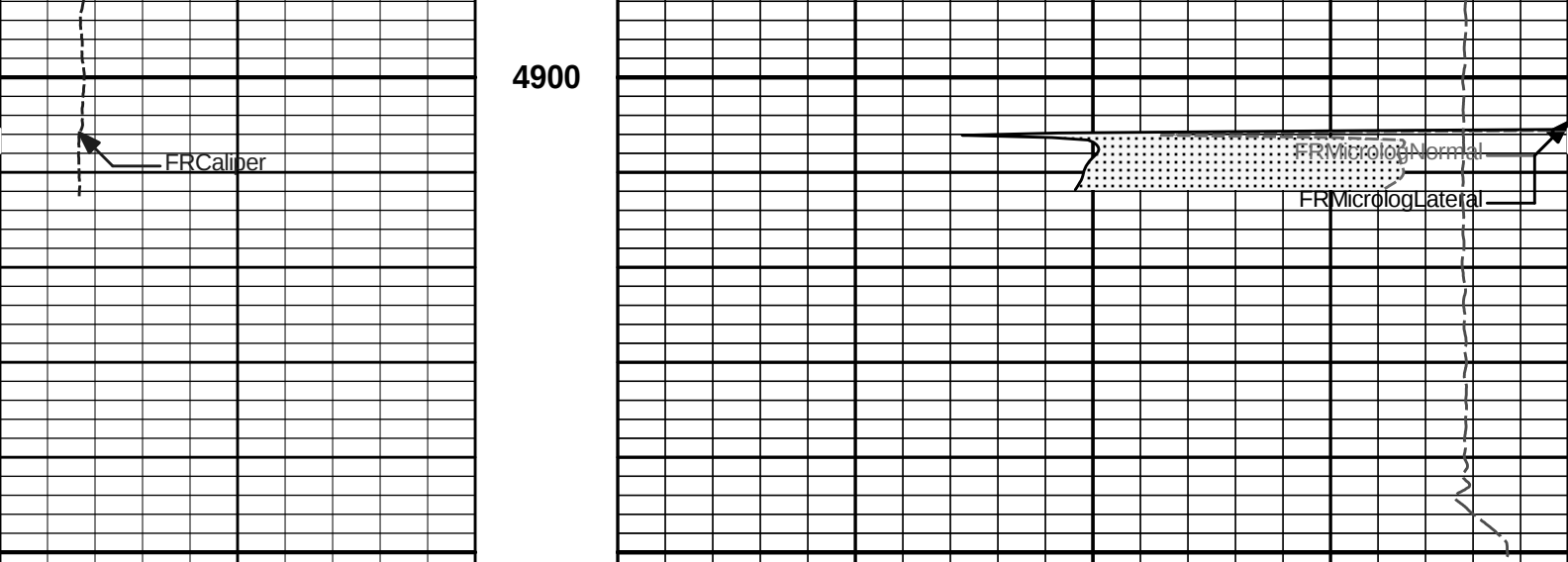




4700

4800





6	Caliper	16	1 : 240	15K	Tension	0
	inches		ft		pounds	
0	Gamma API	150	Tension Pull	0	MicrologLateral	20
	api		10		ohm-metre	
	SHALE		Tension Pull	0	MicrologNormal	20
					ohm-metre	
					PERMEABLE	

