HALLIBURTON

ACOUSTIC CEMENT BOND LOG

Company	KINDER MORGAN CO2 CO LP.
Well	HE #6
Field	McELMO
County	MONTEZUMA State CO

Company KINDER MORGAN CO2 CO LP.
Well HE #6
Field McELMO
County MONTEZUMA State CO

API No.: 05-083-06700-0000 Serv #: 900561955
Location: SURFACE HOLE LOCATION:
0275' FNL & 0010' FWL

Other Services
GAUGE RING
CAST-M

Sec: 01 Twp: 37N Rge: 19W

Permanent Datum	GROUND LEVEL	Elevation	6475'	Elevation
Log Measured From	KB	26 Ft. above perm. datum		K.B. 6501' D.F. 6500' G.L. 6475'
Drilling Measured From	KB			

Date @ Time Logged	04 JULY 2013	Type Fluid in Hole	WATER
Run No.	ONE	Density of Fluid	8.34#
Depth - Driller	N/A	Fluid Level	FULL
Depth - Logger	8110'	Cement Top Est. Logged	SEE LOG
Bottom - Logged Interval	8110'	Equipment / Location	10971668 / G.J.
Top - Log Interval	SURFACE	Recorded by	D. SOLIS
Max. Recorded Temp.	174 DEG F	Witnessed by	C. HESSER

CEMENTING DATA	Surface String	Protection String	Production String	Liner
Date / Time Cemented	N/A	N/A	N/A	N/A
Primary / Squeeze				
Expected Compressive Strength	psi@ hrs	psi@ hrs	psi@ hrs	psi@ hrs
Cement Volume	/	/	/	/
Cement Type / Weight	/	/	/	/
Formulation	/	/	/	/
Mud Type / Mud Wgt.	/			

Borehole Record			Casing & Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	12.25"	SURFACE	2997'	9.625"	36.0#	SURFACE	2997'
TWO	8.75"	2997'	8186'	7.0"	29 & 32#	SURFACE	8186'

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HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

Comments

NO LOGS AVAILABLE TO CORRELATE WITH.

GR-CBL-CAST RAN IN COMBINATION.

LOG INTERVALS PER CUSTOMER REQUEST.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.

Service Ticket No.	900561955	API No.	05-083-06700-0000	PGM Ver	12.7.23001_R2	

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

TELEMETRY		CEMENT BOND LOG		CAST-M INSTRUMENT		CAST-M MANDREL	
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	11510512	Serial No.	11817843	Serial No.	11510755	Serial No.	438_756
Model No.	TTTC-U-002	Model No.	CBL-M	Model No.	CAST-M	Model No.	CAST-M
Diameter	1.688"	Diameter	2.75"	Diameter	2.75"	Diameter	3.125"

LOGGING DATA

General Data

Pass No.	Depths From	Depths To	Well Head Pressure	Speed Ft/Min	Logging Run Comments
ONE	8110'	SURFACE	0	55	MAIN LOG SECTION

Pass	GAMMA RAY Scale		TRAVEL TIME Scale		AMPLITUDE Scale		MSG Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200	440	240	0	100	200	1160

DIRECTIONAL INFORMATION

Maximum Deviation	N/A	deg. @	N/A	KOP	N/A

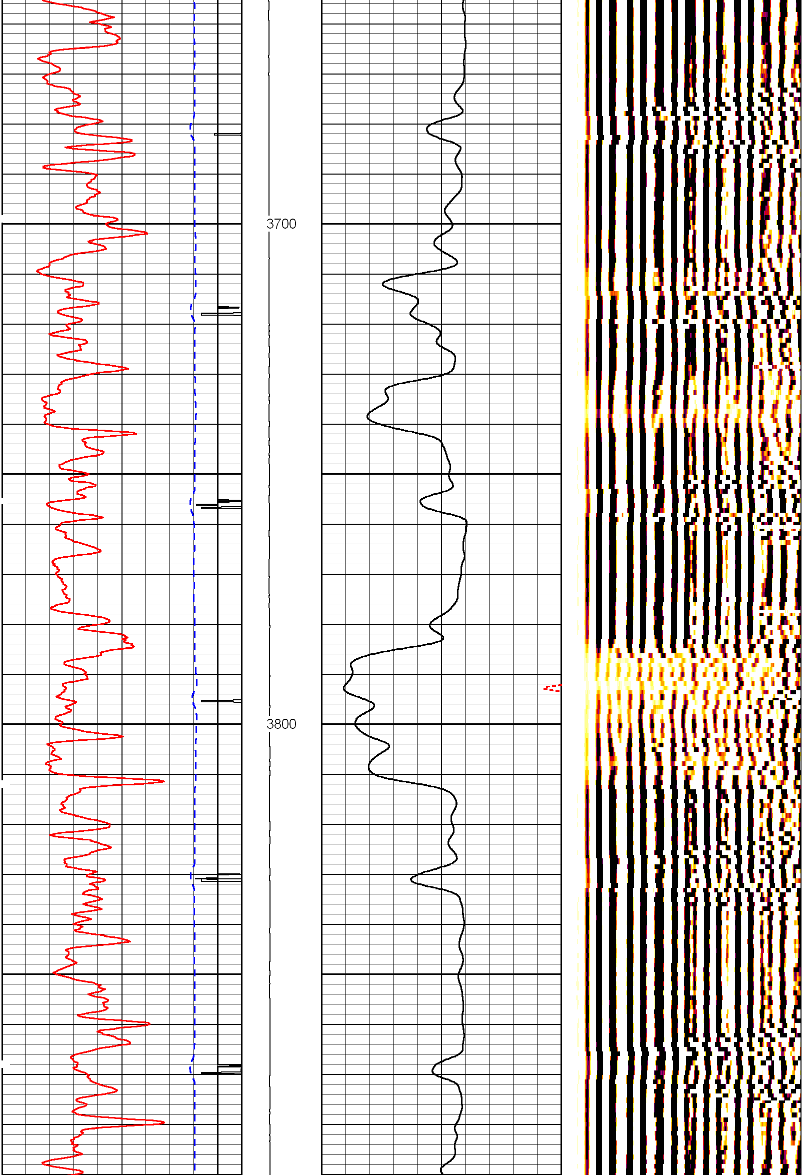
HALLIBURTON

MAIN LOG SECTION

5" = 100'

Database File: he6_cast.db
Dataset Pathname: MAIN2
Presentation Format: hcbl
Dataset Creation: Thu Jul 04 05:04:08 2013 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

