



**COMPENSATED DENSITY  
NEUTRON  
LOG**

Company American Oil LLC.  
Well Hendrich Unit #2-18  
Field Gra-Rook  
County Rooks  
State Kansas

Company American Oil LLC.  
Well Hendrich Unit #2-18  
Field Gra-Rook  
County Rooks State Kansas

Location: 990' FSL & 2310' FEL  
API #: 15 163 24376  
SEC 18 TWP 9S RGE 20W  
Permanent Datum Ground Level Elevation 2246'  
Log Measured From KB 5' AGL  
Drilling Measured From KB  
Other Services  
DIL  
Elevation  
K.B. 2251'  
D.F. 2250'  
G.L. 2246'

Date	11-5-18		
Run Number	One		
Depth Driller	3848'		
Depth Logger	3841'		
Bottom Logged Interval	3819'		
Top Log Interval	3200'		
Casing Driller	8 5/8" @ 261'		
Casing Logger	261'		
Bit Size	7 7/8"		
Type Fluid in Hole	Chemical		
Density / Viscosity	9.0/48	Chlorides 10,000 PPM	
PH / Fluid Loss	9.8/8.0		
Source of Sample	Pit		
Rm @ Meas. Temp	0.8 @ 64 degf		
Rmf @ Meas. Temp	0.6 @ 64 degf		
Rmc @ Meas. Temp	0.96 @ 64 degf		
Source of Rmf / Rmc	Calculated		
Rm @ BHT	0.52 @ 99 degf		
Time Circulation Stopped	4:15 p.m.		
Time Logger on Bottom	6:30 p.m.		
Maximum Recorded Temperature	99 degf		
Equipment Number	T127		
Location	Hays, KS.		
Recorded By	C. Patterson		
Witnessed By	Mr. Austin Klaus		

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

**Comments**

W side of Palco,KS 3rd (W4th St.) or Hwy 18 W of Palco  
To V Rd., Then W 1.5 mi on V Rd., N to W into through cattle guard

