FTS INTERNATIONAL

CEMENT BOND
GAMMA RAY VDL
COLLAR CORRELATION LOG

Company KERR-MCGEE OIL AND GAS ONSHORE LP
Well PIONEER 23-2
Field WATTENBERG
County WELD
State COLORADO

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Location: API # : 05-123-30383-0000

NW SW
1940' FSL & 611' FWL
SEC 02 TWP 2N RGE 65W

Other Services
NONE

Permanent Datum	GL	Elevation	4848
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 4865
D.F.
G.L. 4848

Date	JANUARY 29, 2015		
Run Number	ONE		
Depth Driller	7648'		
Depth Logger	1630'		
Bottom Logged Interval	1628'		
Top Log Interval	SURFACE		
Open Hole Size	7 7/8"		
Type Fluid	WATER		
Density / Viscosity	---		
Max. Recorded Temp.	106 F		
Estimated Cement Top	350		
Time Well Ready	---		
Time Logger on Bottom	---		
Equipment Number	2400		
Location	STERLING CO.		
Recorded By	PHIL LOPEZ		
Witnessed By	RODRIGO VIERA		

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8.63	24.00	SURFACE	880
Prot. String				
Production String	4.50	11.60	SURFACE	7656
Liner				

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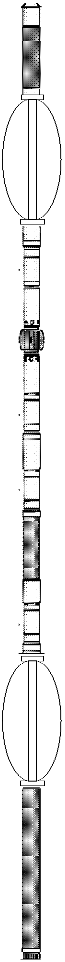
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 CHOOSING FTSI

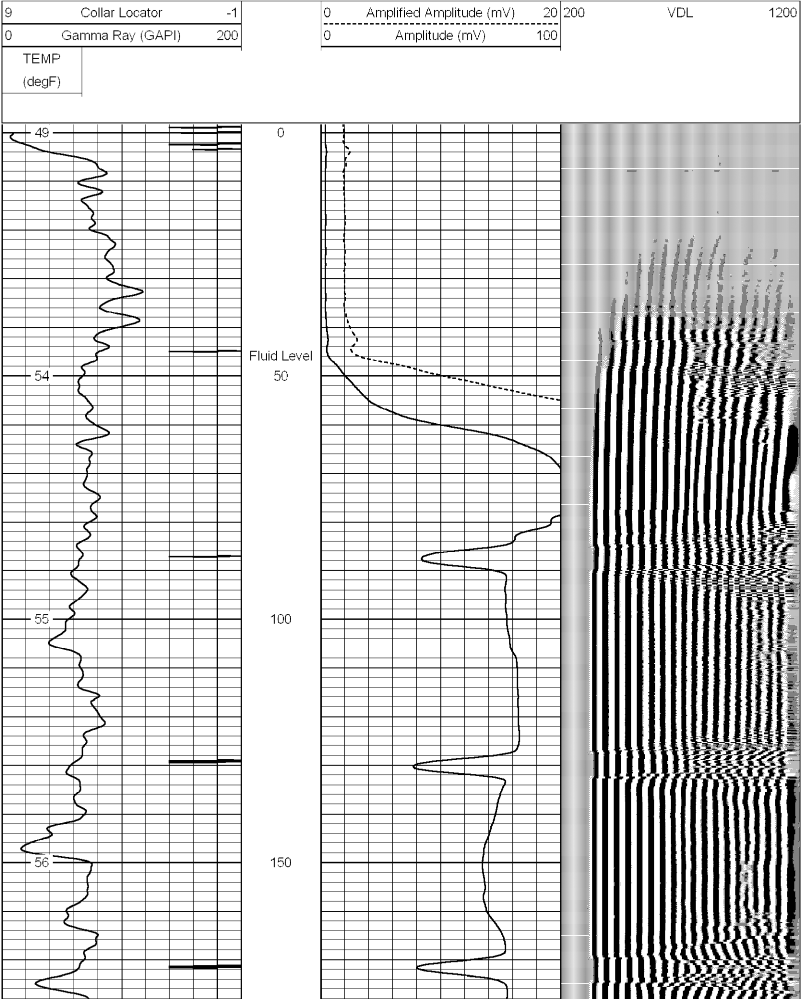
Sensor	Offset (ft)
CCL	19.57
TEMP	12.78
WVFS1	11.49
WVFS2	11.49
WVFS3	11.49
WVFS4	11.49
WVFS5	11.49
WVFS6	11.49
WVFS7	11.49
WVFS8	11.49
WVF3FT	10.74
WVFCAL	10.74
WVFSYNC	10.74
WVF5FT	9.74
WVFTEMP	6.41
GR	1.06

