ENCLOSURE 14e

DIG SFL

OR-354

MSFL

Schlumberger

SIMULTANEOUS

INDUCTION RESISTIVITY SONIC

ISF - SONIC

COMPANY HEMATITE PETROLEUM CO

391197

WELL PELICAN #4

FIELD WILDCAT

COUNTRY AUSTRALIA

LOCATION 40° 21' 38.3" S 145° 52' 17.7" E

Sec. Twp. Rge.

Other Services: DLL; FDC-CNL-GR HDT, CIS, ST, RFT FIT

COUNTRY AUSTRALIA
FIELD or LOCATION WILDCAT
WELL PELICAN 4

COMPANY HEMATITE PETROLEUM

Permanent Datum: MSL, Elev. 0
Log Measured From KB, 82 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 82
D.F. 81
G.L. -254

Date	12 FEB 1979		
Run No.	THREE		
Depth-Driller	10,009		
Depth-Logger	10,017		
Btm. Log Interval	10,002		
Top Log Interval	9000		
Casing-Driller	13⅜ @ 2789	@	@
Casing-Logger	2792		
Bit Size	12¼"		
Type Fluid in Hole	Seawater/Gel		
Dens. | Visc.	11.6 | 40		
pH | Fluid Loss	11.4 | 7.0 ml	ml	ml
Source of Sample	FLOWLINE		
Rm @ Meas. Temp.	0.239 @ 75°F	@ °F	@ °F
Rmf @ Meas. Temp.	0.164 @ 75°F	@ °F	@ °F
Rmc @ Meas. Temp.	0.524 @ 75°F	@ °F	@ °F
Source: Rmf | Rmc	PRESS | PRESS		
Rm @ BHT	@ °F	@ °F	@ °F
Time Since Circ.	11 HOURS		
Max. Rec. Temp.	228 °F	°F	°F
Equip. | Location	3501 | SEA		
Recorded By	P L FRANKLIN		
Witnessed By	B ATKINS		

FOLD HERE

The well name, location and borehole reference data were furnished by the customer

EQUIPMENT DATA

Run Nº	Induction			Sonic				Aux and Memory Panel			G R	Tape	Caliper
	Panel	Cartridge	Sonde	Panel	Oscil.	Cartridge	Sonde	SRP-	MDU-	ILP-	Cartridge	Recorder	
3	UD738	QB 727	VA-732	LB-780	–	K-785	RA 1658	CC-1802	AB-939	–	JAA-1007	EB-868	–

LOGGING DATA

Run Nº	Gamma Ray		Stand-off inches	Centering Device	Zero cond. adjusted at		RSFL averaged		Max. hole deviation
	Time Constant	Speed			Surface	Depth	Yes	No	
3	2	1800 fph	1.5	–	x			x	°@ °@ °@ °@

CALIBRATION DATA

Run Nº	Gamma Ray		
	API Scale	Background CPS	Total CPS
3	0 - 165		

REMARKS HOLE STICKY IN PLACES.
FOR Δt readings 9140 - 9120 see repeat sections.

SPONTANEOUS POTENTIAL
millivolts

10

– ←→ +

Depths 2"

RESISTIVITY
ohms - m

DEEP INDUCTION R_{ILD}

0.2 1.0 10 100 1000 2000

SPHERICALLY FOCUSED RESITIVITY R_{SFL}

0.2 1.0 10 100 1000 2000

MICROSPHERICALLY FOCUSED RESISTIVITY R_{MSFL}

0.2 1.0 10 100 1000

GAMMA RAY
api units

0 150

Depths

5 cm

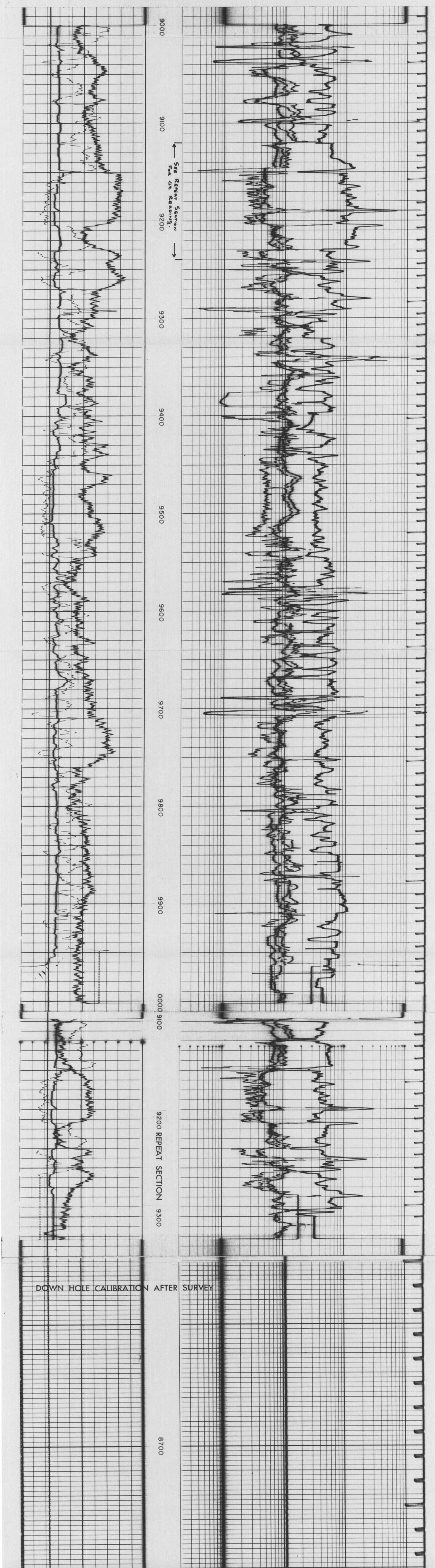
INTERVAL TRANSIT TIME Δ t
microsecond per foot

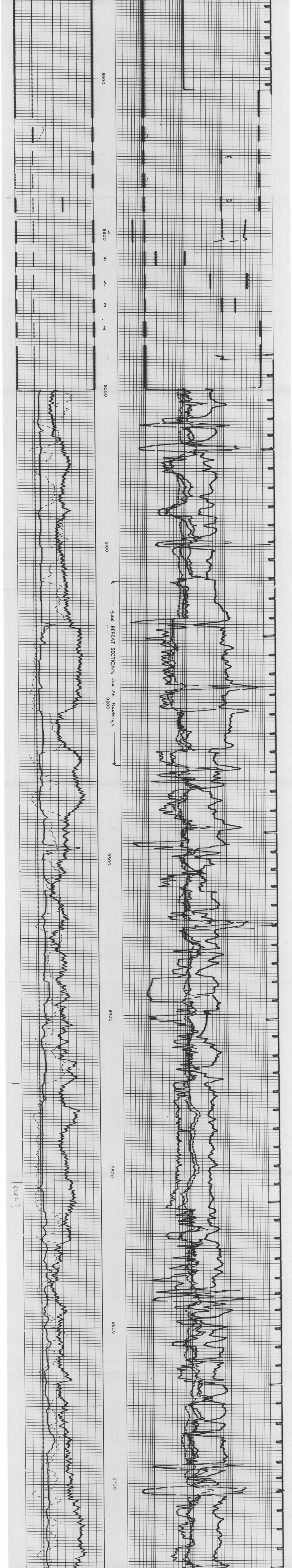
500 300 100

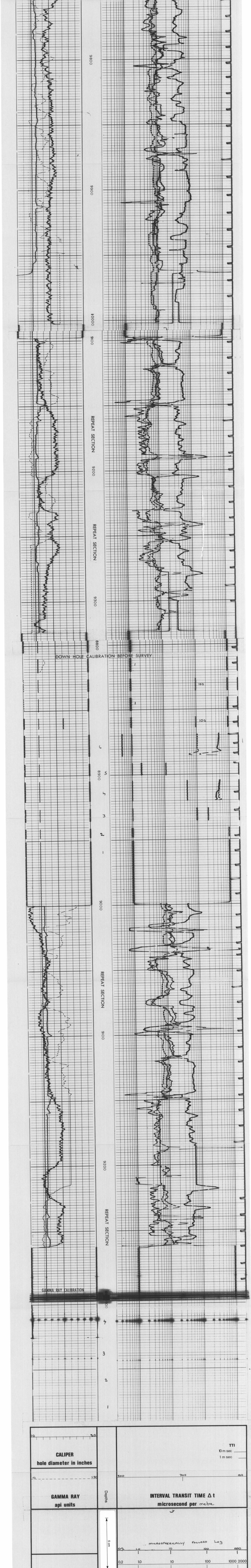
TTI
10 m sec
1 m sec

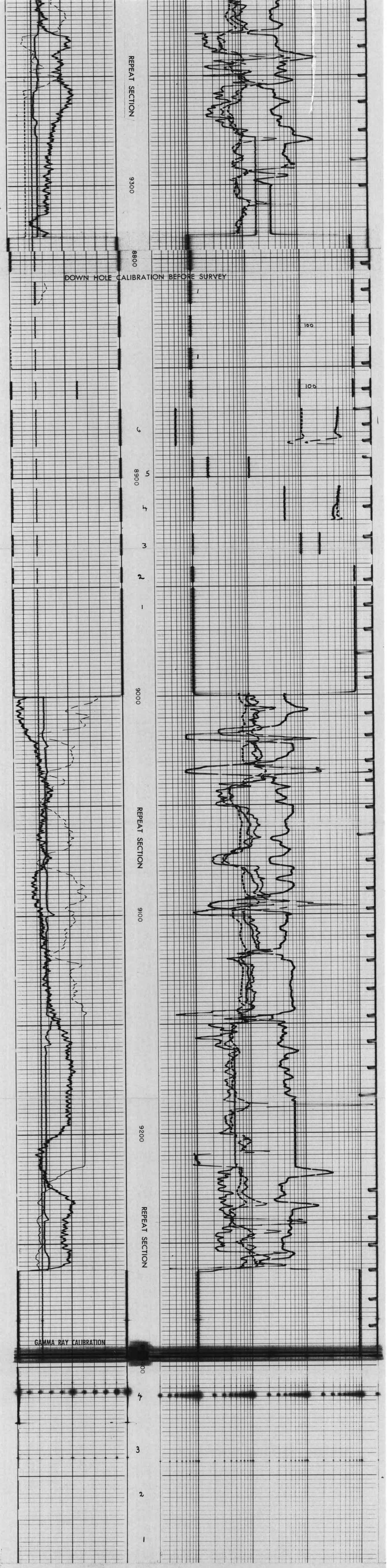
CALIPER
hole diameter in inches

10 20









10 20

CALIPER
hole diameter in inches

0 150

GAMMA RAY
api units

Depths

TTI
10 m sec
1 m sec

500 300 100

INTERVAL TRANSIT TIME Δ t
microsecond per metre

5 cm

MICROSPHERICALLY FOCUSED LOG
0.2 1.0 10 100 1000

0.2 1.0 10 100 1000 2000
SPHERICALLY FOCUSED RESITIVITY R_{SFL}

0.2 1.0 10 100 1000 2000
DEEP INDUCTION R_{ILD}

10
– |<->| +

SPONTANEOUS POTENTIAL
millivolts

Depths

RESISTIVITY
ohms - m

REPEAT SECTION

CALIBRATION DATA

ISF/SONIC CALIBRATION CODING

	ISF	SONIC
1.	MECHANICAL ZERO	MECHANICAL ZERO
2.	1 ohm-m	40 μ sec
3.	100 ohm-m	60 μ sec
4.	500 ohm-m	80 μ sec
5.	2 ohm-m	100 μ sec
6.	SONDE ERROR	140 μ sec
7.	ZERO SIGNAL IN AIR	SURFACE CALIBRATION ONLY
8.	TEST LOOP	

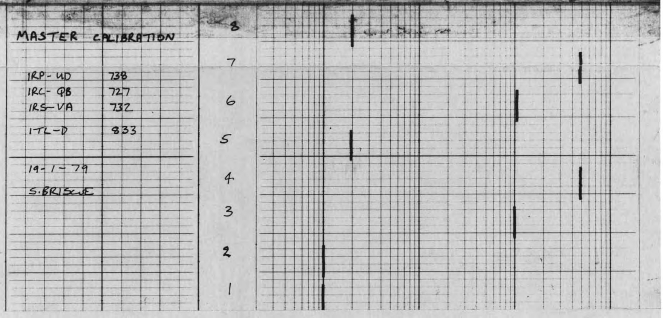
GAMMA RAY CALIBRATION CODING

1. MECHANICAL ZERO
2. TEST - 1 - ELECTRICAL ZERO
3. TOOL CAL - BACKGROUND
4. TOOL CAL - TEST JIG ON
5. CAL CHECK f = ____________Hz

Schlumberger

SIMULTANEOUS
INDUCTION RESISTIVITY SONIC
ISF - SONIC

C 73.066 SEPT 76



MASTER CALIBRATION

IRP - UD 738
IRC - QB 727
IRS - VA 732

ITL - D 833

19 - 1 - 79

S. BRISCOE

R
20 391198 OR-354

ENCLOSURE 159

SCHLUMBERGER INDUCTION-ELECTRICAL LOG

COUNTY AUSTRALIA
FIELD or LOCATION WILDCAT
WELL PELICAN #4

COMPANY ESSO AUST. LTD.