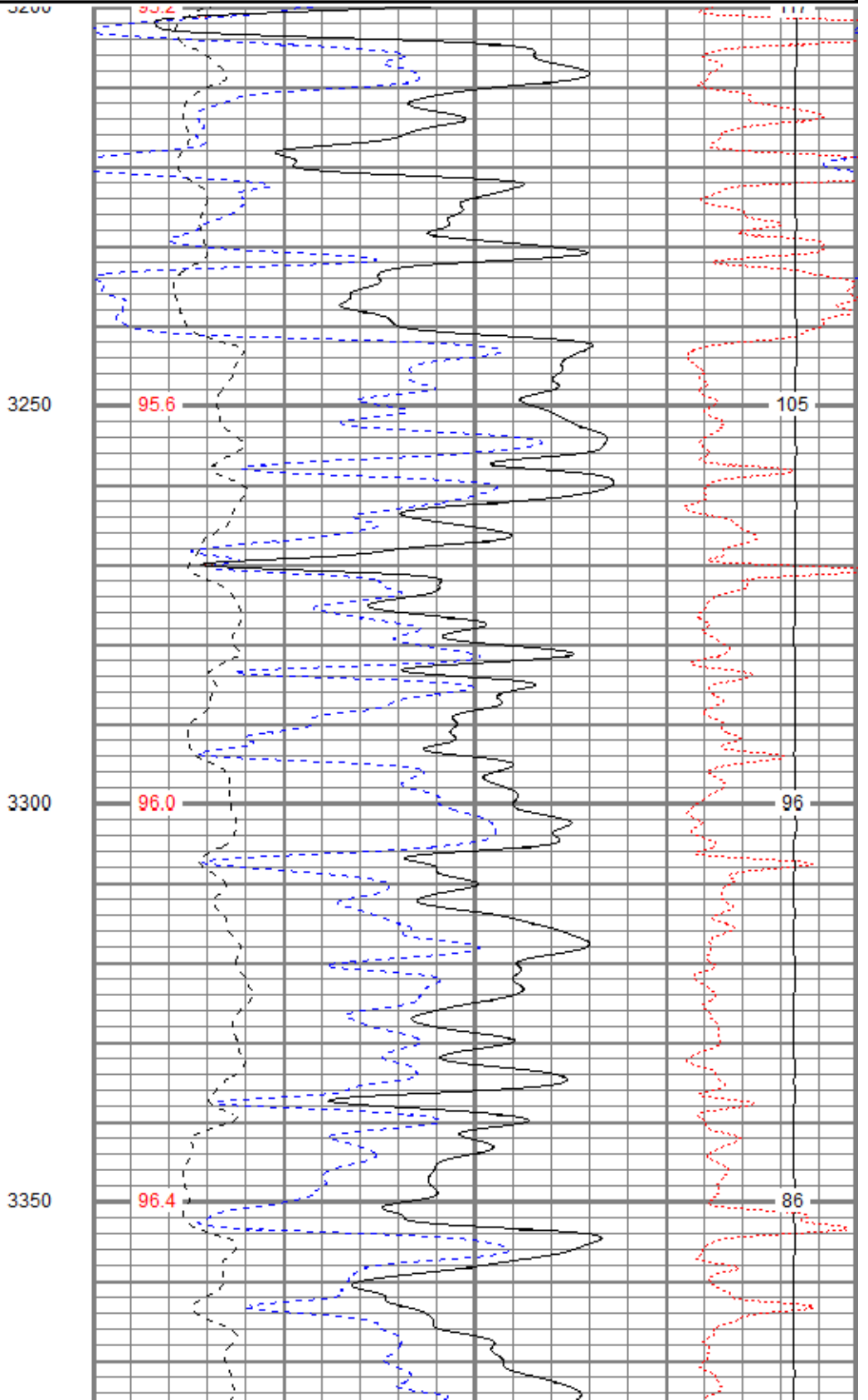