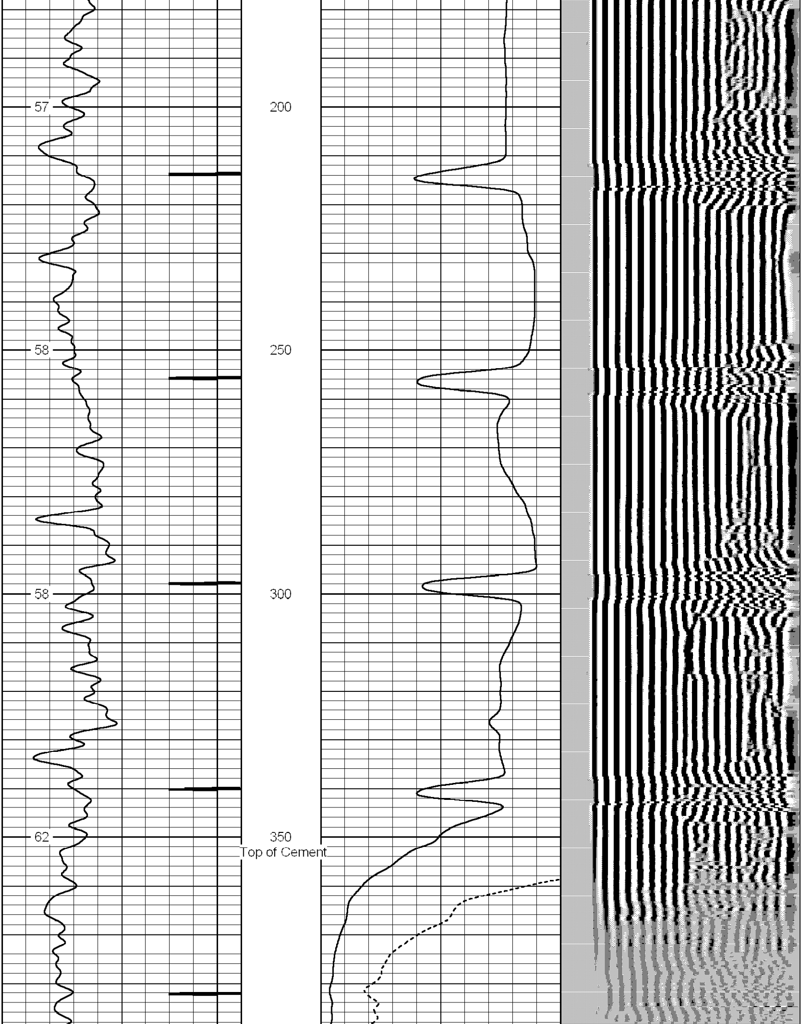


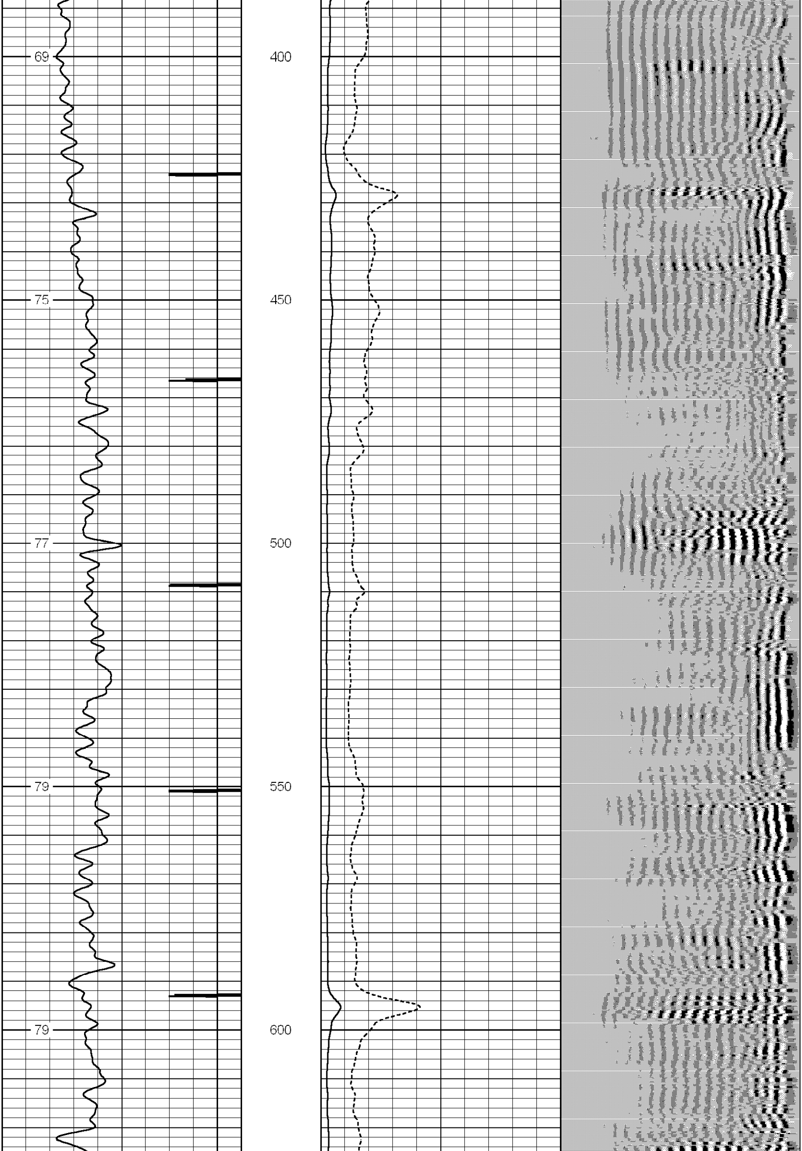
Description	Len (ft)	OD (in)	Wt (lb)
CCL-275tekco (2.75TEKCO) 2 3/4 TEK CCL Earth Mag	1.96	2.75	20.00
CENT-TEKCO (101)	2.73	2.75	10.00
275CTEKSECWTWSLCANS-275RIB (123 2 3/4" (R.I.B.) TOOL 3FT, 5FT and 8EA RIB SIGNALS 