

PRECISION
Wireline Technologies

SIMULTANEOUS TRIPLE
INDUCTION
SFL LOG

N.E.B. COPY



PROVINCE NORTHWEST TERRITORIES
LD NETLA
ANADARKO EMILE LAKE A-77

ANY ANADARKO CANADA CORPORATION

COMPANY ANADARKO CANADA CORPORATION
WELL ANADARKO EMILE LAKE A-77
FIELD NETLA
PROVINCE NORTHWEST TERRITORIES

LSD A Sec. 77 Twp. Rge. Services:
Perm. Datum GROUND LEVEL Elev. 624.70 m
LOG measured from KB 5.10 m above HMI MDA
Permanent Datum. ELEV. 624.70 m
UMI 3003776046122
Licence 1963

Run No. 2355.0 m

Bot. Driller 2355.0 m

Bot. Logger 2355.0 m

First Reading 2260.6 m

Last Reading 1966.7 m

Meters Meas. 293.9 m

CSS Driller 1966.7 m

CSS Logger 1966.7 m

Bit Size 155.5 mm

Fluid Type GEL CHEMICAL

Dens. Visc. 1025 47

pH Fluid Loss 10.5 N/A

Sample Source FLOWLINE

Rm 1.6 21 °C

Rmf N/A N/A °C

Rmc N/A N/A °C

Rm @ BHT 0.6 98 °C

Max Rec. Temp 98 °C

Spacing N/A

Operating Time 6.0 HRS

Unit # 360

Location GRANDE PRAIRIE

Recorded By V. LONG

Witnessed By H. COMAN

All interpretations of log data are opinions based on inferences from electrical or other measurements. We do not guarantee the accuracy or correctness of any interpretation or recommendation and we shall not be liable or responsible for any loss, cost, damages or expenses incurred or sustained by anyone resulting from any interpretation or recommendation made by any of our employees or agents.

REMARKS Rig: AKITA 37 Service Order # 30028933
Drilling Stopped 13:00/16 Circulation Stopped 13:45/16 Tool on Bottom 00:45/16 BHT 98 °C
STI-SP-HMI-MDA-CAL LOGGED IN COMBINATION

Prints: 2

15MV SP USED

PRESENTATION AS PER CUSTOMER REQUEST

CHANGES IN MUD TYPE OR NEW SAMPLE

SCALE CHANGES

Date	Sample No.	Type Log	Interval	Scale
Depth - Driller				
Type Fluid in Hole				
Dens. Visc.				
pH Water Loss				
Source of Sample				
Rm @ Meas. Temp.	@ °C	Run No.	Tool Type	Tool No.
Rmf @ Meas. Temp.	@ °C	ONE	STI-BA	143143
Rmc @ Meas. Temp.	@ °C		UGR-JB	202
Source Rmf Rmc			CAL-FA	166
Rm @ BHT	@ °C		SPED-BA	134134
Rmf @ BHT	@ °C		CNT-SB	112
Rmc @ BHT	@ °C			

REMARKS

MAIN PASS
1:600 SCALE
CONDUCTIVITY PRESENTATION

DEPTH SCALE: 1:600

VERSION: 2004.02.11.263

MAIN PASS

30028933 STI4MP

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: TIME: MODE: TRACE PLAYBACK

Tension (TENS)

10000 Pounds 0

Gamma Ray (GR)

0 API 150

SP (SP)

Millivolts 75

40K Dp. Cond. (DVC4)

