BWWC
Black Warrior Wireline Corporation

SECTOR BOND LOG

Company ANTERO RESOURCES PICEANCE CORP.
Well NORCROSS A8
Field MAMM CREEK
County GARFIELD State CO

Location: API #: 050451517400
FSL 1366' FWL 1374'
SEC 13 TWP 6S RGE 93W

Other Services
NONE

Permanent Datum Elevation 5492'
Log Measured From KB
Drilling Measured From KB

Elevation
K.B.
D.F.
G.L. 5492

Company ANTERO RESOURCES PICEANCE CORP.
Well NORCROSS A8
Field MAMM CREEK
County GARFIELD
State CO

Date	07FEB 2008
Run Number	ONE
Depth Driller	8867'
Depth Logger	8797'
Bottom Logged Interval	8792'
Top Log Interval	SURFACE
Open Hole Size	7.875"
Type Fluid	H2O
Density / Viscosity	8.34#
Max. Recorded Temp.	223 F
Estimated Cement Top	
Time Well Ready	ROA
Time Logger on Bottom	
Equipment Number	1370
Location	GRANDJUNCTION
Recorded By	J.ARCHULETTA
Witnessed By	

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8.625"	24#	SURFACE	950'
Prot. String	5.5"	17#	SURFACE	8834'
Production String				
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

THANK YOU FOR USING WARRIOR ENERGY SERVICES

SHORT JOINTS

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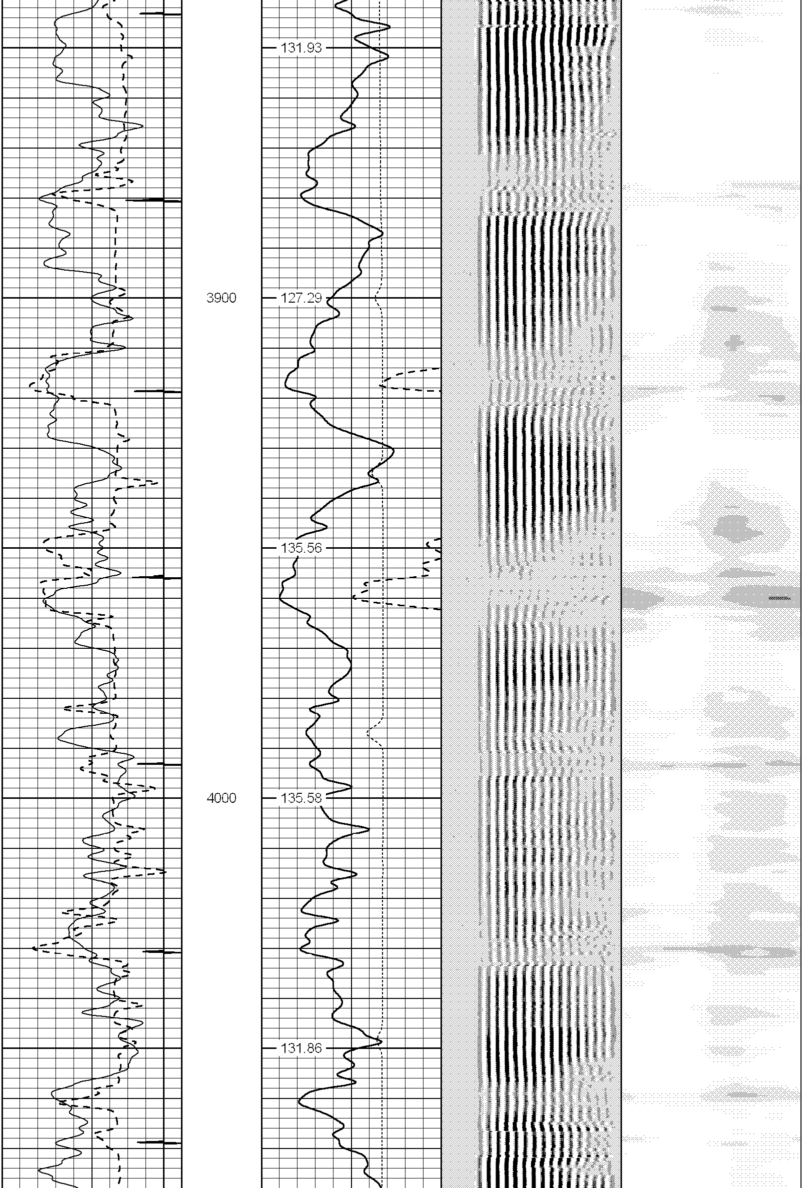
MAIN LOG PASS

Database File: mammcreek.db
Dataset Pathname: pass6.2
Presentation Format: 1scbtvad
Dataset Creation: Thu Feb 07 22:33:11 2008 by Calc Std Casedhole 06040
Charted by: Depth in Feet scaled 1:240

