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Pioneer Energy Services

DUAL INDUCTION
COMPENSATED DENSITY
COMPENSATED NEUTRON
GAMMA RAY

Company BONANZA CREEK ENERGY OPERATING
Well PRONGHORN J24-15-10XRLNC
Field WATTENBERG
County WELD State CO
Location: API #: 05-123-41161
SHL: 290' FSL 1416' FWL SESW
SEC 15 TWP 5N RGE 61W

Other Services
NONE

Permanent Datum GL Elevation 4669'
Log Measured From KB
Drilling Measured From KB

Elevation
K.B. 4685.5'
D.F. 4684.5'
G.L. 4669'

Company BONANZA CREEK ENERGY
Well PRONGHORN J24-15-10XRLNC
Field WATTENBERG
County WELD
State CO

Date	MARCH 28, 2015	
Run Number	1	
Depth Driller	6638'	
Depth Logger	5700'	
Bottom Logged Interval	5700	
Top Log Interval	SURFACE CASING	
Casing Driller	445'	
Casing Logger	445'	
Bit Size	8.75"	
Type Fluid in Hole	WBM	
Density / Viscosity	9.8 / 37	
pH / Fluid Loss	8.1 / 7.2	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	2.72 @ 70 F	
Rmf @ Meas. Temp	2.04 @ 70 F	
Rmc @ Meas. Temp	3.40 @ 70 F	
Source of Rmf / Rmc	CALC / CALC	
Rm @ BHT	1.19 @ 160 F	
Time Circulation Stopped	2000 3/27/15	
Time Logger on Bottom	2345 3/27/15	
Maximum Recorded Temperature	160 F	
Equipment Number	52	
Location	FT. MORGAN	
Recorded By	CLINT CHRISTENSEN	
Witnessed By	BOB MUELLER	CRAIG HAYNIE

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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

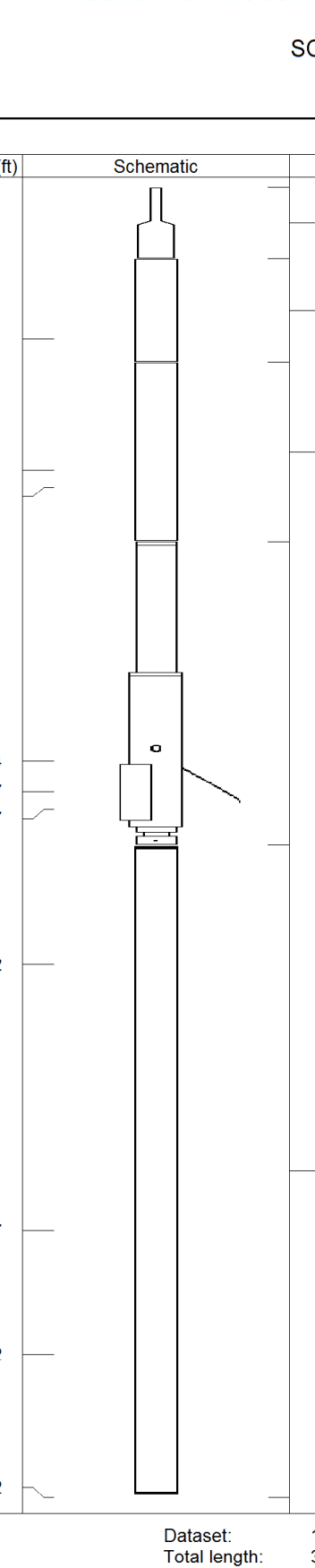
VOLUME CALCULATED TO 7" CASING

CADE DRILLING RIG #25

NO REPEAT DUE TO HOLE CONDITIONS

THANK YOU FOR USING PIONEER ENERGY SERVICES

SO# 2-013990



Sensor	Offset (ft)
GR	0.00
CNLSC	3.67
CNSSC	4.17
DCAL	11.84
LSD	12.67
SSD	13.17
RLL3	17.52
CILD	24.97
CILM	28.42
SP	32.42

Description	Length (ft)	O.D. (in)	Weight (lb
CHD (~0)	2.00	3.50	30.00
GR-PSI (939)	2.92	3.50	40.00
CNT-PSI (826)	5.00	3.50	70.00
CDL-PSI (998)	8.50	5.00	285.00
DIL-PSI (53)	18.25	3.75	175.00

Dataset: 13990.db: field/well/run1/FINAL
Total length: 36.67 ft
Total weight: 600.00 lb
O.D.: 5.00 in

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MAIN PASS

Database File 13990.db
Dataset Pathname FINAL
Presentation Format dilin5
Dataset Creation Sat Mar 28 01:29:29 2015
Charted by Depth in Feet scaled 1:600