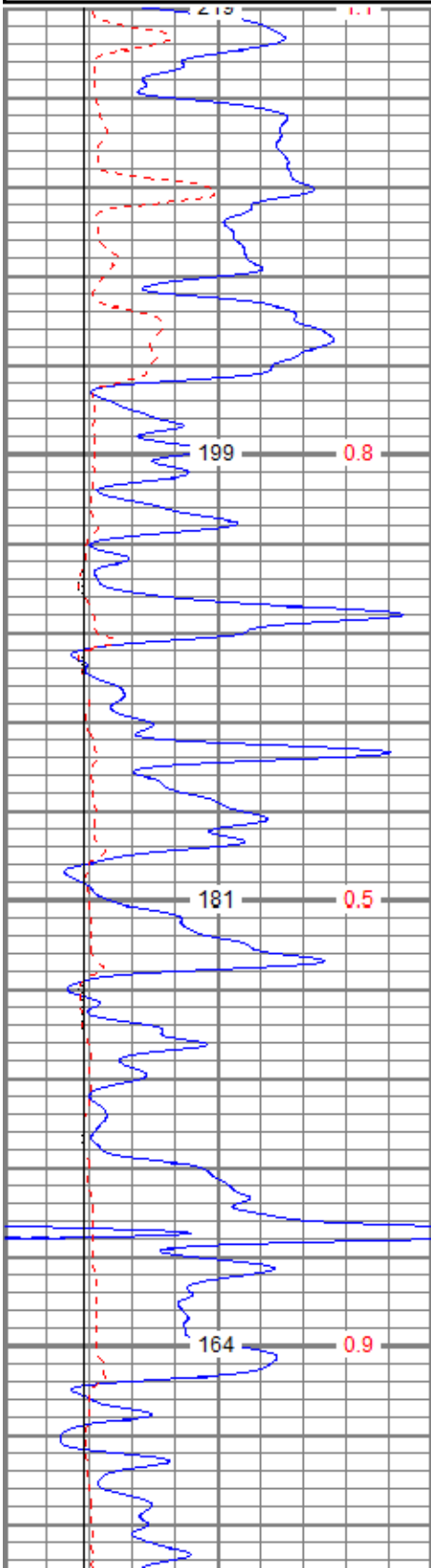


