



# DIGITAL ACOUSTIC LOG GAMMA RAY LOG

FILE NO: 0H083650		COMPANY PRONGHORN OPERATING, LLC	
API NO: 05017077820000		WELL PEPPER #1	
		FIELD CHEYENNE WELLS	
		COUNTY CHEYENNE	
		STATE COLORADO	
Ver. 3.87		LOCATION: SHL: 1691' FNL & 2034' FEL	
		SEC 5 TWP 14S RGE 44W	
PERMANENT DATUM GL ELEVATION 4264 FT		OTHER SERVICES SL ZDUCNGR HDIUZDUCNGR HDIUGR	
LOG MEASURED FROM KB 17 FT ABOVE P.D.		ELEVATIONS: KB 4281 FT DF 4280 FT GL 4264 FT	
DRILL MEAS. FROM KELLY BUSHING			
DATE 22 MAR 2014			
RUN	TRIP	1	1
SERVICE ORDER		617654	
DEPTH DRILLER		5465 FT	
DEPTH LOGGER		4698 FT	
BOTTOM LOGGED INTERVAL		4695 FT	
TOP LOGGED INTERVAL		4000 FT	
CASING DRILLER		13.375 IN @ 438 FT	
CASING LOGGER		438 FT	
BIT SIZE		7.875 IN	
TYPE OF FLUID IN HOLE		WBM	
DENSITY	VISCOSITY	8.8 LB/G	50 S
PH	FLUID LOSS	11	8 C3
SOURCE OF SAMPLE		MUD TANK	
RM AT MEAS. TEMP.		1.43 OHMM @ 52.3 DEGF	
RMF AT MEAS. TEMP.		1.06 OHMM @ 51.5 DEGF	
RMC AT MEAS. TEMP.		1.74 OHMM @ 50.2 DEGF	
SOURCE OF RMF	RMC	MEASURED	MEASURED
RM AT BHT		0.73 OHMM @ 109 DEGF	
TIME SINCE CIRCULATION		5.5 HOURS	
MAX. RECORDED TEMP.		109 DEGF	
EQUIP. NO.	LOCATION	HL 6690	CASPER
RECORDED BY		J. OSTLER	
WITNESSED BY		FRANK RABBITO	

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE THE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

BOREHOLE RECORD		
BIT SIZE	FROM	TO
12.25 IN	0 FT	1500 FT
7.875 IN	1500 FT	5465 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
13.375 IN	48 LB/F	NA	0 FT	438 FT

REMARKS
RUN 1 TRIP 1: RUN 1: HDIL/DAL/GR
TOOL STRING WAS RAN SLICK PER CLIENT REQUEST
THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE!
CREW: NATHAN OSTLER, ANTHONY FERRIS
RIG: WILDCAT RIG #1

EQUIPMENT DATA				
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.
				POSITION

1	1	TTRM	3981XB	10217216	FREE
1	1	COMR	3514XB	10184847	FREE
1	1	GR	1329XB	370718	FREE
1	1	DAL ELEC	1677EA	10337911	FREE
1	1	DAL	1680MA	172759	FREE
1	1	HDIL ELEC	1515EA	10040866	FREE
1	1	HDIL MANDRL	1515MA	10200533	FREE

## MAIN LOG 5"/100FT SCALE (LIMESTONE MATRIX 48 US/FT)

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013

Patches: 5

Plotted: Sat Mar 22 04:19:37 2014

### PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/617654/MSLAM\_DAL~04.prm  
 LOGGING MODE: DEPTH DIRECTION: UP  
 TOP DEPTH: 337.750 ft BOTTOM DEPTH: 4705.500 ft

#### SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TENSION	FILTER Q	medium (1)		TOP	BOTTOM
GR	FILTER Q	medium (1)		"	"
DT24	FILTER Q	light (2)		"	"
	FILTER (i)	light (2)		"	"

#### ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACOUSTIC POROSITY	POROSITY TYPE	WYLLIE		TOP	BOTTOM
	DTmatrix	48.00	us/ft	"	"
	DTfluid	190.00	us/ft	"	"
	DTshale	100.00	us/ft	"	"
	MOD. WYLLIE PARM	2.25		"	"
	MOD. R-H-G PARM	2.00		"	"
DELTA T CURVE SELECTION	DT24 SOURCE	FIRST ARRIVAL DT24		"	"

#### ACOUSTIC PICK CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DELTA-T REJECTION RANGE	REJECTION DTmin	40	us/ft	TOP	BOTTOM
	REJECTION DTmax	180	us/ft	"	"
FIRST ARRIVAL PICK (3 FT)	SEARCH START OFFSET (sfa1*)	0	us	"	"
	SEARCH START OFFSET (sfa2*)	0	us	"	"
	SEARCH START OFFSET (sfa3*)	0	us	"	"
	SEARCH START OFFSET (sfa4*)	0	us	"	"
	SEARCH WINDOW LENGTH	2400	us	"	"
	THRESHOLD FACTOR	0.30		"	"
	THRESHOLD MINIMUM (sfa1*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfa2*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfa3*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfa4*)	1.8	pct	"	"
	E3 THRESHOLD	OFF		"	"
FIRST ARRIVAL PICK (5 FT)	SEARCH START OFFSET (sfa1*)	150	us	"	"
	SEARCH START OFFSET (sfa2*)	150	us	"	"
	SEARCH START OFFSET (sfa3*)	150	us	"	"
	SEARCH START OFFSET (sfa4*)	150	us	"	"
	SEARCH WINDOW LENGTH	2400	us	"	"
	THRESHOLD FACTOR	0.30		"	"
	THRESHOLD MINIMUM (sfa1*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfa2*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfa3*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfa4*)	4.0	pct	"	"

THRESHOLD MINIMUM (grat4") 4.0 pct " "

E3 THRESHOLD OFF

### ACOUSTIC QUALITY CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CYCLE SKIP LIMIT	CYCLE SKIP LIMIT	100	us	TOP	BOTTOM

### ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
WAVEFORM FILTER - DELTA T	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	4000	Hz	"	"
	HIGH FREQ CUTOFF	30000	Hz	"	"

### ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		"	"
	STACK LEVEL	1		"	"
	DSP FILTER	ON		"	"
	SUBSET	2		"	"
DELTA T TCC PARAMETERS	ACG WINDOW	0	us	"	"
	MOVEOUT	16	us/ft	"	"
	SAMPLE PERIOD	16		"	"
	RX DELAY	96	us	"	"

### CURVE DESCRIPTION REPORT

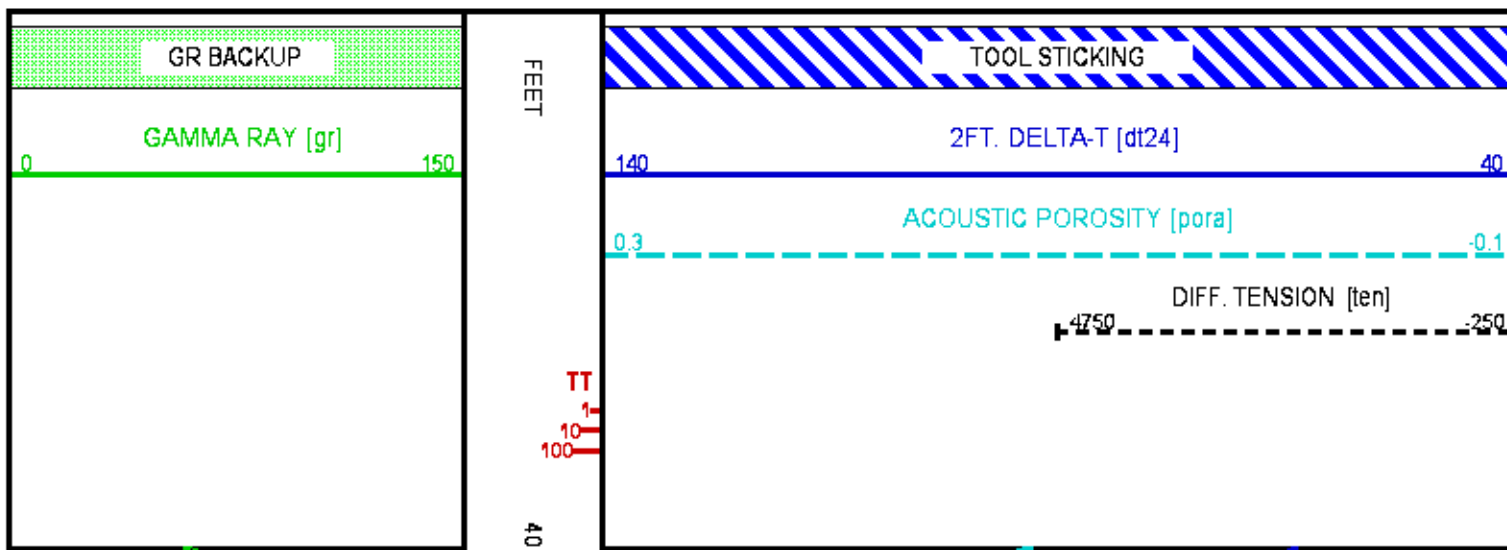
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:DT24	Mar 21 23:52:28 2014	SLOWNESS OVER 24-INCH INTERVAL
F1:GR	Mar 21 23:52:28 2014	GAMMA RAY
F1:PORA	Mar 21 23:52:28 2014	ACOUSTIC POROSITY
F1:TEN	Mar 21 23:52:28 2014	DIFFERENTIAL TENSION
F1:TT	Mar 21 23:52:28 2014	INTEGRATED TRAVELTIME FROM ACOUSTIC SLOWNESS

