Schlumberger

SIMULTANEOUS
COMPENSATED NEUTRON-FORMATION DENSITY

COUNTY
FIELD
LOCATION
WELL
COMPANY

COMPANY PEOPLE NATURAL GAS COMPANY

WELL C. SOKEVITZ #1 (E.G.S.P. PA. #5)

FIELD WILDCAT

COUNTY LAWRENCE STATE PENNSYLVANIA

LOCATION 7½ MIN. QUAD - NEW CASTLE NORTH
12,020'SO.41°07MINS.30SECS.
8,800'W.80° 15 MINS. 00 SECS.

PERMIT NO. 5454 SEC. - TWP. WILMINGTON

Other Services:
DIL, VDL
BHC, FIL
NGT

Permanent Datum: G. L. ; Elev.: 1067
Log Measured From K. B. , 14 Ft. Above Perm. Datum
Drilling Measured From K. B.

Elev.: K.B. 1081
D.F. 1079
G.L. 1067

Date	12/14/79			
Run No.	ONE			
Depth—Driller	4200			
Depth—Logger	4203			
Btm. Log Interval	4200			
Top Log Interval	100			
Casing—Driller	8⅝" @ 720	@	@	
Casing—Logger	720			
Bit Size	7⅞ - 4126; 7⅝ - T.D.			
Type Fluid in Hole	2% KCL			
Dens. | Visc.	- | -			
pH | Fluid Loss	- | - ml	ml	ml	ml
Source of Sample	CIRCULATION TANK			
Rm @ Meas. Temp.	- @ °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	- @ °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	- @ °F	@ °F	@ °F	@ °F
Source: Rmf | Rmc	-			
Rm @ BHT	- @ °F	@ °F	@ °F	@ °F
TIME Circulation Stopped	1:00 P.M.			
TIME Logger on Bottom	-			
Max. Rec. Temp.	105 °F	°F	°F	°F
Equip. | Location	7654 BRADFORD			
Recorded By	G. UMBAUGH			
Witnessed By Mr.	M. GLASSCOCK			

U.S. DEPARTMENT OF ENERGY
MORGANTOWN ENERGY TECHNOLOGY CENTER
c/o EASTERN GAS SHALES PROJECT
P.O. BOX 880
MORGANTOWN, W.VA. 26505

SWS-1872-J

FOLD HERE

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

RUN NO.	ONE			
Service Order No.	25737			
Fluid Level	IN CSG.			
Salinity, PPM CL.	-			
Speed - F.P.M.	30			
EQUIPMENT DATA				
Dens. Panel	22			
Dens. Cart.	129			
Dens. Skid.	112			
Dens. Sonde	89			
Dens. Source	5309			
Dens. Calibrator	-			
Neut. Panel	1067			
Neut. Cart.	1080			
Neut. Source	1107			
Neut. Calibrator	2050			
GR Cart.	132			
Memorizer Panel	567			
Tape Recorder (TTR)	886			
Depth Encoder (DRE)	58			
Pressure Wheel (CPW)	3712			
Centralizers: Enter Spring, Standoffs, In-line, or None — Type	BOW SPRING			
No.	1			
S. O. — Inches	-			
CALIBRATION DATA				
GR BKG. CPS	50			
GR Source CPS	260			
GR Sens. - Cal	200			
GR T. C. - Cal	2			
CNL Short Spacing - Before Log	NR-2.29			
CNL Long Spacing - Before Log	RR-2.73			
CNL Short Spacing - After Log	NR-2.29			
CNL Long Spacing - After Log	RR-2.73			
FDC P¹ — Before Log	114X4			
FDC P² — Before Log	248X4			
FDC P¹ — After Log	114X4			
FDC P² — After Log	248X4			

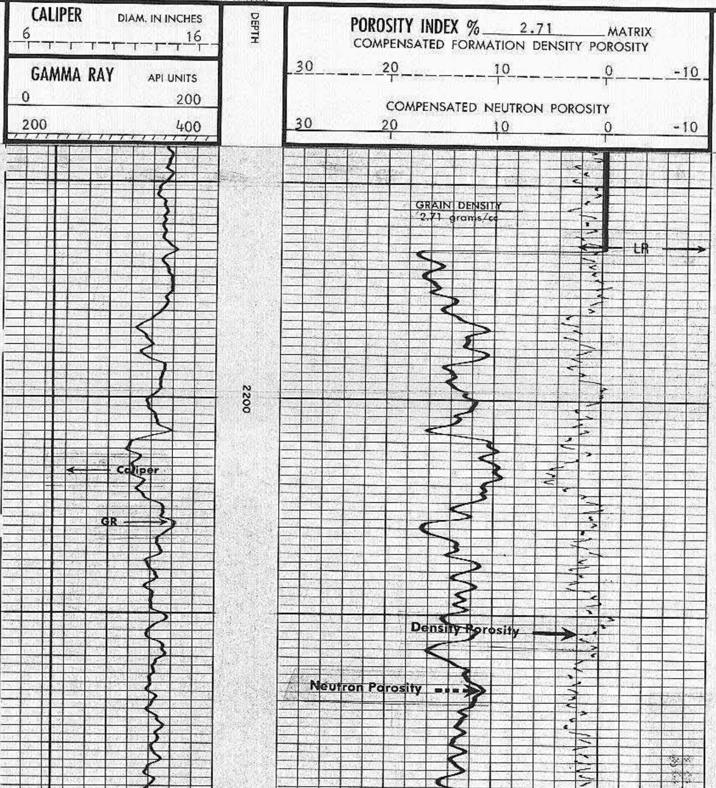
Type Log	Depth		

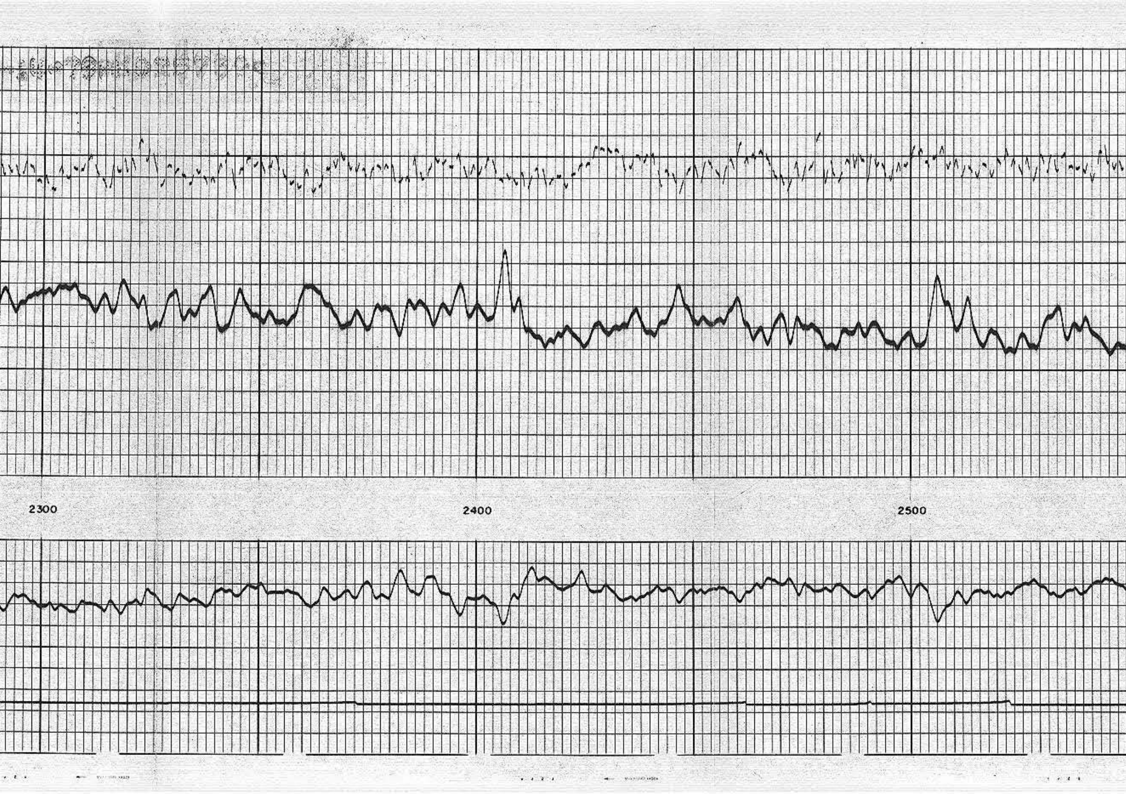
REMARKS:

