BAKER HUGHES

Baker Atlas

COMPENSATED Z-DENSILOG (SM)
COMPENSATED NEUTRON LOG
GAMMA RAY LOG
CALIPER LOG

FILE NO:	COMPANY	SIERRA GEOTHERMAL POWER, INC.
	WELL	ALUM 25-29
API NO: 27-009-60074	FIELD	ALUM
	COUNTY	ESMERALDA STATE NEVADA

Ver. 3.87

TIGHT HOLE

LOCATION:
SHL: 2235.16' FSL & 938.11' FWL
SW/C

SEC 29 TWP 1N RGE 38.5 E

OTHER SERVICES
HDIL
XMAC
STAR/CBIL
TEMP

PERMANENT DATUM	G.L.	ELEVATION	4903.57 FT
LOG MEASURED FROM	K.B.	16.0 FT	ABOVE P.D.
DRILL. MEAS. FROM	K.B.		

ELEVATIONS:
KB 4919.57 FT
DF
GL 4903.57 FT

DATE		25-NOV-2009			
RUN	TRIP	2	3		
SERVICE ORDER		575996			
DEPTH DRILLER		3314 FT			
DEPTH LOGGER		3312 FT			
BOTTOM LOGGED INTERVAL		3300 FT			
TOP LOGGED INTERVAL		2100 FT			
CASING DRILLER		10.75 IN @ 2300 FT		@	
CASING LOGGER		2290 FT			
BIT SIZE		9.875 IN			
TYPE OF FLUID IN HOLE		LSND			
DENSITY	VISCOSITY	8.8 LB/G	40 S		
PH	FLUID LOSS	9.7	6 C3		
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		0.885 OHMM	@ 67.72 DEGF	@	
RMF AT MEAS. TEMP.		0.826 OHMM	@ 67.54 DEGF	@	
RMC AT MEAS. TEMP.		1.018 OHMM	@ 66.90 DEGF	@	
SOURCE OF RMF	RMC	MEASURED	MEASURED		
RM AT BHT		0.291 OHMM	@ 220 DEGF	@	
TIME SINCE CIRCULATION		18.75 HOURS			
MAX. RECORDED TEMP.		220 DEGF			
EQUIP. NO.	LOCATION	ML-4232	FALLON, NV		
RECORDED BY		C. PEAVEY			
WITNESSED BY		J. HAMBLIN			

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE 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.

REMARKS

RUN 2 TRIP 3: CVOL WAS COMPUTED USING 8.625" CASING (BVOL AND CVOL UNITS ARE IN CUBIC FEET)
CALIPER WAS VERIFIED IN CASING.

MATRIX = DOLOMITE
RHO M: 2.86 G/CC AND RHO F: 1.0 G/CC

MATRIX = SANDSTONE
RHO M: 2.65 G/CC AND RHO F: 1.0 G/CC

A BOW-SPRING WAS RUN TO DECENTRALIZE THE NEUTRON TOOL.

A MAXIMUM READING THERMOMETER WAS RUN AS WELL AND THE MAXIMUM TEMPERATURE IT REACHED WAS: 220 DEGF

THANK YOU FOR CHOOSING BAKER ATLAS!
CREW: R. DANKLEFSEN AND J. HAYCOCK
RIG: ENSIGN 561

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
2	3	SMVL	3944XD	10165944	FREE
2	3	TTRM	3981XA	10217216	FREE
2	3	MTS	3514XB	10200359	FREE
2	3	DSL	1329XA	10203000	DE-CENTRALIZED
2	3	CN	2446XA	178981	DE-CENTRALIZED
2	3	ZDL	2234XA	10334813	PAD-DEVICE

MAIN LOG 5"/100FT SCALE (POROSITY - DOLOMITE MATRIX)

ECLIPS 6.01 Feb 21, 2008
Updates: 1,43

Thu Nov 26 05:57:17 2009

Perplt /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.42

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/575998/k771IR10.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1852.500 ft BOTTOM DEPTH: 3320.250 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1a*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2a*)	medium		"	"
	FILTER (soft*)	medium		"	"
ZDL HIGH RES	FILTER (hrd1*)	light		"	"
	FILTER (hrd1a*)	light		"	"
	FILTER (hrd2*)	light		"	"
	FILTER (hrd2a*)	light		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	5.625	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	9.875	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	9.875	in	"	"

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
2446 CN MATRIX	2446 MATRIX	DOLOMITE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
DENSITY POROSITY	RHOmatrix	2.680	g/cm3	TOP	BOTTOM

	RHOfluid		1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON			"	"

CURVE DESCRIPTION REPORT

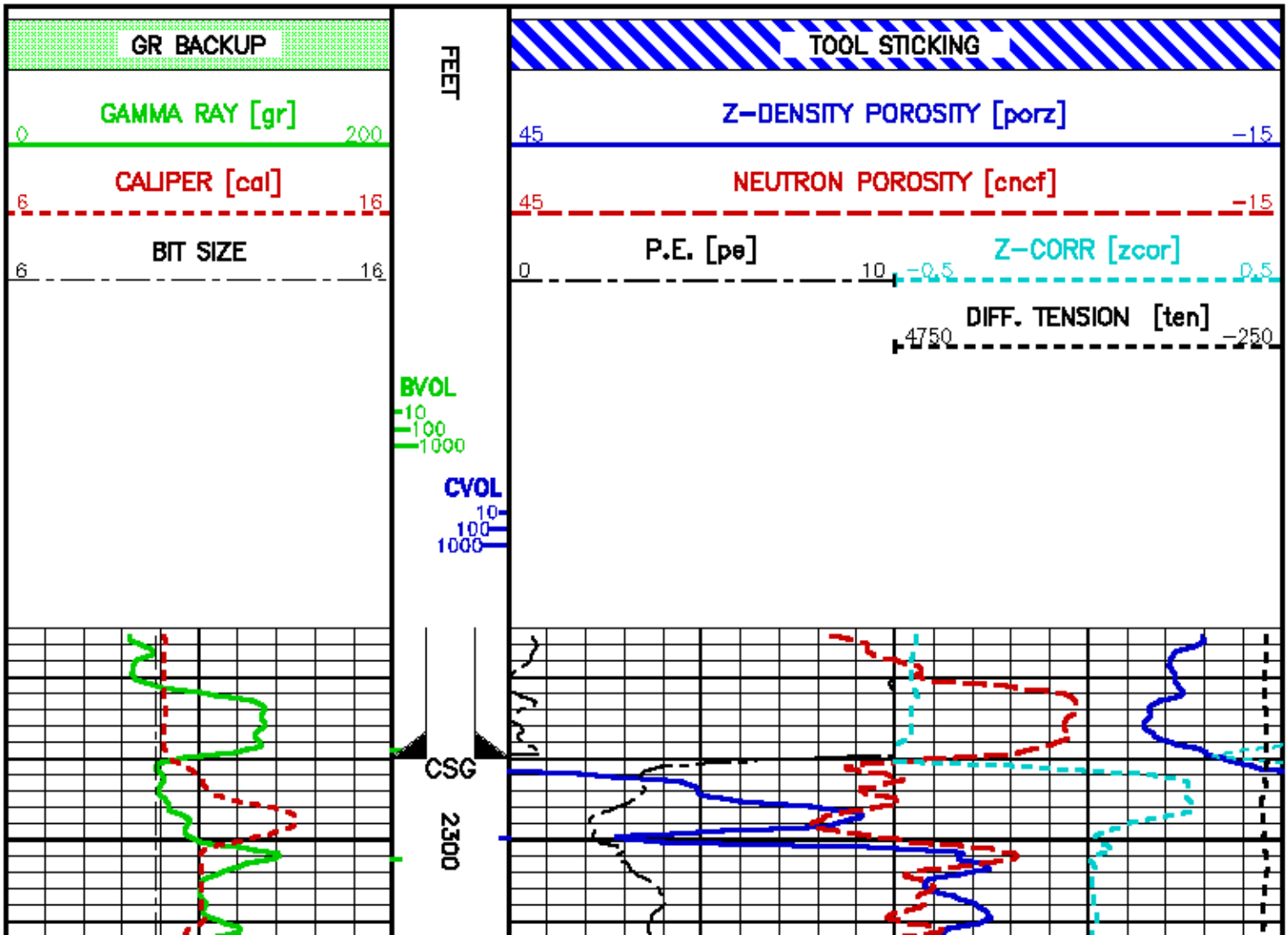
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Nov 25 19:11:01 2009	BIT SIZE
F1:BVOL	BVOL	Nov 25 19:11:01 2009	BOREHOLE VOLUME
F1:CAL	CAL	Nov 25 19:11:01 2009	CALIPER
F1:CNCF	CNCF	Nov 25 19:11:01 2009	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	CVOL	Nov 25 19:11:01 2009	CEMENT VOLUME
F1:GR	GR	Nov 25 19:11:01 2009	GAMMA RAY
F1:PE	PE	Nov 25 19:11:01 2009	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	PORZ	Nov 25 19:11:01 2009	POROSITY FOR SELECTABLE MATRIX
F1:TEN	TEN	Nov 25 19:11:01 2009	DIFFERENTIAL TENSION
F1:ZCOR	ZCOR	Nov 25 19:11:01 2009	DENSITY CORRECTION

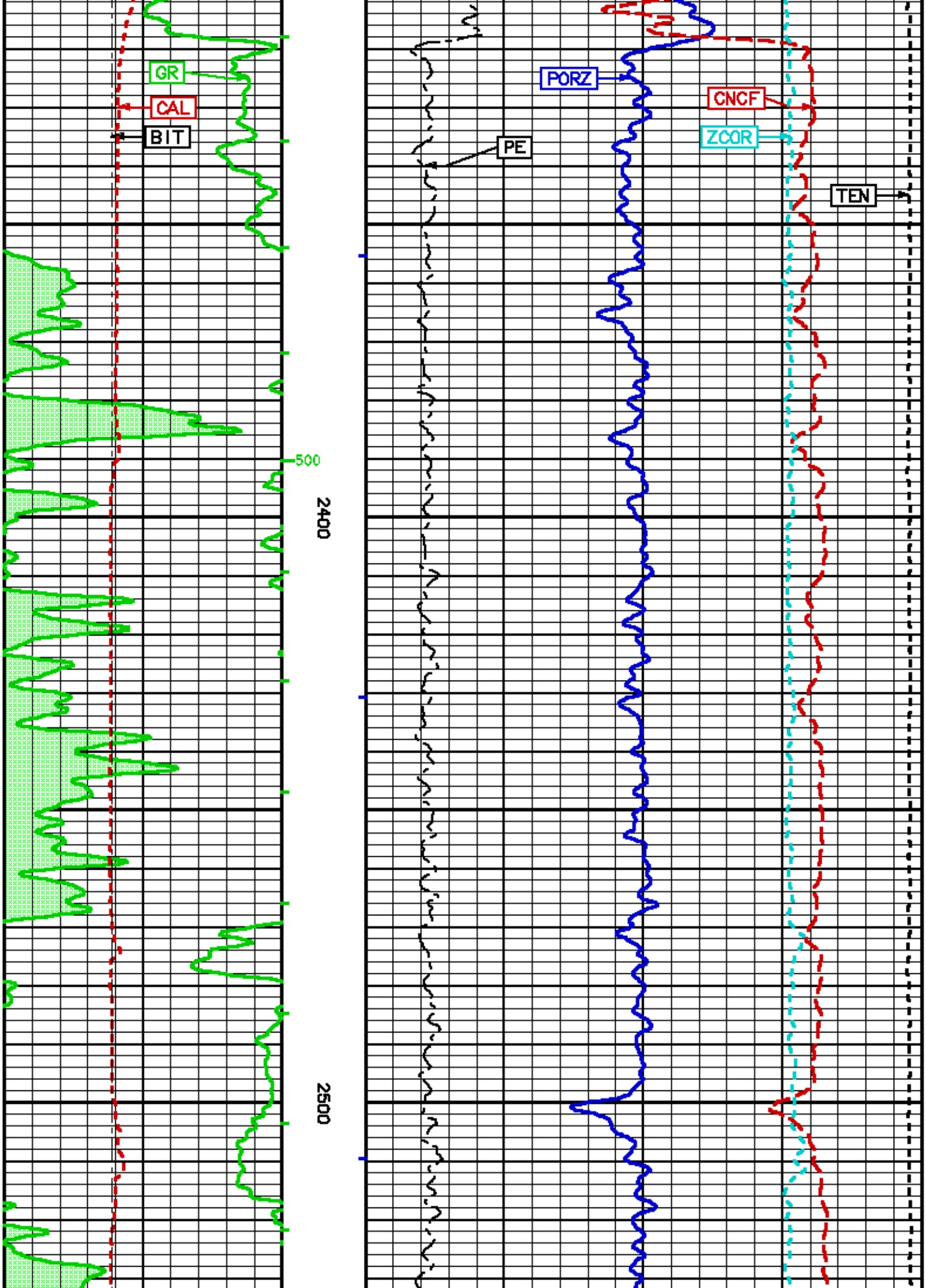
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	CNCF	14.50	PE	3.50	TEN	0.00
CAL	4.00	GR	21.38	PORZ	3.50	ZCOR	3.50

Presentation : cpu1:/dat1a/575898/ZDLCN_POR_DOL_MAIN.pdf [5"/100' Scale]
Plot Interval : 2275 - 3320.25 Feet