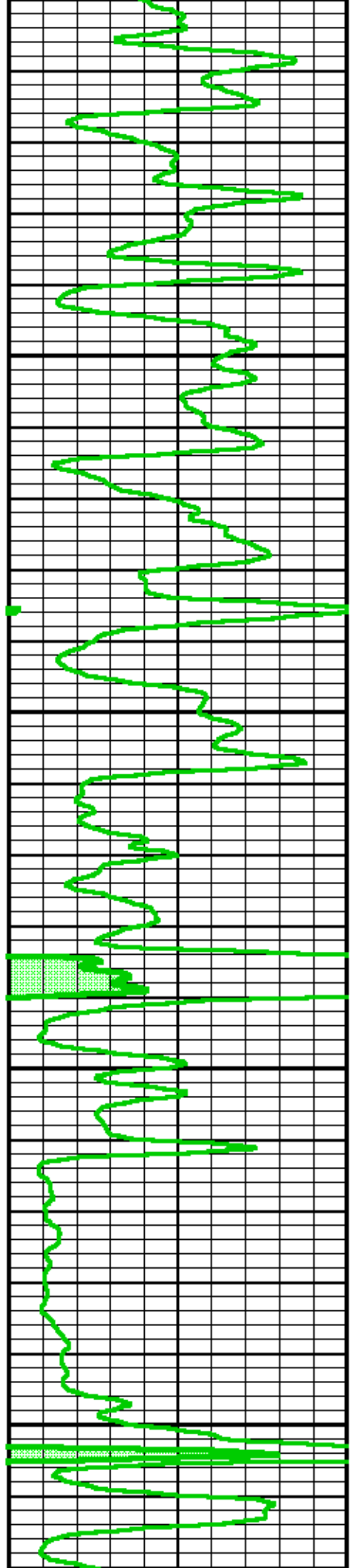
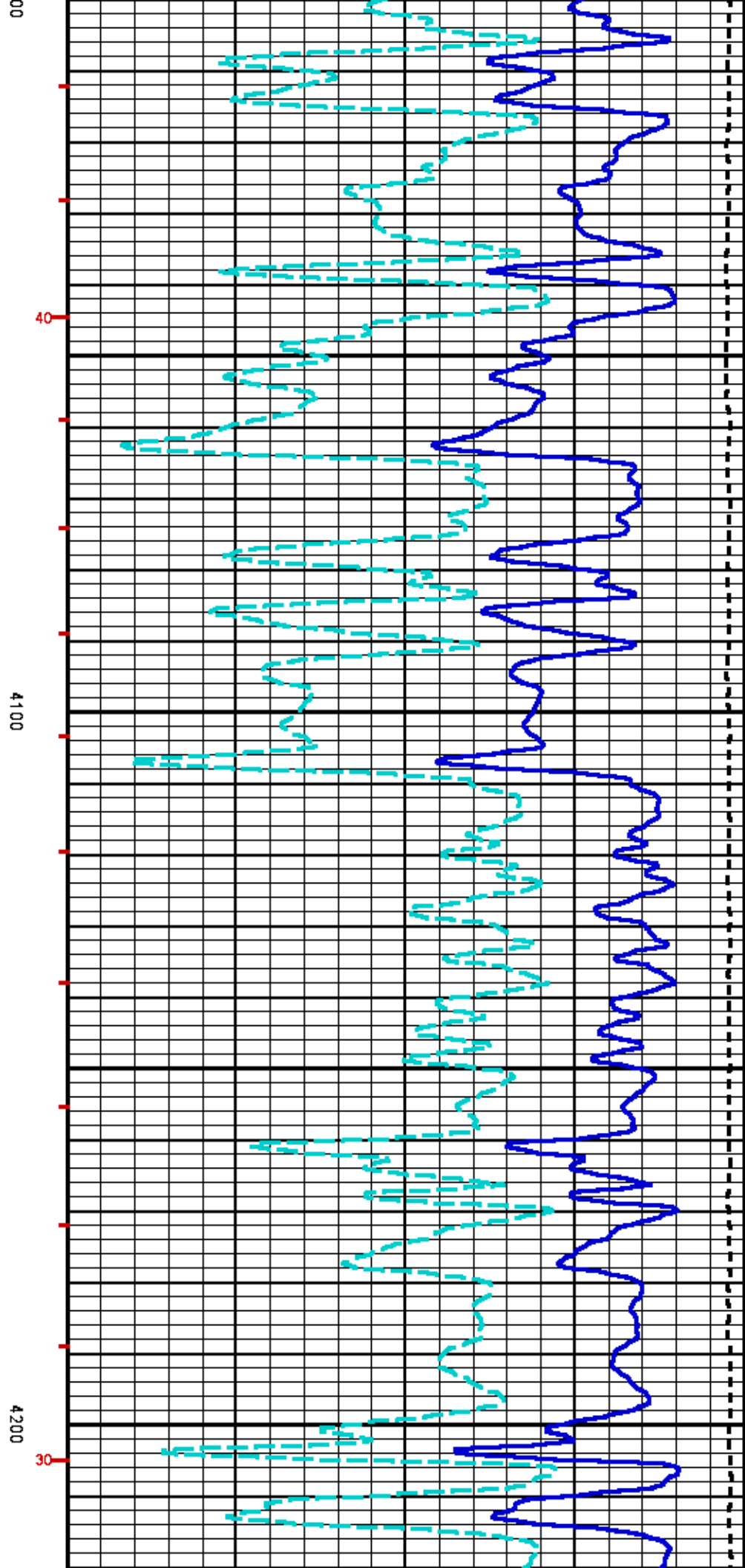
### CURVE MEASURE POINT OFFSET

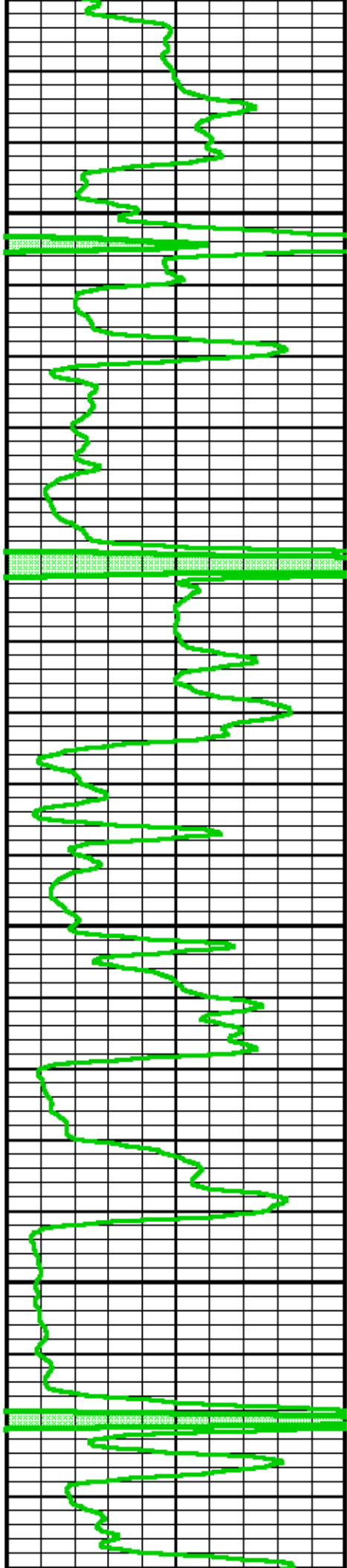
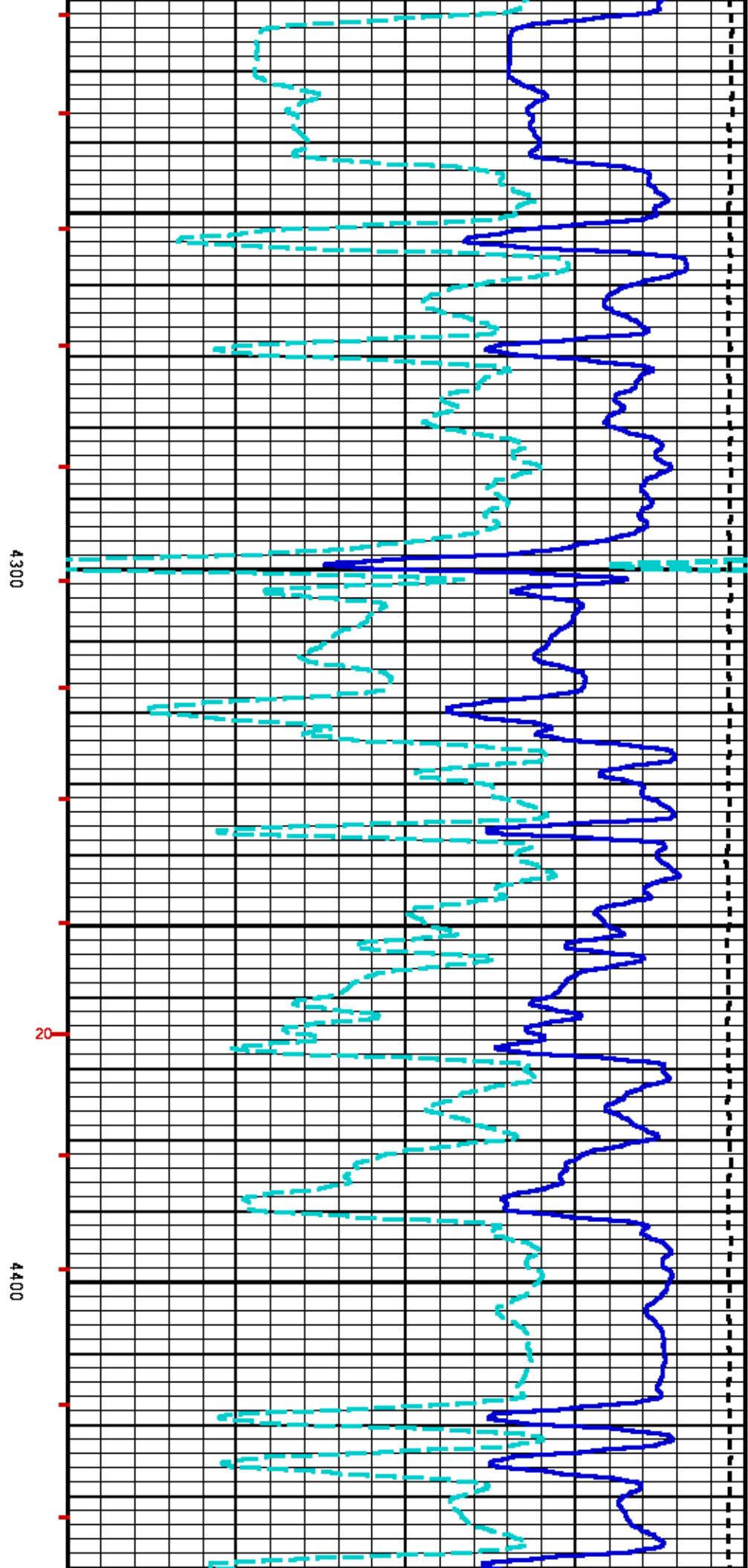
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
DT24	2.25	GR	49.25	PORA	2.25	TEN	0.00

