

Time	Pressure	Temperature	Time	Pressure	Temperature	Time	Pressure	Temperature
0	2000	2000						
1	2000	2000						
2	2000	2000						
3	2000	2000						
4	2000	2000						
5	2000	2000						
6	2000	2000						
7	2000	2000						
8	2000	2000						
9	2000	2000						
10	2000	2000						
11	2000	2000						
12	2000	2000						

DIGITAL PRESSURE RECORDING PAD

DIGITAL PRESSURE RECORDING PAD

0	1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22	23



Time	Pressure	Temperature	Time	Pressure	Temperature	Time	Pressure	Temperature
0	2000	2000						
1	2000	2000						
2	2000	2000						
3	2000	2000						
4	2000	2000						
5	2000	2000						
6	2000	2000						
7	2000	2000						
8	2000	2000						
9	2000	2000						
10	2000	2000						
11	2000	2000						
12	2000	2000						

DIGITAL PRESSURE RECORDING PAD

DIGITAL PRESSURE RECORDING PAD

0	1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22	23

DIGITAL PRESSURE RECORDING PAD

DIGITAL PRESSURE RECORDING PAD

0	1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22	23

Schlumberger

ENCLOSURE 4a
39187 DK-354

Schlumberger

ARTESIAN FRANCHISE

INDUCTION RESISTIVITY

COUNTRY AUSTRALIA
FIELD or LOCATION WILDCAT
WELL FULCAN #4
COMPANY HEMATITE PET.

WELL Fulcan #4
FIELD Wildcat
COUNTRY Australia
LOCATION Sec. 15 T. 38S R. 17W
Other Services
Elev.: K.B. 0
D.F.
G.L. -284
Permanent Datum: MSL
Log Measured From: K.B. 82ft
Above Perm. Datum
Rig:
Date: 20-6-64
Run No.: ONE
Depth-Driller: 2804
Depth-Logger: 2804
Bottom Logged Interval: 2804
Top Logged Interval: 270
Casing-Driller: 20" @ 270
Casing-Logger: 20" @ 270
Bit Size: 17½"
Type Fluid in Hole: WATER GEL
Dens.: Visc.: 41
pH: Fluid Loss:
Source of Sample: CIRC.
Rm @ Meas. Temp.: 1.22 @ 77°F
Rmf @ Meas. Temp.: 1.10 @ 77°F
Rmc @ Meas. Temp.: 2.77 @ 77°F
Source: Rmf: CALC Rmc: CALC
Rm @ BHT: 1.22 @ 77°F
Time Since Circ.: 8 HRS
Max. Rec. Temp. Deg. F: 77°F
Equip. No. & Location: 1011 PERTH
Recorded By: L. WILSON
Witnessed By: MR. HOLMES

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

EQUIPMENT DATA

Run N°	Induction Panel	Induction Cartridge	Sonde	Sonic Panel	Sonic Oscil.	Sonic Cartridge	Sonde	Aux and Memory Panel SP/Res	Aux and Memory Panel MOd	Aux and Memory Panel ILP	G R Cartridge	Tape Recorder	Caliper
1	U2238	U2122	1AF22					1802	920				

LOGGING DATA

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

CALIBRATION DATA

Run N°	Gamma Ray API Scale	Gamma Ray Background CPS	Gamma Ray Total CPS

REMARKS SHR 1

SPONTANEOUS POTENTIAL
millivolts
10

Depths

RESISTIVITY
INDUCTION
0 10
0 SFL 10

CONDUCTIVITY
1000 0
2000 1000

5 cm

5 cm

Schlumberger

INDUCTION RESISTIVITY

Schlumberger

INDUCTION RESISTIVITY

COMPANY AUSTRALIA
WELL BRUCE #1
FIELD PELICAN
COUNTY BARRETTE PETROLEUM

Schlumberger

INDUCTION RESISTIVITY

Run No. One
Date Logged 5-8-62
Depth-Driller 2,000
Depth-Logger 2,000
Bottom Log Interval 2,000
Top Log Interval Surface
Casing-Driller 13 3/8 @ 1,000
Casing-Logger 1,000
Bit Size 12 1/4
Type Fluid in Hole Gel Chem
Density 9.2
Viscosity 40
Fluid Loss 6.0
Source of Sample Flowline
Rm @ Meas. Temp. .5 @ 70°F
Rmf @ Meas. Temp. .4 @ 70°F
Rmc @ Meas. Temp. .6 @ 70°F
Source of Rmf & Rmc Measured
Rm @ BHT .3 @ 120°F
Time Since Circ. 6 hrs.
Max. Rec. Temp. Deg. F 120°F
Equip. No. & Location 1 Darwin
Recorded By Jones
Witnessed By Smith

