

# HALLIBURTON

**ARRAY COMPENSATED  
TRUE RESISTIVITY  
1 INCH LOG**

<p><b>COMPANY</b> MERIT ENERGY COMPANY</p> <p><b>WELL</b> RIVER BEND 4</p> <p><b>FIELD/BLOCK</b> ARKANSAS RIVER</p> <p><b>COUNTY</b> FINNEY</p> <p><b>STATE</b> KANSAS</p>	<p><b>COMPANY</b> MERIT ENERGY COMPANY</p> <p><b>WELL</b> RIVER BEND 4</p> <p><b>FIELD/BLOCK</b> ARKANSAS RIVER</p> <p><b>COUNTY</b> FINNEY</p> <p><b>STATE</b> KANSAS</p>
<p><b>Permanent Datum</b> GL</p> <p><b>Log measured from</b> KB</p> <p><b>Drilling measured from</b> KB</p>	<p><b>API No.</b> 15-055-22492-00-00</p> <p><b>Location</b> (SHL) 6'12" FNL &amp; 180' FWL SW NW NW NW NW</p> <p><b>Other Services:</b> GTET DSNT MICROLOG SDLT BSAT ACRT</p>
<p><b>Date</b> 11-Aug-18</p> <p><b>Run No.</b> ONE</p> <p><b>Depth - Driller</b> 4950.0 ft</p> <p><b>Depth - Logger</b> 4949.0 ft</p> <p><b>Bottom - Logged Interval</b> 4940.0 ft</p> <p><b>Top - Logged Interval</b> 1783.0 ft</p> <p><b>Casing - Driller</b> 8.625 in @ 1784.0 ft</p> <p><b>Casing - Logger</b> 1783.0 ft</p> <p><b>Bit Size</b> 7.875 in</p> <p><b>Type Fluid in Hole</b> Water Based Mud</p> <p><b>Density</b> 9.20 g/cc</p> <p><b>Viscosity</b> 56.00 s/qt</p> <p><b>PH</b> 11.00 pH</p> <p><b>Fluid Loss</b> 1.1 cphm</p> <p><b>Source of Sample</b> MUD PIT</p> <p><b>Rm @ Meas. Temperature</b> 1.03 ohmm @ 75.00 degF</p> <p><b>Rmf @ Meas. Temperature</b> 0.82 ohmm @</p> <p><b>Rmc @ Meas. Temperature</b> 1.24 ohmm @ 75.00 degF</p> <p><b>Source Rmf</b> MEAS</p> <p><b>Rm @ BHT</b> 0.80 ohmm @ 133.0 degF</p> <p><b>Time Since Circulation</b> 04:00 hr</p> <p><b>Time on Bottom</b> 11-Aug-18 23:24</p> <p><b>Max. Rec. Temperature</b> 133.00 degF @ 4949.0 ft</p> <p><b>Equipment</b> 12156883 EL RENO, OK</p> <p><b>Recorded By</b> SEAN WOLTEMATH</p> <p><b>Witnessed By</b> MARTIN LANGE</p>	<p><b>Sect.</b> 26</p> <p><b>Twp.</b> 24S</p> <p><b>Rge.</b> 32W</p> <p><b>Elev.</b> 2825.0 ft</p> <p><b>12.0 ft above perm. Datum</b></p> <p><b>Elev.: K.B.</b> 2837.0 ft</p> <p><b>D.F.</b> 2837.0 ft</p> <p><b>G.L.</b> 2825.0 ft</p>

Fold here

Service Ticket No.: 905054687				API No.: 15-055-22492-00-00				PGM Version: WL INSITE R5.6.3 (Build 4)			
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	ECCN	N/A	
Rmc @ Meas. Temp.	@	@					I-11830684				
Source Rmf	Rmc						S-11830728				
Rm @ BHT	@	@									
Rmf @ BHT	@	@									
Rmc @ BHT	@	@									
EQUIPMENT DATA											
GAMMA			ACOUSTIC			DENSITY			NEUTRON		
Run No.	ONE		Run No.	ONE		Run No.	ONE		Run No.	ONE	
Serial No.	11013113		Serial No.	12173982		Serial No.	11213308		Serial No.	11019641	
Model No.	GTET		Model No.	BSAT		Model No.	SDLT		Model No.	DSNT	
Diameter	3.625"		No. of Cent.			Diameter	5.5"		Diameter	3.625"	
Detector Model No.	GTET		Spacing			Log Type	GAM-GAM		Log Type	NEU-NEU	
Type	SCINT					Source Type	Cs-137		Source Type	Am241Be	
Length	8"		LSA [Y/N]			Serial No.	5475GW		Serial No.	DSN-436	
Distance to Source	10'		FWDA [Y/N]			Strength	1.78 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	17.6 us/ft	30	10	2.71 g/cc