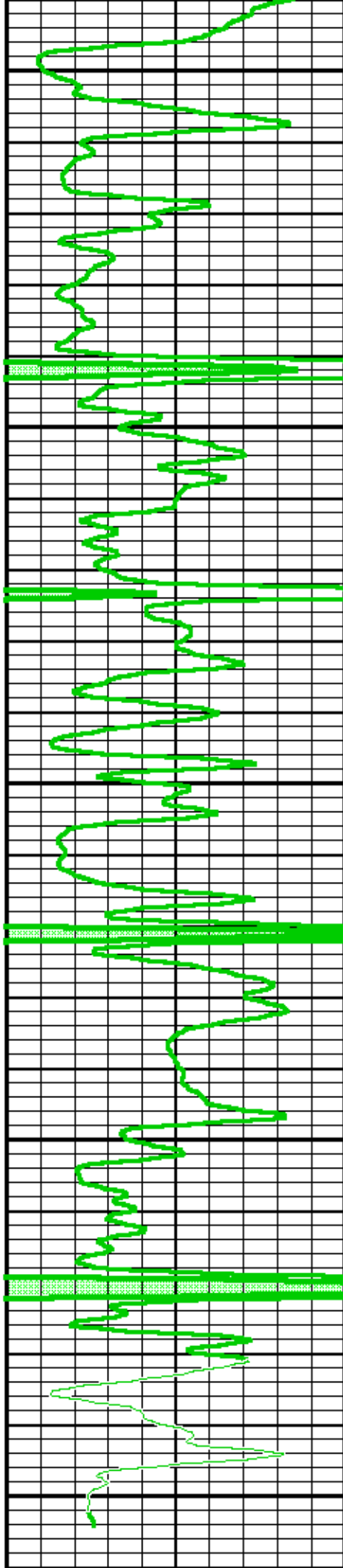
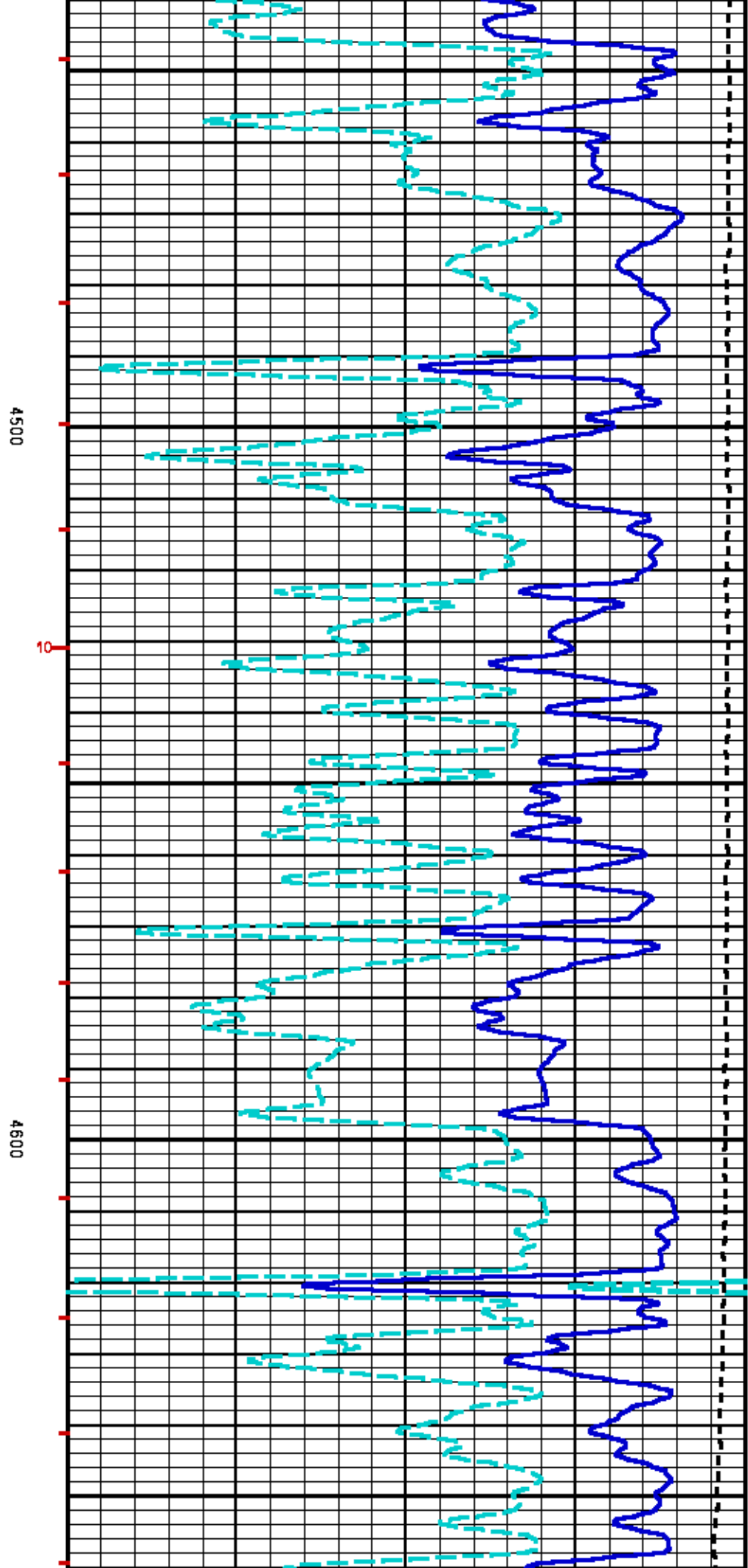
Presentation : cpu6690:/dat1a/617654/acoustic\_MAIN\_LS.fvpdf [5"/100' Scale]  
Plot Interval : 4000 - 4705.5 Feet

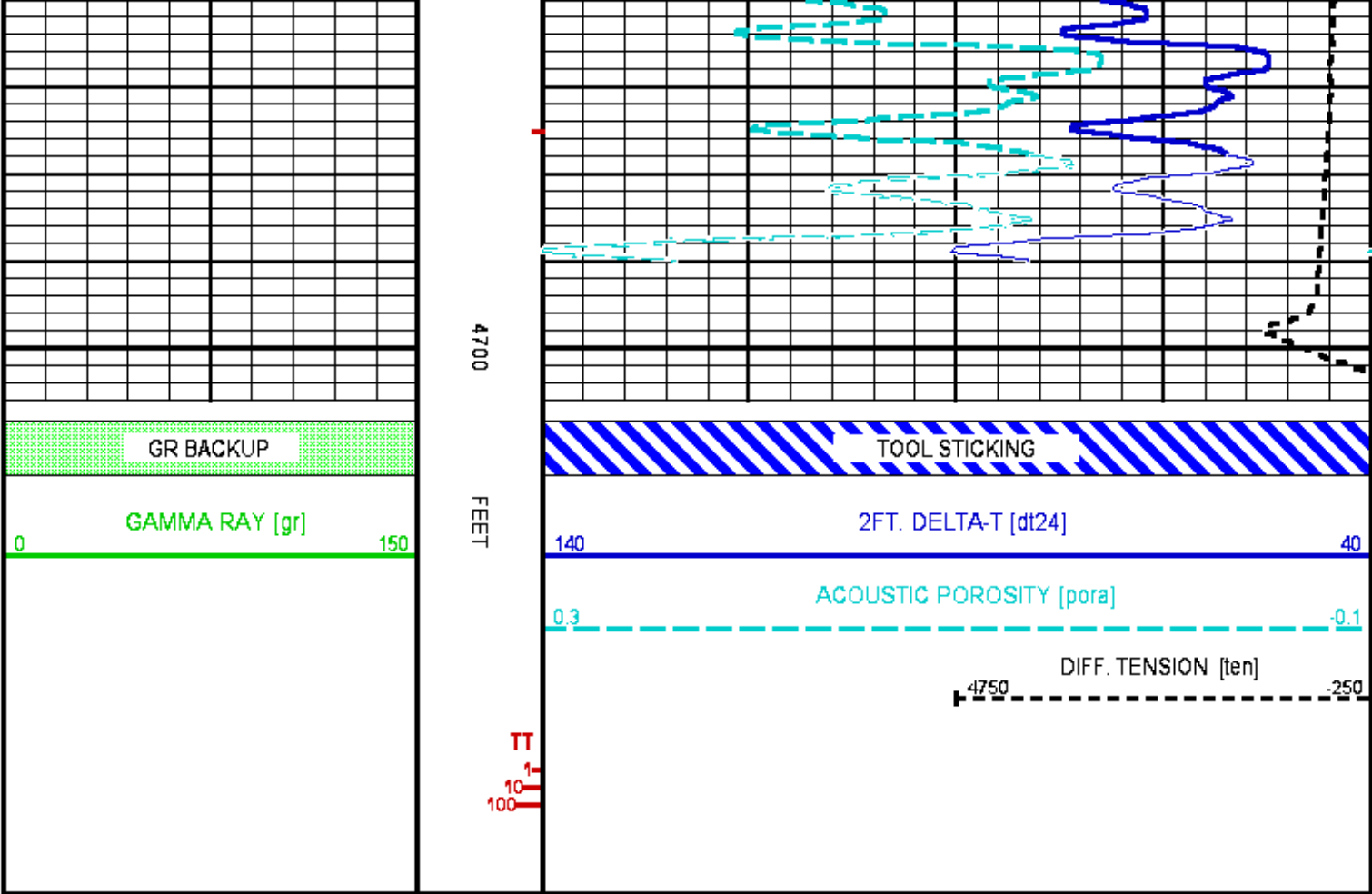
Data File 1 : F1 : cpu6690:/dat1a/617654/up\_dal\_sl.xtf  
Created On : Mar 21 23:52:28 2014  
Company : PRONGHORN OPERATING, LLC  
Well : PEPPER #1  
Field : CHEYENNE WELLS  
File Interval : 3794.5 - 4705.5 Feet  
OCT : MSLAM\_DA











REPEAT LOG 5"/100FT SCALE (LIMESTONE MATRIX 48 US/FT)

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013  
Patches: 5

Plotted: Sat Mar 22 01:47:18 2014

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/617654/MSLAM\_DAL~05.prm  
LOGGING MODE: DEPTH DIRECTION: UP  
TOP DEPTH: 3992.750 ft BOTTOM DEPTH: 4299.500 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TENSION	FILTER Q	medium (1)		TOP	BOTTOM
GR	FILTER Q	medium (1)		"	"
DT24	FILTER Q	light (2)		"	"
	FILTER (i)	light (2)		"	"