440 3' Travel Time (usec) 240	LTEN	0 Amplitude (mV) 100	200 MSG 1160
-540 CCL 60	0 (lb) 3000	0 Amplified Amplitude (mV) 10	10 500
0 Gamma Ray (GAPI) 200			
4 ACCL 0.4			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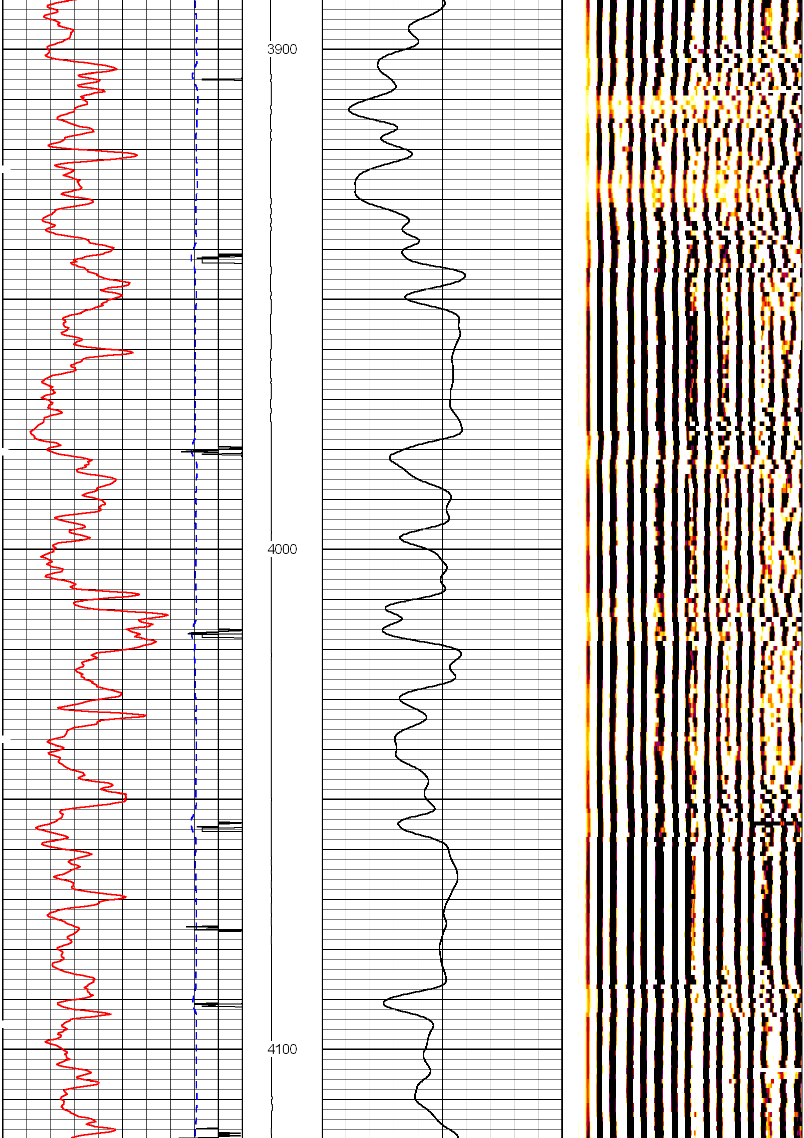
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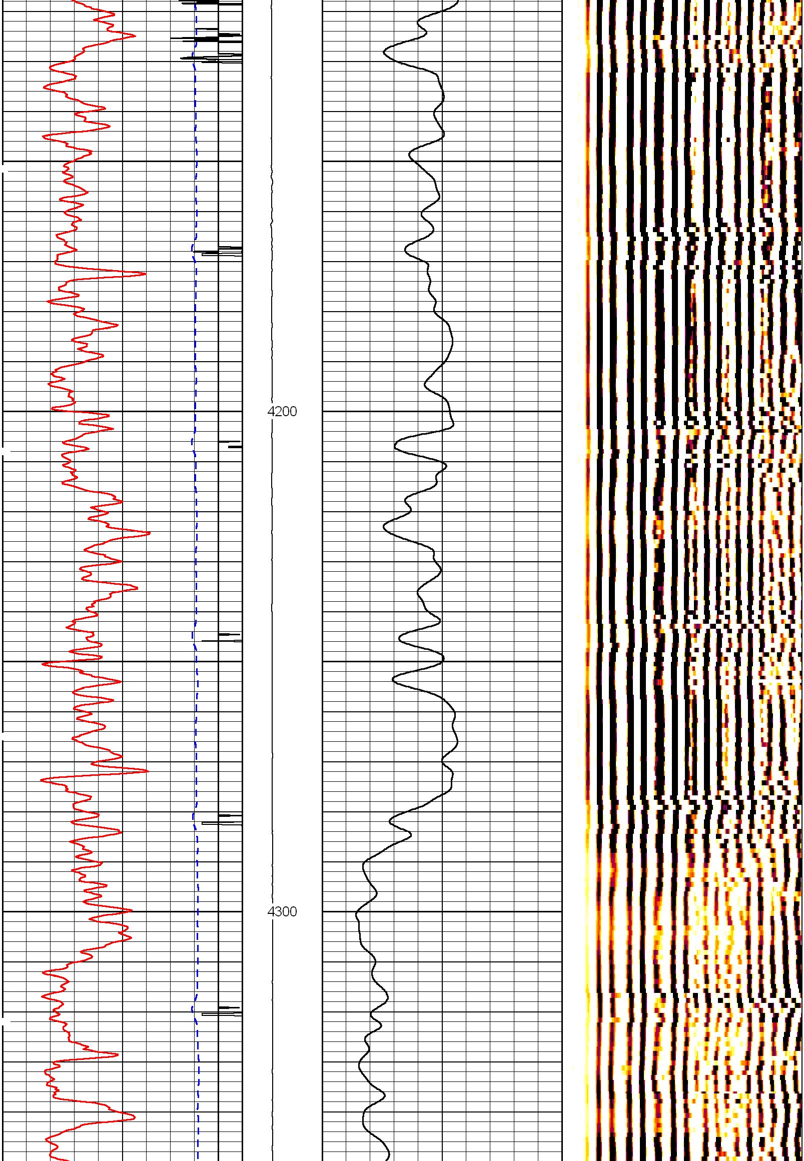
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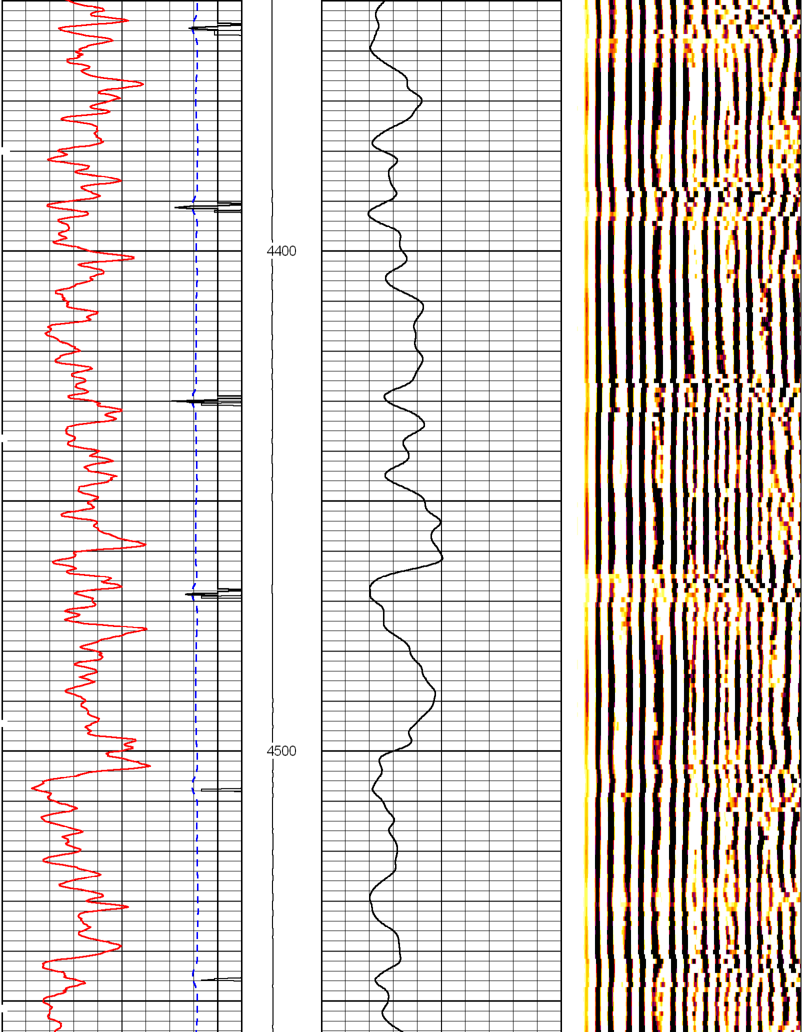