ONE	TD	CSG	REC	0	150	30	-10	47.8 us/ft	30	-10	2.71 g/cc	30	-10	TIME
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DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks:

GTET-DSNT-SDLT-BSAT-ACRT RUN IN COMBINATION  
 ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING  
 CHLORIDES REPORTED AT 1600 PPM

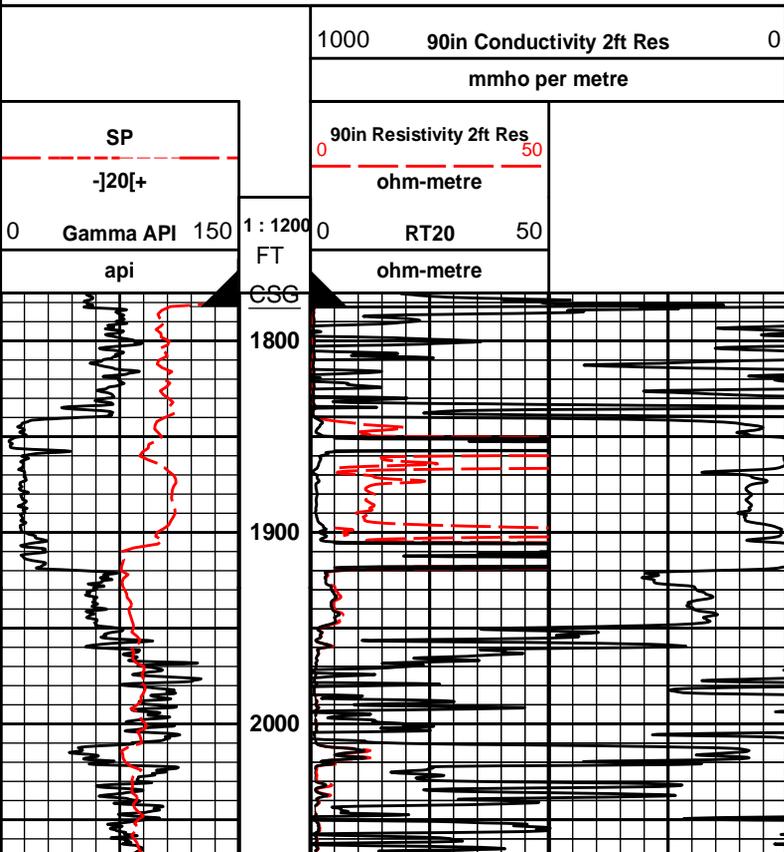
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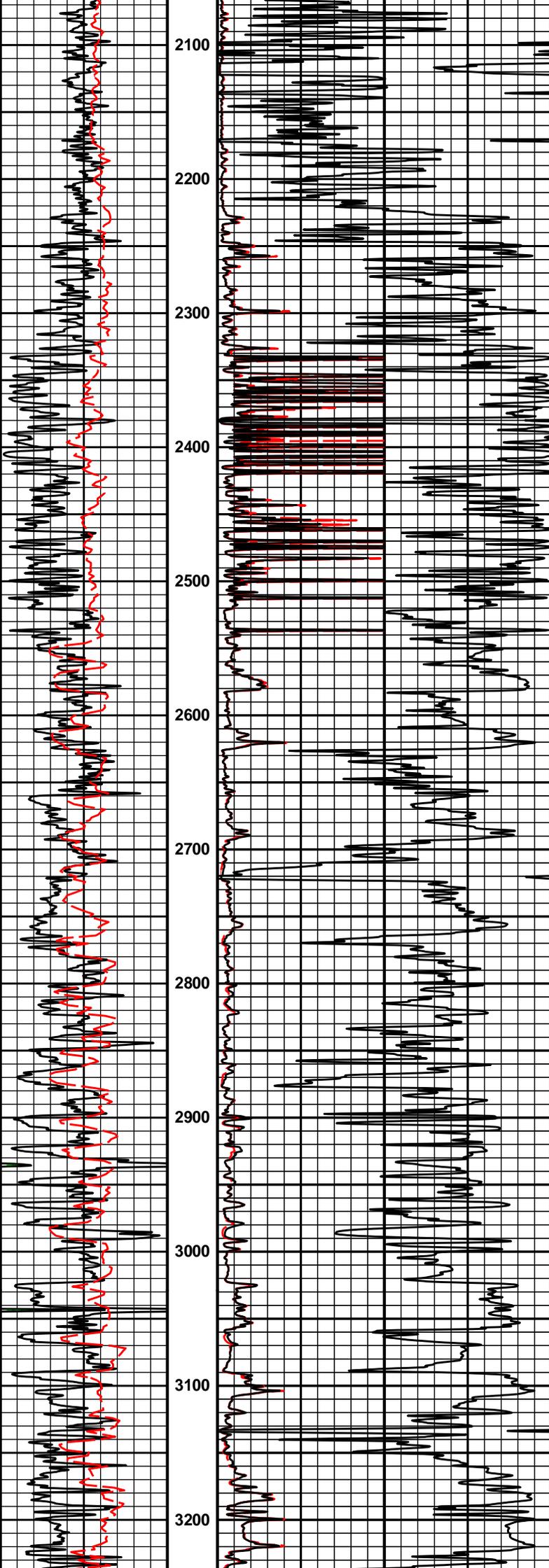
HALLIBURTON