HALLIBURTON

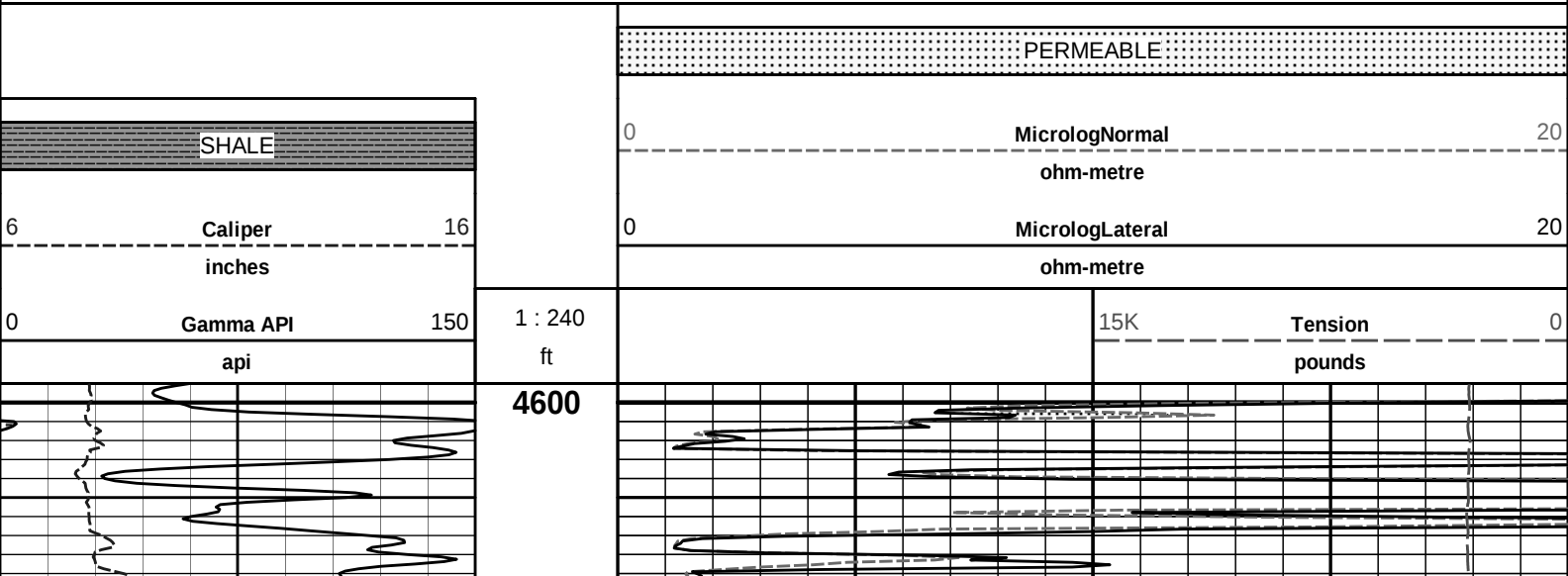
Plot Time: 25-Feb-12 22:10:33
Plot Range: 3740 ft to 4951.33 ft
Data: GARDEN_CITY_V_1\Well Based\DAQ-0001-004\
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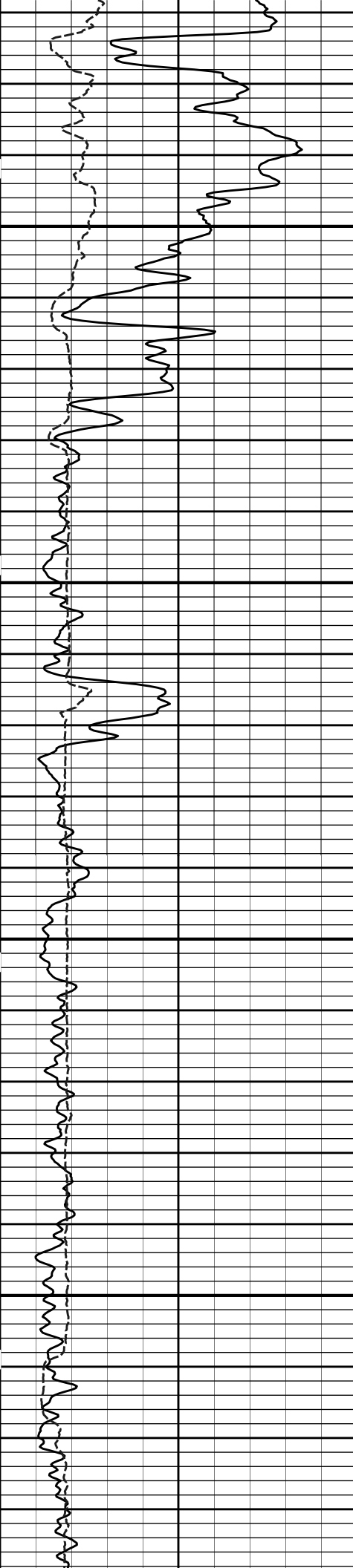
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 25-Feb-12 22:10:33
Plot Range: 4598 ft to 4952.75 ft
Data: GARDEN_CITY_V_1\Well Based\DAQ-0001-003\
Plot File: \\LOCAL-IGARDEN_CITY_V_1\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIMICRO\Microlog_IQ_5_rep_lib

