CEMENT EVALUATION LOG
RADII TOOL
FIELD PRINT

Company	CATAMOUNT ENERGY PATNERS LLC
Well	HANS #3
Field	FRUITLAND COAL
County	LA PLATA
State	COLORADO

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Location: API #: 05-067-10011
1058 FSL & 1730 FEL
SEC 15 TWP 33N RGE 8W

Other Services

Permanent Datum	GROUND LEVEL	Elevation 6710'	Elevation
Log Measured From	RKB 16'		K.B. 6726'
Drilling Measured From	RKB		D.F. 6725'
			G.L. 6710'

Date	12/2/2017
Run Number	ONE
Depth Driller	3702'
Depth Logger	3640'
Bottom Logged Interval	3640'
Top Log Interval	SURF.
Open Hole Size	
Type Fluid	
Density / Viscosity	
Max. Recorded Temp.	
Estimated Cement Top	
Time Well Ready	9:30 AM
Time Logger on Bottom	9:45 AM
Equipment Number	D-5 SDSRDH31 19
Location	FRM
Recorded By	T. LUTHER
Witnessed By	MR. MARK WOLFE

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	23# J-55	SURF.	541.4'
Prot. String				
Production String	5.5"	17# J-55	SURF.	3692'
Liner				
MARKER JOINT 2937-2955'				

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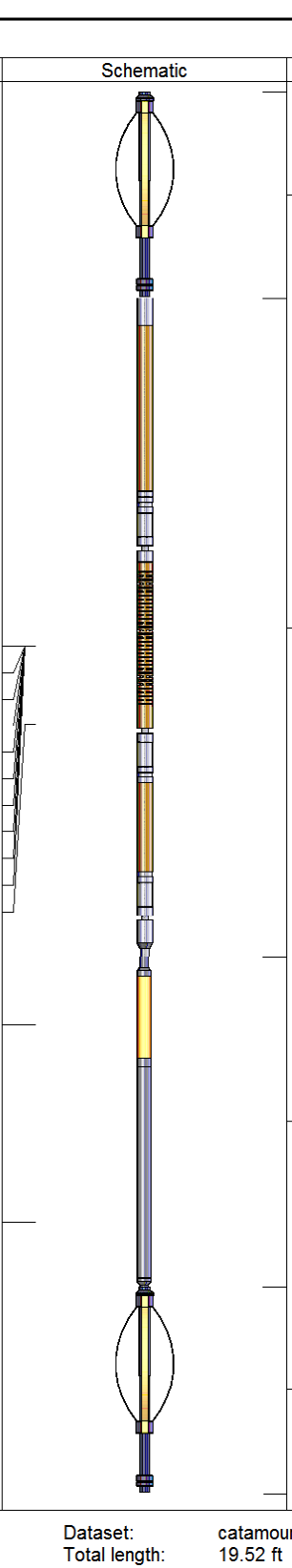
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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	11.80	RBT-Probe (060631) Probe Radii Bond Tool with Digital Telemetry	9.17	2.75	90.00
WVFS7	11.80				
WVFS6	11.80				
WVFS5	11.80				
WVFS4	11.80				
WVFS3	11.80				
WVFS2	11.80				
WVFS1	11.80				
WVFCAL	11.80				
WVF3FT	11.80				
WVF5FT	10.72				
CCL	6.52				
		GR-Probe (060719) Probe 2.75" 4 Channel Pulse	4.58	2.75	30.00
GR	3.78				
		CENT-Probe (PT_MONO2)	2.88	2.75	35.00

Dataset: catamounthans3fcrce.db: fieldfc/wellhans3/run1/pass3
Total length: 19.52 ft
Total weight: 190.00 lb
O.D.: 2.75 in

Database File	catamounthans3fcrce.db
Dataset Pathname	fieldfc/wellhans3/run1/pass3
Presentation Format	rst5inplo
Dataset Creation	Sat Dec 02 09:27:05 2017
Charted by	Depth in Feet scaled 1:600

CASING COLLAR	3' AMPLITUDE	200 VDL 1200	0 AMPS1 100	1 Cement Map 8
-9 1	0 (mV) 100		0 AMPS2 100	1 45
GAMMA RAY	0 AMP X5 (mV) 20		0 AMPS3 100	
0 (GAPI) 200	5' AMPLITUDE		0 AMPS4 100	
	0 (mV) 100		0 AMPS5 100	
	Travel Time		0 AMPS6 100	
	1200 (usec) 200		0 AMPS7 100	
			0 AMPS8 100	