COMPANY Hematite Petroleum Pty.Ltd.
WELL Pelican #4
FIELD Wildcat
COUNTY Australia STATE Tasmania
LOCATION 40° 21' 38.30" S
145° 52' 17.70" E
Other Services:
Sec. Twp. Rge.

Permanent Datum: MSL, Elev. 0
Log Measured From KB, 82 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 82
D.F. 81
G.L. -254

Date	30-1-79		
Run No.	TWO		
Depth—Driller	8373		
Depth—Logger	8389		
Btm. Log Interval	8382		
Top Log Interval	2788		
Casing—Driller	13 3/8@2789	@	@
Casing—Logger	2788		
Bit Size	11 1/2		
Type Fluid in Hole	SEA WATER GEL		
Dens. | Visc.	10.0 | 40		
pH | Fluid Loss	10.5 | 7 ml	ml	ml
Source of Sample	FLOWLINE		
R_m @ Meas. Temp.	.24 @ 80 °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.18 @ 80 °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	.35 @ 80 °F	@ °F	@ °F
Source: R_{mf} | R_{mc}	PRESS | PRESS		
R_m @ BHT	.11 @ 191°F	@ °F	@ °F
Time Since Circ.	6 Hrs.		
Max. Rec. Temp.	191 °F	°F	°F
Equip. | Location	3501 | SEA		
Recorded By	S.BRISCOE		
Witnessed By	D.WARNER		

FOLD HERE The well name, location and borehole reference data were furnished by the customer.

REMARKS

Changes in Mud Type or Additional Samples				
Date | Sample No.				
Depth—Driller				
Type Fluid in Hole				
Dens. | Visc.				
ph | Fluid Loss		ml		
Source of Sample				
R_m @ Meas. Temp.	@	°F	@	°F
R_{mf} @ Meas. Temp.	@	°F	@	°F
R_{mc} @ Meas. Temp.	@	°F	@	°F
Source: R_{mf} | R_{mc}				
R_m @ BHT	@	°F	@	°F
R_{mf} @ BHT	@	°F	@	°F
R_{mc} @ BHT	@	°F	@	°F

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down Hole

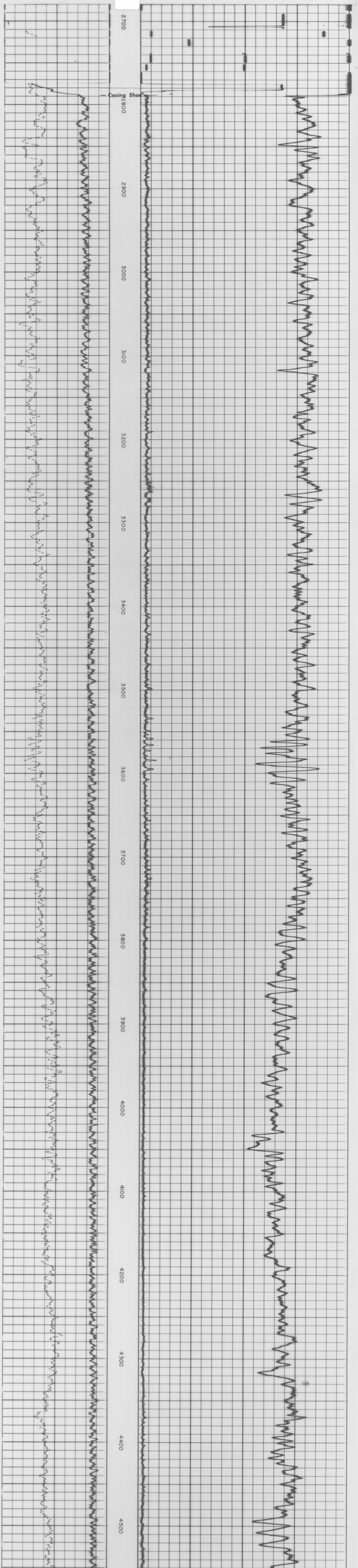
Equipment Data

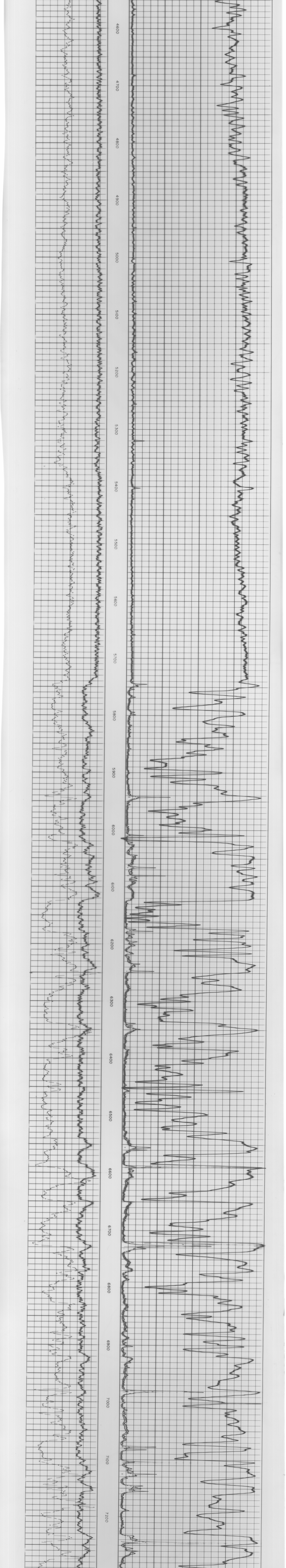
Run No.	Tool Type	Tool Position	Other
1	IRT-R	Excentered	

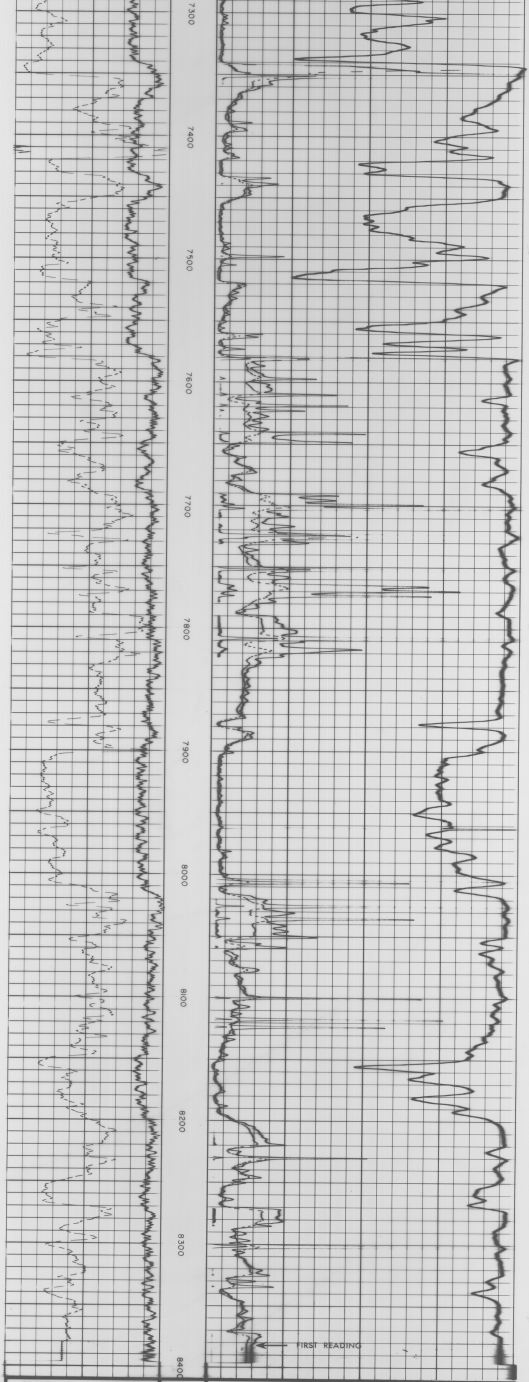
Run No.: 2
C.D.: FIN
S.O.: 1.5'
Equip. PANEL No.: UD 738
Used: CART. No.: QB 727
SONDE No.: VA 732
IAP No.:
S.B.R.: 1

Check one, filling in blanks where applicable:
☒ Surface determined sonde errors used for 6FF40.
☐ 6FF40 sonde error corrected for inch borehole signal at Rm =
☐ 6FF40 zero set in hole at depth of feet.

SPONTANEOUS POTENTIAL millivolts	DEPTHS	RESISTIVITY ohms - m²/m	CONDUCTIVITY millimhos/m = $\frac{1000}{\text{ohms - m}^2\text{/m}}$
− ⟷10 +	2"	A - 16" - M SPHERICALLY FOCUSSED 0 20	6FF40 INDUCTION 2000 0
GAMMA RAY API UNITS 0 150	5 cm	INDUCTION 0 20 AMP. SHORT NORMAL	







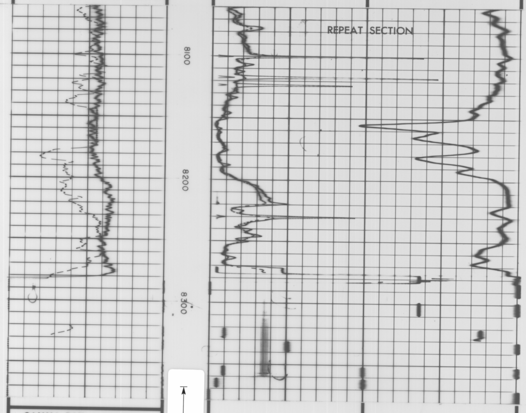
SPONTANEOUS-POTENTIAL
— |10| + MILLIVOLTS

GAMMA RAY API UNITS
0 150

DEPTH
2"

RESISTIVITY OHMS. M² M
AMP. SHORT NORMAL
A-16"-M
SPHERICALLY FOCUSSED
0 20
6 FF40 INDUCTION
0 20

CONDUCTIVITY
MILLIMHOS M $\frac{1000}{\text{OHMS. M}^2\text{ M}}$
6 FF40 INDUCTION
2000 0



GAMMA RAY API UNITS
0 150

5 cm

RESISTIVITY OHMS. M² M
AMP. SHORT NORMAL
A-16"-M
SPHERICALLY FOCUSSED
0 20
6 FF40 INDUCTION
0 20

CONDUCTIVITY
MILLIMHOS M $\frac{1000}{\text{OHMS. M}^2\text{ M}}$
6 FF40 INDUCTION
2000 0

SPONTANEOUS-POTENTIAL
— |10| + MILLIVOLTS -

2" DEPTH

COMPANY Esso Australia Ltd.
WELL Pelican #4
FIELD Wildcat
COUNTY Australia STATE Tasmania

SCHL. FR
SCHL. TD
DRLR. TD
Elev:
KB 82
DF 81
GL -254

391199

ENCLOSURE 15b

OR-354

Schlumberger

INDUCTION ELECTRICAL LOG

COUNTRY AUSTRALIA
FIELD or LOCAT'ON WILDCAT
WELL PELICAN #4
COMPANY HEMATITE PET. PTY.