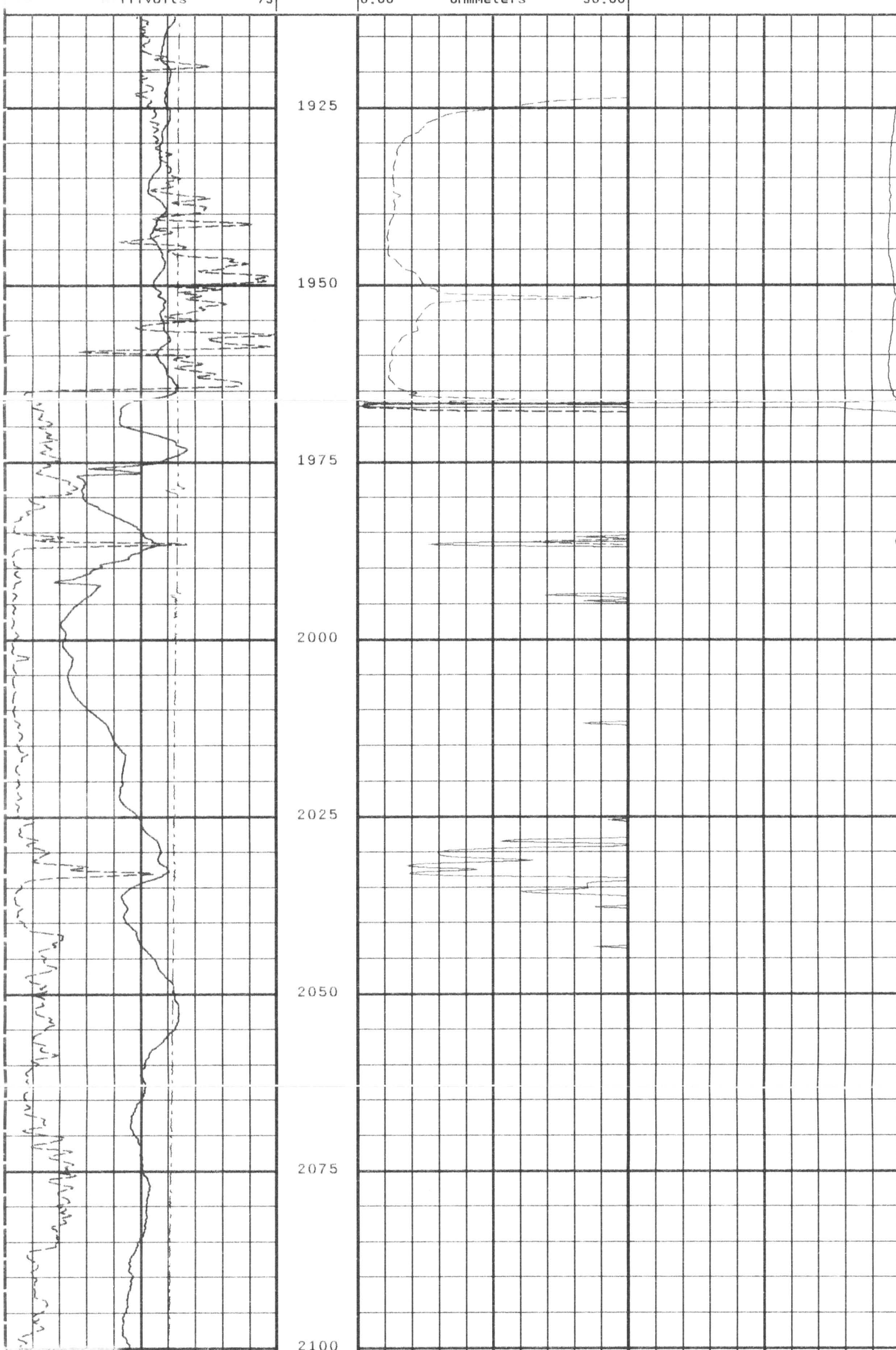
1000.0 Milli-Mho/Meter 0.0

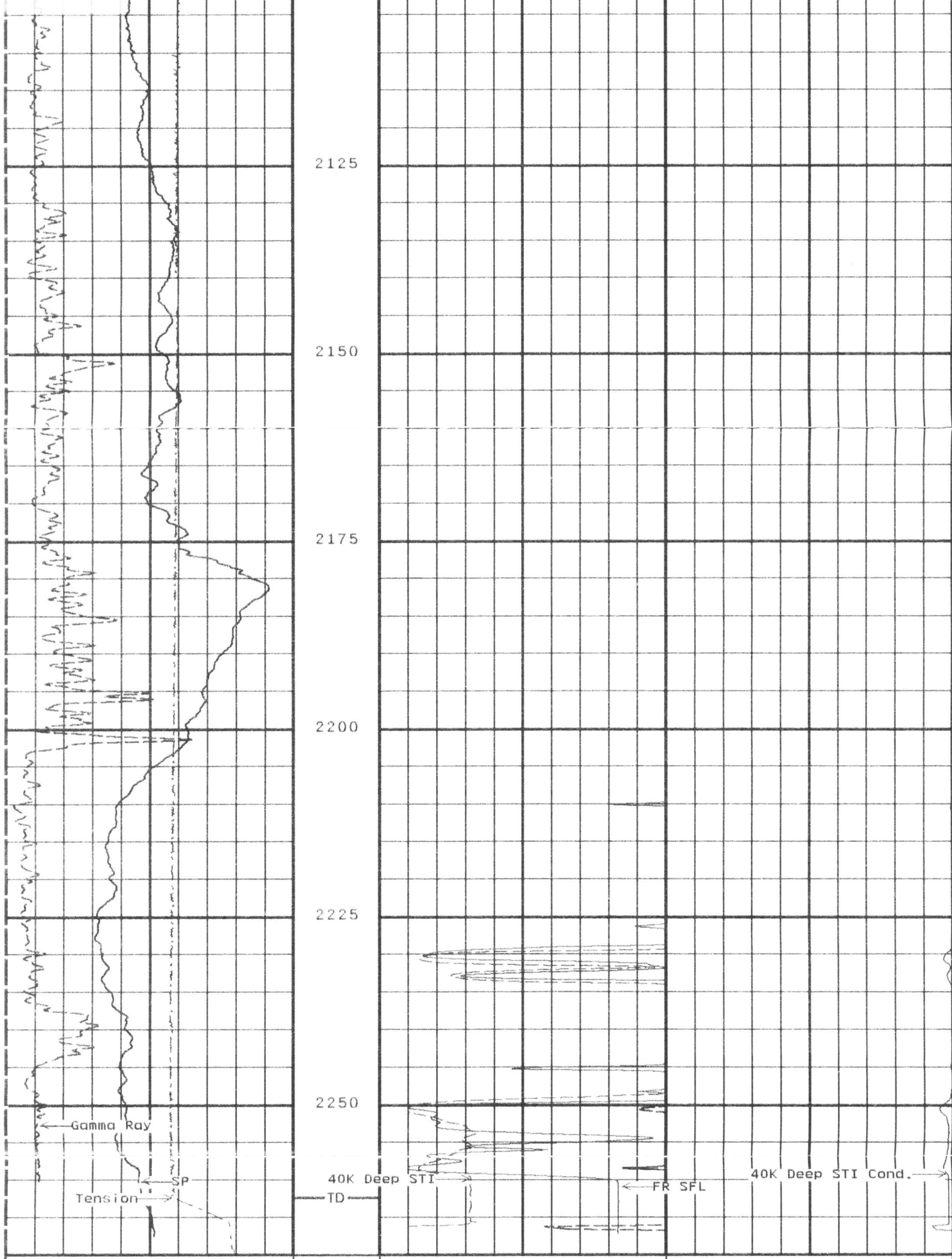
SFL Res. (SFLR)

0.00 OhmMeters 50.00

40K Deep STI (DVR4)

0.00 OhmMeters 50.00





SP (SP)		40K Deep STI (DVR4)	
-75	Millivolts	0.00	OhmMeters
Gamma Ray (GR)		SFL Res. (SFLR)	
0	API	0.00	OhmMeters
Tension (TENS)		40K Dp. Cond. (DVC4)	
10000	Pounds	1000.0	Milli-Mho/Meter