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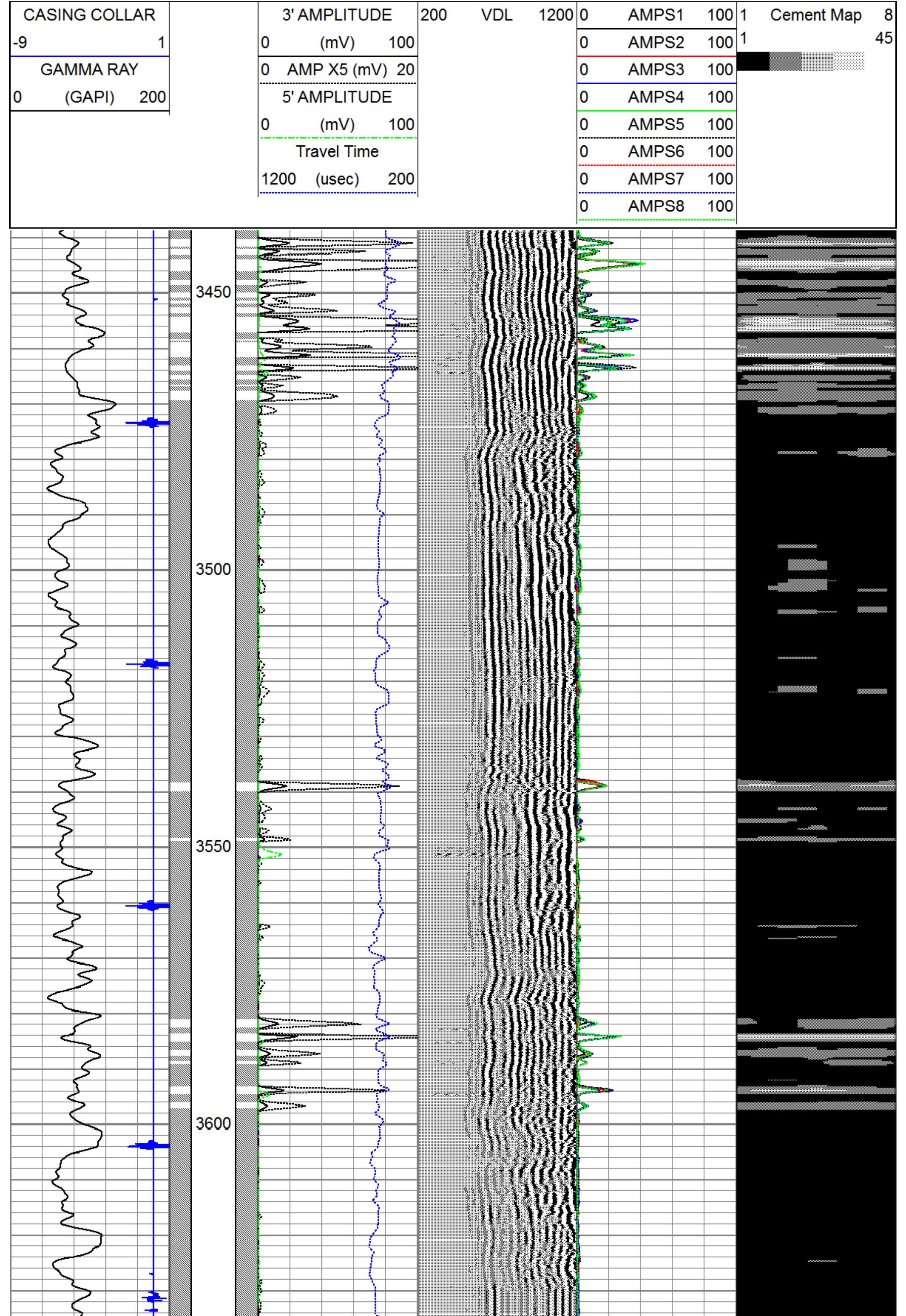
	0 (mV) 100		0 AMPS5 100	
	Travel Time		0 AMPS6 100	
	1200 (usec) 200		0 AMPS7 100	
			0 AMPS8 100	

Database File	catamounthans3fcrce.db
Dataset Pathname	fieldfc/wellhans3/run1/pass3
Presentation Format	rst5inplo
Dataset Creation	Sat Dec 02 09:27:05 2017
Charted by	Depth in Feet scaled 1:240

CASING COLLAR	3' AMPLITUDE	200 VDL 1200	0 AMPS1 100	1 Cement Map 8
-9 1	0 (mV) 100		0 AMPS2 100	1 45
GAMMA RAY	0 AMP X5 (mV) 20		0 AMPS3 100	
0 (GAPI) 200	5' AMPLITUDE		0 AMPS4 100	
	0 (mV) 100		0 AMPS5 100	
	Travel Time		0 AMPS6 100	
	1200 (usec) 200		0 AMPS7 100	
			0 AMPS8 100	

Database File	catamounthans3fcrce.db
Dataset Pathname	fieldfc/wellhans3/run1/pass2
Presentation Format	rst5inplo
Dataset Creation	Sat Dec 02 09:21:38 2017
Charted by	Depth in Feet scaled 1:240



Calibration Report

Database File	catamounthans3fcrce.db
Dataset Pathname	fieldfc/wellhans3/run1/pass3
Dataset Creation	Sat Dec 02 09:27:05 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	-0.000
S5	0.018	0.000	0.000
S6	0.018	0.000	-0.000
S7	0.019	0.000	-0.001
S8	0.019	0.000	0.000