PIONEER
Pioneer Energy Services

DUAL INDUCTON GAMMA RAY

Company WIEPKING-FULLERTON ENERGY INC.
Well GOOD DEAL #13
Field WILDCAT
County LINCOLN
State CO

Company WIEPKING-FULLERTON ENERGY INC.
Well GOOD DEAL #13
Field WILDCAT
County LINCOLN State CO
Location: API # : 05-073-06709
SHL: 810' FSL & 660' FWL SWSW
SEC 16 TWP 10S RGE 55W

Other Services
DENSITY
NEUTRON

Permanent Datum GL Elevation 5165'
Log Measured From KB
Drilling Measured From KB

Elevation
K.B. 5178'
D.F. 5177'
G.L. 5165'

Date	19 NOVEMBER 2015
Run Number	1
Depth Driller	8010'
Depth Logger	7995'
Bottom Logged Interval	7995'
Top Log Interval	SURFACE CASING
Casing Driller	313'
Casing Logger	313'
Bit Size	7-7/8"
Type Fluid in Hole	CHEM GEL
Density / Viscosity	9.3 / 67
pH / Fluid Loss	10 / 7.2
Source of Sample	MUDPIT
Rm @ Meas. Temp	2.2 @ 58 F
Rmf @ Meas. Temp	1.23 @ 58 F
Rmc @ Meas. Temp	2.75 @ 58 F
Source of Rmf / Rmc	MEASURE / CALC
Rm @ BHT	0.64 @ 198F
Time Circulation Stopped	1115
Time Logger on Bottom	1450
Maximum Recorded Temperature	198 F
Equipment Number	52
Location	FT. MORGAN
Recorded By	SHAUN STUMP
Witnessed By	GREG SMITH

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

THANK YOU FOR USING PIONEER ENERGY SERVICES

MURFIN FRILLING RIG #25

SO# 2-013805

ANNULAR VOLUME CALCULATED TO 5.5" CASING

Log Variables

Database C:\ProgramData\Warrior\Data\2-013805.db
Dataset field/well/run1/pass5/_vars_

Top - 3990.00 ft

SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m	SNDERR mmho/m	SRFTEMP degF
Off	Limestone	1	2.71	0	0	0	0
CASETHCK in	**CASEOD in**	**PERFS**	**TDEPTH ft**	**BOTTEMP degF**	**BOREID in**		
0	5.5	0	0	198	8.875		

3990.00 ft - 4370.00 ft

SZCOR	**NPORSEL**	FLUIDDEN g/cc	**MATRXDEN g/cc**	SPSHIFT mV	SNDERRM mmho/m	SNDERR mmho/m	SRFTEMP degF
Off	**Sandstone**	1	**2.68**	0	0	0	0
CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in		
0	5.5	0	0	198	8.875		

4370.00 ft - 7540.00 ft

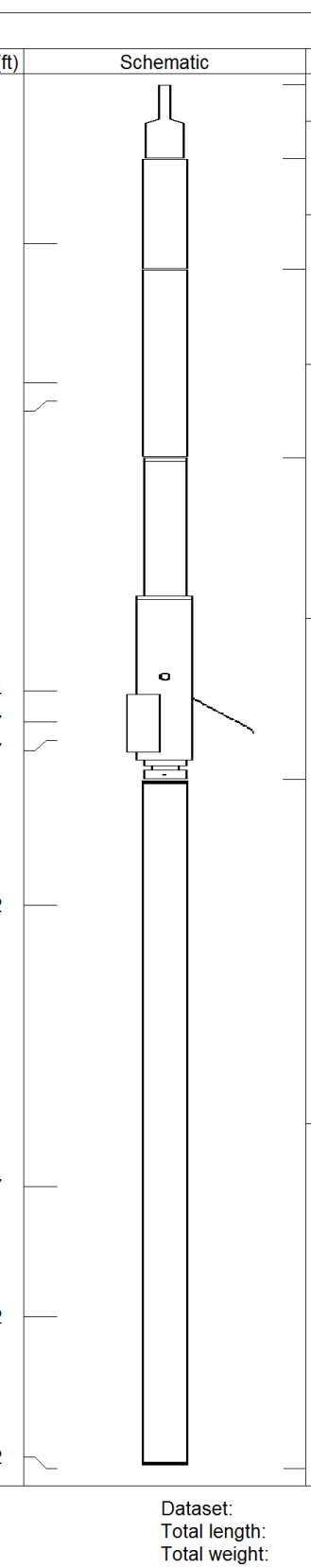
SZCOR	**NPORSEL**	FLUIDDEN g/cc	**MATRXDEN g/cc**	SPSHIFT mV	SNDERRM mmho/m	SNDERR mmho/m	SRFTEMP degF
Off	**Limestone**	1	**2.71**	0	0	0	0
CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in		
0	5.5	0	0	198	8.875		

7540.00 ft - 7700.00 ft

SZCOR	**NPORSEL**	FLUIDDEN g/cc	**MATRXDEN g/cc**	SPSHIFT mV	SNDERRM mmho/m	SNDERR mmho/m	SRFTEMP degF
Off	**Sandstone**	1	**2.68**	0	0	0	0
CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in		
0	5.5	0	0	198	8.875		

7700.00 ft - Bottom

SZCOR	**NPORSEL**	FLUIDDEN g/cc	**MATRXDEN g/cc**	SPSHIFT mV	SNDERRM mmho/m	SNDERR mmho/m	SRFTEMP degF
Off	**Limestone**	1	**2.71**	0	0	0	0
CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in		
0	5.5	0	0	198	8.875		



Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			CHD (~0)	2.00	3.50	30.00
GR	0.00		GR-PSI (939)	2.92	3.50	40.00
CNLSC CNSSC	3.67 4.17		CNT-PSI (856)	5.00	3.50	70.00
DCAL LSD SSD	11.84 12.67 13.17		CDL-PSI (934)	8.50	5.00	285.00
RLL3	17.52					
CILD CILM SP	24.97 28.42 32.42		DIL-PSI (1011)	18.25	3.75	175.00

Dataset: 2-013805.db: field/well/run1/pass5
Total length: 36.67 ft
Total weight: 600.00 lb
O.D.: 5.00 in