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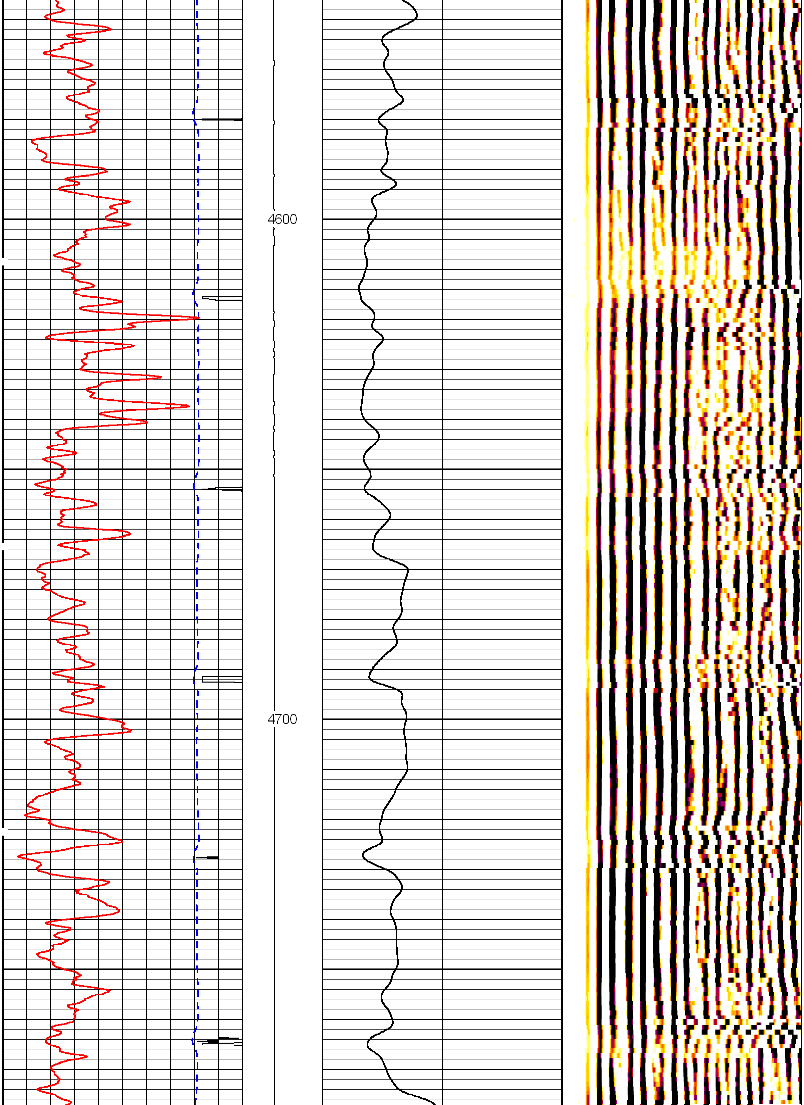
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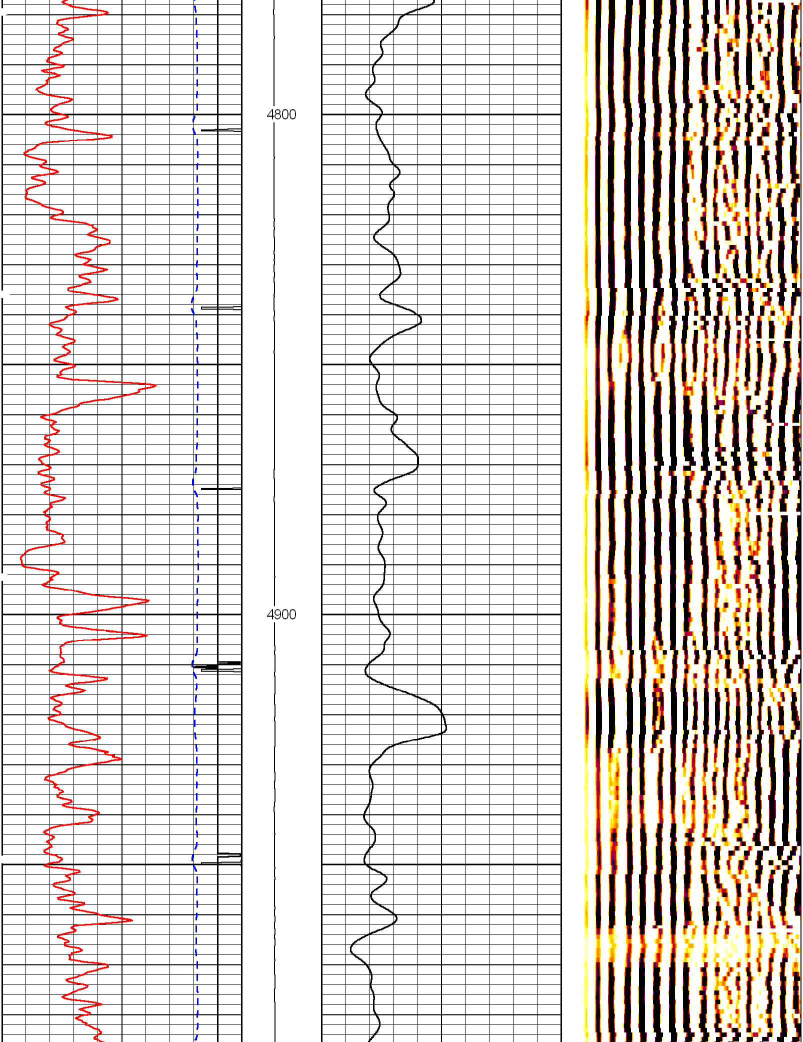
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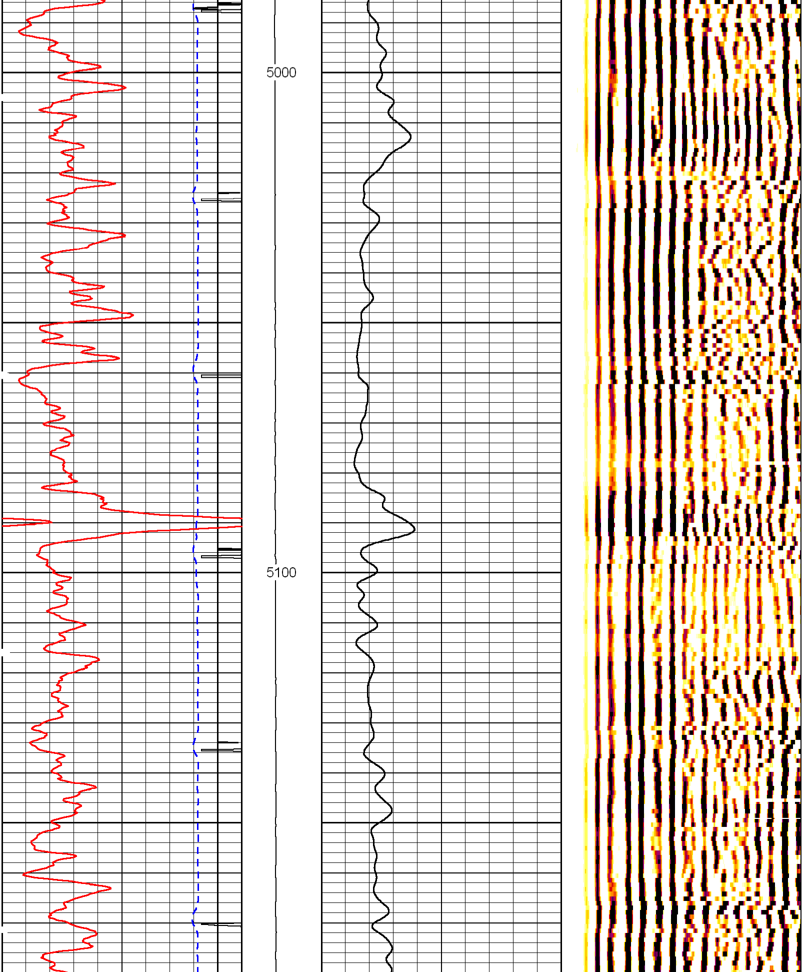
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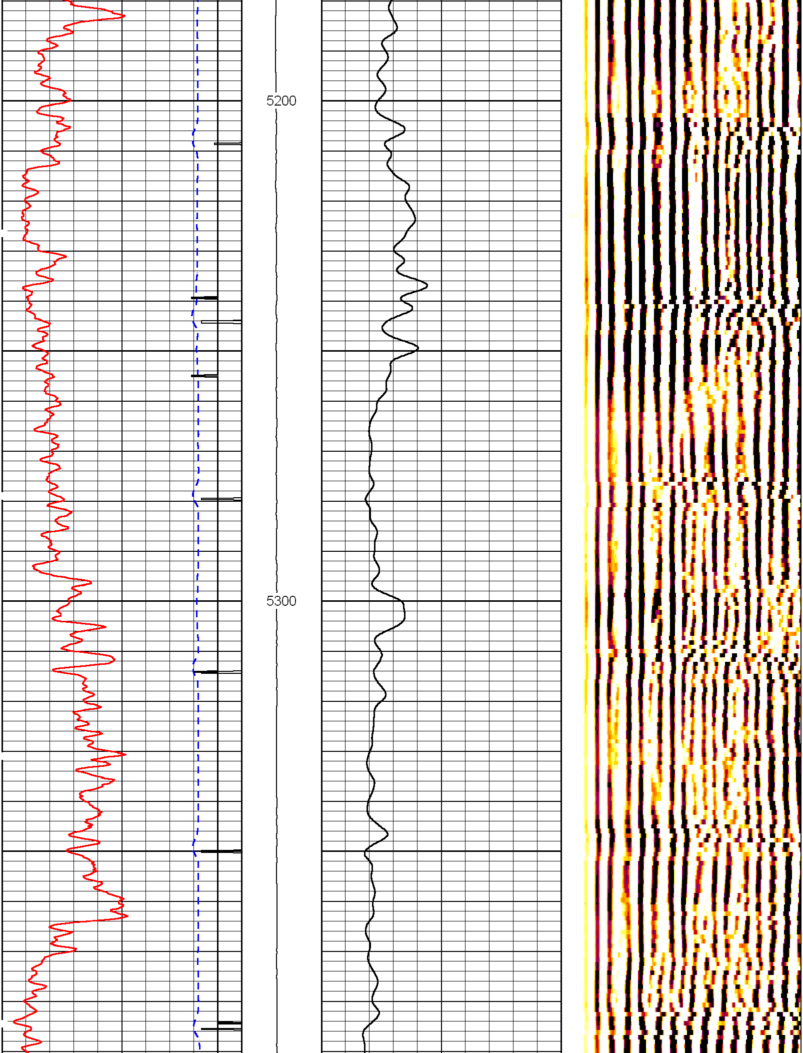
