Radial Bond Gamma Ray Collar Log

Company	Bison Oil & Gas II LLC
Well	Grotheer 5-61 11B-14-23-5
Field	Wattenberg
County	Weld
State	Colorado
Country	USA

Company Bison Oil & Gas II LLC
Well Grotheer 5-61 11B-14-23-5
Field Wattenberg
County Weld
State Colorado Country USA

Location: API # : 05-123-51441
610' FSL & 1157' FEL
Lat: 40.410256 Long: -104.170130
SEC 11 TWP 5N RGE 61W

Other Services
NONE

Permanent Datum	Ground Level	Elevation	4685'	Elevation
Log Measured From	KB			K.B. 4710'
Drilling Measured From	KB			D.F. -----
				G.L. 4685'

Date	1 SEPT 2022
Run Number	ONE
Depth Driller	16425'
Depth Logger	6371'
Bottom Logged Interval	6359'
Top Log Interval	Surface
Open Hole Size	8 1/2"
Type Fluid	Water
Density / Viscosity	-----
Max. Recorded Temp.	218°F
Estimated Cement Top	578'
Time Well Ready	06:30
Time Logger on Bottom	07:15
Equipment Number	803
Location	Kersey, Co
Recorded By	J. BAKER
Witnessed By	-----

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9 5/8"	36#	Surface	1,850'
Prot. String				
Production String	5 1/2"	20#	Surface	16,425'
Liner				

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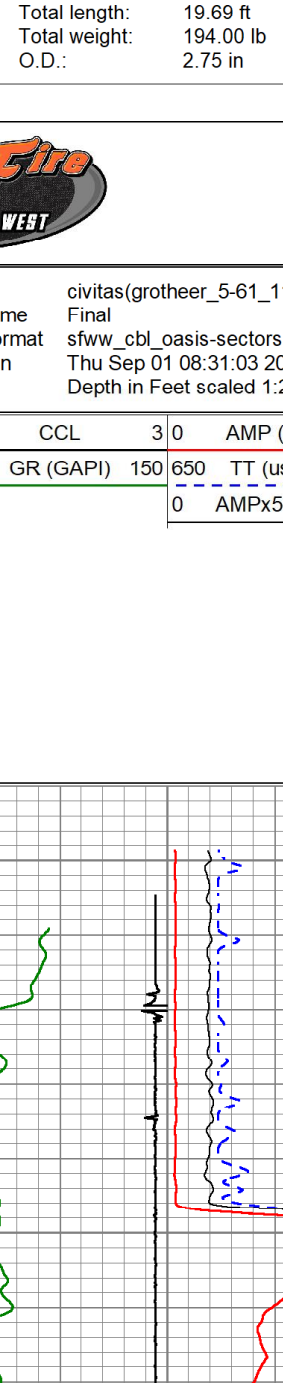
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

