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Pioneer Energy Services

RADIAL BOND LOG WITH GAMMA RAY

Company	**Anadarko**
Well	**State 32-16**
Field	**Wattenberg**
County	**Weld**
State	**Colorado**

Location: SWNW API # : 05-123-291116
SEC 16 TWP 1N RGE 38W
Other Services

Permanent Datum GL Elevation 5161'
Log Measured From KB 15' Above Perm. Datum
Drilling Measured From KB

Elevation
K.B. 5176'
D.F. 5175'
G.L. 5161'

Comp. Anadarko
Well State 32-16
Field Wattenberg
Co. Weld
State Colorado

Date of Service	18 July 2016
Run Number	One
Depth Driller or PBTD	8350'
Depth Logger	3928'
Bottom Log Interval	3928'
Top Log Interval	Surface
Open Hole Size	N/A
Type Fluid	Water
Fluid Level	Surface
Fluid Density	N/A
Max. Recorded Temperature	138 deg
Max. Wellhead Pressure	Zero
Wellhead Connection	N/A
Estimated Cement Top	See Log
Unit Number	P53
Wireline Size	9/32
Location	Ft. Morgan
Recorded By	Cory Burns
Witnessed By	Nick Lang

	Size	Wt/Ft	Top	Bottom
Tubing Record				
Surface Casing	8.625"		Surface	997'
Production Casing	4.5"	11.6#	Surface	8329'
Liner Record				

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

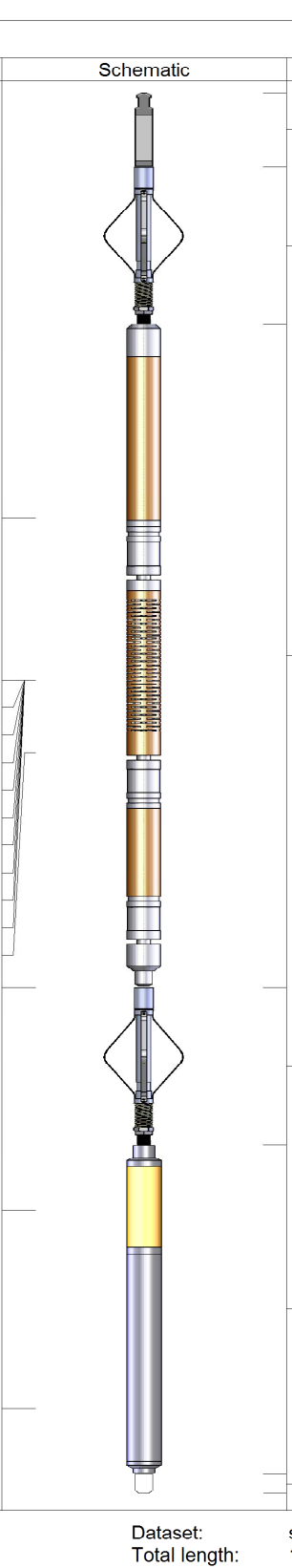
N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: Cory Burns		
Operator: Wayne Brigante		
Operator: Brent Roddy		
Operator:		

Sensor	Offset (ft)
TEMP	13.46
WVFS8	11.23
WVFS7	11.23
WVFS6	11.23
WVFS5	11.23
WVFS4	11.23
WVFS3	11.23
WVFS2	11.23
WVFS1	11.23
WVFCAL	11.23
WVF3FT	11.23
WVF5FT	10.23
HEADVOLT	6.98
CCL	3.91
GR	1.17

Schematic



Description	Length (ft)	O.D. (in)	Weight (lb
Cable Head-Titan 143 1 7/16" Titan Cable Head (1" Fish Top)	1.03	1.43	2.00
Centralizer-169 Titan Non-ADJ Titan 1 11/16" Non Adjustable Centralizer	2.17	2.88	22.00
SCBL-275 Probe w Temp New Mod (FW1 01) Probe Radii Bond Tool with Temperature	9.17	2.75	95.00
Centralizer-169 Titan Non-ADJ Titan 1 11/16" Non Adjustable Centralizer	2.17	2.88	22.00
GR_CCL-275 Probe GR-CCL Corrosion (F 12-24 Probe 2 3/4" Gamma Ray / CCL Corrosion Digital	4.54	2.75	60.00
Bullnose-Titan GO Pin Pressure Cap	0.27	1.38	1.00

Dataset: state 32-16.db: field/well/run1/pass4
Total length: 19.34 ft
Total weight: 202.00 lb
O.D.: 2.88 in