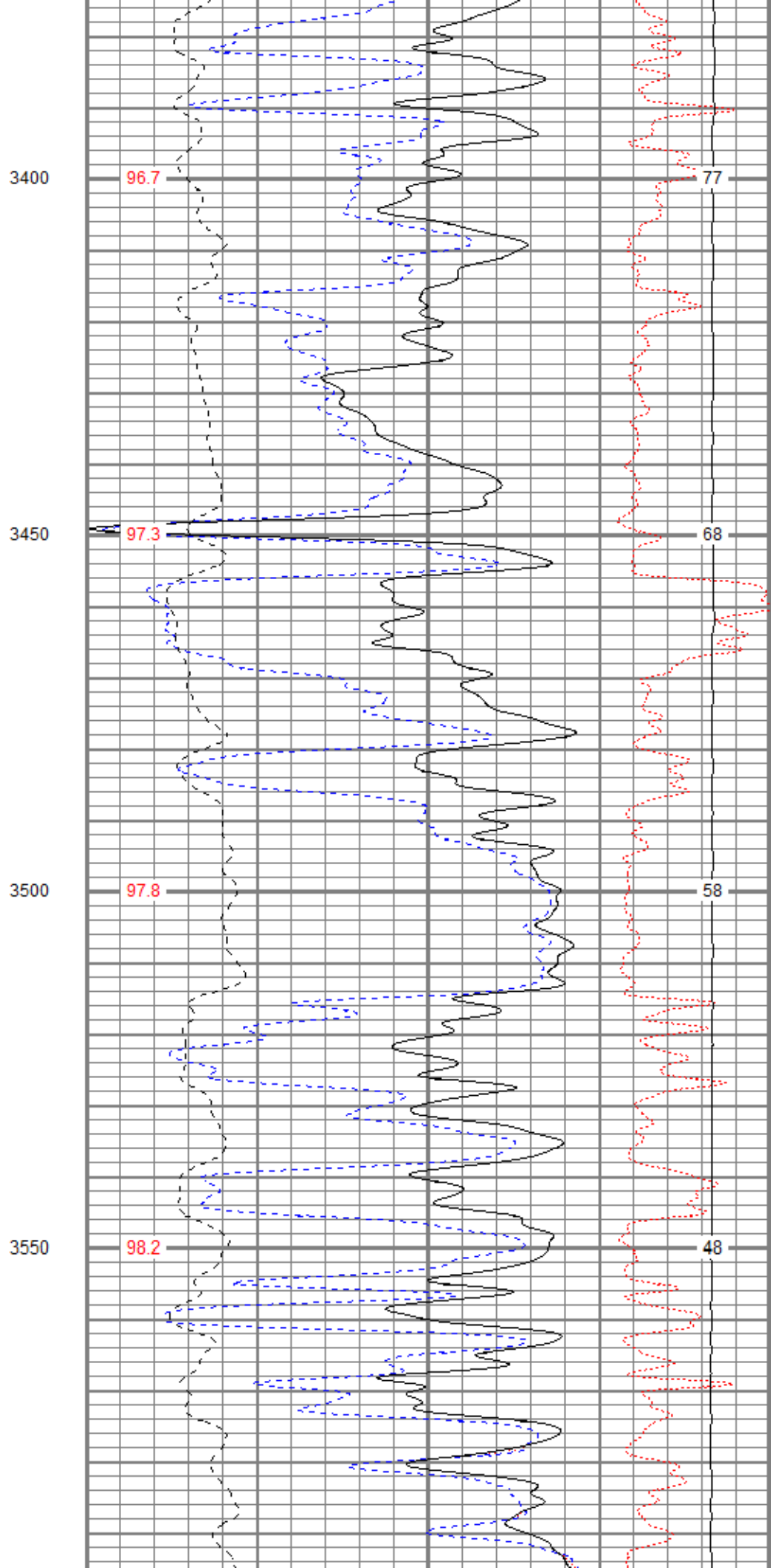
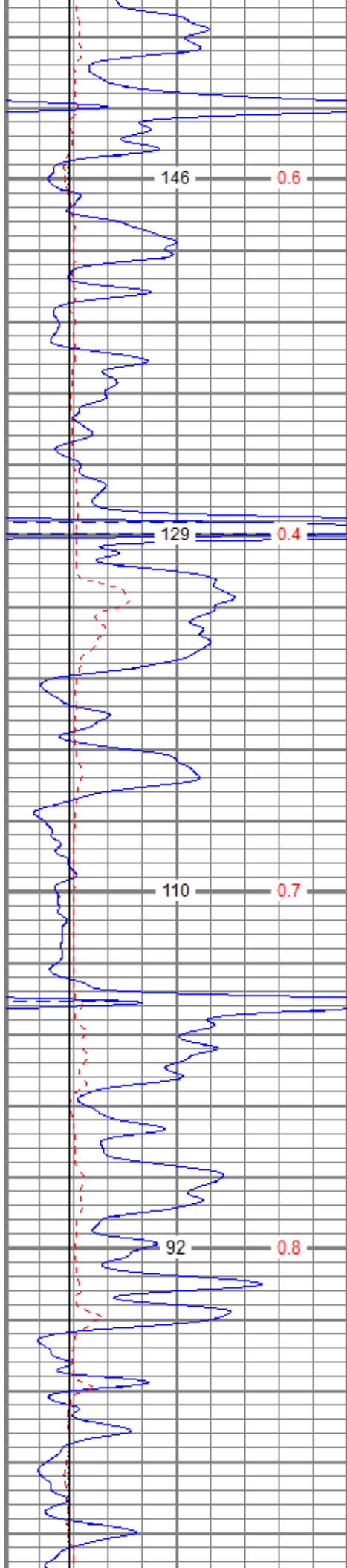
**MAIN PASS**