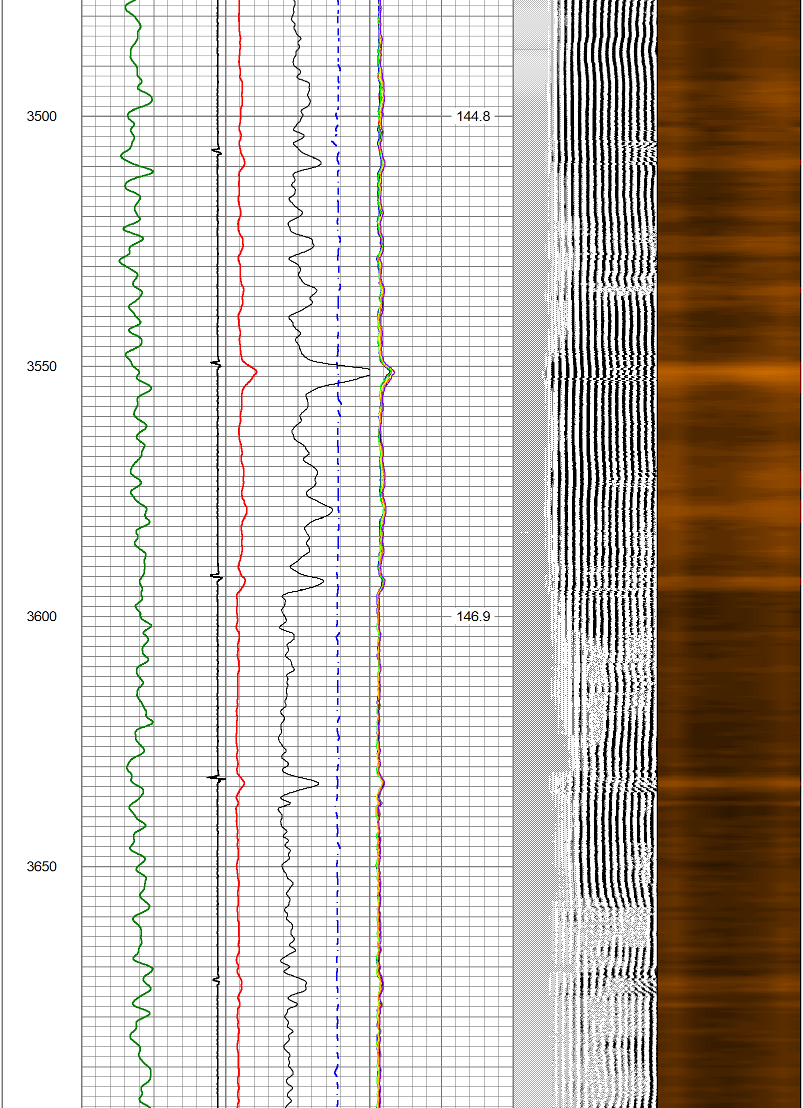
Comments

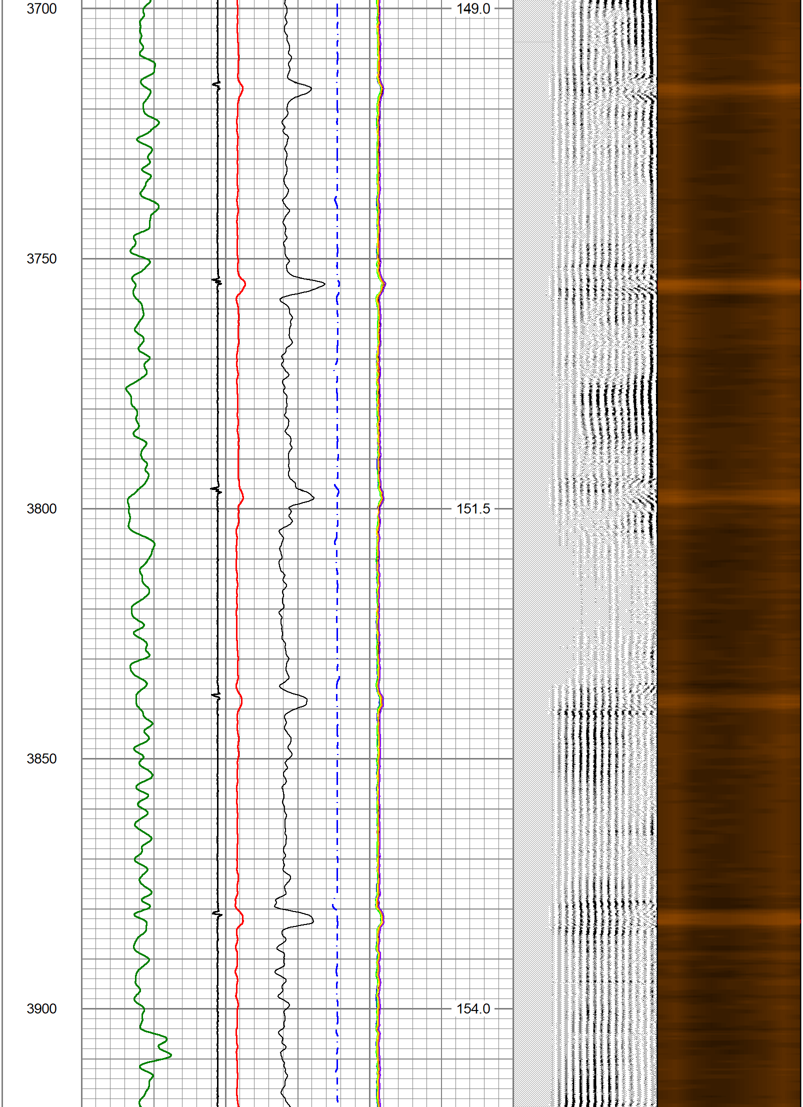
Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
ErrCt	19.69		CENT-BC275-0000 Probe 2.75" Bowspring Centralizer	2.83	2.75	24.00
WVFSYNC WVFS8 WVFS7 WVFS6 WVFS5 WVFS4 WVFS3 WVFS2 WVFS1 WVFCAL WVF3FT WVF5FT	12.27 12.27 12.27 12.27 12.27 12.27 12.27 12.27 12.27 12.27 12.27 11.19		RBT-Probe (FW1905-055) Probe Radii Bond Tool with Digital Telemetry	8.92	2.75	90.00
			CENT-BC275-0000 Probe 2.75" Bowspring Centralizer	2.83	2.75	24.00
GCT_HV CCL$2 CCL$1 GCT_Temp GR	5.10 4.14 4.14 3.59 2.72		GC-GCT275-0000 (FW1905-098) Probe Gamma Ray - CCL w/ Temp	4.77	2.75	55.00
			Plug-FA108-0000 1.38" Bull Plug	0.33	1.38	1.00

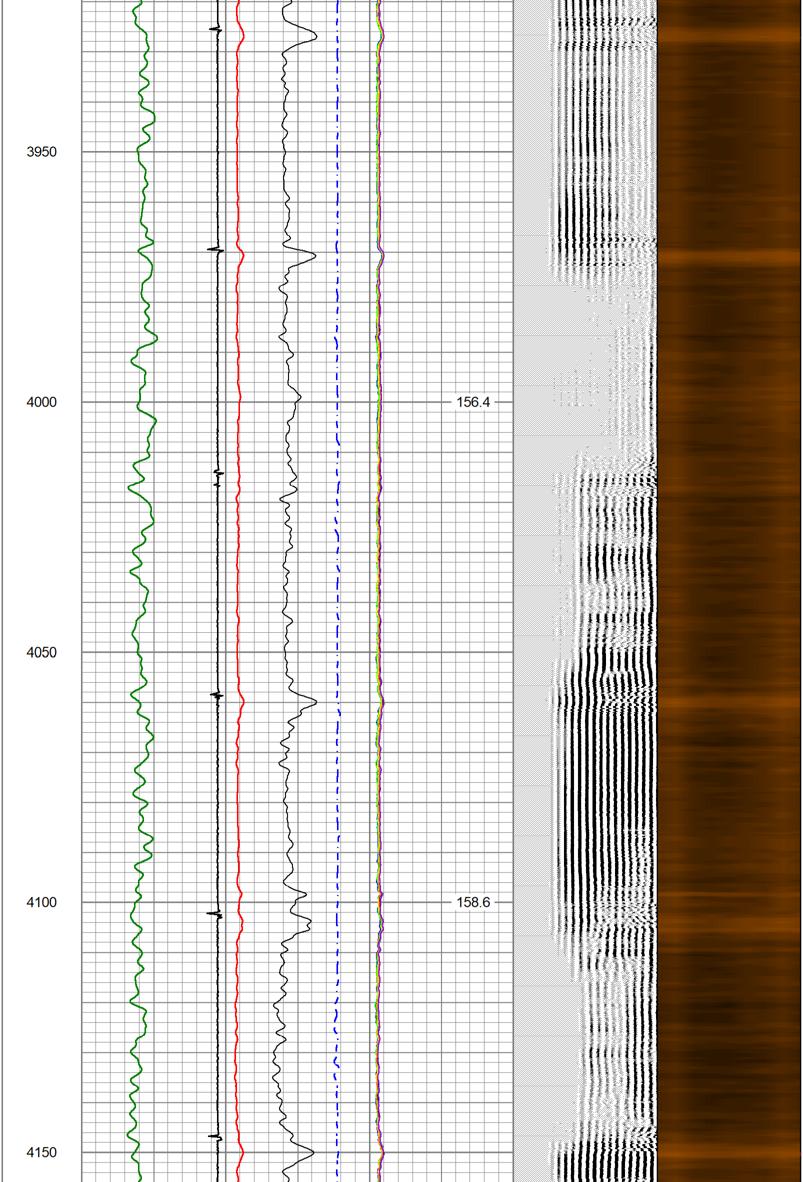
Dataset: civitas(grotheer_5-61_11b-14-23-5)09012022_cbl.db: field/well/run1/Final
Total length: 19.69 ft
Total weight: 194.00 lb
O.D.: 2.75 in

