CEMENT EVALUATION LOG
RADII TOOL
FINAL PRINT

Company CATAMOUNT ENERGY PATNERS LLC
Well IGW 123B
Field FRUITLAND COAL
County LA PLATA State COLORADO

Company	CATAMOUNT ENERGY PATNERS LLC
Well	IGW 123B
Field	FRUITLAND COAL
County	LA PLATA
State	COLORADO

Location: API #: 05-067-10008
1184' FSL & 1561' FWL
SEC 6 TWP 33N RGE 8W

Other Services

Permanent Datum GROUND LEVEL Elevation 6456'
Log Measured From RKB 16'
Drilling Measured From RKB

Elevation
K.B. 6472'
D.F. 6471'
G.L. 6456'

Date	12/7/2017
Run Number	ONE
Depth Driller	3596'
Depth Logger	3515'
Bottom Logged Interval	3515'
Top Log Interval	SURF.
Open Hole Size	
Type Fluid	
Density / Viscosity	
Max. Recorded Temp.	
Estimated Cement Top	
Time Well Ready	12:00 PM
Time Logger on Bottom	12:30 PM
Equipment Number	D-5 SDSRCE 31/19
Location	FRM
Recorded By	T. LUTHER
Witnessed By	MR. MARK WOLTE

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8-5/8	12# J-55	SURF.	377'
Prot. String				
Production String	5.5"	17# CP80	SURF.	3586'
Liner				
MARKER JOINT	2782-2802'			

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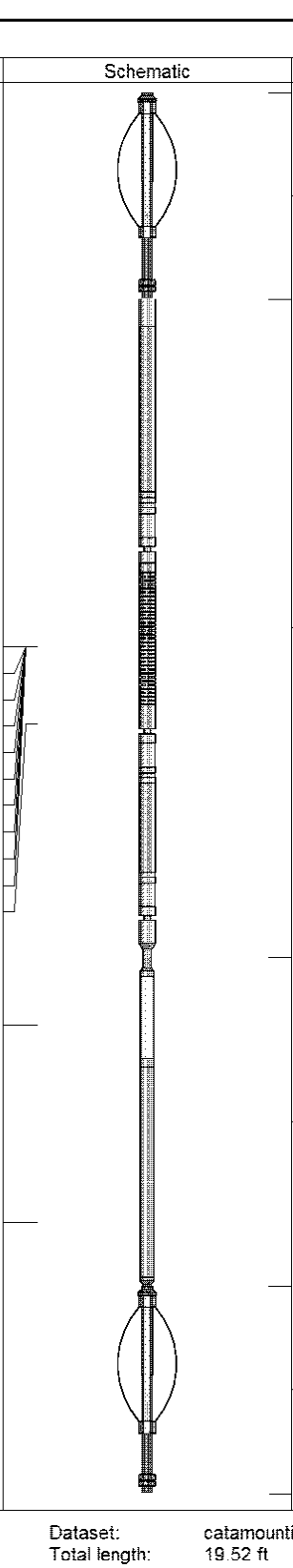
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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



Sensor	Offset (ft)	Description	Length (ft)	O.D. (in)	Weight (lb)
		CENT-Probe (PTS_MONO)	2.88	2.75	35.00
WVFS8 WVFS7 WVFS6 WVFS5 WVFS4 WVFS3 WVFS2 WVFS1 WVFCAL WVF3FT WVF5FT	11.80 11.80 11.80 11.80 11.80 11.80 11.80 11.80 11.80 11.80 10.72	RBT-Probe (060631) Probe Radii Bond Tool with Digital Telemetry	9.17	2.75	90.00
CCL	6.52				
GR	3.78	GR-Probe (060719) Probe 2.75" 4 Channel Pulse	4.58	2.75	30.00
		CENT-Probe (PT_MONO2)	2.88	2.75	35.00

Dataset: catamountigw123bfcrce.db: fieldfc/welligw123b/run1/pass3
Total length: 19.52 ft
Total weight: 190.00 lb
O.D.: 2.75 in