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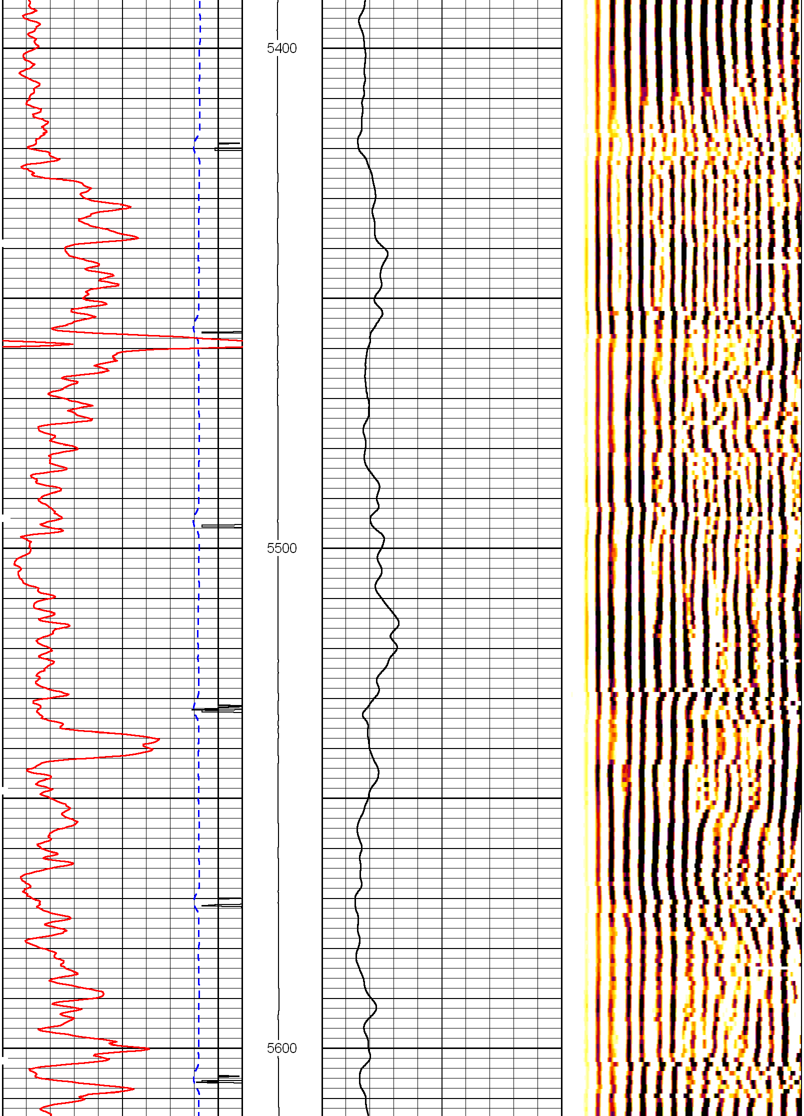
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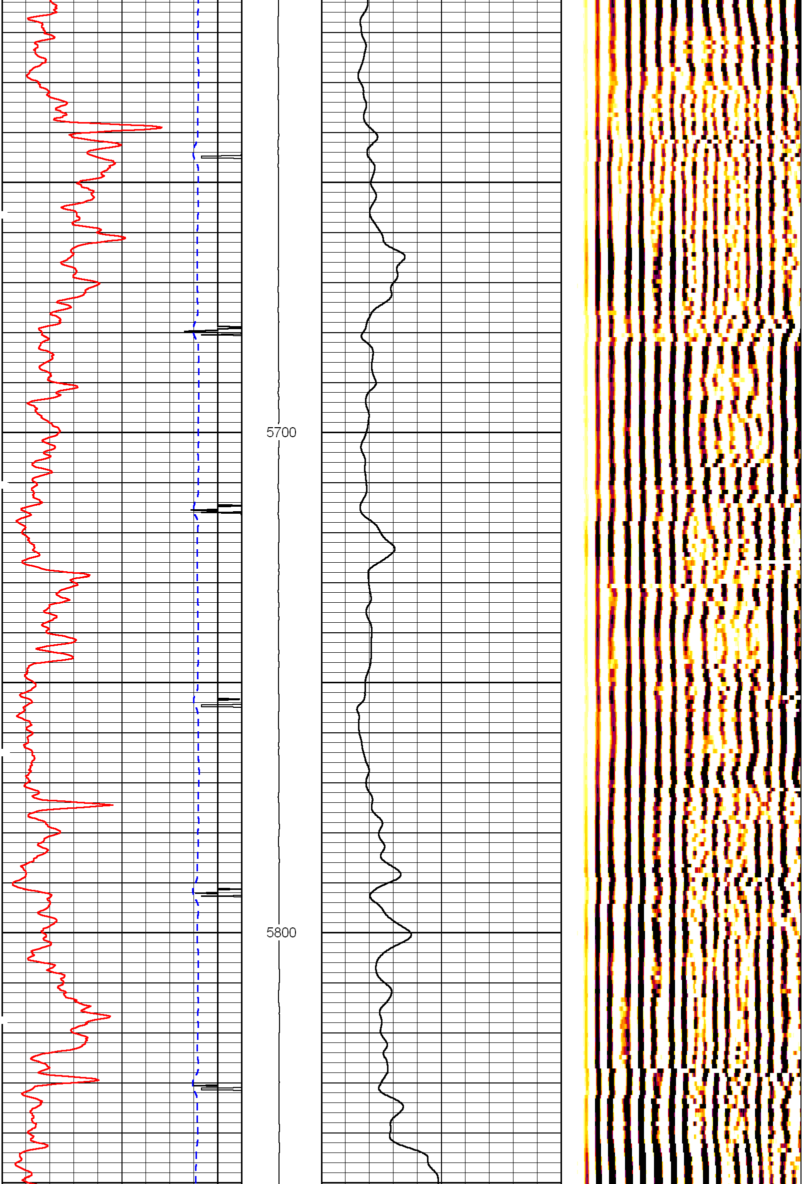
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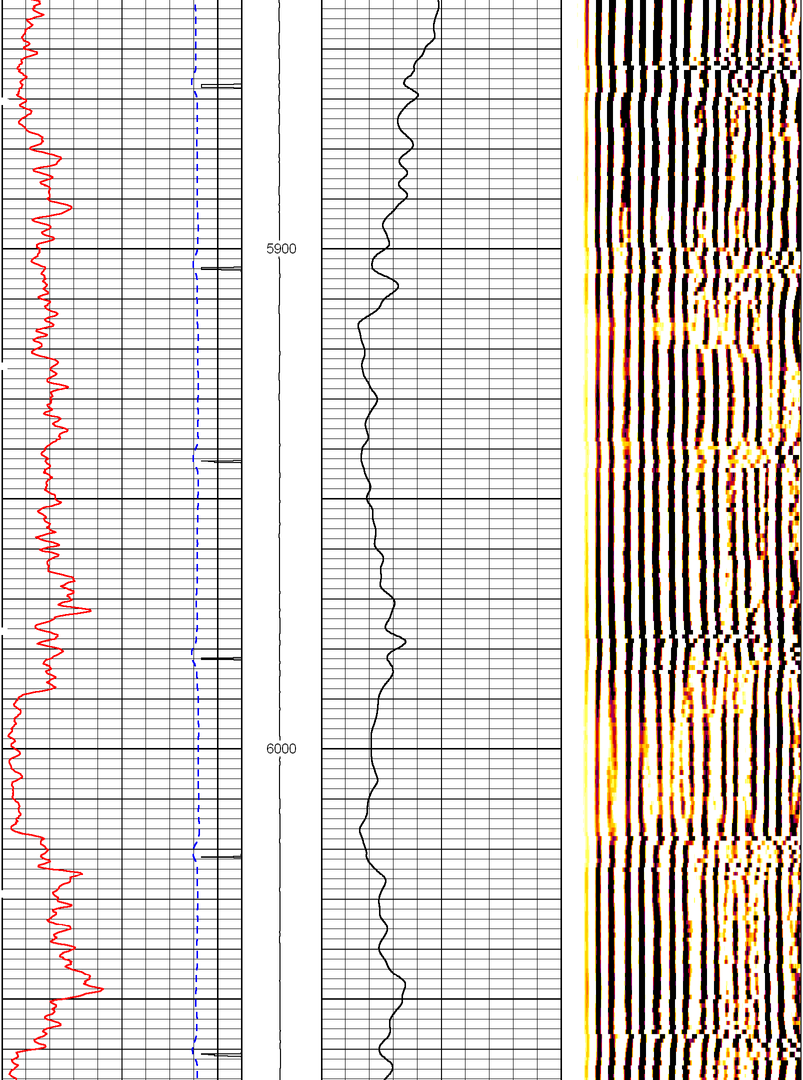
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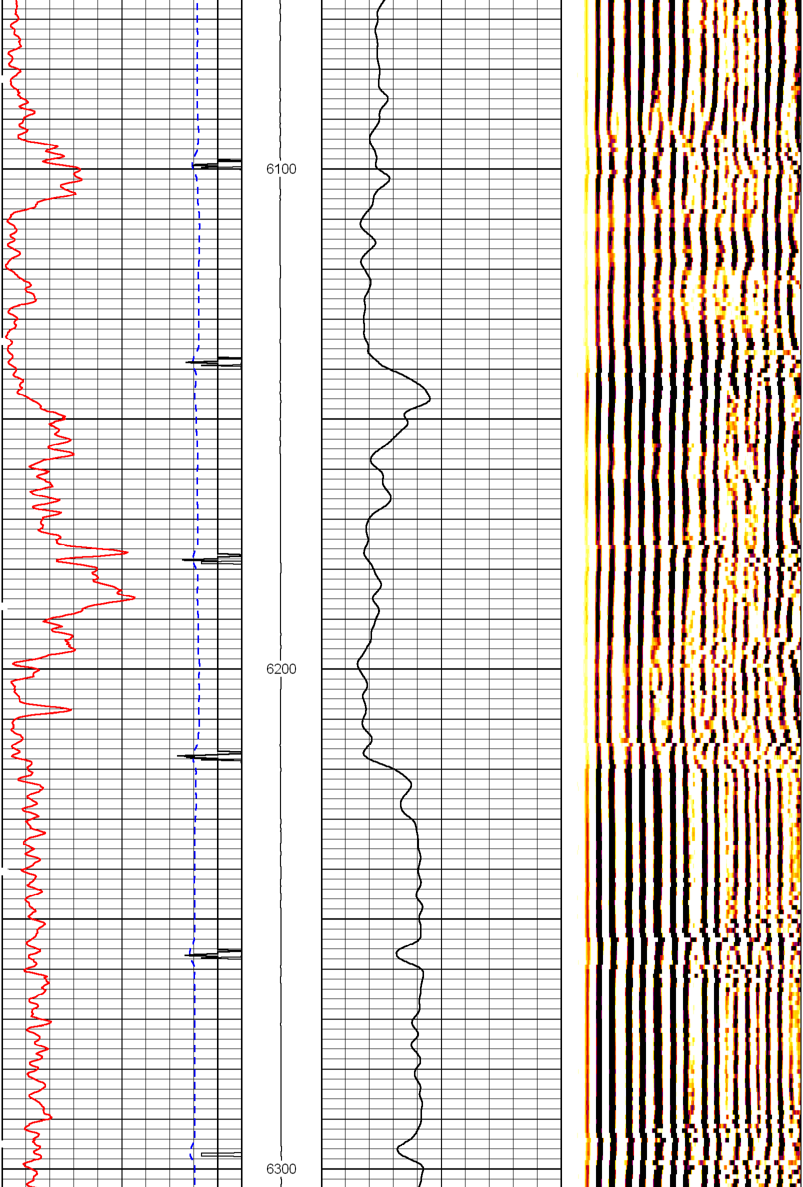