Data File 1 : F1 : cpu1:/dat1a/575898/8_ZDLCN_DOL_MAIN.xtf
Created On : Nov 25 19:11:01 2009
Company : SIERRA GEOTHERMAL POWER, INC.
Well : ALUM 25-29
Field : ALUM
File Interval : 1818.75 - 3320.25 Feet
Det : k7711

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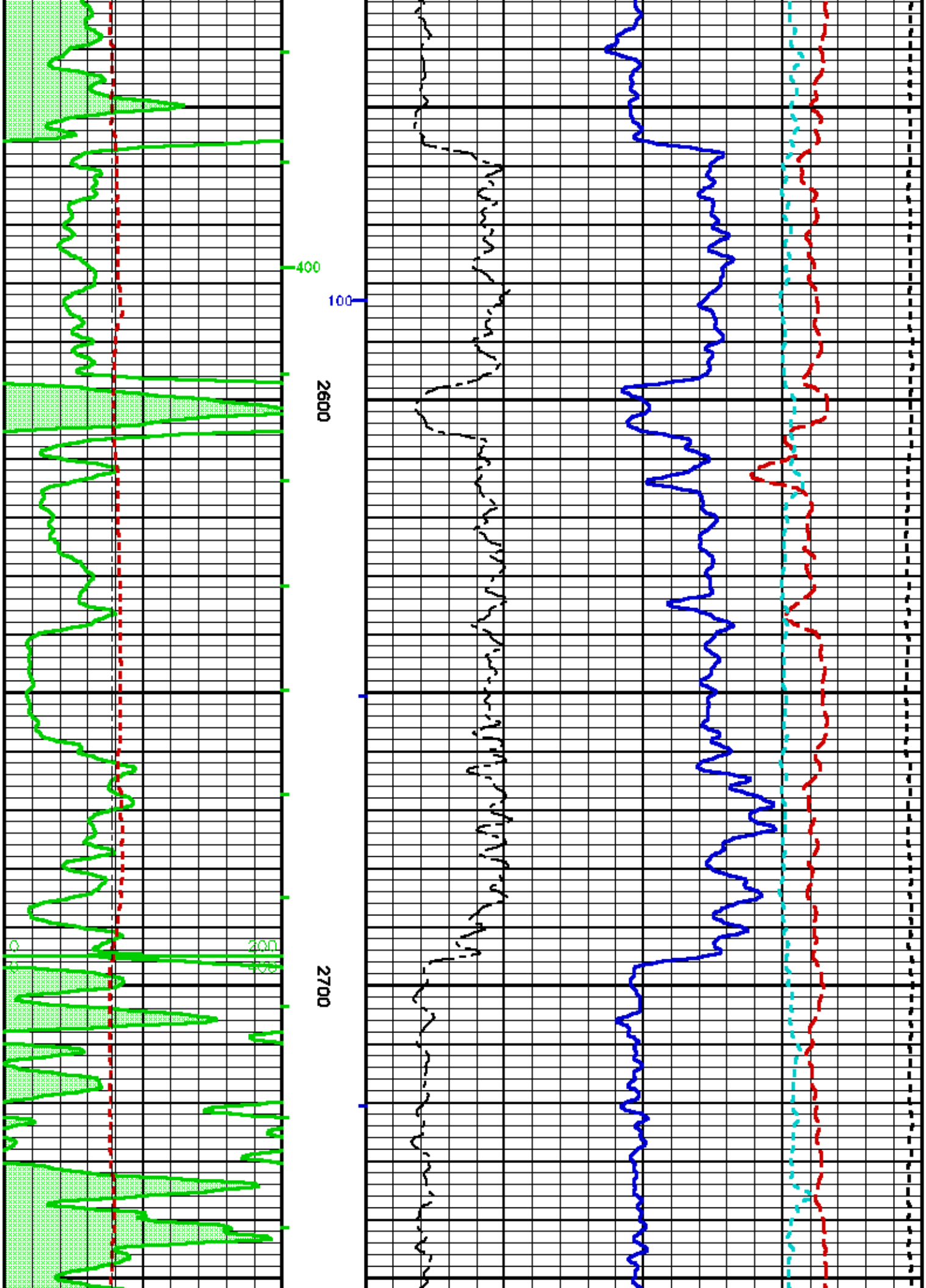
CAL
BIT
PE
PORZ
CNCF
ZCOR
TEN
500
2400
2500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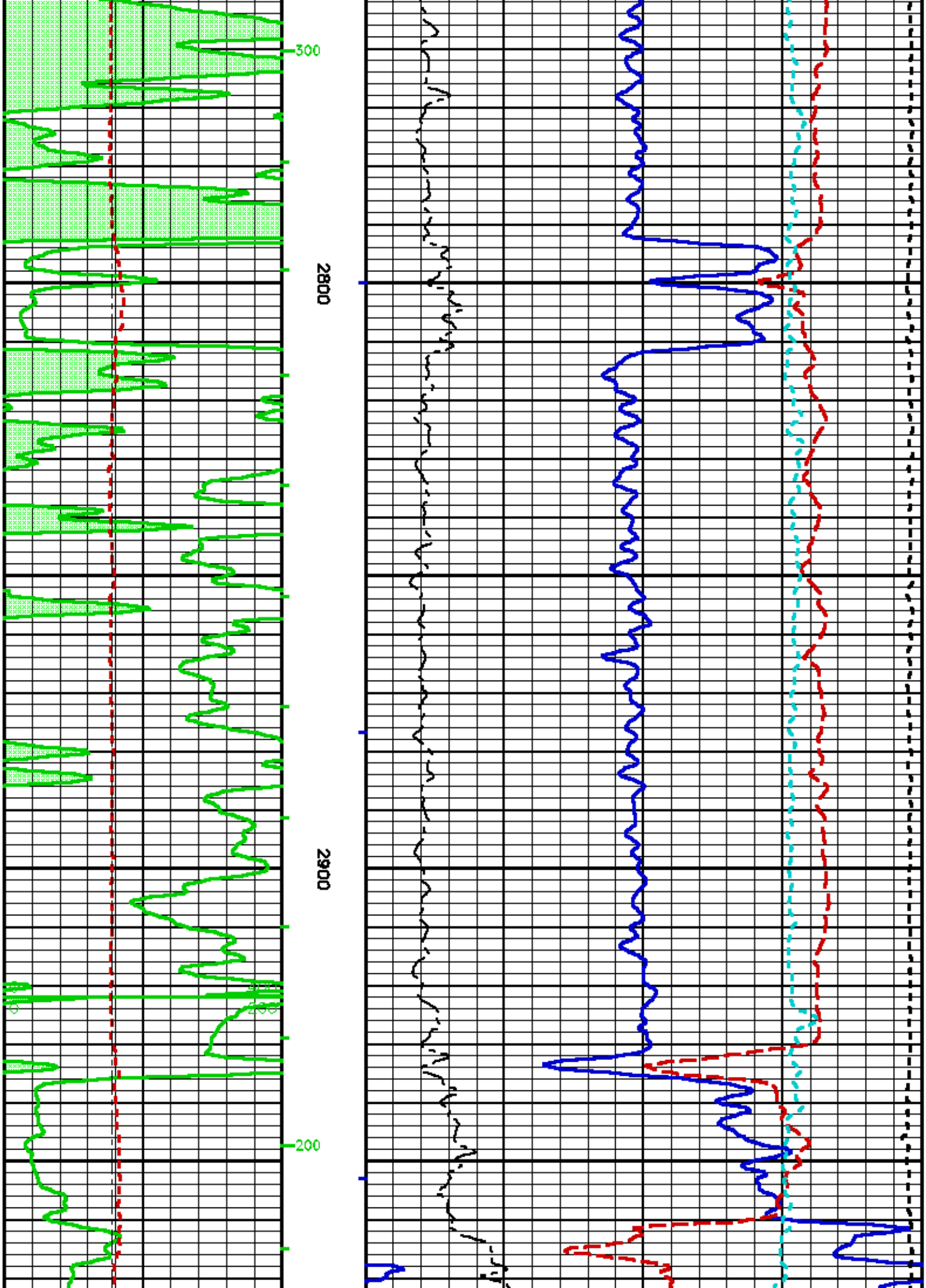
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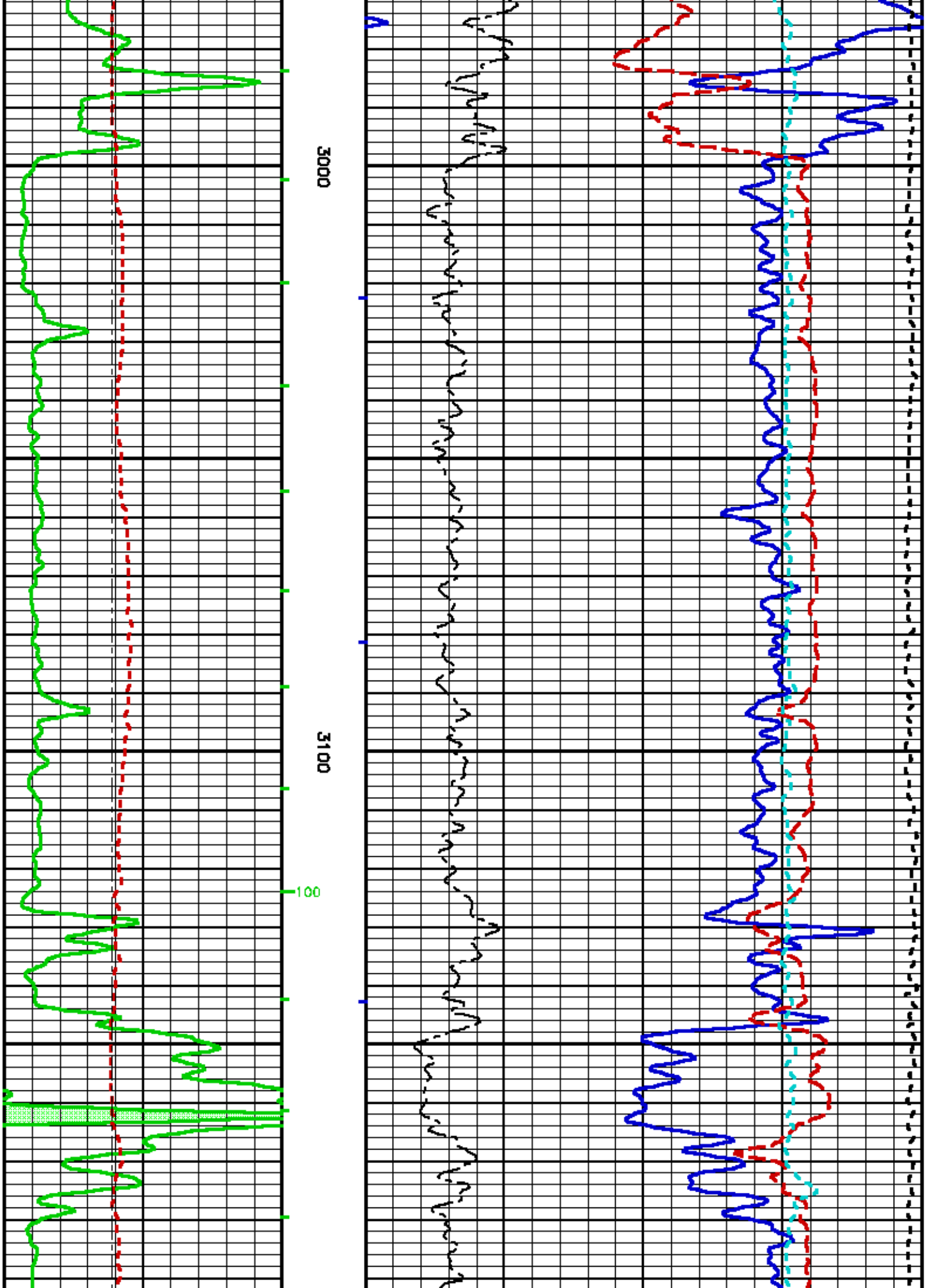
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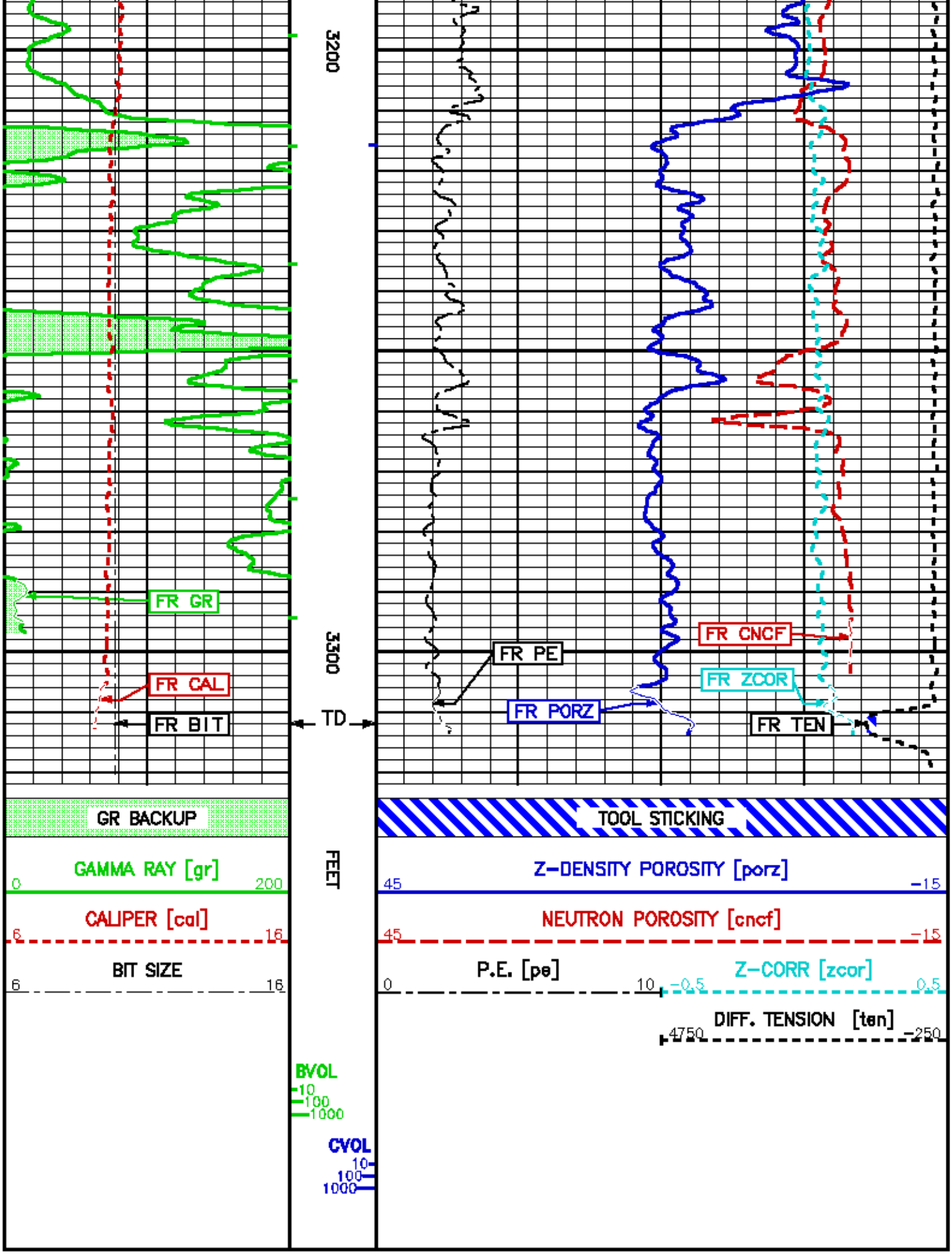
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FR BIT
TD
FR PE
FR PORZ
FR CNCF
FR ZCOR
FR TEN
GR BACKUP
TOOL STICKING
GAMMA RAY [gr]
0
200
CALIPER [cal]
6
16
BIT SIZE
6
16
BVOL
10
100
1000
CVOL
10
100
1000
Z-DENSITY POROSITY [porz]
45
-15
NEUTRON POROSITY [cncf]
45
-15
P.E. [pe]
0
10
Z-CORR [zcor]
-0.5
0.5
DIFF. TENSION [ten]
4750
-250