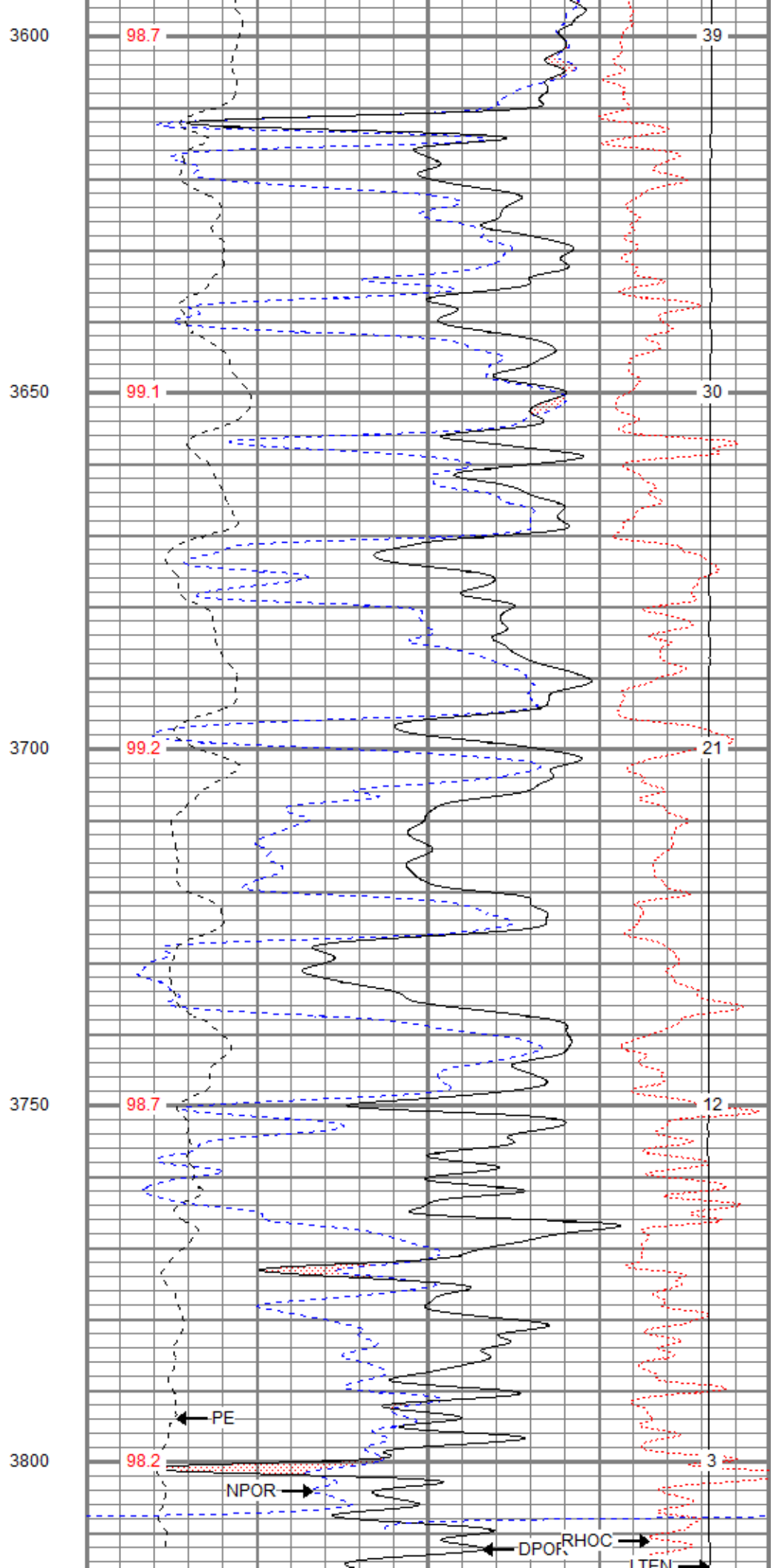
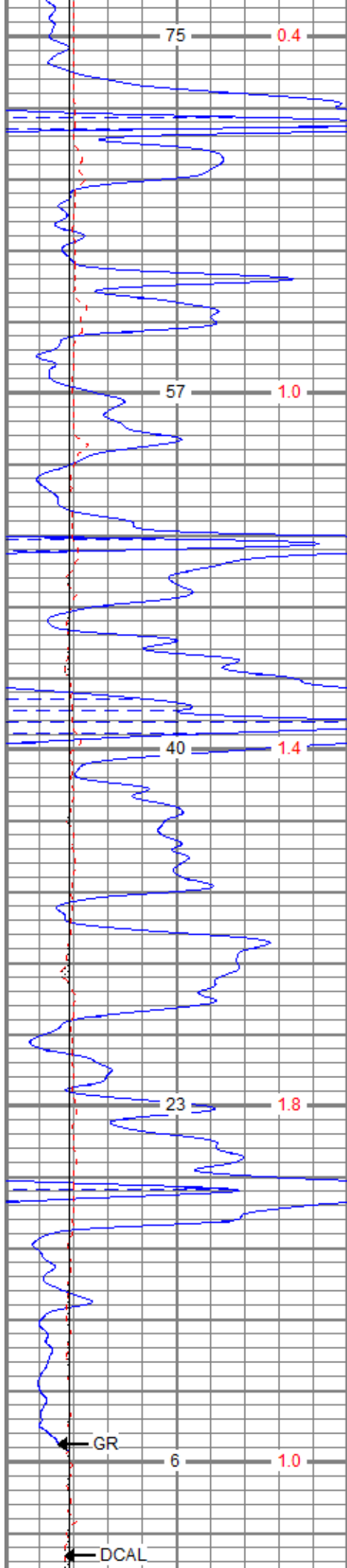
Database File aohendrich#2-18oh.db  
 Dataset Pathname pass2.1  
 Presentation Format digital\_kcdnl  
 Dataset Creation Mon Nov 05 19:43:25 2018  
 Charted by Depth in Feet scaled 1:240