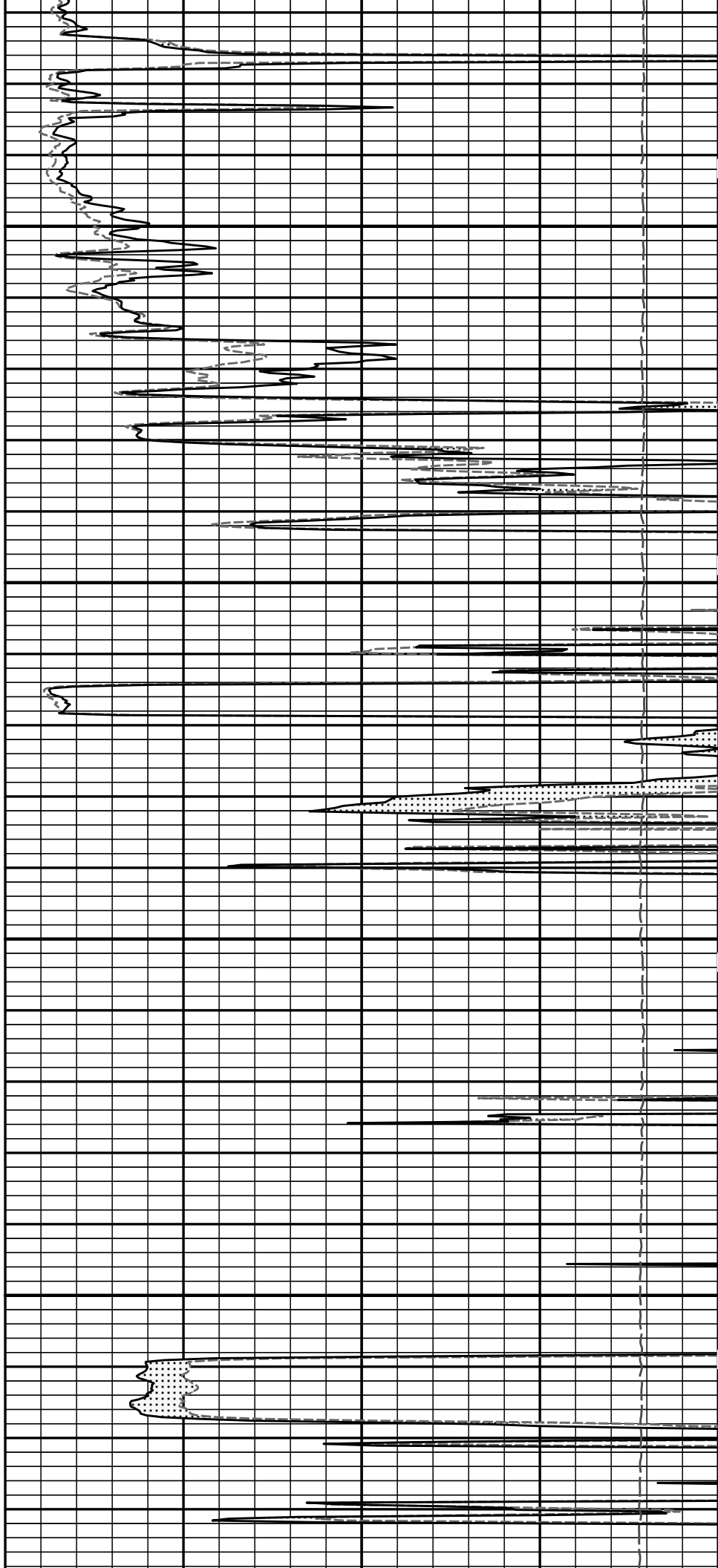
REPEAT SECTION

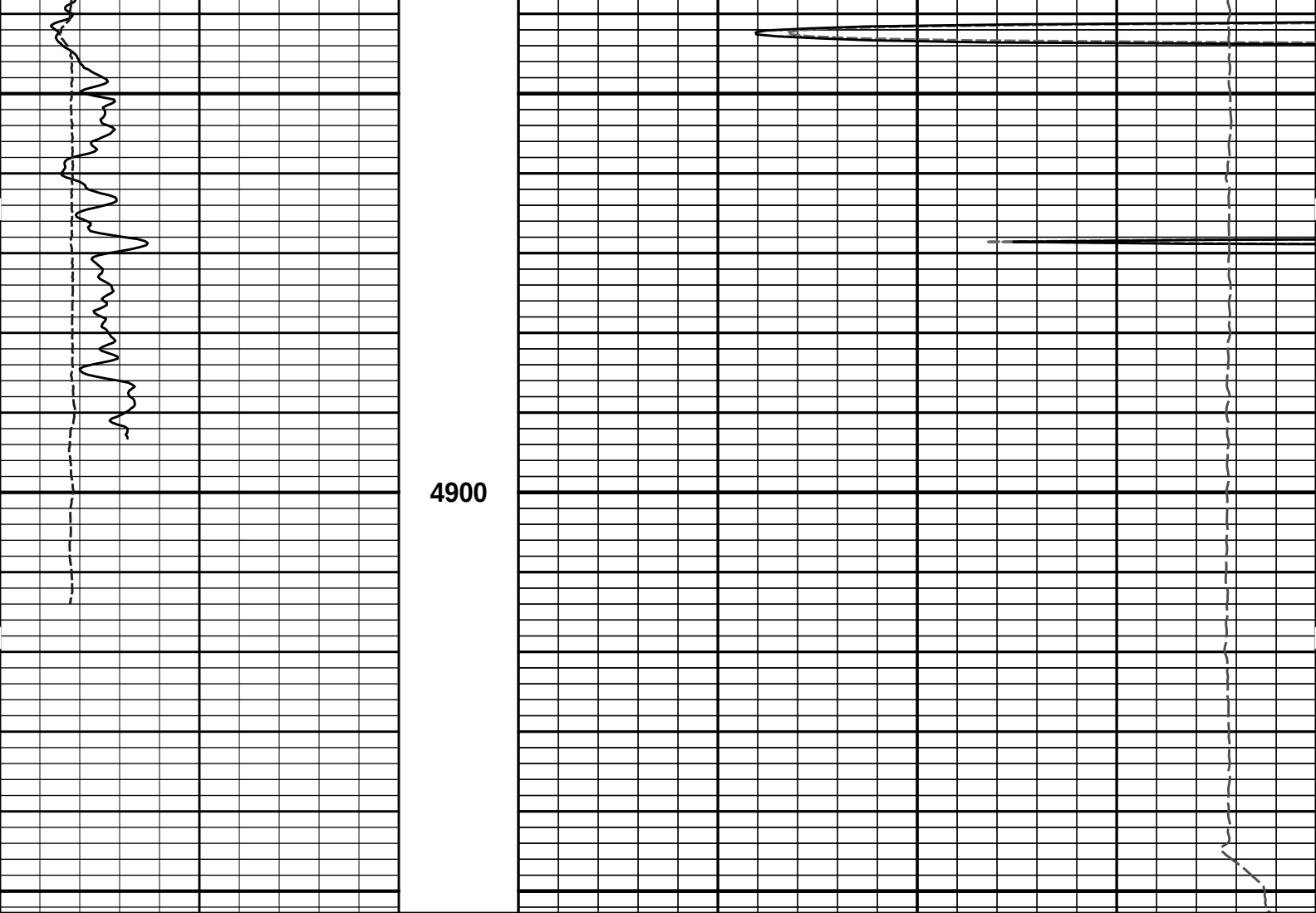




4700

4800





0	Gamma API	150	1 : 240	15K	Tension	0
	api		ft		pounds	
6	Caliper	16		0	MicrologLateral	20
	inches				ohm-metre	
	SHALE			0	MicrologNormal	20
					ohm-metre	
					PERMEABLE	

HALLIBURTON

Plot Time: 25-Feb-12 22:10:37
Plot Range: 4598 ft to 4952.75 ft
Data: GARDEN_CITY_V_1\Well Based\DAQ-0001-003\
Plot File: \\LOCAL-IGARDEN_CITY_V_1\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIMICRO\Microlog_IQ_5_rep_lib

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head- PROT01 30.00 lbs		Ø 3.625 in →			1.92 ft	70.28 ft

