Company: Iron Wolves 24 gas Graham LP
Well: Wolves 24-24
Field: Hatchet
County: Hatchet
State: Colorado

Depth Control Log
With Correlation Markers
ACE Combo Log

PIONEER
Pioneer Energy Services

Run 1 Run 2 Run 3 Run 4 Run 5 Run 6 Run 7 Run 8 Run 9 Run 10 Run 11 Run 12 Run 13 Run 14 Run 15 Run 16 Run 17 Run 18 Run 19 Run 20

Date: Contractor:
Time: Operator:
Depth Driller: Witness:
Depth Logger:
Bottom Log Interval:
Top Log Interval:
Casing Driller:
Casing Logger:
Bit Size:
Type Fluid:
Density:
Viscosity:
Max Rec Temp:
Equip. Location:
Recorded By:
Witnessed By:

Run Number
Date
Depth Driller
Depth Logger
Bottom Log Interval
Top Log Interval
Casing Driller
Casing Logger
Bit Size
Type Fluid
Density
Viscosity
Max Rec Temp
Equip. Location
Recorded By
Witnessed By

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 interpretations, 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 as set out in our current price schedule.

Comments

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			PT1075	2.93	2.75	
MHTAT1	12.96		RWT Probe (Rated: Probe Rated from Tool Joint Type Tension)	8.92	2.75	90.00
MHTAT2	12.96					
MHTAT3	12.96					
MHTAT4	12.96					
MHTAT5	12.96					
MHTAT6	12.96					
MHTAT7	12.96					
MHTAT8	12.96					
MHTAT9	12.96					
MHTAT10	12.96					
MHTAT11	12.96					
			PT1075	2.93	2.75	
CCL	4.89					
GR	3.72		GR_CCL-Probe (1131211) Probe Capacity 5%	4.54	2.75	100.00
TEMP	0.58		TEMP-1 SYSTEM (0001) Temperature Tool	1.25	1.38	30.00

Detailed Total Length: 41.36 ft
Total Weight: 220.00 lb
OAL: 2.75 in

Detailed Tool String

Calibration Report

Database File: iron_wolves_twenty_25-12_cal.db
Dataset Pathname: Pass1
Dataset Creation: Thu May 08 15:59:03 2014 by Log 7.0 001

Temperature Calibration Report

Serial Number: 01011
Last Calibrated: 11-Jul-13
Performed: Tue May 06 14:01:15 2014

Reference Reading
Low Reference: 32.00 degF 100.00 Ohms
High Reference: 500.00 degF 1000.00ohms
Offset: 0.00
Cable Spacing: 0

Gamma Ray Calibration Report

Serial Number: 11231
Last Calibrated: 11-Jul-13
Performed: Fri Mar 28 12:56:30 2014

Calibrator Value: 1.0 GAPI
Background Value: 0.0 GAPI
Calibration Scaling: 1.0 n/a
Sensitivity: 1.0000 GAPI/cps

Digitalized Cartesian Bond Log Calibration Report

Serial Number: Mesa
Field Master: Private

Calibration Casing Diameter: 4.500 in
Calibration Weight: 1.00.00 lb

Master Calibration, performed Thu May 08 15:01:26 2014

	Raw (c)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
T	0.936	2.173	2.000	81.196	39.781	1.716
CAL	0.937	2.708	2.000	91.196	37.164	1.765
G-M						
T1	0.936	2.173	2.000	81.196	39.781	1.716
T2	0.936	2.173	2.000	81.196	39.781	1.716
S1	0.936	2.169	0.000	40.000	44.626	0.371
S2	0.936	2.169	0.000	40.000	44.626	0.371
S3	0.936	2.169	0.000	40.000	44.626	0.371
S4	0.936	2.169	0.000	40.000	44.626	0.371
ST	0.937	2.708	0.000	40.000	44.165	0.368
CAL	0.937	2.708	0.000	40.000	44.165	0.368

Internal Reference Calibration, performed Wed Aug 21 11:08:36 2013

	Raw (c)		Calibrated (c)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.750	0.414	1.000	0.000

Air Zero Calibration, performed Thu May 08 15:48:13 2014

	Raw (c)		Calibrated (c)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
T	0.000		0.000			0.000
G-M	0.000		0.000			0.000
T1						0.000
T2	0.000		0.000			0.000
S1	0.000		0.000			0.000
S2	0.000		0.000			0.000
S3	0.000		0.000			0.000
S4	0.000		0.000			0.000
ST	0.000		0.000			0.000
CAL	0.000		0.000			0.000

MAIN LOG PASS

5" = 100'

Dataset File: iron_wolves_twenty_25-12_cal.db
Dataset Pathname: Pass1
Dataset Creation: Thu May 08 15:59:03 2014 by Log 7.0 001
Report Created: Thu May 08 at 2:44:11 PM
Report Last Edited: Thu May 08 at 2:44:11 PM

N. VOL.	Gamma Ray	Acoustic Velocity	Neutron Porosity	Density Porosity	VOL.	GAS %	SECTOR MAP
0 (CAPI)	200 (C)	40000 (uS/ft) 40	0 (NEUTRON) 100	0 (DENSITY) 100			100
W_TEMP (degF) 100		CTEN (lbs) 10000		AMPMIN 100			
0 (degF)							

Gamma Ray

Acoustic Velocity

Neutron Porosity

Density Porosity

TEMP

CTEN

AMPMIN

AMPMAX

SECTOR MAP