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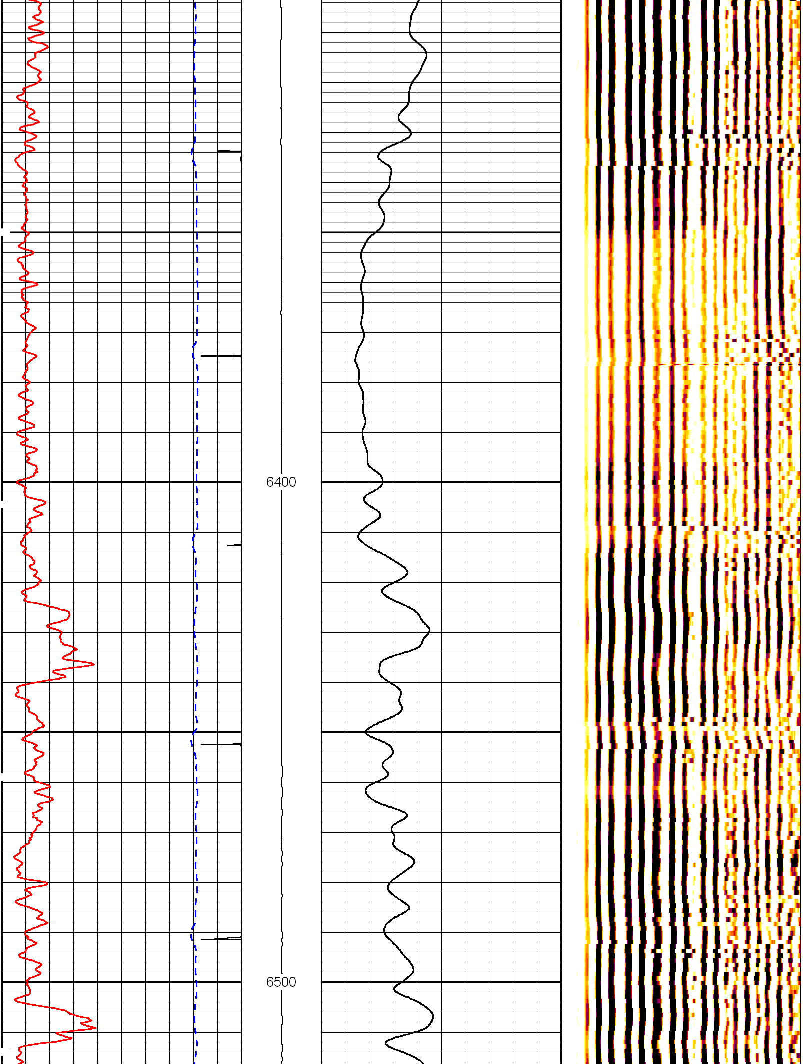
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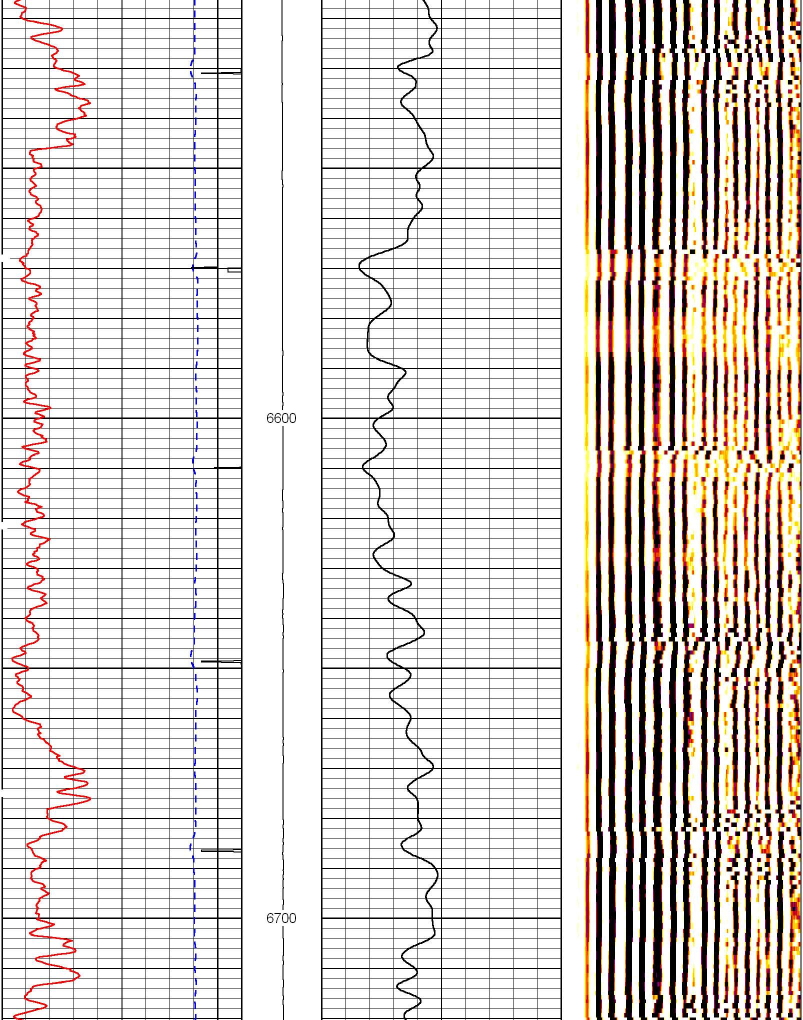
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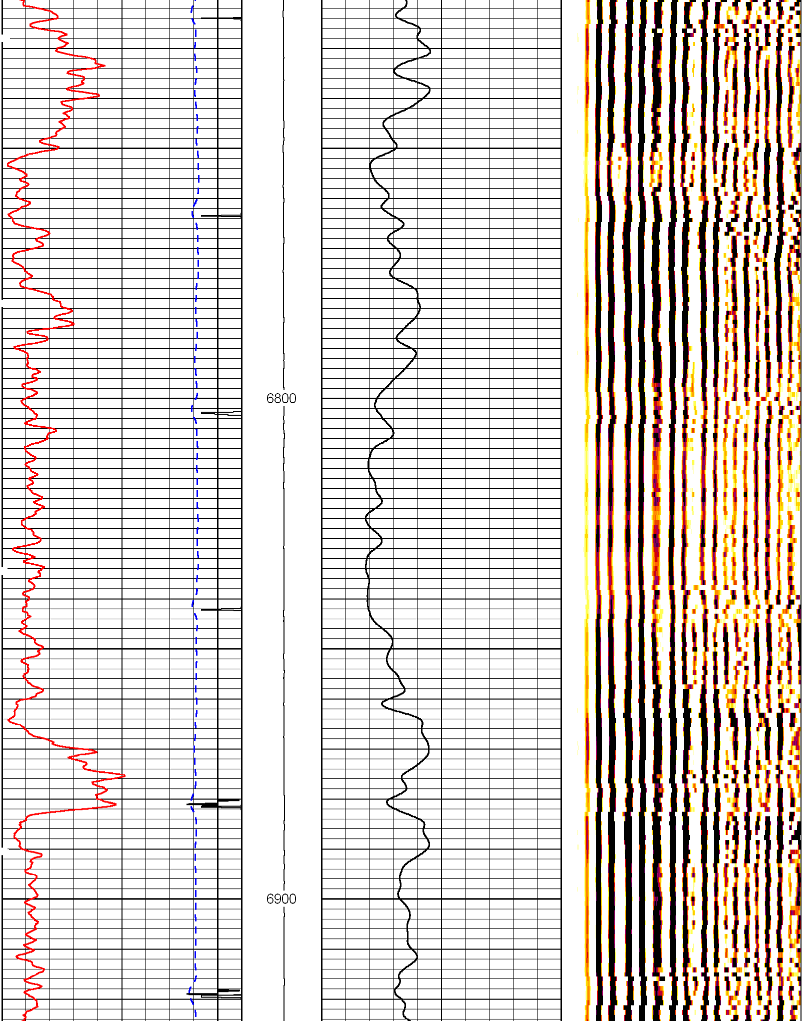
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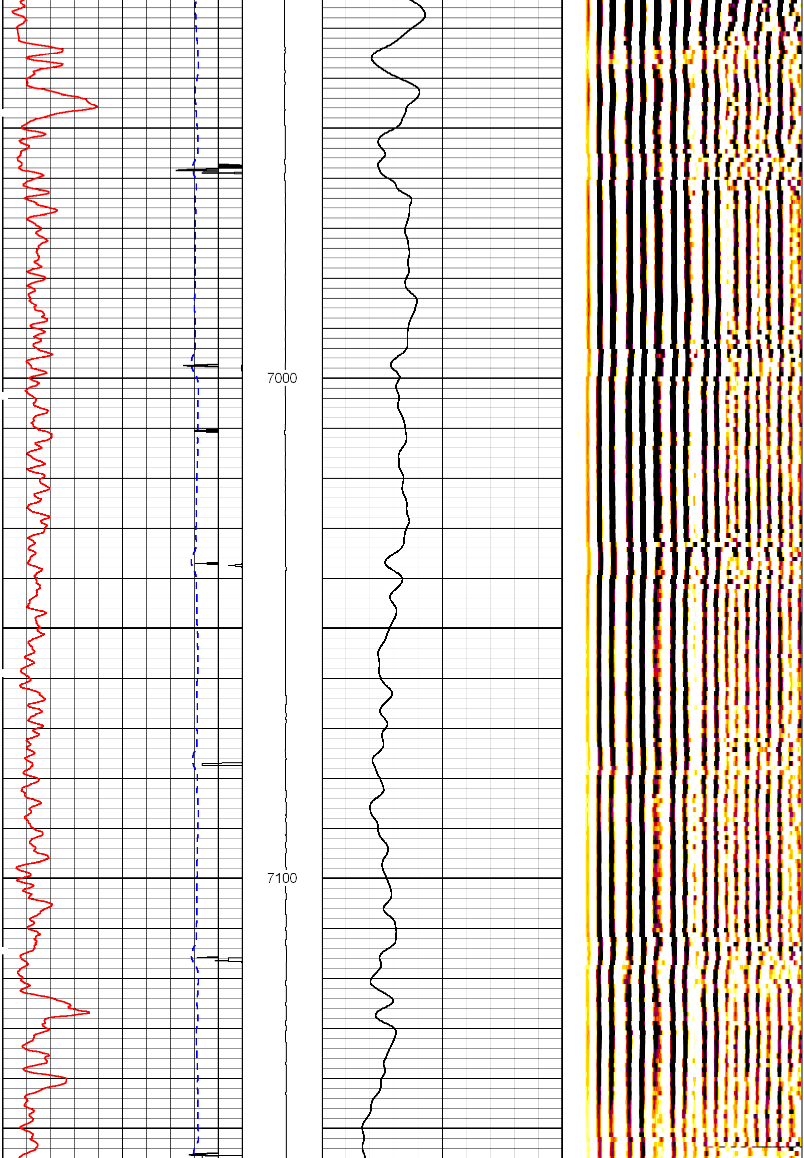
