

Tucker
WIRELINE SERVICES

SPECTRAL GAMMA RAY LOG

Company LAYNE ENERGY OPERATING, L Well FUQUA #9-36 Field Country ELK State KANSAS Country USA API No. 15-049-22559		File No : TUL-57618 Company : LAYNE ENERGY OPERATING, LLC. Well : FUQUA #9-36 Field Country : ELK State : KANSAS Country : USA API No : 15-049-22559	
Permanent Datum: GL Drilling Measured From: KB Log Measured From: GL Above Permanent Datum: 0.00 Ft		Elevations: KB 1212.00 Ft DF 1211.00 Ft GL 1201.00 Ft	
Location: 1852 FSL & 13201 FEL N2 S2 N2 SE		Sect : 36 Twp : 28 Rge : 9E	
Date 02-24-2012			
Run Number	1		
Depth--Driller	2636.0	Ft	
Depth--Logger	2631.0	Ft	
First Reading	2601.0	Ft	
Last Reading	2200.0	Ft	
Casing--Driller	40.0	Ft	
Casing--Logger	40.0	Ft	
Bit Size	7.875	In	
Casing Size	8.625	In	
Hole Fluid Type	WBM		
Density	9.0	LBS/GAL	
Fluid Loss	0.0	CC	
PH/Viscosity	0.0	60.0 SEC	
Sample Source	MEASURED		
RM@Measured Temp.	2.800	@ 60 F	
RMF@Measured Temp	2.380	@ 60 F	
RMG@Measured Temp.	3.220	@ 60 F	
Source RMF/RMG	CALCULATED/CALCULATED		
RM@BHT	1.470	@ 120 F	
Time Circulation Stopped			
Max Recorded Temp.	120	F	
Equipment/Base	123	TULSA	
Recorded By	S. DAVIS		
Witnessed By	M. MURPHY / J. MCCLAIN / J. BURRIS		

The customer is hereby warned that by providing the log data herein, T. W. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. W. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. W. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. W. S. for its services. Any user of the log data is warned that said user is not entitled to rely on interpretations, conversions or recommendations as aforesaid.

Bitsize Intervals		Casing Strings		
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)
7.875	2642.00	8.625	20.00	40.00

Run Number	1	
Date	02-24-2012	
Date/Time On Bottom	02-24-2012 12:00	
Depth to Fluid	0.0	Ft
Salinity	0.000	PPM
RMF@BHT	1.250	@ 120 F
RMC@BHT	1.690	@ 120 F

Run Number 1

Comments

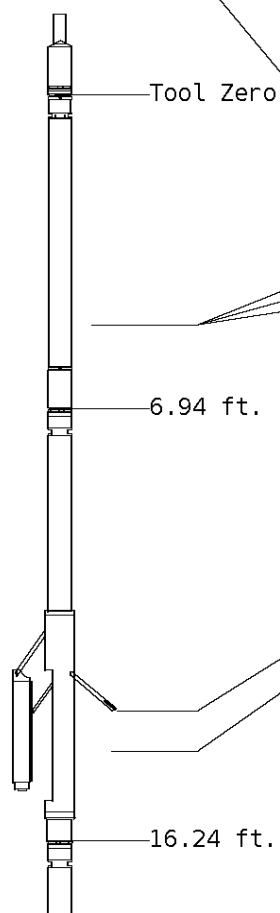
ALL PRESENTATIONS AS PER CUSTOMER REQUEST.
 SGT, CNT, LDT, MLT, AND PIT RUN IN SPLIT RUNS
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 & 2.68 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING.
 HIRES & SGT PRESENTED FROM TD TO 2200'
 MISS. RW 0.12

SGT: GRP, UFGRP, S-KK, S-UK, S-TK,
 CNT: PHIN, CLCNIN.
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
 MLT: NOR_RF, INV_RF, MSCLPIN.
 PIT: ILD, ILM, SPU, SFLAEC.

OPERATORS:
 A. WARREN
 N. LOYD
 B. STEVENS

Tool String Schematic

Total Tool Length - 35.62 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 744.00 lbs.