MAIN LOG 5"/100FT SCALE (POROSITY - SANDSTONE MATRIX)

ECLIPS 6.01 Feb 21, 2008
Updates: 1,43

Thu Nov 26 05:52:26 2009

Perpit /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.42

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/575996/k771110.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1852.500 ft BOTTOM DEPTH: 3520.259 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1a*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2a*)	medium		"	"
	FILTER (soft*)	medium		"	"
ZDL HIGH RES	FILTER (hrd1*)	light		"	"
	FILTER (hrd1a*)	light		"	"
	FILTER (hrd2*)	light		"	"
	FILTER (hrd2a*)	light		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	8.625	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	9.875	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	9.875	in	"	"

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
2448 CN MATRIX	2448 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
DENSITY POROSITY	RHOmatrix	2.650	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Nov 25 09:46:46 2009	BIT SIZE
F1:BVOL	BVOL	Nov 25 09:46:46 2009	BOREHOLE VOLUME
F1:CAL	CAL	Nov 25 09:46:46 2009	CALIPER
F1:CNCF	CNCF	Nov 25 09:46:46 2009	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	CVOL	Nov 25 09:46:46 2009	CEMENT VOLUME
F1:GR	GR	Nov 25 09:46:46 2009	GAMMA RAY

F1:GR	GR	Nov 25 09:46:46 2009	GAMMA RAY
F1:PE	PE	Nov 25 09:46:46 2009	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	PORZ	Nov 25 09:46:46 2009	POROSITY FOR SELECTABLE MATRIX
F1:TEN	TEN	Nov 25 09:46:46 2009	DIFFERENTIAL TENSION
F1:ZCOR	ZCOR	Nov 25 09:46:46 2009	DENSITY CORRECTION

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	CNCF	14.50	PE	3.50	TEN	0.00
CAL	4.00	GR	21.38	PORZ	3.50	ZCOR	3.50

Presentation : cpu1:/dat1a/575898/ZDLCN_POR_SS_MAIN.pdf [5"/100' Scale]
Plot Interval : 2275 - 3320.25 Feet

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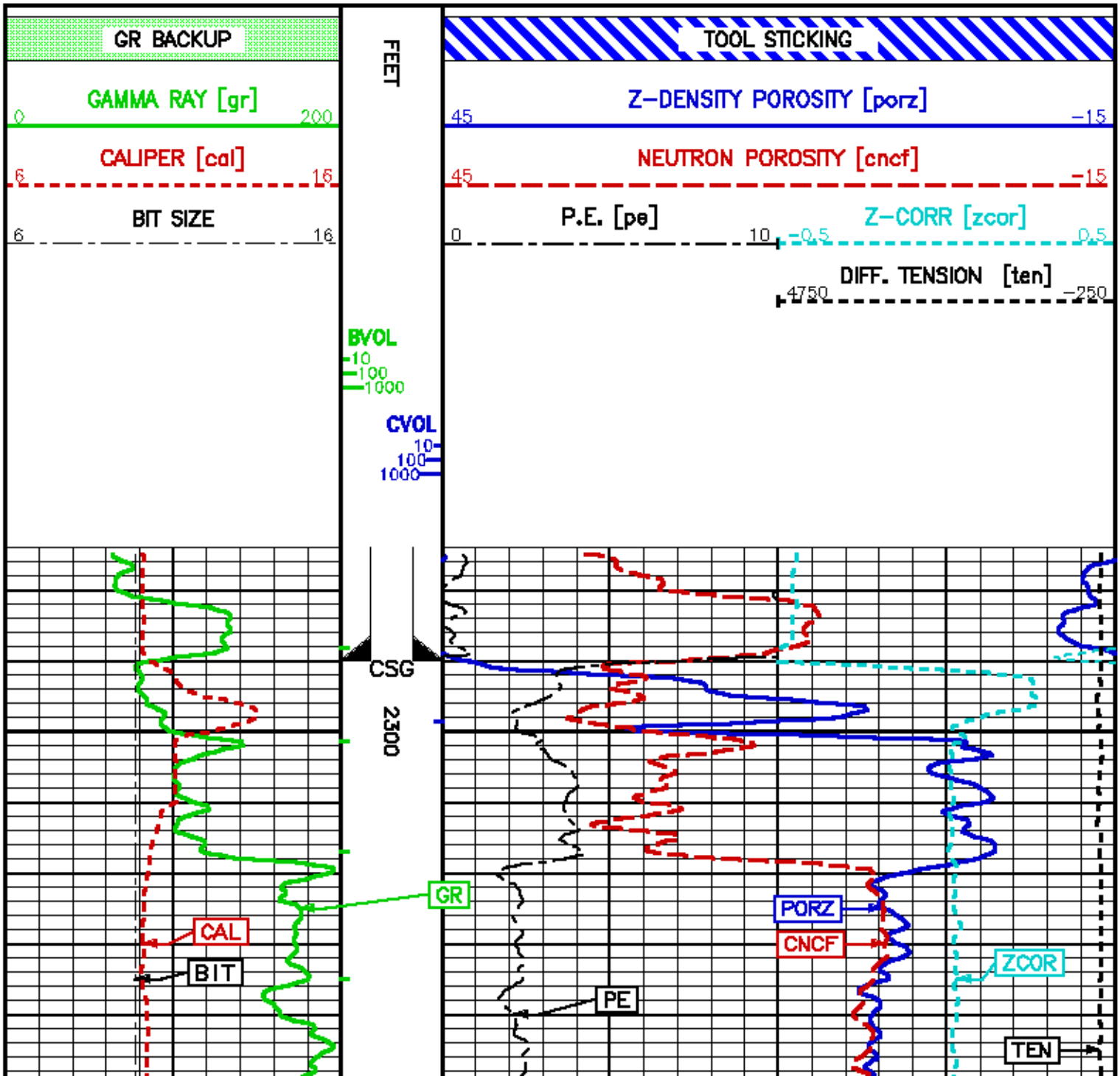
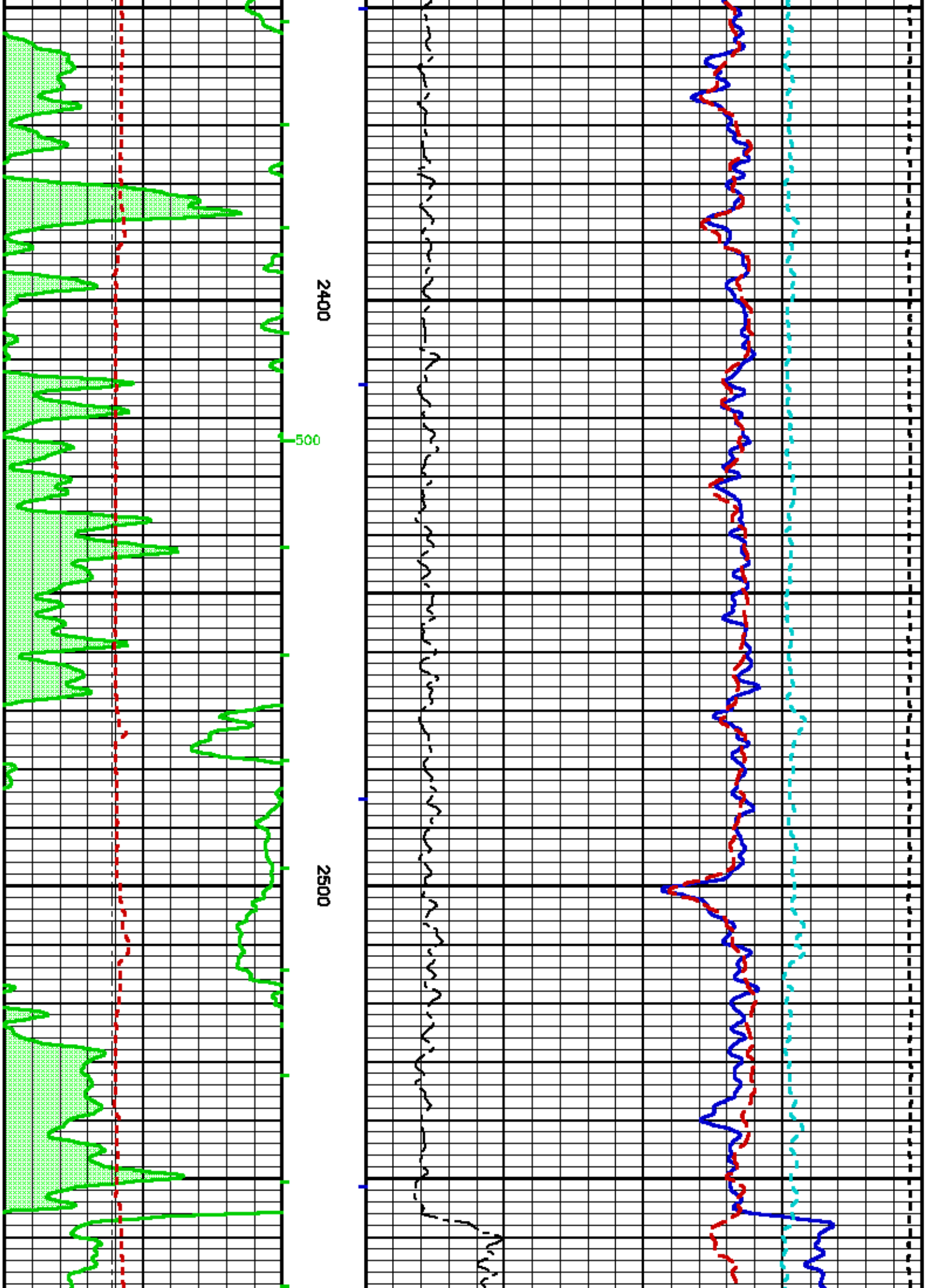
Created On : Nov 25 09:46:46 2009
Company : SIERRA GEOTHERMAL POWER, INC.
Well : ALUM 25-29
Field : ALUM
File Interval : 1818.75 - 3320.25 Feet
Dat : k7711