COMPANY Hematite Petroleum Pty.Ltd.
WELL Pelican #4
FIELD Wildcat
COUNTRY Australia STATE Tasmania
LOCATION 40° 21' 38.30" S
145° 52' 17.70" E
Other Services:

Permanent Datum: MSL, Elev. 0
Log Measured From KB, 82ft Above Perm. Datum
Drilling Measured From KB
Elev.: K.B. 82
D.F. 81
G.L. -254

Date	30-1-79		
Run No.	TWO		
Depth—Driller	8373		
Depth—Logger	8389		
Btm. Log Interval	8382		
Top Log interval	2788		
Casing—Driller	13 3/8 @ 2789	@	@
Casing—Logger	2788		
Bit Size	12¼		
Type Fluid in Hole	SEA WATER GEL		
Dens. | Visc.	10.0 | 40		
pH | Fluid Loss	10.5 | 7 ml	ml	ml
Source of Sample	FLOWLINE		
R_m @ Meas. Temp.	.24 @ 80 °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.18 @ 80 °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	.35 @ 80 °F	@ °F	@ °F
Source: R_{mf} | R_{mc}	PRESS | PRESS		
R_m @ BHT	.11 @ 191 °F	@ °F	@ °F
Time Since Circ.	6 Hrs.		
Max. Rec. Temp.	191 °F	°F	°F
Equip. | Location	3501 | SEA		
Recorded By	S.BRISCOE		
Witnessed By	D.WARNER		

FOLD HERE The well name, location and borehole reference data were furnished by the customer.

EQUIPMENT DATA

Run N°	Induction			Memory Panel	Gamma Ray		Tape Recorder
	Panel	Cartridge	Sonde		Panel	Cartridge	
2	UD738	QB727	VA732	AB939	CC1802	JAA1002	EB868

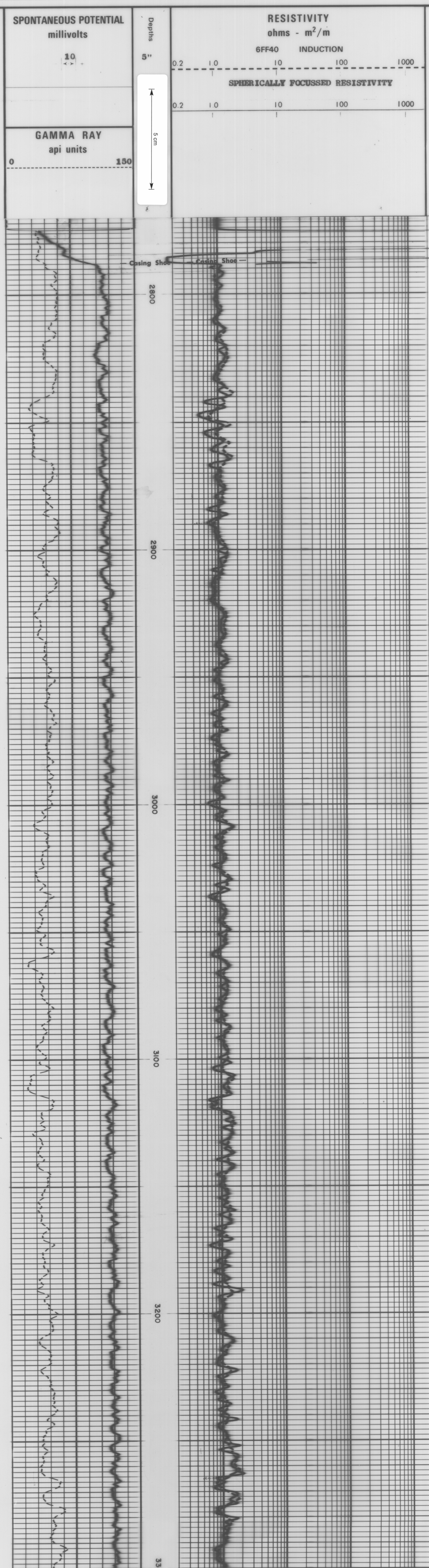
LOGGING DATA

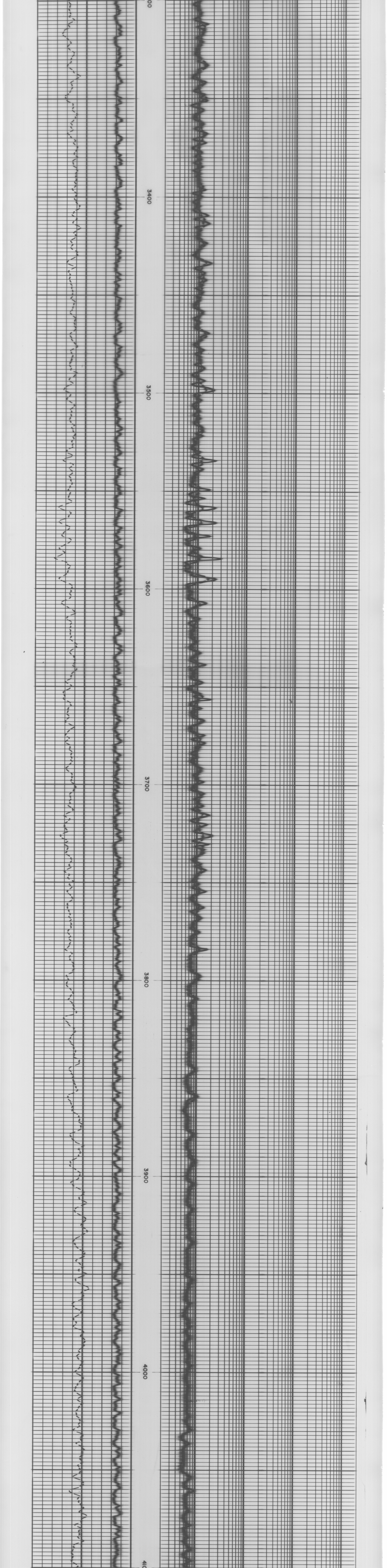
Run N°	Gamma Ray		Stand-off inches	Induction zero at	
	Time Constant	Speed		Surface	Depth
2	1	3600 fph	1.5	X	

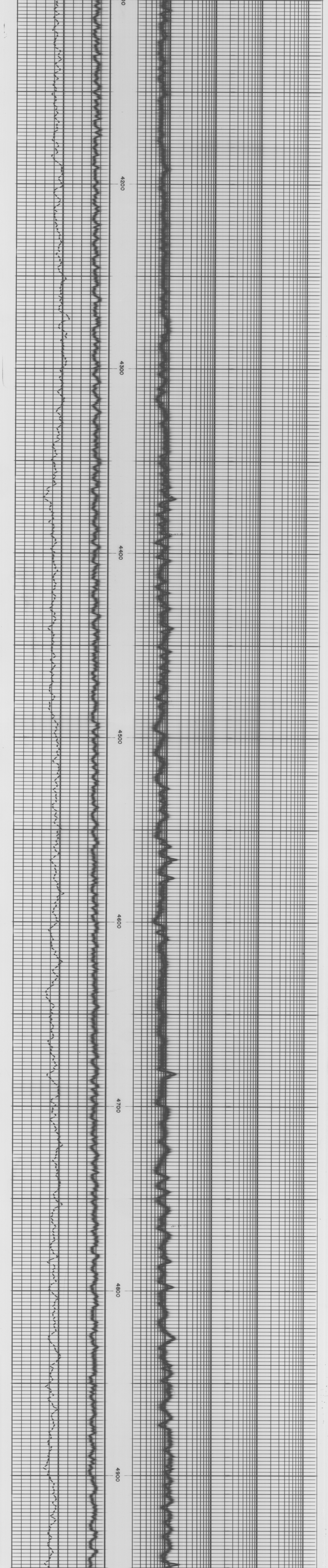
CALIBRATION DATA

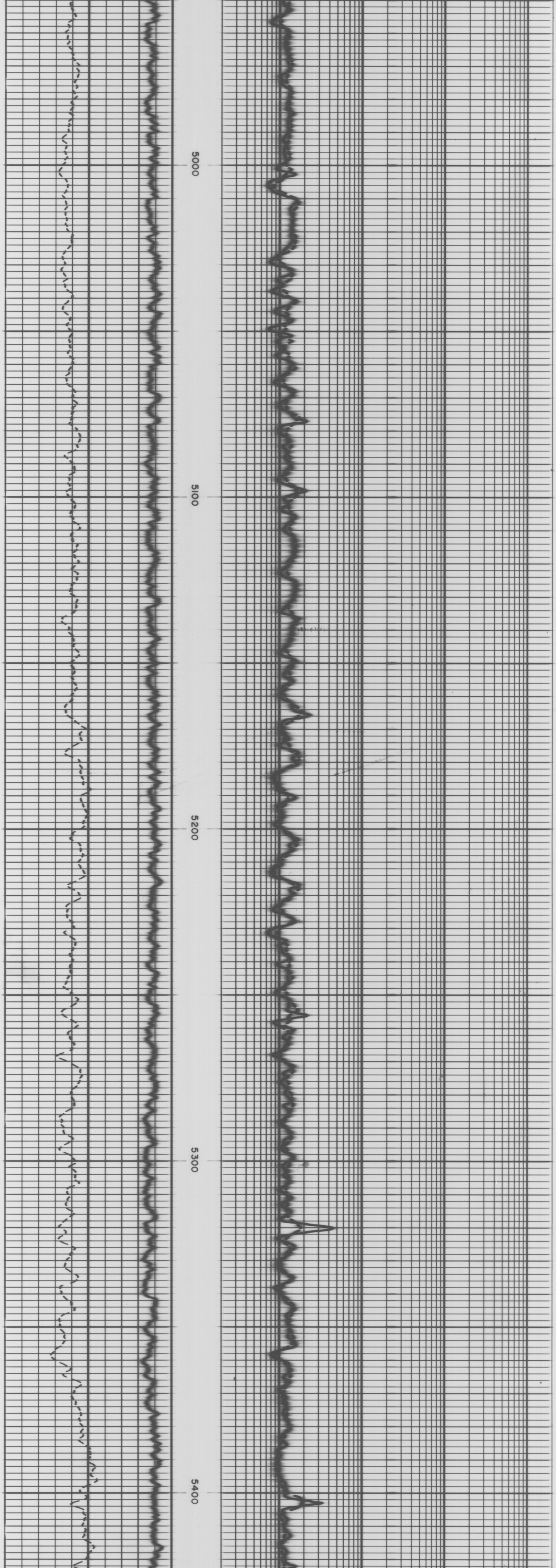
Gamma Ray		
API Scale	Background CPS	Total CPS
0-165	NA	NA

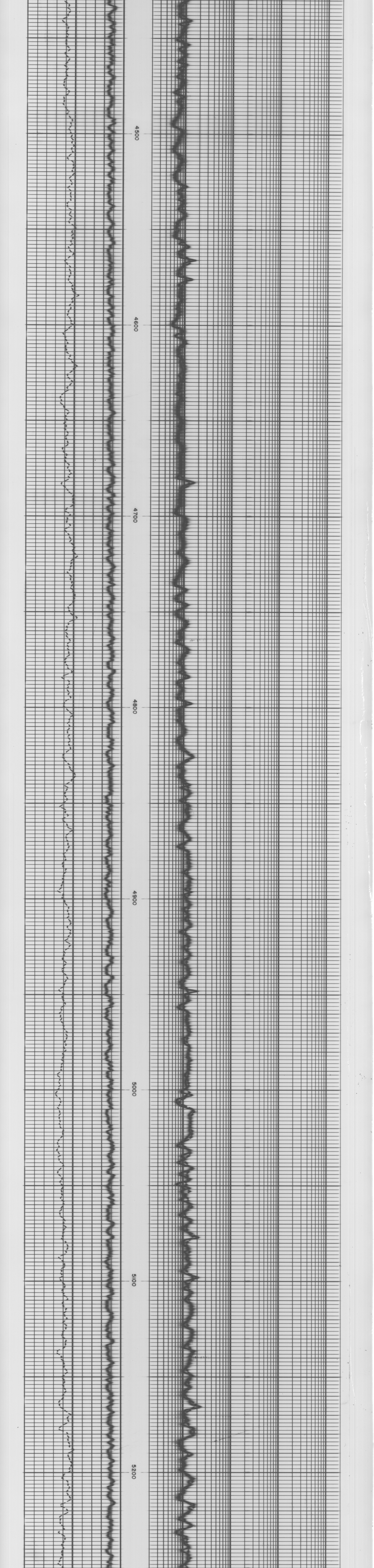
REMARKS
Dual presentation : 5" Logarithmic
2" Linear