EQUIPMENT DATA

Run No.	Tool Type	Serial No.	Position	Depth	Type Centralizer	Size Hole	Stand-off
A	INDUCTION SONIC	61234	Bottom	2,000	Bow Spring	12 1/4	1 1/2

RECORDED DATA

Run No.	Tool Type	Serial No.	Position	Depth	Recorded Range	Max. Recorded Temp.
A	Dual Induction Laterolog	61234	Bottom	2,000	0 - 5	120°F

REMARKS

RUN NUMBER One

Density Log
Run No. —
Log Interval —
Scale 5"/100'

Neutron Log
Run No. —
Log Interval —
Scale —

REMARKS — DRH = 0

SPONTANEOUS POTENTIAL millivolts

RESISTIVITY ohms/m²/m

CONDUCTIVITY millimhos/m

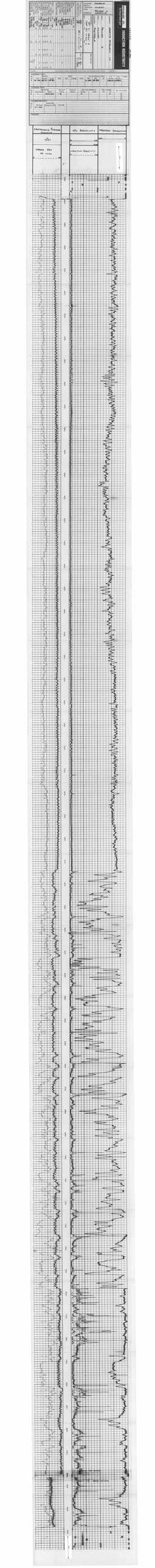
Scale 1:200

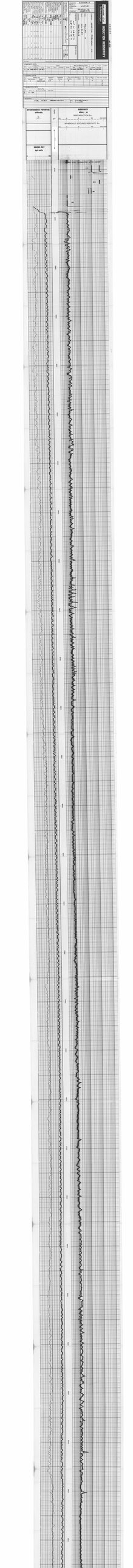
Scale 1:1000

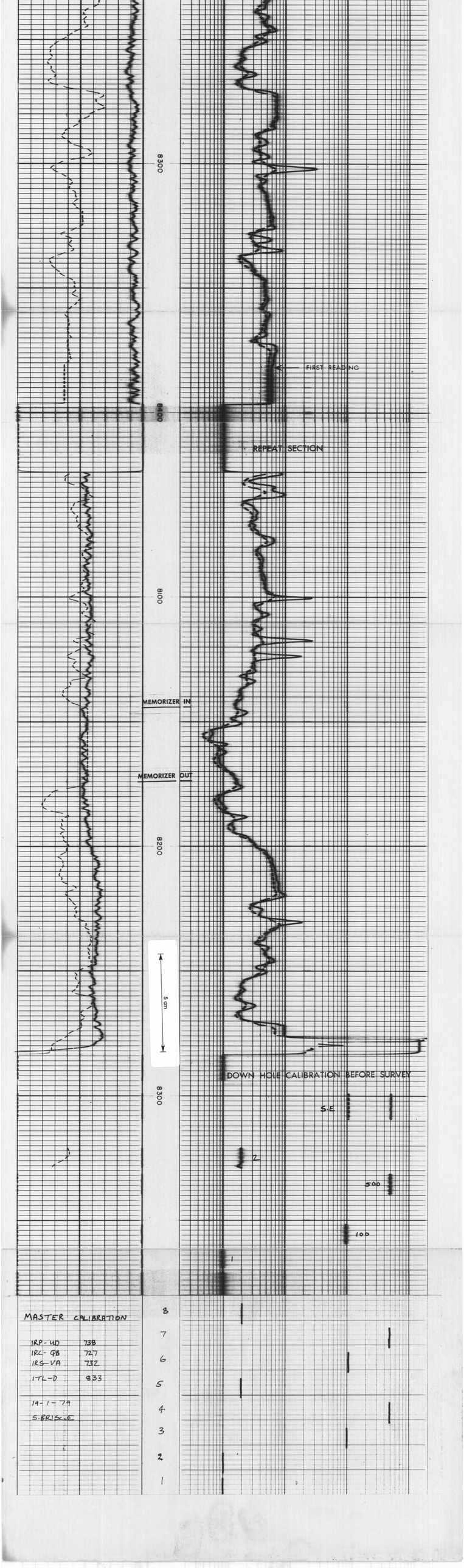
Scale 1:200

Schlumberger

INDUCTION RESISTIVITY


PHASOR INDUCTION RESISTIVITY
Company
Well
Field
County
State
Location
Other Services
Permanent Datum
Elevation
Log Measured From
Drilling Measured From
Date
Run No.
Depth-Driller
Depth-Logger
Bottom Logged Interval
Top Logged Interval
Type Fluid in Hole
Salinity
Density
Level
Max. Rec. Temp.
Equip. No.
Location
Recorded By
Witnessed By
Run No.
Bit Size
Type
From
To
Size
Wt.
Type
Fluid Loss
Source
R
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source of Rmf and Rmc
R @ Meas. Temp.
Rm @ BHT
Time Since Circ.
Max. Rec. Temp.
Equip. No.
Location
Recorded By
Witnessed By
REMARKS