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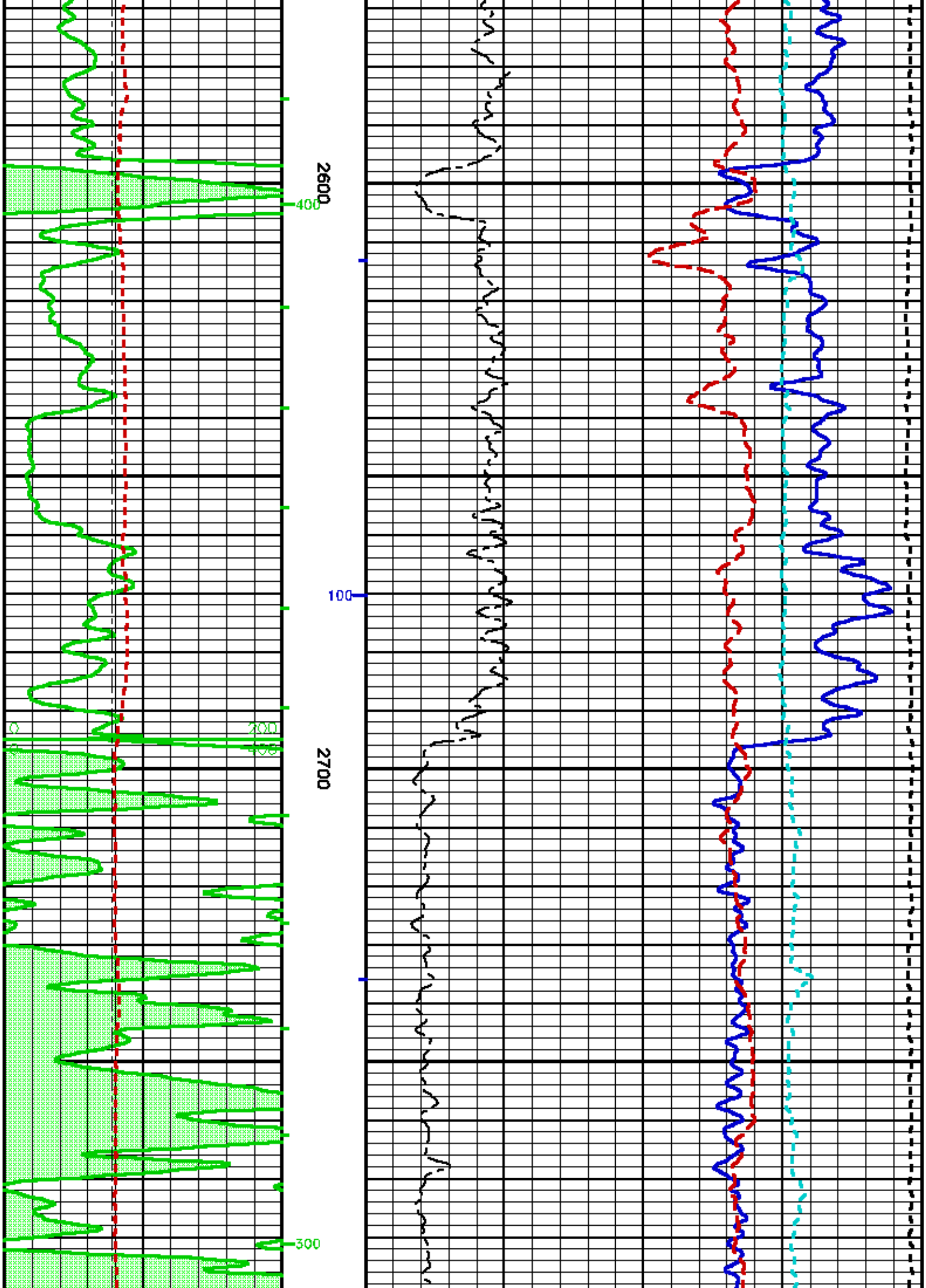
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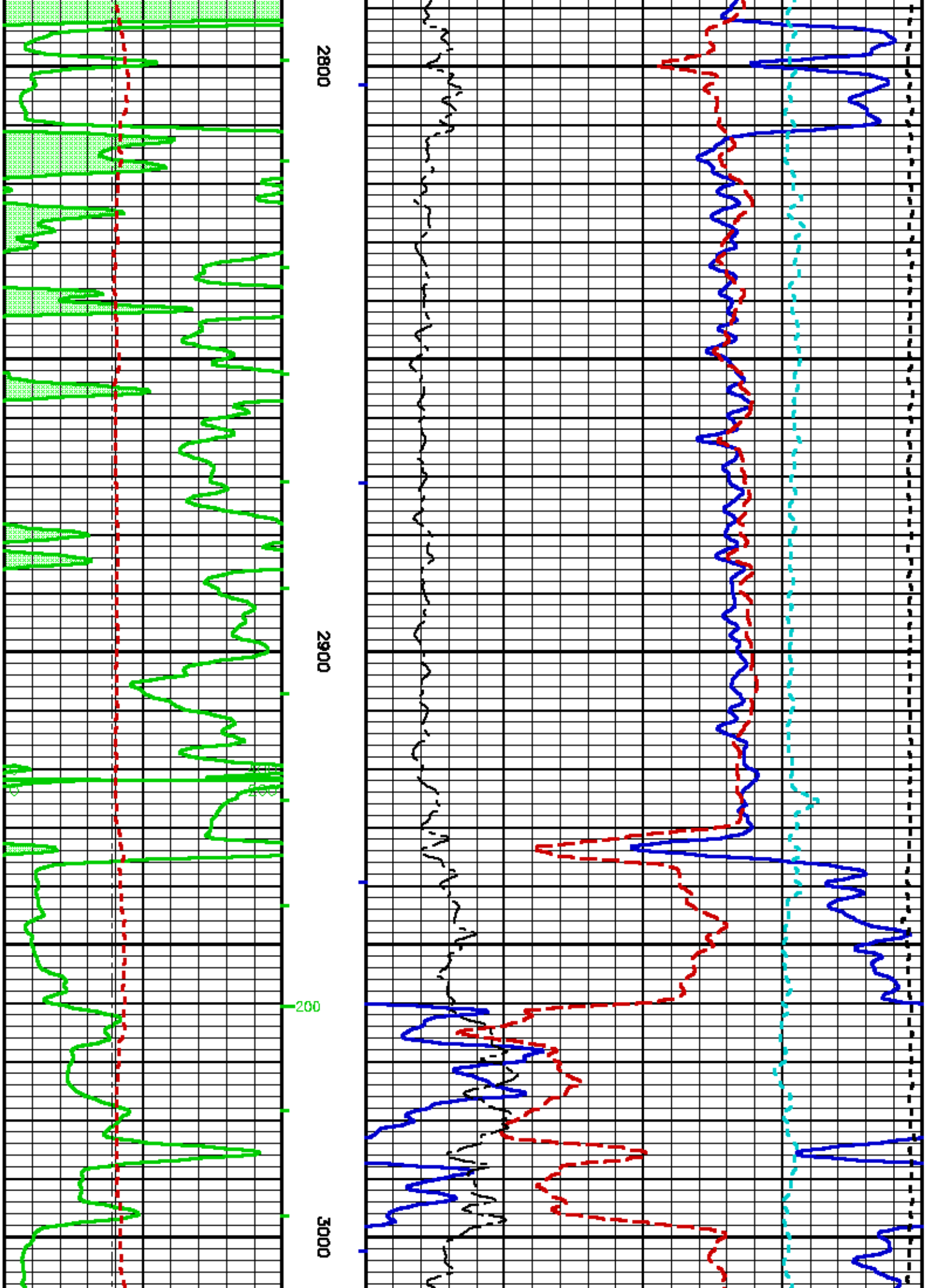
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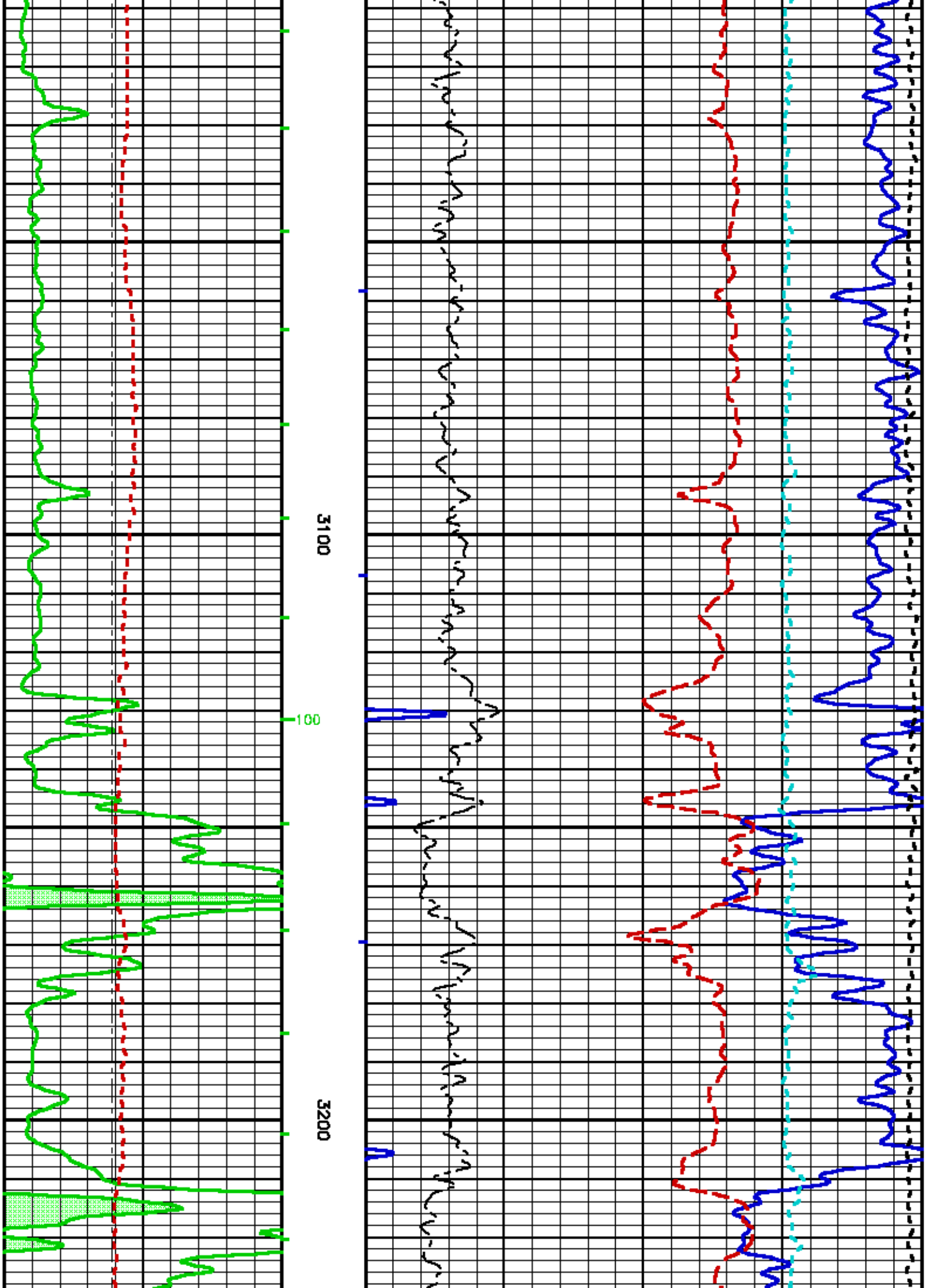
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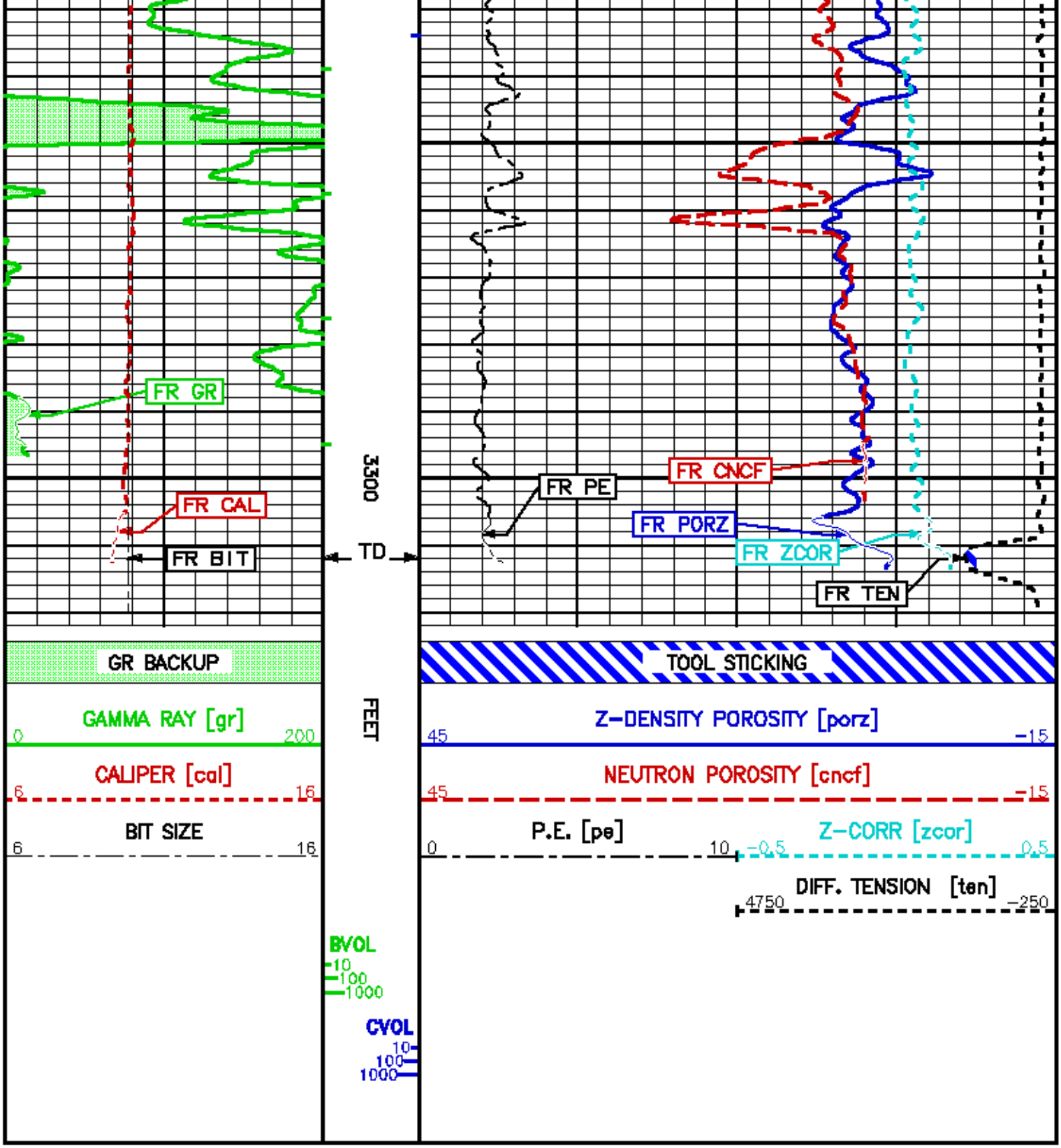