Database File	catamountigw123bfcrce.db
Dataset Pathname	fieldfc/welligw123b/run1/pass3
Presentation Format	rst5inplo
Dataset Creation	Thu Dec 07 14:11:19 2017
Charted by	Depth in Feet scaled 1:600

CASING COLLAR	3' AMPLITUDE	200 VDL 1200	AMPS2	Cement Map
-9 1	0 (mV) 100		0 AMPS2 100	1 Cement Map 8
GAMMA RAY	AMP X5		0 AMPS3 100	1 45
0 (GAPI) 200	0 (mV) 20		0 AMPS4 100	
	5' AMPLITUDE		0 AMPS5 100	
	0 (mV) 100		0 AMPS6 100	
	Travel Time		0 AMPS7 100	
	1200 (usec) 200		0 AMPS8 100	

CASING COLLAR	3' AMPLITUDE	200 VDL 1200	AMPS2	Cement Map
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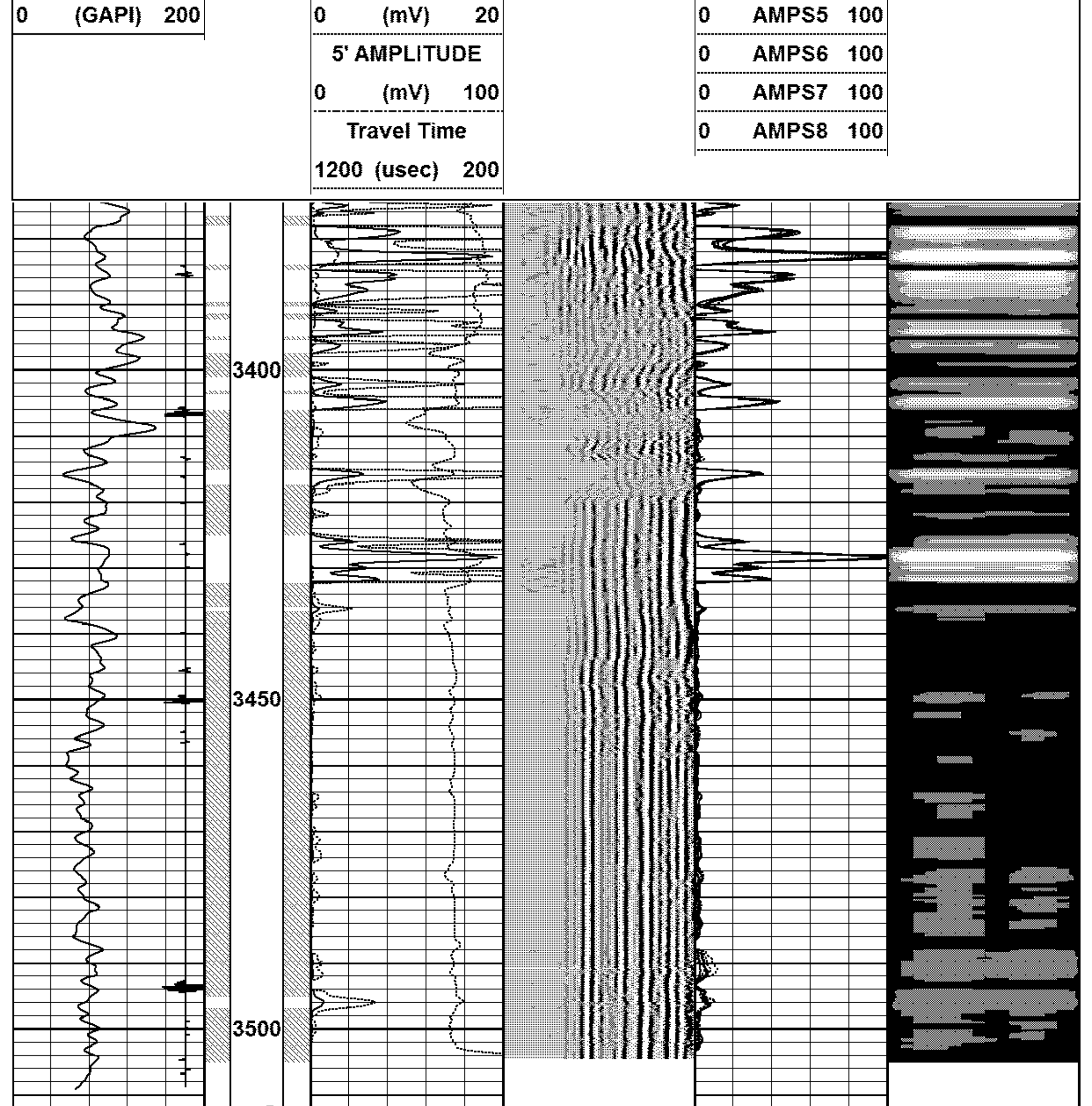
	0 (mV) 100		0 AMPS6 100	
	Travel Time		0 AMPS7 100	
	1200 (usec) 200		0 AMPS8 100	