0 SP (mV) 200	0 Deep Resistivity (Ohm-m) 50	1000 CILD (mmho/m) 0
7 X-CALIPER (in) 17	0 Shallow Resistivity (Ohm-m) 50	
0 Gamma Ray (GAPI) 200	50 RILD (Ohm-m) 500	
TBHV (ft3) ABHV (ft3)	50 RLL3 (Ohm-m) 500	

0 SP (mV) 200	0 Deep Resistivity (Ohm-m) 50	1000 CILD (mmho/m) 0
7 X-CALIPER (in) 17	0 Shallow Resistivity (Ohm-m) 50	
0 Gamma Ray (GAPI) 200	50 RILD (Ohm-m) 500	
TBHV (ft3) ABHV (ft3)	50 RLL3 (Ohm-m) 500	

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MAIN PASS

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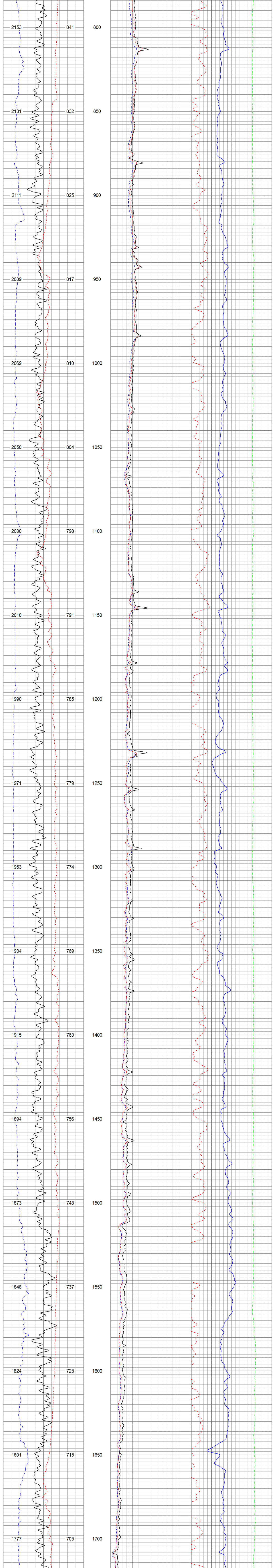
MAIN PASS

Database File 13990.db
Dataset Pathname FINAL
Presentation Format pdc
Dataset Creation Sat Mar 28 01:29:29 2015
Charted by Depth in Feet scaled 1:240

7 Caliper (in) 17	2 Deep Resistivity (Ohm-m) 200	40 Density Porosity (pu) 0
0 Gamma Ray (GAPI) 200	2 Medium Resistivity (Ohm-m) 200	40 Neutron Porosity (pu) 0
0 SP (mV) 200	2 Shallow Resistivity (Ohm-m) 200	RHOC
TBHV (ft3)		-0.5 (g/cc) 0.5



TBHV
ABHV
SP
Gamma Ray
Caliper
Logger's TD @ 5700'
Shallow Resistivity
Medium Resistivity
Deep Resistivity
2.68 SS Matrix
Density Porosity
Correction
Neutron Porosity
7 Caliper (in) 17
0 Gamma Ray (GAPI) 200
0 SP (mV) 200
TBHV (ft3)
2 Deep Resistivity (Ohm-m) 200
2 Medium Resistivity (Ohm-m) 200
2 Shallow Resistivity (Ohm-m) 200
40 Density Porosity (pu) 0
40 Neutron Porosity (pu) 0
RHOC
-0.5 (g/cc) 0.5

TBHV (ft3) | 0.5 (g/cc) 0.5

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MAIN PASS

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MAIN PASS

Database File	13990.db
Dataset Pathname	FINAL
Presentation Format	cdl
Dataset Creation	Sat Mar 28 01:29:29 2015
Charted by	Depth in Feet scaled 1:240

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MAIN PASS

Calibration Report

Database File 13990.db
Dataset Pathname FINAL
Dataset Creation Sat Mar 28 01:29:29 2015

Dual Induction Calibration Report

Serial-Model: 53-PSI
Surface Cal Performed:

Loop:	Readings Air	Readings Loop	References Air	References Loop		Results m	Results b
Deep	75.411	495.929	4.000	250.000	mmho/m	0.620	-6.000
Medium	75.269	470.661	10.000	100.000	mmho/m	0.365	-16.000

Compensated Neutron Calibration Report

Serial Number: 826
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	2.1400

Gamma Ray Calibration Report

Serial Number: 939
Tool Model: PSI
Performed: Fri Mar 27 09:22:18 2015

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6200 GAPI/cps