Company: CRUSADER ENERGY, INC
Well: SUBURBAN 1-12
Field: BALCH
Field: BALCH
County: RIO BLANCO
State: COLORADO
Other Services: DUAL SPACED CEMENT BOND LOG
Permanent Datum: GROUND LEVEL
Elevation: 6,762.00 ft
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING
Elevation: 6,762.00 ft
Elevation: 6,762.00 ft
Elevation: 6,762.00 ft
Date: 10-Feb-08
Run Number: ONE
Depth Driller: 9,870.00 ft
Depth Logger: 9,870.00 ft
Bottom Logged Interval: 9,870.00 ft
Top Logged Interval: 1,100.00 ft
Type Fluid in Hole: WATER
Salinity: 0 PPM
Density: 8.3 LB/GAL
Viscosity: 27 S
Fluid Loss: 0 C3
Source of Sample: FLOWLINE
Rm @ Measured Temp: 0.06 @ 70 DEGF
Rmf @ Measured Temp: 0.05 @ 70 DEGF
Rmc @ Measured Temp: 0.08 @ 70 DEGF
Source of Rmf and Rmc: MEASURED
Rm @ BHT: 0.03 @ 200 DEGF
Time Since Circulation: 4 HOURS
Max Rec Temp: 200 DEGF
Equipment Number: 3
Location: RIO BLANCO, CO
Recorded By: J. MCCLAIN
Witnessed By: J. CRUSER
Run: ONE
Service Order: 0801-0000
Depth Driller: 9,870.00 ft
Schlumberger Depth: 9,870.00 ft
Bottom Logged Interval: 9,870.00 ft
Top Logged Interval: 1,100.00 ft
Casing Driller: 9.625 in @ 1,100.00 ft
Casing Schlumberger: 1,100.00 ft
Bit Size: 8.75 in
Type Fluid in Hole: WATER
Density: 8.3 LB/GAL
Viscosity: 27 S
Fluid Loss: 0 C3
Source of Sample: FLOWLINE
Rm @ Measured Temp: 0.06 @ 70 DEGF
Rmf @ Measured Temp: 0.05 @ 70 DEGF
Rmc @ Measured Temp: 0.08 @ 70 DEGF
Source of Rmf and Rmc: MEASURED
Rm @ BHT: 0.03 @ 200 DEGF
Time Since Circulation: 4 HOURS
Max Rec Temp: 200 DEGF
Equipment Number: 3
Location: RIO BLANCO, CO
Recorded By: J. MCCLAIN
Witnessed By: J. CRUSER

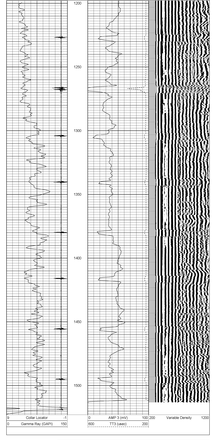
Comments

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 forth in our current Price Schedule.

PEAK WIRELINE SERVICES, INC.

PORT COLLAR

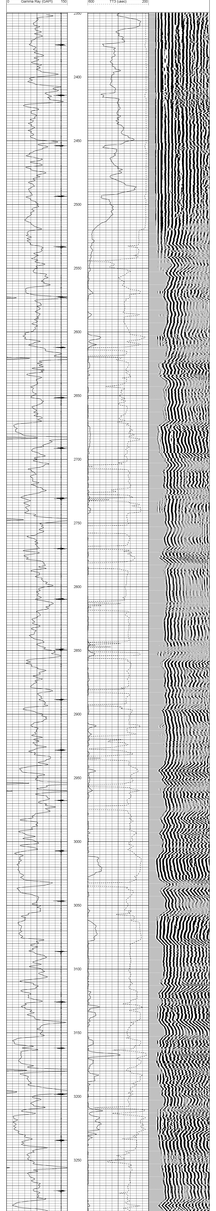
Database File: crusader.db
Dataset Pathname: pass1
Presentation Format: cbl_all
Dataset Creation: Wed Apr 16 08:33:14 2008 by Log Std Caseohole 07SP1
Charted by: Depth (Feet Scaled 1:240)



PEAK WIRELINE SERVICES, INC.

MAIN PASS

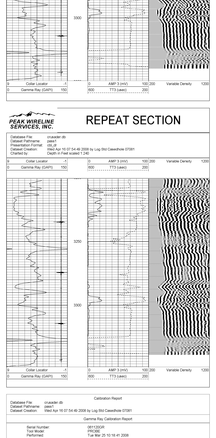
Database File: crusader.db
Dataset Pathname: pass1
Presentation Format: cbl_all
Dataset Creation: Wed Apr 16 08:00:30 2008 by Log Std Caseohole 07SP1
Charted by: Depth (Feet Scaled 1:240)



PEAK WIRELINE SERVICES, INC.

REPEAT SECTION

Database File: crusader.db
Dataset Pathname: pass1
Presentation Format: cbl_all
Dataset Creation: Wed Apr 16 07:54:46 2008 by Log Std Caseohole 07SP1
Charted by: Depth (Feet Scaled 1:240)



Database File: crusader.db
Dataset Pathname: pass1
Presentation Format: cbl_all
Dataset Creation: Wed Apr 16 07:54:46 2008 by Log Std Caseohole 07SP1

Calibration Report

Gamma Ray Calibration Report

Serial Number	3911SGR	
Tool Model	PEGR	
Performed	Tue Mar 25 10:16:41 2008	
Calibrator Value	1.0	GAPI
Background Reading	0.0	cps
Calibration Reading	1.0	cps
Sensitivity	1.0000	GAPI/cps

Cement Bond Log Calibration Report

Serial Number	545	
Tool Model	CBL	
Performed	Wed Apr 16 07:52:26 2008	
Depth	2545.54	ft
Casing Diameter	4.5	in
3 Spacing		**5 Spacing**
Signal Zero	1	mV
Calibrated Amplitude	81.1901	mV
Attenuation in Free Pipe	1.41E-03	dB/ft
Amplitude in Free Pipe	1.4102E-3	V
Gain	57.0558	54.58
Offset	0.46747	0.4496CN

Signal Zero	1	mV
Calibrated Amplitude	81.1901	mV
Attenuation in Free Pipe	1.41E-03	dB/ft
Amplitude in Free Pipe	1.4102E-3	V
Gain	57.0558	54.58
Offset	0.46747	0.4496CN