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACOUSTIC POROSITY	POROSITY TYPE	WYLLIE		TOP	BOTTOM
	DTmatrix	48.00	us/ft	"	"
	DTfluid	190.00	us/ft	"	"
	DTshale	100.00	us/ft	"	"
	MOD. WYLLIE	2.25		"	"

	MOD. WYLLIE PARM	2.25	"	"
	MOD. R-H-G PARM	2.00	"	"
DELTA T CURVE SELECTION	DT24 SOURCE	FIRST ARRIVAL DT24	"	"

ACOUSTIC PICK CONTROL					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DELTA-T REJECTION RANGE	REJECTION DTmin	40	us/ft	TOP	BOTTOM
	REJECTION DTmax	180	us/ft	"	"
FIRST ARRIVAL PICK (3 FT)	SEARCH START OFFSET (sfa1*)	0	us	"	"
	SEARCH START OFFSET (sfa2*)	0	us	"	"
	SEARCH START OFFSET (sfa3*)	0	us	"	"
	SEARCH START OFFSET (sfa4*)	0	us	"	"
	SEARCH WINDOW LENGTH	2400	us	"	"
	THRESHOLD FACTOR	0.30		"	"
	THRESHOLD MINIMUM (sfa1*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfa2*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfa3*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfa4*)	1.8	pct	"	"
	E3 THRESHOLD	OFF		"	"
FIRST ARRIVAL PICK (5 FT)	SEARCH START OFFSET (sfa1*)	150	us	"	"
	SEARCH START OFFSET (sfa2*)	150	us	"	"
	SEARCH START OFFSET (sfa3*)	150	us	"	"
	SEARCH START OFFSET (sfa4*)	150	us	"	"
	SEARCH WINDOW LENGTH	2400	us	"	"
	THRESHOLD FACTOR	0.30		"	"
	THRESHOLD MINIMUM (sfa1*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfa2*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfa3*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfa4*)	4.0	pct	"	"
	E3 THRESHOLD	OFF		"	"

ACOUSTIC QUALITY CONTROL					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CYCLE SKIP LIMIT	CYCLE SKIP LIMIT	100	us	TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
WAVEFORM FILTER - DELTA T	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	4000	Hz	"	"
	HIGH FREQ CUTOFF	30000	Hz	"	"

ACOUSTIC TCC CONTROL PARAMETERS					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		"	"
	STACK LEVEL	1		"	"
	DSP FILTER	ON		"	"
	SUBSET	2		"	"
DELTA T TCC PARAMETERS	ACG WINDOW	0	us	"	"
	MOVEOUT	16	us/ft	"	"
	SAMPLE PERIOD	16		"	"
	RX DELAY	96	us	"	"

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:DT24	Mar 22 01:24:20 2014	SLOWNESS OVER 24-INCH INTERVAL
F1:GR	Mar 22 01:24:20 2014	GAMMA RAY
F1:PORA	Mar 22 01:24:20 2014	ACOUSTIC POROSITY
F1:TEN	Mar 22 01:24:20 2014	DIFFERENTIAL TENSION
F1:TT	Mar 22 01:24:20 2014	INTEGRATED TRAVELTIME FROM ACOUSTIC SLOWNESS

CURVE MEASURE POINT OFFSET					
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
DT24	2.25	GR	49.25	PORA	2.25
				TEN	0.00

Presentation	: cpu6690:/dat1a/617654/acoustic_REPEAT_LS.fvpdf [5"/100' Scale]
Plot Interval	: 1050 - 1250 Feet



Plot Interval : 4000 - 4200 Feet

Data File 1 : F1 : cpu6690:/dat1a/617654/dal\_sl\_repeat\_ls.xdf

Created On : Mar 22 01:24:20 2014

Company : PRONGHORN OPERATING, LLC

Well : PEPPER #1

Field : CHEYENNE WELLS

File Interval : 3930 - 4299.5 Feet

OCT : MSLAM\_DA

GR BACKUP

GAMMA RAY [gr]

0

150

FEET

TT  
1  
10  
100

4100

10

TOOL STICKING

2FT. DELTA-T [dt24]

140

40

ACOUSTIC POROSITY [pora]

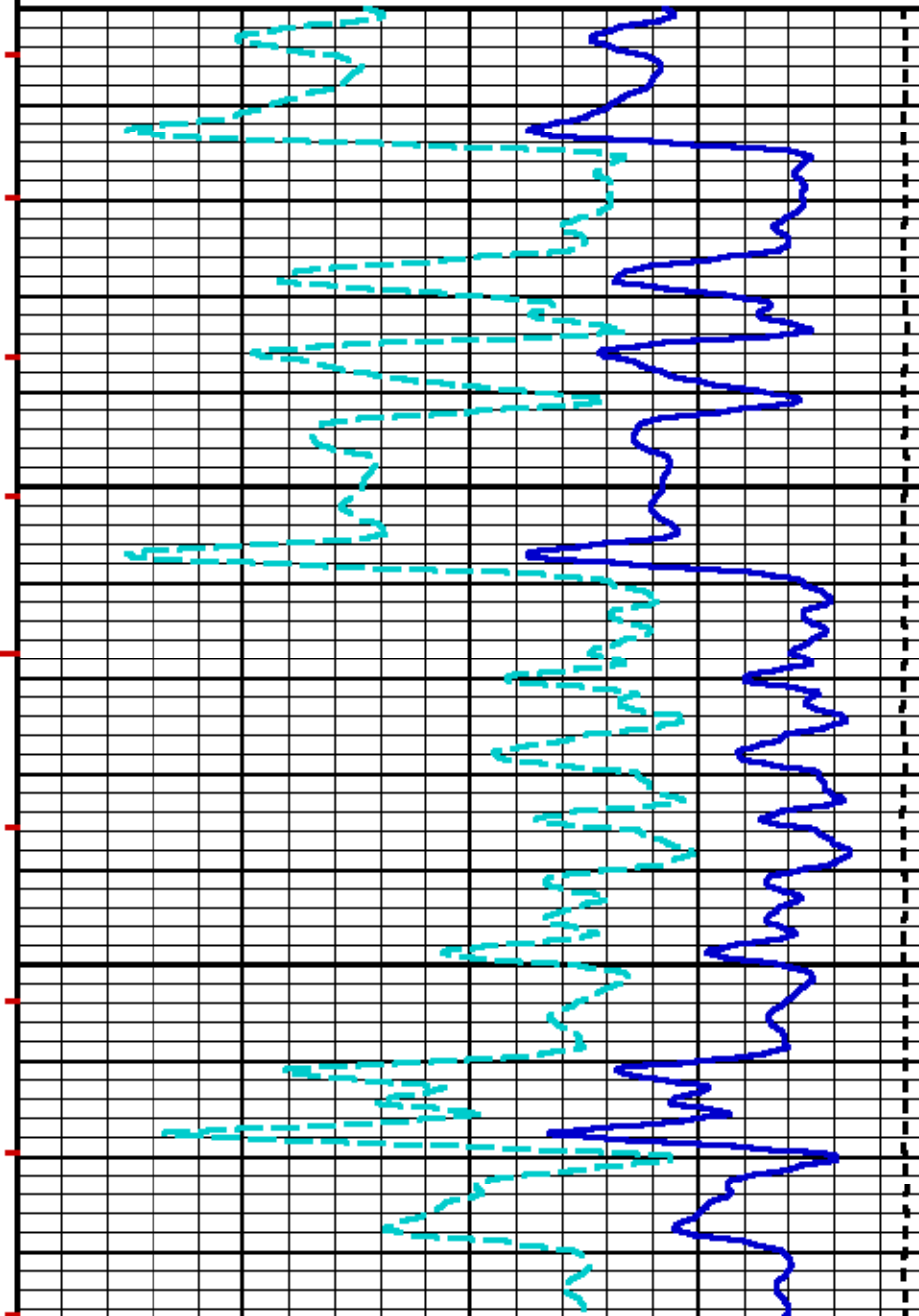
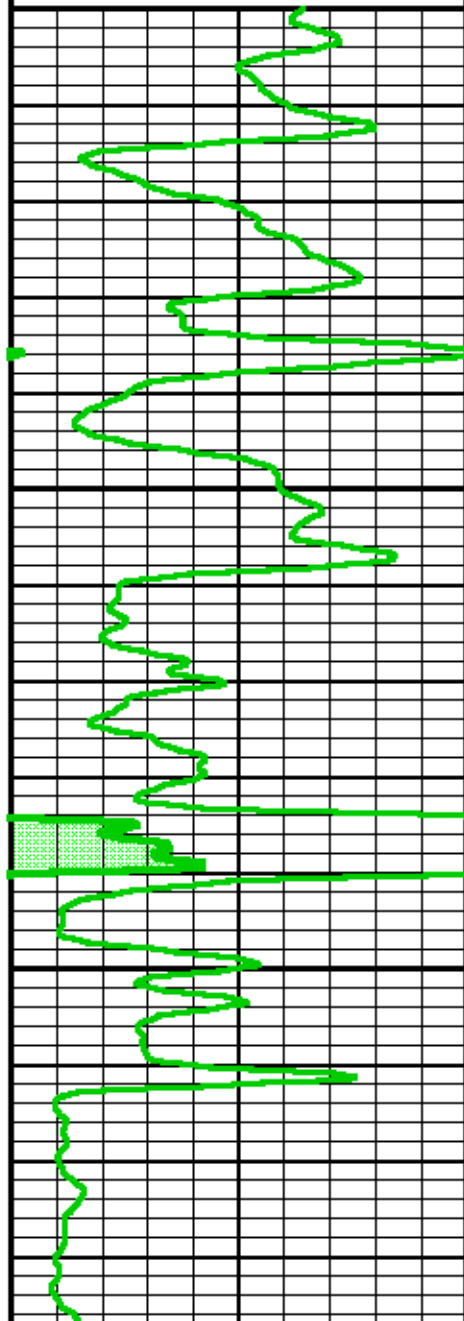
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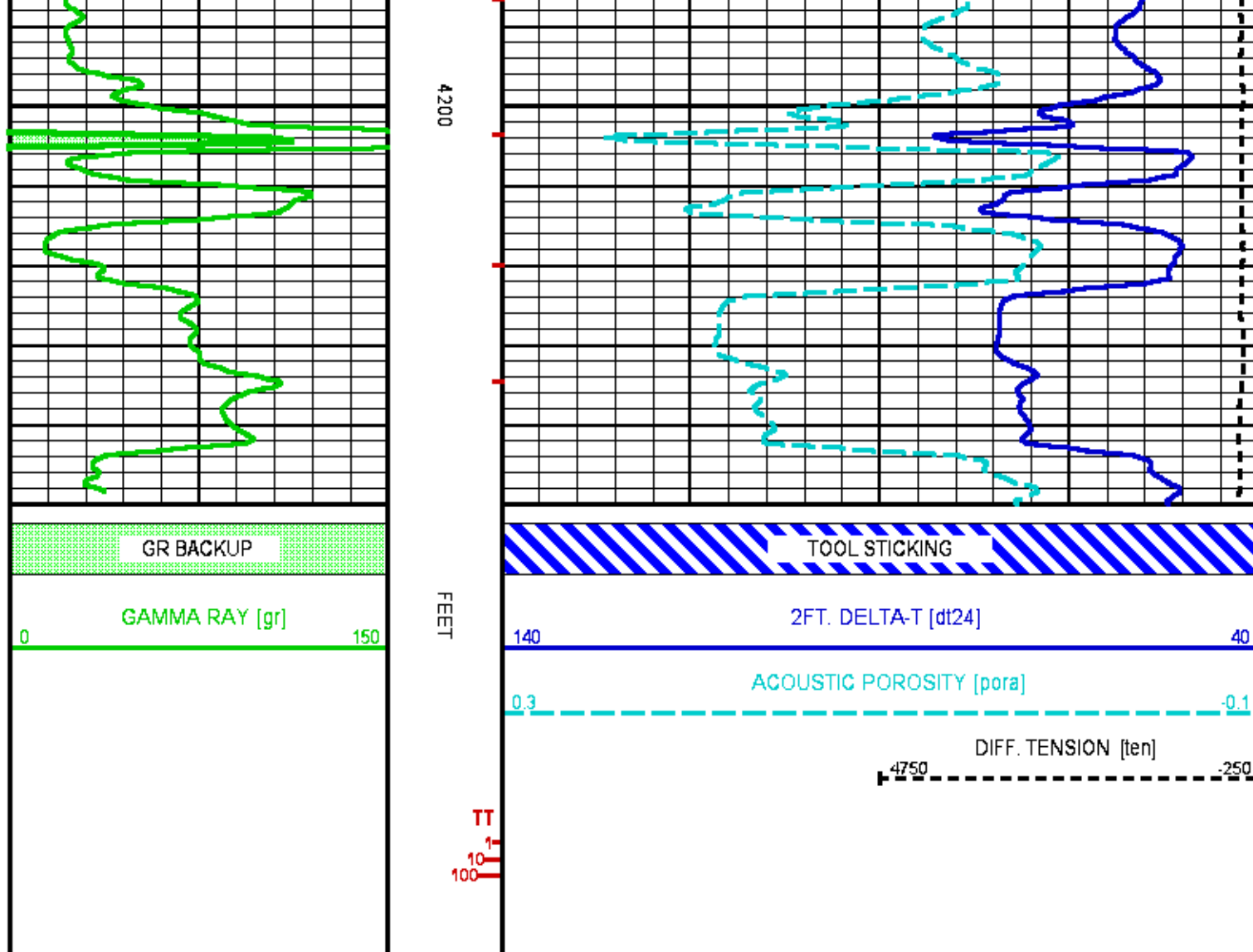
-0.1