START DEPTH: 2270.1 DIRECTION: UP DATE: 03/17/2004 TIME: 03:44 MODE: TRACE PLAYBACK
30028933 STI4MP

MAIN PASS
DEPTH SCALE: 1:600 VERSION: 2004.02.11.263

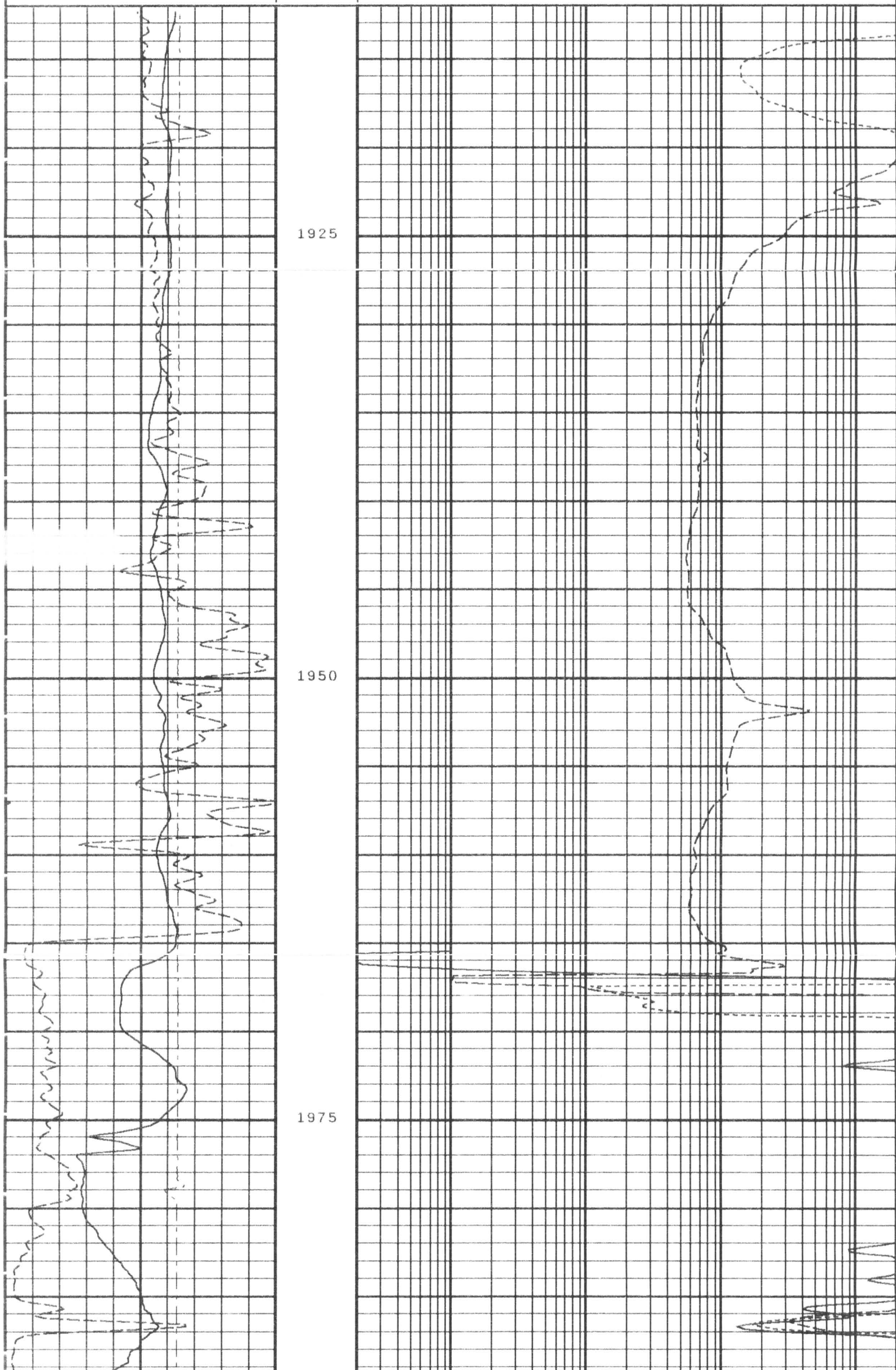
SYSTEM CONSTANTS			
NAME	DESCRIPTION	VALUE	UNITS
TDL	TD-Logger	2262.50	Meters
BHT	Bottom Hole Temp	98.0	DegreesCentigrade
SFT	Mean Annual Surf Temp	5.0	DegreesCentigrade
SPDD	SP Drift Corr. mV	0	Millivolts
SPBR	SP Bridle Depth Offset	0.00	Meters
SPTL	Log With SP From	STI	
STIB	STI SFL Chassis Return	ON	
STI4	STI 4 Level Average	OFF	
STIS	STI SFL Log Mode On	ON	
TGRD	Temperature Gradient		DegC/100Meters
SWAN	Sheave Wheel Angle	0.00	Degrees

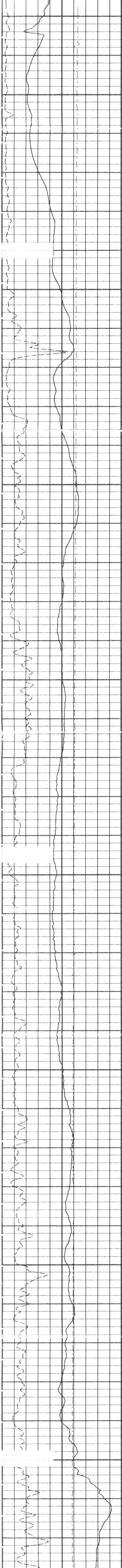
REMARKS
MAIN PASS 1:240 SCALE

DEPTH SCALE: 1:240 VERSION: 2004.02.11.263
MAIN PASS

30028933 STI4MP
FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: TIME: MODE: TRACE PLAYBACK

Tension (TENS)		SFL Res. (SFLR)	
10000	Pounds	0.20	OhmMeters
Gamma Ray (GR)		40K Med. STI (MVR4)	
0	API	0.20	OhmMeters
SP (SP)		40K Deep STI (DVR4)	
-75	Millivolts	0.20	OhmMeters