MAIN LOG 5"/100FT SCALE (BULK DENSITY)

ECLIPS 6.01 Feb 21, 2008
Updates: 1,43

Thu Nov 26 06:04:21 2009

Perpit /main/62 Cplot Pdf Cpp /main/16 Fileview 5.42

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/575996/k771110.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1852.500 ft BOTTOM DEPTH: 3320.259 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1e*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2e*)	medium		"	"
	FILTER (soft*)	medium		"	"
ZDL HIGH RES	FILTER (hrd1*)	light		"	"
	FILTER (hrd1e*)	light		"	"
	FILTER (hrd2*)	light		"	"
	FILTER (hrd2e*)	light		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	6.625	in	TOP	BOTTOM
BIT SIZE	BIT SIZE	9.875	in	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
ZDL	DENX TRACKING	ON		TOP	BOTTOM

CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Nov 25 09:46:48 2009	BIT SIZE
F1:BVOL	BVOL	Nov 25 09:46:48 2009	BOREHOLE VOLUME
F1:CAL	CAL	Nov 25 09:46:48 2009	CALIPER
F1:CVOL	CVOL	Nov 25 09:46:48 2009	CEMENT VOLUME
F1:GR	GR	Nov 25 09:46:48 2009	GAMMA RAY
F1:PE	PE	Nov 25 09:46:48 2009	PHOTO ELECTRIC CROSS-SECTION
F1:TEN	TEN	Nov 25 09:46:48 2009	DIFFERENTIAL TENSION
F1:ZCOR	ZCOR	Nov 25 09:46:48 2009	DENSITY CORRECTION
F1:ZDEN	ZDEN	Nov 25 09:46:48 2009	FORMATION BULK DENSITY

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	21.38	TEN	0.00	ZDEN	3.50
CAL	4.00	PE	3.50	ZCOR	3.50		

Presentation : epu1:/dat1a/575996/ZDLCN_BULK_MAIN.pdf [5"/100' Scale]
Plot Interval : 2275 - 3320.25 Feet

Data File 1 : F1 : epu1:/dat1a/575996/9_ZDL-CN_MAIN.tif
Created On : Nov 25 09:46:48 2009
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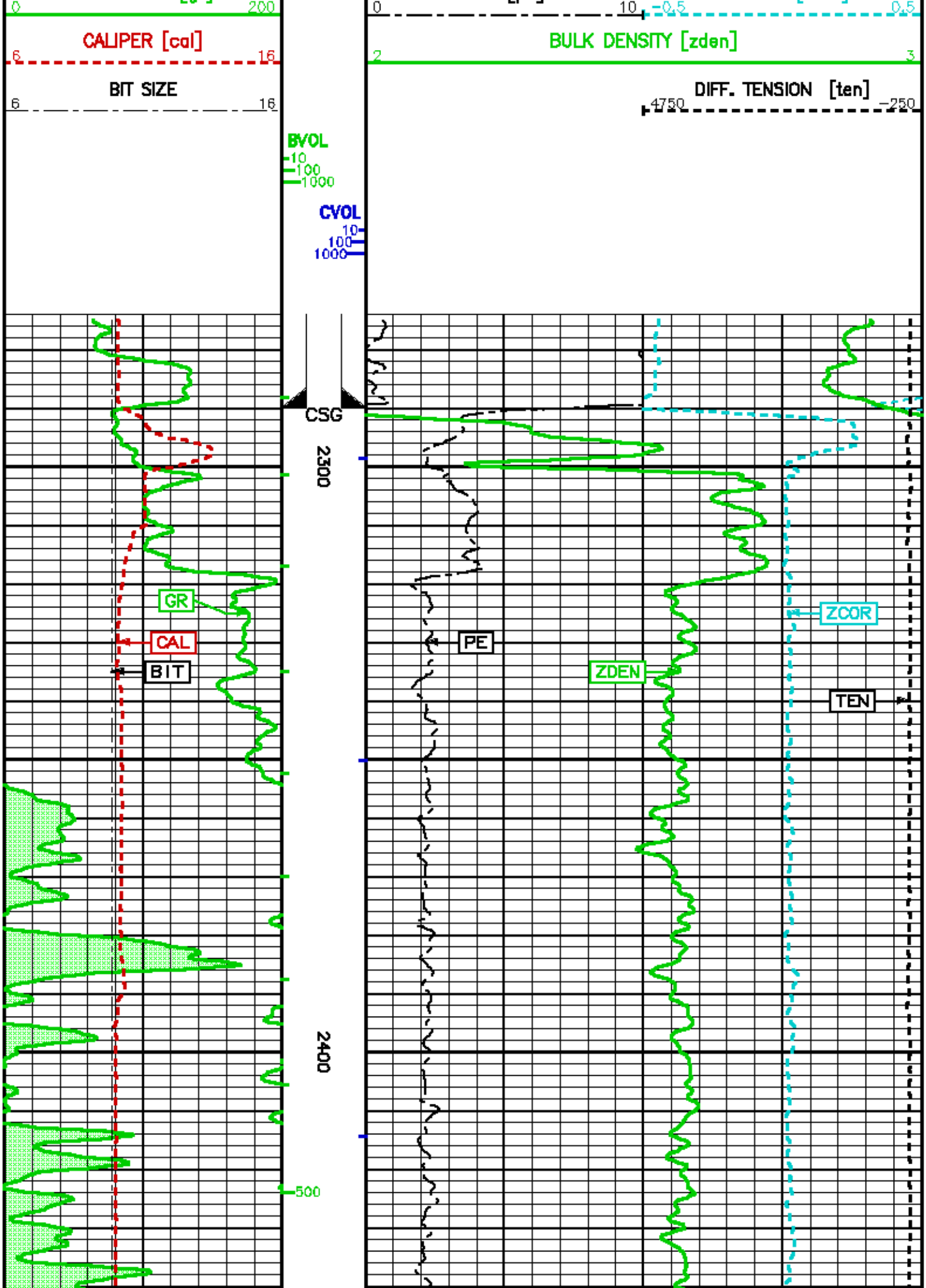
Well : ALUM 25-29
Field : ALUM
File Interval : 1818.75 - 3320.25 Feet
Dat : k771l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CVOL
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10
-0.5
0.5
BULK DENSITY [zden]
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3
DIFF. TENSION [ten]
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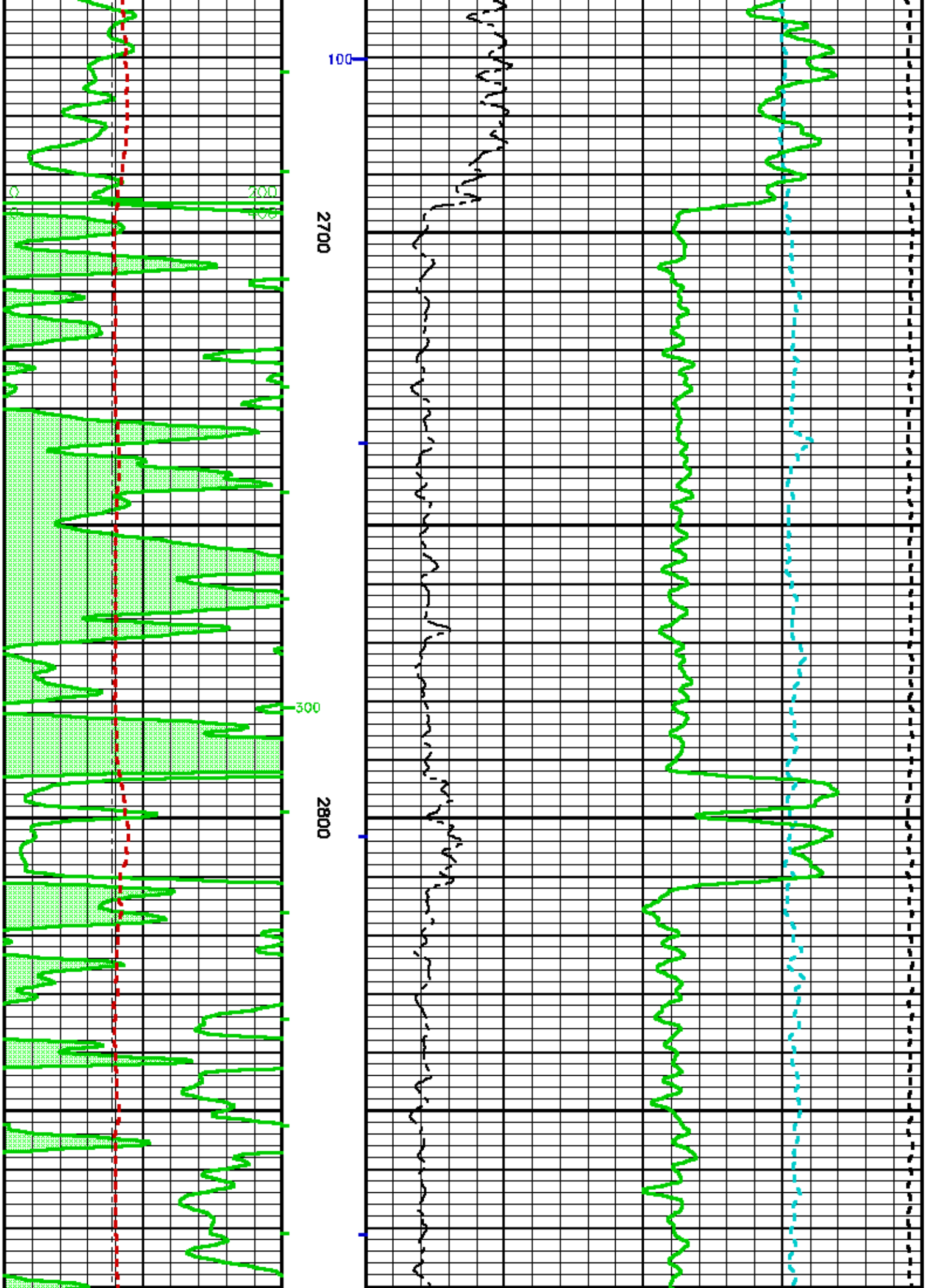
GR
CAL
BIT
PE
ZDEN
ZCOR
TEN