SP Sub-PROT01
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

DSNT-10755066
174.00 lbs

DSN Decentralizer-
10735145
6.60 lbs

Ø 5.000 in* →

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

SDLT Pad-
I145_M85803_P45
65.00 lbs

Microlog Pad-
I066_M85803_P45
8.00 lbs

Ø 4.500 in →

Ø 4.750 in* →

Ø 4.750 in* →

10.81 ft

Microlog @ 38.61 ft
SDL Caliper @ 38.42 ft
SDL @ 38.41 ft

35.61 ft

Centralizer 25-002
8.00 lbs

Ø 4.000 in* →

BSAT-10747683
300.00 lbs

Ø 3.625 in →

← Sonic Receivers @ 27.09 ft

15.77 ft

19.83 ft

ACRt Instrument-
I256
50.00 lbs

Centralizer 25-001
8.00 lbs

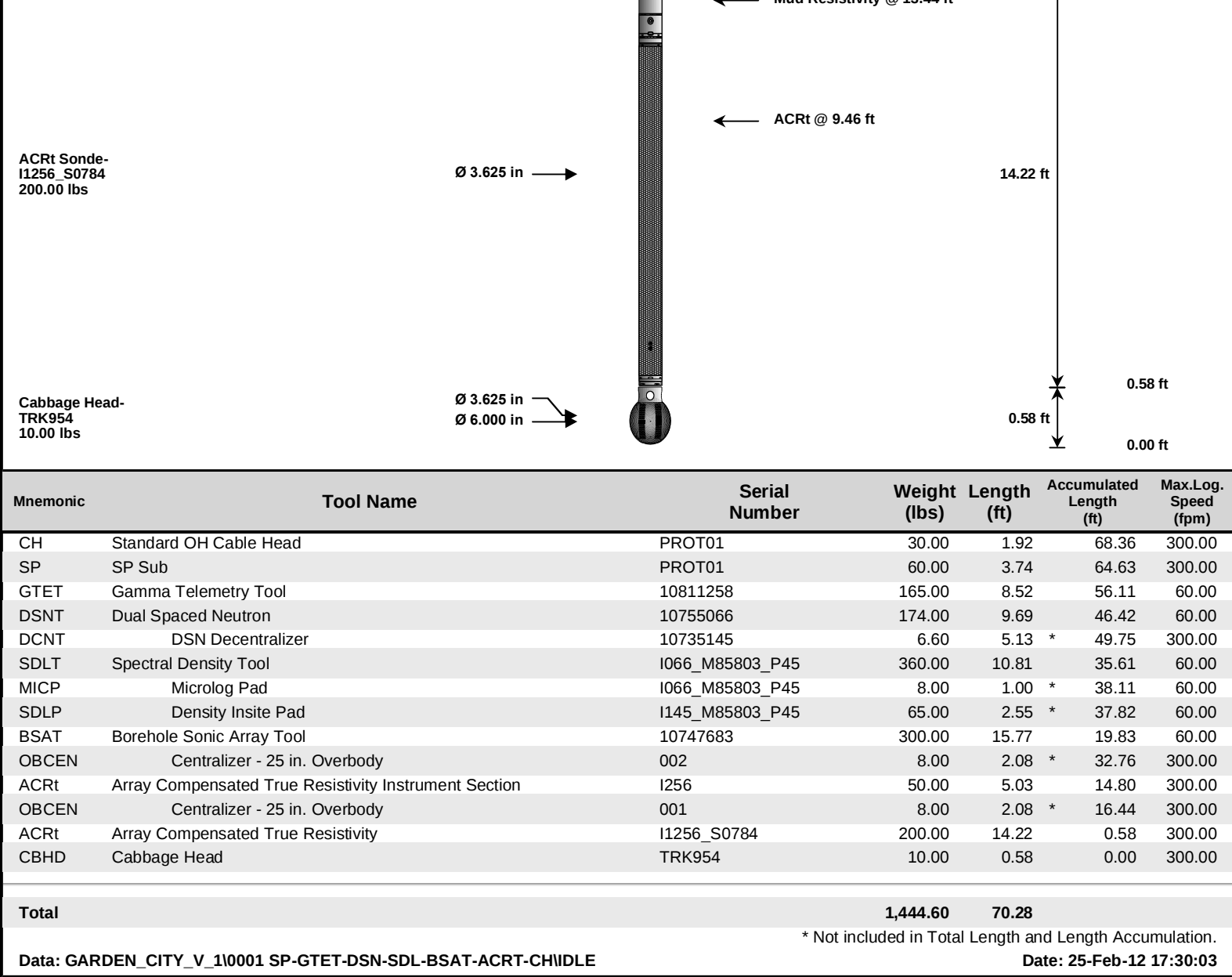
Ø 4.000 in* →

Ø 3.625 in →

5.03 ft

14.80 ft

← Mud Resistivity @ 13.44 ft



HALLIBURTON			
CALIBRATION REPORT			
NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 10811258	Reference Calibration Date:	25-Oct-11 17:21:30
Engineer:	C. HAVERKAMP	Calibration Date:	23-Jan-12 13:31:58
Software Version:	WL INSITE R3.4.2 (Build 2)	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
	Background	43.3	42.9
	Background + Calibrator	277.3	274.9
	Calibrator	234.0	232.0
NATURAL GAMMA RAY TOOL FIELD CALIBRATION			
Tool Name:	GTET - 10811258	Reference Calibration Date:	23-Jan-12 13:31:58
Engineer:	T. HYDE	Calibration Date:	25-Feb-12 17:40:09

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

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	42.9	33.8	api
Background + Calibrator	274.9	263.8	api
Calibrator	232.0	230.0	api

Shop	Field	Difference	Tolerance
232.0	230.0	2.0	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION

Tool Name:GTET - 10811258

Reference Calibration Date:25-Feb-12 17:40:09

Engineer:T. HYDE

Calibration Date:25-Feb-12 21:42:03

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

Calibration Version:1

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Calibrator API Reference:232.0 api