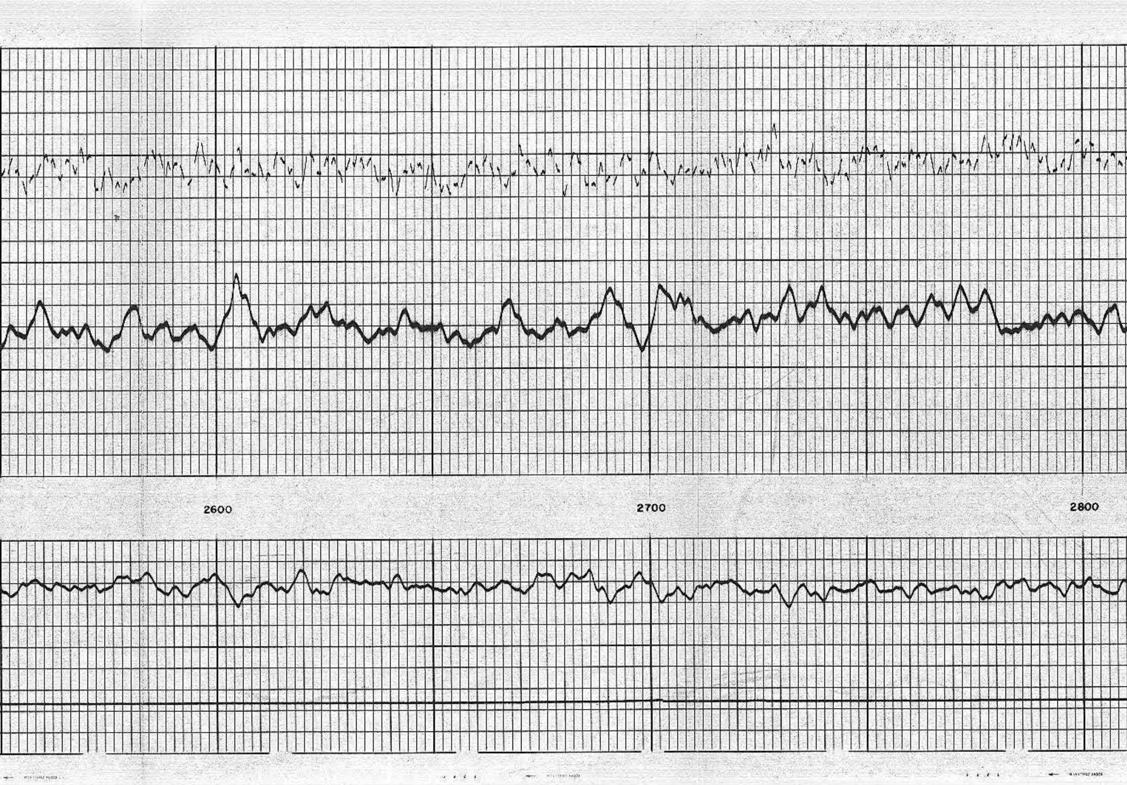
LOGGING DATA

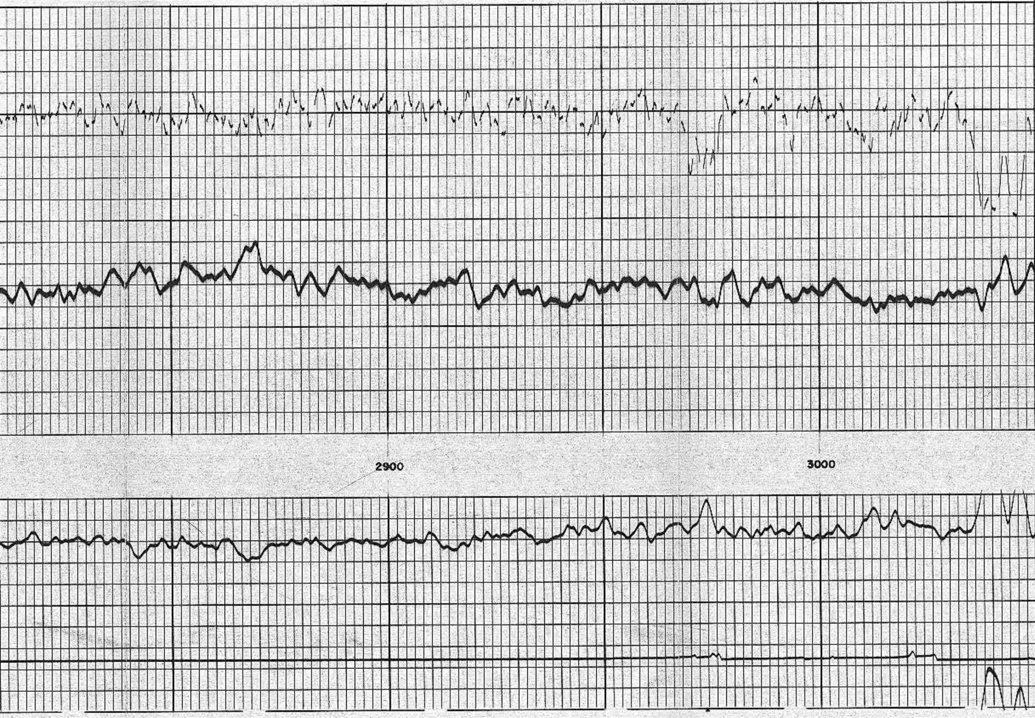
DEPTH		CNP			FDC				GR			
Top	Bottom	Porosity Scale	Matrix	Auto Corr. or Hole Size Setting	Porosity Scale	Grain Density	Liquid Density	Hole Fluid	Sens. Logged	T. C.	Zero Div. Left	Scale Per 100 Div.
		30,-10	LIME	AUTO	30,-10	2.71	1.00	LIO	200	2	0	200