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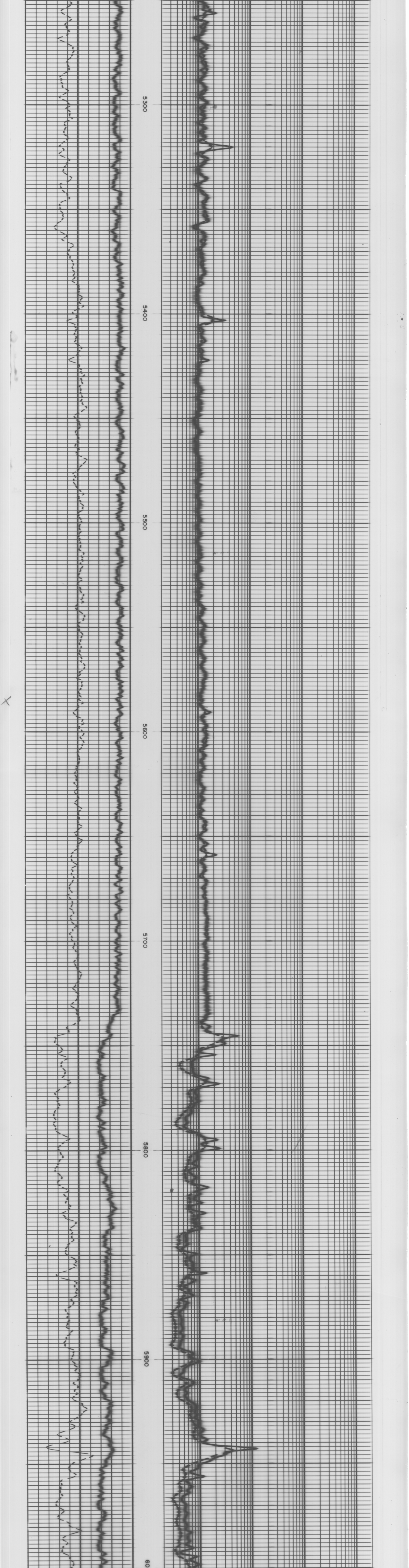
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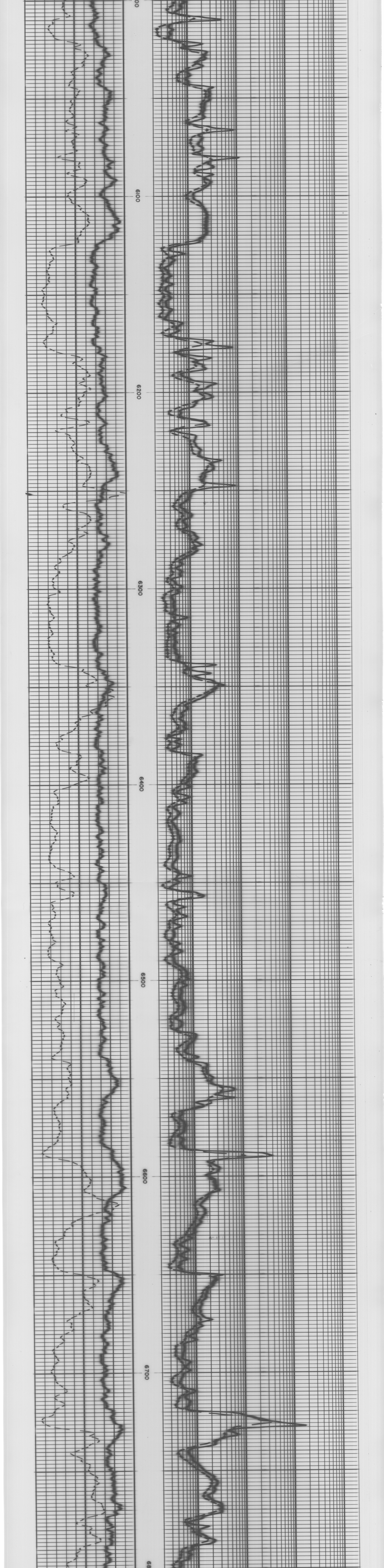
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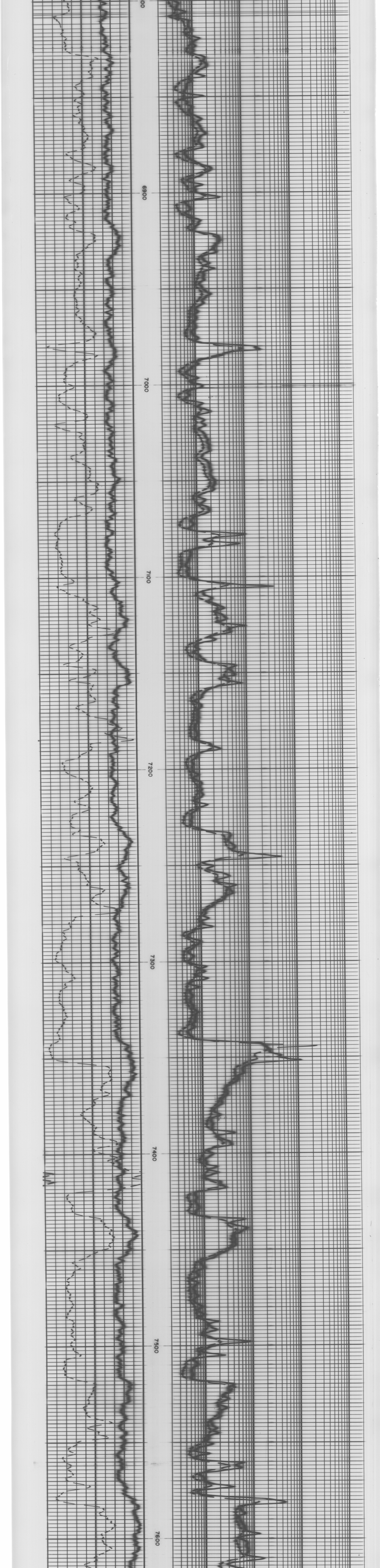

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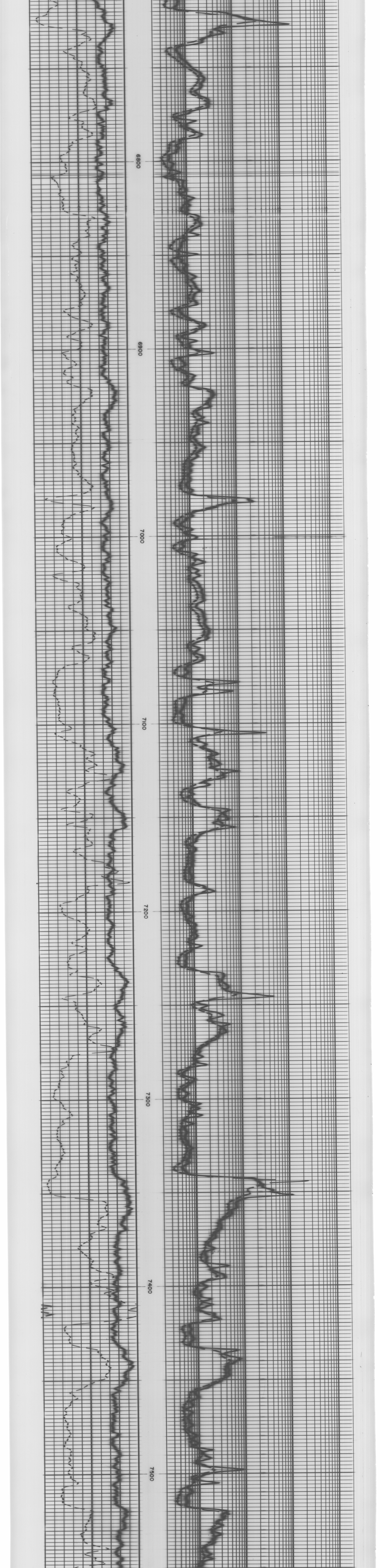
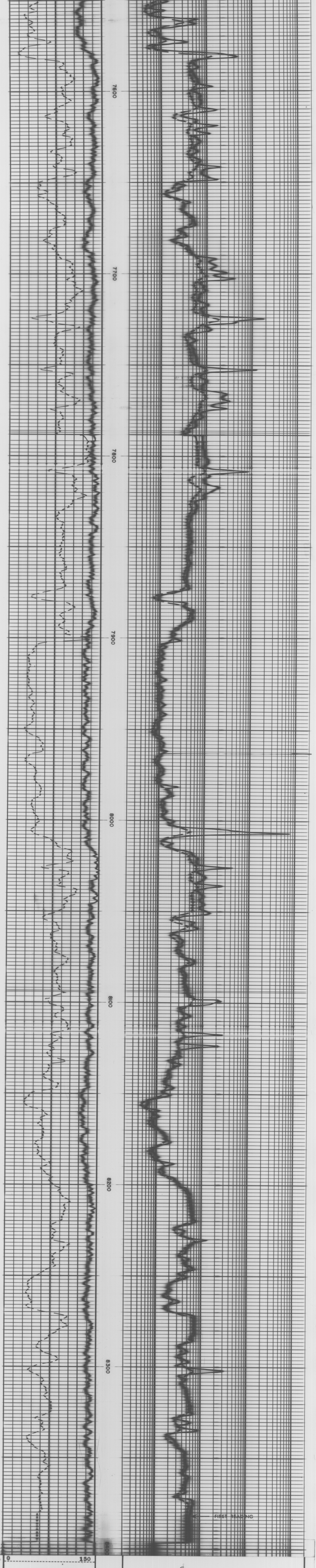




GAMMA RAY
api units

5"