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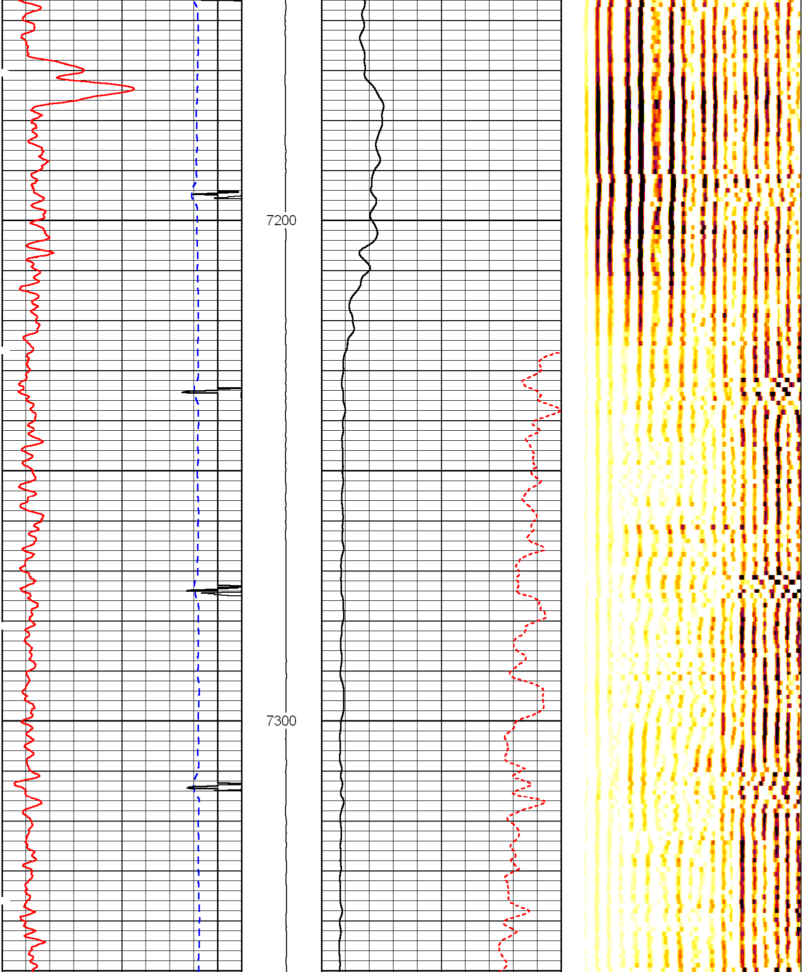
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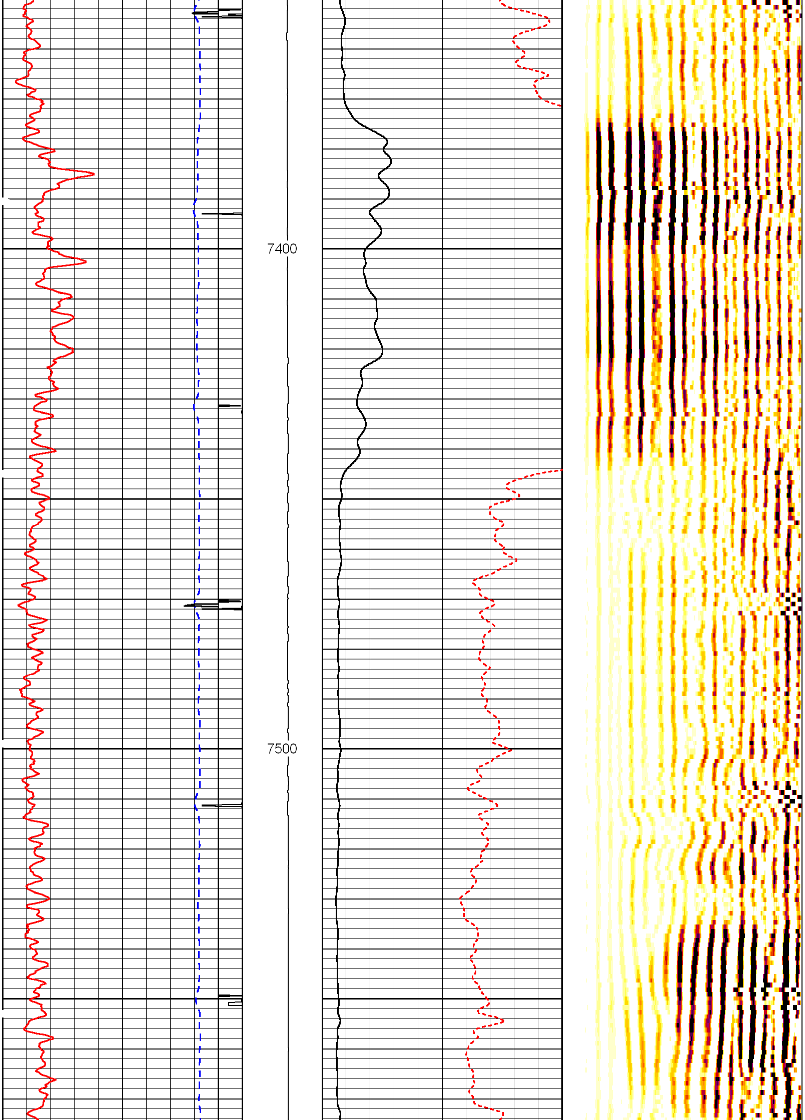
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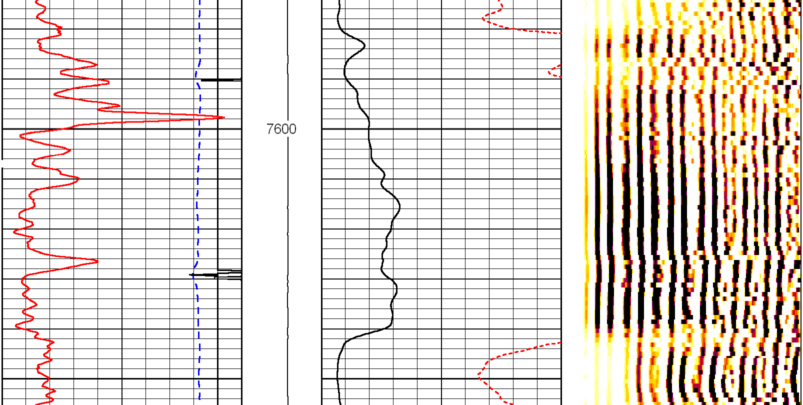
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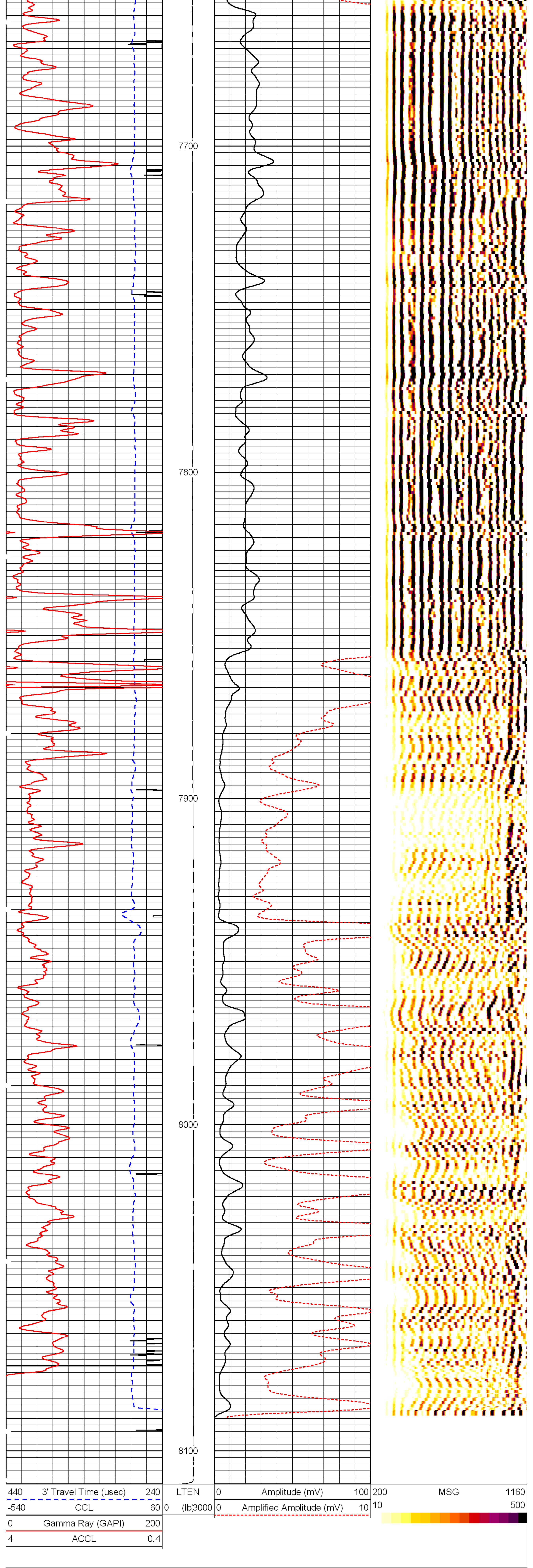