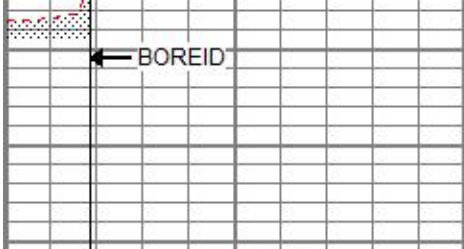
0	GR (GAPI)	150
6	DCAL (in)	16
6	BOREID (in)	16
	TBHV (ft3)	DEVI (deg)

30	NPOR (pu)	-10			
30	DPOR (pu)	-10			
70	DPOR (pu)	30			
0	Pe (barn)	10	-0.25	RHOC (g/cc)	0.25
	TEMP (degF)	8000	LTEN (lb)	0	ABHV (ft3)









0	GR (GAPI)	150
6	DCAL (in)	16
6	BOREID (in)	16
	TBHV (ft3)	DEVI (deg)

30	NPOR (pu)	-10			
30	DPOR (pu)	-10			
70	DPOR (pu)	30			
0	Pe (barn)	10	-0.25	RHOC (g/cc)	0.25
TEMP (degF)	8000	LTEN (lb)	0	ABHV (ft3)	

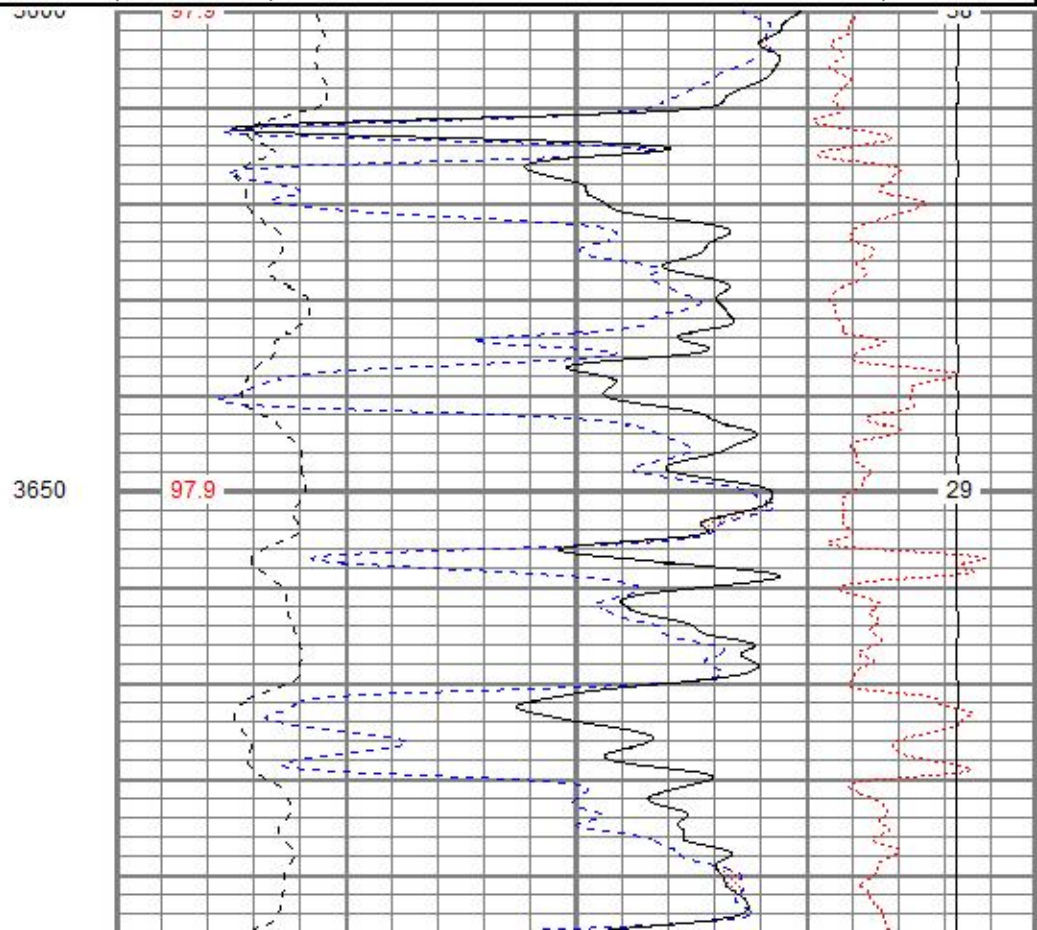
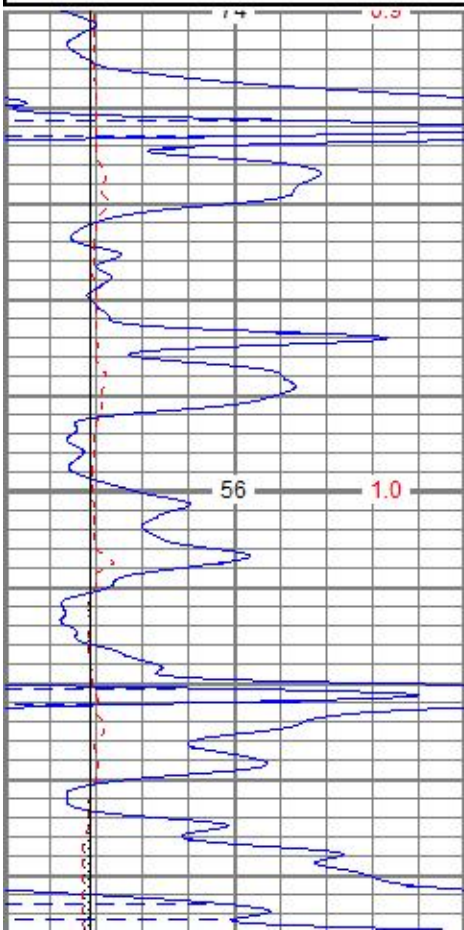