0.2 1.0 10 100 1000

SPHERICALLY FOCUSSED RESISTIVITY

0.2 1.0 10 100 1000

6FF40 INDUCTION

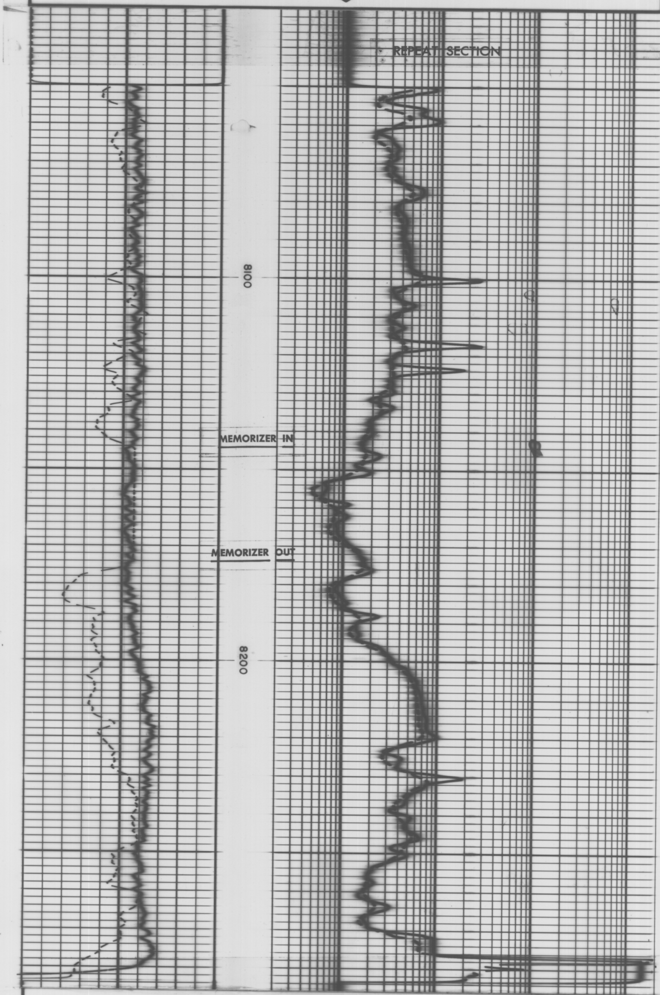
RESISTIVITY
ohms - m^2/m

10

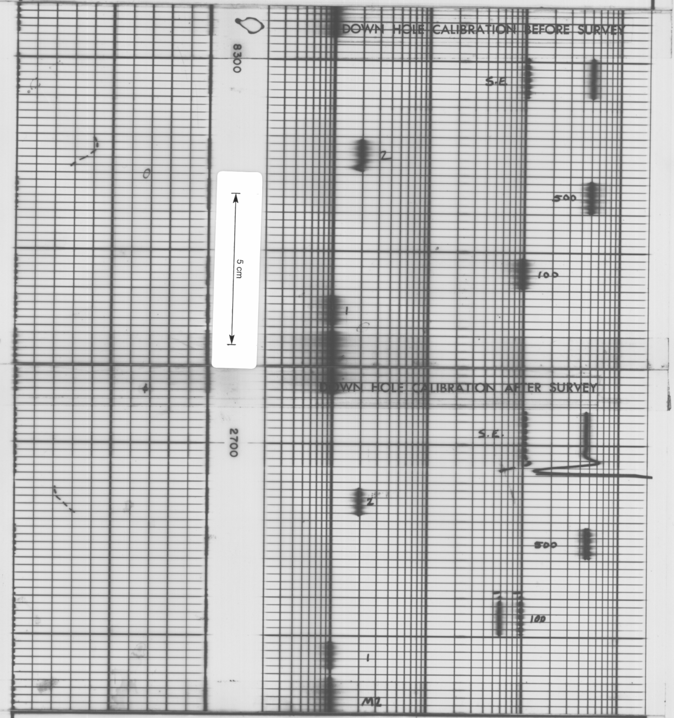
SPONTANEOUS POTENTIAL
millivolts

Depths

REPEAT SECTION



CALIBRATION DATA



CALIBRATION CODING

	INDUCTION	SHORT NORMAL
1.	MECHANICAL ZERO	MECHANICAL ZERO
2.	1 ohm·m	1000 ohm·m
3.	1000 ohm·m	1 ohm·m
4.	CALIBRATE	CALIBRATE 10.5 ohm·m
5.	SONDE ERROR	ELECTRICAL ZERO 1 ohm·m
6.	DIODE ERROR	ELECTRICAL ZERO 1 ohm·m
7.	MEMORIZER CALIBRATION	CALIBRATE 10.5 ohm·m
8.	ZERO SIGNAL IN AIR	SURFACE CALIBRATION ONLY
9.	TEST LOOP	

Schlumberger

INDUCTION ELECTRICAL LOG

391200

OR-354

C 73.065 SEPT 76

ENCLOSURE 15c

Schlumberger

SIMULTANEOUS INDUCTION RESISTIVITY SONIC

ISF - SONIC

COUNTRY	AUSTRALIA
FIELD or LOCATION	WILDCAT
WELL	PELICAN #4
COMPANY	HEMATITE PETROLEUM

COMPANY Hematite Petroleum Pty.Ltd.
WELL Pelican #4
FIELD Wildcat
COUNTRY Australia

LOCATION
40° 21' 38.3" S
145° 52' 17.7" E

Sec. Twp. Rge.

Other Services:
ISF-GR
FDC-CNL-GR
RFT

Permanent Datum: MSL, Elev. 0
Log Measured From KB, 82 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 82
D.F. 81
G.L. -254

Date	5 Feb. 79			
Run No.	TWO			
Depth-Driller	9413			
Depth-Logger	9415			
Btm. Log Interval	9410			
Top Log Interval	2792			
Casing-Driller	13 3/8 @ 2789	@	@	@
Casing-Logger	2792			
Bit Size	12 1/4"			
Type Fluid in Hole	SEA WATER GEL			
Dens. | Visc.	10.5 | 45			
pH | Fluid Loss	10.7 | 7 ml	ml	ml	ml
Source of Sample	FLOWLINE			
Rm @ Meas. Temp.	.265 @ 70 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.202 @ 70 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	.431 @ 70 °F	@ °F	@ °F	@ °F
Source: Rmf | Rmc	PRESS | PRESS			
Rm @ BHT	@ °F	@ °F	@ °F	@ °F
Time Since Circ.	9 Hrs.			
Max. Rec. Temp.	208 °F	°F	°F	°F
Equip. | Location	3501 | SEA			
Recorded By	P.FRANKLIN			
Witnessed By	B.ATKINS			

FOLD HERE — The well name, location and borehole reference data were furnished by the customer

EQUIPMENT DATA

Run N°	Induction			Sonic				Aux and Memory Panel			G R	Tape	Caliper
	Panel	Cartridge	Sonde	Panel	Oscil.	Cartridge	Sonde	SRP-	MDU-	LP-	Cartridge	Recorder	
2/4	UD738	QB727	VA732	LB780		K785	RA1658	CC1802	AB939		JAA1007	EB868	

LOGGING DATA

Run N°	Gamma Ray		Stand-off inches	Centering Device	Zero cond. adjusted at		RSFL averaged		Max. hole deviation
	Time Constant	Speed			Surface	Depth	Yes	No	
2	2	1800fph	1.5		x			x	°@
									°@
									°@
									°@

CALIBRATION DATA

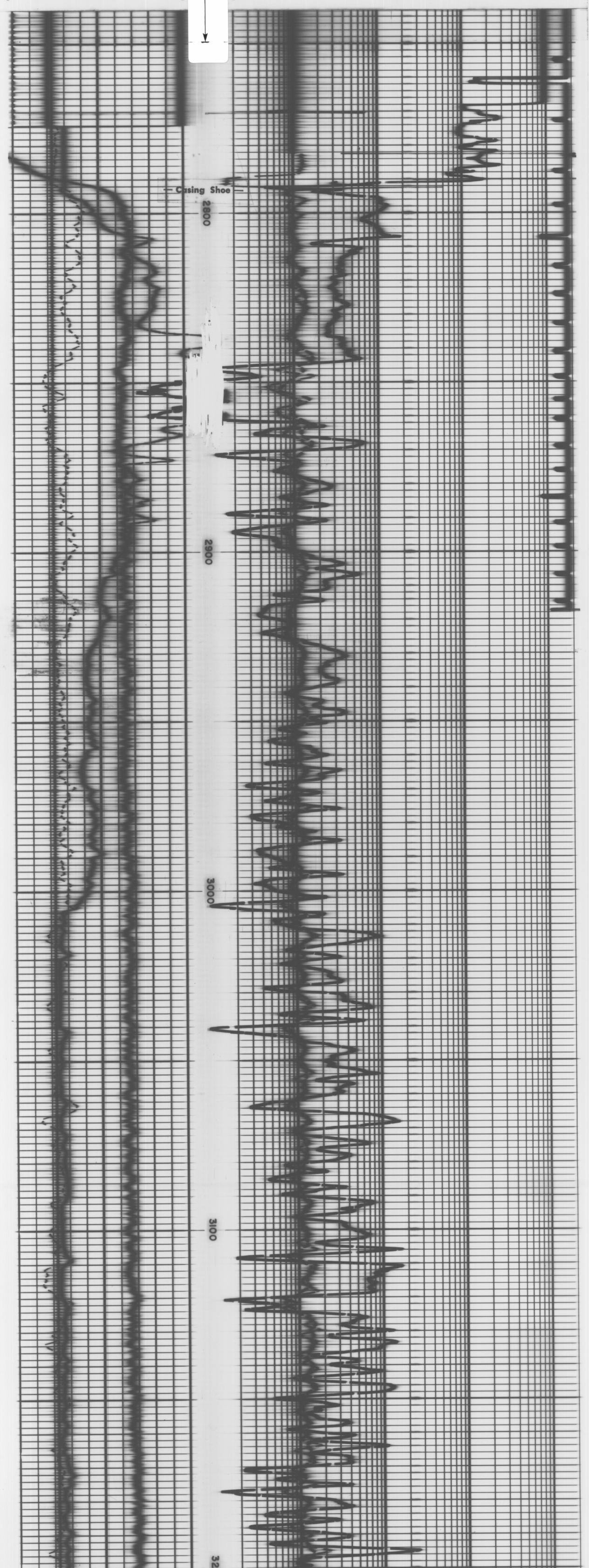
Run N°	Gamma Ray		
	API Scale	Background CPS	Total CPS
2	0-165		

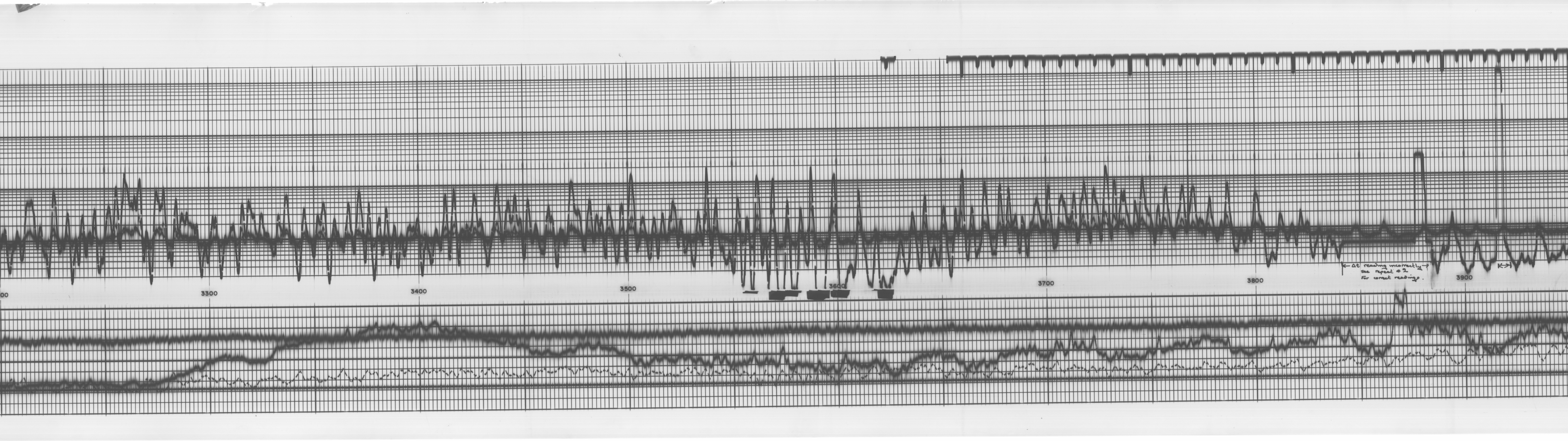
REMARKS
- TTR overheated - cuased shift in TTI
- Reran section and also changed scale of t to keep it on track
- See second. Repeat (also on tape)

SPONTANEOUS POTENTIAL millivolts	Depths	RESISTIVITY ohms - m
10	5"	DEEP INDUCTION R_{ILD} 0.2 1.0 10 100 1000 2000
		SPHERICALLY FOCUSED RESITIVITY R_{SFL} 0.2 1.0 10 100 1000 2000
	5"	MICROSPHERICALLY FOCUSED RESISTIVITY 0.2 1.0 10 100 1000