400 DEG "F" @20K PSI With Sliding Cans For Pressure Ballance	9.13	2.75	102.00
CENT-TEKCO (101)	2.73	2.75	10.00
GR-TEKCO (101sgr)	3.68	2.75	30.00

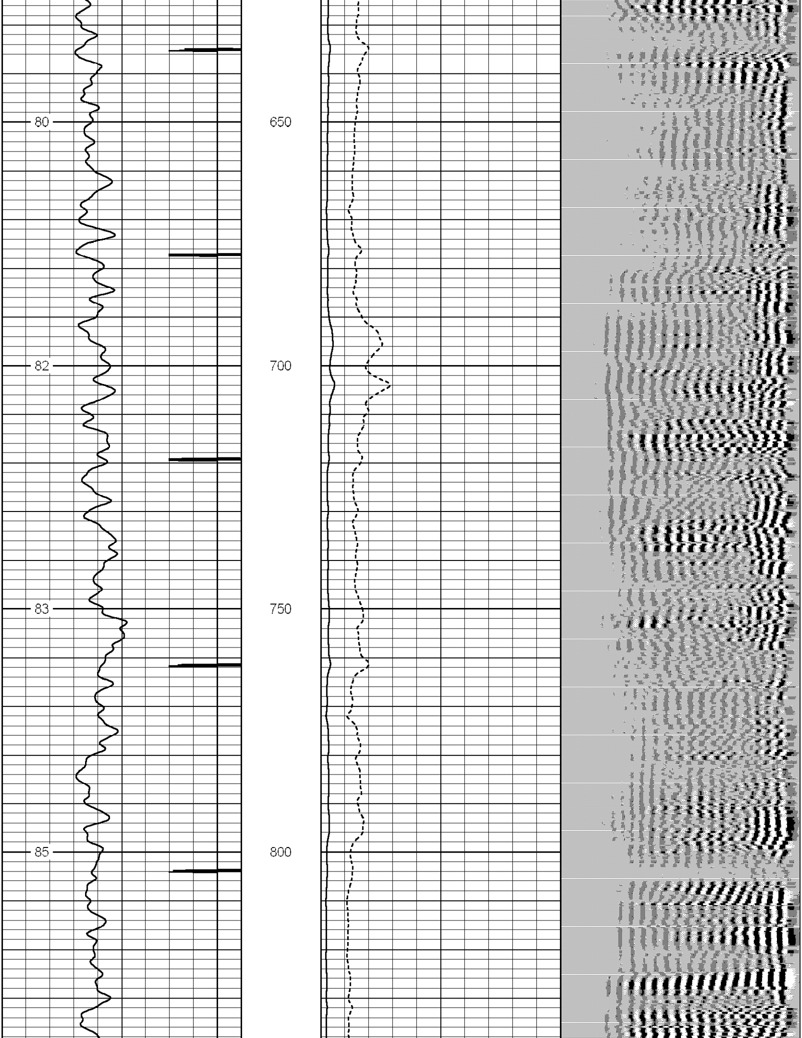
Dataset:	pioneer 23-2.db: field/well/run1/pass3
Total Length:	20.22 ft
Total Weight:	172.00 lb
O.D.	2.75 in