Conductance Deflection
Millimhos
Induction Conductivity
Millimhos
Induction Resistivity
Ohms
Lateral Resistivity
Ohms
Spherical Resistivity
Ohms
Induction Conductivity
Millimhos




8300
8400
8500
8200
8300
FIRST READING
REPEAT SECTION
MEMORIZER IN
MEMORIZER OUT
5 cm
DOWN HOLE CALIBRATION BEFORE SURVEY
S.E
2
500
100
1
MASTER CALIBRATION
IRP-UD 738
IRL-QB 727
IRS-VA 732
ITL-D 833
19-1-79
S.BRISSE
8
7
6
5
4
3
2
1

Schlumberger

INDUCTION RESISTIVITY

COMPANY Hamilton Petroleum Co

WELL Tasman #1

FIELD Gippsland

COUNTRY Australia

LOCATION Lat 38° 21' 39.5" S Long 147° 52' 19.3" E

Sec. — Twp. — Rge. —

Other Services: FDC CNL

Permanent Datum: MSL Elev. 0

Log Measured From: KB 25 Ft Above Perm. Datum

Drilling Measured From: KB

Date	5-FEB-1979		
Run No.	One		
Depth-Driller	9133		
Depth-Logger	9133		
Bottom Log Interval	9128		
Top Log Interval	8000		
Casing-Driller	13 3/8 @ 3395		
Casing-Logger	3395		
Bit Size	12 1/4		
Type Fluid in Hole	Seawater/Gel		
Density	9.0		
Viscosity	40		
pH	9.5		
Fluid Loss	6.4		
Source of Sample	Flowline		
Rm @ Meas. Temp.	2.45 @ 68°F		
Rmf @ Meas. Temp.	2.97 @ 68°F		
Rmc @ Meas. Temp.	1.84 @ 68°F		
Source: Rmf	Rmc		
Rm @ BHT	1.49 @ 180°F		
Time Since Circ.	4 HOURS		
Max. Rec. Temp.	180°F		
Equip. Location	3404	508	
Recorded By	Thomson	Hall	
Witnessed By	Mr. Hamilton		