300 Travel Time (usec) 200
0 Gamma Ray (GAPI) 150
9 Casing Collar -1
0 AMP3FT (mV) 100
0 AMPX5 (mV) 20
0 TEMP (degF) 200
200 VDL 1200
1 VAD 8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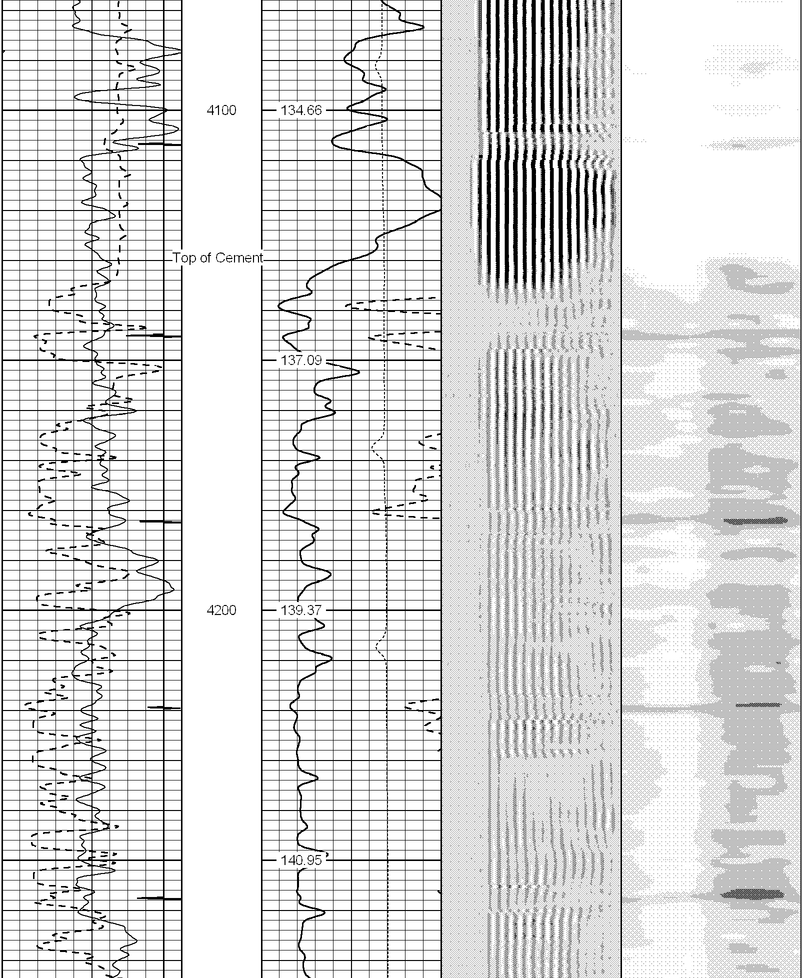
135.56
4000
135.58
131.86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Top of Cement
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4200
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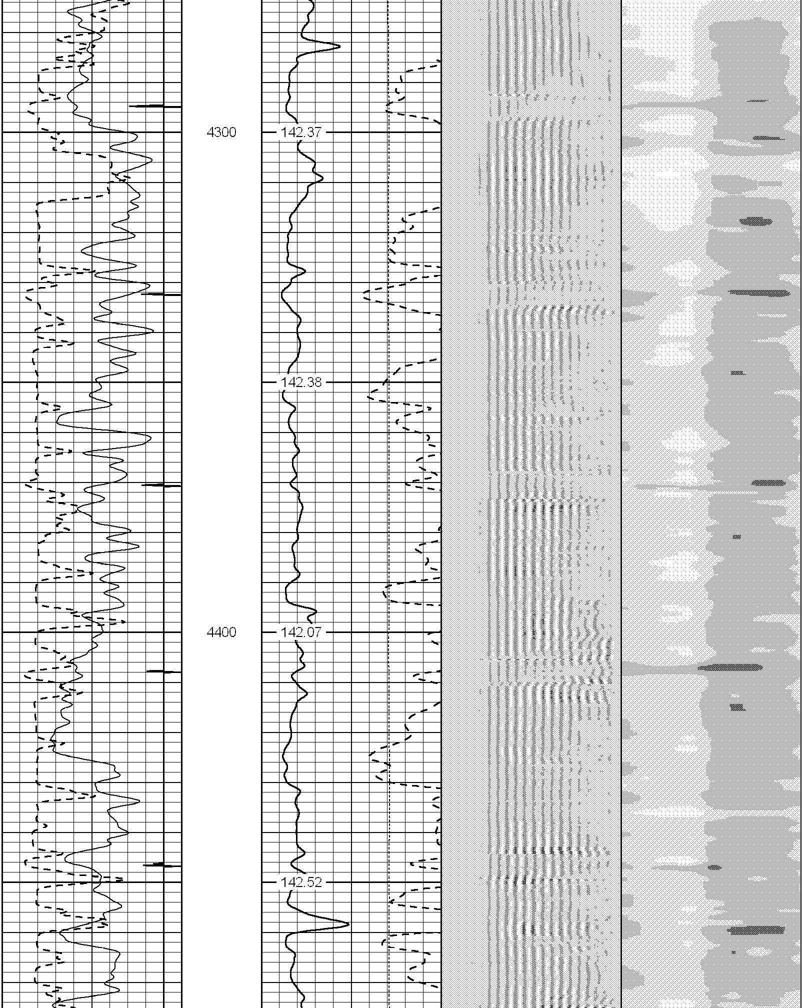
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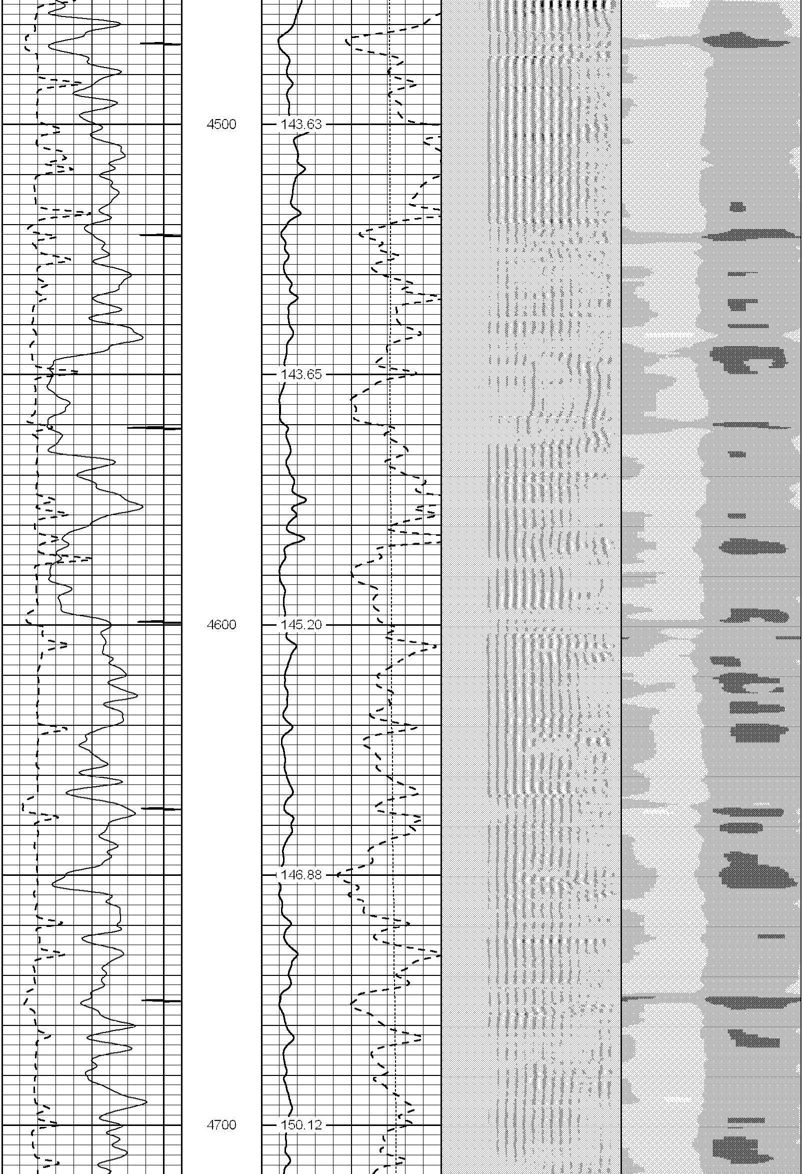