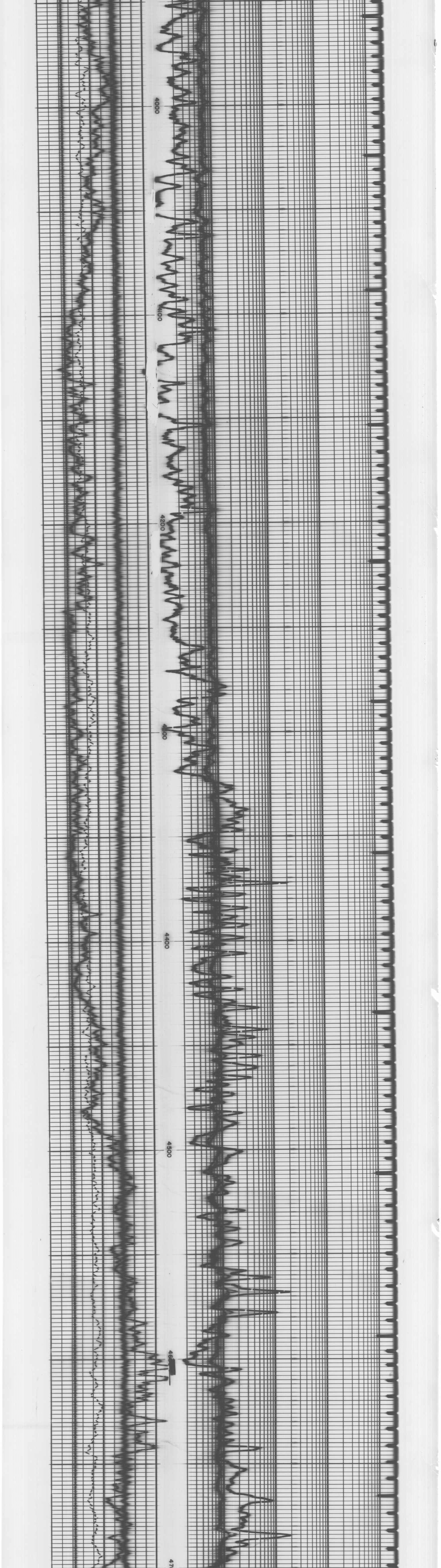
GAMMA RAY api units	Depths	INTERVAL TRANSIT TIME Δ t microsecond per METRE
0 150	5"	500 300 100
CALIPER hole diameter in inches 10 20		TTI 10 m sec 1 m sec

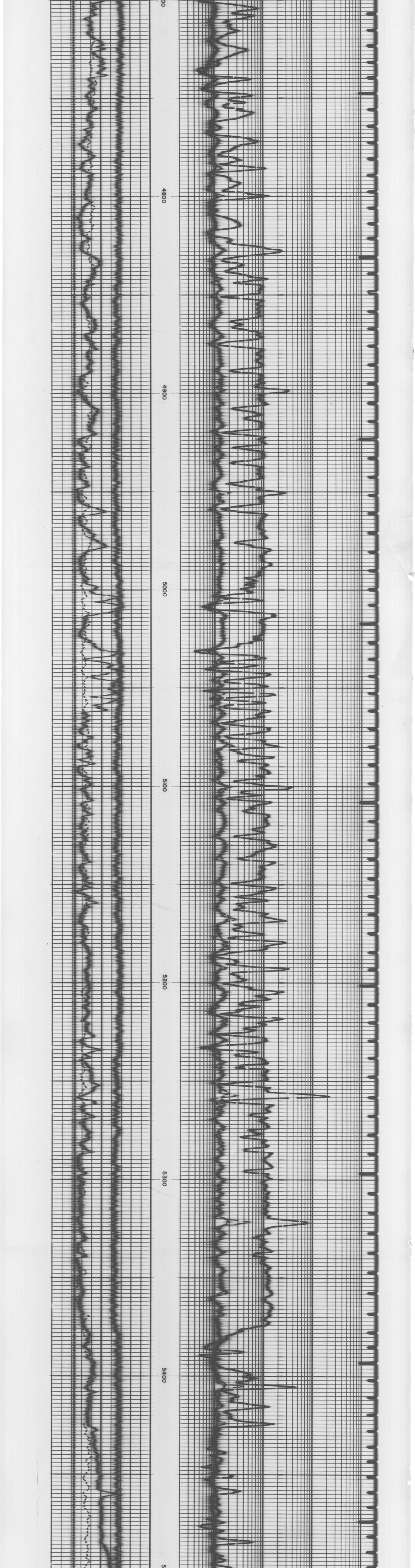
5 cm

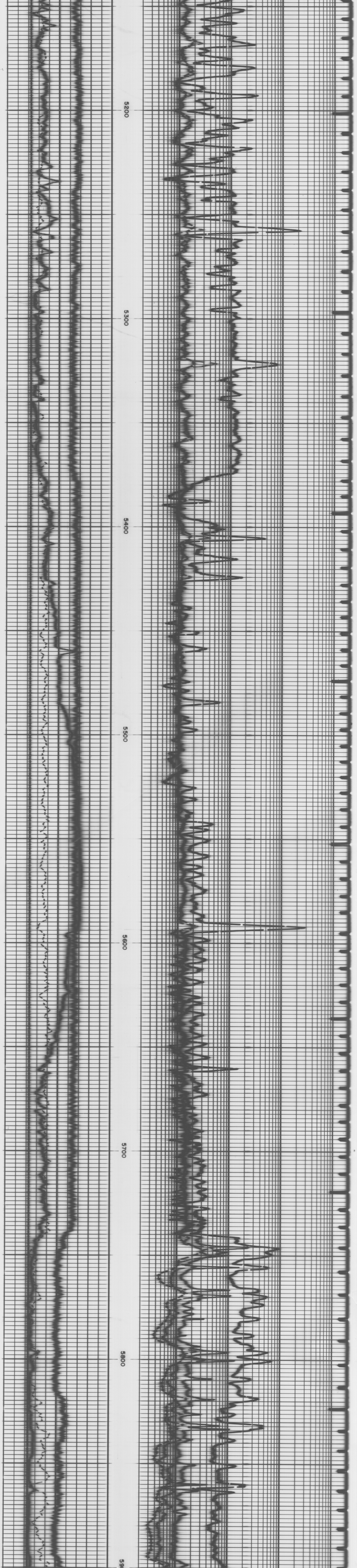




← Δt reading incorrectly →
see repeat # 2
For correct readings.



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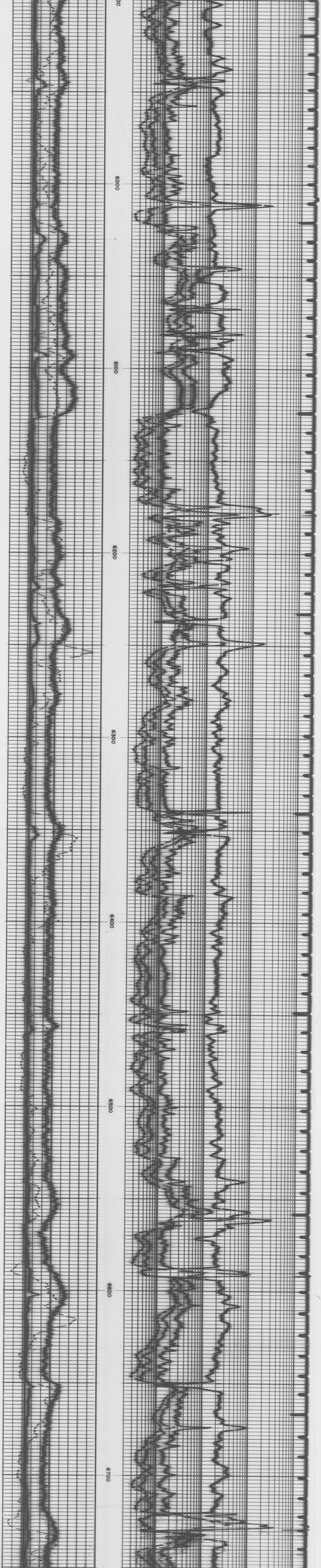
5500
5600
5700
5800
59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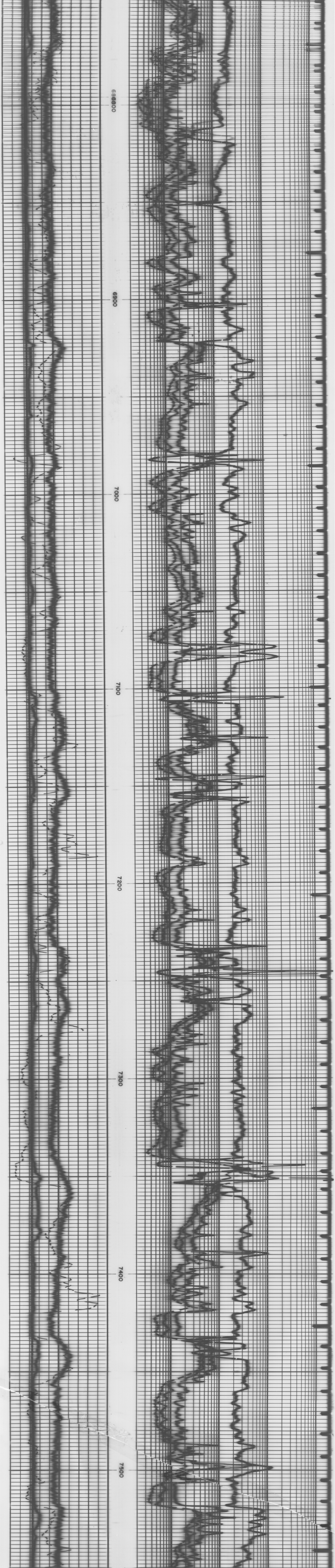
6100
6200
6300
6400
6500
6600
6700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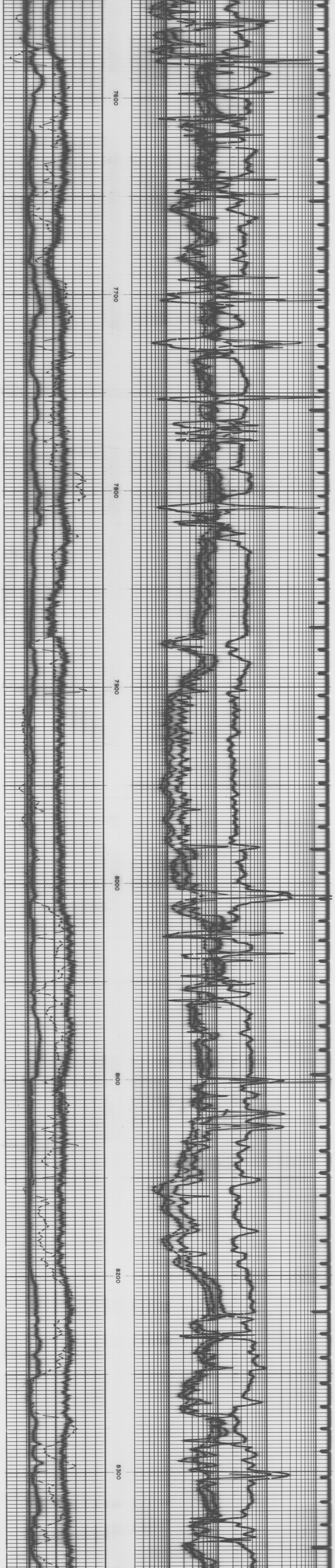
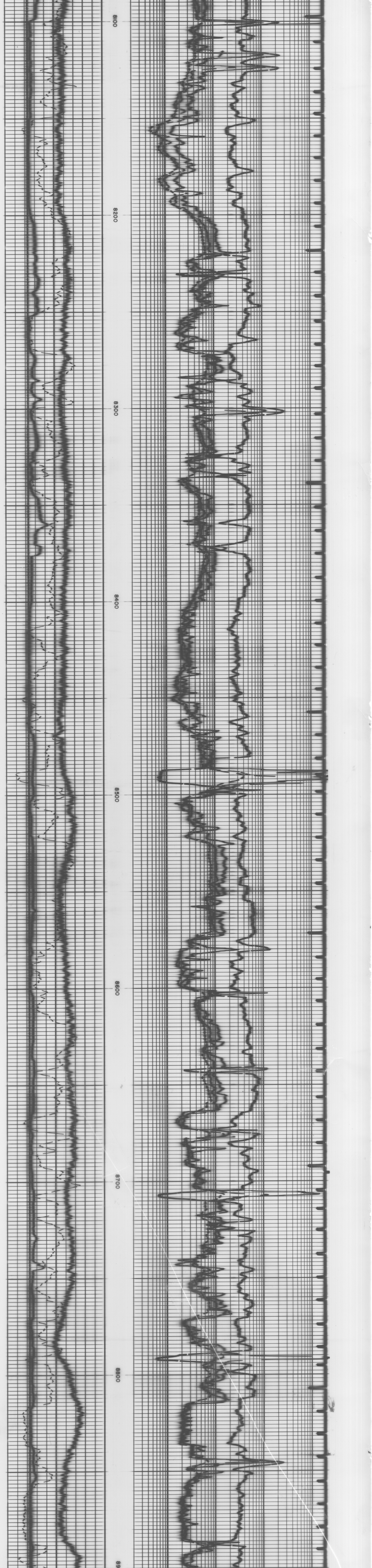
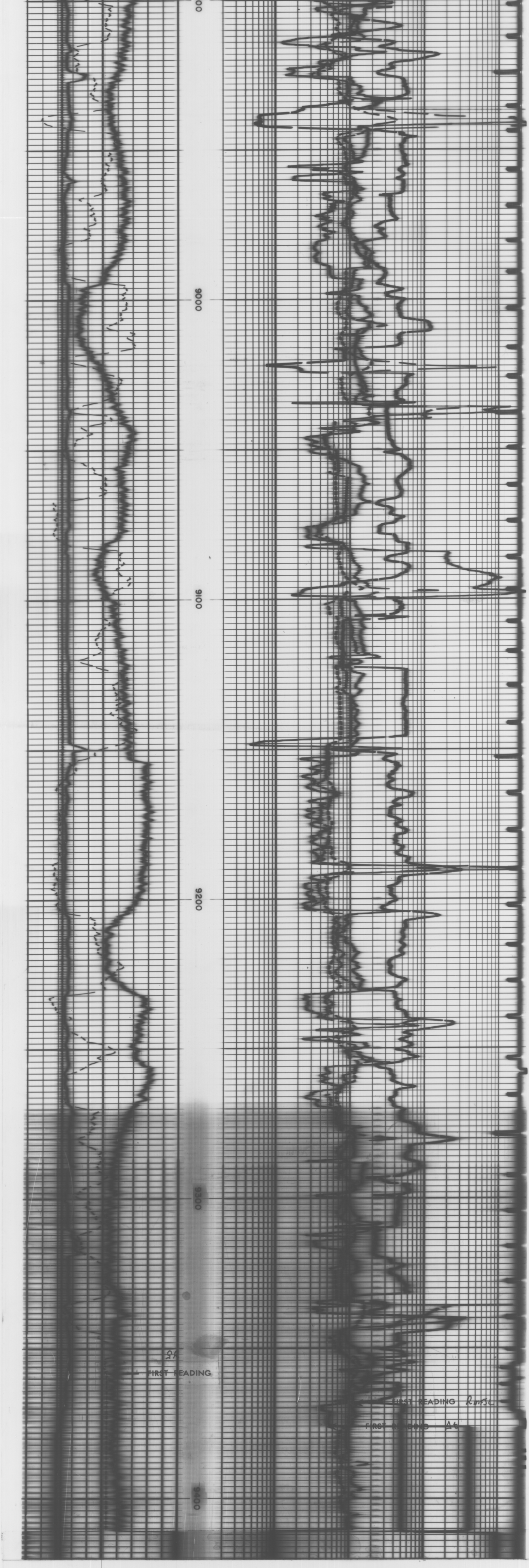
6900
7000
7100
7200
7300
7400
7500