DIFF. TENSION [ten]

4750

-250





## MAIN LOG 5"/100FT SCALE (DOLOMITE MATRIX 44 US/FT)

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013

Patches: 5

Plotted: Sat Mar 22 06:58:55 2014

### PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/617654/MSLAM\_DAL\_DL~R01.prm  
 LOGGING MODE: DEPTH DIRECTION: UP  
 TOP DEPTH: 3903.250 ft BOTTOM DEPTH: 4705.500 ft

SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
TENSION	FILTER 0	medium (1)		TOP BOTTOM
GR	FILTER 0	medium (1)		" "
DT24	FILTER 0	light (2)		" "
	FILTER (1)	light (2)		" "

### ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACOUSTIC POROSITY	POROSITY TYPE	WYLLIE		TOP	BOTTOM
	DTmatrix	44.00	us/ft	"	"
	DTfluid	190.00	us/ft	"	"
	DTshale	100.00	us/ft	"	"
	MOD. WYLLIE PARM	2.25		"	"
	MOD. R-H-G PARM	2.00		"	"
DELTA T CURVE SELECTION	DT24 SOURCE	FIRST ARRIVAL DT24		"	"

### ACOUSTIC PICK CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DELTA-T REJECTION RANGE	REJECTION DTmin	40	us/ft	TOP	BOTTOM
	REJECTION DTmax	180	us/ft	"	"
FIRST ARRIVAL PICK (3 FT)	SEARCH START OFFSET (sfan1*)	0	us	"	"
	SEARCH START OFFSET (sfan2*)	0	us	"	"
	SEARCH START OFFSET (sfan3*)	0	us	"	"
	SEARCH START OFFSET (sfan4*)	0	us	"	"
	SEARCH WINDOW LENGTH	1200	us	"	"
	THRESHOLD FACTOR	0.30		"	"
	THRESHOLD MINIMUM (sfan1*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfan2*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfan3*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfan4*)	1.8	pct	"	"
FIRST ARRIVAL PICK (5 FT)	E3 THRESHOLD	OFF		"	"
	SEARCH START OFFSET (sfaf1*)	150	us	"	"
	SEARCH START OFFSET (sfaf2*)	150	us	"	"
	SEARCH START OFFSET (sfaf3*)	150	us	"	"
	SEARCH START OFFSET (sfaf4*)	150	us	"	"
	SEARCH WINDOW LENGTH	2400	us	"	"
	THRESHOLD FACTOR	0.30		"	"
	THRESHOLD MINIMUM (sfaf1*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfaf2*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfaf3*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfaf4*)	4.0	pct	"	"
	E3 THRESHOLD	OFF		"	"

### ACOUSTIC QUALITY CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CYCLE SKIP LIMIT	CYCLE SKIP LIMIT	100	us	TOP	BOTTOM

### ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
WAVEFORM FILTER - DELTA T	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	4000	Hz	"	"
	HIGH FREQ CUTOFF	30000	Hz	"	"

### CURVE DESCRIPTION REPORT

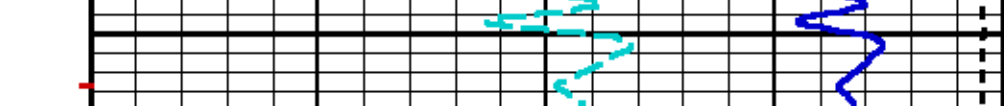
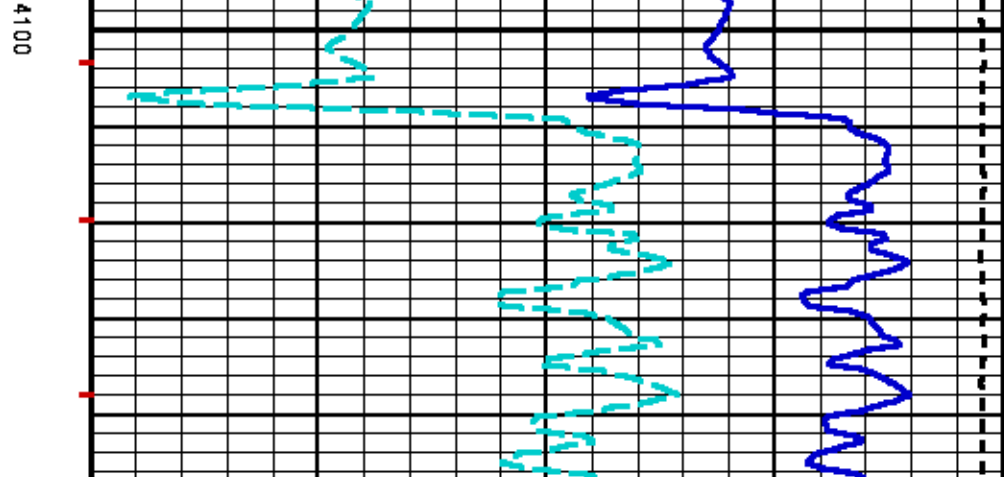
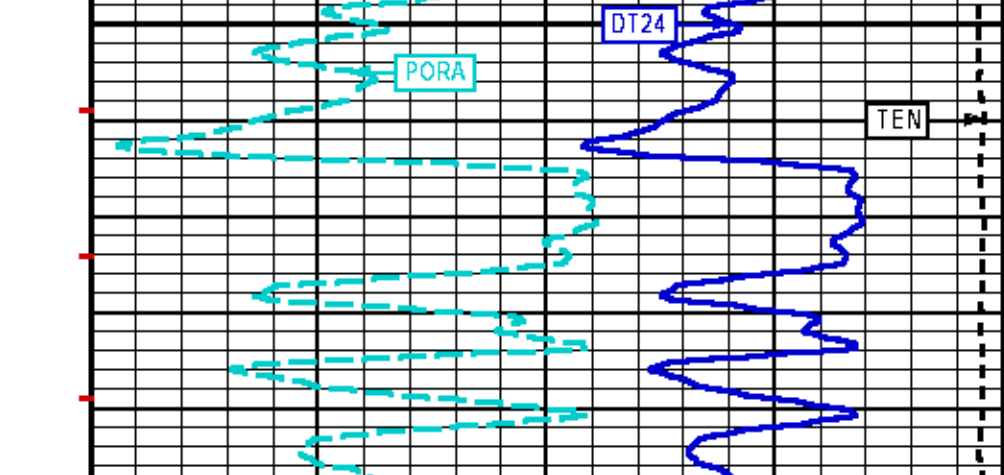
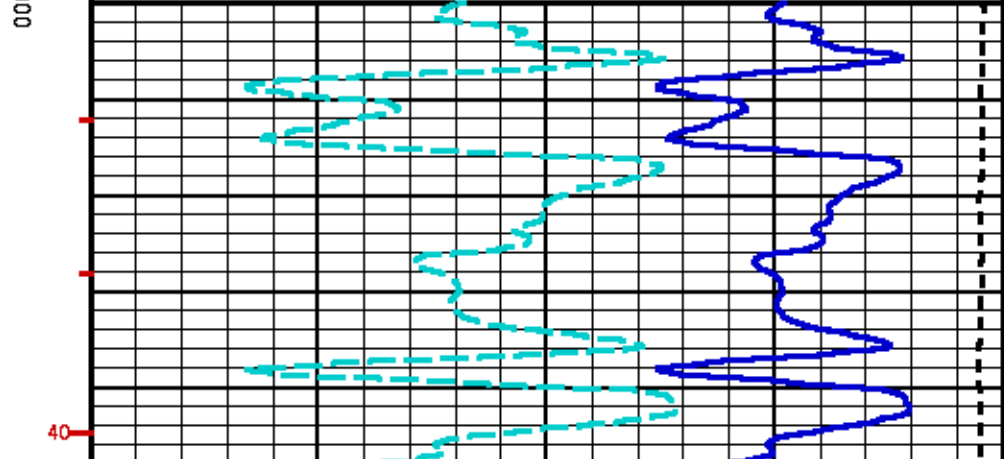
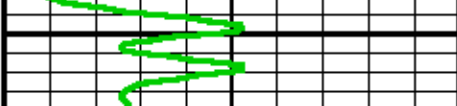
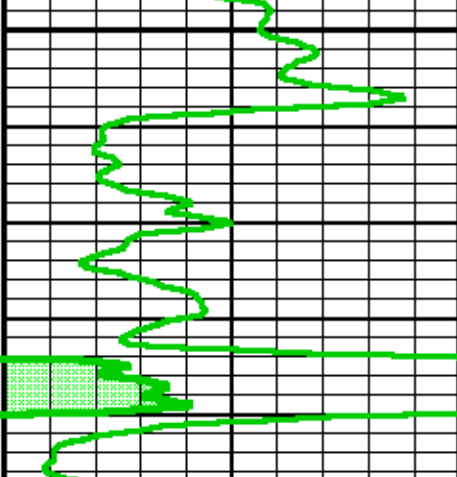
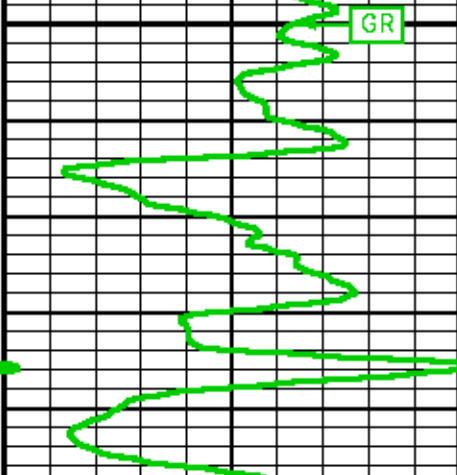
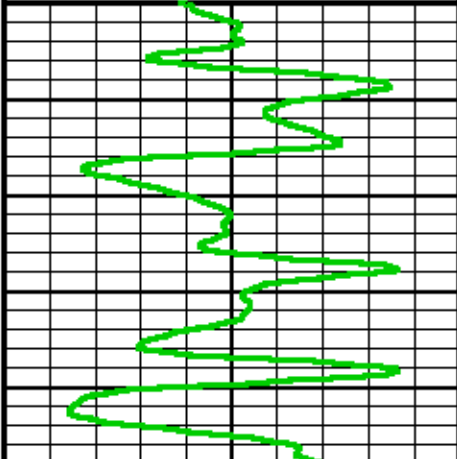
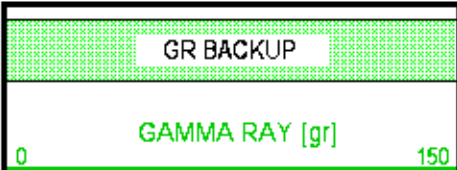
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:DT24	Mar 22 01:19:32 2014	SLOWNESS OVER 24-INCH INTERVAL
F1:GR	Mar 22 01:19:32 2014	GAMMA RAY
F1:PORA	Mar 22 01:19:32 2014	ACOUSTIC POROSITY
F1:TEN	Mar 22 01:19:32 2014	DIFFERENTIAL TENSION
F1:TT	Mar 22 01:19:32 2014	INTEGRATED TRAVELTIME FROM ACOUSTIC SLOWNESS