2000

2025

2050

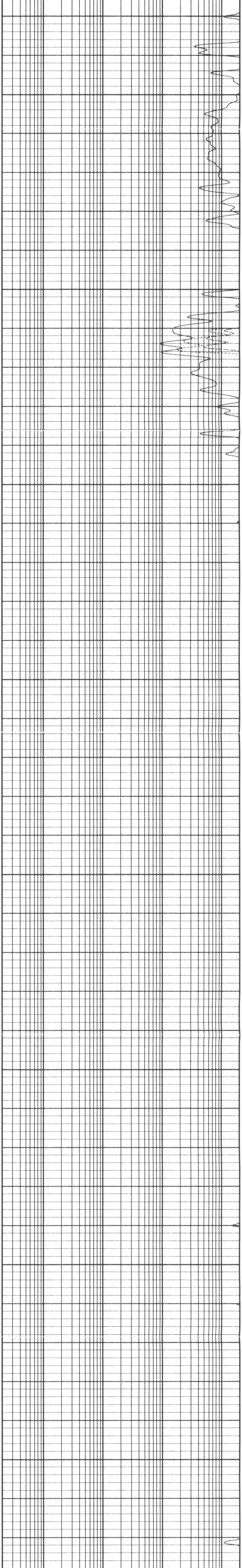
2075

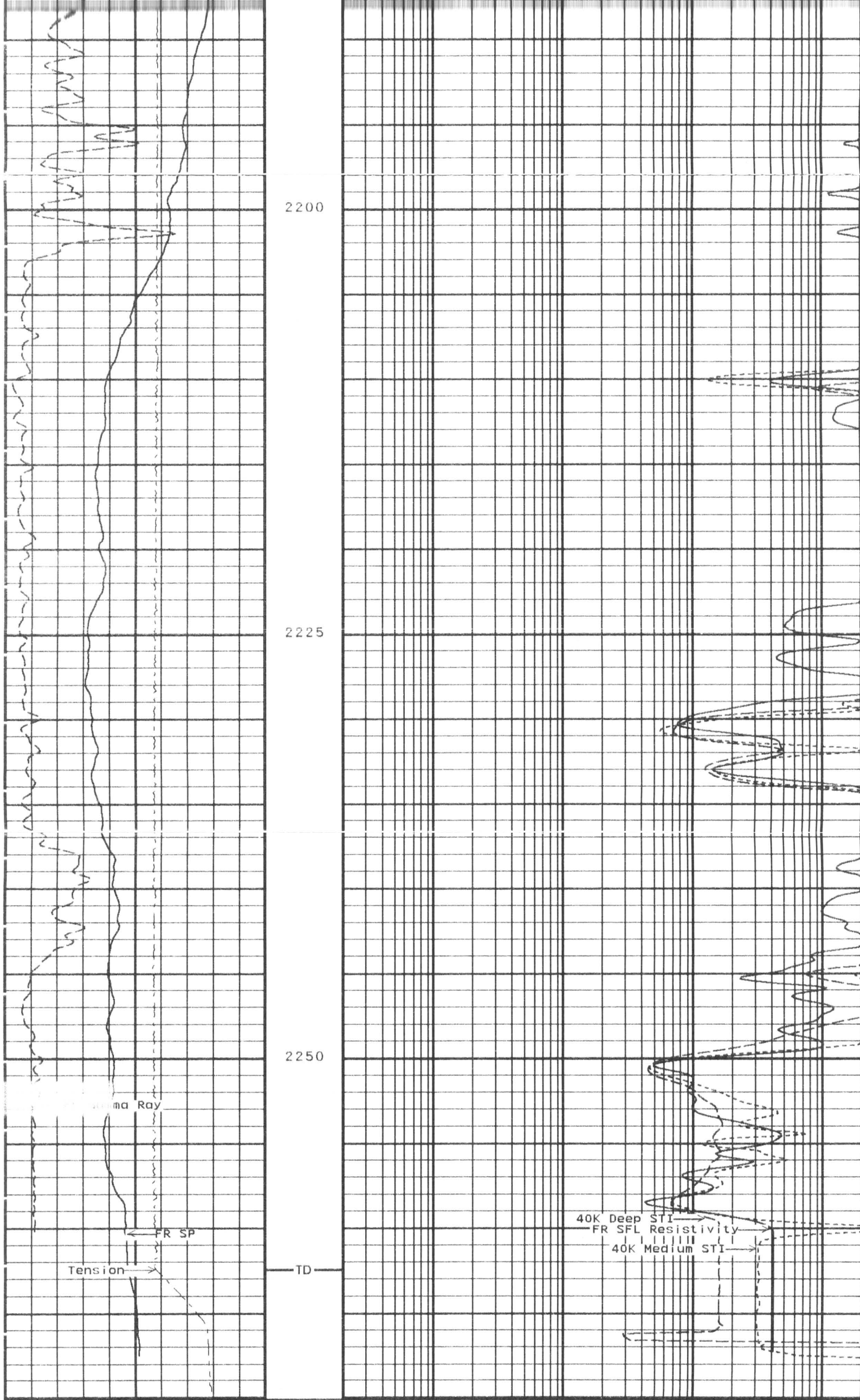
2100

2125

2150

2175





SP (SP)		40K Deep STI (DVR4)	
-75	Millivolts	0.20	OhmMeters
Gamma Ray (GR)		40K Med. STI (MVR4)	
0	API	0.20	OhmMeters
Tension (TENS)		SFL Res. (SFLR)	
10000	Pounds	0.20	OhmMeters