Post Verification	Field	Post	Units
Background	33.8	28.3	api
Background + Calibrator	263.8	256.6	api
Calibrator	230.0	228.2	api

Shop	Field	Post	Difference	Tolerance
232.0	230.0	228.2	1.8	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:DSNT - 10755066

Reference Calibration Date:06-Nov-11 14:36:25

Engineer:C. MARLOWE

Calibration Date:26-Jan-12 13:31:41

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

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: 62 degF

Min. Tool Housing Outside Diameter: 3.615 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.949	0.945	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):	0.2115	0.2103	0.0012	+/- 0.0020
Calibrated Ratio:	9.75	9.70	0.041	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0560	0.02000 - 0.09000

Snow Block Porosity (decp):				0.0560	0.052000	0.055000
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:	26-Jan-12 13:31:41
Engineer:	T. HYDE	Calibration Date:	25-Feb-12 17:45:57
Software Version:	WL INSITE R3.4.2 (Build 2)	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):	0.0560	0.0582	0.0022	+/- 0.0150

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

DUAL SPACED NEUTRON POST CALIBRATION			
Tool Name:	DSNT - 10755066	Reference Calibration Date:	25-Feb-12 17:45:57
Engineer:	T. HYDE	Calibration Date:	25-Feb-12 21:48:15
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Logging Source S/N: DSN-436
Snow Block S/N: TRK_10782954

NEUTRON POST-CHECK SUMMARY				
	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0582	0.0576	-0.0005	+/- 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:	09-Nov-11 16:14:16
Engineer:	C. MARLOWE	Calibration Date:	31-Jan-12 19:54:02
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	-5583.09	-5136.31	-7000.00 - -1000.00
Pad Gain	0.0003781	0.0003673	0.000200 - 0.000600
Arm Offset	-1197.87	-1566.02	-5000.00 - 3000.00
Arm Gain	0.0004938	0.0004838	0.000300 - 0.000700
Arm Power	-0.000003039	-0.000002176	-0.000010 - 0.000010

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER
Tool Diameter: 4.50 in

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CALIBRATION RINGS					
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value	
PAD EXTENSION:					
Small Ring (in)	1.89	2.00	0.11	+/- 0.20	
Medium Ring (in)	3.69	3.75	0.06	+/- 0.20	
RING DIAMETER:					
Small Ring (in)	6.54	6.50	-0.04	+/- 0.20	
Medium Ring (in)	8.31	8.25	-0.06	+/- 0.20	
Large Ring (in)	14.98	15.00	0.02	+/- 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 - I066_M85803_P45	Reference Calibration Date:	31-Jan-12 19:54:02
Engineer:	T. HYDE	Calibration Date:	25-Feb-12 17:53:07
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.70	-0.05	+/- 0.10
Ring Diameter	8.25	8.11	-0.14	+/- 0.15
PASS/FAIL SUMMARY				
Pad Extension Check:			Passed	
Diameter Check:			Passed	

SDLT CALIPER POST CALIBRATION			
Tool Name:	SDLT - I066_M85803_P45	Reference Calibration Date:	25-Feb-12 17:53:07
Engineer:	T. HYDE	Calibration Date:	25-Feb-12 21:55:38
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Field	Post	Change	Control Limit On New Value
Pad Extension	3.70	3.70	-0.00	+/- 0.10
Ring Diameter	8.11	7.97	-0.13	+/- 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:	03-Oct-11 10:37:13
Engineer:	C. HAVERKAMP	Calibration Date:	19-Jan-12 15:58:26
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper