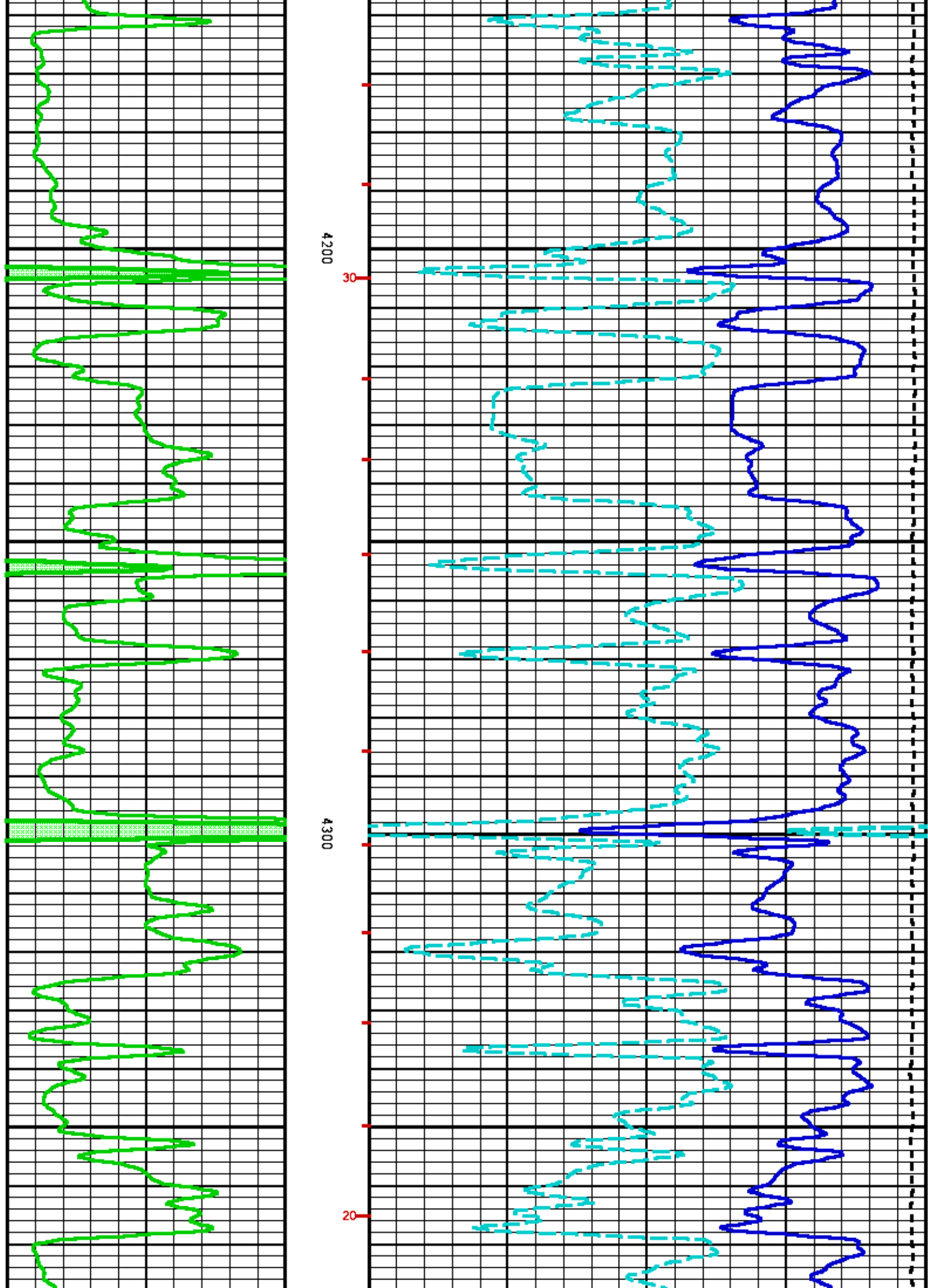
### CURVE MEASURE POINT OFFSET

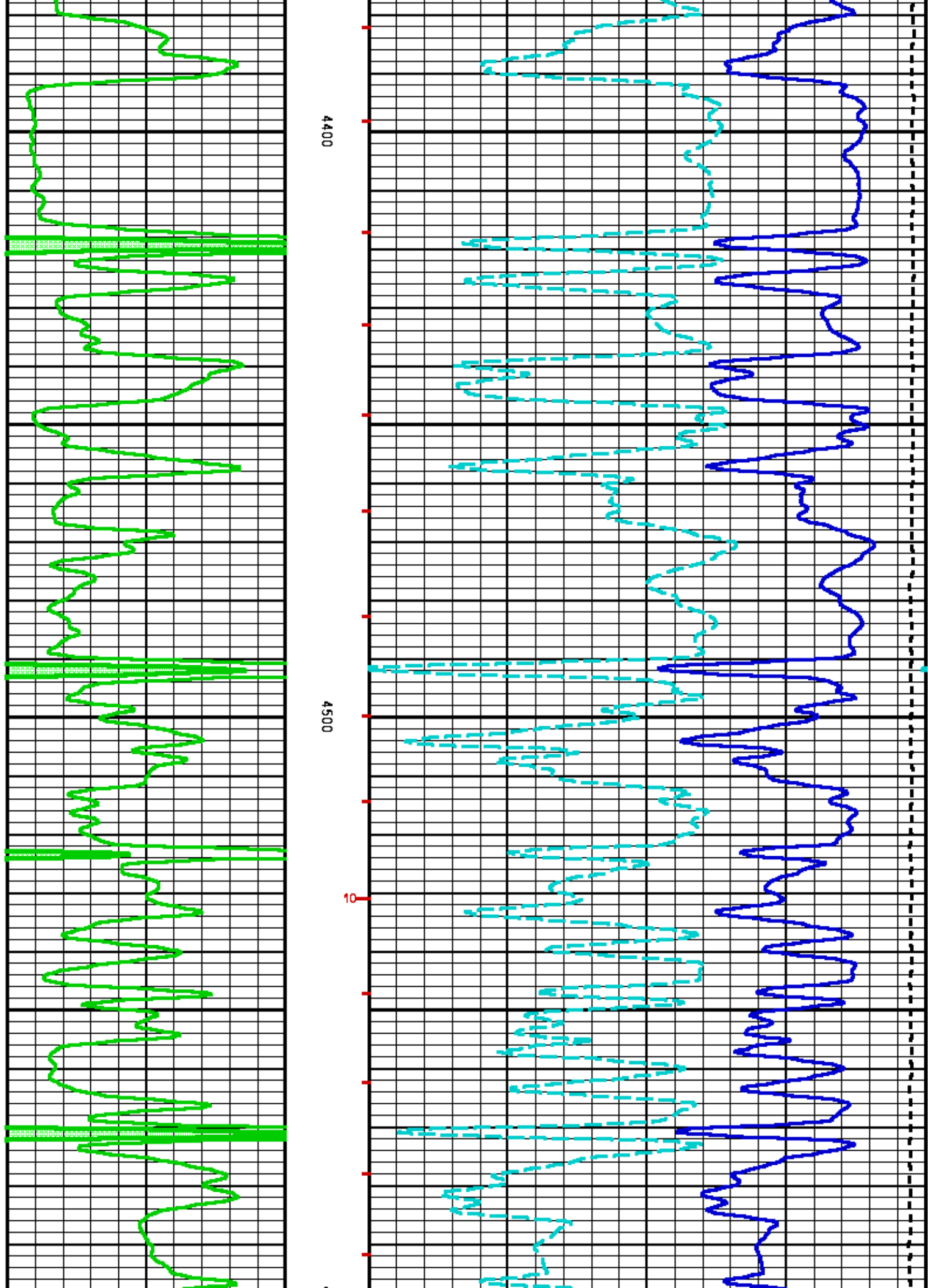
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
DT24	2.25	GR	49.25	PORA	2.25	TEN	0.00