Tool: GRT-FA **Length:** 6.94 ft. **O.D.** 3.62 in.
 Spectral Gamma Controller
Sonde ID :GRT-FA-074

Measure Point	Tool Offset	Stack Offset	Bottom Offset
SP	-4.42	-4.42	40.04
K	5.17	5.17	30.45
U	5.17	5.17	30.45
T	5.17	5.17	30.45

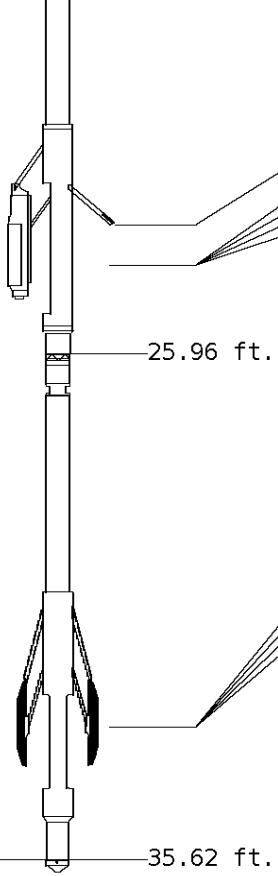
Tool: CNT-AA **Length:** 9.30 ft. **O.D.** 4.36 in.
 Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BD-123
Source ID :N-1046
Pad ID :CNP-AA-024

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	12.94	22.68
PHIN	6.80	13.74	21.88

Tool: LDT-DF **Length:** 9.72 ft. **O.D.** 4.80 in.
 Litho Density D Pad on NDT-F
Sonde ID :PDT-GA-466

Source ID : 2991GW
 Pad ID : LDP-DA-067

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.42	22.66	12.96
PEL	7.42	23.66	11.96
PES	7.82	24.06	11.56
LDEN	7.62	23.86	11.76
LCOR	7.62	23.86	11.76

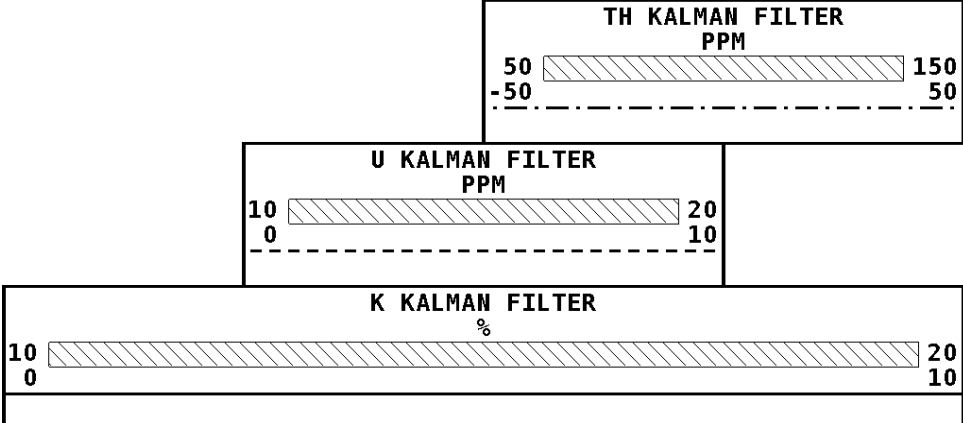
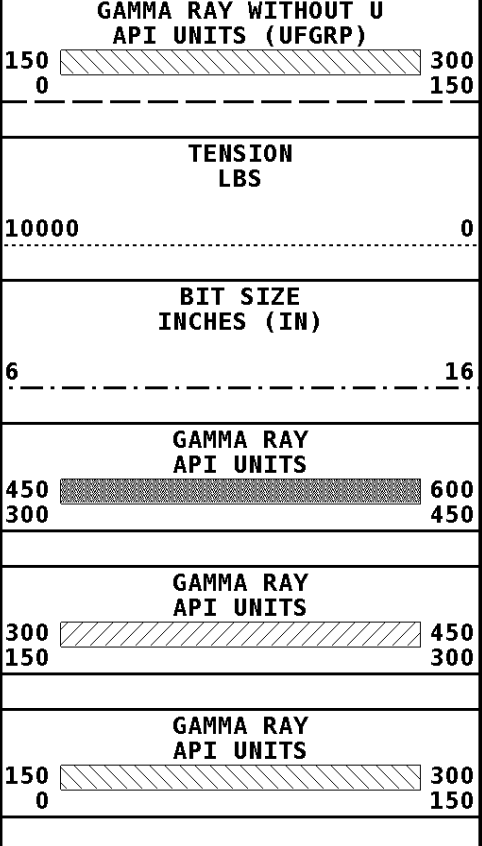