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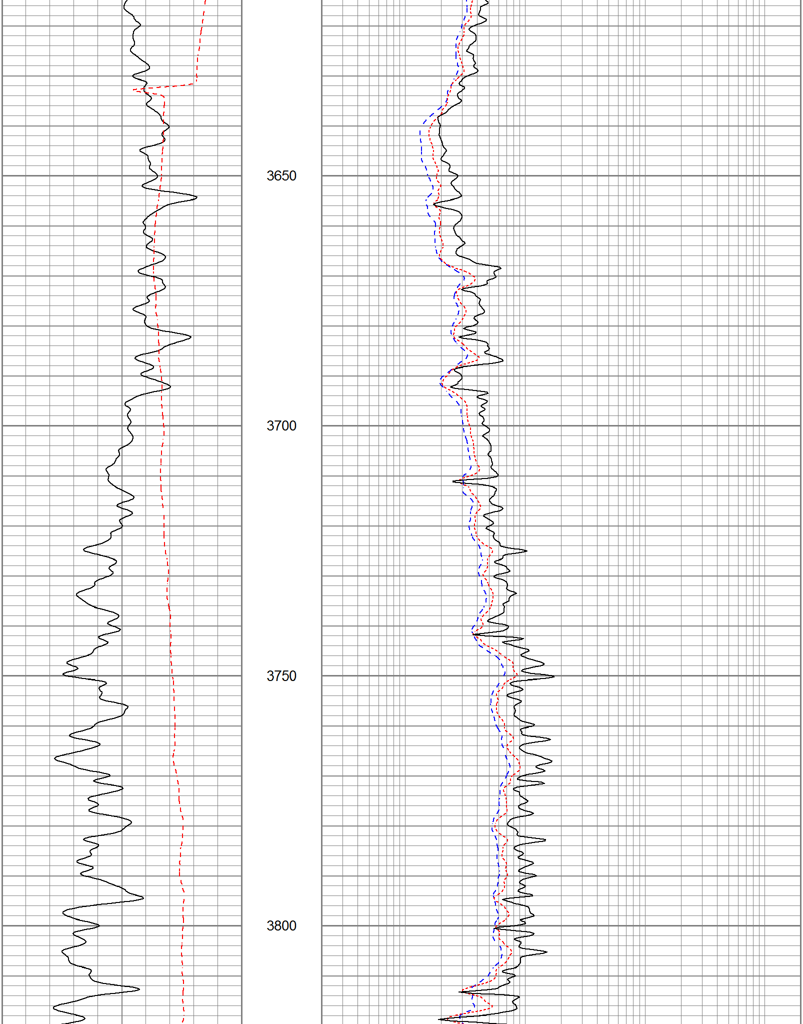
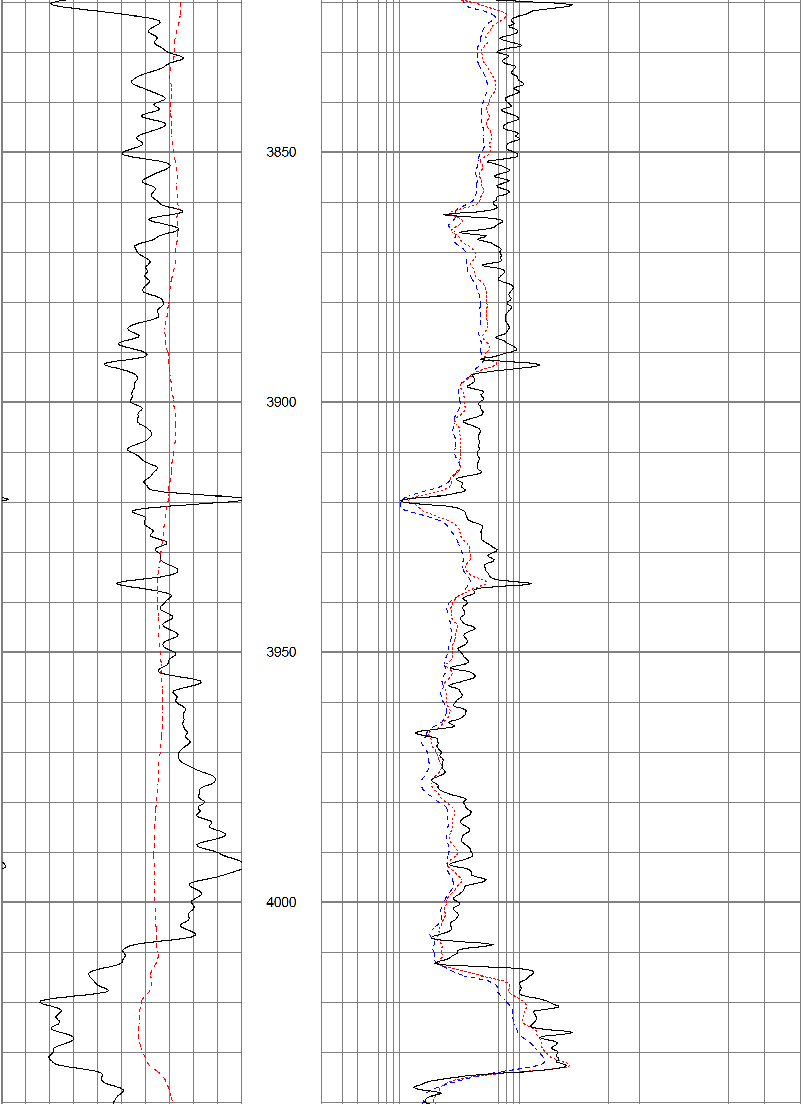
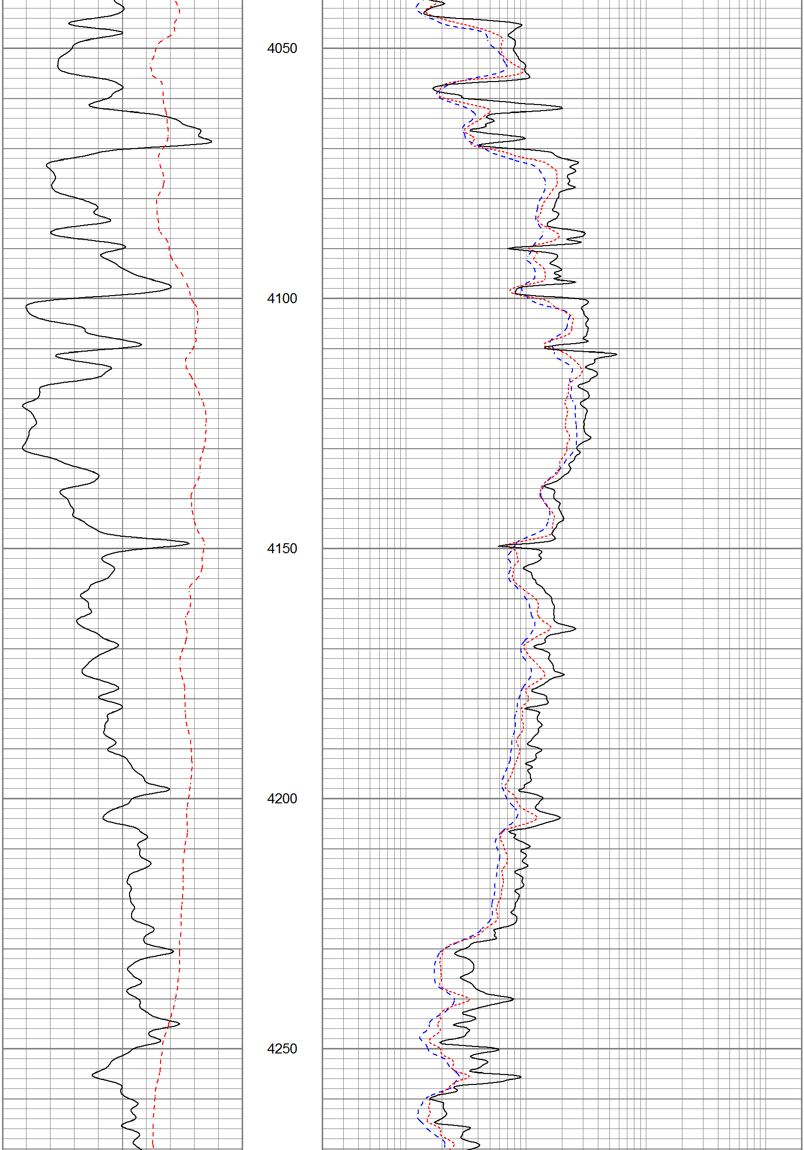
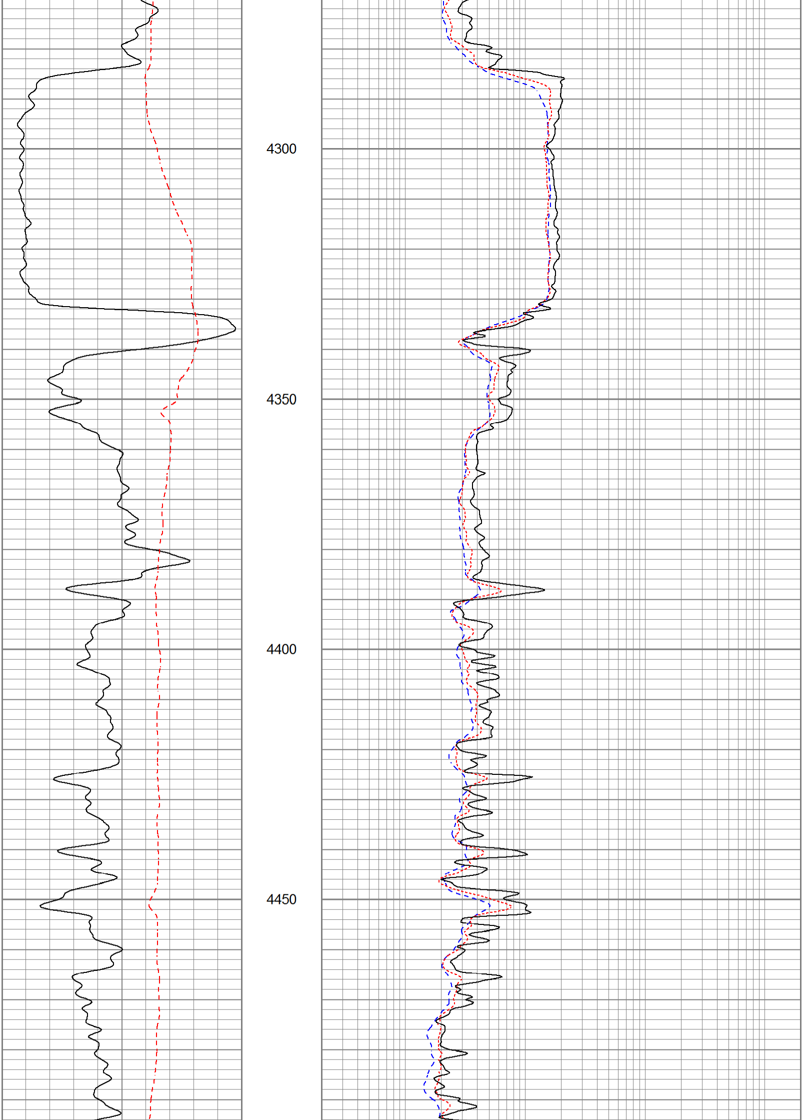
MAIN PASS