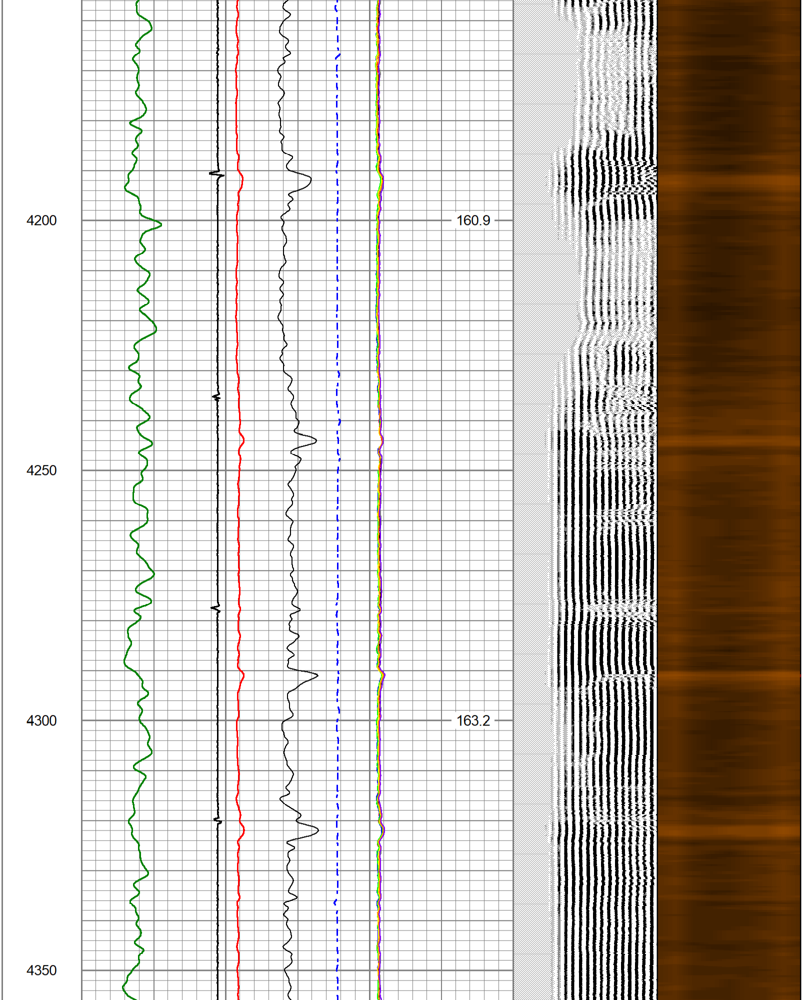
MAIN PASS

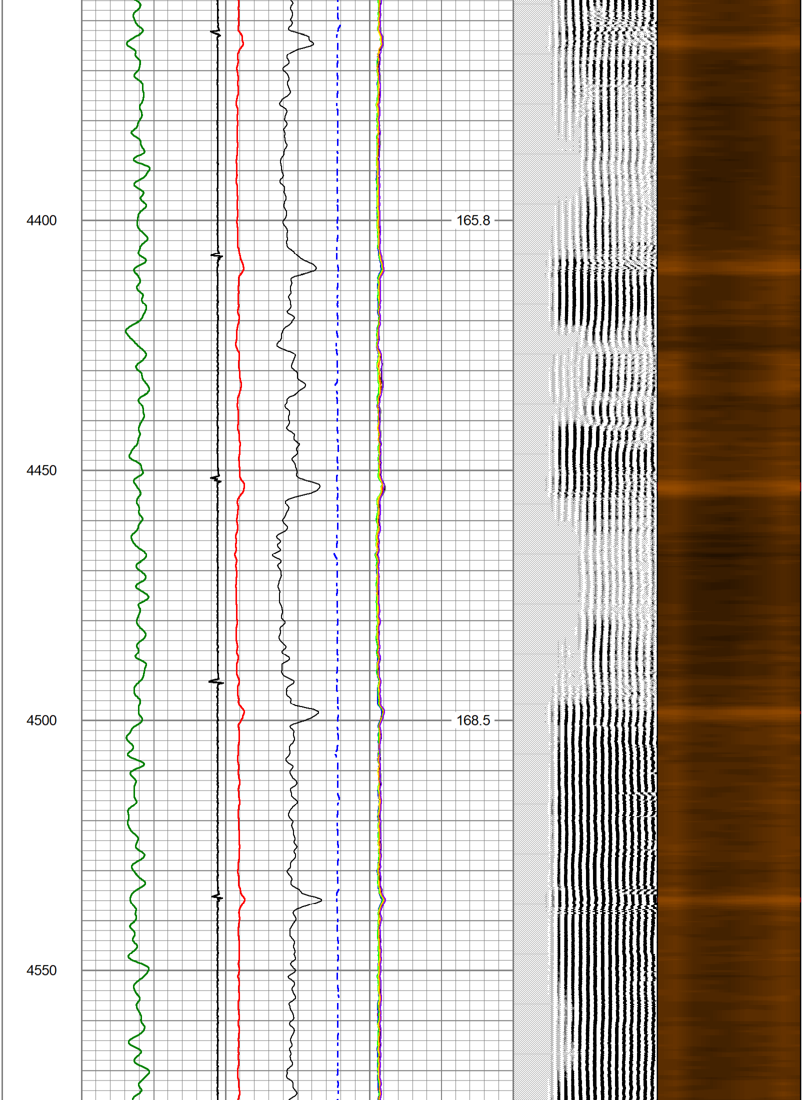
Database File civitas(grotheer_5-61_11b-14-23-5)09012022_cbl.db
Dataset Pathname Final
Presentation Format sfww_cbl_oasis-sectors (2)
Dataset Creation Thu Sep 01 08:31:03 2022
Charted by Depth in Feet scaled 1:240