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

EQUIPMENT DATA

Run N°	Induction Panel	Induction Cartridge	Induction Sonde	Sonic Panel	Sonic Oscil.	Sonic Cartridge	Sonic Sonde	Aux and Memory Panel SRP	Aux and Memory Panel MDU	Aux and Memory Panel I.P.	G R Cartridge	G R Recorder	Caliper
3	U0736	28957	VM 335					CC-1605	118-437	–	288-1003	ED-864	

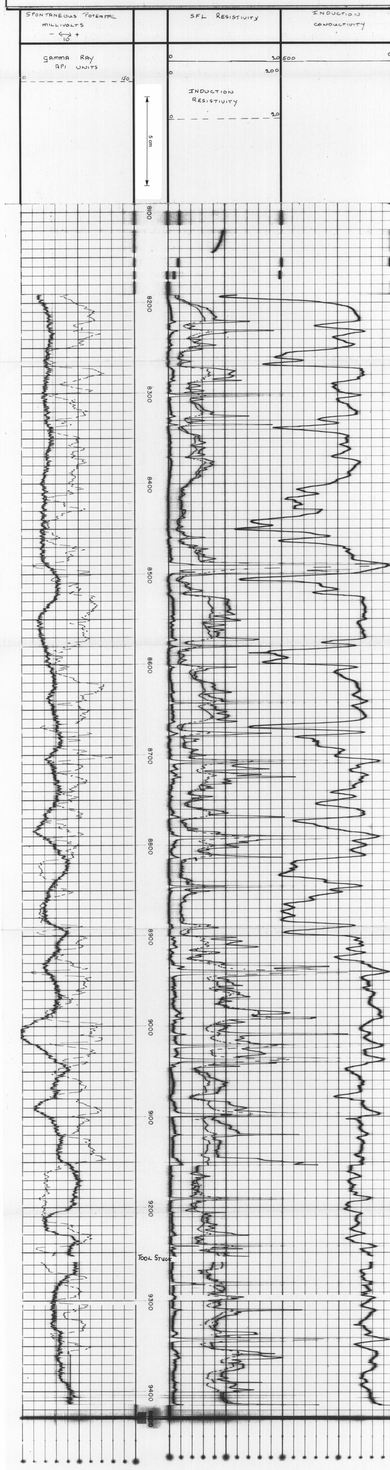
LOGGING DATA

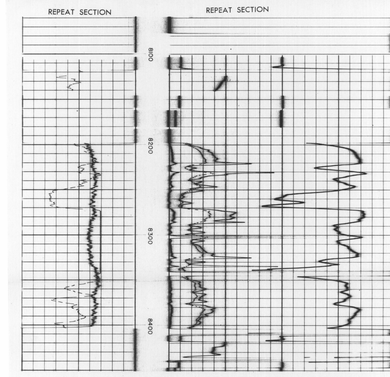
Run N°	Gamma Ray Time Constant	Gamma Ray Speed	Stand-off Device	Stand-off inches	Centering Device	Zero cond. adjusted at Surface	Zero cond. adjusted at Depth	Rsm. averaged Yes	Rsm. averaged No	Max. hole deviation
3	2	1800 f.p.h.		1.5	–	∞			✓	° @ ° @ ° @

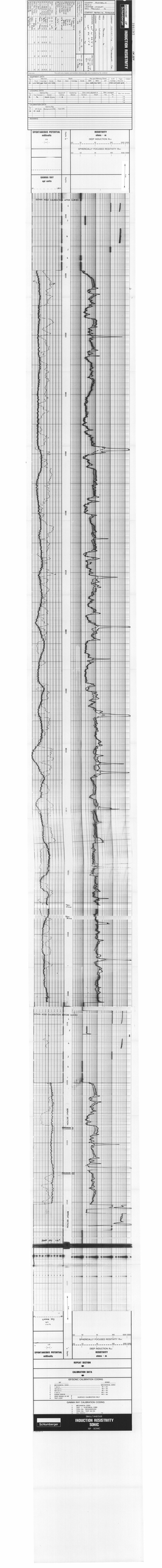
CALIBRATION DATA

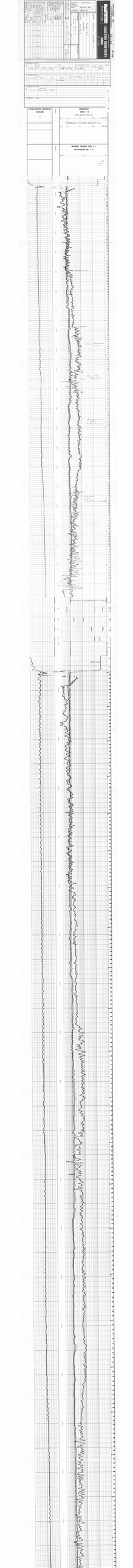
Run N°	Gamma Ray API Scale	Gamma Ray Background CPS	Total CPS
3	0 - 105		