START DEPTH: 2270.1 DIRECTION: UP DATE: 03/17/2004 TIME: 03:44 MODE: TRACE PLAYBACK
30028933 STI4MP

MAIN PASS
DEPTH SCALE: 1:240 VERSION: 2004.02.11.263

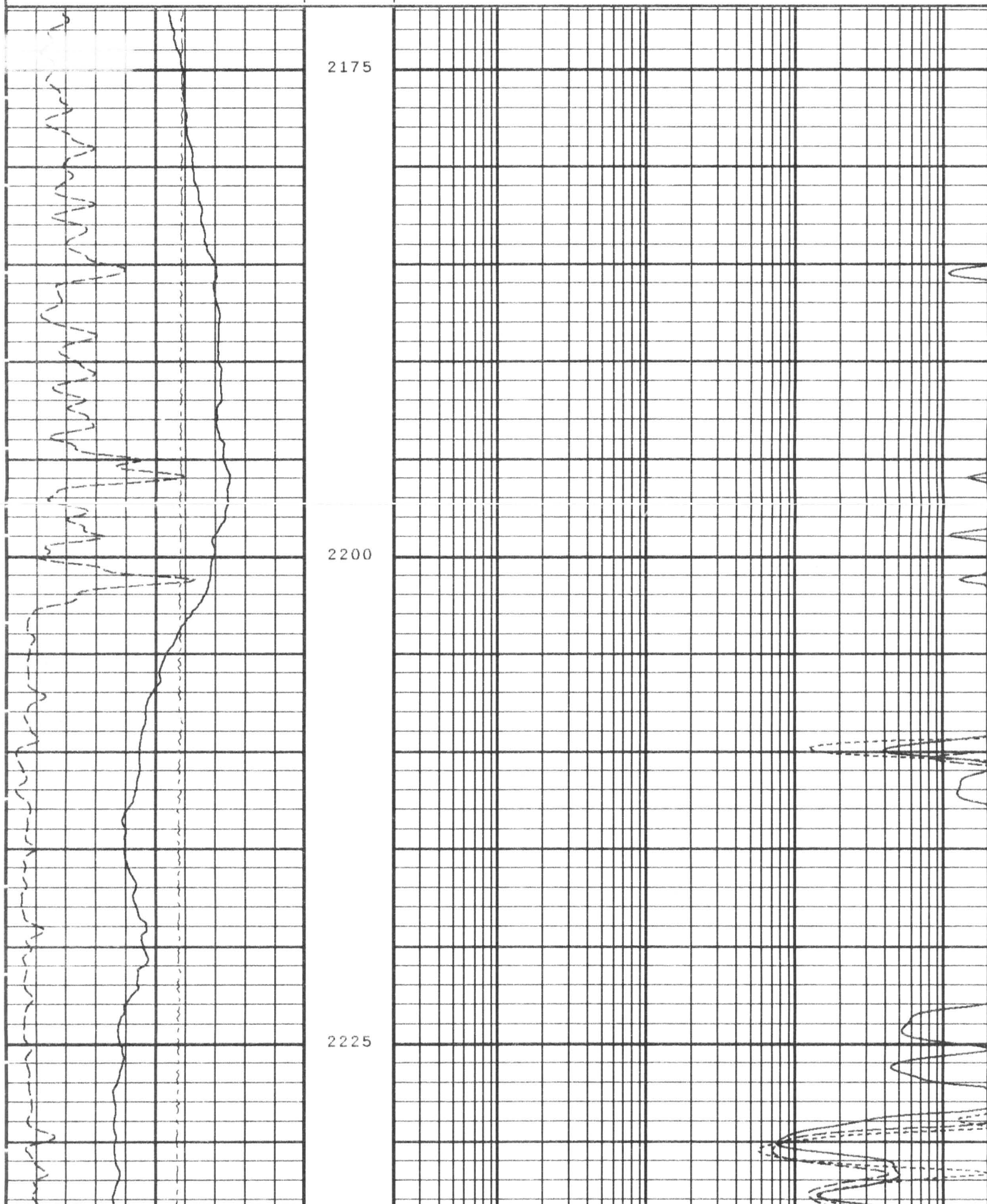
SYSTEM CONSTANTS			
NAME	DESCRIPTION	VALUE	UNITS
TDL	TD-Logger	2262.50	Meters
BHT	Bottom Hole Temp	98.0	DegreesCentigrade
SFT	Mean Annual Surf Temp	5.0	DegreesCentigrade
SPDD	SP Drift Corr. mV	0	Millivolts
SPBR	SP Bridle Depth Offset	0.00	Meters
SPTL	Log With SP From	STI	
STIB	STI SFL Chassis Return	ON	
STI4	STI 4 Level Average	OFF	
STIS	STI SFL Log Mode On	ON	
TGRD	Temperature Gradient		DegC/100Meters
SWAN	Sheave Wheel Angle	0.00	Degrees