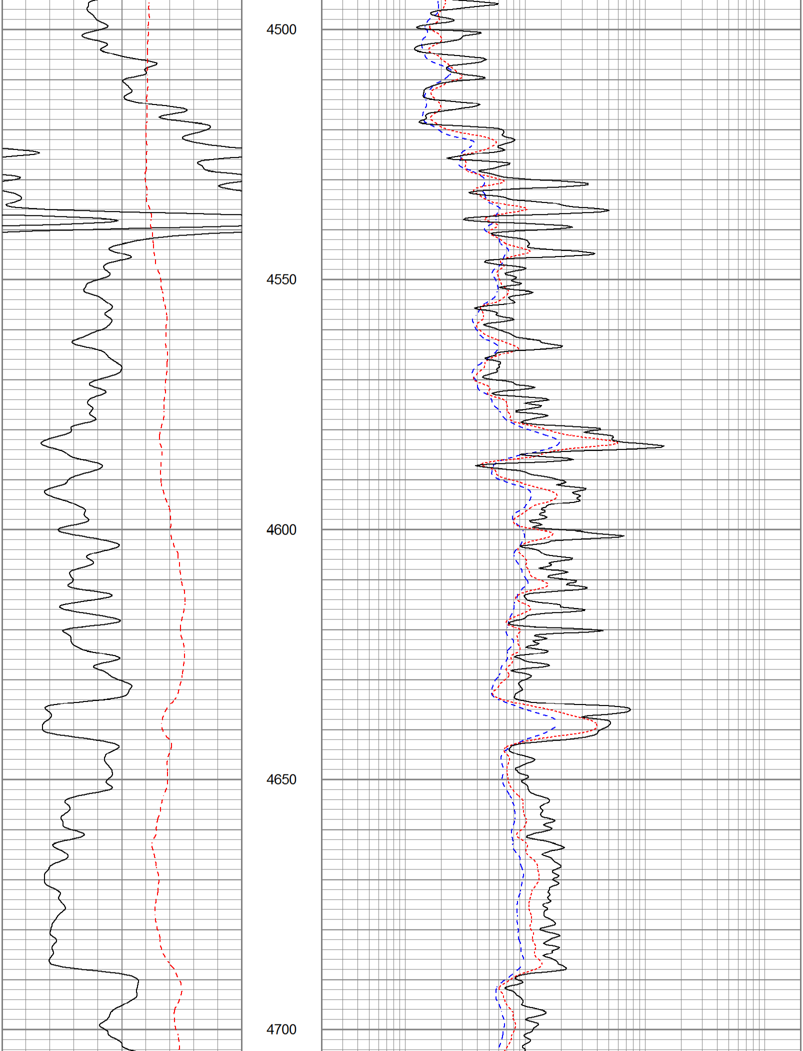
Database File	2-013805.db
Dataset Pathname	pass5
Presentation Format	dil
Dataset Creation	Thu Nov 19 15:12:34 2015
Charted by	Depth in Feet scaled 1:240