2500
2600
400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2900
200
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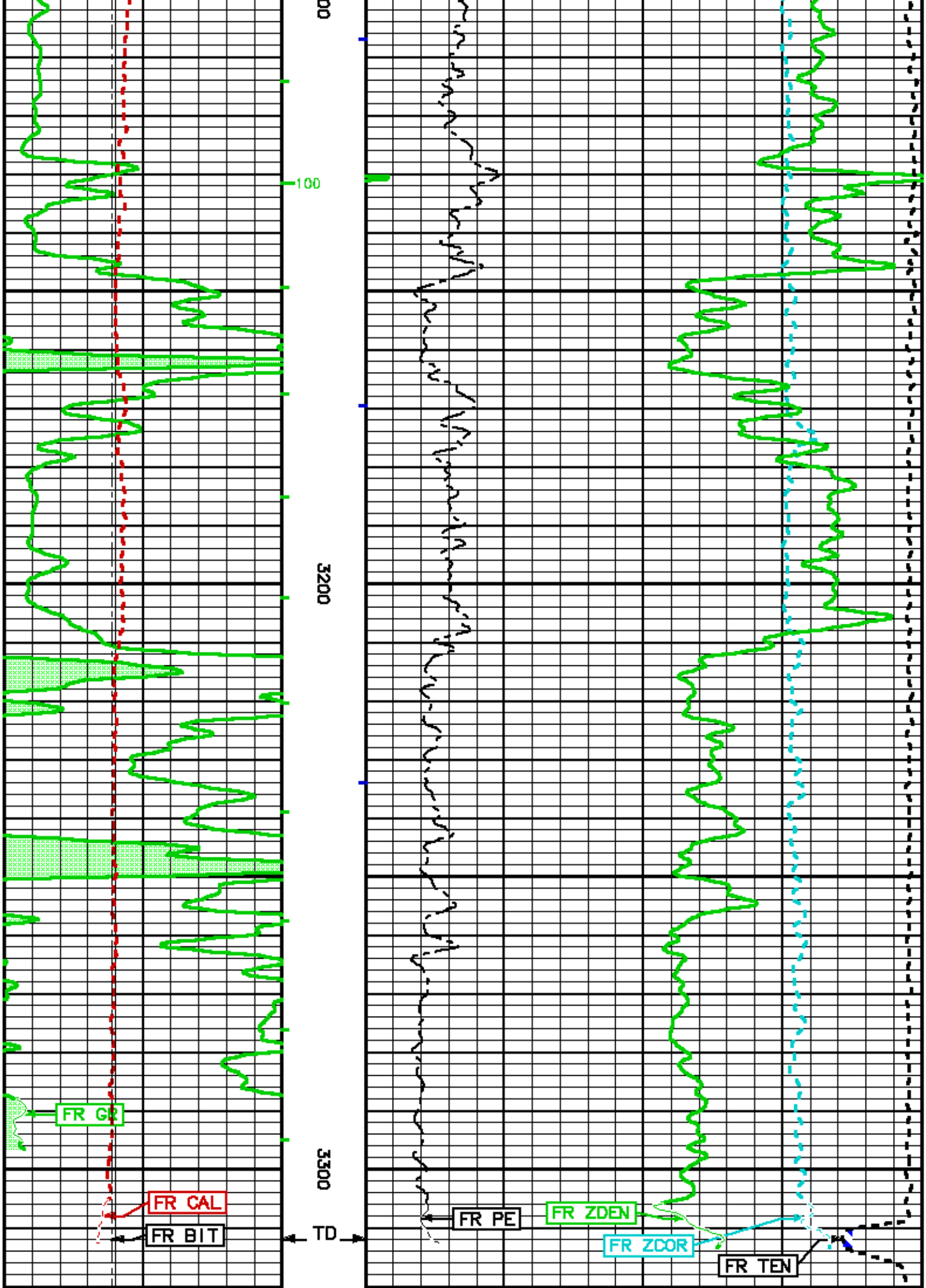
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TD
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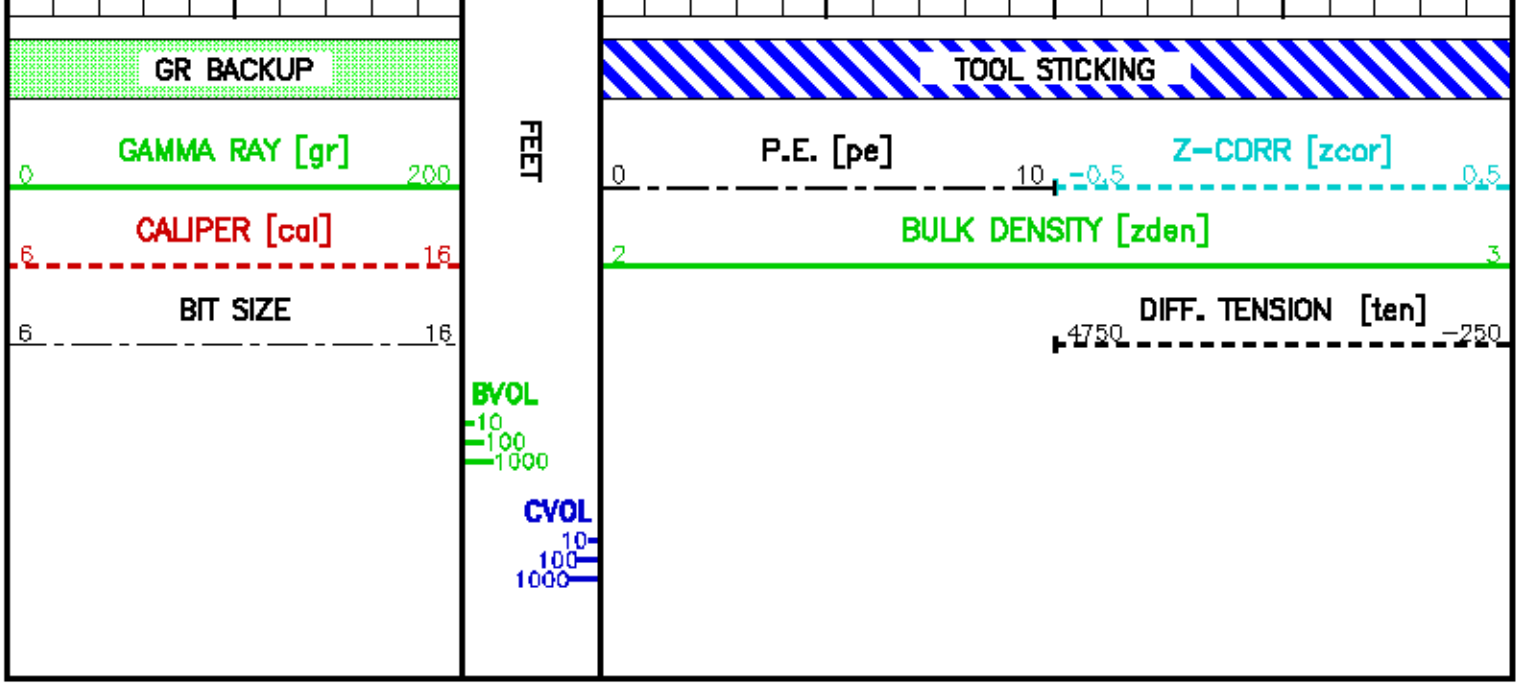


REPEAT LOG (POROSITY - DOLOMITE MATRIX)

ECLIPS 6.0f Feb 21, 2008
Updates: 1,43

Thu Nov 26 05:58:34 2009

Perplt /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.42

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/575886/k7711R09.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2903.000 ft BOTTOM DEPTH: 3313.500 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1a*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2a*)	medium		"	"
	FILTER (soft*)	medium		"	"
ZDL HIGH RES	FILTER (hrd1*)	light		"	"
	FILTER (hrd1a*)	light		"	"
	FILTER (hrd2*)	light		"	"
	FILTER (hrd2a*)	light		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	8.625	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	9.875	in	"	"

BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	9.875	in	''	''

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
2448 CN MATRIX	2448 MATRIX	DOLOMITE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	7.875	in	''	''

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
DENSITY POROSITY	RHOmatrix	2.650	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	''	''
ZDL	DENS TRACKING	ON		''	''

CURVE DESCRIPTION REPORT

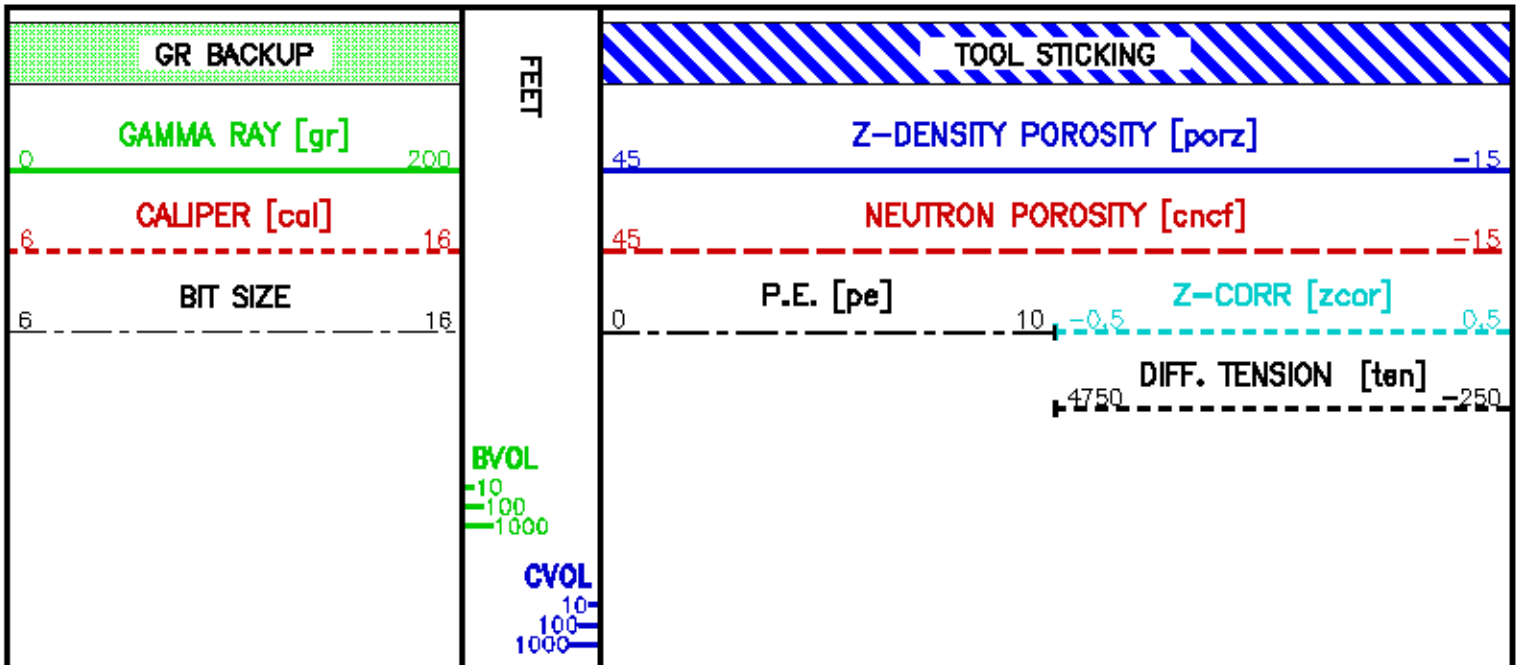
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Nov 25 19:08:33 2009	BIT SIZE
F1:BVOL	BVOL	Nov 25 19:08:33 2009	BOREHOLE VOLUME
F1:CAL	CAL	Nov 25 19:08:33 2009	CALIPER
F1:CNCF	CNCF	Nov 25 19:08:33 2009	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	CVOL	Nov 25 19:08:33 2009	CEMENT VOLUME
F1:GR	GR	Nov 25 19:08:33 2009	GAMMA RAY
F1:PE	PE	Nov 25 19:08:33 2009	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	PORZ	Nov 25 19:08:33 2009	POROSITY FOR SELECTABLE MATRIX
F1:TEN	TEN	Nov 25 19:08:33 2009	DIFFERENTIAL TENSION
F1:ZCOR	ZCOR	Nov 25 19:08:33 2009	DENSITY CORRECTION