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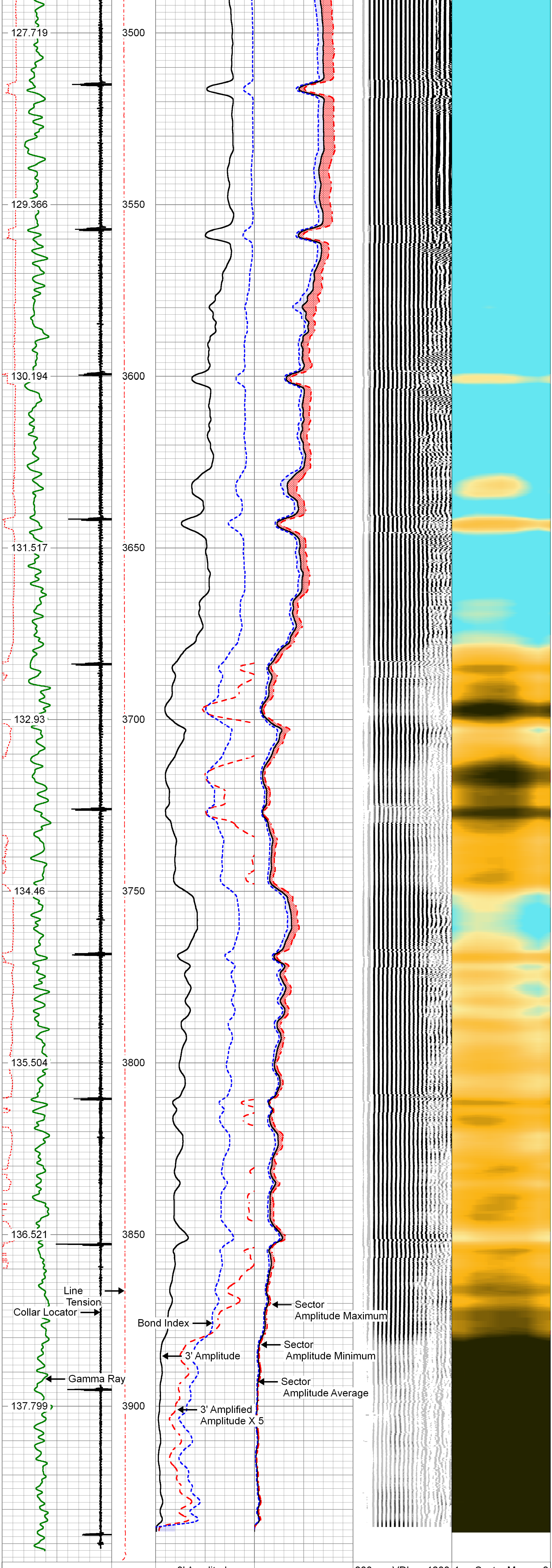
Main Pass

Zero Psi on Well

Database File	state 32-16.db
Dataset Pathname	pass4
Presentation Format	pinr_scbl
Dataset Creation	Mon Jul 18 08:19:01 2016
Charted by	Depth in Feet scaled 1:240

3' Travel Time 260 (usec) 160	Line Tension 0 (3000	3' Amplitude 0 (mV) 100	Sector Amplitude Average 0 150	200 VDL 1200	1 Sector Map 8 10 60
-9 Collar Locator 1		3' Amplified Amplitude X 5 0 (mV) 20	Sector Amplitude Maximum 0 150		
Gamma Ray 0 (GAPI) 200		Bond Index 1 0			
TEMP (degF)			Sector Amplitude Minimum 0 150		



3' Travel Time
260 (usec) 160
-9 Collar Locator 1
Gamma Ray
0 (GAPI) 200
TEMP
(degF)

Line Tension
0 (l3000

3' Amplitude
0 (mV) 100
3' Amplified Amplitude X 5
0 (mV) 20
1 Bond Index 0

Sector Amplitude Average
0 150
Sector Amplitude Maximum
0 150
Sector Amplitude Minimum
0 150

200 VDL 1200

1 Sector Map 8
10 60

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Repeat Pass

Zero Psi on Well

Database File	state 32-16.db
Dataset Pathname	pass3
Presentation Format	pinr_scbl
Dataset Creation	Mon Jul 18 08:11:59 2016
Charted by	Depth in Feet scaled 1:240

3' Travel Time
270 (usec) 170
-9 Collar Locator 1
Gamma Ray
0 (GAPI) 200
TEMP
(degF)