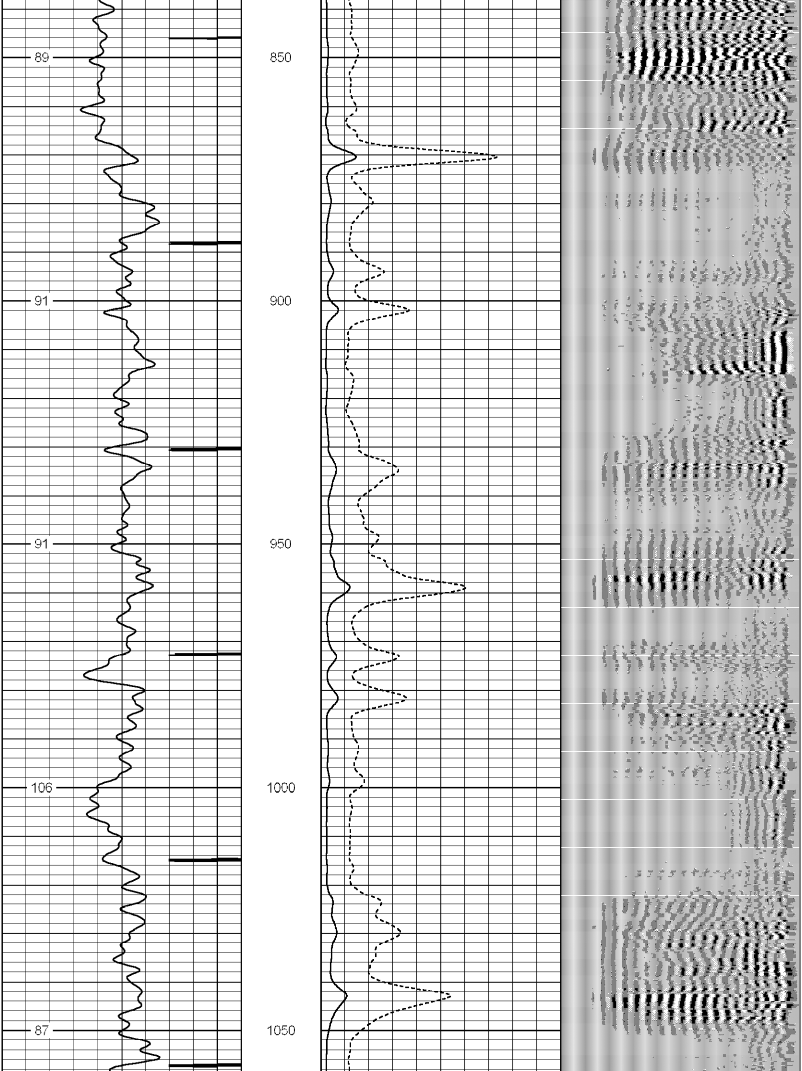
Database File: pioneer 23-2.db
Dataset Pathname: pass3
Presentation Format: scbl_sr
Dataset Creation: Thu Jan 29 07:18:59 2015 by Log SCH 111116
Charted by: Depth in Feet scaled 1:240