142.52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143.65
4600
145.20
146.88
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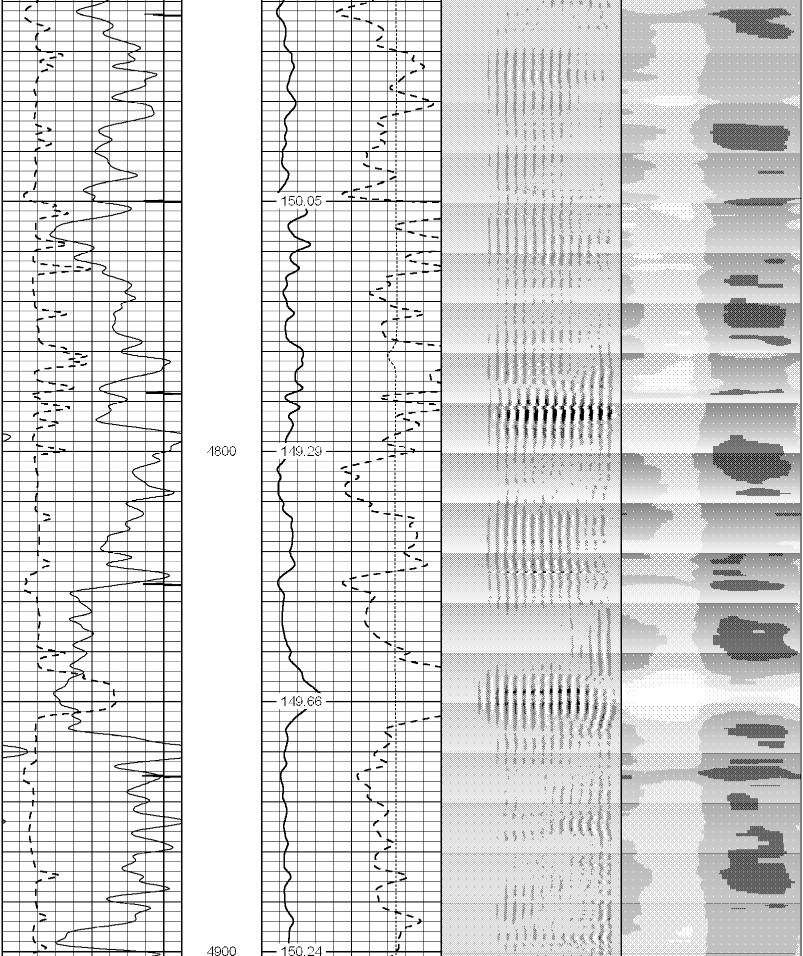
150.12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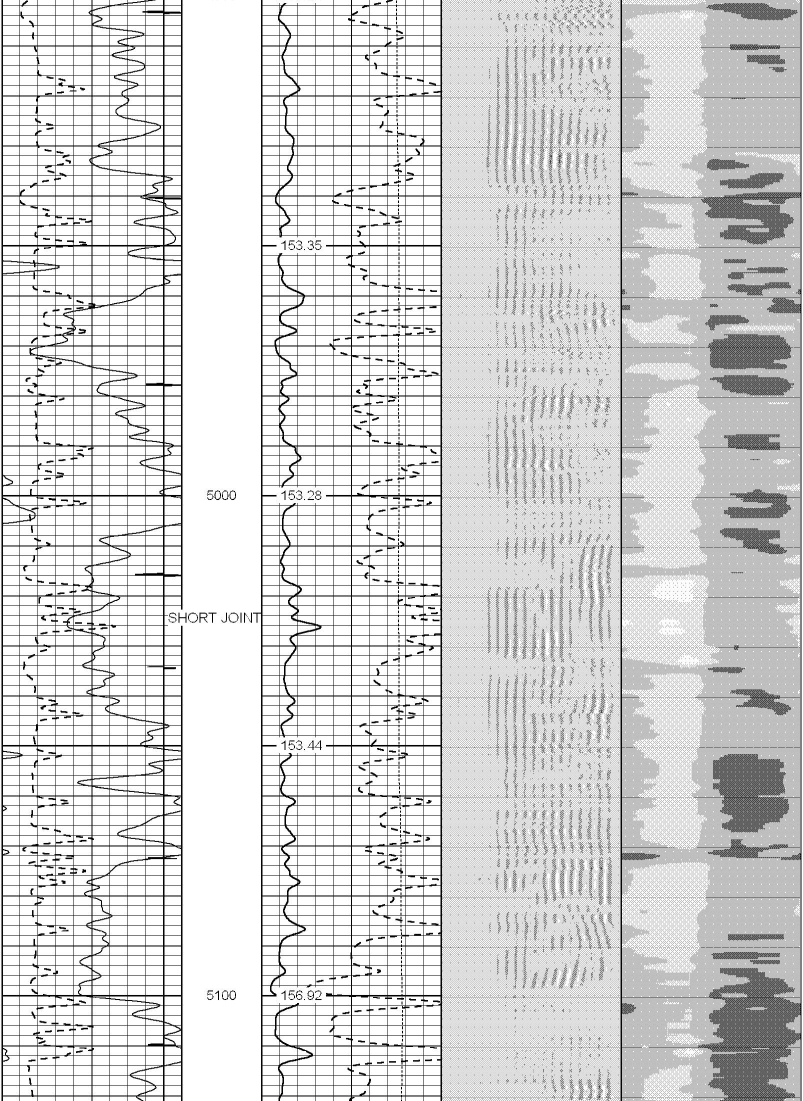
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5000
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SHORT JOINT
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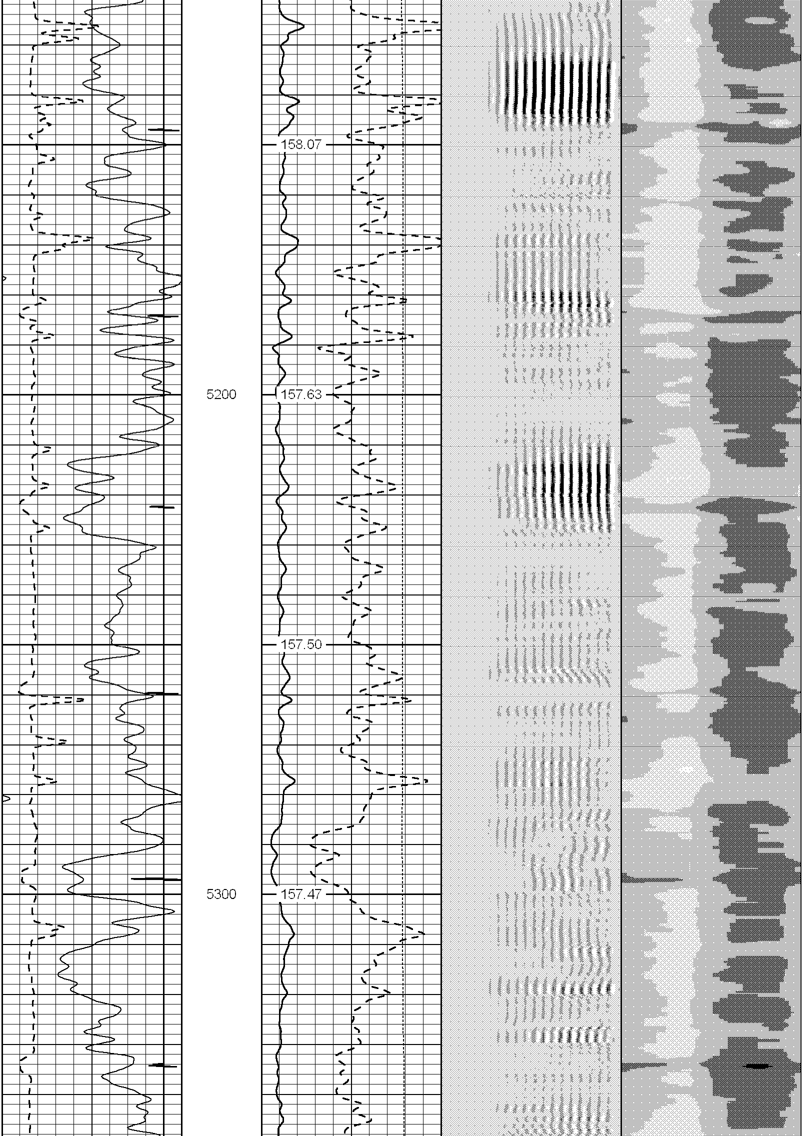
5100
156.92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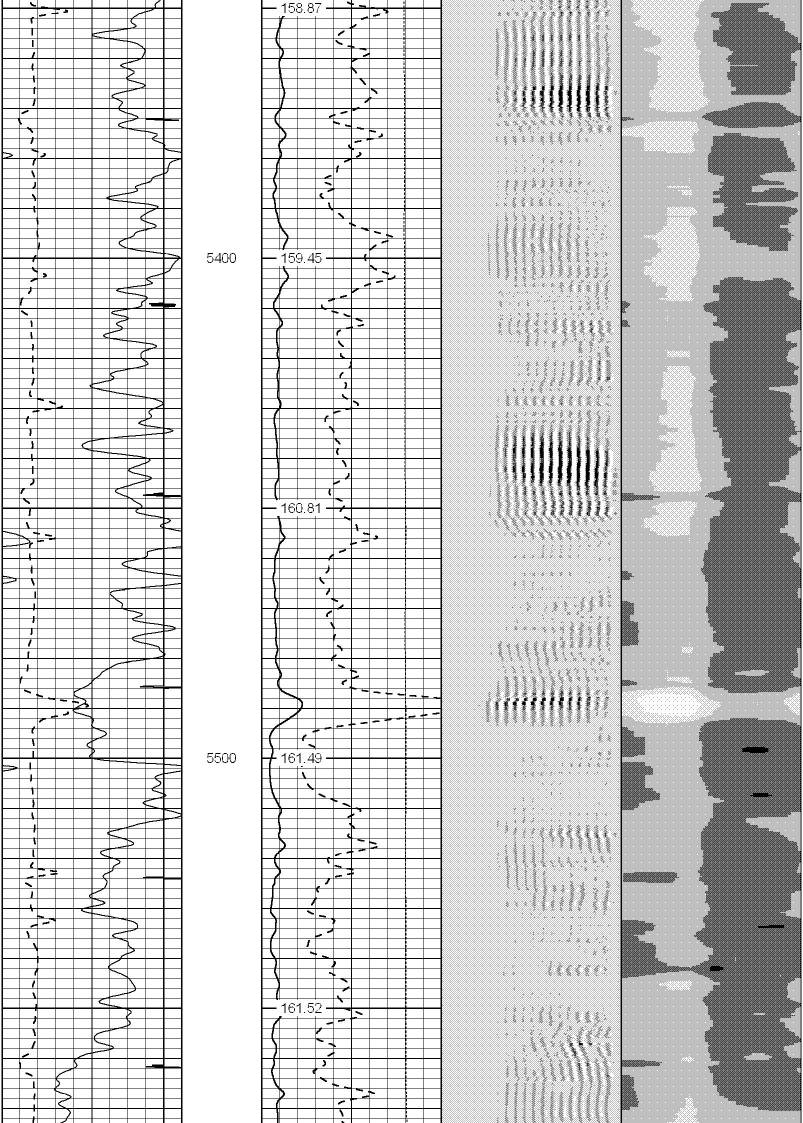