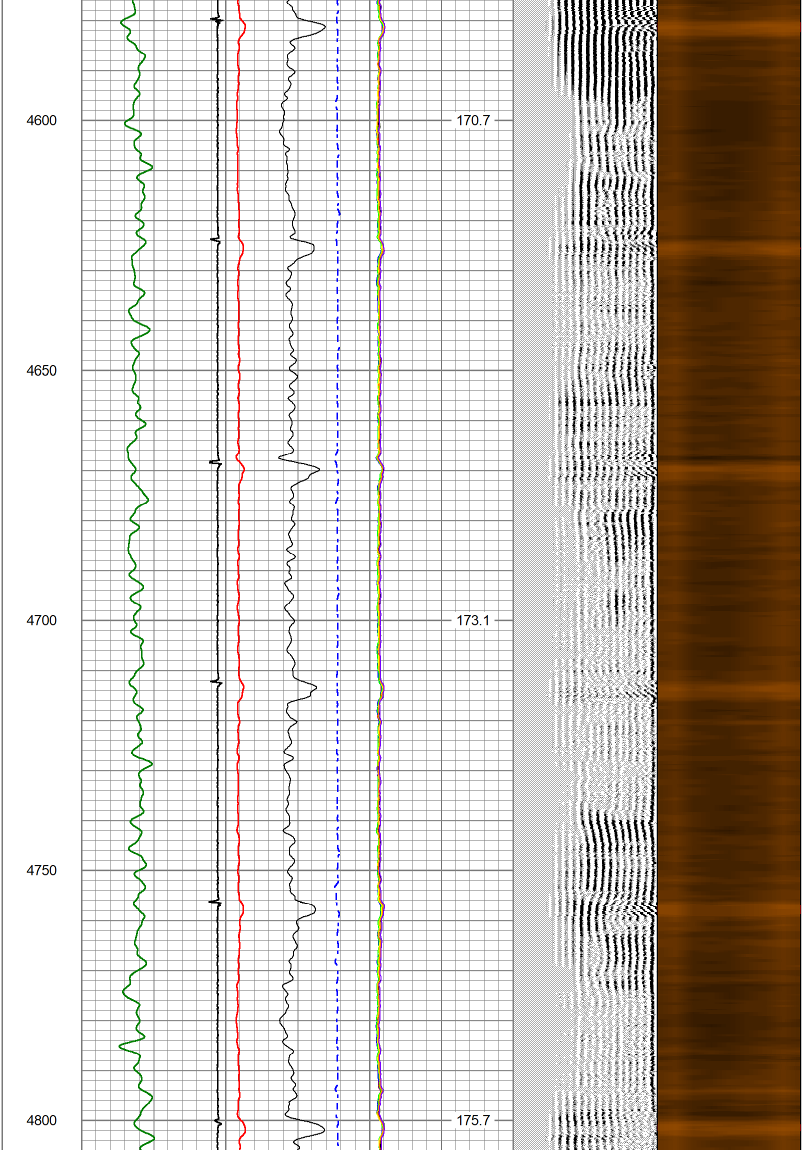


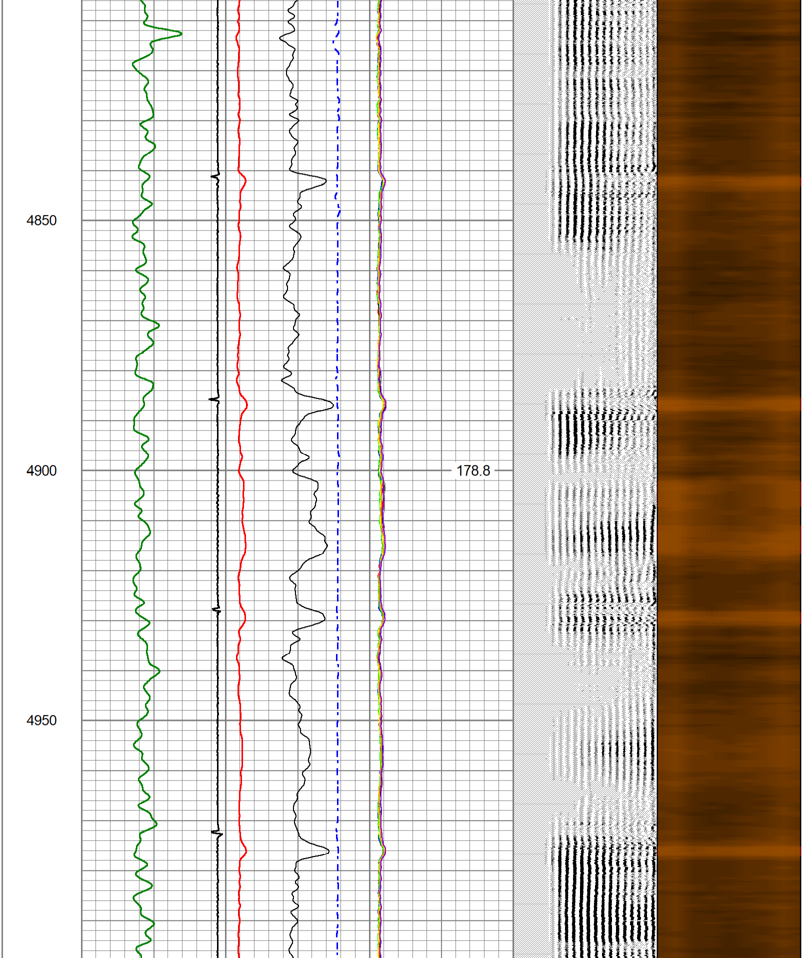


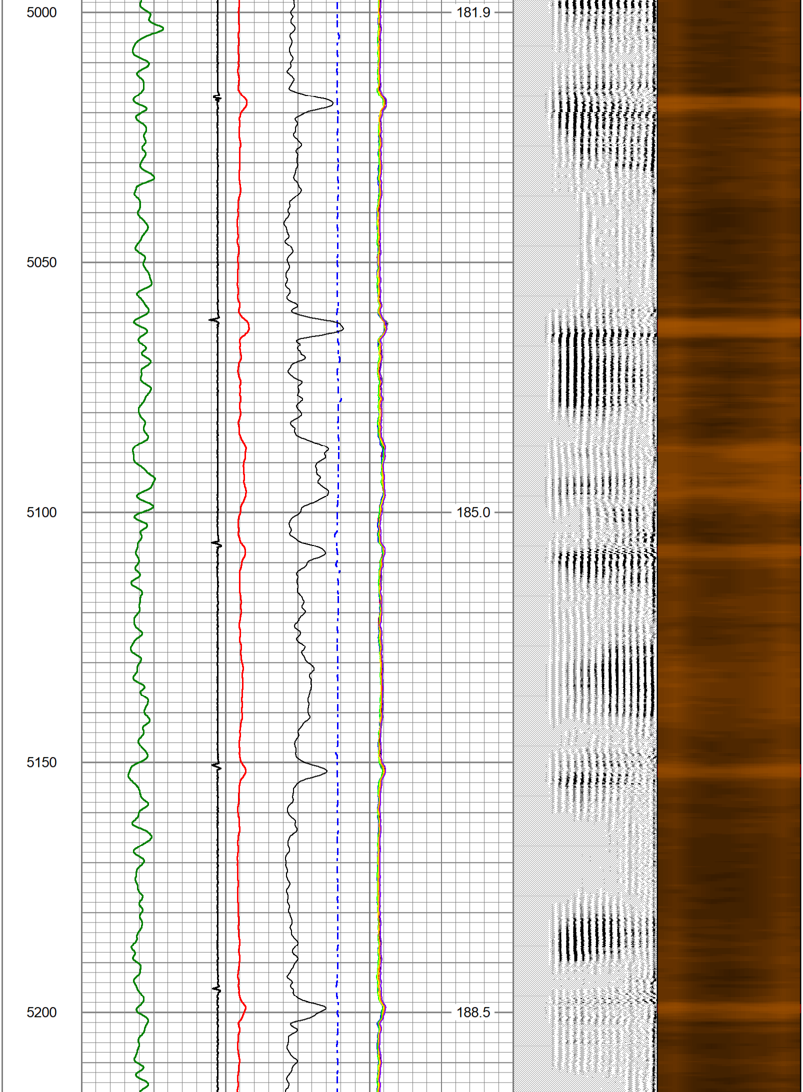


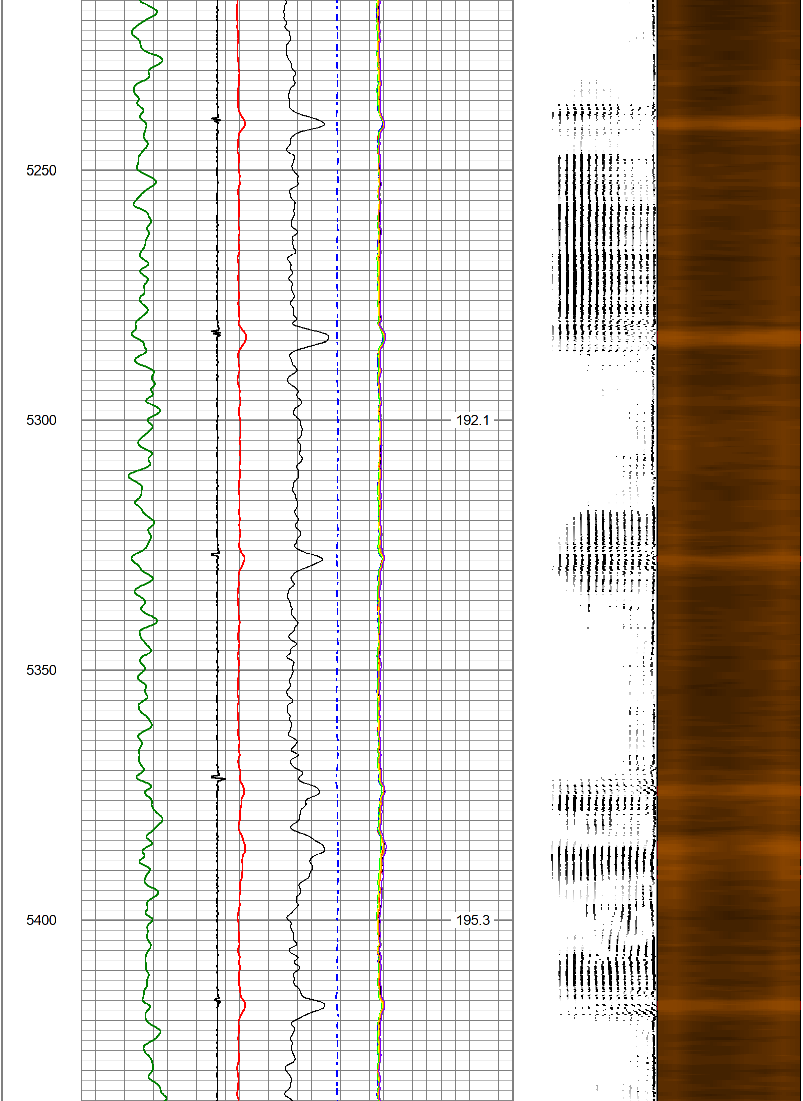