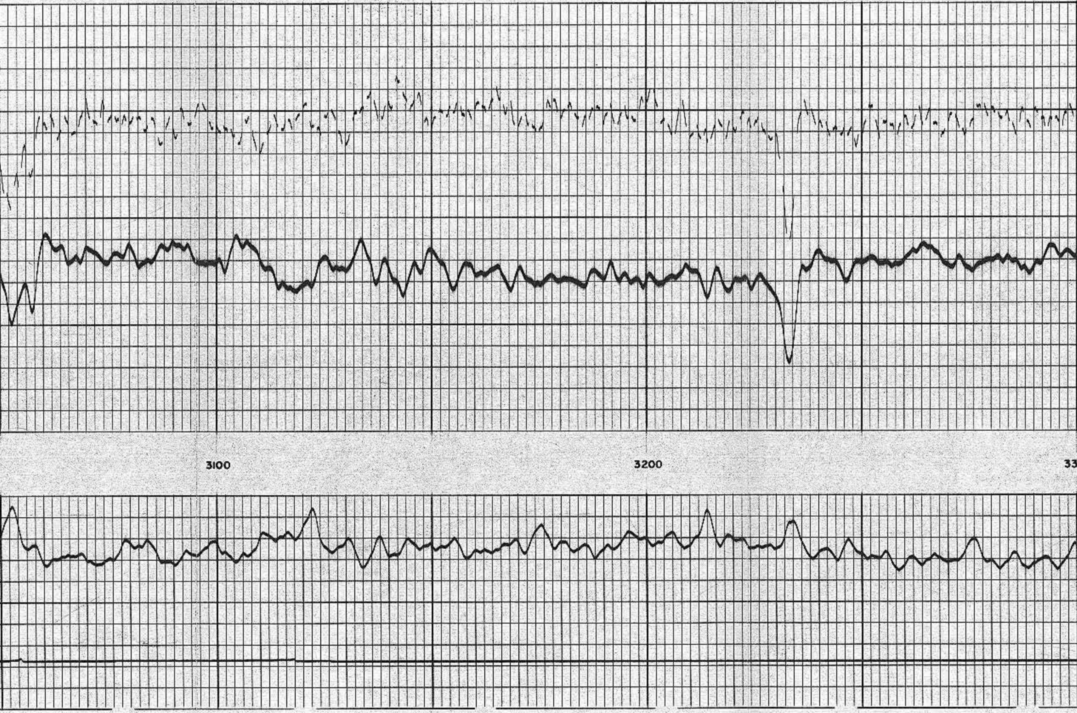
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