HALLIBURTON

MAIN LOG SECTION

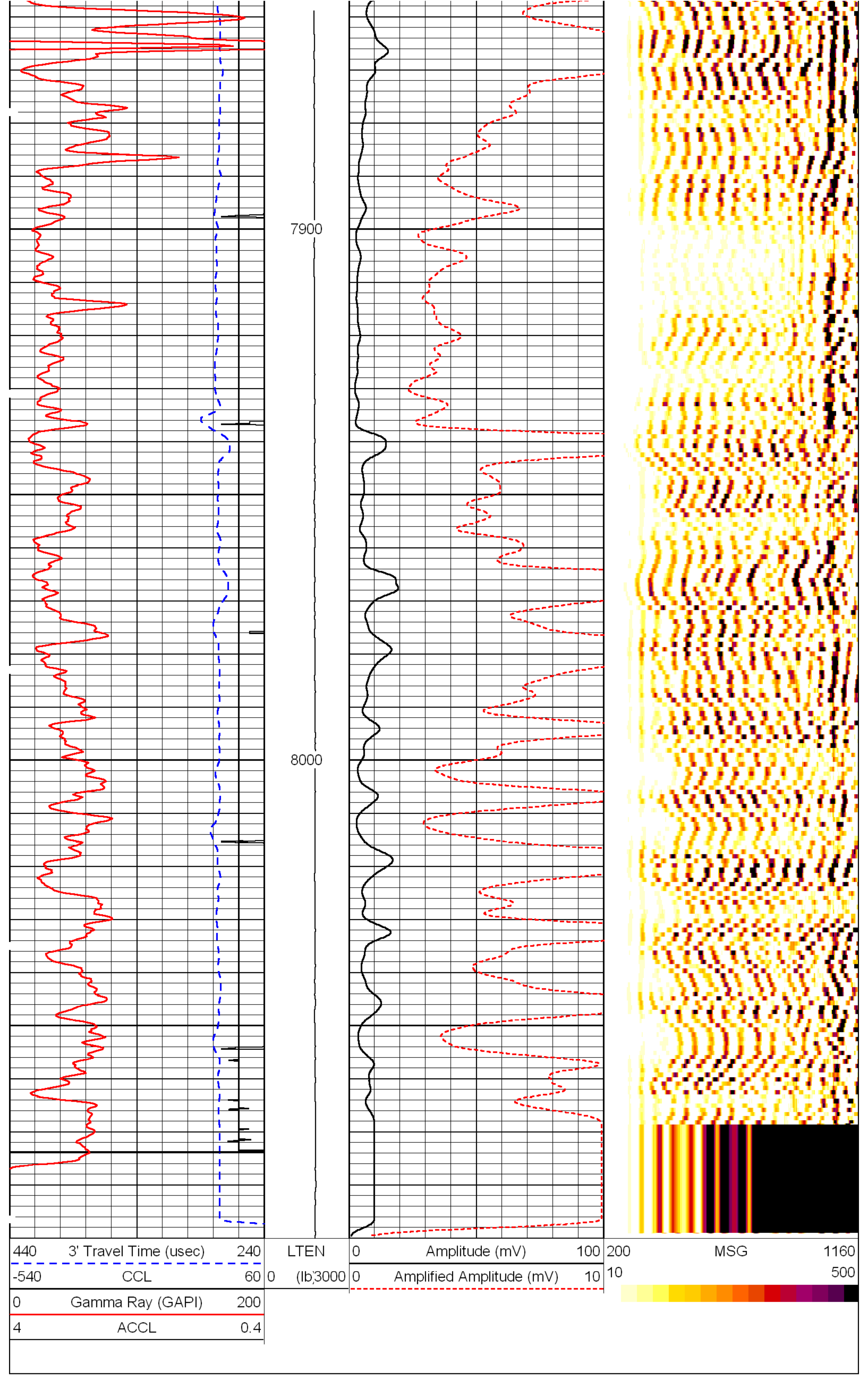
5" = 100'

REPEAT LOG SECTION

5" = 100'

HALLIBURTON

Database File: he6_cast.db
Dataset Pathname: RPT1
Presentation Format: hcbl
Dataset Creation: Thu Jul 04 04:51:36 2013 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240