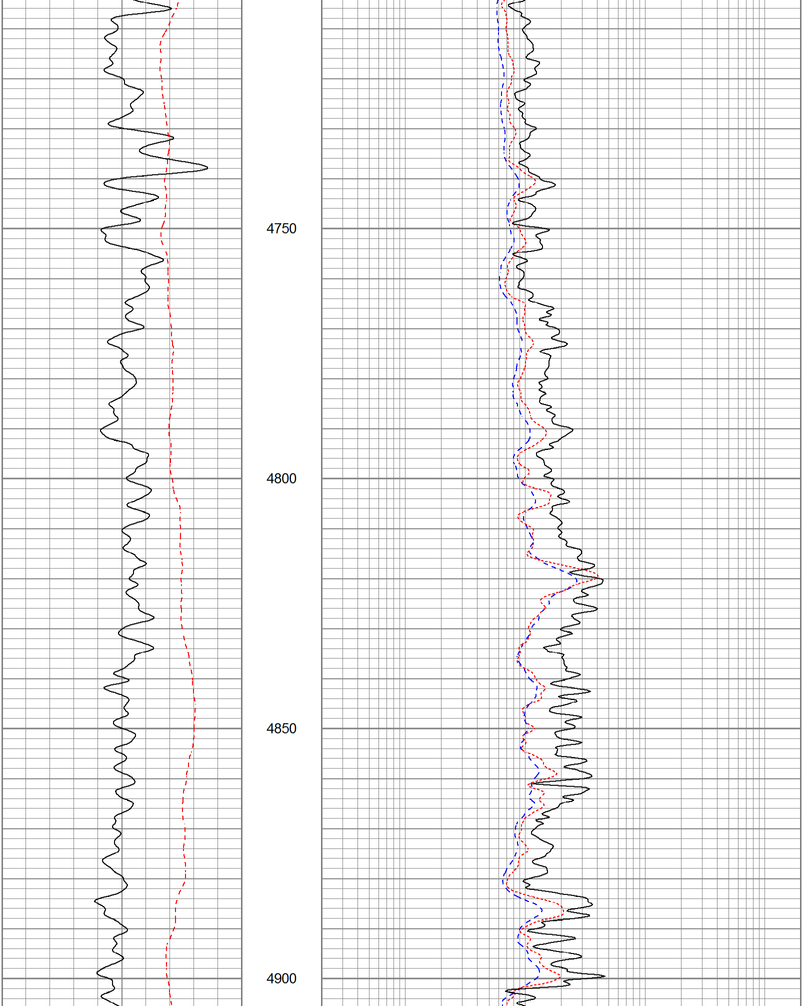


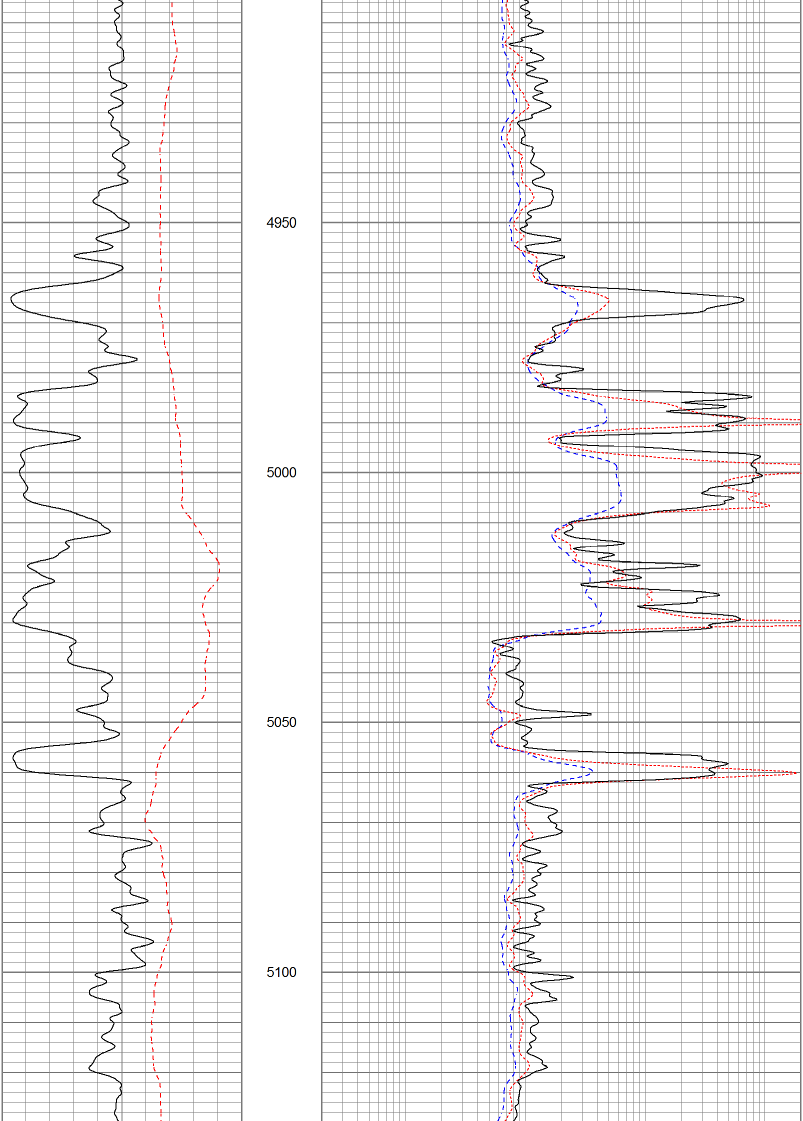


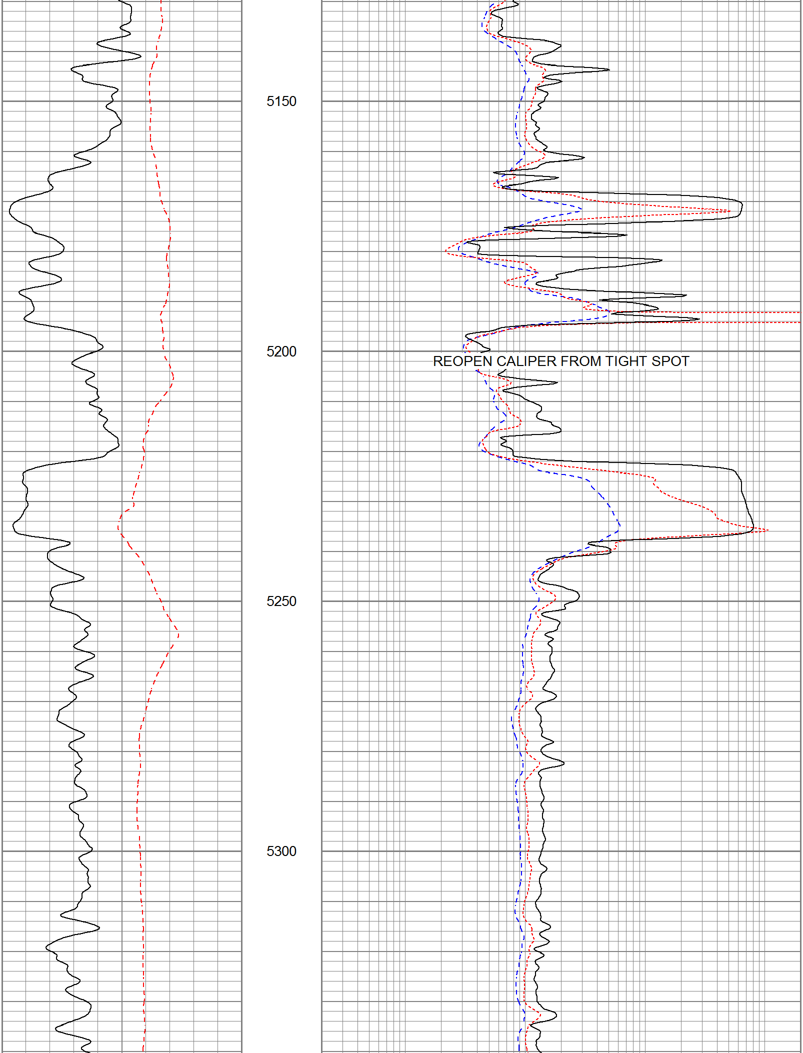


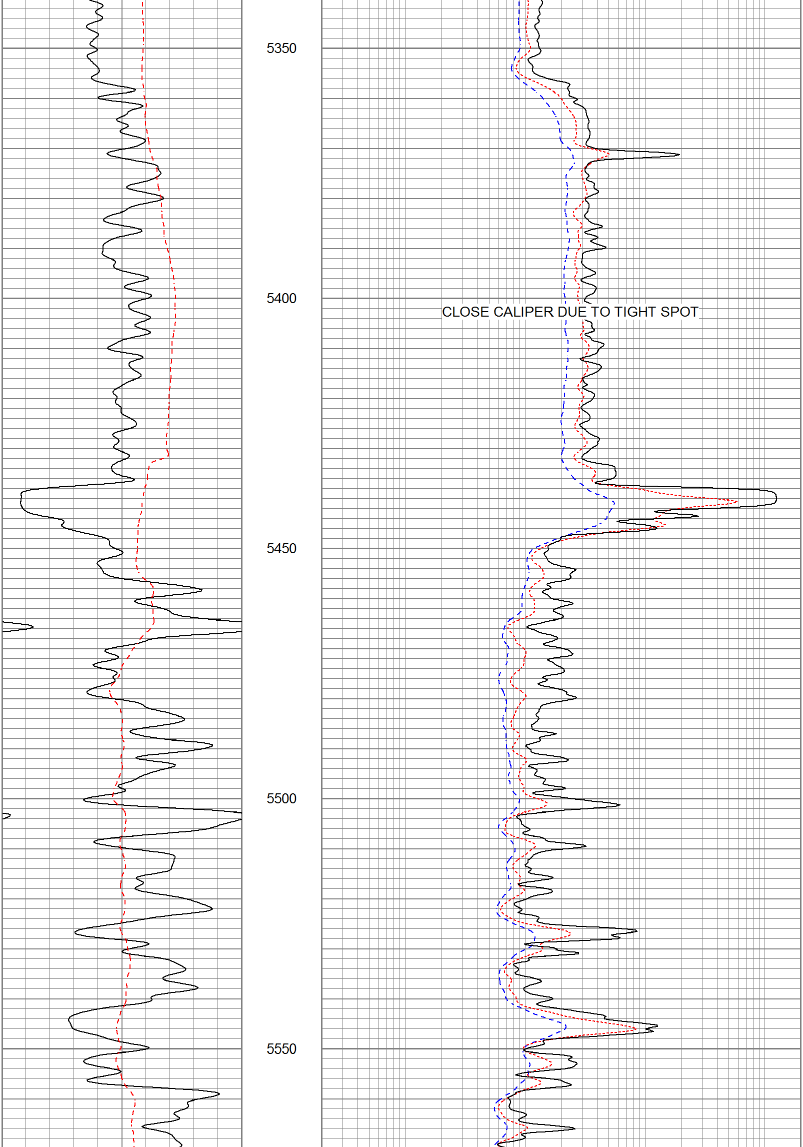




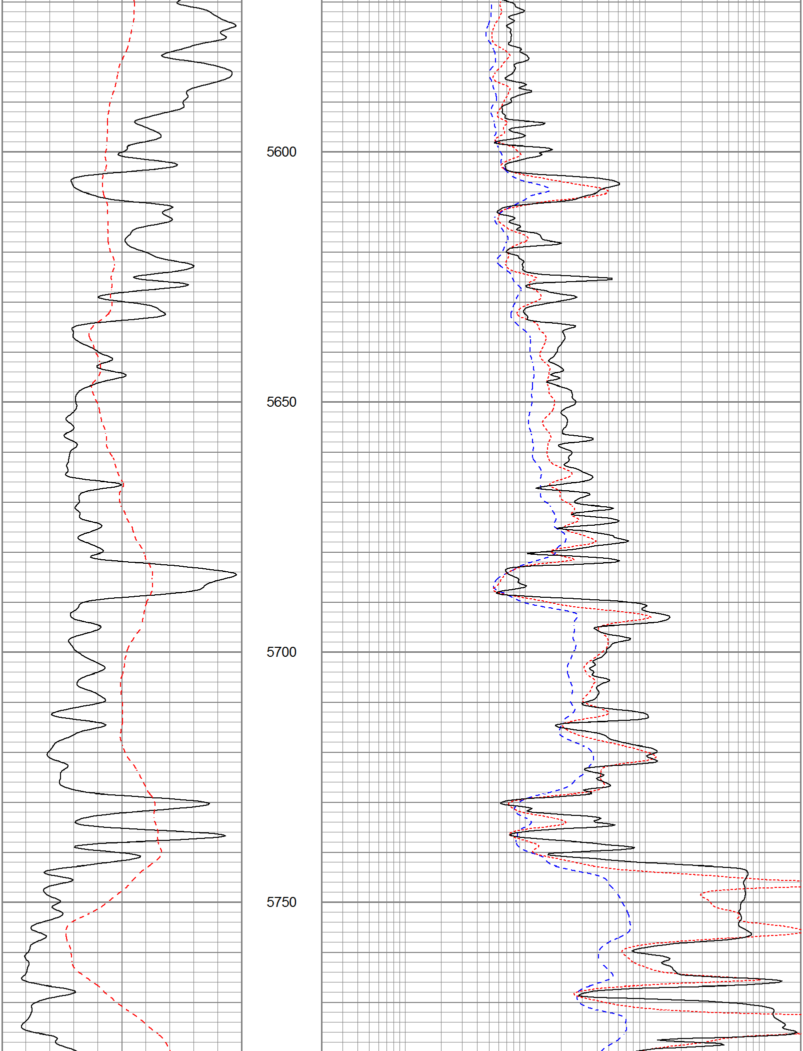


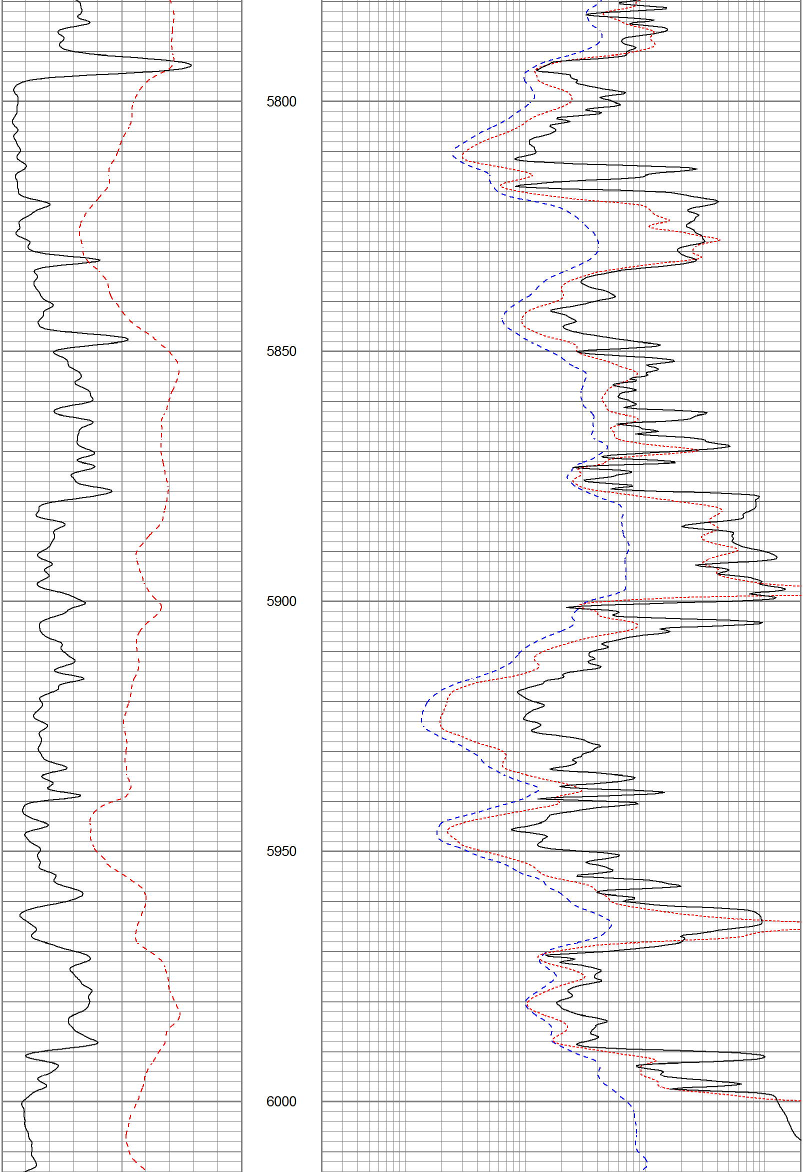


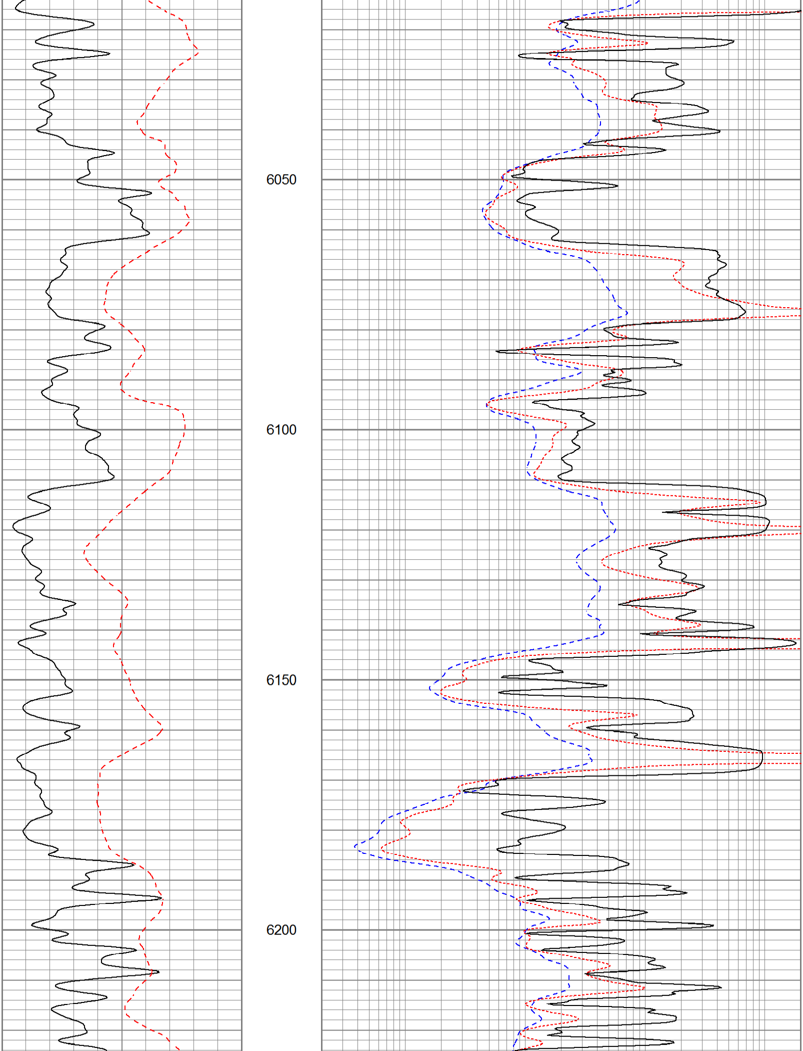


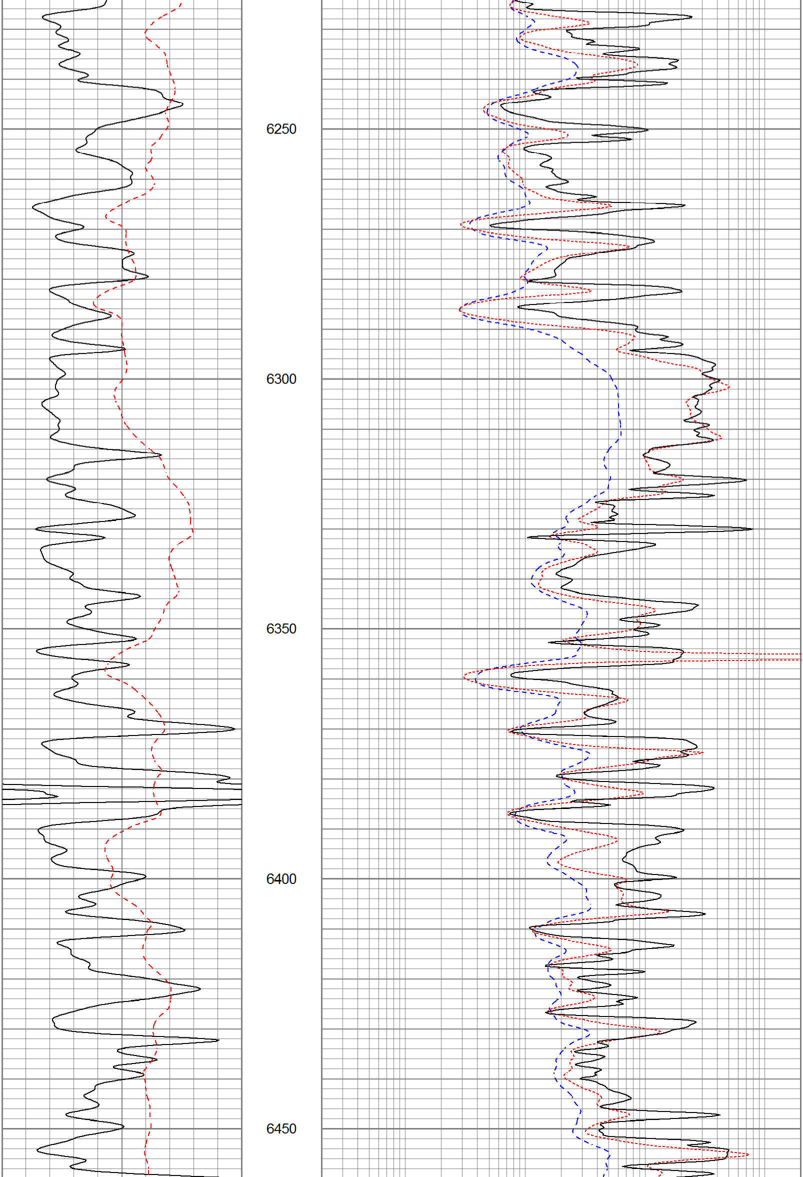


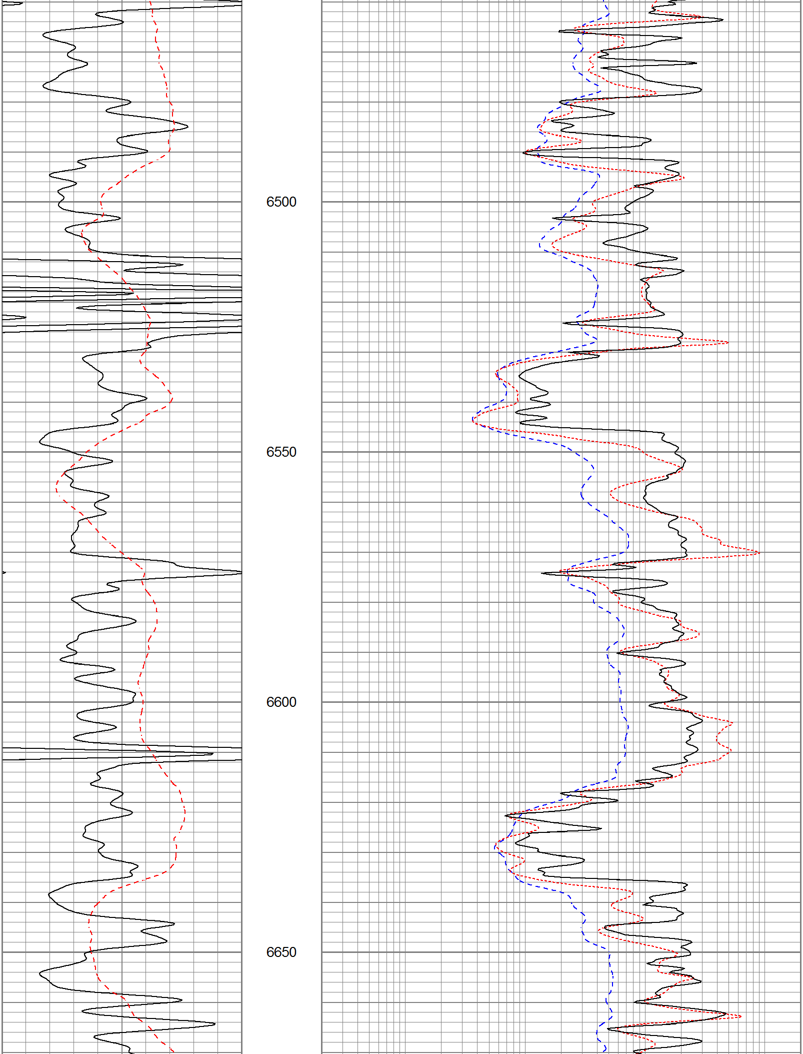
CLOSE CALIPER DUE TO TIGHT SPOT

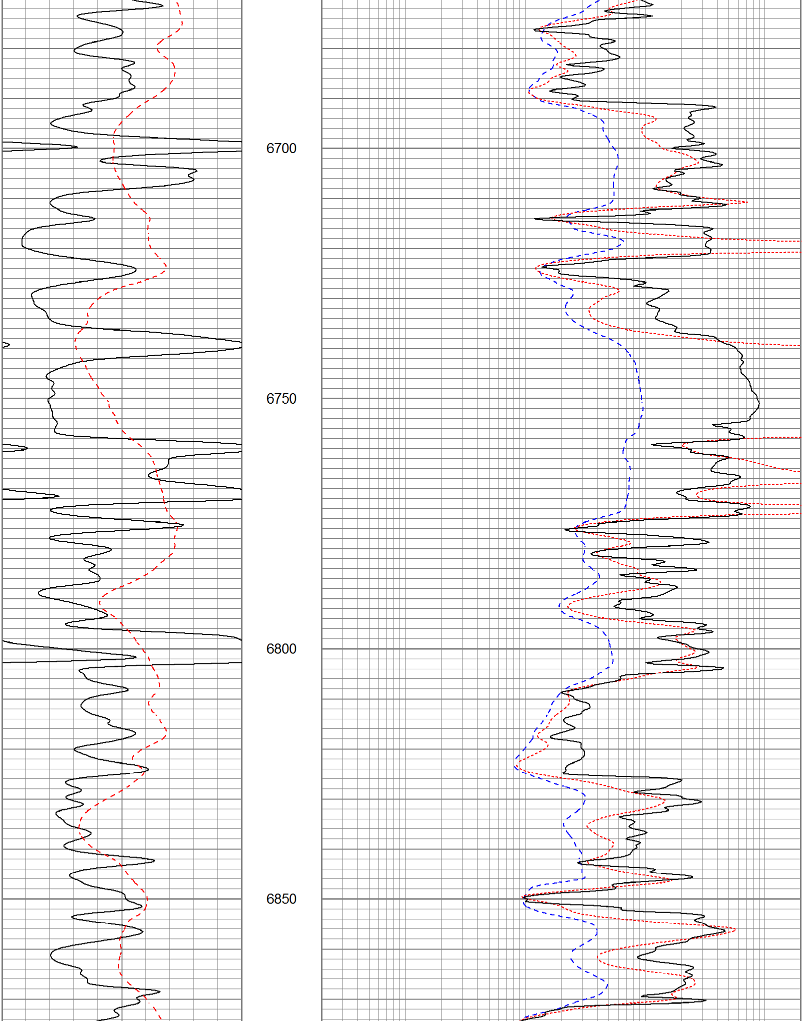


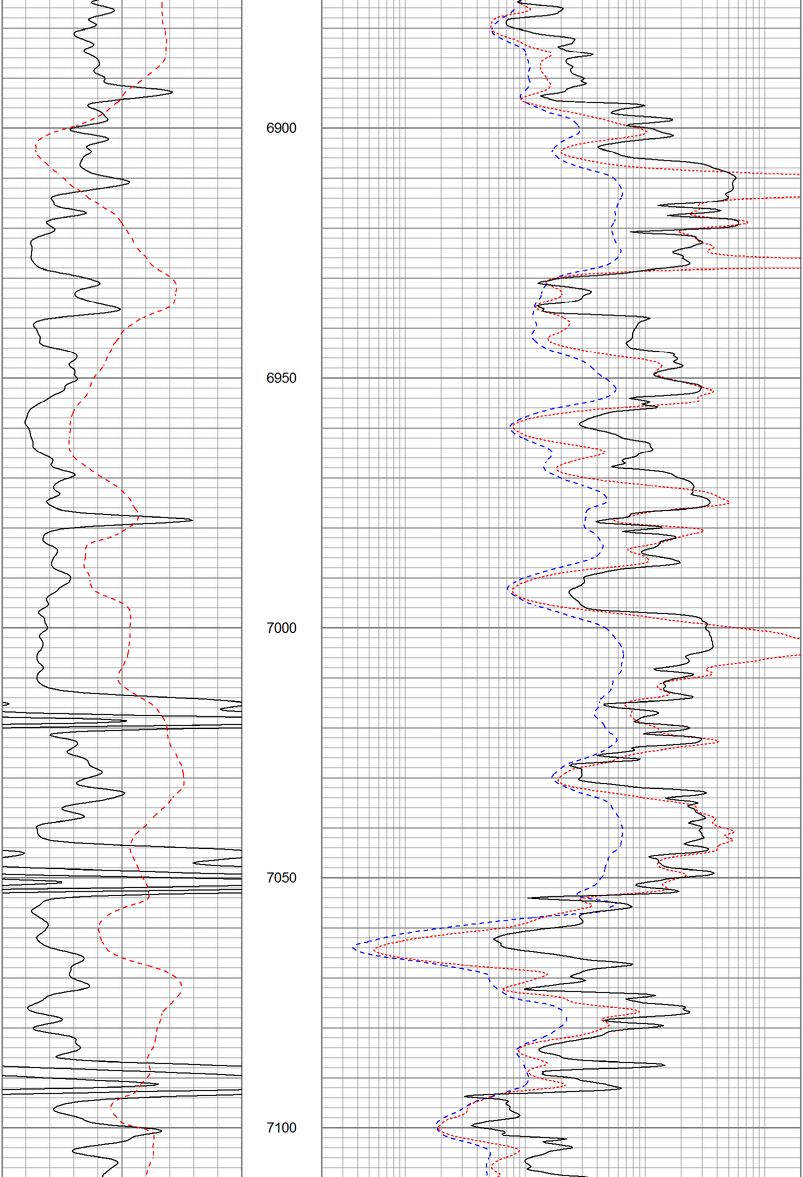


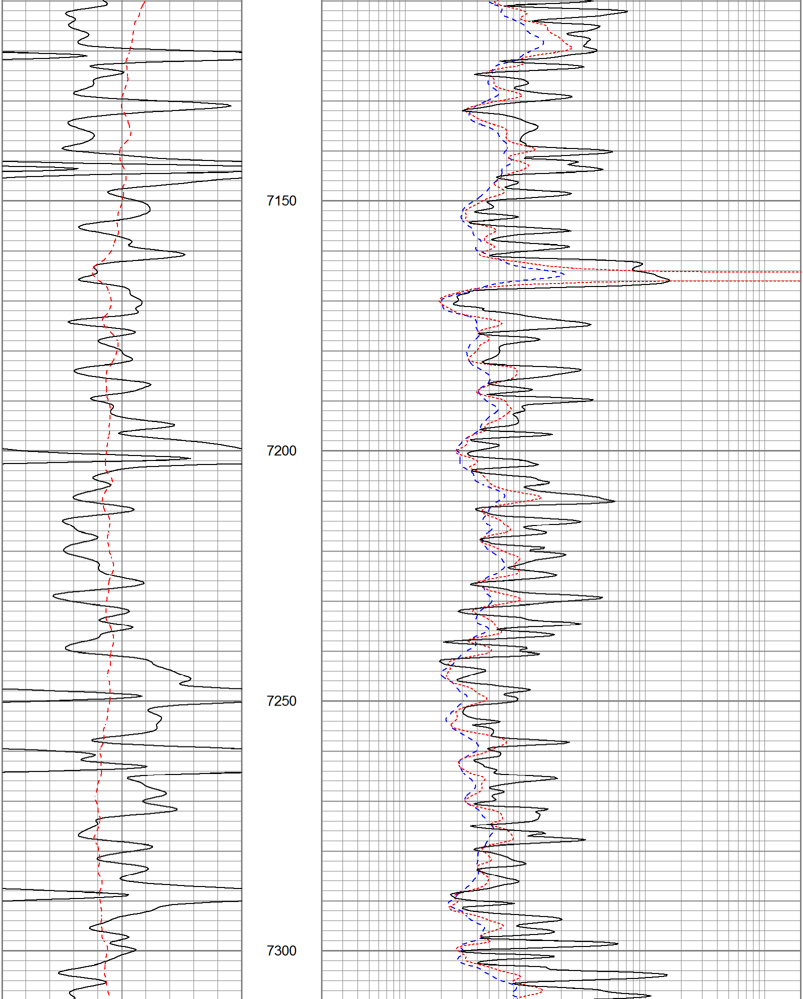