A1 (80")	0.95	1.0114	1.05	0.95	1.0118	1.05	0.95	1.0018	1.05
A2 (50")	0.95	1.0171	1.05	0.95	1.0184	1.05	0.95	1.0116	1.05
A3 (29")	0.95	1.0027	1.05	0.95	1.0033	1.05	0.95	0.9957	1.05
A4 (17")	0.95	1.0186	1.05	0.95	1.0175	1.05	0.95	1.0133	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9958	1.05	0.95	0.9913	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9830	1.05	0.95	0.9787	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	-0.430	2	-6	-3.728	-2	-8	-4.849	-2
A2 (50")	-7	-2.031	-1	-6	-3.570	-2	-7	-4.342	-2
A3 (29")	-27	-16.211	-9	-9	-4.525	-3	-7	-3.257	-1
A4 (17")	-180	-98.266	-60	-45	-32.488	-15	-39	-26.620	-13
A5 (10")	N/A	N/A	N/A	-150	-96.757	-50	-80	-48.362	-10
A6 (6")	N/A	N/A	N/A	175	301.957	525	90	159.522	270
TRANSMITTER CURRENT GAIN						R-MUD VERIFICATION			
Signal	Lower		R	Upper		Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K	0.6		0.8379	1.3		Mud Cell	0.95	1.002	1.05
36K	1.0		1.1691	2.0					
72K	1.0		1.4954	2.0					
SPECTRAL DENSITY SHOP CALIBRATION									
Tool Name:	SDLT Pad - I145_M85803_P45					Reference Calibration Date:	17-Dec-11 07:41:10		
Engineer:	C. HAVERKAMP					Calibration Date:	23-Jan-12 14:46:25		
Software Version:	WL INSITE R3.4.2 (Build 2)					Calibration Version:	1		
Logging Source S/N: 5073GW				Density: 2.591g/cc				Pe: 3.170	
Aluminum Block S/N: 63061				Density: 1.690g/cc				Pe: 2.594	
Magnesium Block S/N: 63393									
DENSITY CALIBRATION SUMMARY									
Measurement				Previous Value		New Value		Control Limit	
Near Bar Gain				0.9729		0.9638		0.90 - 1.10	
Near Dens Gain				0.9692		0.9694		0.90 - 1.10	
Near Peak Gain				0.9717		0.9714		0.90 - 1.10	
Near Lith Gain				0.9336		0.9507		0.90 - 1.10	
Far Bar Gain				0.9864		0.9884		0.90 - 1.10	
Far Dens Gain				0.9773		0.9795		0.90 - 1.10	
Far Peak Gain				0.9717		0.9754		0.90 - 1.10	
Far Lith Gain				0.9498		0.9495		0.90 - 1.10	
Near Bar Offset				0.4649		0.5546		NONE	
Near Dens Offset				0.4626		0.4701		NONE	
Near Peak Offset				0.4060		0.4173		NONE	
Near Lith Offset				0.6865		0.5566		NONE	
Far Bar Offset				0.2464		0.2316		NONE	
Far Dens Offset				0.3033		0.2881		NONE	
Far Peak Offset				0.3146		0.2860		NONE	
Far Lith Offset				0.4166		0.4258		NONE	
Near Bar Background				1007.93		1005.32		700 - 1450	
Near Dens Background				332.14		333.52		230 - 480	

Near Dens Background	332.14	333.32	230 - 480
Near Peak Background	145.51	145.48	100 - 210
Near Lith Background	178.15	177.09	125 - 260
Far Bar Background	518.29	514.45	450 - 900
Far Dens Background	199.77	198.02	175 - 345
Far Peak Background	78.22	77.75	70 - 140
Far Lith Background	82.71	82.34	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.686	1.690	0.004	+/- 0.015
Pe	2.613	2.547	-0.066	+/- 0.150
ALUMINUM				
Density (g/cc)	2.581	2.591	0.010	+/- 0.01500
Pe	3.131	3.120	-0.011	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0007	+/- 0.0110	-0.0011	+/- 0.0140
Magnesium Block	-0.0009	+/- 0.0110	-0.0019	+/- 0.0140
Aluminum Block	-0.0010	+/- 0.0110	-0.0006	+/- 0.0140
Resolution	9.81	6.00 - 11.50	9.22	6.00 - 11.50
Internal Verifier(B+D+P+L)	1661	1200 - 2700	873	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 - I145_M85803_P45	Reference Calibration Date:	23-Jan-12 14:46:25
Engineer:	T. HYDE	Calibration Date:	25-Feb-12 17:38:21
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Pad Temperature: 69.0 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1661.419	1654.123	-7.296	16.372
Far (B+D+P+L) cps	872.552	877.822	5.270	16.140
Near Resolution	9.81	9.88	0.070	0.50
Far Resolution	9.22	9.73	0.510	1.00