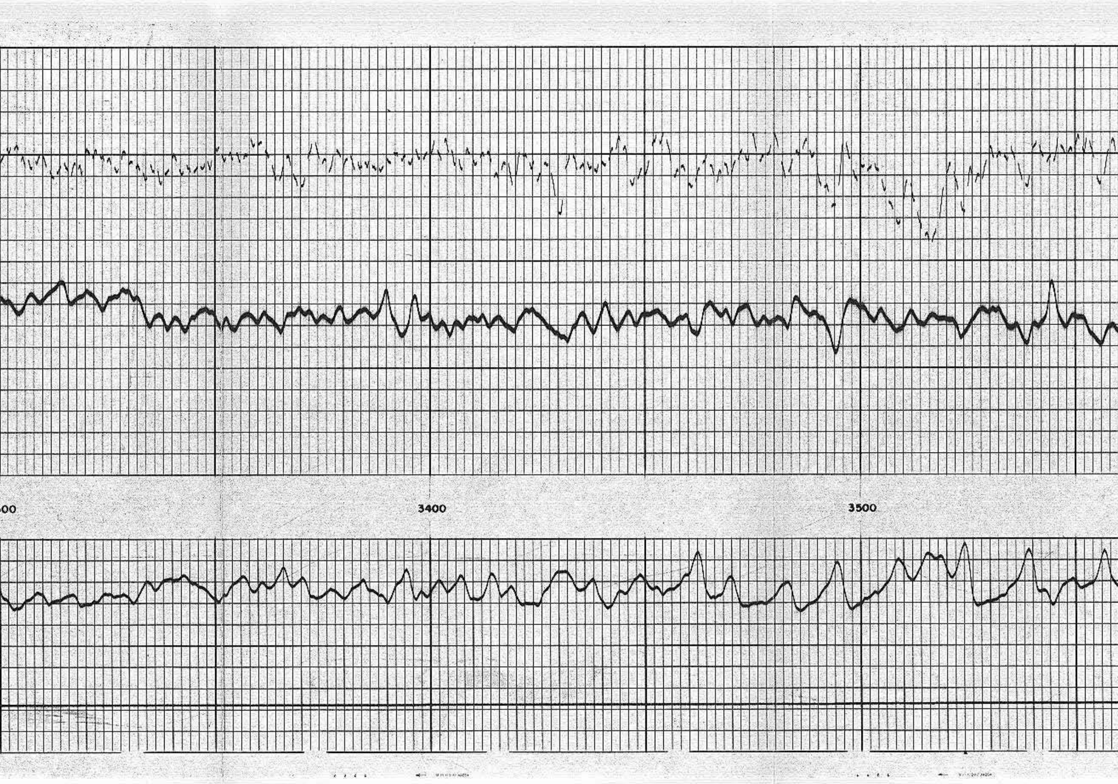


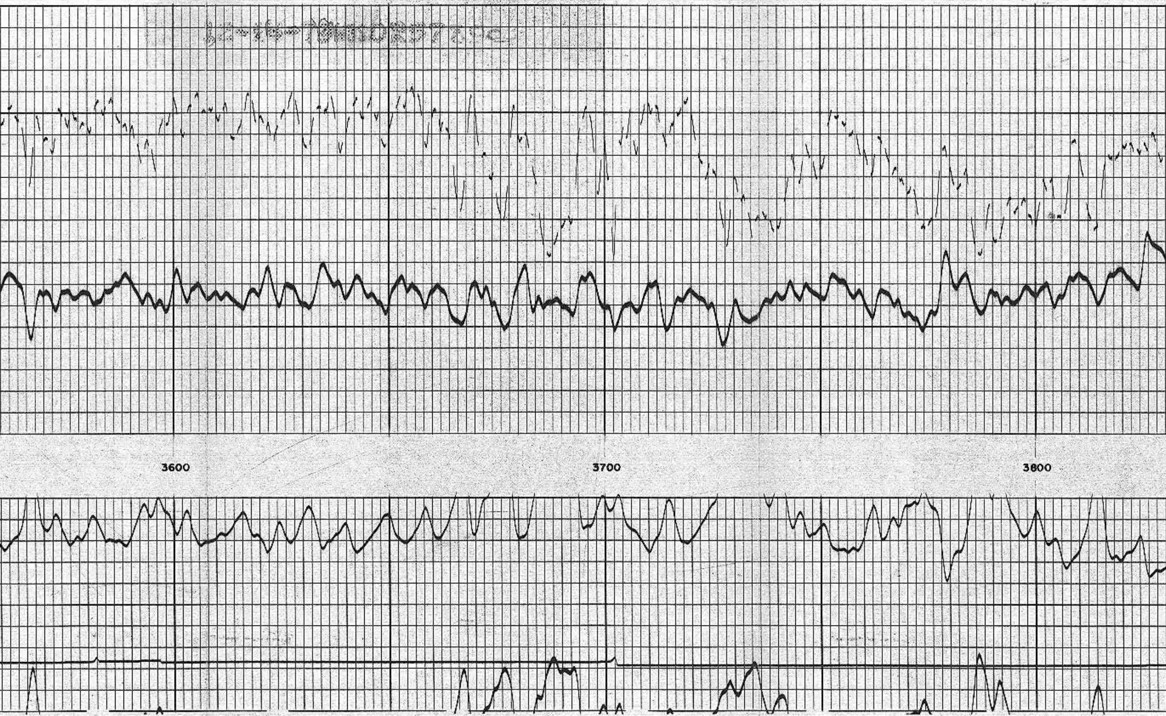


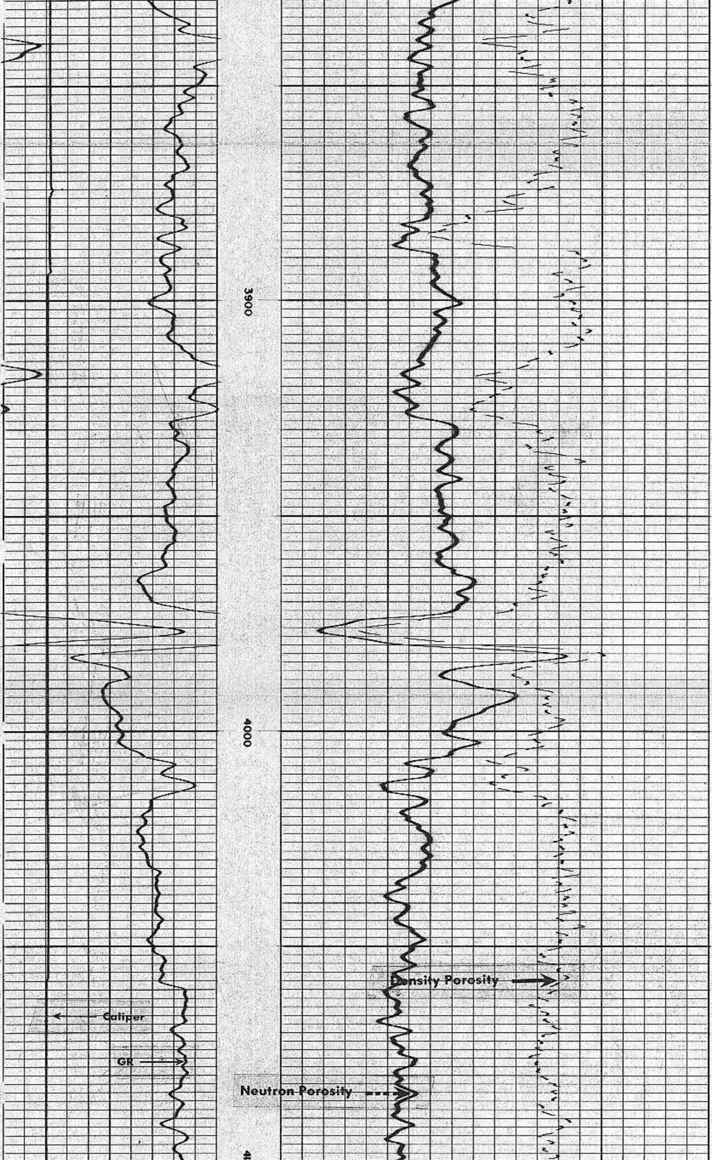


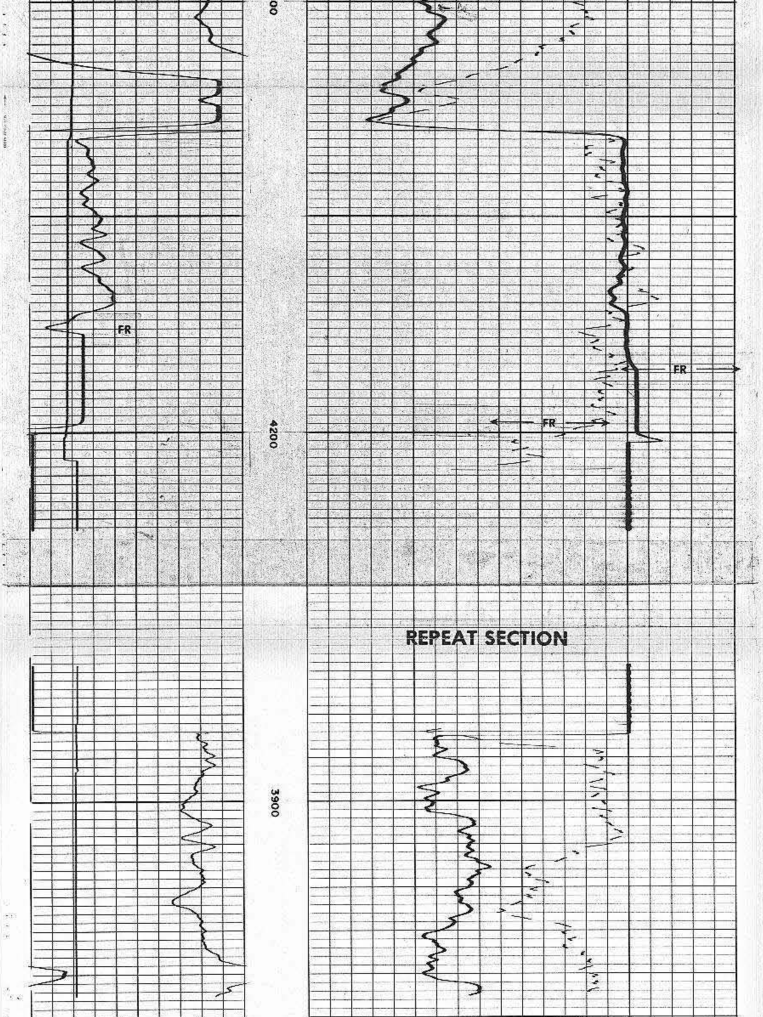


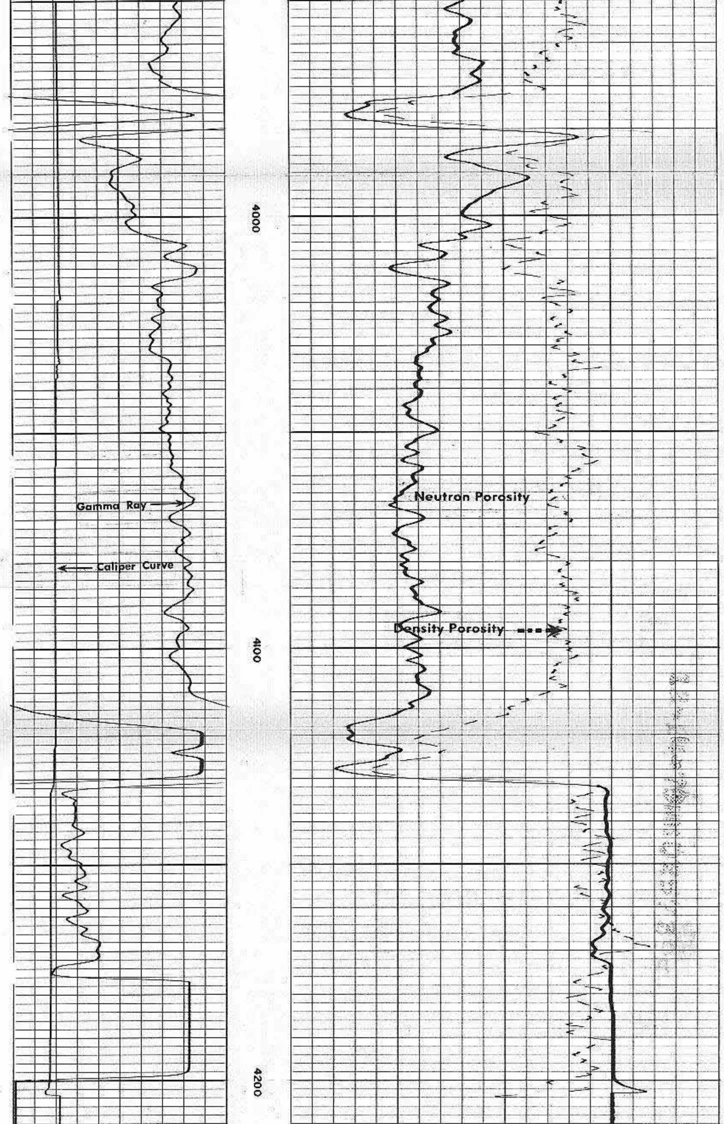












GAMMA RAY API UNITS

0	200
200	400

CALIPER DIAM. IN INCHES

6	16

POROSITY INDEX (%) 2.71 MATRIX

COMPENSATED FORMATION DENSITY POROSITY