7600
7700
7800
7900
8000
8100
8200
8300





10 20

CALIPER
hole diameter in inches

0 150

GAMMA RAY
api units

5"

Depths

TTI
10 m sec
1 m sec

500 300 100

INTERVAL TRANSIT TIME Δ t
microsecond per metre

REPEAT SECTION

CALIBRATION DATA

Schlumberger

SIMULTANEOUS

INDUCTION RESISTIVITY SONIC

ISF - SONIC

5"

MICROSPHERICALLY FOCUSED RESISTIVITY

0.2 1.0 10 100 1000

0.2 1.0 10 100 1000 2000

SPHERICALLY FOCUSED RESITIVITY R_{SFL}

0.2 1.0 10 100 1000 2000

10

- +

5"

Depths

DEEP INDUCTION R_{ILD}

SPONTANEOUS POTENTIAL
millivolts

RESISTIVITY
ohms - m

REPEAT SECTION

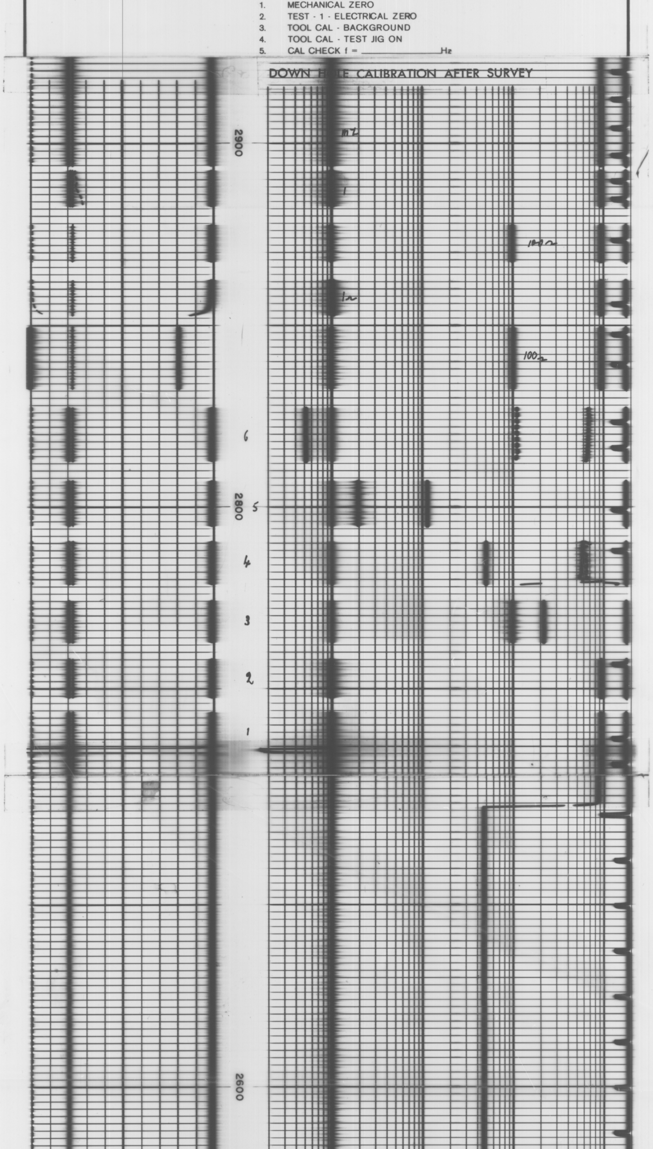
CALIBRATION DATA

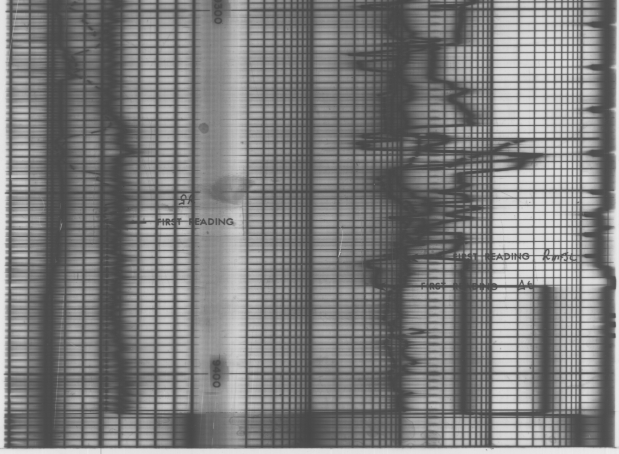
ISF/SONIC CALIBRATION CODING

	ISF	SONIC
1.	MECHANICAL ZERO	MECHANICAL ZERO
2.	1 ohm-m	40 μ sec
3.	100 ohm-m	60 μ sec
4.	500 ohm-m	80 μ sec
5.	2 ohm-m	100 μ sec
6.	SONDE ERROR	140 μ sec
7.	ZERO SIGNAL IN AIR	SURFACE CALIBRATION ONLY
8.	TEST LOOP	

GAMMA RAY CALIBRATION CODING

1. MECHANICAL ZERO
2. TEST - 1 - ELECTRICAL ZERO
3. TOOL CAL - BACKGROUND
4. TOOL CAL - TEST JIG ON
5. CAL CHECK f = ________ Hz





10 20

CALIPER
hole diameter in inches

0 150

GAMMA RAY
api units

5"

Depths

TTI
10 m sec
1 m sec

500 300 100

INTERVAL TRANSIT TIME Δ t
microsecond per metre

REPEAT SECTION

CALIBRATION DATA

Schlumberger

SIMULTANEOUS

INDUCTION RESISTIVITY SONIC

ISF - SONIC

5"

MICROSPHERICALLY FOCUSED RESISTIVITY

0.2 1.0 10 100 1000

0.2 1.0 10 100 1000 2000

SPHERICALLY FOCUSED RESITIVITY R_{SFL}

0.2 1.0 10 100 1000 2000

5"