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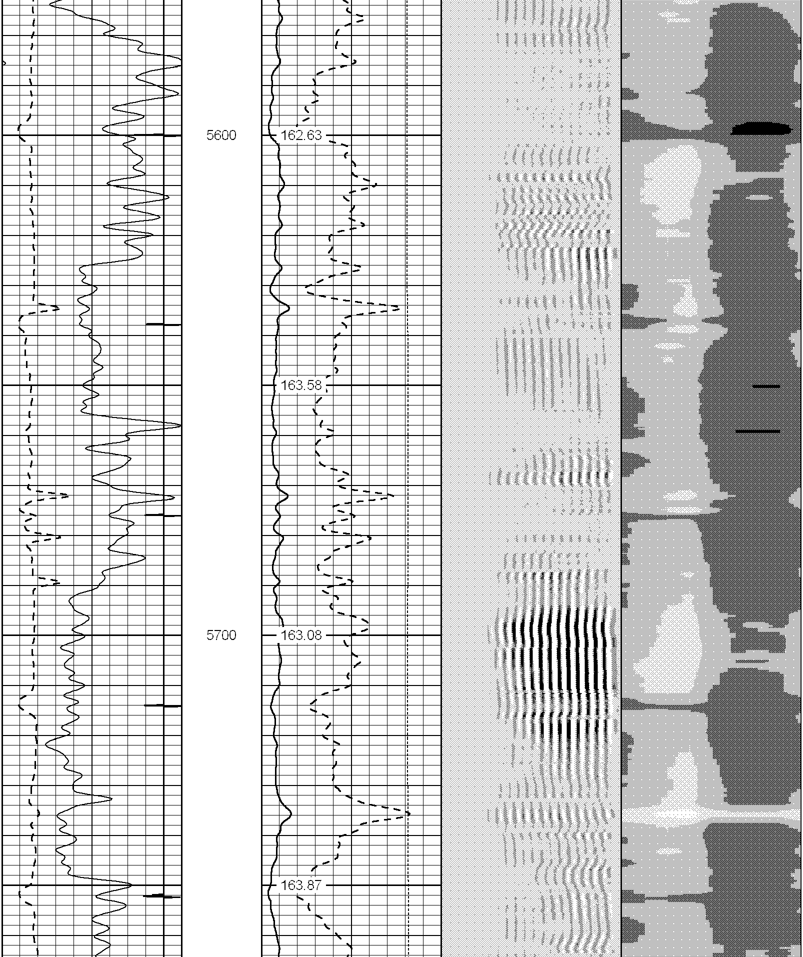
161.52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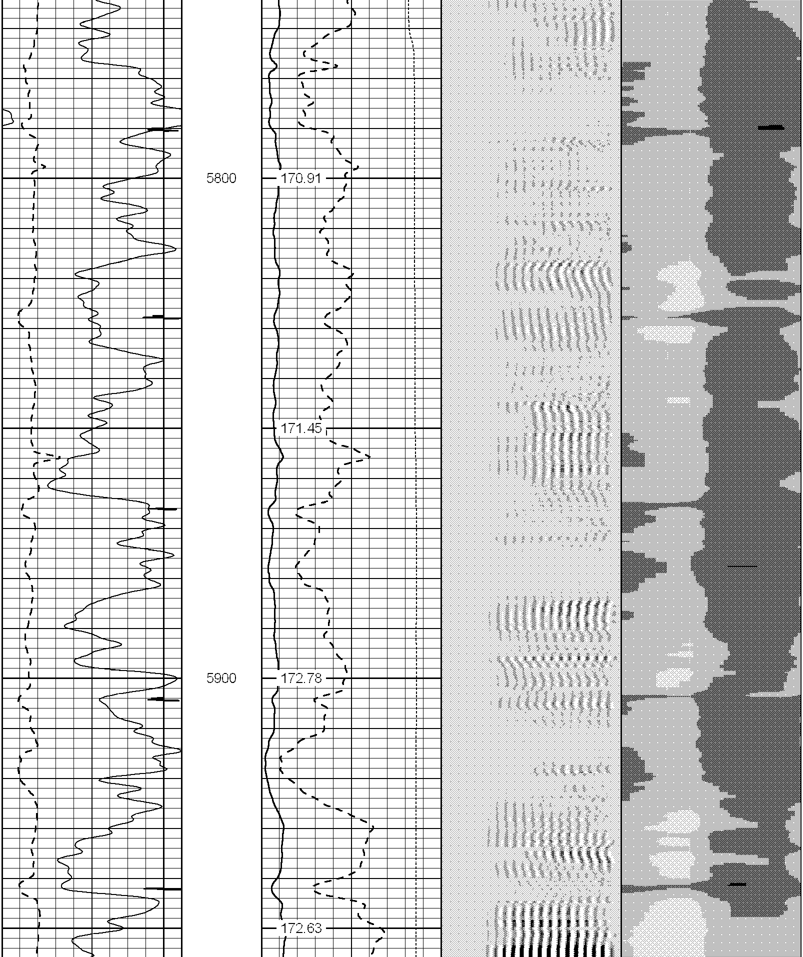
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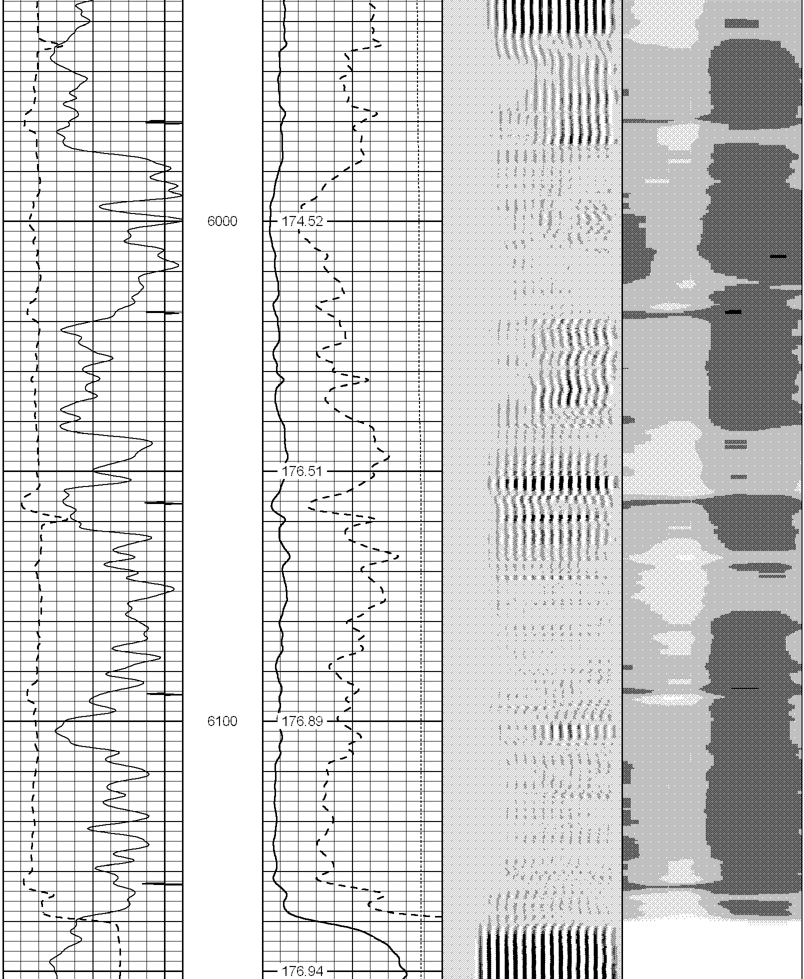
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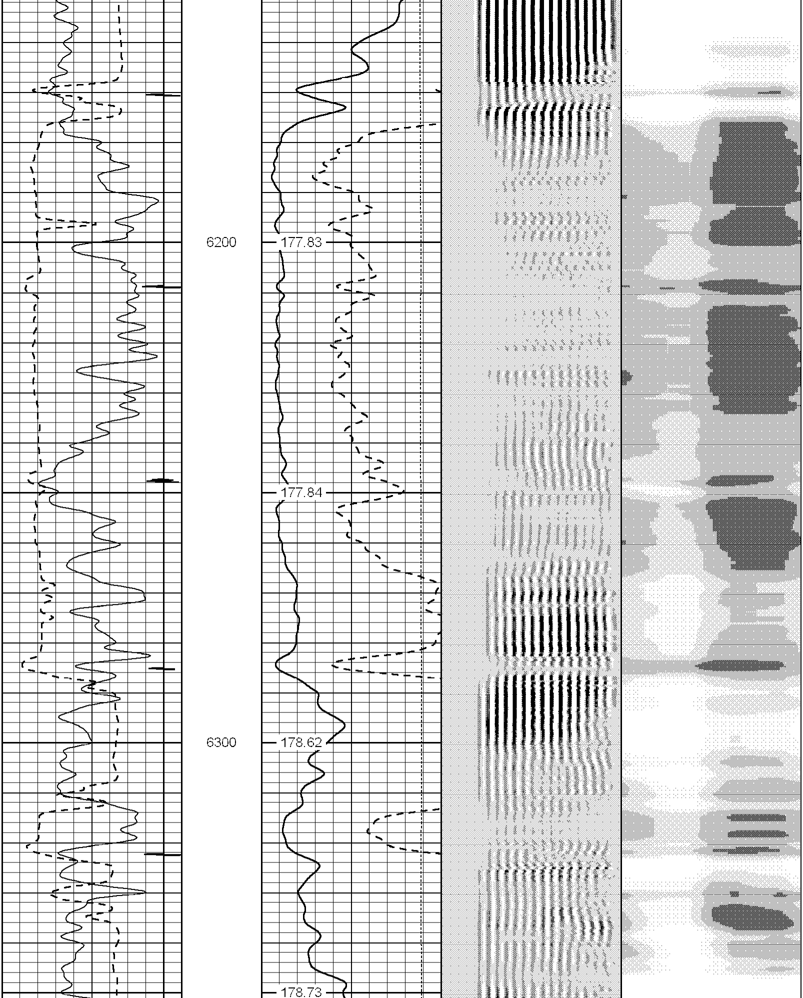
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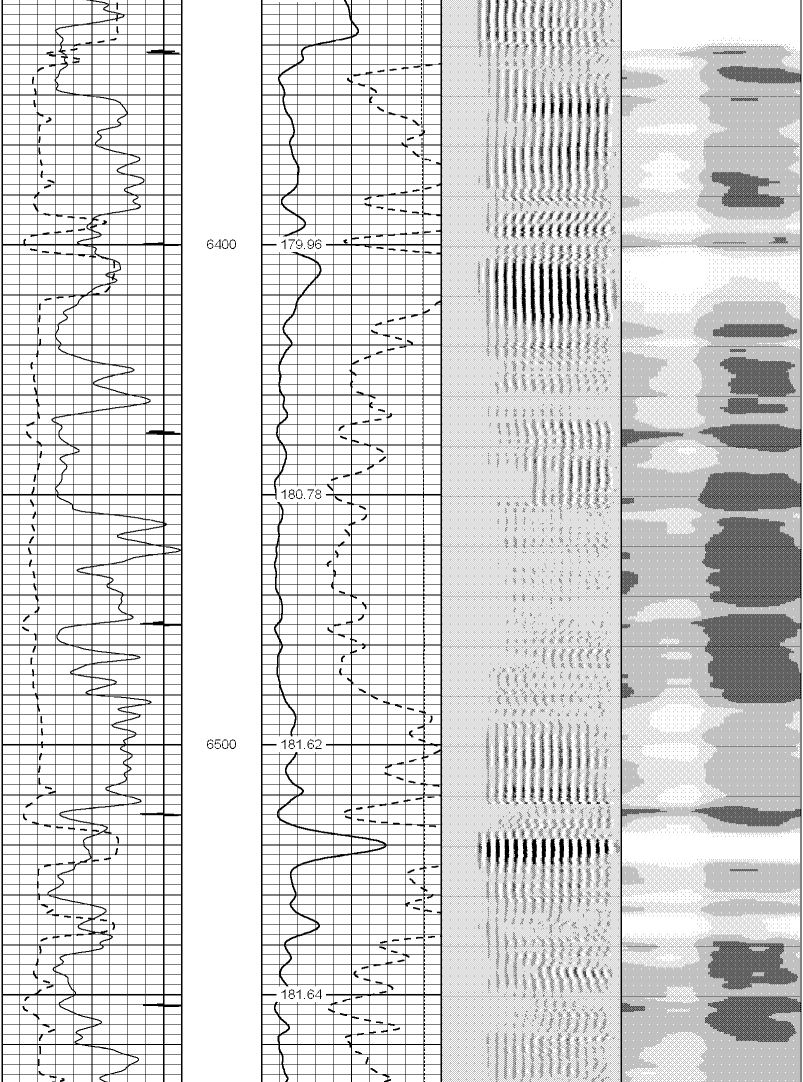
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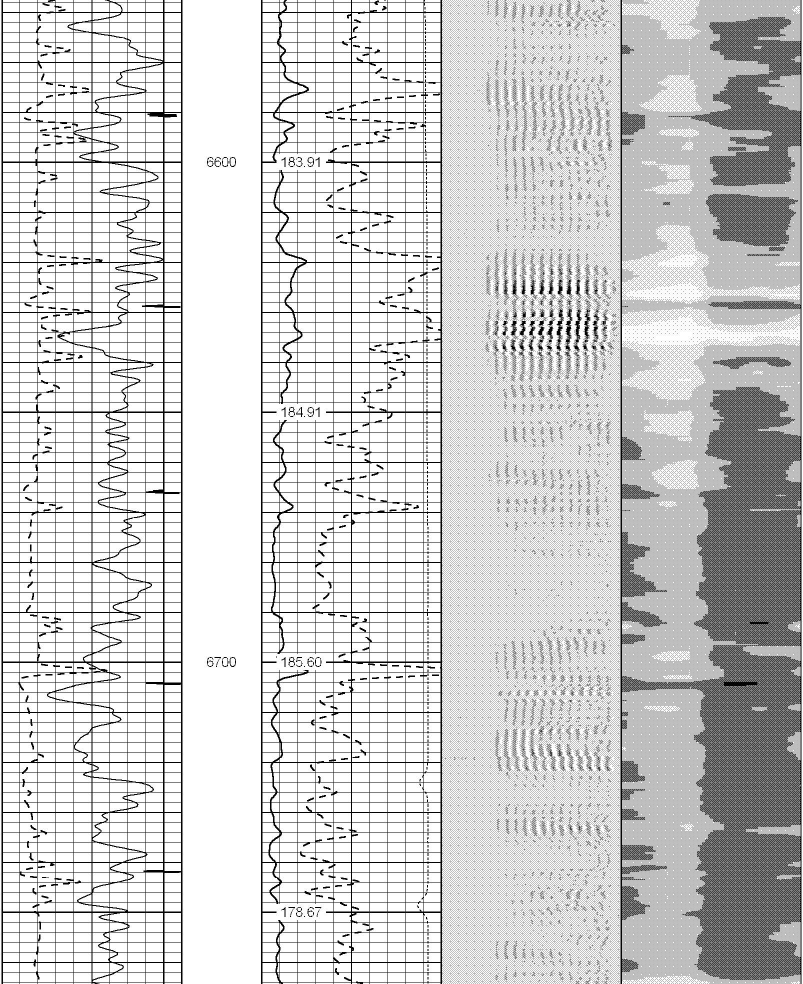