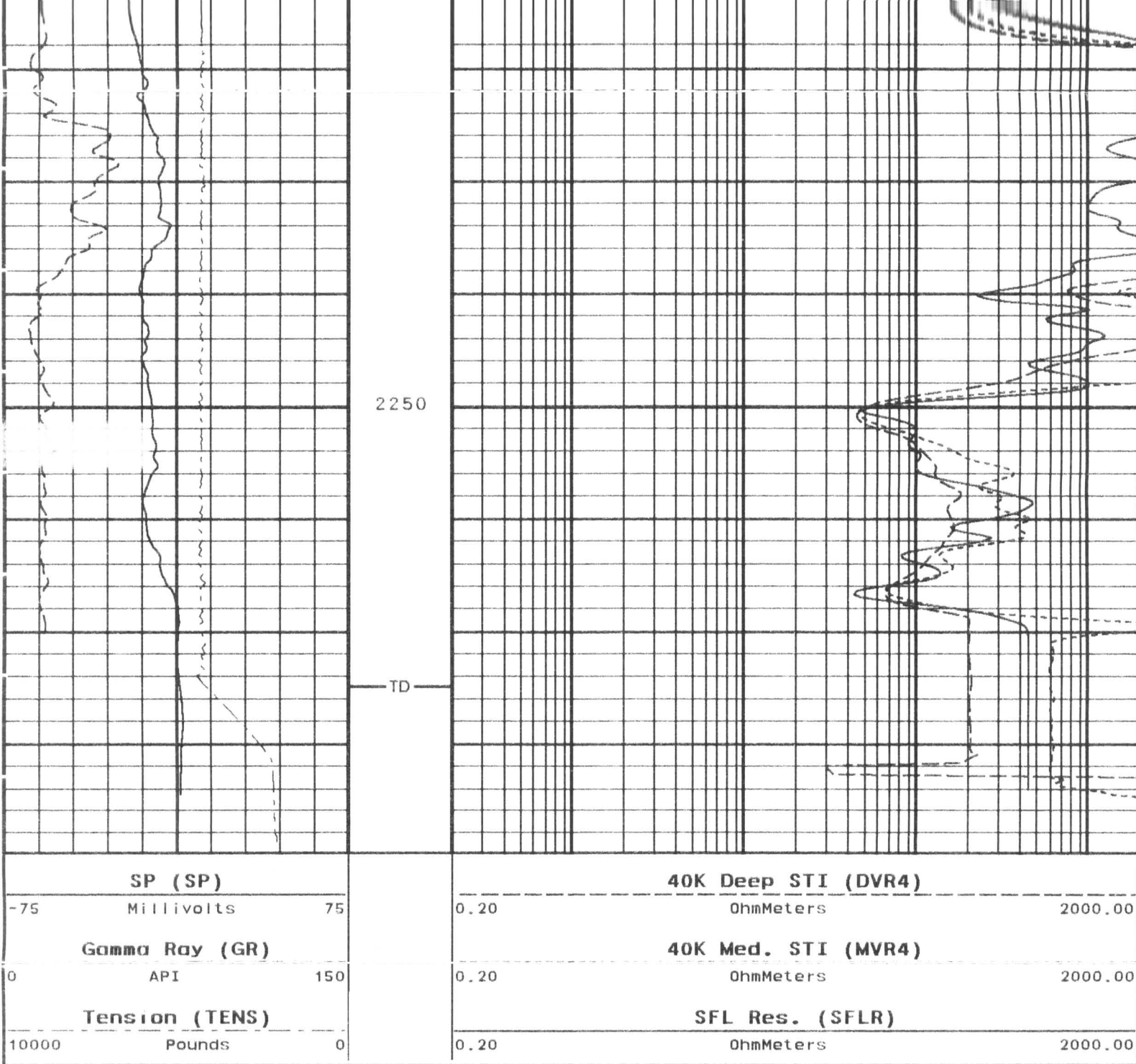
REMARKS
MAIN PASS
1:600 SCALE
CONDUCTIVITY PRESENTATION

DEPTH SCALE: 1:240 VERSION: 2004.02.11.263

REPEAT PASS
30028933 STI3RPT

Tension (TENS)		SFL Res. (SFLR)	
10000	Pounds	0.20	OhmMeters
Gamma Ray (GR)		40K Med. STI (MVR4)	
0	API	0.20	OhmMeters
SP (SP)		40K Deep STI (DVR4)	
-75	Millivolts	0.20	OhmMeters





START DEPTH: 2269.9 DIRECTION: UP DATE: 03/17/2004 TIME: 03:49 MODE: TRACE PLAYBACK
30028933 STI3RPT

REPEAT PASS

DEPTH SCALE: 1:240

VERSION: 2004.02.11.263

SYSTEM CONSTANTS

NAME	DESCRIPTION	VALUE	UNITS
TDL	TD-Logger	2262.50	Meters
BHT	Bottom Hole Temp	98.0	DegreesCentigrade
SFT	Mean Annual Surf Temp	5.0	DegreesCentigrade
SPDD	SP Drift Corr. mV	0	Millivolts
SPBR	SP Bridge Depth Offset	0.00	Meters
SPTL	Log With SP From	STI	
STIB	STI SFL Chassis Return	ON	
STI4	STI 4 Level Average	OFF	
STIS	STI SFL Log Mode On	ON	
TGRD	Temperature Gradient		DegC/100Meters
SMAN	Sheave Wheel Angle	0.00	Degrees