Tool: MST-DA Length: 9.66 ft. O.D. 6.00 in.
 Micro Spherically Focused (IC)
 Sonde ID : MLT-DA-21

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	33.56	2.06
MSCLP	7.60	33.56	2.06
INV	7.60	33.56	2.06
NOR	7.60	33.56	2.06

LWT ————— 35.62 ft.

Well File: lan fuq 9-36 feb 24 mstk Scale: 1:240
 Segment: V1.D5.S1 MAIN Acquired: Not Available
 Reference: 0 Processed: Not Available



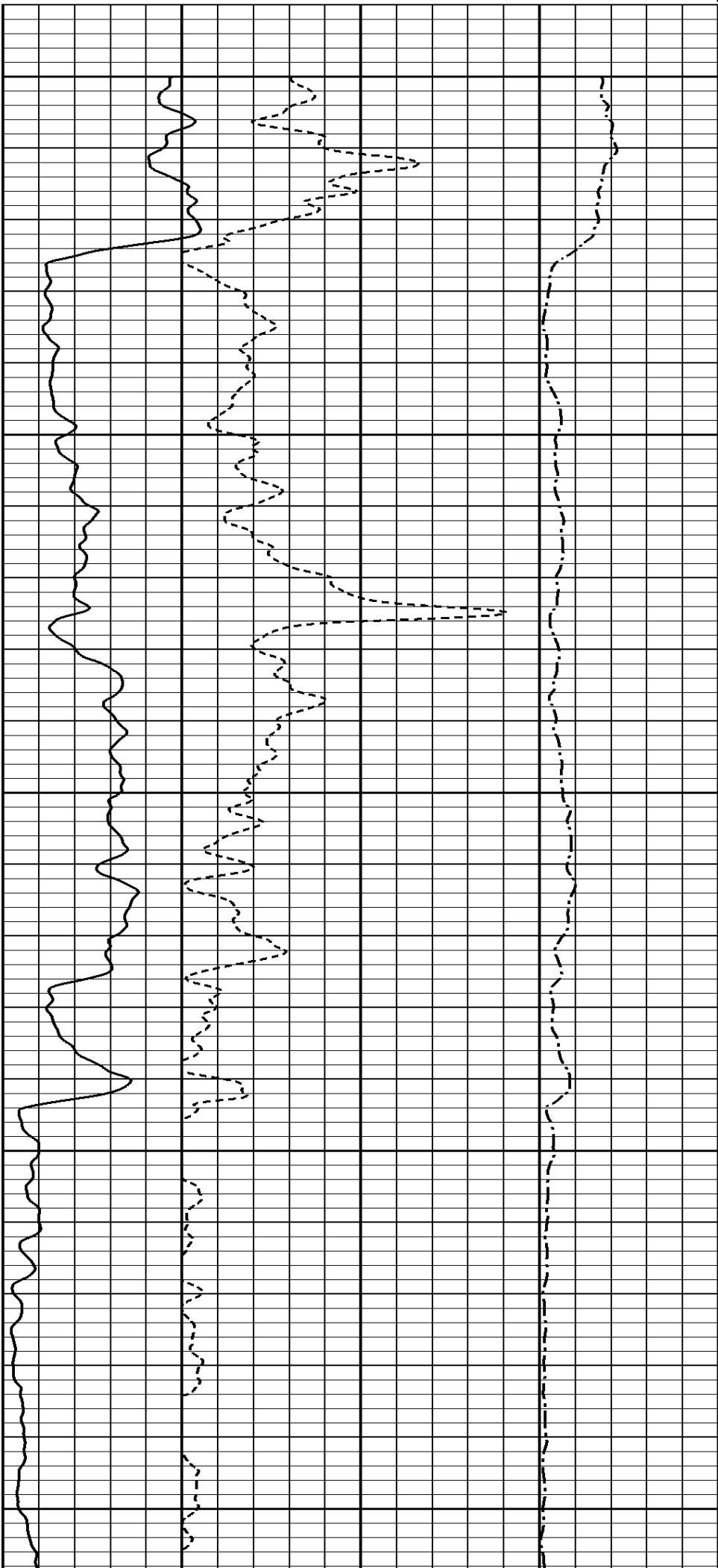
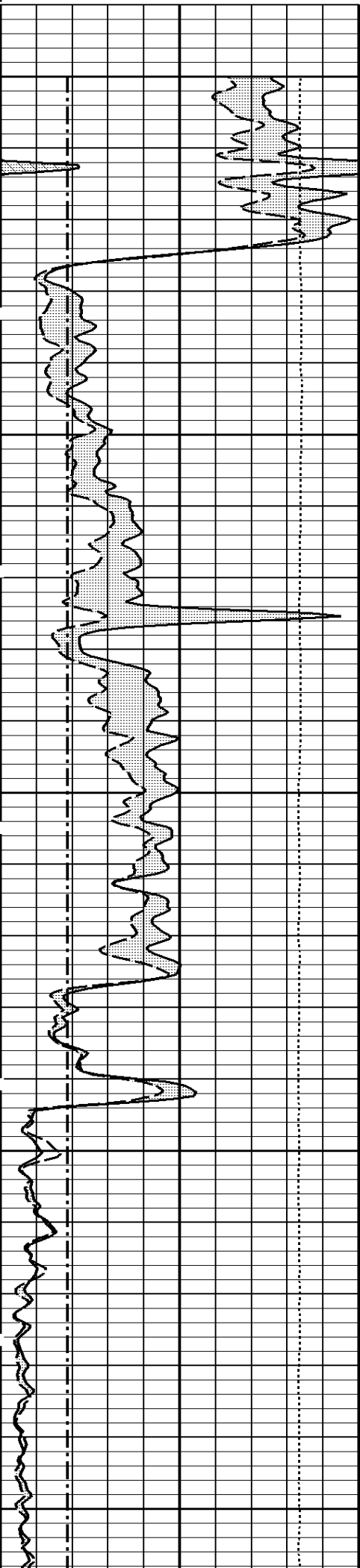
1:240 MAIN SECTION