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6700
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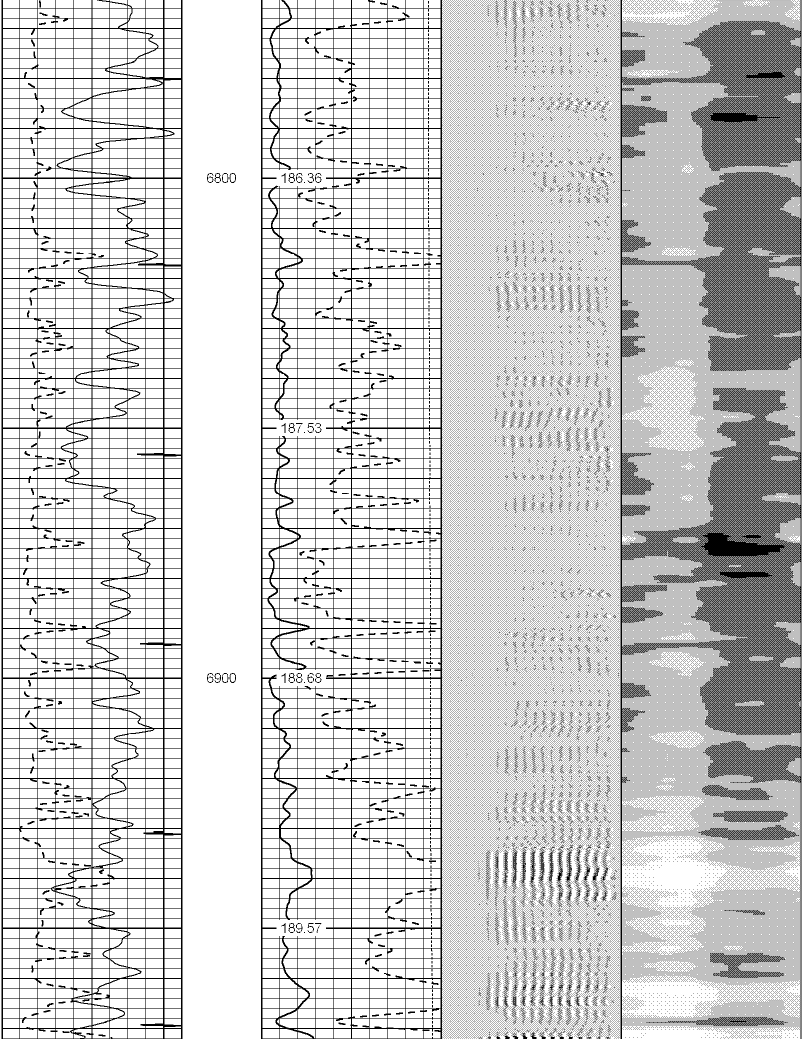
178.67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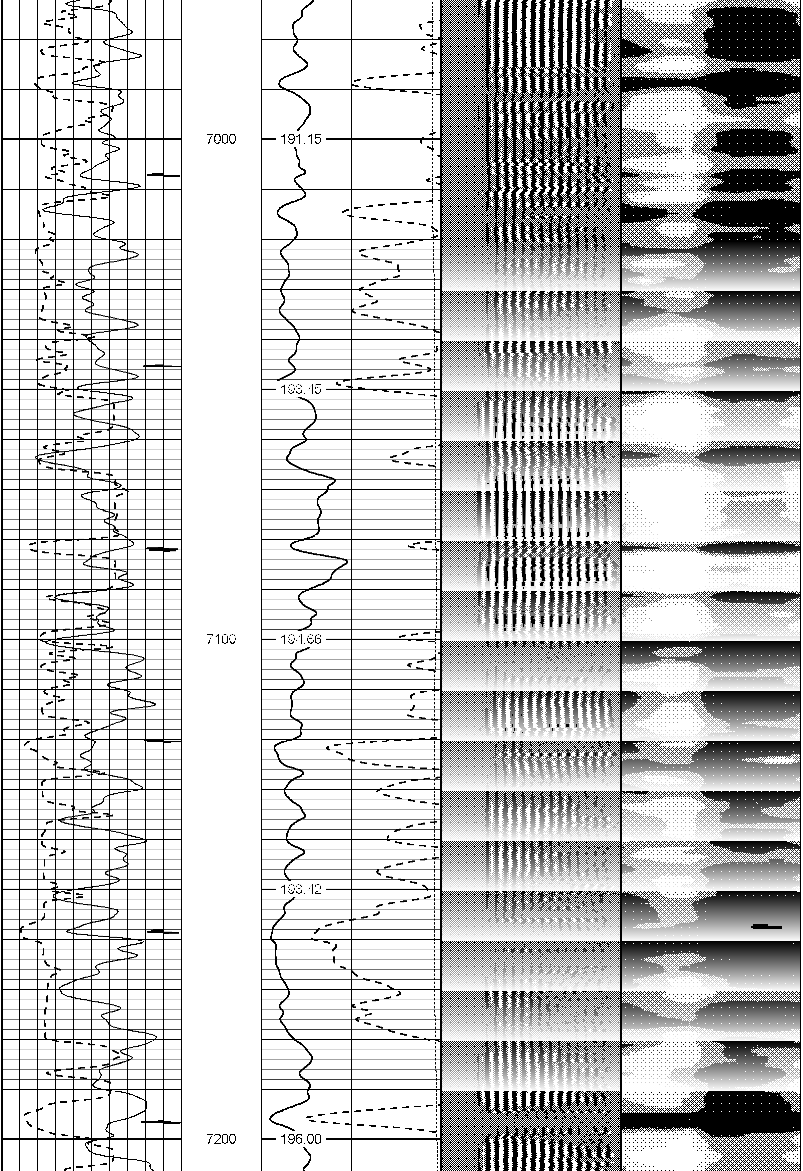
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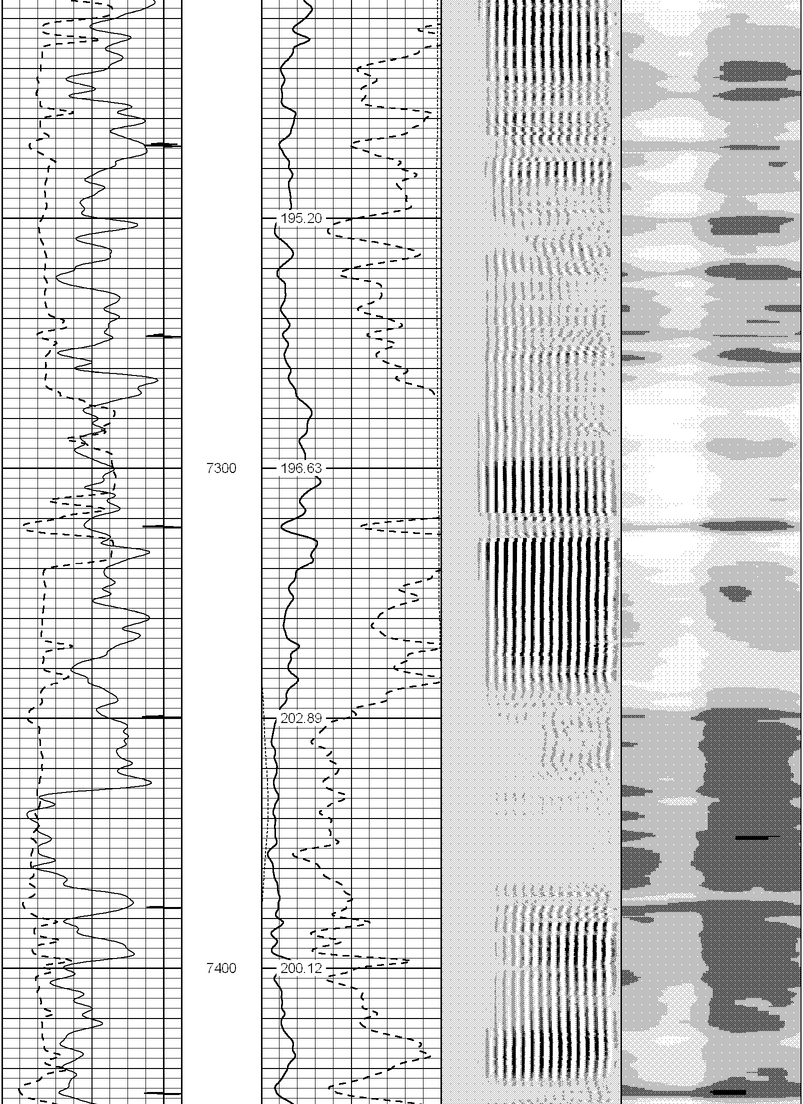
7200
196.00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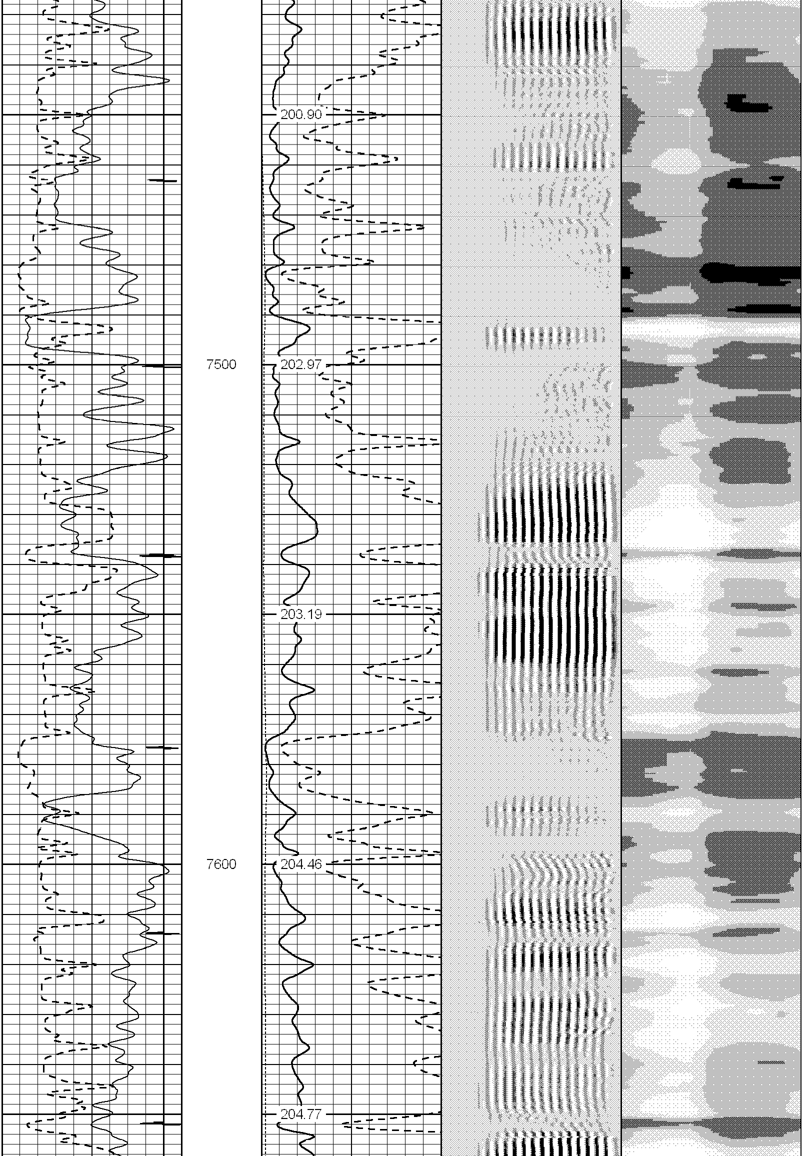
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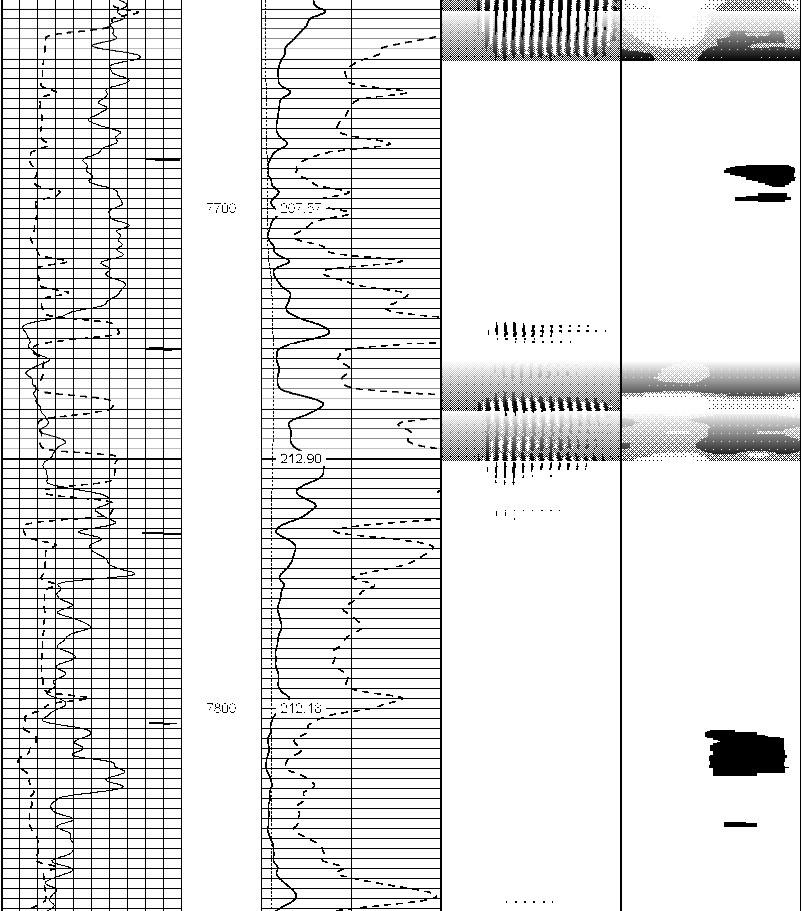
7700
207.57
212.90
7800
212.18