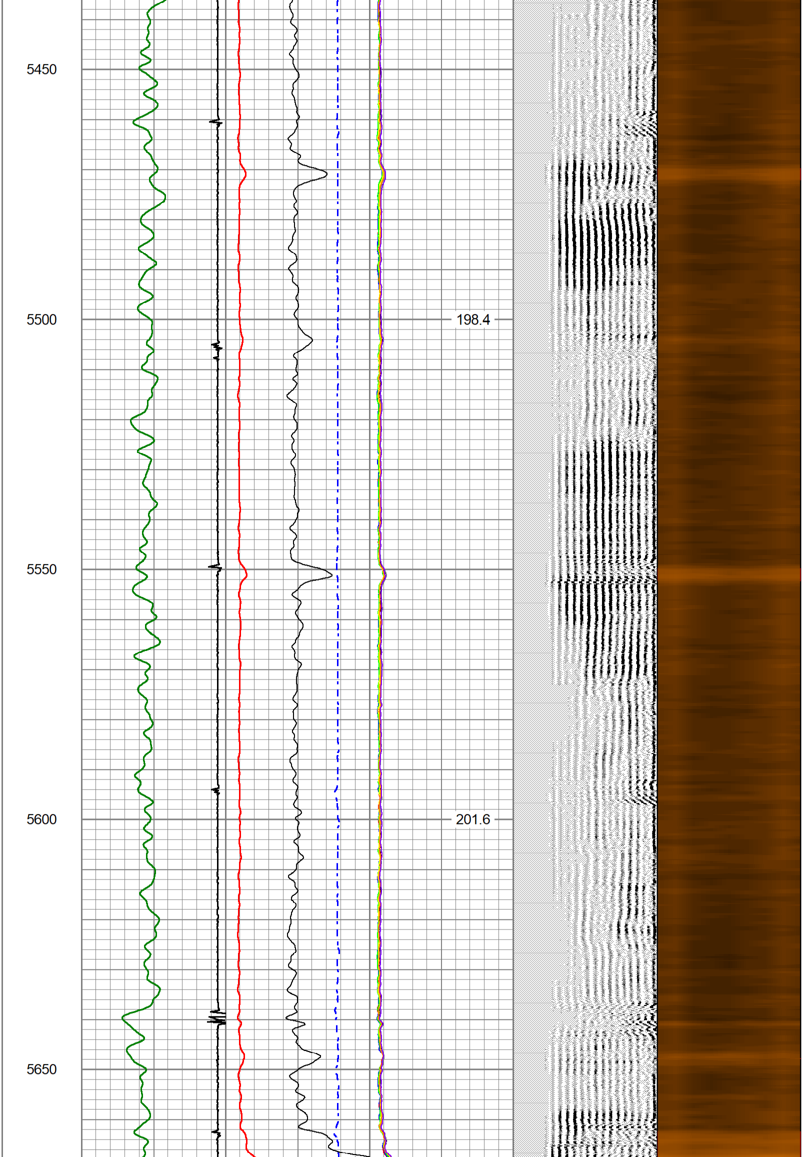


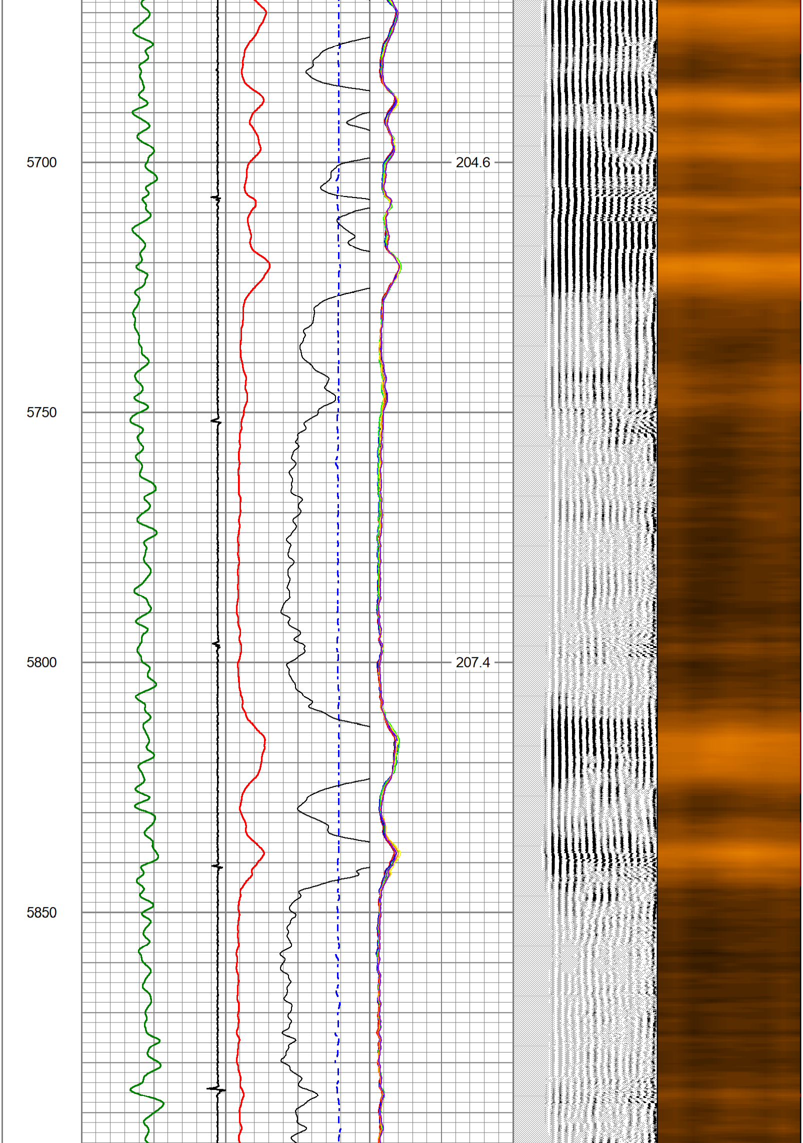


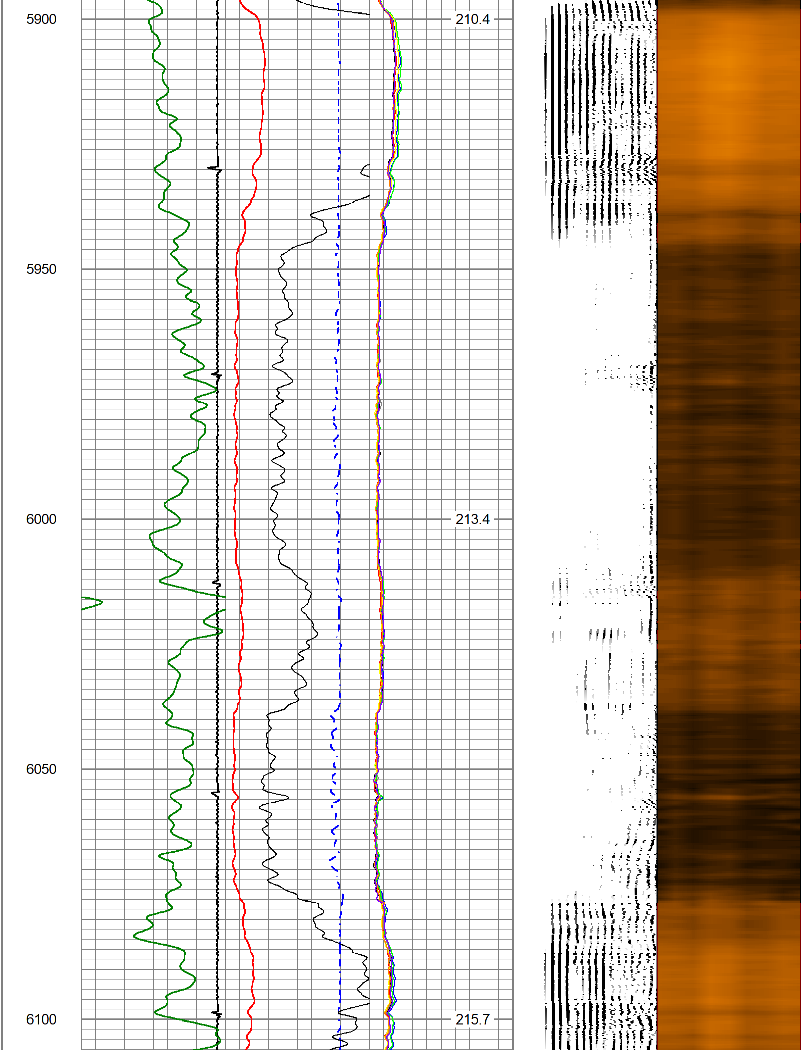


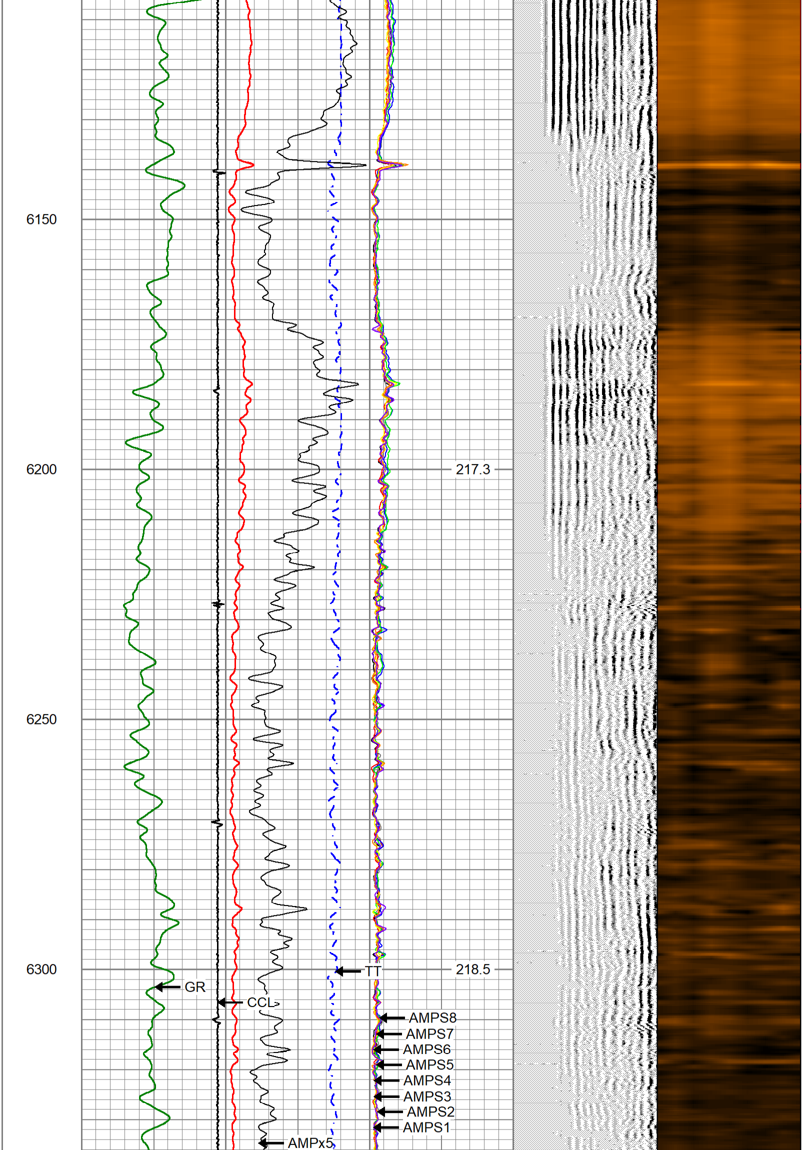