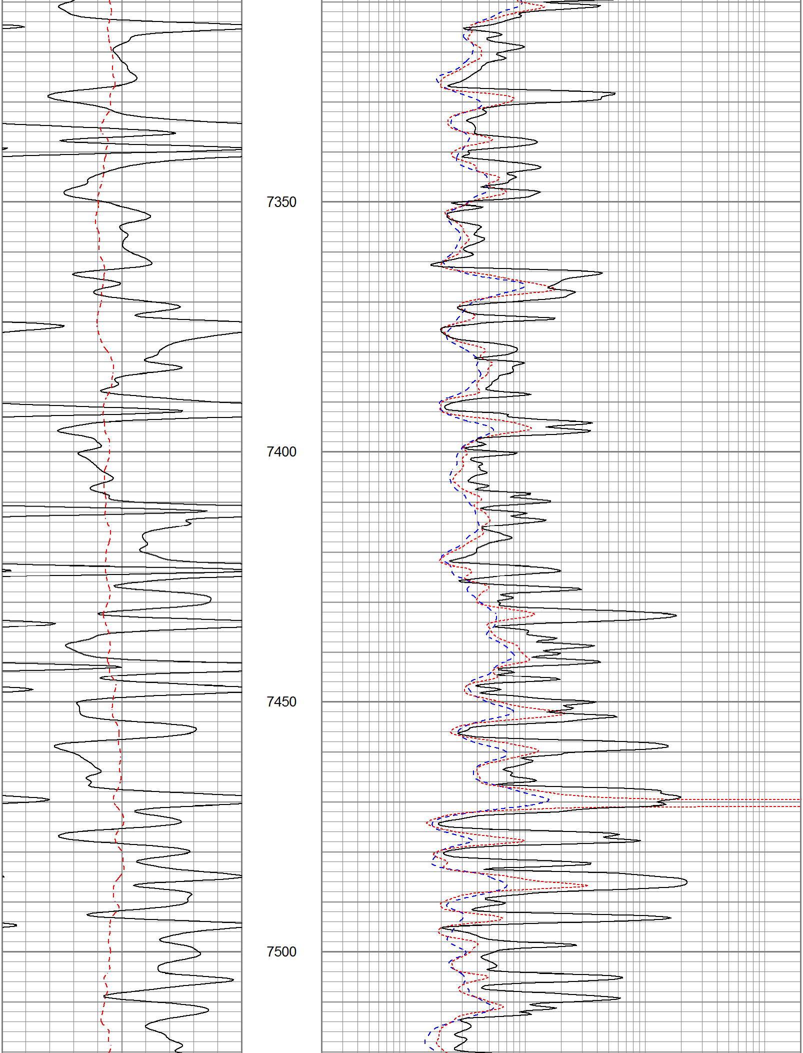


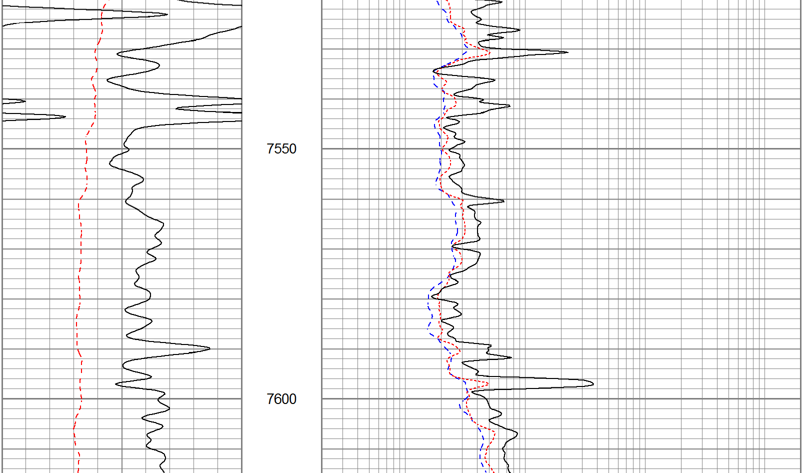


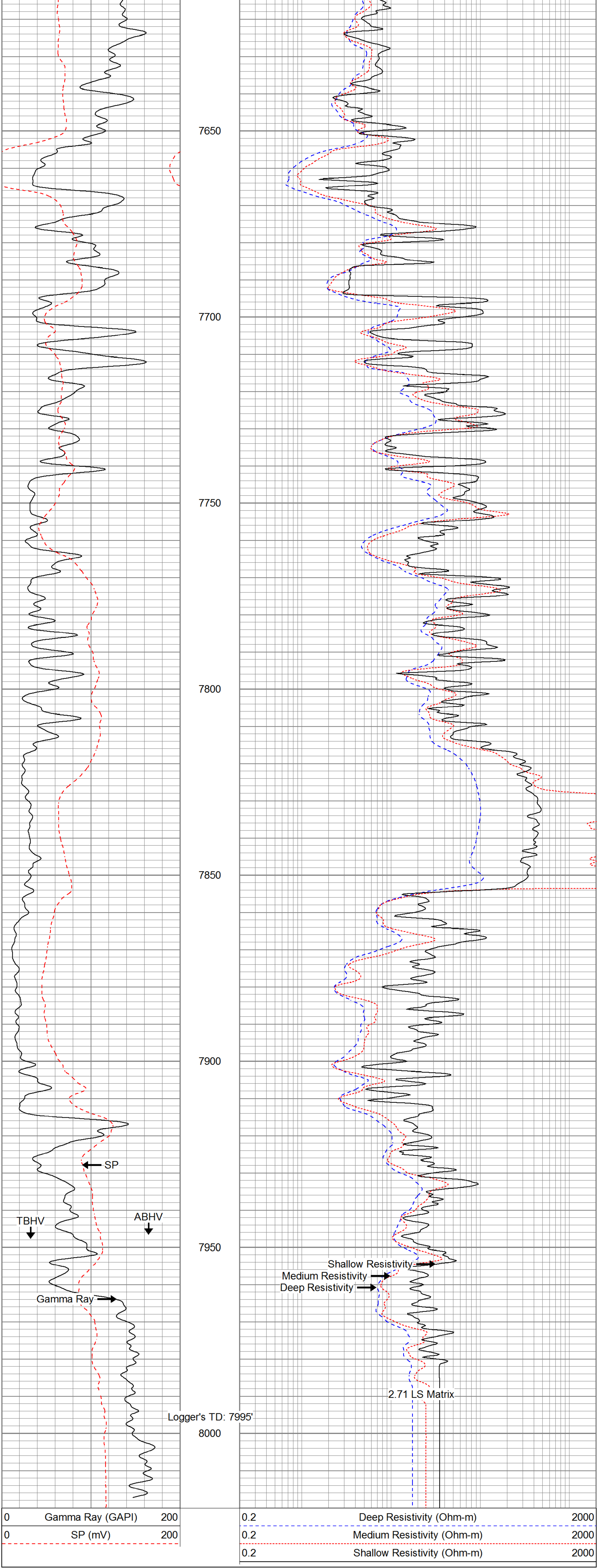












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END OF MAIN PASS

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REPEAT SECTION

Database File	2-013805.db
Dataset Pathname	pass4.1
Presentation Format	dil
Dataset Creation	Thu Nov 19 15:08:19 2015
Charted by	Depth in Feet scaled 1:240

0 Gamma Ray (GAPI) 200
0 SP (mV) 200
0.2 Deep Resistivity (Ohm-m) 2000
0.2 Medium Resistivity (Ohm-m) 2000
0.2 Shallow Resistivity (Ohm-m) 2000
7550