30	20	10	0	-10

COMPENSATED NEUTRON POROSITY

30	20	10	0	-10

SIMULTANEOUS COMPENSATED NEUTRON-FORMATION DENSITY

COMPENSATED FORMATION DENSITY

CALIPER DIAM. IN INCHES

6	16

GAMMA RAY

0	200
200	400

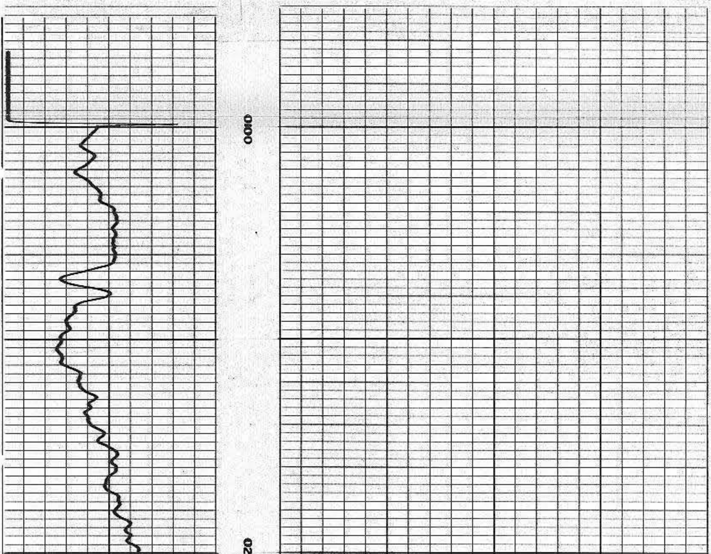
CORRECTION GRAMS/CC

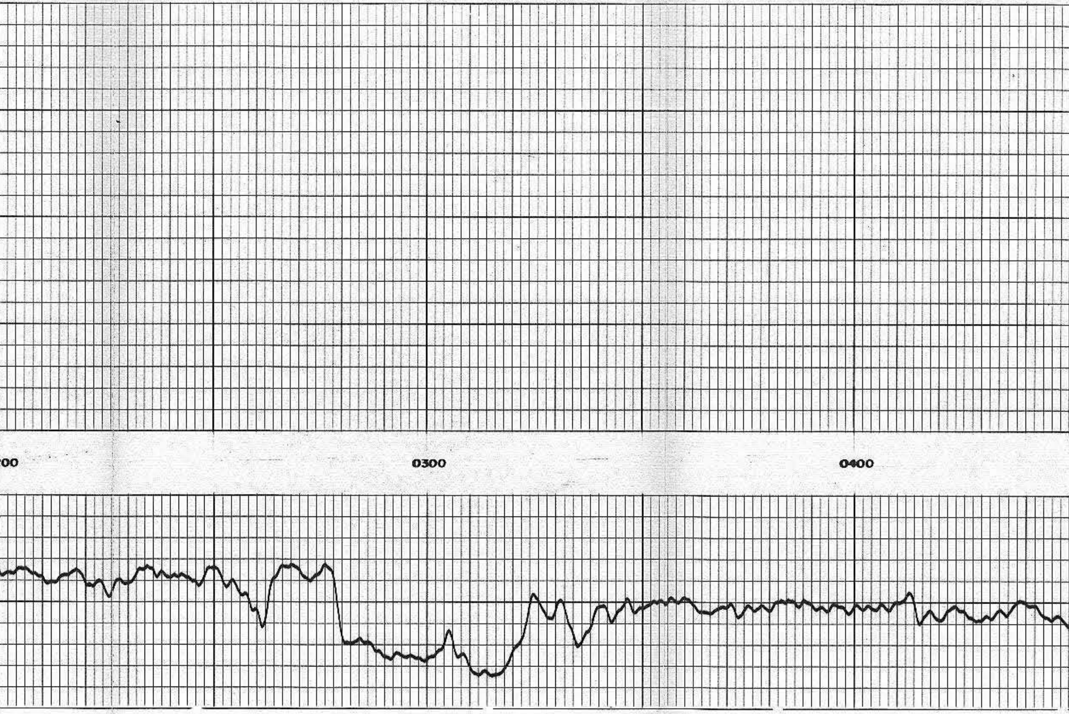
Use this scale when correction curve is presented in Track 2