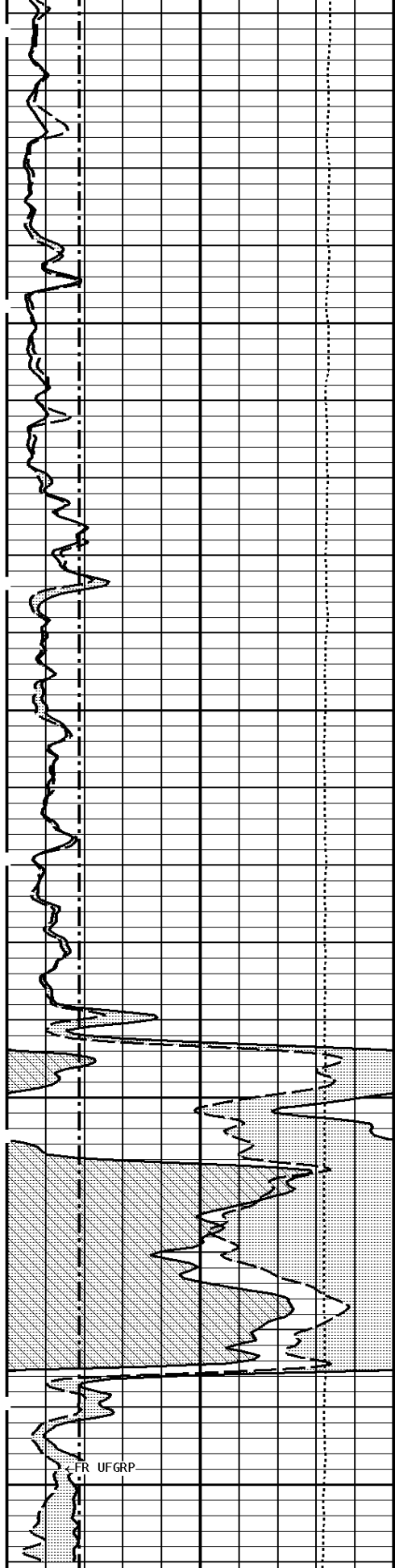
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2200