Repeat Section
7600
7650
7700
7750
7800
7850
7900
7950
8000
Repeat Section
0 Gamma Ray (GAPI) 200
0 SP (mV) 200
0.2 Deep Resistivity (Ohm-m) 2000
0.2 Medium Resistivity (Ohm-m) 2000
0.2 Shallow Resistivity (Ohm-m) 2000

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END OF REPEAT SECTION

Calibration Report

Database File	2-013805.db
Dataset Pathname	pass4
Dataset Creation	Thu Nov 19 14:47:08 2015

Dual Induction Calibration Report

Serial-Model: 1011-PSI
Surface Cal Performed:

Loop:	Readings Air	Readings Loop	References Air	References Loop		Results m	Results b
Deep	0.000	1.000	0.000	1.000	mmho/m	0.580	-28.000
Medium	0.000	1.000	0.000	1.000	mmho/m	0.490	-30.000

Compensated Density Calibration Report

Serial-Model: 934-PSI
Source / Verifier: 4400 / PSI
Master Calibration Performed: Wed Sep 09 10:47:28 2015
Before Survey Verification Performed:
After Survey Verification Performed:

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.750	g/cc	4705.08	3463.47	cps
Aluminum	2.690	g/cc	869.10	2216.04	cps

Spine Angle = 75.19

Density/Spine Ratio = 0.538

	Size		Reading
Small Ring	3.75	in	1.16
Large Ring	13.50	in	1.01

Compensated Neutron Calibration Report

Serial Number: 856
Tool Model: PSI

CALIBRATION

Detector	Readings		Target		Normalization
Short Space	1.00	cps	1.00	cps	1.9000
Long Space	1.00	cps	1.00	cps	2.1500

Gamma Ray Calibration Report

Serial Number: 939
Tool Model: PSI
Performed: Thu Nov 12 21:59:47 2015

Calibrator Value: 150.0 GAPI

Background Reading: 45.0 cps
Calibrator Reading: 295.0 cps

Sensitivity: 0.6300 GAPI/cps

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Company	WIEPKING-FULLERTON ENERGY INC.
Well	GOOD DEAL #13
Field	WILDCAT
County	LINCOLN
State	CO