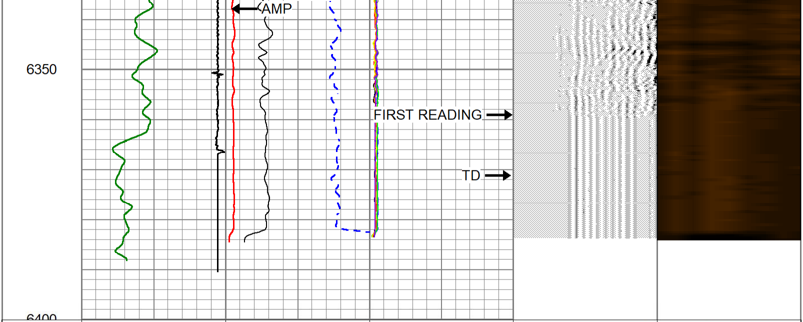












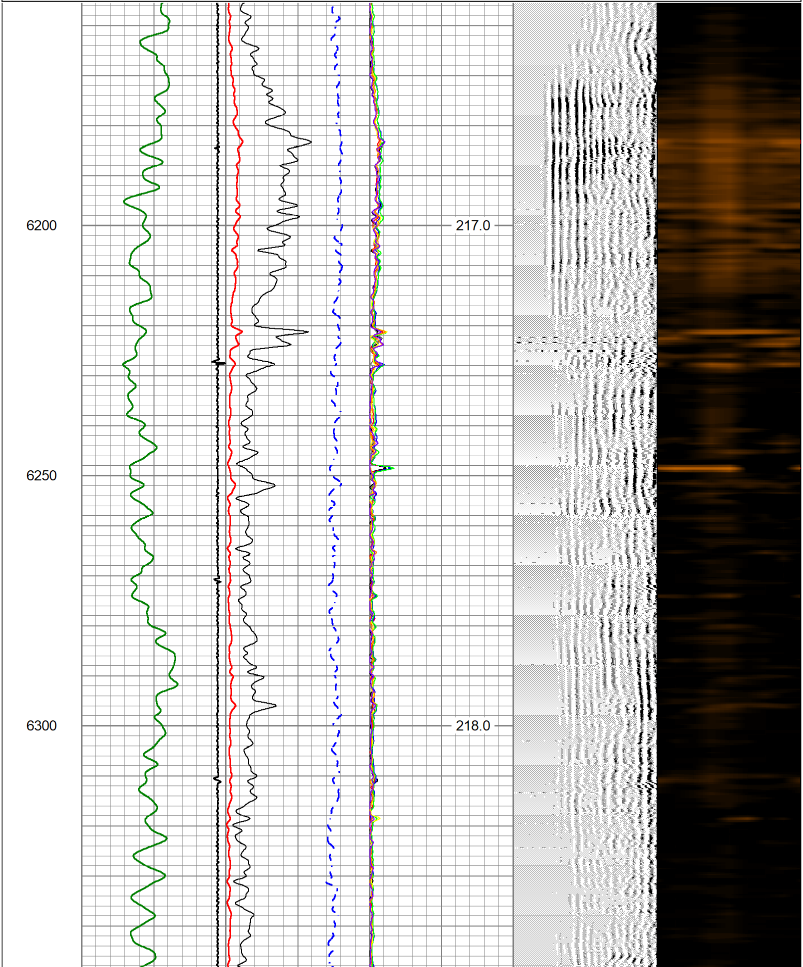
-7 CCL 3	0 AMP (mV) 100	0 AMPS1 150	200 VDL (usec) 1200	1 RADIAL MAP 8
0 GR (GAPI) 150	650 TT (usec) 150	0 AMPS2 150		
	0 AMPx5 (mV) 20	0 AMPS3 150		
		0 AMPS4 150		
		0 AMPS5 150		
		0 AMPS6 150		
		0 AMPS7 150		
		0 AMPS8 150		
		GCT_Temp (degF)		