REMARKS

CASING CHECK

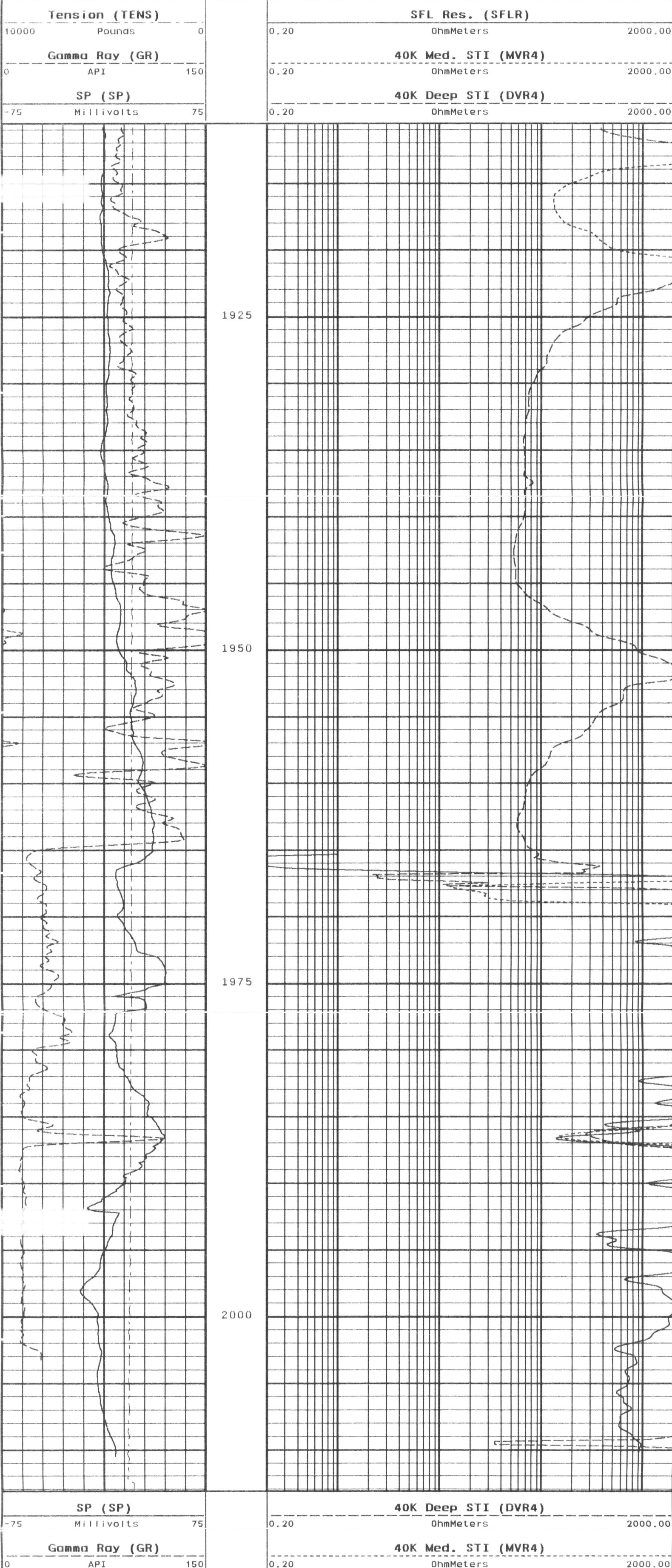
DEPTH SCALE: 1:240

VERSION: 2004.02.11.263

CSG CHECK

30028933 STI1CSG

FINISH DEPTH: 0.0 Meters DIRECTION: UP DATE: TIME: MODE: TRACE PLAYBACK



Tension (TENS)			SFL Res. (SFLR)		
10000	Pounds	0	0.20	OhmMeters	2000.00
START DEPTH: 2013.1 DIRECTION: UP DATE: 03/17/2004 TIME:03:40 MODE: TRACE PLAYBACK					
30028933 STI1CSG					
CSG CHECK					
DEPTH SCALE: 1:240			VERSION: 2004.02.11.263		
SYSTEM CONSTANTS					
NAME	DESCRIPTION	VALUE	UNITS		
TDL	TD-Logger	2262.50	Meters		
BHT	Bottom Hole Temp	98.0	DegreesCentigrade		
SFT	Mean Annual Surf Temp	5.0	DegreesCentigrade		
SPDD	SP Drift Corr. mV	0	Millivolts		
SPBR	SP Bridle Depth Offset	0.00	Meters		
SPTL	Log With SP From	STI			
STIB	STI SFL Chassis Return	ON			
STI4	STI 4 Level Average	OFF			
STIS	STI SFL Log Mode On	ON			
TGRD	Temperature Gradient		DegC/100Meters		
SWAN	Sheave Wheel Angle	0.00	Degrees		

03/14/04	15:11	0.0 M	Ver 40211263	Job 30028932
Gamma Ray Before Survey Calibration				
Tool Type: UGR-JA		Serial No: UGRJ110		
Calibrator No: RS-20S-152				
Background	Calibrator	Standard	Units	
165.2	674.2	140.0	API	
Delta Counts Per Sec: 509.0		CPS/API = 3.636		

02/26/04	10:53	0.0 M	Ver 40211263	Job shop			
SIMULTANEOUS TRIPLE INDUCTION SHOP CALIBRATION							
TOOL TYPE:	STI-AC	SONDE SERIAL NO:		STSB143			
		ELECTRONICS SERIAL NO:		STCB143			
LOOP CALIBRATION: Gain and Phase Error of Internal Reference							
	10KHz		20KHz		40KHz		
	DEEP	MEDIUM	DEEP	MEDIUM	DEEP	MEDIUM	
Gain:	1.014	0.999	1.020	0.996	1.022	0.996	
Upper Limit:	1.100	1.100	1.100	1.100	1.100	1.100	
Lower Limit:	0.900	0.900	0.900	0.900	0.900	0.900	
Phase Error(degrees):	0.99	0.42	1.16	0.62	1.07	0.58	
Upper Limit:	10.00	10.00	10.00	10.00	10.00	10.00	
Lower Limit:	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	
SONDE ERROR:							
	10KHz		20KHz		40KHz		
	R	X	R	X	R	X	
Deep:	1.2	-30.3	-1.8	-18.8	2.8	-18.1	
Upper Limit:	20.0	100.0	20.0	100.0	20.0	100.0	
Lower Limit:	-20.0	-100.0	-20.0	-100.0	-20.0	-100.0	
Medium:	-7.0	22.3	-2.5	-9.4	3.4	-42.8	
Upper Limit:	20.0	150.0	20.0	150.0	20.0	150.0	
Lower Limit:	-20.0	-150.0	-20.0	-150.0	-20.0	-150.0	
SHOP ELECTRONICS CALIBRATION:							
	10KHz		20KHz		40KHz		
	R	X	R	X	R	X	
Zero Error(mho/m):	-12.4	1.2	DEEP -0.7	7.8	0.1	9.1	
Upper Limit:	100.0	100.0	100.0	100.0	100.0	100.0	
Lower Limit:	-100.0	-100.0	-100.0	-100.0	-100.0	-100.0	
Gain:	0.993	0.998	0.998	0.990	0.998	0.990	
Upper Limit:	1.100	1.100	1.100	1.100	1.100	1.100	
Lower Limit:	0.900	0.900	0.900	0.900	0.900	0.900	
Phase Error(degrees):	-1.04	-0.02	0.02	-0.48	0.77	-0.30	
Upper Limit:	10.00	10.00	10.00	10.00	10.00	10.00	
Lower Limit:	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	
			MEDIUM				
Zero Error(mho/m):	-12.5	1.3	-0.2	7.8	0.2	9.3	
Upper Limit:	100.0	100.0	100.0	100.0	100.0	100.0	
Lower Limit:	-100.0	-100.0	-100.0	-100.0	-100.0	-100.0	
Gain:	0.994	0.998	0.997	0.990	0.995	0.990	
Upper Limit:	1.100	1.100	1.100	1.100	1.100	1.100	
Lower Limit:	0.900	0.900	0.900	0.900	0.900	0.900	
Phase Error(degrees):	-1.02	-0.02	-0.00	-0.50	0.78	-0.30	
Upper Limit:	10.00	10.00	10.00	10.00	10.00	10.00	
Lower Limit:	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	
SFL CALIBRATIONS:							
	OFFSET	MIN	MAX	UNITS	GAIN	MIN	MAX
Voltage:	-1.4	-100.0	100.0	uV	1.012	0.800	1.200
Current:	-0.2	-25.0	25.0	uA	0.995	0.800	1.200