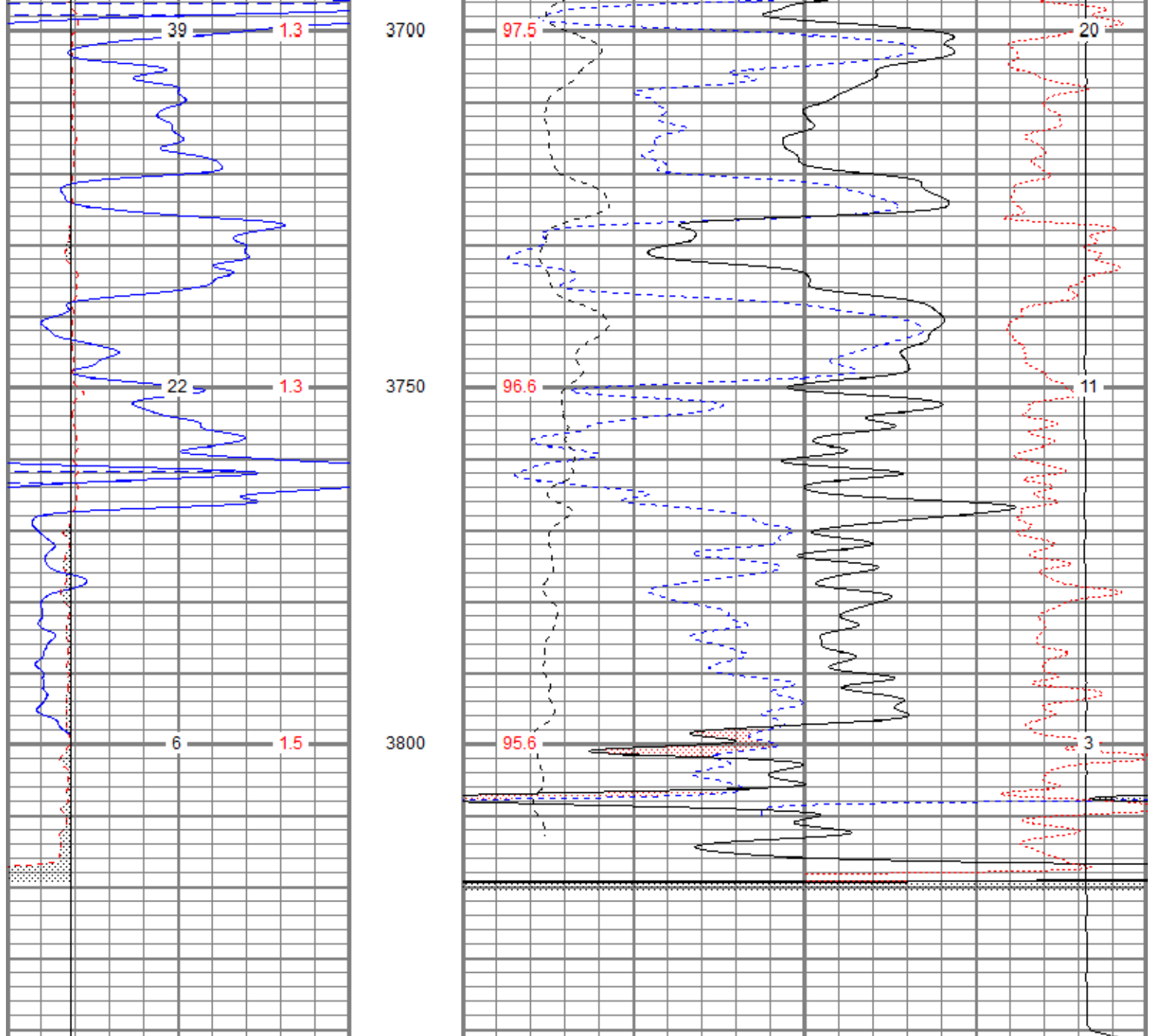
# REPEAT SECTION

Database File: aohendrich#2-18oh.db  
 Dataset Pathname: pass1  
 Presentation Format: digital\_kcdnl  
 Dataset Creation: Mon Nov 05 18:29:49 2018  
 Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	150
6	DCAL (in)	16
6	BOREID (in)	16
	TBHV (ft3)	DEVI (deg)

30	NPOR (pu)	-10			
30	DPOR (pu)	-10			
70	DPOR (pu)	30			
0	Pe (barn)	10	-0.25	RHOC (g/cc)	0.25
TEMP (degF)	8000	LTEN (lb)	0	ABHV (ft3)	