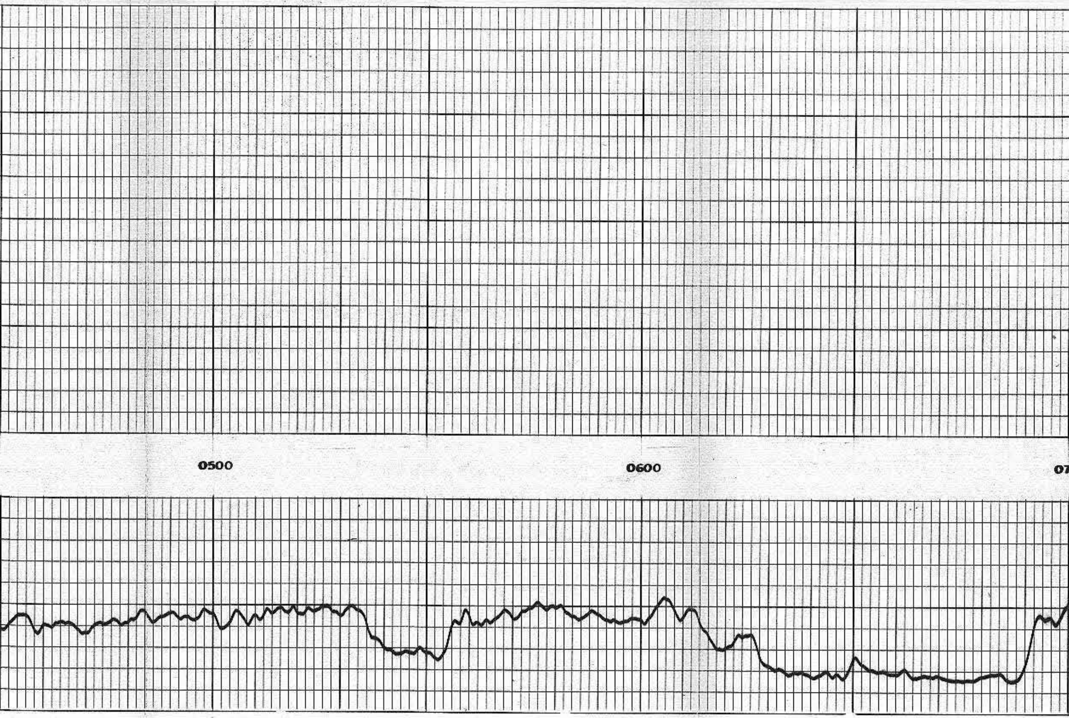
0	+.25

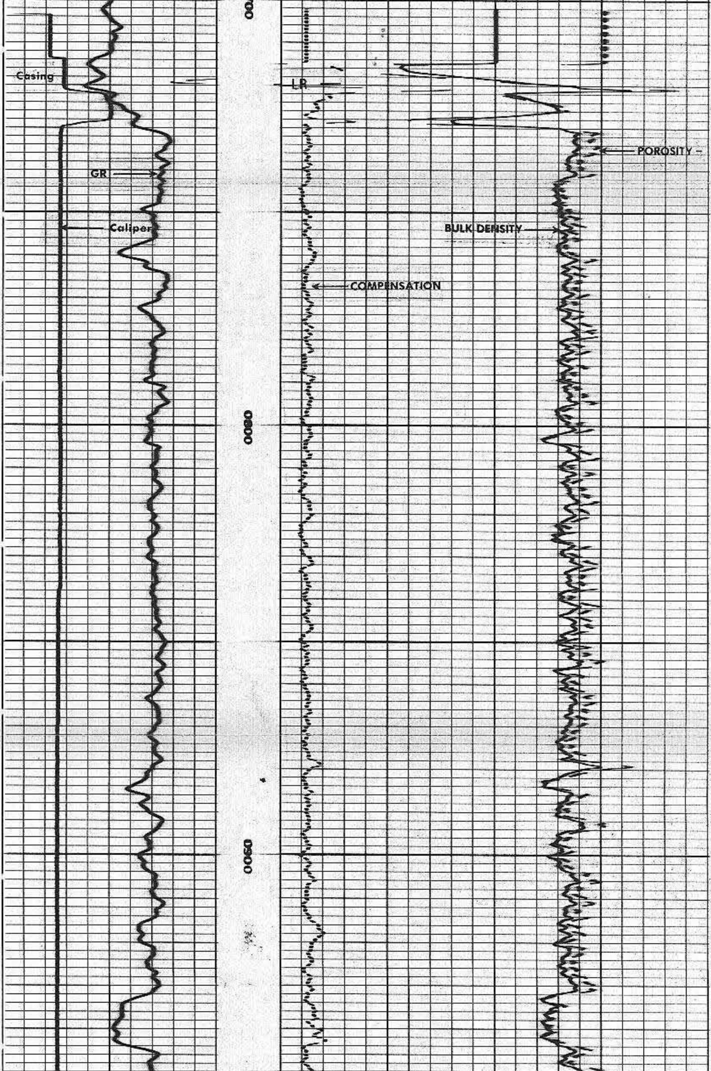
BULK DENSITY GRAMS/CC

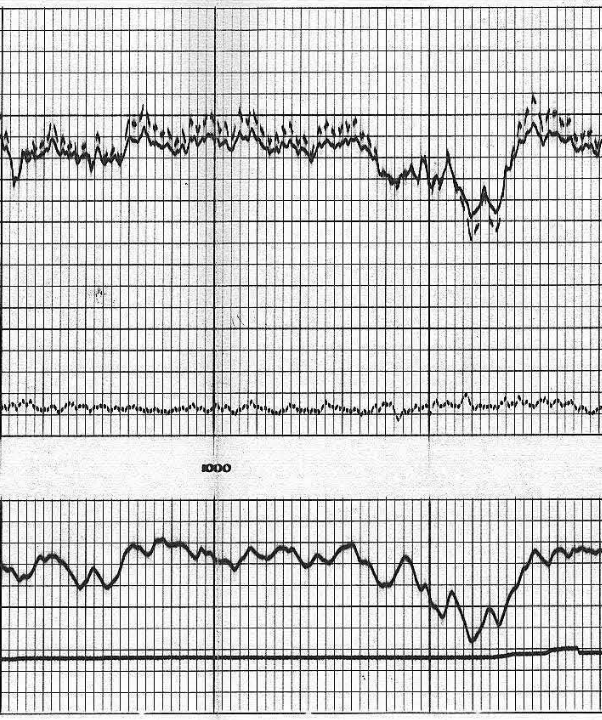
2.0	2.5	3.0
1.0	1.5	2.0

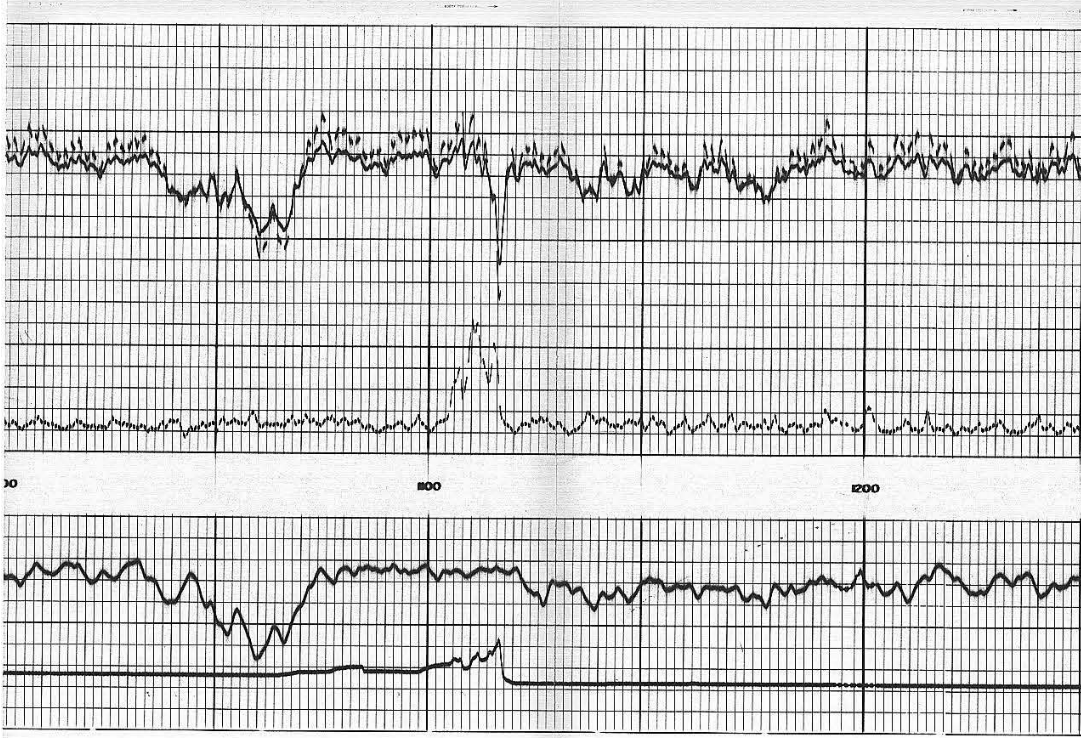