10

− +

SPONTANEOUS POTENTIAL
millivolts

Depths

DEEP INDUCTION R_{ILD}

RESISTIVITY
ohms - m

REPEAT SECTION

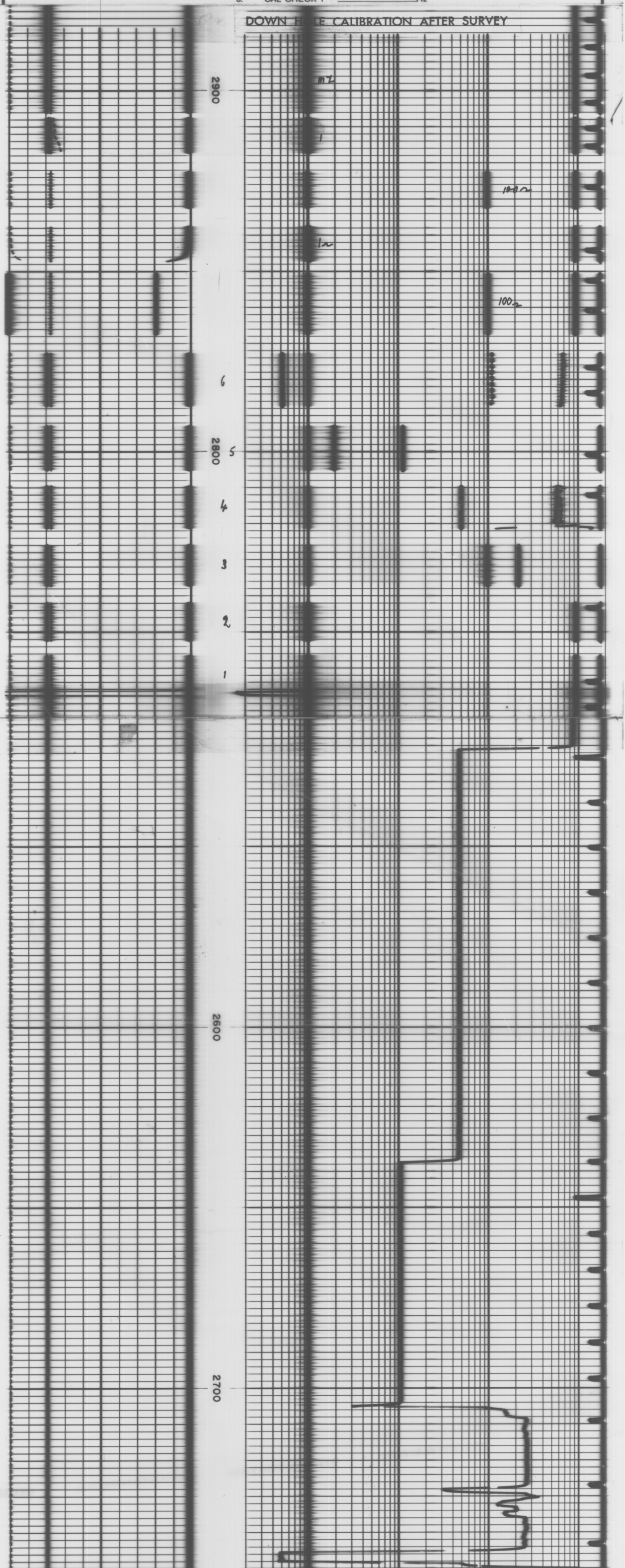
CALIBRATION DATA

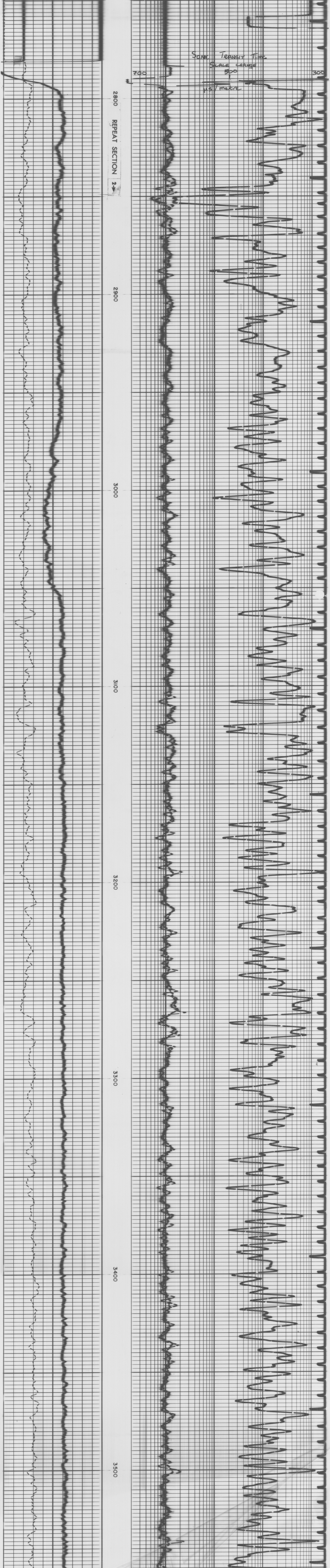
ISF/SONIC CALIBRATION CODING

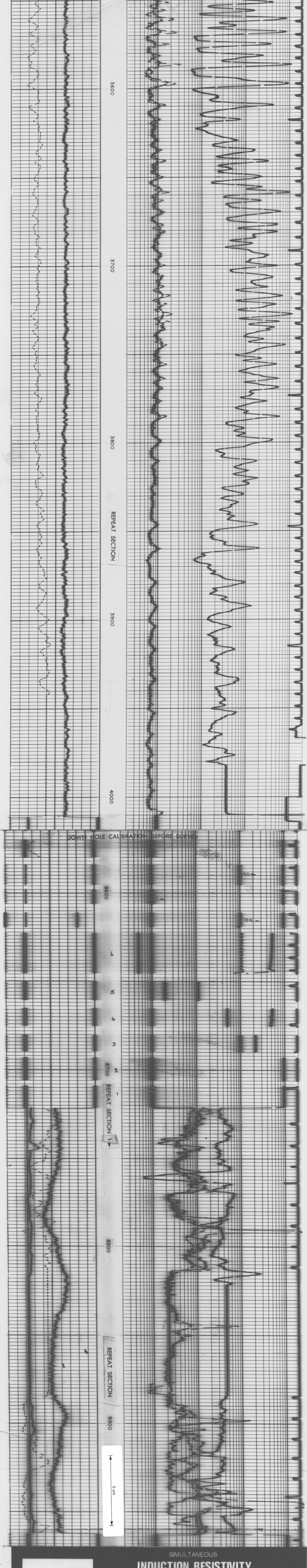
	ISF	SONIC
1.	MECHANICAL ZERO	MECHANICAL ZERO
2.	1 ohm-m	40 μ sec
3.	100 ohm-m	60 μ sec
4.	500 ohm-m	80 μ sec
5.	2 ohm-m	100 μ sec
6.	SONDE ERROR	140 μ sec
7.	ZERO SIGNAL IN AIR	SURFACE CALIBRATION ONLY
8.	TEST LOOP	

GAMMA RAY CALIBRATION CODING

1. MECHANICAL ZERO
2. TEST - 1 - ELECTRICAL ZERO
3. TOOL CAL - BACKGROUND
4. TOOL CAL - TEST JIG ON
5. CAL CHECK f = ______Hz







Schlumberger

SIMULTANEOUS

INDUCTION RESISTIVITY
SONIC

ISF - SONIC

C 73.066 SEPT 76

391201

OR_354

C. 73.056 - JAN. 77 - DH

ENCLOSURE 15d

Schlumberger

INDUCTION ELECTRICAL LOG

COUNTRY AUSTRALIA
FIELD or LOCATION WILDCAT
WELL PELICAN #4
COMPANY HEMATITE

COMPANY Hematite Petroleum Pty.Ltd.

WELL Pelican #4

FIELD Wildcat

COUNTRY Australia STATE

LOCATION
40° 21' 38.3" S
145° 52' 17.7" E

Other Services:
ISF-BHC-MSFL-
GR,FDC-CNL-
GR,RFT.

Permanent Datum: MSL, Elev. 0
Log Measured From KB, 82 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 82
D.F. 81
G.L. -254

Date	5/2/79	12/2/79		
Run No.	THREE			
Depth—Driller	9413	PLAYBACK		
Depth—Logger	9416			
Btm. Log Interval	9400	10000		
Top Log interval	8200	9000		
Casing—Driller	13 3/8 @ 2789	@	@	@
Casing—Logger				
Bit Size	12¼			
Type Fluid in Hole	SEA WATER GEL			
Dens. | Visc.	10.5 | 45	|	|	|
pH | Fluid Loss	10.7 | 7 ml	| ml	| ml	| ml
Source of Sample	FLOWLINE			
R_m @ Meas. Temp.	.265 @ 70 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.202 @ 70 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	.43 @ 70 °F	@ °F	@ °F	@ °F
Source: R_{mf} R_{mc}	PRESS | PRESS	|	|	|
R_m @ BHT	@ 208 °F	@ °F	@ °F	@ °F
Time Since Circ.	6 Hours			
Max. Rec. Temp.	208 °F	°F	°F	°F
Equip. | Location	3501 | SEA	|	|	|
Recorded By	P.FRANKLIN			
Witnessed By	B.ATKINS			

FOLD HERE

The well name, location and borehole reference data were furnished by the customer.

EQUIPMENT DATA

Run N°	Induction Panel	Induction Cartridge	Induction Sonde	Memory Panel	Gamma Ray Panel	Gamma Ray Cartridge	Tape Recorder
3	UD738	QB727	VA732	AB939	SRPCC	1802 JAA1007	EB868

LOGGING DATA

Run N°	Gamma Ray Time Constant	Gamma Ray Speed	Stand-off inches	Induction zero at Surface	Induction zero at Depth
3	2	1800fph	1.5	x	

CALIBRATION DATA

API Scale	Gamma Ray Background CPS	Total CPS
0-165	NA	NA

REMARKS
Maximum Hole Deviation : °@

RSFL no averaged.

SPONTANEOUS POTENTIAL
millivolts
10
- +

GAMMA RAY
api units
0 150

Depths
2' 2'

RESISTIVITY
ohms - m²/m

INDUCTION RESISTIVITY
0 20

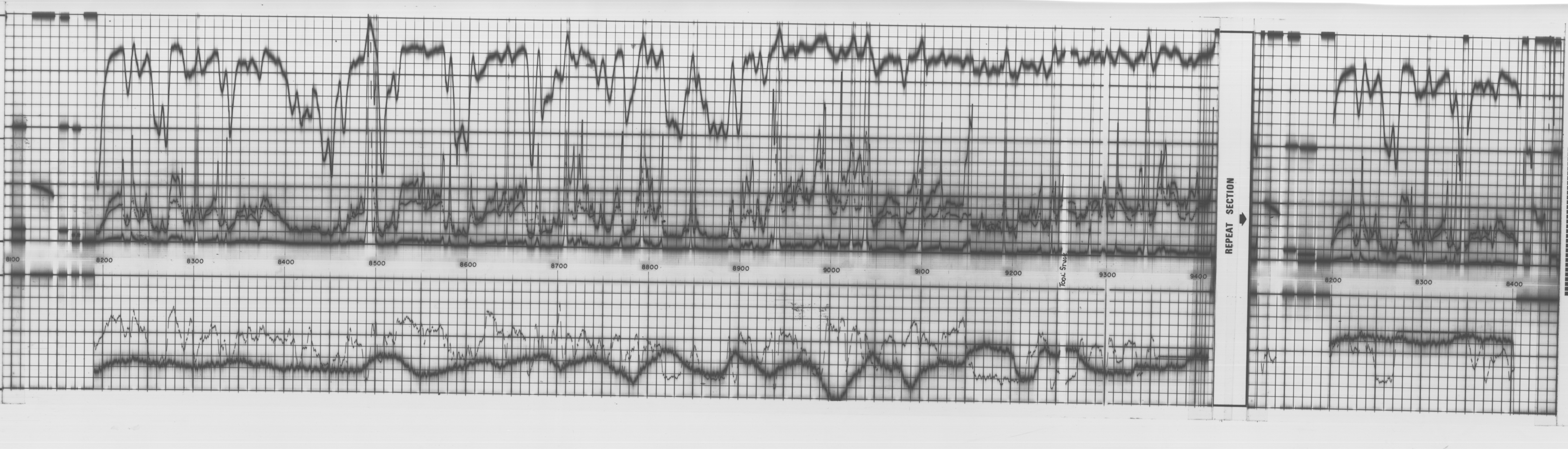
INDUCTION CONDUCTIVITY

1000

0 SFL RESISTIVITY 20

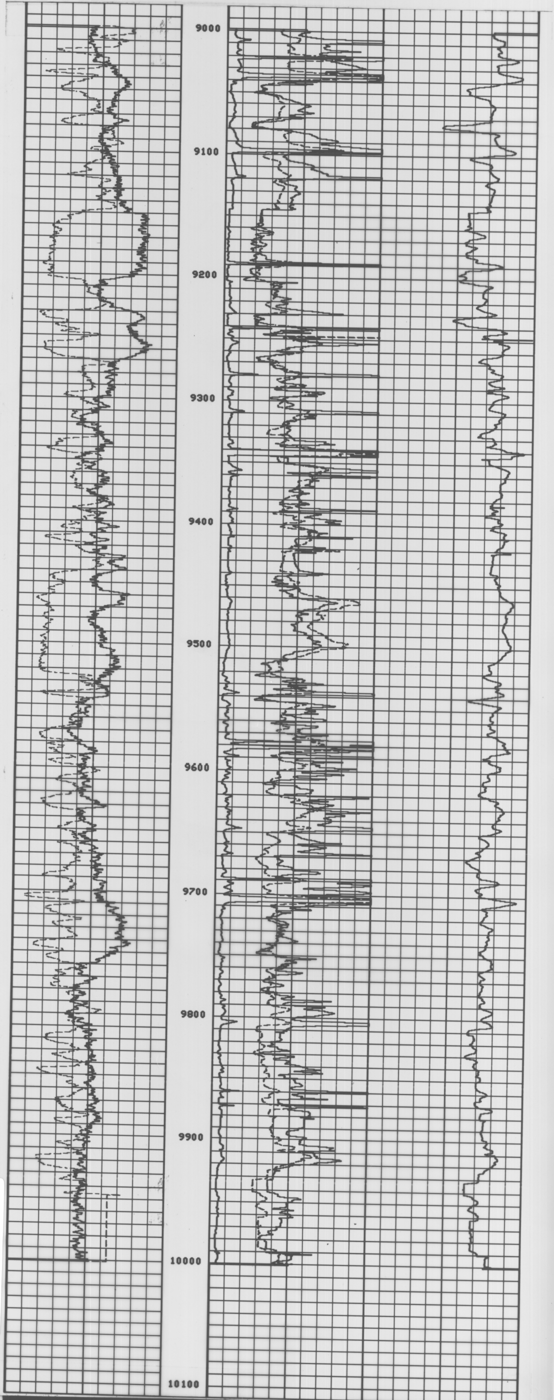
0 200

5 cm



SCHLUMBERGER

PLAYBACK
ISF LOG
INDUCTION



5 cm

Schlumberger

INDUCTION ELECTRICAL LOG