0	GR (GAPI)	150	30	NPOR (pu)	-10
6	DCAL (in)	16	30	DPOR (pu)	-10
6	BOREID (in)	16	70	DPOR (pu)	30
	TBHV (ft3)	DEVI (deg)	0	Pe (barn)	10
			TEMP (degF)	-0.25	RHOC (g/cc)
				8000	LTEN (lb)
					0
					ABHV (ft3)

### Calibration Report

Database File aohendrich#2-18oh.db  
 Dataset Pathname pass2.1  
 Dataset Creation Mon Nov 05 19:43:25 2018

### Dual Induction Calibration Report

Serial-Model: 5375-G  
 Surface Cal Performed: Sat Oct 10 08:33:18 2015  
 Downhole Cal Performed: Sat Oct 10 08:33:23 2015  
 After Survey Verification Performed: Sat Oct 10 08:33:27 2015

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.007	0.642	V	0.000	350.000	mmho/m	551.294	-3.816
Medium	0.010	0.728	V	0.000	400.000	mmho/m	556.531	-5.391
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.642	V	0.000	350.000	mmho/m	550.717	-3.768
Medium	0.010	0.729	V	0.000	550.000	mmho/m	764.510	-7.354

Downhole Calibration								
Internal:	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Deep	0.145	350.239	mmho/m	-0.044	350.323	mmho/m	1.001	-0.189
Medium	0.435	400.472	mmho/m	-0.037	400.340	mmho/m	1.001	-0.473
Shallow	2.440	0.018	V	500.000	2.000	Ohm-m	205.553	0.425

After Survey Verification								
Internal:	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.145	350.239	mmho/m	1.001	-0.189
Medium	0.000	0.000	mmho/m	0.435	400.472	mmho/m	1.001	-0.473
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000


Neutron Calibration Report								
Serial Number:	AD5139							
Tool Model:	ADMY5139							
Performed:	(Not Performed)							
Calibrator Value:	1			NAPI				
Calibrator Reading:	1			cps				
Sensitivity:	1			NAPI/cps				

Temperature Calibration Report								
Serial Number:	WithMC							
Tool Model:	WMC							
Performed:	(Not Performed)							
	Reference			Reading				
Low Reference:	0.00	degF	0.00	degF				
High Reference:	1.00	degF	1.00	degF				
Gain:	1.00							
Offset:	0.00							
Delta Spacing	1							

Inclinometer Calibration Report								
Performed:	Mon Aug 07 11:02:07 2017							
	Low Read.	High Read.		Low Ref.	High Ref.			
X Accelerometer	205.00	1843.00		-1.00	1.00	gee		
Y Accelerometer	205.00	1843.00		-1.00	1.00	gee		
Z Accelerometer								

## Gamma Ray Calibration Report

Serial Number:	WithMC	
Tool Model:	WMC	
Performed:	Mon Aug 07 11:03:41 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.9000	GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.07		CHD-STD	0.50	1.69	1.00
ACCY	38.91		ADT-WMC (WithMC) Admyr Telemetry With Mudcell	4.58	3.50	120.00
ACCX	38.91					
SSTAT	38.49					
PSTAT	37.66					
ASTAT	37.66					
GRD	36.82		NEU-ADMY5139 (AD5139) Admyer NEU DIGITAL	5.65	3.50	50.00
TEMP	36.82					
NEU	32.76					
LStat	24.30					
LS8	23.64					
LS7	23.64		ADT1LITH-A (1) Admyr Litho Density Tool	9.29	3.50	240.00
LS6	23.64					
LS5	23.64					
LS4	23.64					
LS3	23.64					
LS2	23.64					
LS1	23.64					
LSV	23.64					
LSD	23.62					
SSV	23.43					
SS8	23.43					
SS7	23.43					
SS6	23.43					
SS5	23.43		DIL-G (5375) Gearhart	21.47	4.00	345.00
SS4	23.43					
SS3	23.43					
SS2	23.43					
SS1	23.43					
DCAL	23.37					
SSD	23.04					
SP	10.60					
CILD	10.60					
CILM	6.89					
RLL3	1.70					
TR_Mon	0.00					
		Dataset:	aohendrich#2-18oh.db: field/well/run1/pass2.1			
		Total length:	41.49 ft			
		Total weight:	756.00 lb			
		O.D.:	4.00 in			