2300

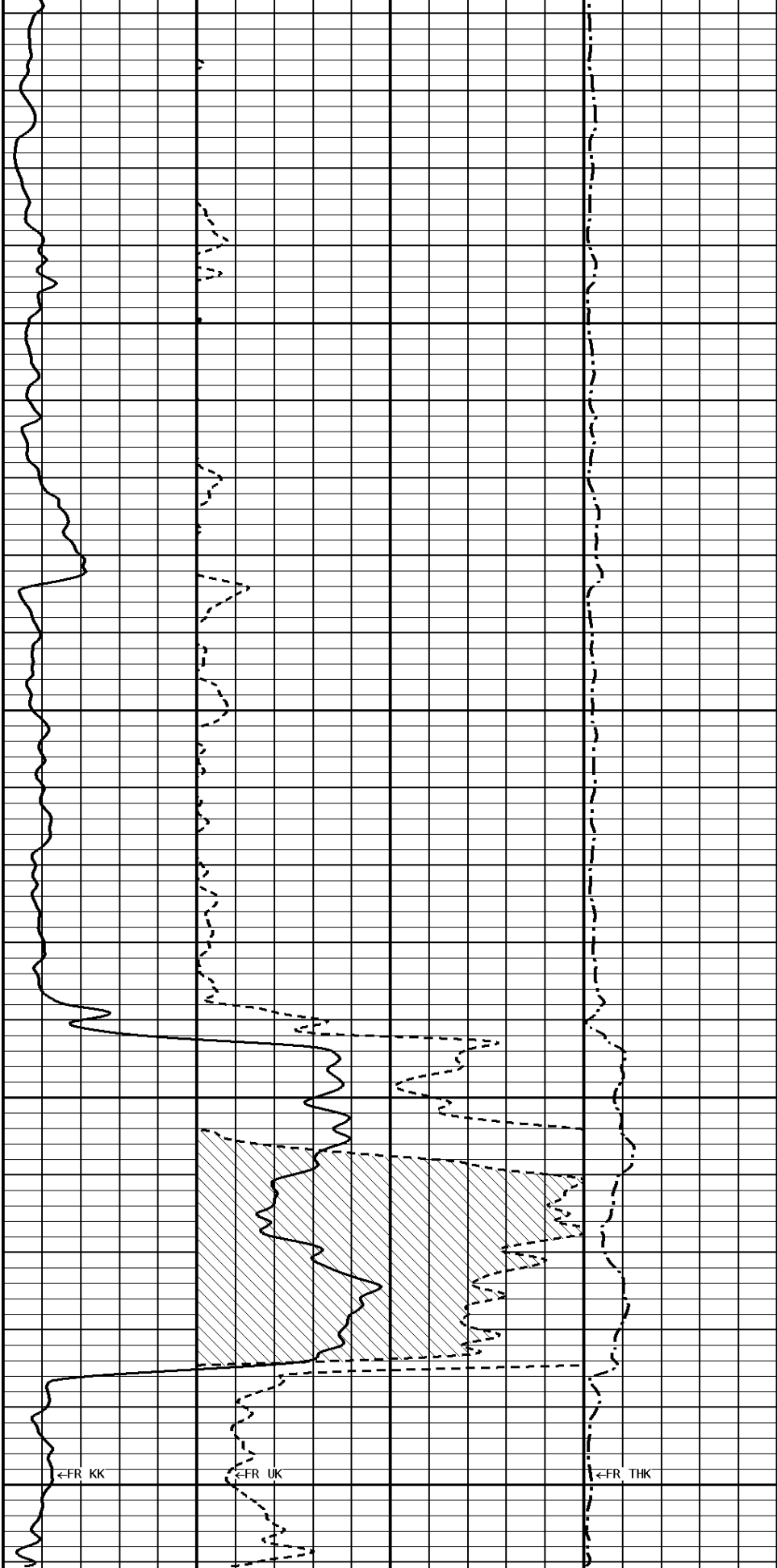
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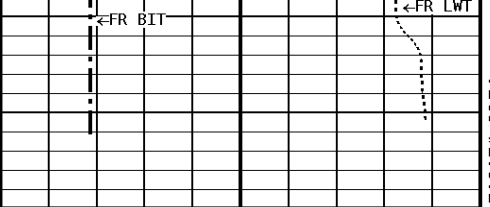