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REPEAT LOG SECTION

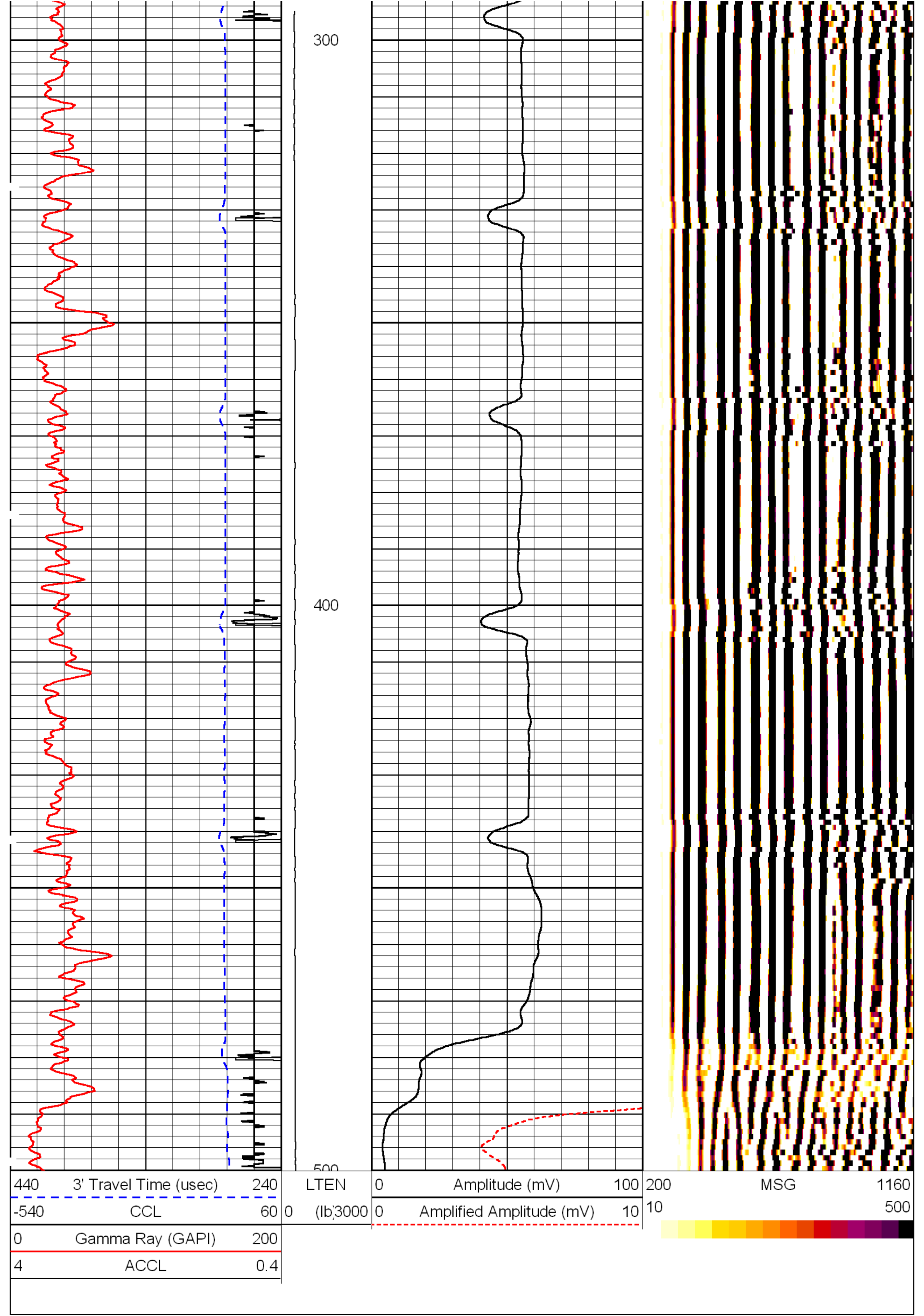
5" = 100'

HALLIBURTON

FREE PIPE LOG SECTION

5" = 100'

Database File: he6_cast.db
Dataset Pathname: FREE1
Presentation Format: hcbl
Dataset Creation: Thu Jul 04 03:56:47 2013 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240



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FREE PIPE LOG SECTION

5" = 100'

Calibration Report

Database File: he6_cast.db
Dataset Pathname: MAIN2
Dataset Creation: Thu Jul 04 05:04:08 2013 by Log Halliburton Casedho

Circumferential Acoustic Scanning Tool Shop Calibration Report

Serial-Model: 438_756-4 3/8 SCAN
Calibration Performed: Thu Jul 04 03:11:40 2013

	Mudcell Transducer		Main Transducer		
	Measured	Expected	Measured	Expected	Units
W/O Calibrator	50.20	44.00	N/A	N/A	usec
W Calibrator	41.29	35.00	55.20	50.00	usec

Calibrated Offsets

Name	Value	Units
TCAL	5.2001	usec
MCAL	5.6367	usec

XY Accelerometers Calibration Report

Performed: Not Performed

	Low Read.	High Read.		Low Ref.	High Ref.	
X Accelerometer	0.000	1.000	gee	0.000	1.000	gee
Y Accelerometer	0.000	1.000	gee	0.000	1.000	gee

Cement Bond Log Shop Calibration Report

Serial-Model: 11817843-A
Calibration Performed: Thu Jul 04 03:55:12 2013

Free Pipe Calibration

	Measured	Units
TT	281.9	usec
Amplitude	488.4	mV
Log Base Line	-6.2	mV

Calibration References and Gain

Name	Value	Units
Pipe O.D.	7.000	in
Pipe Weight	32.0	lb/ft
Pipe Ref. Amp.	62.2	mV
Amp. Gain	0.126	

Gamma Ray Calibration Report

Type / Serial: 002 / 11510512

SHOP CALIBRATION Thu Jul 04 03:15:20 2013

	Counts/Sec.	Gain	Offset	Jig	Units
Background	20.3				cps
Calibrator	303.4				cps
		1.4412			GAPI/cps

PRIMARY VERIFICATION Thu Jul 04 03:18:05 2013

			Units
Background	27.0		cps
Calibrator	431.8		cps
Difference		404.8	GAPI

BEFORE SURVEY VERIFICATION

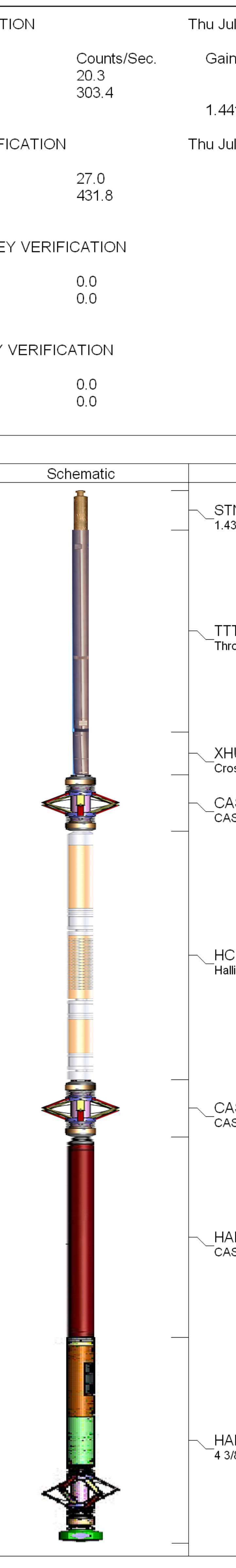
			Units
Background	0.0		cps
Calibrator	0.0		cps
Difference		0.0	GAPI

AFTER SURVEY VERIFICATION

			Units
Background	0.0		cps
Calibrator	0.0		cps
Difference		0.0	GAPI

Sensor	Offset (ft)
CCL	36.22
GR	33.96
Temp	24.25
AMP3FT	22.00
TT3FT	22.00
LLMTEN	0.00
UTCTIM	0.00
LOCTIM	0.00
SCAN	0.00
AccX1	0.00
AccY1	0.00
AccX2	0.00
AccY2	0.00

Schematic



Description	Len (ft)	OD (in)	Wt (lb)
STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
TTTCU-002 (11510512) Through Tubing Telemetry Cartridge - Ultrawire	7.66	1.69	37.00
XHU-003 (000001) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
HCBLM-A (11817843) Halliburton HCBLM Tool	9.38	2.75	116.00
CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
HAL-CAST-M-ELECT-CAST-M-Elect (11517.585) CAST M ELECTRONIC		2.75	30.00
HAL-CAST-M-4 3/8 SCAN (438_756) 4 3/8 SCAN CASTM	7.78	4.38	276.00

Dataset: he6_cast.db: field/well/run1/MAIN2
Total Length: 39.80 ft
Total Weight: 517.00 lb
O.D. 4.38 in

Company	KINDER MORGAN CO2 CO LP.
Well	HE #6
Field	McELMO
County	MONTEZUMA
State	CO

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ACOUSTIC CEMENT
BOND LOG