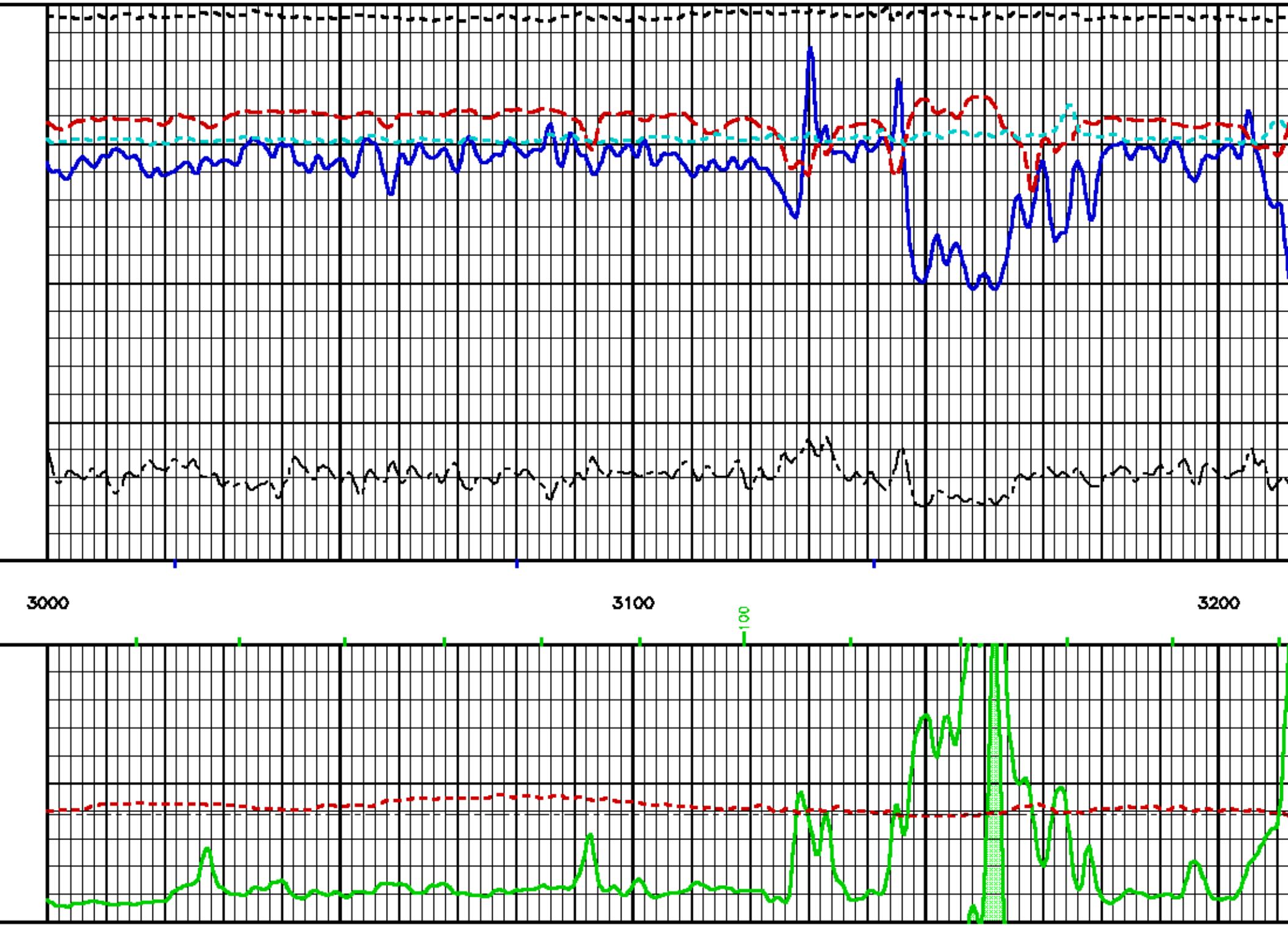
CURVE MEASURE POINT OFFSET

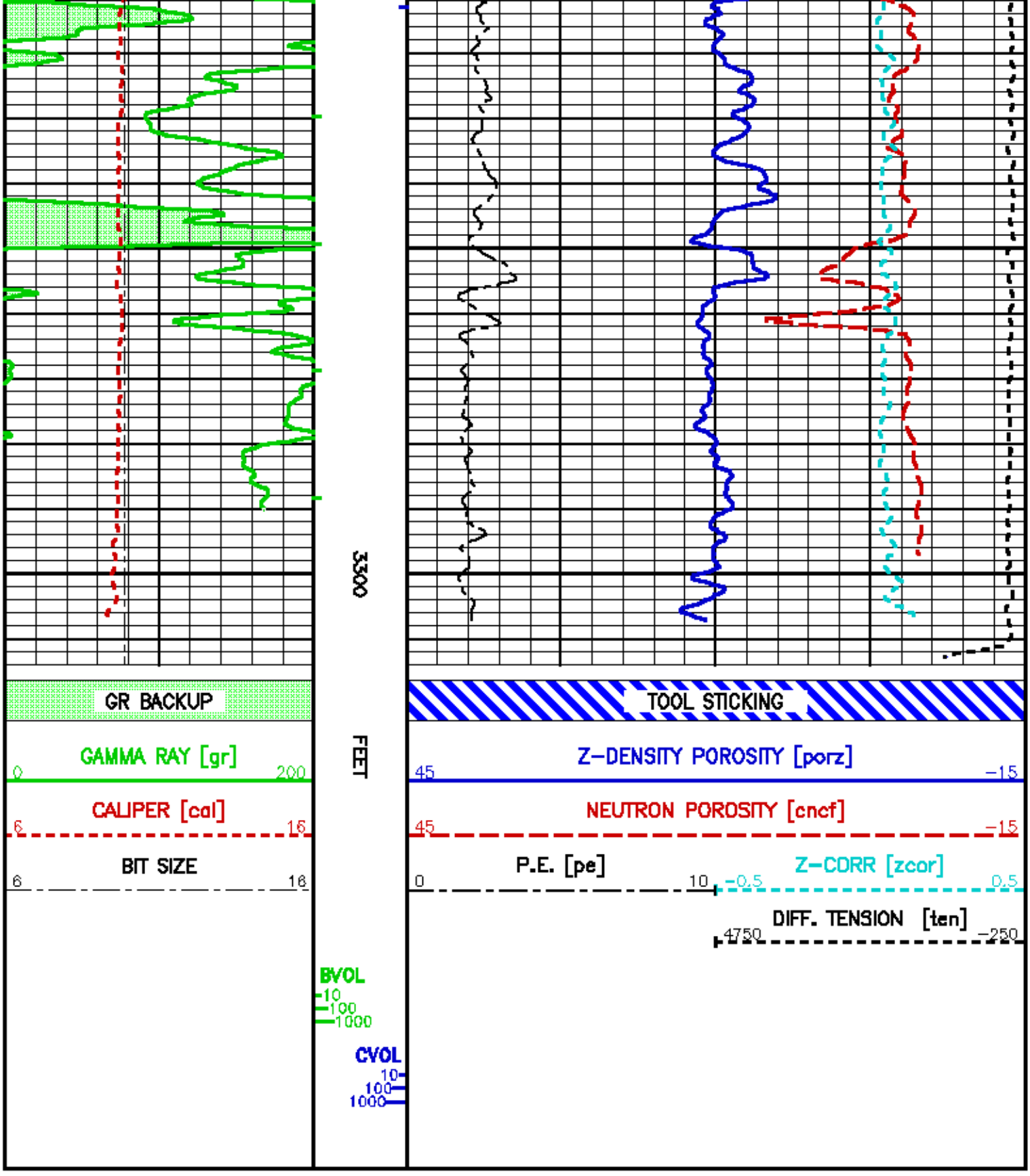
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	CNCF	14.50	PE	3.50	TEN	0.00
CAL	4.00	GR	21.38	PORZ	3.50	ZCOR	3.50

Presentation : opu1:/dat1a/575998/ZDLCN_POR_DOL_REPEAT.pdf [5"/100' Scale]
Plot Interval : 3000 - 3314 Feet

Data File 1 : F1 : opu1:/dat1a/575998/9_ZDLCN_DOL_REPEAT.dlis
Created On : Nov 25 19:08:33 2009
Company : SIERRA GEOTHERMAL POWER, INC.
Well : ALUM 25-29
Field : ALUM
File Interval : 2869.75 - 3514 Feet
Dat : k7711




3000
3100
3200
100



REPEAT LOG (POROSITY - SANDSTONE MATRIX)

PARAMETER AND FILTER SUMMARY REPORT

File: /data/5759866/k771109.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 2903.250 ft BOTTOM DEPTH: 3316.009 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1e*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2e*)	medium		"	"
	FILTER (eoff*)	medium		"	"
ZDL HIGH RES	FILTER (hrd1*)	light		"	"
	FILTER (hrd1e*)	light		"	"
	FILTER (hrd2*)	light		"	"
	FILTER (hrd2e*)	light		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	8.625	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	9.875	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	9.875	in	"	"

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
DENSITY POROSITY	RHOmatrix	2.650	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Nov 25 09:27:00 2009	BIT SIZE
F1:BVOL	BVOL	Nov 25 09:27:00 2009	BOREHOLE VOLUME
F1:CAL	CAL	Nov 25 09:27:00 2009	CALIPER
F1:CNCF	CNCF	Nov 25 09:27:00 2009	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	CVOL	Nov 25 09:27:00 2009	CEMENT VOLUME
F1:GR	GR	Nov 25 09:27:00 2009	GAMMA RAY
F1:PE	PE	Nov 25 09:27:00 2009	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	PORZ	Nov 25 09:27:00 2009	POROSITY FOR SELECTABLE MATRIX
F1:TEN	TEN	Nov 25 09:27:00 2009	DIFFERENTIAL TENSION
F1:ZCOR	ZCOR	Nov 25 09:27:00 2009	DENSITY CORRECTION

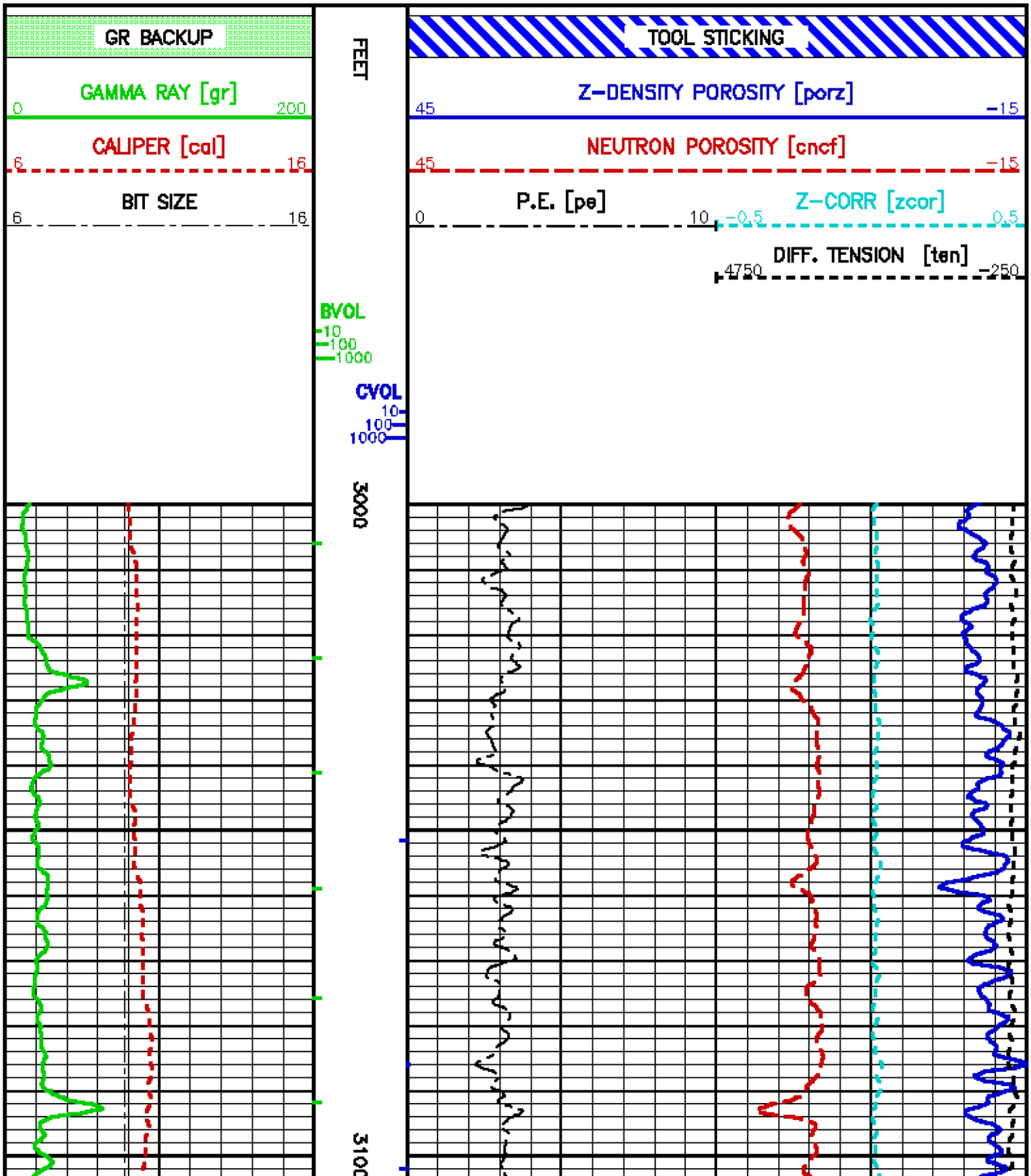
CURVE MEASURE POINT OFFSET

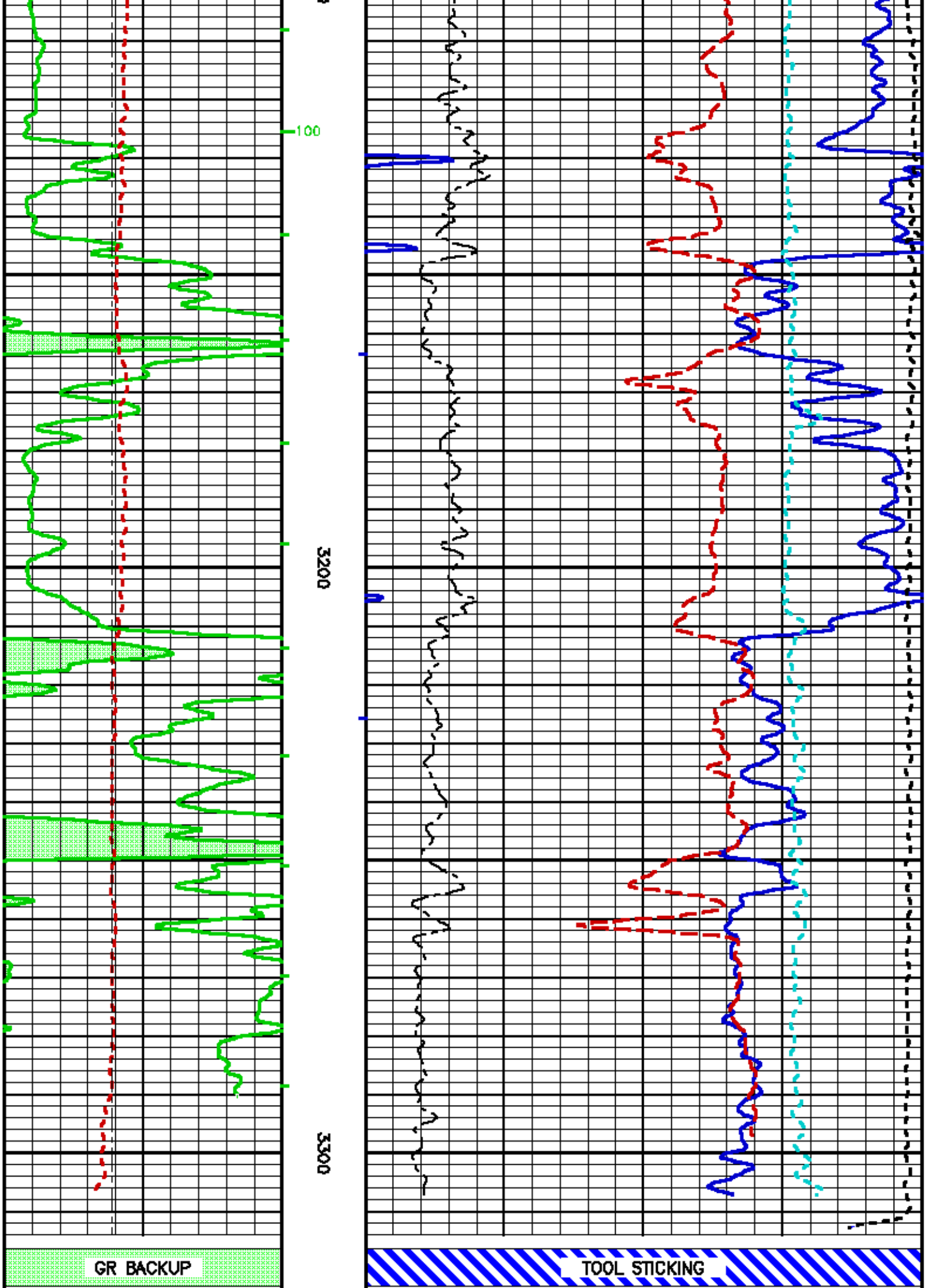
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)