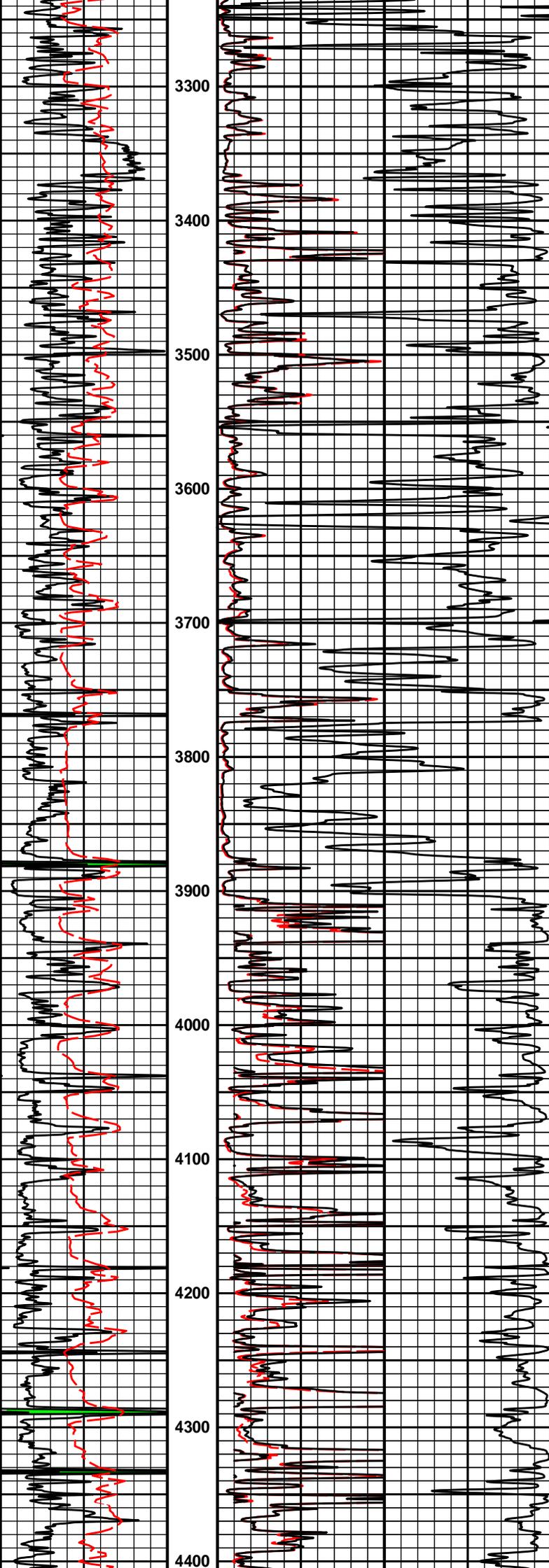
**HALLIBURTON**  
 Plot Time: 12-Aug-18 01:20:13  
 Plot Range: 1775 ft to 4941 ft  
 Data: MERIT\_RIVERBND4\Well Based\MAIN\_TD-CSG\  
 Plot File: \\LOCAL\MERIT\_RIVERBND4\Well Based\ACRT1\ACRT\_1\_main