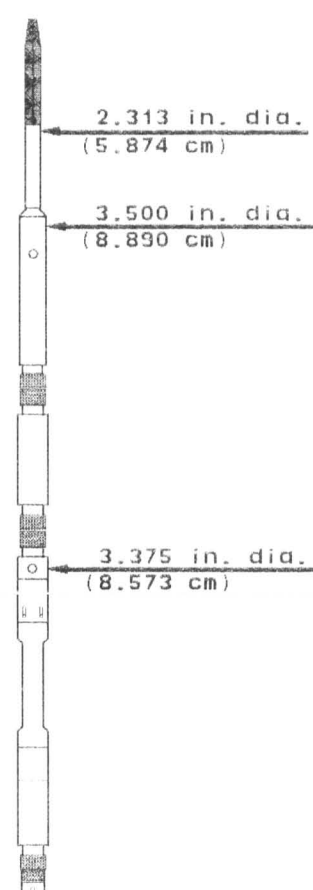
03/17/04	01:29	2268.0 M	Ver 40211263	Job 30028933			
SIMULTANEOUS TRIPLE INDUCTION BEFORE SURVEY CALIBRATION							
TOOL TYPE: STI-AC		SONDE SERIAL NO:		STSB143			
		ELECTRONICS SERIAL NO:		STCB143			
	10KHz		20KHz		40KHz		
	R	X	R	X	R	X	
Zero Error(maho/m):	-16.5	19.1	-4.9	15.0	3.8	12.4	
Upper Limit:	100.0	100.0	100.0	100.0	100.0	100.0	
Lower Limit:	-100.0	-100.0	-100.0	-100.0	-100.0	-100.0	
Gain:	0.990	0.993	0.994	0.986	0.994	0.984	
Upper Limit:	1.100	1.100	1.100	1.100	1.100	1.100	
Lower Limit:	0.900	0.900	0.900	0.900	0.900	0.900	
Phase Error(degrees):	-1.02	0.03	0.12	-0.33	1.21	-0.15	
Upper Limit:	10.00	10.00	10.00	10.00	10.00	10.00	
Lower Limit:	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	
	MEDIUM						
Zero Error(maho/m):	-16.9	19.2	-4.9	14.9	3.5	12.6	
Upper Limit:	100.0	100.0	100.0	100.0	100.0	100.0	
Lower Limit:	-100.0	-100.0	-100.0	-100.0	-100.0	-100.0	
Gain:	0.990	0.993	0.995	0.986	0.991	0.984	
Upper Limit:	1.100	1.100	1.100	1.100	1.100	1.100	
Lower Limit:	0.900	0.900	0.900	0.900	0.900	0.900	
Phase Error(degrees):	-1.01	0.04	-0.10	-0.33	0.84	-0.14	
Upper Limit:	10.00	10.00	10.00	10.00	10.00	10.00	
Lower Limit:	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	
SFL CALIBRATIONS:							
	OFFSET	MIN	MAX	UNITS	GAIN	MIN	MAX
Voltage:	-1.2	-100.0	100.0	uV	1.017	0.800	1.200
Current:	-0.2	-25.0	25.0	uA	0.994	0.800	1.200

03/17/04	03:29	1905.0 M	Ver 40211263	Job 30028933			
SIMULTANEOUS TRIPLE INDUCTION AFTER SURVEY CALIBRATION							
TOOL TYPE: STI-AC		SONDE SERIAL NO:		STSB143			
		ELECTRONICS SERIAL NO:		STCB143			
	10KHz		20KHz		40KHz		
	R	X	R	X	R	X	
	DEEP						
Zero Error(maho/m):	-19.8	17.7	-5.9	14.2	4.0	12.1	
Upper Limit:	100.0	100.0	100.0	100.0	100.0	100.0	
Lower Limit:	-100.0	-100.0	-100.0	-100.0	-100.0	-100.0	
Gain:	0.990	0.993	0.993	0.986	0.993	0.984	
Upper Limit:	1.100	1.100	1.100	1.100	1.100	1.100	
Lower Limit:	0.900	0.900	0.900	0.900	0.900	0.900	
Phase Error(degrees):	-0.99	0.05	0.10	-0.35	1.22	-0.14	
Upper Limit:	10.00	10.00	10.00	10.00	10.00	10.00	
Lower Limit:	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	
	MEDIUM						
Zero Error(maho/m):	-20.0	17.7	-5.9	14.1	3.8	12.2	
Upper Limit:	100.0	100.0	100.0	100.0	100.0	100.0	
Lower Limit:	-100.0	-100.0	-100.0	-100.0	-100.0	-100.0	
Gain:	0.990	0.993	0.994	0.986	0.991	0.984	
Upper Limit:	1.100	1.100	1.100	1.100	1.100	1.100	
Lower Limit:	0.900	0.900	0.900	0.900	0.900	0.900	
Phase Error(degrees):	-1.00	0.06	-0.09	-0.34	0.84	-0.13	
Upper Limit:	10.00	10.00	10.00	10.00	10.00	10.00	
Lower Limit:	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	
SFL CALIBRATIONS:							
	OFFSET	MIN	MAX	UNITS	GAIN	MIN	MAX
Voltage:	-1.4	-100.0	100.0	uV	1.013	0.800	1.200
Current:	-0.2	-25.0	25.0	uA	0.991	0.800	1.200

O.H. Adaptor Head	
Weight	<u>18.0 kg</u>
Length	<u>0.74 m</u>
Max. Diameter	<u>8.9 cm</u>
Total Stack Weight	<u>896.4 kg</u> in air
Total Stack Length	<u>33.94 m</u>

Crossover	
Weight	<u>6.8 kg</u>
Length	<u>0.27 m</u>

Downhole Tension/Compression	
Weight	<u>34.9 kg</u>
Length	<u>0.92 m</u>
Max. Diameter	<u>8.6 cm</u>



Wireline Communications Cartridge

Weight 53.6 kg
Length 2.31 m
Max. Diameter 8.6 cm

2-Arm Caliper

Weight 79.4 kg
Length 2.40 m
Max. Diameter 10.2 cm

Monopole Dipole Array

Weight 274.0 kg
Length 10.46 m
Max. Diameter 8.6 cm

High Resolution Micro Imager

Weight 196.5 kg
Length 5.88 m
Max. Diameter 13.3 cm

Mass Isolator

Weight 19.0 kg
Length 0.81 m
Max. Diameter 8.6 cm

Universal GR

Weight 37.3 kg
Length 1.40 m
Max. Diameter 8.6 cm

Simultaneous Triple Induction

Weight 176.9 kg
Length 8.75 m
Max. Diameter 10.2 cm

Caliper 27.77 m

X Dipole Tx 24.56 m

Dipole Tx 24.33 m

Monopole Tx 23.64 m

Receiver #1 20.90 m

Pads/Calipers/Dir 12.05 m

GR 9.75 m

ILD 3.08 m

SFL 2.45 m

SP 2.21 m

ILM 1.90 m

COMPANY ANADARKO CANADA CORPORATION

WELL ANADARKO EMILE LAKE A-77

FIELD NETLA PROVINCE N.W.T.

PRECISION

Wireline Technologies