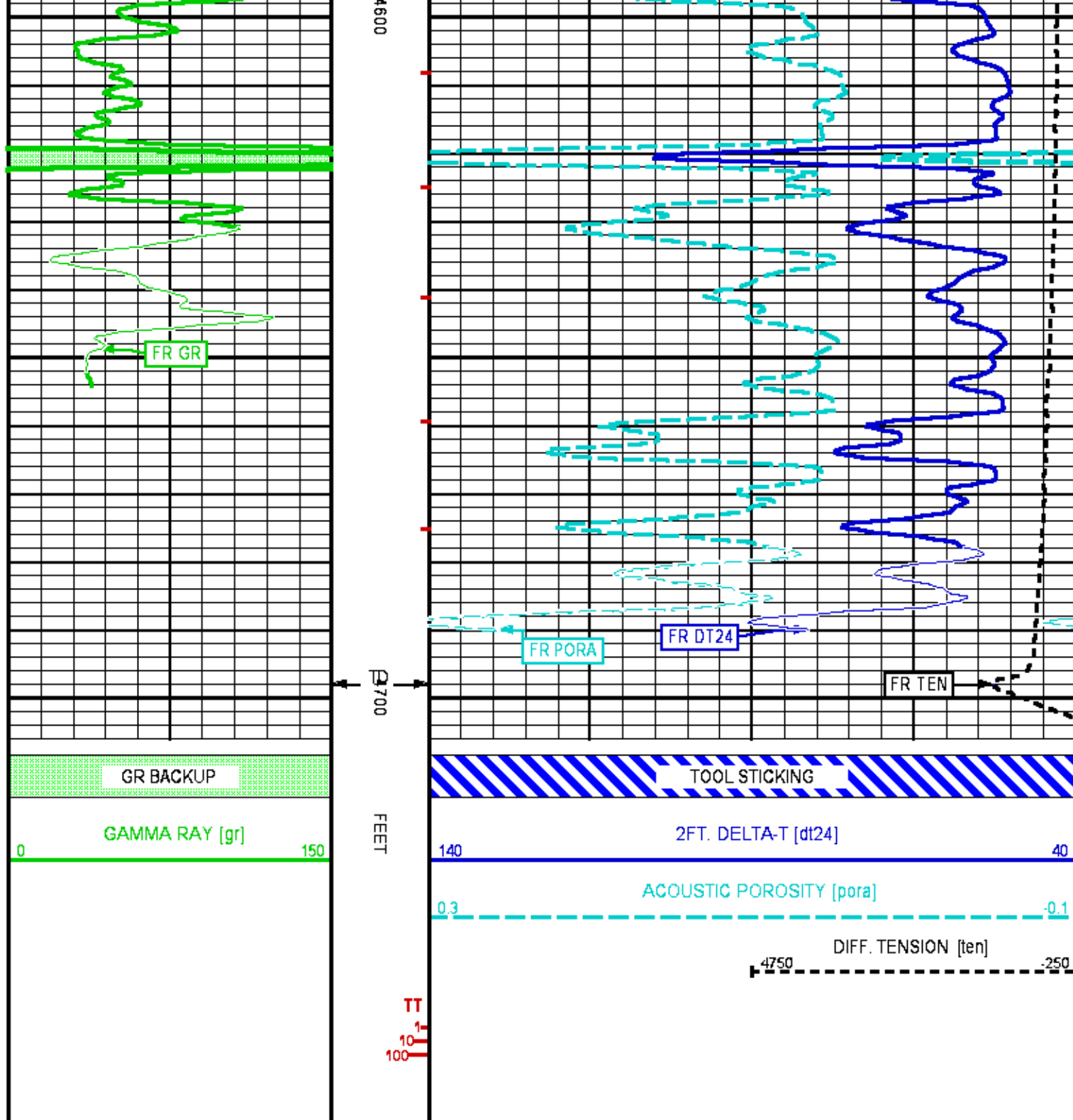
**Presentation** : cpu6690:/dat1a/617654/acoustic\_MAIN\_DL.fvpdf [5"/100' Scale]  
**Plot Interval** : 4000 - 4705.5 Feet

**Data File 1** : F1 : cpu6690:/dat1a/617654/DAL\_DL~R01.xtf  
**Created On** : Mar 22 01:19:32 2014  
**Company** : PRONGHORN OPERATING, LLC  
**Well** : PEPPER #1  
**Field** : CHEYENNE WELLS  
**File Interval** : 3837.25 - 4705.5 Feet









**REPEAT LOG 5"/100FT SCALE (DOLOMITE MATRIX 44 US/FT)**

<div> <div>FILE: /dat1a/617654/MSLAM_DAL_DL~R01.prm</div> <div>LOGGING MODE: DEPTH      DIRECTION: UP</div> <div>TOP DEPTH: 3903.250 ft      BOTTOM DEPTH: 4705.500 ft</div> </div>					
SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TENSION	FILTER ( )	medium (1)		TOP	BOTTOM
GR	FILTER ( )	medium (1)		"	"
DT24	FILTER ( )	light (2)		"	"
	FILTER (, )	light (2)		"	"
ACOUSTIC POROSITY					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACOUSTIC POROSITY	POROSITY TYPE	WYLLIE		TOP	BOTTOM
	DTmatrix	44.00	us/ft	"	"
	DTfluid	190.00	us/ft	"	"
	DTshale	100.00	us/ft	"	"
	MOD. WYLLIE PARM	2.25		"	"
	MOD. R-H-G PARM	2.00		"	"
DELTA T CURVE SELECTION	DT24 SOURCE	FIRST ARRIVAL DT24		"	"
ACOUSTIC PICK CONTROL					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DELTA-T REJECTION RANGE	REJECTION DTmin	40	us/ft	TOP	BOTTOM
	REJECTION DTmax	180	us/ft	"	"
FIRST ARRIVAL PICK (3 FT)	SEARCH START OFFSET (sfan1*)	0	us	"	"
	SEARCH START OFFSET (sfan2*)	0	us	"	"
	SEARCH START OFFSET (sfan3*)	0	us	"	"
	SEARCH START OFFSET (sfan4*)	0	us	"	"
	SEARCH WINDOW LENGTH	1200	us	"	"
	THRESHOLD FACTOR	0.30		"	"
	THRESHOLD MINIMUM (sfan1*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfan2*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfan3*)	1.8	pct	"	"
	THRESHOLD MINIMUM (sfan4*)	1.8	pct	"	"
FIRST ARRIVAL PICK (5 FT)	E3 THRESHOLD	OFF		"	"
	SEARCH START OFFSET (sfaf1*)	150	us	"	"
	SEARCH START OFFSET (sfaf2*)	150	us	"	"
	SEARCH START OFFSET (sfaf3*)	150	us	"	"
	SEARCH START OFFSET (sfaf4*)	150	us	"	"
	SEARCH WINDOW LENGTH	2400	us	"	"
	THRESHOLD FACTOR	0.30		"	"
	THRESHOLD MINIMUM (sfaf1*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfaf2*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfaf3*)	4.0	pct	"	"
	THRESHOLD MINIMUM (sfaf4*)	4.0	pct	"	"
	E3 THRESHOLD	OFF		"	"
ACOUSTIC QUALITY CONTROL					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CYCLE SKIP LIMIT	CYCLE SKIP LIMIT	100	us	TOP	BOTTOM
ACOUSTIC WAVEFORM FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
WAVEFORM FILTER - DELTA T	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	4000	Hz	"	"
	HIGH FREQ CUTOFF	30000	Hz	"	"

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:DT24	Mar 22 01:19:32 2014	SLOWNESS OVER 24-INCH INTERVAL
F1:GR	Mar 22 01:19:32 2014	GAMMA RAY
F1:PORA	Mar 22 01:19:32 2014	ACOUSTIC POROSITY
F1:TEN	Mar 22 01:19:32 2014	DIFFERENTIAL TENSION
F1:TT	Mar 22 01:19:32 2014	INTEGRATED TRAVELTIME FROM ACOUSTIC SLOWNESS