300 Travel Time (usec) 200	0 AMP3FT (mV) 100	200 VDL 1200	1 VAD 8
0 Gamma Ray (GAPI) 150	0 AMPX5 (mV) 20		
9 Casing Collar -1	0 TEMP (degF) 200		

BWWC
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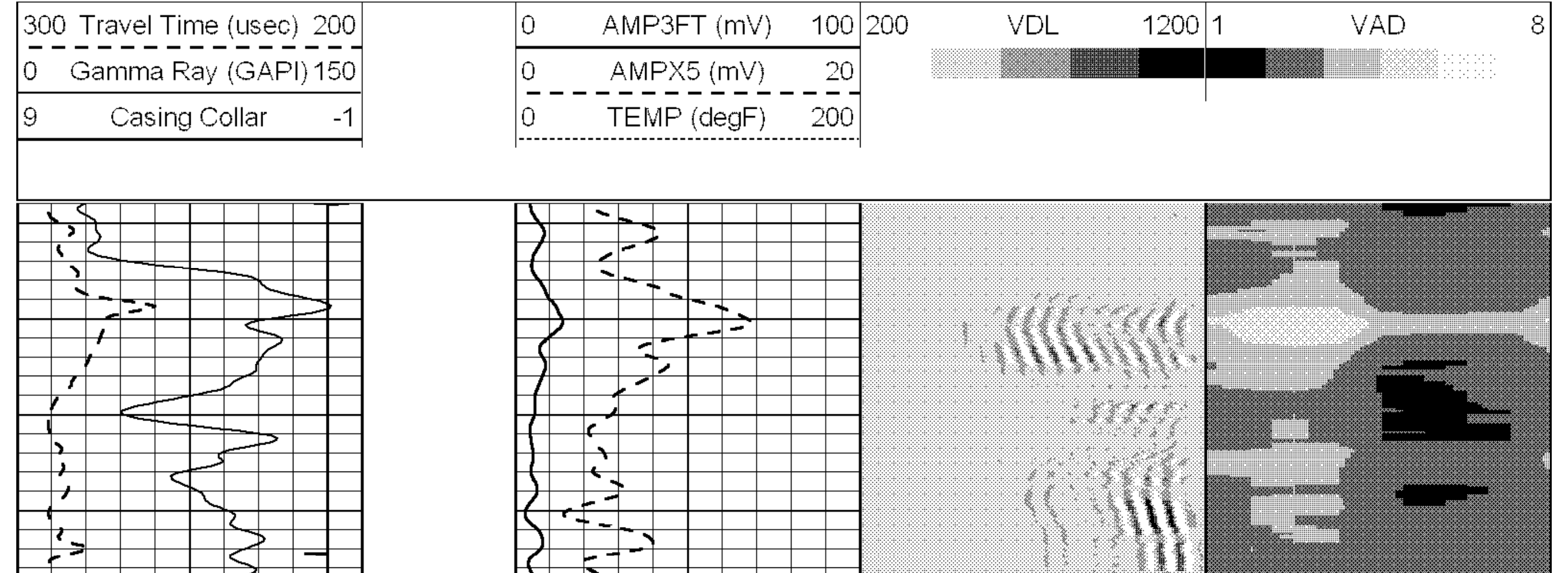
REPEAT MAIN PASS