2500

2600

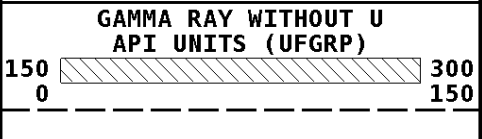
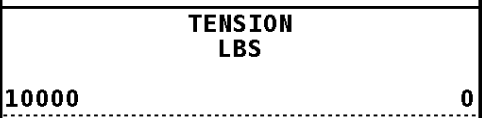
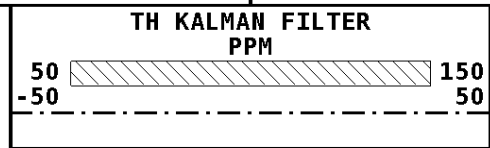
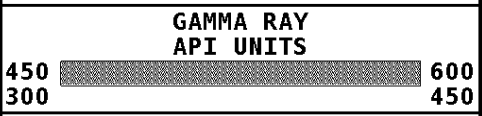
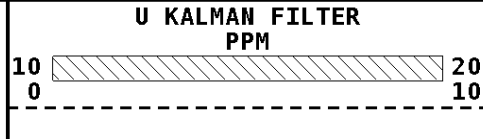
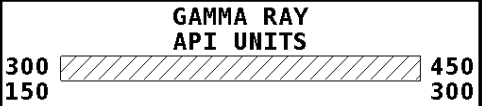
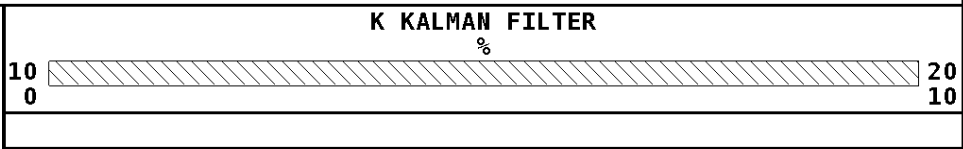
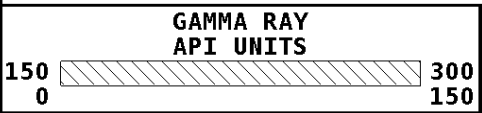


2631



File #1.5.1

1:240 MAIN SECTION



*** Calibration Summary ***

Shop Calibration				
GRT-FA				
Performed : 22-Jul-2010		Time : 18:20		
Sensor Suite : SPGCWIN		ID : GRT-FA-074		
Label Values	K 72.3 kBq 12.8 %	U 2.3 kBq 10.8 ppm	Th 8.5 kBq 121.6 ppm	
Measured	11.9 %	40.2 ppm	80.7 ppm	
Calibrated	12.8 %	10.8 ppm	121.6 ppm	
Window	Background	Jig	Calibrated	
1	55	811	684	
2	13	205	178	
3	7	130	100	
4	5	101	93	
5	3	59	46	
6	3	68	60	
7	1	17	11	
8	1	16	17	
9	1	10	12	
Performed : 22-Jul-2010		Time : 18:02		
Sensor Suite : SPGCGR		ID : GRT-FA-074		
Background	Measured Jig	Units	Calibrated Jig	Units