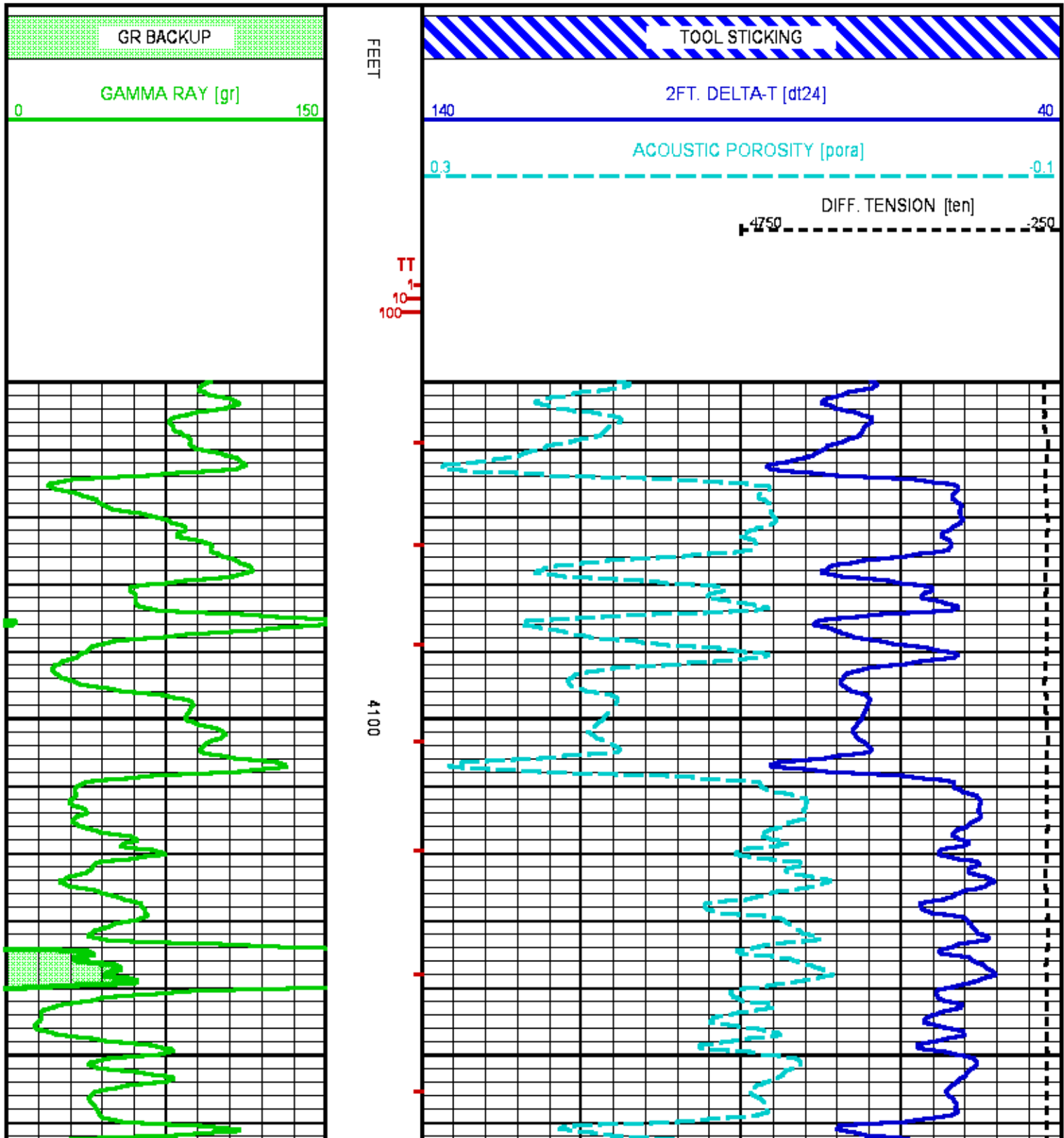


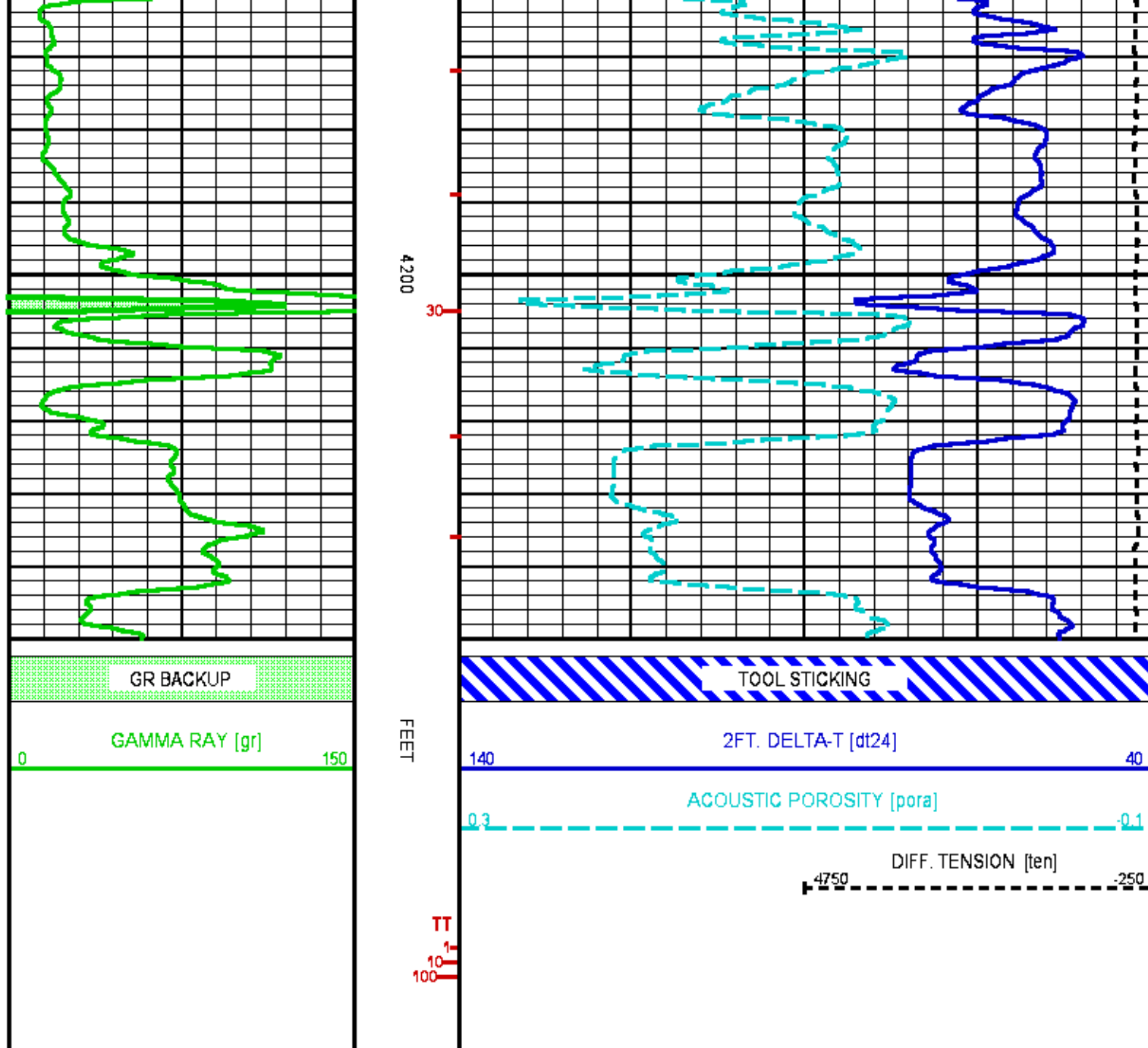
# CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
DT24	2.25	GR	49.25	PORA	2.25	TEN	0.00

Presentation : cpu6690:/dat1a/617654/acoustic\_REPEAT\_DL.fvpdf [5"/100' Scale]  
 Plot Interval : 4050 - 4250 Feet

Data File 1 : F1 : cpu6690:/dat1a/617654/DAL\_DL~R01.xtf  
 Created On : Mar 22 01:19:32 2014  
 Company : PRONGHORN OPERATING, LLC  
 Well : PEPPER #1  
 Field : CHEYENNE WELLS  
 File Interval : 3837.25 - 4705.5 Feet  
 OCT : MSLAM\_DA





## CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/617654/MSLAM.tp1

### GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 370718

DATE/TIME PERFORMED: Wed Mar 19 11:26:48 2014

UNIT #: 3882TD HL669D

CALB JIG #: 4702NK BA-857

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	GR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	183.33	1131.18	947.8	0.158	29.01	179.01	150
			890.0				930.0

### GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 370718

DATE/TIME PERFORMED:

Wed Mar 19 11:34:17 2014

UNIT #: 3882TD HL669D

VERI JIG #: 4702NK BA-857

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	187.98	1132.84	0.158	29.75	179.28	149.53
						140.00 160.00

## GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 370718

DATE/TIME PERFORMED:

Wed Mar 19 11:38:23 2014

DAYS SINCE CAL:

0

UNIT #: 3882TD HL669D

VERI JIG #: 4702NK BA-857

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	186.80	1137.91	0.158	29.56	180.08	150.52
						139.53 159.53

## INSTRUMENT CONFIGURATION

Source File: /data/a/617654/MSLAM\_DAL\_mn-tdg

## CABLEHEAD

Diameter : 3.38"  
Length : 05'06.0"  
Weight : 34 lbs  
Series : CABL33B  
Mnemonic : CBLH

## TTRM SUB

Diameter : 3.63"  
Length : 03'10.0"  
Weight : 62 lbs  
Series : 39B1XA

## WTS COMMON REMOTE

Diameter : 3.63"  
Length : 06'04.4"  
Weight : 126 lbs  
Series : 3514XB  
Mnemonic : WTS

## DIGITAL SPECTRALOG

Diameter : 3.63"  
Length : 07'03.7"  
Weight : 130 lbs  
Series : 1329XA  
Mnemonic : DSL

## HIGH DEFINITION INDUCTION TOOL

Diameter : 3.63"  
Length : 27'01.6"  
Weight : 415 lbs  
Series : 1515XA  
Mnemonic : HDIL

## ARRAY ACOUSTILOG ELECTRONICS, B CHANNEL

Diameter : 3.38"  
Length : 07'09.8"  
Weight : 103 lbs  
Series : 1677EA

70'13.0"

CABLEHEAD TOP 68'3.0"

TEMP MP 63'0.6"  
RM MP 62'9.6"

GR MP 49'7.1"

SP MP 34'9.2"

XMTR MP 28'3.6"

Mnemonic : XMAC

**DIGITAL ACOUSTILOG**

Diameter : 3.38"  
Length : 12'09.1"  
Weight : 145 lbs  
Series : 16B0MA  
Mnemonic : DAL

T1 MP --- 8'3.8"

T2 MP --- 6'3.8"

R1 MP --- 3'3.8"

0'0.0"

**BULL PLUG 3 3/8**

TOTAL LENGTH: 70'12.0"  
TOTAL WEIGHT: 1006 lbs  
MAX DIAMETER: 0'3.63"



COMPANY	<u>PRONGHORN OPERATING, LLC</u>
WELL	<u>PEPPER #1</u>
FIELD	<u>CHEYENNE WELLS</u>
COUNTY	<u>CHEYENNE</u> STATE <u>COLORADO</u>

FILE NO:	<u>OH083650</u>
API NO:	<u>05017077820000</u>

LOCATION:
<u>SHL: 1691' FNL &amp; 2034' FEL</u>
SEC <u>5</u> TWP <u>14S</u> RGE <u>44W</u>

ELEVATIONS:
KB <u>4281 FT</u>
DF <u>4280 FT</u>
GL <u>4264 FT</u>
DATE <u>22 MAR 2014</u>