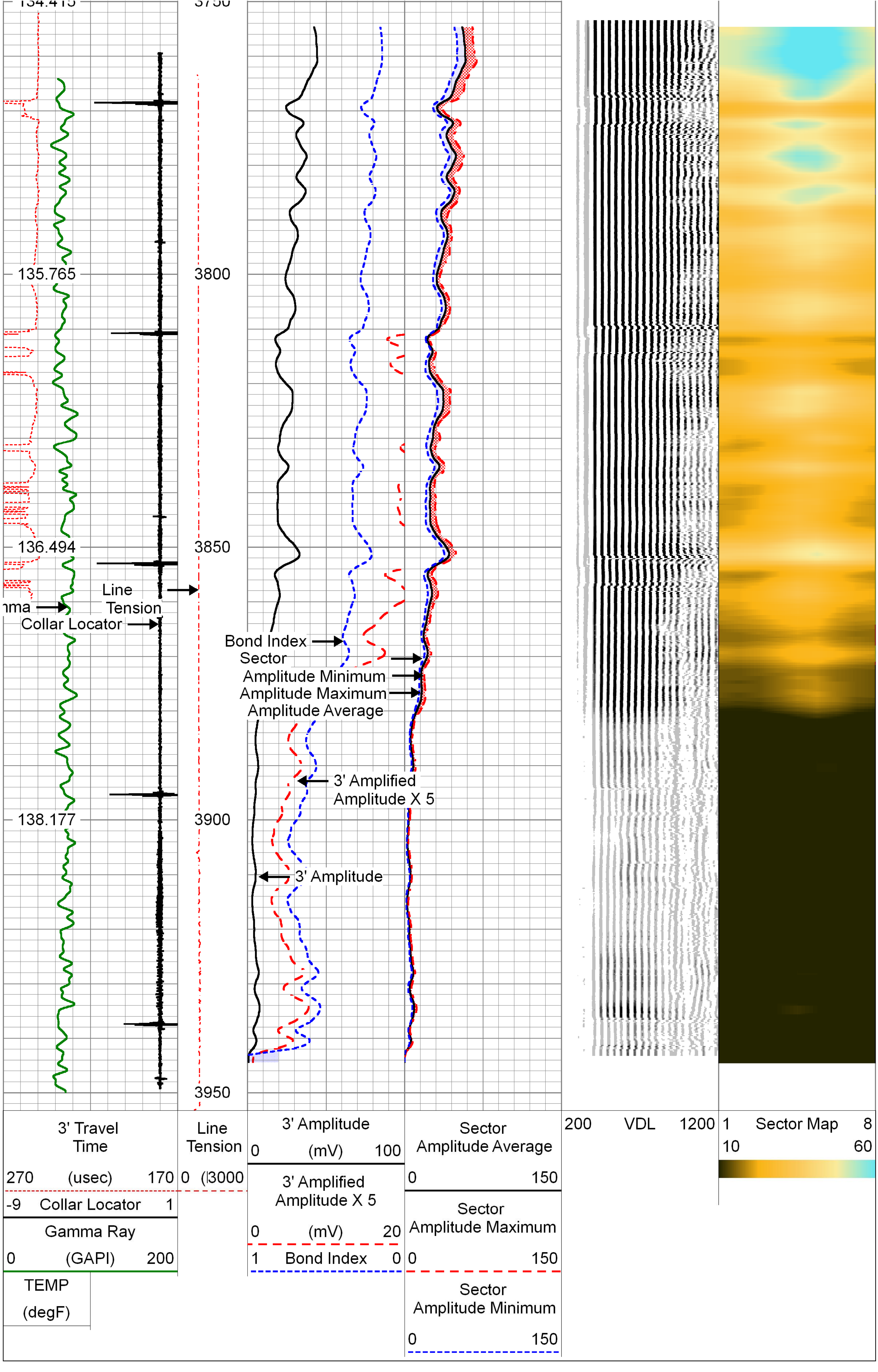
Line Tension
0 (l3000

3' Amplitude
0 (mV) 100
3' Amplified Amplitude X 5
0 (mV) 20
1 Bond Index 0

Sector Amplitude Average
0 150
Sector Amplitude Maximum
0 150
Sector Amplitude Minimum
0 150

200 VDL 1200

1 Sector Map 8
10 60



3' Travel Time
270 (usec) 170
-9 Collar Locator 1
Gamma Ray
0 (GAPI) 200
TEMP
(degF)

Line Tension
0 (l3000

3' Amplitude
0 (mV) 100
3' Amplified Amplitude X 5
0 (mV) 20
1 Bond Index 0

Sector Amplitude Average
0 150
Sector Amplitude Maximum
0 150
Sector Amplitude Minimum
0 150

200 VDL 1200

1 Sector Map 8
10 60

Log Variables

DatabaseC:\ProgramData\Warrior\Data\state 32-16.db
Dataset field/well/run1/pass4/_vars_

Top - Bottom

BHTEMP_Src	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	CASEWGHT lb/ft	MAXAMPL mV
TEMP	7.875	100	4.5	0	11.6	81.2
MINAMPL mV	MINATTN db/ft	PERFS	PPT usec	SRFTEMP degF	TDEPTH ft	
1	0.08	0	0	0	0	

Variable Description

BHTEMP_Src : BHTEMP Input Source Selector
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

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