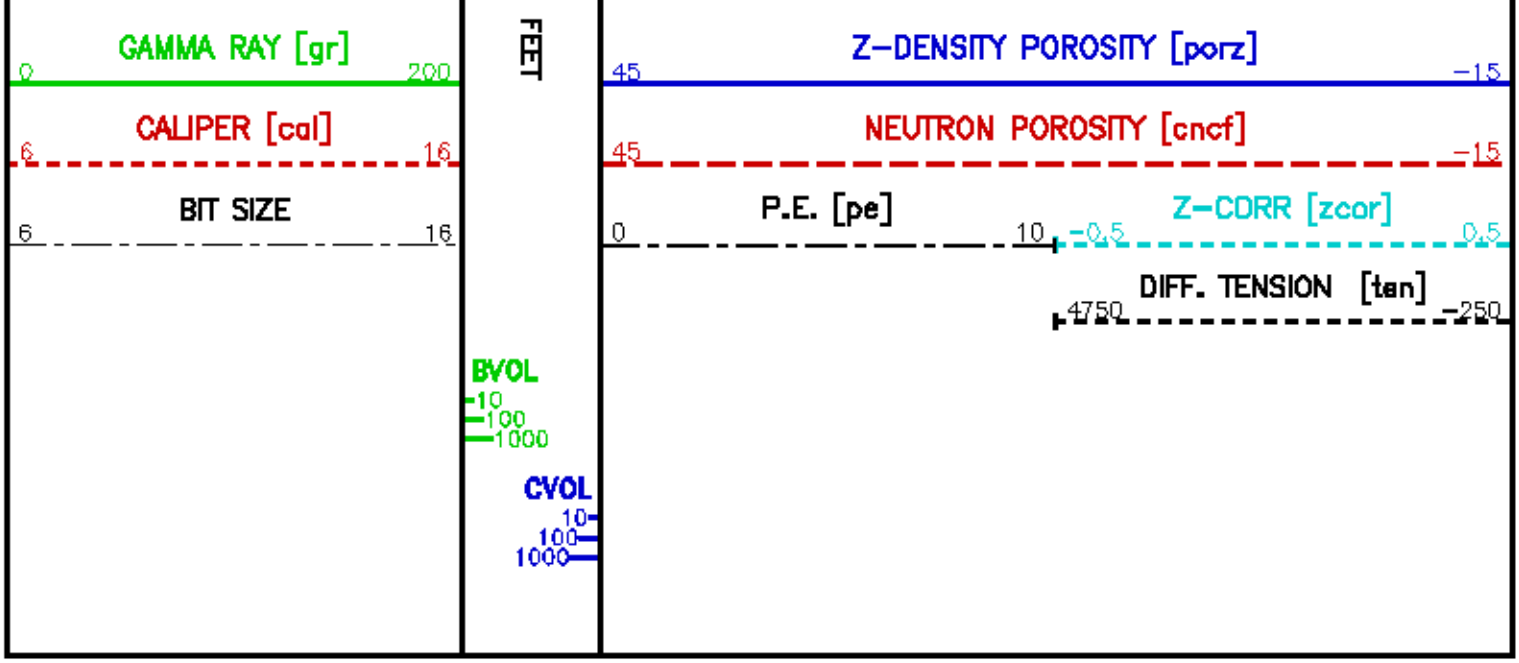
BIT	0.00	CNCF	14.50	PE	3.50	TEN	0.00
CAL	4.00	GR	21.38	PORZ	3.50	ZCOR	3.50

Presentation : epu1:/dat1a/575998/ZDLCN_POR_SS_REPEAT.pdf [5"/100' Scale]
Plot Interval : 3000 - 3314 Feet

Data File 1 : F1 : epu1:/dat1a/575998/9_ZDLCN_SS_REPEAT.xtf
Created On : Nov 25 09:27:00 2009
Company : SIERRA GEOTHERMAL POWER, INC.
Well : ALUM 25-29
Field : ALUM
File Interval : 2869.75 - 3314 Feet
Cal : k7711




100
3200
3300
GR BACKUP
TOOL STICKING



CALIBRATION / VERIFICATION SUMMARY

Source File: /dal1a/575998/ZDL_CNJp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10203000 DATE/TIME PERFORMED: Sun Oct 25 14:28:31 2009

UNIT #: 3885TD ML4232 CALB JIG #: 4702NK DA-321

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	269.02	1162.96	893.9 (830.0 980.0)	0.168	45.14	195.14	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10203000 DATE/TIME PERFORMED: Sun Oct 25 14:33:28 2009

UNIT #: 3885TD ML4232 VERI JIG #: 4702NK DA-321

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	269.44	1191.73	0.168	45.21	199.97	154.76 (140.00 160.00)

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10203000 DATE/TIME PERFORMED: Tue Nov 24 23:50:39 2009 DAYS SINCE CAL: 30

UNIT #: 3885TD ML4232 VERI JIG #: 4702NK DA-321

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	255.24	1118.22	0.168	42.83	187.64	144.81 (144.76 164.76)

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10203000 DATE/TIME PERFORMED: Wed Nov 25 02:09:11 2009 DAYS SINCE CAL: 30

UNIT #: 3885TD ML4232 VERI JIG #: 4702NK DA-321

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	303.09	1132.69	0.168	50.86	190.06	139.21
						134.81 134.81

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2446XA 179981 DATE/TIME PERFORMED: Sun Oct 25 13:14:44 2009

UNIT #: 3885TD ML4232 CALIBRATOR #: 2437XB 112864 SOURCE #: 4717XS ON-982

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	NOMINAL SSN/LSN	CORRECTION FACTOR	POROSITY (pu)
LSN	618.94	628.26				
SSN	1626.32	1680.99				
RATIO			2.67557	2.75100	1.02819	
					0.97000 1.07000	
CN						21.358

CN PRIMARY VERIFICATION SUMMARY

TOOL #: 2446XA 179981 DATE/TIME PERFORMED: Sun Oct 25 13:35:36 2009

UNIT #: 3885TD ML4232 ICE BLOCK #: 4717ND OD-112

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	1715.51	1789.22				
SSN	3995.36	4342.46				
RATIO			2.42701	1.02819	2.49693	
CN						17.818

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2446XA 179981 DATE/TIME PERFORMED: Wed Nov 25 08:19:01 2009 DAYS SINCE CAL: 30

UNIT #: 3885TD ML4232 ICE BLOCK #: 4717ND OD-112

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	1674.59	1744.75				
SSN	3970.42	4313.03				
RATIO			2.47200	1.02819	2.54353	
CN						18.455
						15.818 19.818

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2446XA 179981 DATE/TIME PERFORMED: Wed Nov 25 11:07:02 2009 DAYS SINCE CAL: 30

UNIT #: 3885TD ML4232 ICE BLOCK #: 4717ND OD-112

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	1658.58	1759.94				
SSN	3962.06	4303.11				
RATIO			2.44503	1.02819	2.51547	
CN						18.068

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 10334913 DATE/TIME PERFORMED: Sun Oct 25 11:23:52 2009

UNIT #: 3885TD ML4232

	SMALL RING	LARGE RING	MULT	ADD	SMALL RING (in)	LARGE RING (in)
CALIPER	1746.0	2563.6	0.00749	-5.20505	7.875	14.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10334913 DATE/TIME PERFORMED: Wed Nov 25 09:15:37 2009 DAYS SINCE CAL: 30

UNIT #: 3885TD ML4232

	I.D.	MULT	ADD	I.D. (in)
CALIPER	2089.2	0.00749	-5.60111	10.050

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10334913 DATE/TIME PERFORMED: Wed Nov 25 10:23:05 2009 DAYS SINCE CAL: 30

UNIT #: 3885TD ML4232

	I.D.	MULT	ADD	I.D. (in)
CALIPER	2090.8	0.00749	-5.60111	10.062 (8.500 – 10.000)

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2234XA 10334913 DATE/TIME PERFORMED: Sun Oct 25 11:51:34 2009

UNIT: 3885TD ML4232 CALB BLKS: 2225XA 094299 CS SRC: 4705XA 27781B

SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
225.3 (220.0 – 230.0)	225.1 (220.0 – 230.0)	1363.3	1697.9

	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	27679.8	14416.8	0.615 (0.565 – 0.665)	1.699	0.003	2.150
AL	16156.7	1444.9		2.695	-0.009	
AL + SHIM	22362.0	2545.5		2.613	0.157	
MG + SHIM (HI PE)	13486.0	6894.9	0.248 (0.210 – 0.270)			8.700
RATIO AL + SHIM/AL	1.38 (1.32 – 1.42)	1.76 (1.64 – 1.84)				
RATIO MG/AL	1.71 (1.58 – 1.78)	9.98 (8.40 – 10.20)				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10334913 DATE/TIME PERFORMED: Wed Nov 25 08:16:23 2009 DAYS SINCE CAL: 30

UNIT #: 3885TD ML4232

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1695.0	226.3	1270.7

SS	1351.6	228.2	1303.7
	1283.3 1483.3	220.0 230.0	1100.0 1550.0

LV (V)	PAD CURRENT (mA)
5.0	72.9
4.8 5.2	60.0 120.0

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10334913 DATE/TIME PERFORMED: Wed Nov 25 10:54:03 2009 DAYS SINCE CAL: 31

UNIT #: 3885TD ML4232

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1686.5	224.0	1269.2
	1597.9 1797.9	220.0 230.0	1100.0 1550.0
SS	1349.5	223.1	1294.1
	1283.3 1483.3	220.0 230.0	1100.0 1550.0

LV (V)	PAD CURRENT (mA)
5.0	66.0
4.8 5.2	60.0 120.0

INSTRUMENT CONFIGURATION

Source File: /dal1a/575896/k77114-1dg

CABLEHEAD
- Series : CABL338
- Mnemonic : CBLH
- Diameter : 3.38"
- Weight : 24 lbs
- Length : 5.50'

SWIVEL
- Series : 3944XD
- Mnemonic : SWVL

TTRM SUB
- Series : 3961XA
- Mnemonic : TTRM
- Diameter : 3.63"

MTS COMMON REMOTE
- Series : 3514XB
- Mnemonic : MTS
- Diameter : 3.63"
- Weight : 126 lbs
- Length : 6.36'

DIGITAL SPECTRALOG
- Series : 1328XA
- Mnemonic : DSL
- Diameter : 3.63"
- Weight : 130 lbs
- Length : 7.31'

COMPENSATED NEUTRON

45.43'

CABLEHEAD TOP — 42.68'

TEMP MP — 34.15'

RM MP — 33.90'

GR MP — 20.69'

COMPENSATED NEUTRON
Series : 2446XA
Mnemonic : CN
Diameter : 3.63"
Weight : 150 lbs
Length : 7.59'

Z-DENSILOG
Series : 2234XA
Mnemonic : ZDL
Diameter : 4.88"
Weight : 360 lbs
Length : 11.22'

BULL PLUG 3 3/8

TOTAL LENGTH: 45.43'
TOTAL WEIGHT: 922 lbs
MAX DIAMETER: 0'4.88"

LSN MP 14.13'
SSN MP 13.74'

CAL MP 3.47'
LSD MP 2.75'
SSD MP 2.35'

0.00'

BAKER HUGHES

Baker Atlas

FOLIPS

COMPANY	SIERRA GEOTHERMAL POWER, INC.		FILE NO:
WELL	ALUM 25-29		
FIELD	ALUM		API NO:
COUNTY	ESMERALDA	STATE NEVADA	27-009-90074

LOCATION:
SHL: 2235.18' FSL & 938.11' FWL
SW/C

SEC 29 TWP 1N RGE 38.5 E

ELEVATIONS:
KB 4919.57 FT
DF
GL 4903.57 FT

TIGHT HOLE

DATE 25-NOV-2009