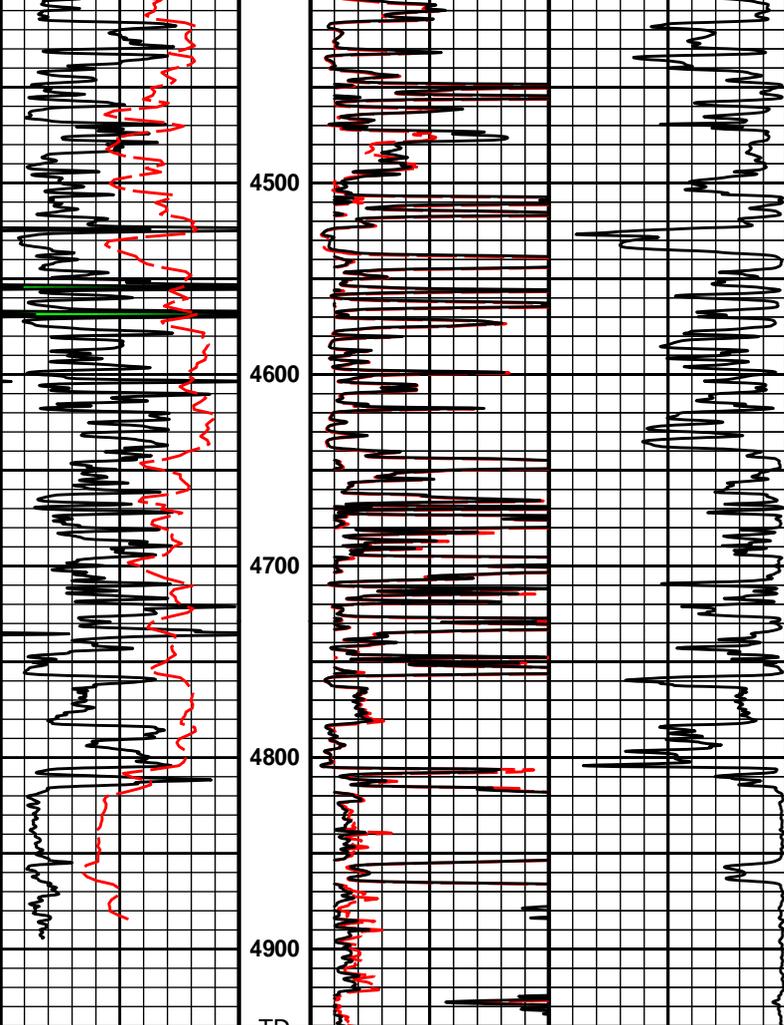
# 1 INCH MAIN LOG

1 INCH CORRELATION LOG









0	Gamma API	150	1 : 1200	0	RT20	50	
	api		FT		ohm-metre		
	SP				90in Resistivity 2ft Res	50	
	-]20[+				ohm-metre		
				1000	90in Conductivity 2ft Res		0
					mmho per metre		

**HALLIBURTON**  
 Plot Time: 12-Aug-18 01:20:15  
 Plot Range: 1775 ft to 4941 ft  
 Data: MERIT\_RIVERBND4Well Based\MAIN\_TD-CSG\  
 Plot File: \\LOCAL\MERIT\_RIVERBND4Well Based\ACRT1\ACRT\_1\_main

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1 INCH CORRELATION LOG

COMPANY	MERIT ENERGY COMPANY		
WELL	RIVER BEND 4		
FIELD	ARKANSAS RIVER		
COUNTY	FINNEY	STATE	KANSAS