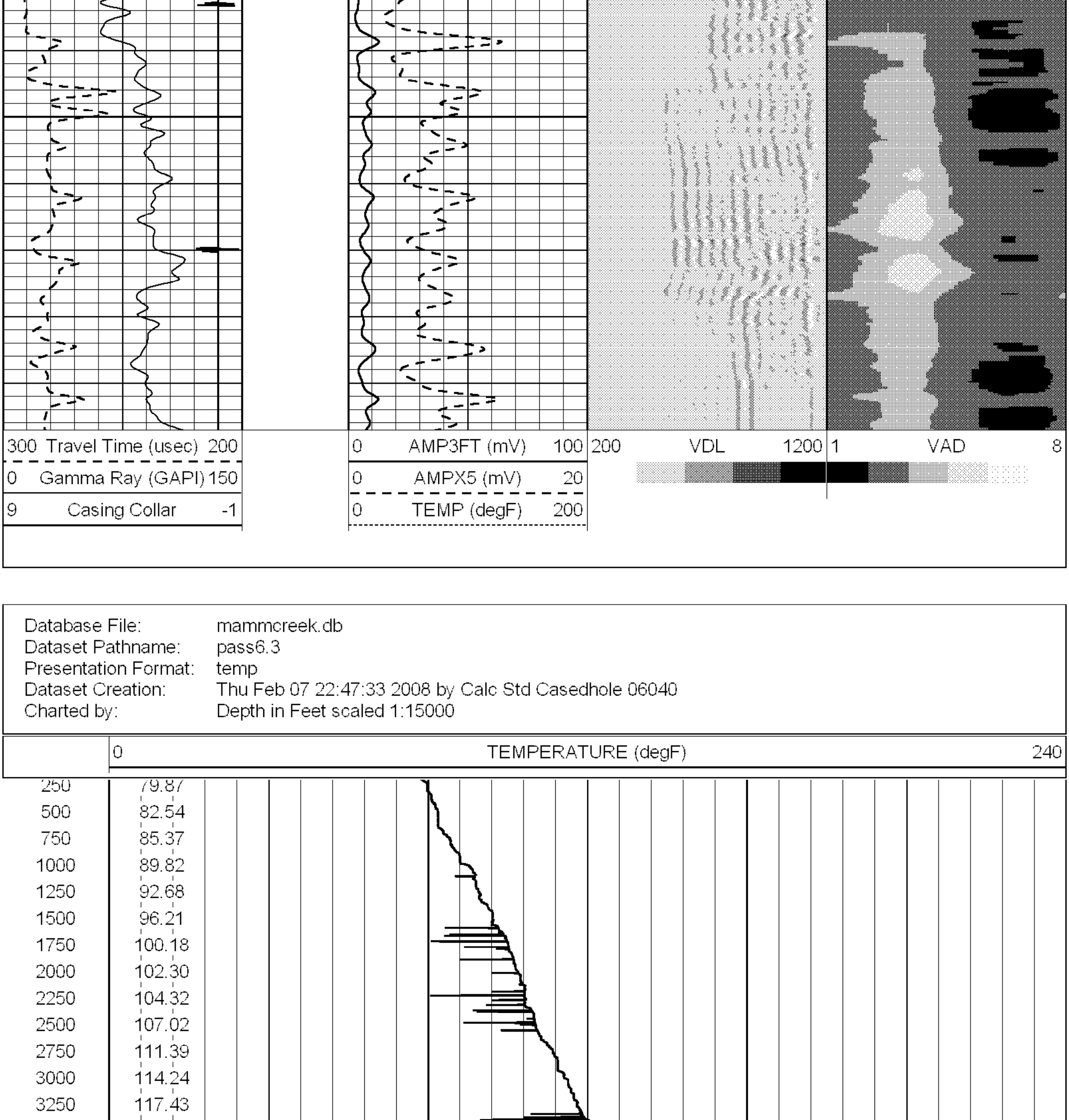
Database File: mammcreek.db
Dataset Pathname: pass5.1
Presentation Format: 1scbtvad
Dataset Creation: Thu Feb 07 22:44:00 2008 by Calc Std Casedhole 06040
Charted by: Depth in Feet scaled 1:240