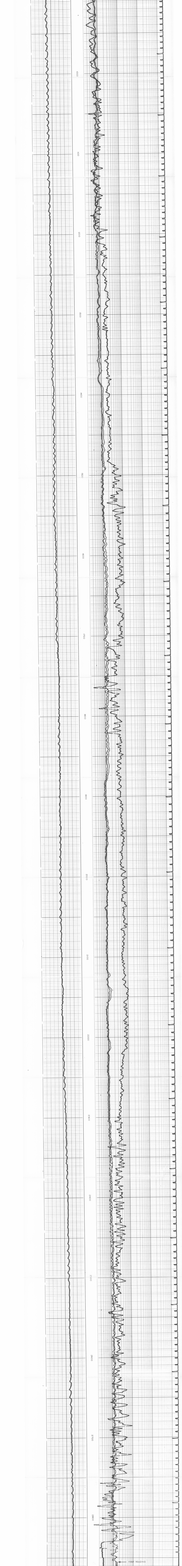
REMARKS

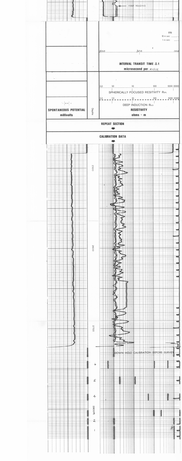


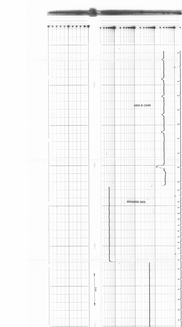



INDUCTION RESISTIVITY
Schlumberger
SPONTANEOUS POTENTIAL
millivolts
RESISTIVITY
ohms • m
DEEP INDUCTION RILD
SPHERICALLY FOCUSED RESISTIVITY RSFL
GAMMA RAY
api units
TOTAL MUD CALIBRATION AFTER SURVEY
MUD CALIBRATION BEFORE SURVEY
REPEAT SECTION
CALIBRATION DATA
SECTIONAL CALIBRATION CODING
GAMMA RAY CALIBRATION CODING:
INDUCTION RESISTIVITY
SONIC
SP - GAMMA

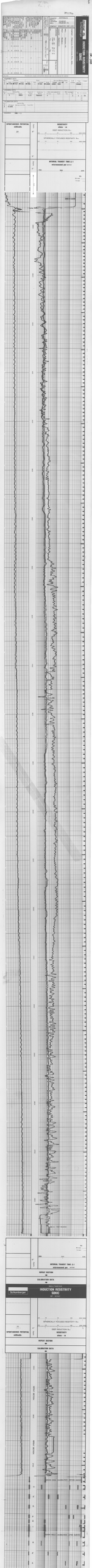



INTERVAL TRANSIT TIME Δ t
microseconds per
SPHERICALLY FOCUSED RESISTIVITY Rxo
RESISTIVITY
ohms • m
REPEAT SECTION
CALIBRATION DATA