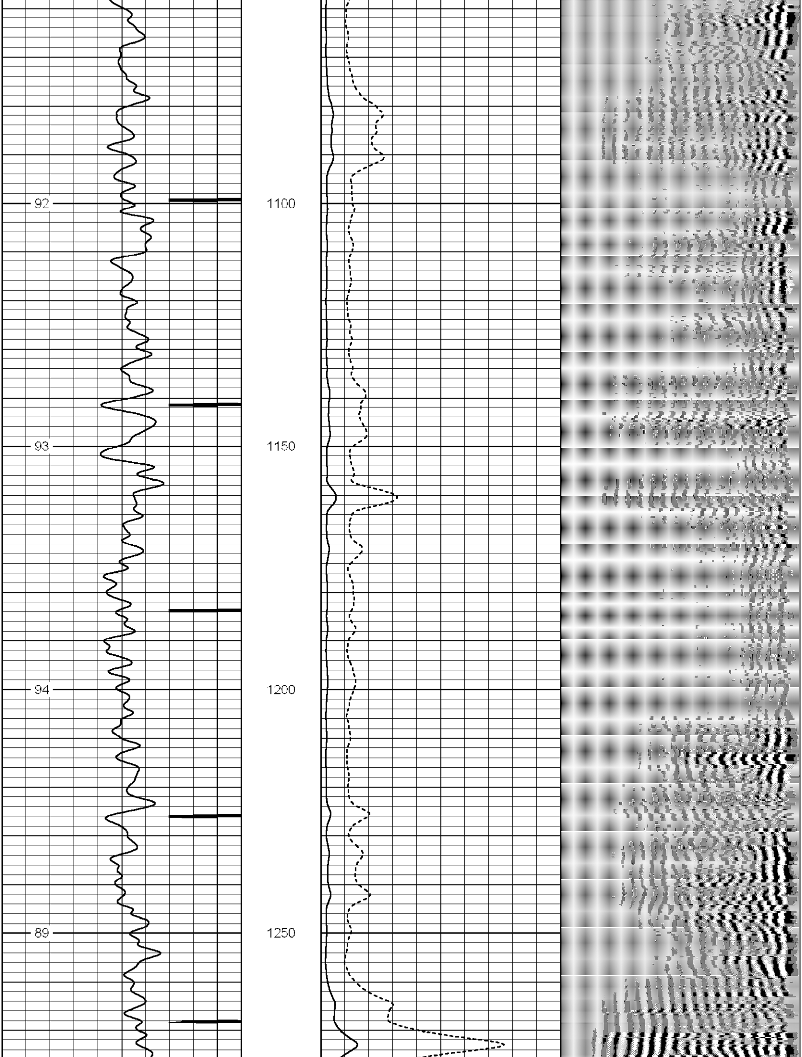


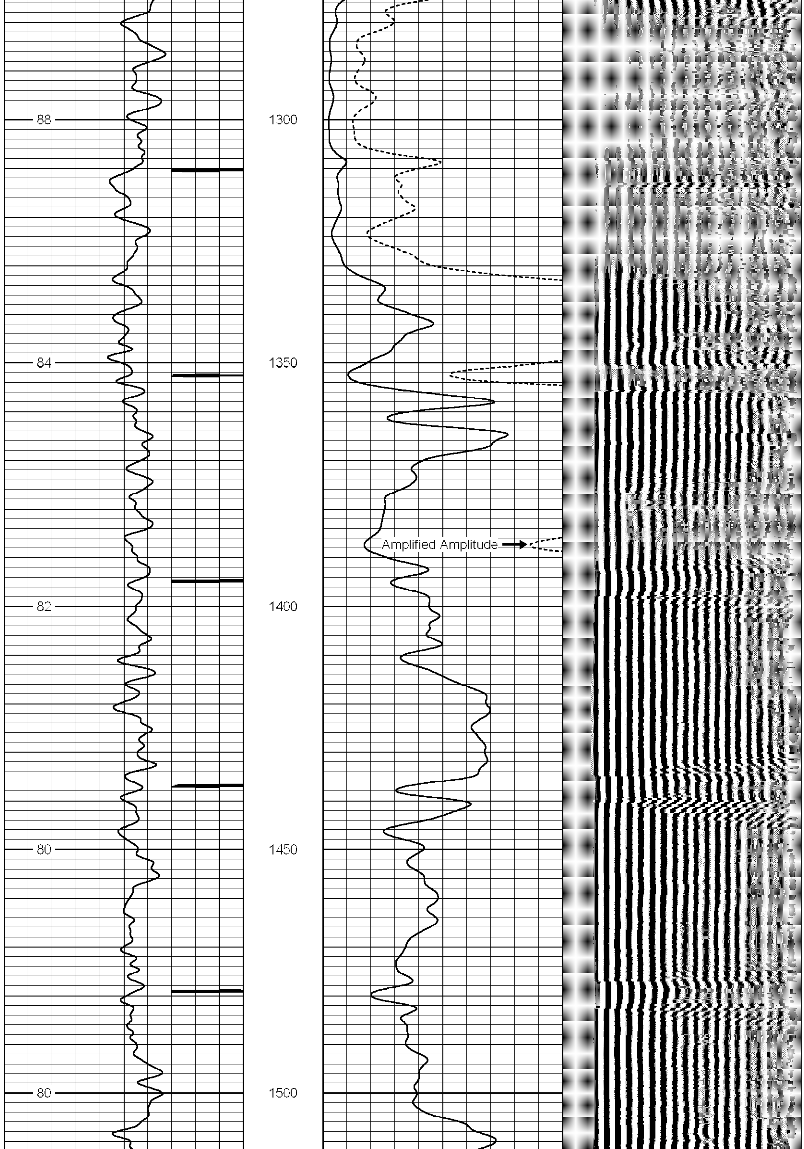


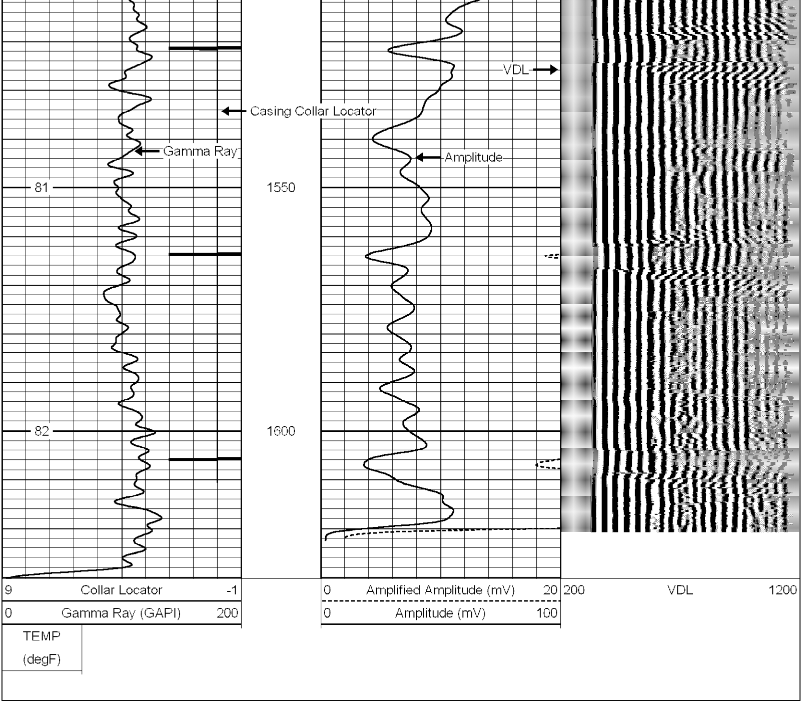












Calibration Report

Database File: pioneer 23-2.db
Dataset Pathname: pass3
Dataset Creation: Thu Jan 29 07:18:59 2015 by Log SCH 111116

Gamma Ray Calibration Report

Serial Number:	101sgr	
Tool Model:	TEKCO	
Performed:	Wed Oct 16 08:18:28 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: 1234
Tool Model: 275RIB

Calibration Casing Diameter: 4.500 in
Calibration Depth: 1873.625 ft

Master Calibration, performed Thu Jan 22 12:16:51 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.873	2.000	81.196	42.282	2.000
CAL	0.000	1.539				
5'	0.000	2.049	2.000	81.196	38.644	2.000
SUM						
S1	0.000	2.309	0.000	100.000	43.303	0.000
S2	0.000	2.188	0.000	100.000	45.712	0.000
S3	0.000	2.168	0.000	100.000	46.133	0.000
S4	0.000	2.055	0.000	100.000	48.658	0.000
S5	0.000	2.300	0.000	100.000	43.473	0.000
S6	0.000	2.303	0.000	100.000	43.425	0.000
S7	0.000	2.316	0.000	100.000	43.175	0.000
S8	0.000	2.255	0.000	100.000	44.354	0.000

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.000	1.539	1.000	0.000

Air Zero Calibration, performed Thu Sep 18 07:08:55 2014:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Temperature Calibration Report

Serial Number: 1234
Tool Model: 275RIB
Performed: Fri Jan 16 09:29:52 2015

	Reference	Reading
Low Reference:	75.00 degF	270.00 usec
High Reference:	400.00 degF	1282.00usec

Gain: 0.32
Offset: -10.00
Delta Spacing 1