300 Travel Time (usec) 200	0 AMP3FT (mV) 100	200 VDL 1200	1 VAD 8
0 Gamma Ray (GAPI) 150	0 AMPX5 (mV) 20		
9 Casing Collar -1	0 TEMP (degF) 200		

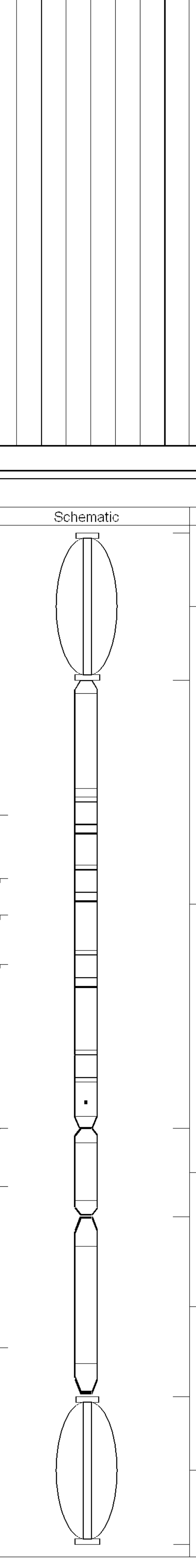


300 Travel Time (usec) 200	0 AMP3FT (mV) 100	200 VDL 1200	1 VAD 8
0 Gamma Ray (GAPI) 150	0 AMPX5 (mV) 20		
9 Casing Collar -1	0 TEMP (degF) 200		

Database File: mammcreek.db
Dataset Pathname: pass6.3
Presentation Format: temp
Dataset Creation: Thu Feb 07 22:47:33 2008 by Calc Std Casedhole 06040
Charted by: Depth in Feet scaled 1:15000



250	79.87
500	82.54
750	85.37
1000	89.82
1250	92.68
1500	96.21
1750	100.18
2000	102.30
2250	104.32
2500	107.02
2750	111.39
3000	114.24
3250	117.43
3500	120.82
3750	130.84
4000	135.58
4250	140.95
4500	143.63
4750	150.05
5000	153.28
5250	157.50
5500	161.49
5750	163.87
6000	174.52
6250	177.84
6500	181.62
6750	178.67
7000	191.15
7250	195.20
7500	202.97
7750	212.90
8000	213.02
8250	217.25
8500	219.93
8750	223.95



Sensor	Offset (ft)	Description	Len (ft)	OD (in)	Wt (lb)
		LTEC-1.68 LTEC Six Arm	3.00	1.69	15.00
TEMP	14.85				
WVFS1	13.56				
WVFS2	13.56				
WVFS3	13.56				
WVFS4	13.56	SCBL100T-Tekco100T (100T-002)	9.13	0.00	
WVFS5	13.56				
WVFS6	13.56				
WVFS7	13.56				
WVFS8	13.56				
WVF3FT	12.81				
WVFCAL	12.81				
WVF5FT	11.81				
WVFTEMP	8.47				
WVFSYNC	8.47				
CCL	7.29	CCL-Tekco105 (105-003)	1.81	2.75	15.00
		GR-Tekco110 (110-004)	3.66	2.75	25.00
GR	4.00				
		LTEC-1.68 LTEC Six Arm	3.00	1.69	15.00

Dataset: mammcreek.db: field/well/run1/pass6.3
Total Length: 20.60 ft
Total Weight: 70.00 lb
O.D. 2.75 in