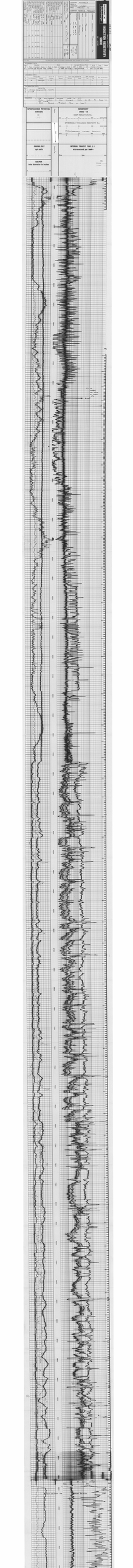

gaps in core
fissures and

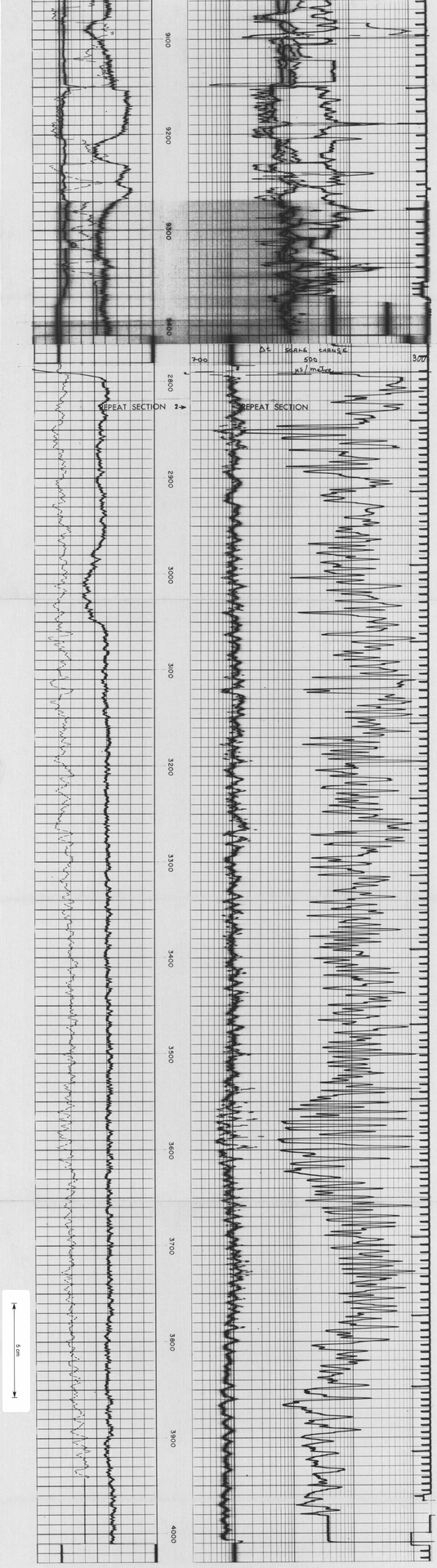

INTERVAL CALIBRATION CODING
GAMMA RAY CALIBRATION CODING
Schlumberger
INDUCTION RESISTIVITY
SONIC



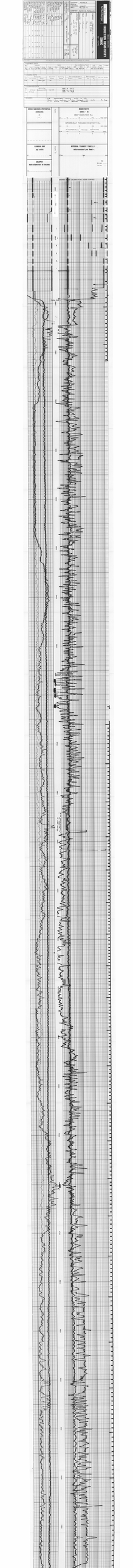
INDUCTION RESISTIVITY
SONIC
SPONTANEOUS POTENTIAL
MILLIVOLTS
RESISTIVITY
SONIC
INTERVAL TRANSIT TIME 3.5
MICROSECONDS PER METER
INDUCTION RESISTIVITY
SONIC
SPONTANEOUS POTENTIAL
MILLIVOLTS
RESISTIVITY
SONIC
INTERVAL TRANSIT TIME 3.5
MICROSECONDS PER METER

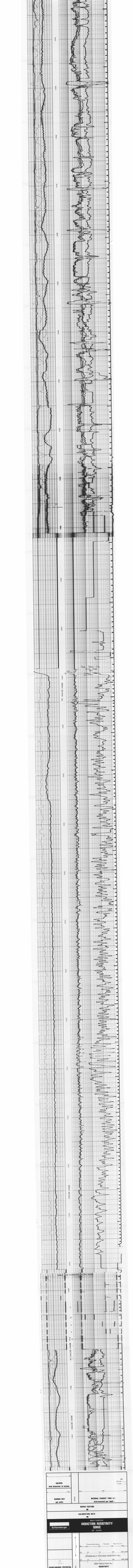

MEDIUM RESISTIVITY
DEEP RESISTIVITY
SPONTANEOUS POTENTIAL
millivolts
INTERVAL TRANSIT TIME Δ-T
microseconds per foot
INDUCTION RESISTIVITY
SONIC
Schlumberger
INDUCTION RESISTIVITY
SONIC