PASS/FAIL SUMMARY

Bkg Quality Check:		Passed			
Bkg Resolution Check:		Passed			
Bkg Verification Check:		Passed			
SPECTRAL DENSITY POST CHECK					
Tool Name:	SDLT Pad - I145_M85803_P45	Reference Calibration Date:	25-Feb-12 17:38:21		
Engineer:	T. HYDE	Calibration Date:	25-Feb-12 21:39:39		
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1		
Pad Temperature: 57.6 degF					
DENSITY POST CALIBRATION SUMMARY					
Measurement	Field	Post	Change	Control Limit +/-	
Near (B+D+P+L) cps	1654.123	1658.350	4.227	16.372	
Far (B+D+P+L) cps	877.822	873.813	-4.009	16.140	
Near Resolution	9.88	9.84	-0.040	0.50	
Far Resolution	9.73	9.54	-0.190	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:	02-Sep-11 06:03:18		
Engineer:	C. MARLOWE	Calibration Date:	31-Jan-12 20:02:12		
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1		
CALIBRATION COEFFICIENT SUMMARY					
Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	-0.07	-0.09	0.00	0.00	ohmm
Calibration Point #1	0.02	0.00	-0.00	0.00	ohmm
Calibration Point #2	19.97	20.00	19.98	20.00	ohmm
Internal Reference	19.90	19.93	19.97	19.99	ohmm
Measurement	Micro Log Normal Tool Value		Micro Log Lateral Tool Value		Units
Tool Zero	-0.53		3.16		V
Calibration Point #1	23.08		1.59		V
Calibration Point #2	5304.32		6881.96		V
Internal Reference	5284.73		6879.28		V
MICRO LOG FIELD CHECK					
Tool Name:	Microlog Pad - I066_M85803_P45	Reference Calibration Date:	31-Jan-12 20:02:12		
Engineer:	T. HYDE	Calibration Date:	25-Feb-12 17:39:36		
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1		
Measurement	Micro Log Normal		Micro Log Lateral		Units
	Shop	Field	Shop	Field	
Tool Zero	-0.09	-0.08	0.00	0.00	ohmm
Internal Reference	19.93	19.88	19.99	19.94	ohmm
Summary					
Signal	Shop	Field	Difference	Tolerance	
Microlog Normal	19.93	19.88	0.05	+/- 0.80	

Microlog Lateral	19.99	19.94	0.05	+/- 0.80
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MICRO LOG POST CHECK					
Tool Name:	Microlog Pad - I066_M85803_P45			Reference Calibration Date:	25-Feb-12 17:39:36
Engineer:	T. HYDE			Calibration Date:	25-Feb-12 21:38:55
Software Version:	WL INSITE R3.4.2 (Build 2)			Calibration Version:	1

	Measurement	Micro Log Normal		Micro Log Lateral		Units
		Field	Post	Field	Post	
	Tool Zero	-0.08	-0.10	0.00	0.02	ohmm
	Internal Reference	19.88	19.89	19.94	19.95	ohmm
Summary						
	Signal	Field	Post	Difference		Tolerance
	Microlog Normal	19.88	19.89	0.01		+/- 0.80
	Microlog Lateral	19.94	19.95	0.01		+/- 0.80

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10811258						
Gamma Ray Calibrator	232.0	230.0	228.2	1.8	+/- 9.00	api
DSNT-10755066						
Snow-Block Porosity	0.0560	0.0582	0.0576	0.0006	+/- 0.0150	decp
SDLT-I066_M85803_P45						
Pad Extension	3.75	3.70	3.70	0.00	+/-0.10	in
Ring Diameter	8.25	8.11	7.97	0.140	+/-0.15	in
ACRt Sonde-I1256_S0784						
Mud Cell	1.002	-----	-----	0.000	-----	ohm-m
SDLT Pad-I145_M85803_P45						
Near(B+D+P+L)	1661.419	1654.123	1658.350	-4.227	+/-16.372	cps
Far(B+D+P+L)	872.552	877.822	873.813	4.009	+/-16.140	cps
Microlog Pad-I066_M85803_P45						
MicroLog Normal	19.93	19.88	19.89	-0.01	+/-0.80	ohmm
MicroLog Lateral	19.99	19.94	19.95	-0.01	+/-0.80	ohmm
Data: GARDEN_CITY_V_1I0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH					Date: 25-Feb-12 21:57:31	

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	9.500	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	0.710	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	4945.00	ft
SHARED	BHT	Bottom Hole Temperature	96.0	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	
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	
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	
BOTTOM				
Data: GARDEN_CITY_V_110001 SP-GTET-DSN-SDL-BSAT-ACRT-CHUIDLE			Date: 25-Feb-12 21:17:15	

HALLIBURTON

INPUTS, DELAYS AND FILTERS TABLE

Memorica	Input Description	Delay	Filter Type	Filter Length
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Mnemonic	Input Description	(ft)	Filter Type	(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	
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

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: GARDEN_CITY_V_1\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIDLE			Date: 25-Feb-12 20:05:50	

COMPANY	OXY USA INC		
WELL	GARDEN CITY V-1		
FIELD	GARDEN CITY		
COUNTY	FINNEY	STATE	KANSAS
HALLIBURTON		MICRO LOG	