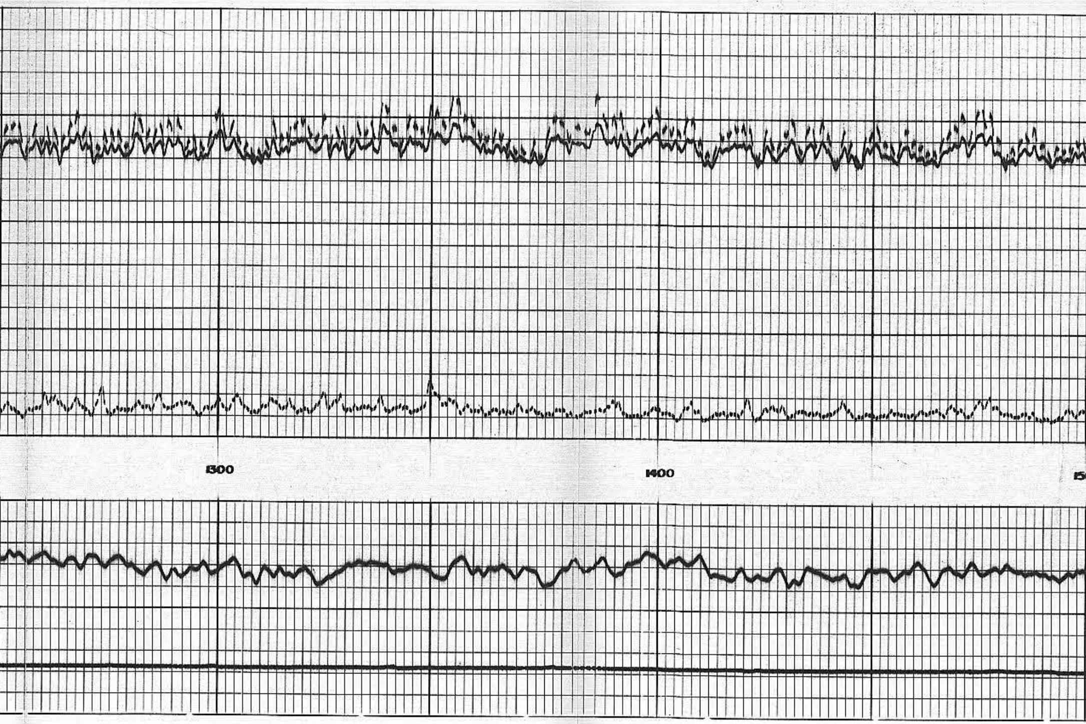


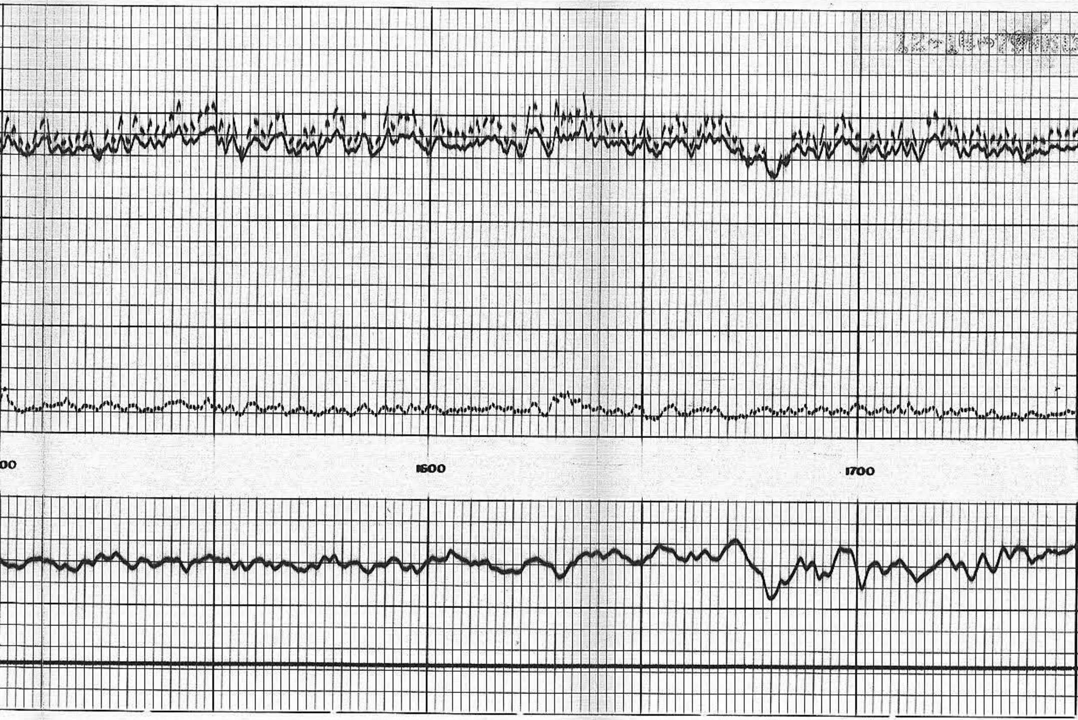








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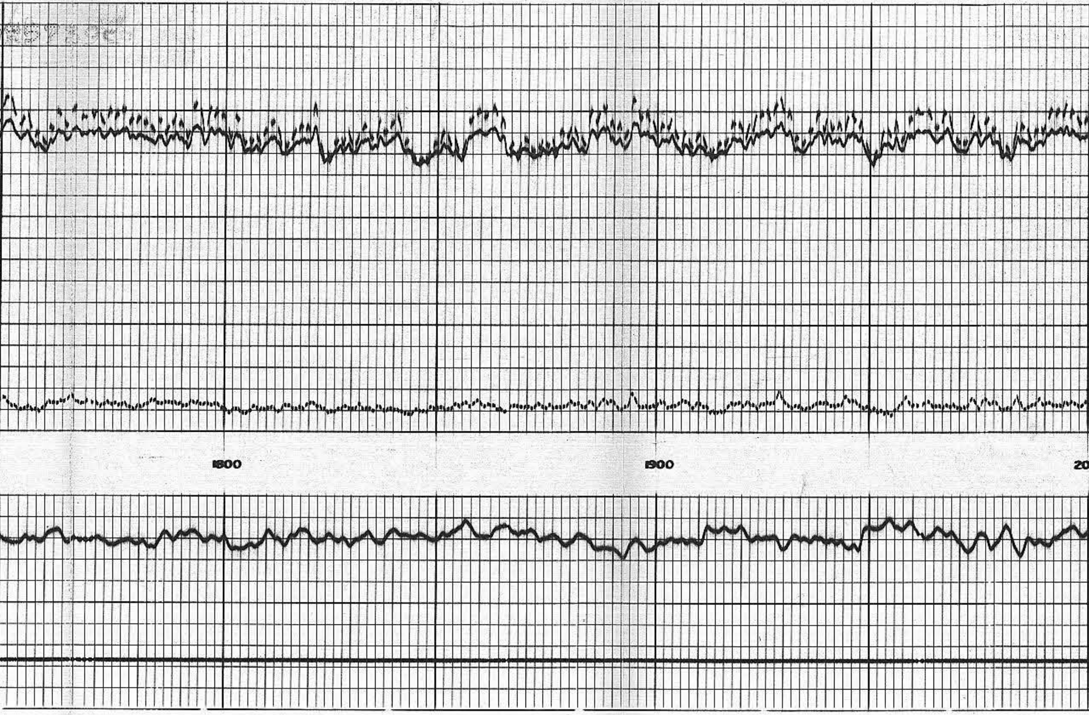