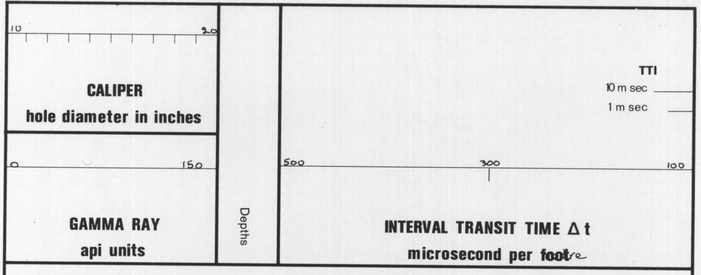

SCHLUMBERGER
DUAL INDUCTION SPHERICALLY FOCUSED RESISTIVITY
SFL
SPONTANEOUS POTENTIAL
millivolts
GAMMA RAY
API units
CALIPER
hole diameter in inches
RESISTIVITY
ohms • m
DEEP INDUCTION
SPHERICALLY FOCUSED RESISTIVITY
INTERVAL TRANSIT TIME Δ t
microsecond per foot



9000
9200
9300
9400
Δt SCALE CHANGE
700
500
μs/metre
300
2800
REPEAT SECTION 2→
REPEAT SECTION
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000
5 cm


DUAL INDUCTION LATEROLOG
BHC SONIC
GAMMA RAY
CALIPER
SPONTANEOUS POTENTIAL
millivolts
GAMMA RAY
API UNITS
CALIPER
hole diameter in inches
RESISTIVITY
ohms / m
(logarithmic)
SPHERICALLY FOCUSED RESISTIVITY Rsf
INTERVAL TRANSIT TIME Δ t
microsecond per foot
DEPTH
feet
1:240
1:600
REPEAT SECTION & ANALYSIS AFTER CASING


Schlumberger
INDUCTION RESISTIVITY
SONIC
RUN NUMBER
DEPTH DRILLER
DEPTH LOGGER
BOTTOM LOGGED INTERVAL
TYPE FLUID IN HOLE
DENSITY
VISCOSITY
PH
FLUID LOSS
SOURCE OF SAMPLE
RM @ MEAS. TEMP.
RMF @ MEAS. TEMP.
RMC @ MEAS. TEMP.
SOURCE RMF
SOURCE RMC
RM @ BHT
TIME SINCE CIRC.
MAX. REC. TEMP.
EQUIP. LOCATION
RECORDED BY
WITNESSED BY
RUN NO.
TYPE LOG
BIT SIZE
CASING DRILLER
CASING LOGGER
BOTTOM LOGGED INTERVAL
TOP



REPEAT SECTION

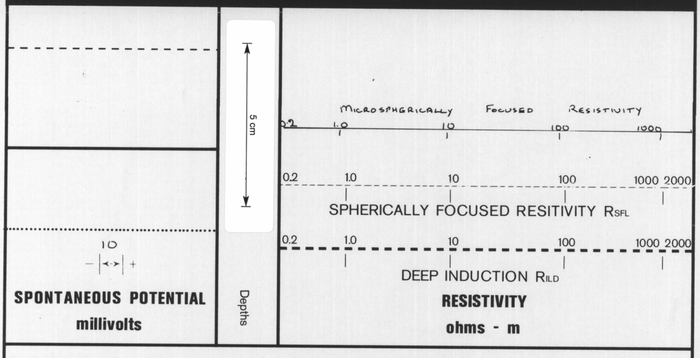
CALIBRATION DATA

SIMULTANEOUS

Schlumberger

INDUCTION RESISTIVITY SONIC

ISF - SONIC



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

SIMULTANEOUS

Schlumberger

INDUCTION RESISTIVITY SONIC

ISF - SONIC

C 73.066 SEPT '76