Database File	catamountigw123bfcrce.db
Dataset Pathname	fieldfc/welligw123b/run1/pass3
Presentation Format	rst5inplo
Dataset Creation	Thu Dec 07 14:11:19 2017
Charted by	Depth in Feet scaled 1:240

CASING COLLAR	3' AMPLITUDE	200 VDL 1200	AMPS2	Cement Map
-9 1	0 (mV) 100		0 AMPS2 100	1 Cement Map 8
GAMMA RAY	AMP X5		0 AMPS3 100	1 45
0 (GAPI) 200	0 (mV) 20		0 AMPS4 100	
	5' AMPLITUDE		0 AMPS5 100	
	0 (mV) 100		0 AMPS6 100	
	Travel Time		0 AMPS7 100	
	1200 (usec) 200		0 AMPS8 100	

Database File	catamountigw123bfcrce.db
Dataset Pathname	fieldfc/welligw123b/run1/pass2
Presentation Format	rst5inplo
Dataset Creation	Thu Dec 07 14:08:02 2017
Charted by	Depth in Feet scaled 1:240



Calibration Report

Database File	catamountigw123bfcrce.db
Dataset Pathname	fieldfc/welligw123b/run1/pass3
Dataset Creation	Thu Dec 07 14:11:19 2017

Gamma Ray Calibration Report

Serial Number:	060719	
Tool Model:	Probe	
Performed:	Thu Dec 08 07:38:28 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.8000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	060631	
Tool Model:	Probe	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	0.000	ft

Master Calibration, performed Tue Feb 14 14:03:38 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.019	0.240	0.450	91.000	408.990	-7.278
CAL	0.270	0.271				
5'	0.019	0.236	0.450	91.000	417.696	-7.657
SUM						
S1	0.019	0.180	0.650	91.000	561.185	-10.037
S2	0.020	0.248	0.650	91.000	395.674	-7.208
S3	0.020	0.251	0.650	91.000	391.322	-7.237
S4	0.019	0.260	0.650	91.000	374.114	-6.387
S5	0.018	0.270	0.650	91.000	358.685	-5.931
S6	0.018	0.266	0.650	91.000	364.784	-5.963
S7	0.018	0.247	0.650	91.000	395.547	-6.554
S8	0.019	0.239	0.650	91.000	409.464	-7.062

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.270	0.271	1.000	0.000

Air Zero Calibration, performed Wed Sep 27 08:36:31 2017:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.019	0.000	0.000
5'	0.020	0.000	-0.000
SUM			
S1	0.019	0.000	0.000
S2	0.019	0.000	0.001
S3	0.019	0.000	0.001
S4	0.019	0.000	0.001
S5	0.018	0.000	-0.000
S6	0.018	0.000	0.000
S7	0.018	0.000	-0.001
S8	0.019	0.000	0.000