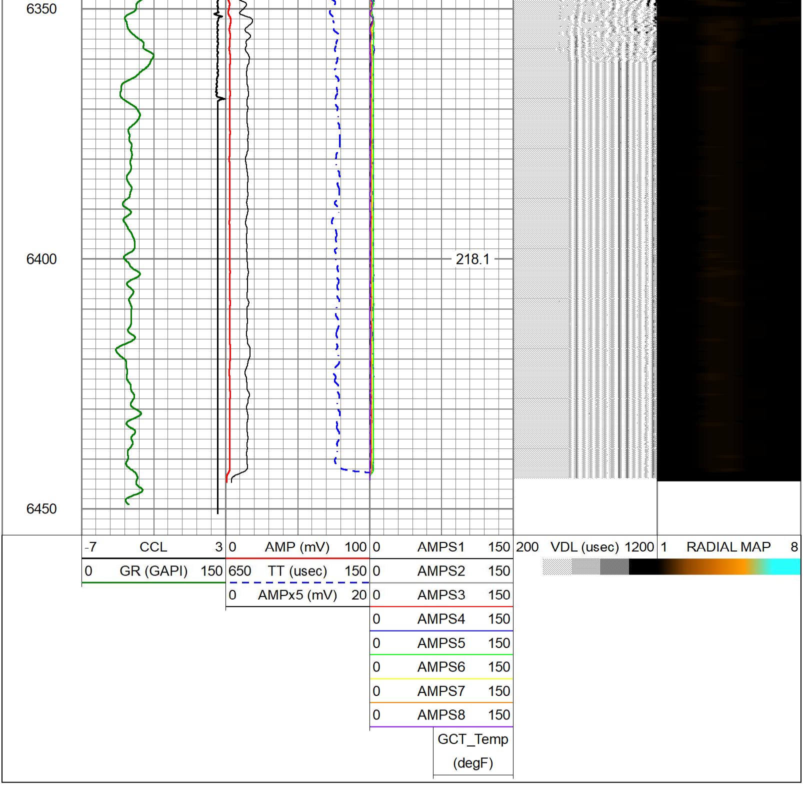
SureFire
WIRELINE WEST
LLC.

REPEAT PASS

Database File	civitas(grotheer_5-61_11b-14-23-5)09012022_cbl.db
Dataset Pathname	RepeatPass
Presentation Format	sfww_cbl_oasis-sectors (2)
Dataset Creation	Thu Sep 01 07:25:31 2022
Charted by	Depth in Feet scaled 1:240

-7 CCL 3	0 AMP (mV) 100	0 AMPS1 150	200 VDL (usec) 1200	1 RADIAL MAP 8
0 GR (GAPI) 150	650 TT (usec) 150	0 AMPS2 150		
	0 AMPx5 (mV) 20	0 AMPS3 150		
		0 AMPS4 150		
		0 AMPS5 150		
		0 AMPS6 150		
		0 AMPS7 150		
		0 AMPS8 150		
		GCT_Temp (degF)		





Calibration Report

Database File	civitas(grotheer_5-61_11b-14-23-5)09012022_cbl.db
Dataset Pathname	MainPass
Dataset Creation	Thu Sep 01 07:30:01 2022

Gamma Ray Calibration Report

Serial Number:	FW1905-098	
Tool Model:	GCT275-0000	
Performed:	Mon May 4 14:03:10 2020	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.5800	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1905-055	
Tool Model:	Probe	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	284.833	ft

Master Calibration, performed Mon Jun 20 14:06:53 2022:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.669	0.800	71.921	42.634	0.783
CAL	-0.000	1.792				
5'	-0.000	1.493	0.800	71.921	47.619	0.816
SUM						
S1	0.001	1.575	0.000	71.921	45.688	-0.033
S2	0.001	1.618	0.000	71.921	44.474	-0.027
S3	0.000	1.708	0.000	71.921	42.125	-0.010
S4	-0.001	1.719	0.000	71.921	41.812	0.031
S5	0.000	1.632	0.000	71.921	44.086	-0.007
S6	0.001	1.590	0.000	71.921	45.272	-0.051
S7	0.000	1.576	0.000	71.921	45.656	-0.021
S8	0.000	1.565	0.000	71.921	45.968	-0.021

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.000	1.792	1.000	0.000

Air Zero Calibration, performed Tue Sep 21 11:19:14 2021:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
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
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Log Variables

Databasec:\programdata\warrior\data\civitas(grotheer_5-61_11b-14-23-5)09012022_cbl.db
Dataset field/well/run1/Final/_vars_

Top - Bottom

BOREID in 7.875	BOTTEMP degF 100	CASEOD in 5.5	CASETHCK in 0.361	CASEWGHT lb/ft 20	MAXAMPL mV 71.9	MINAMPL mV 2.1	MINATTN db/ft 0.8
PERFS No	PPT usec 0	SRFTEMP degF 0	TDEPTH ft 0				

Variable Description

BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
CASEWGHT : Casing Weight
MAXAMPL : Maximum Amplitude
MINAMPL : Minimum Amplitude
MINATTN : Minimum Attenuation
PERFS : Perforation Flag
PPT : Predicted Pipe Time
SRFTEMP : Surface Temperature
TDEPTH : Total Depth

SureFire
WIRELINE WEST
LLC

Company	Bison Oil & Gas II LLC		
Well	Grotheer 5-61 11B-14-23-5		
Field	Wattenberg		
County	Weld		
State	Colorado	Country	USA