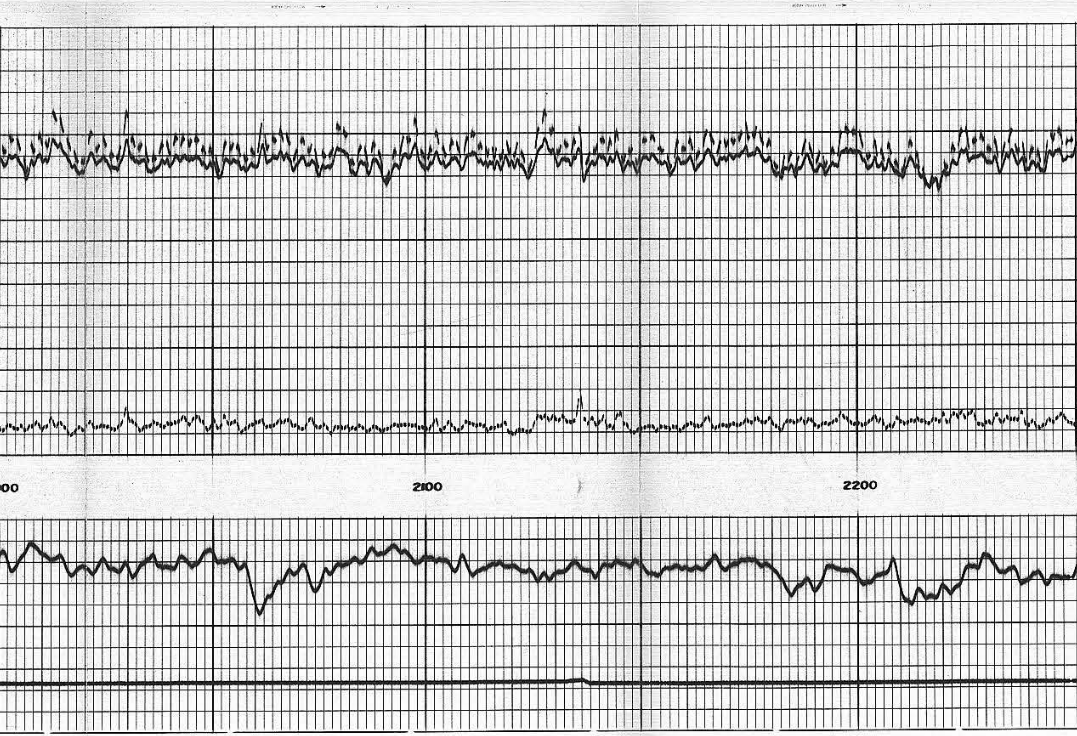

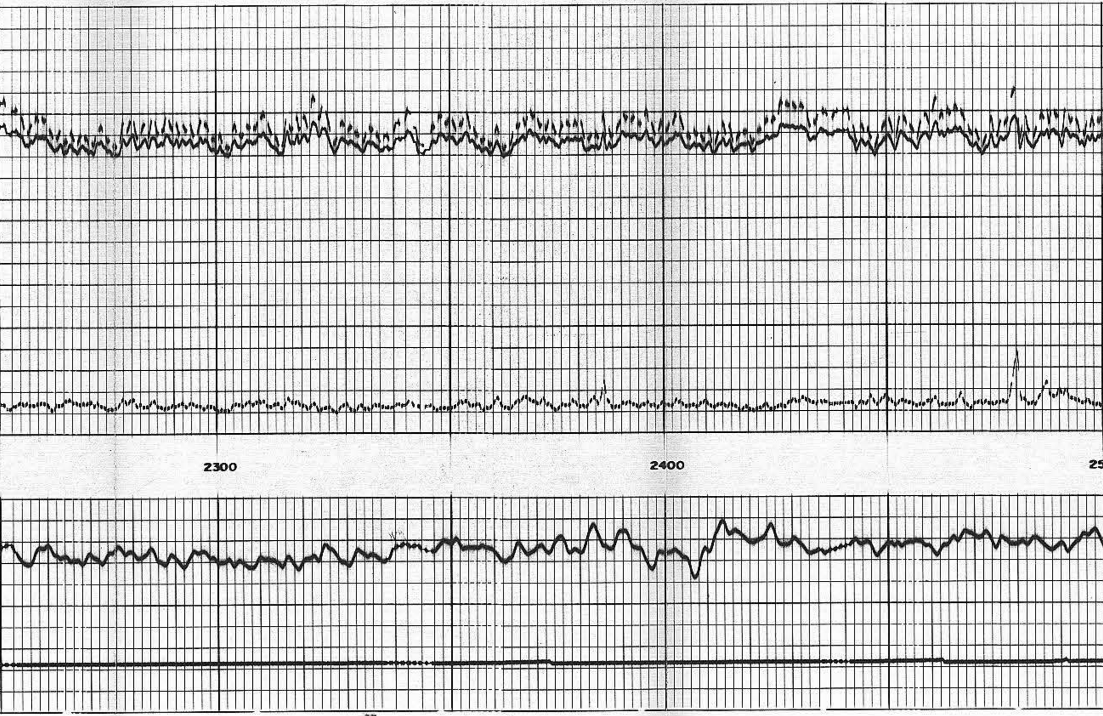

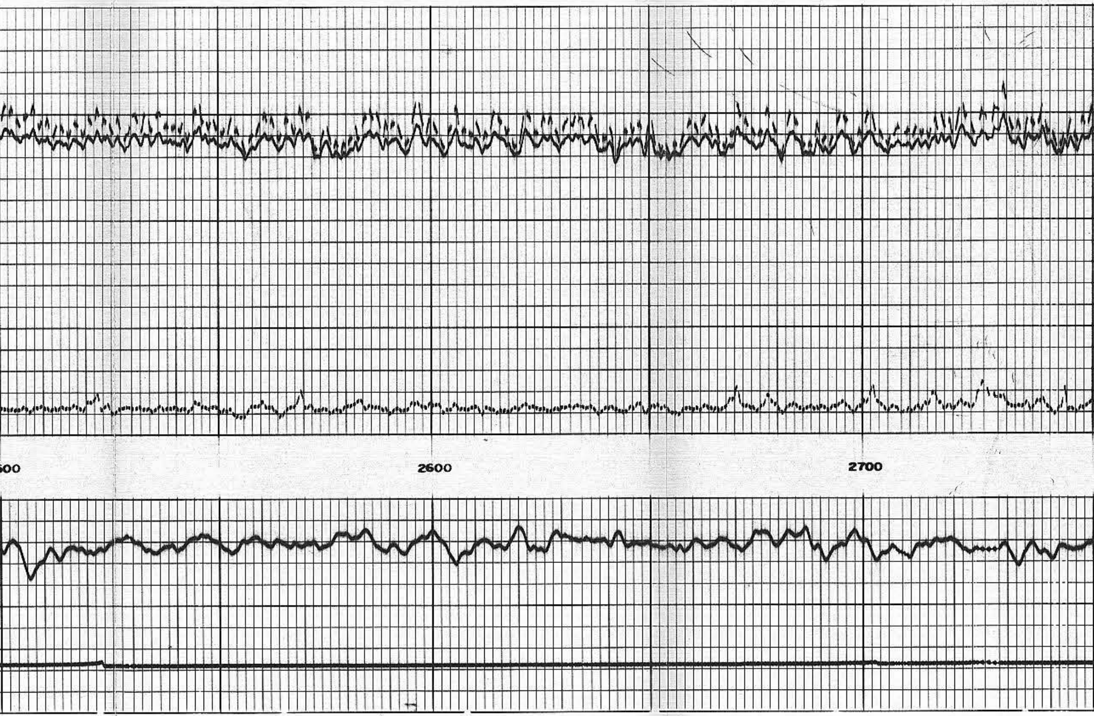

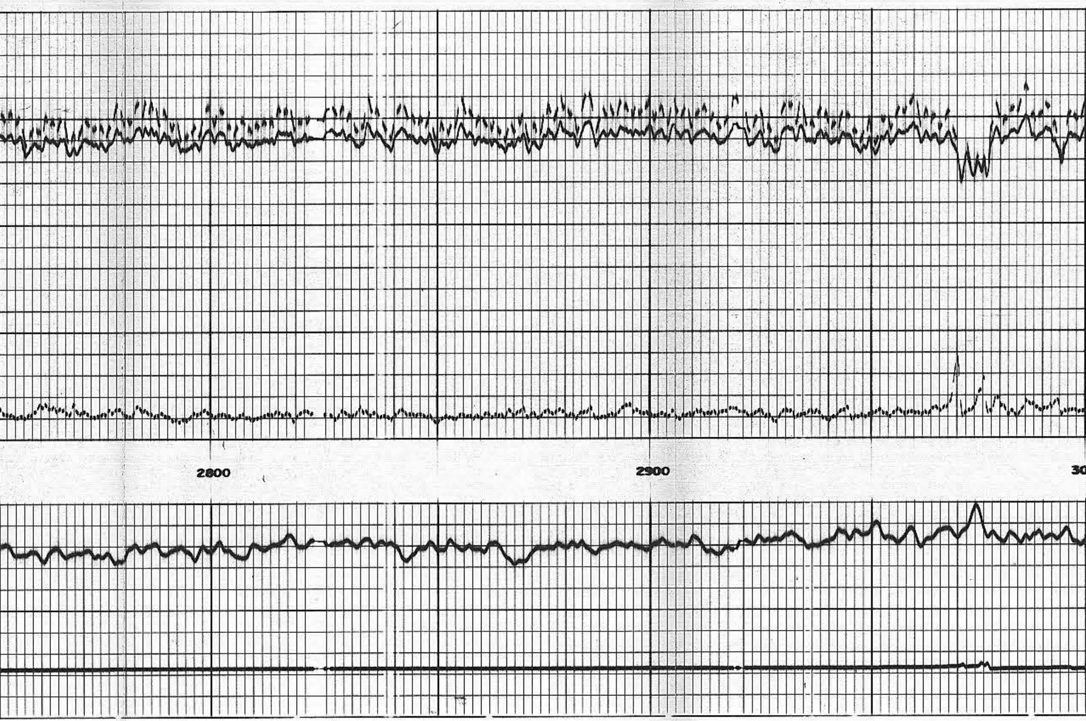

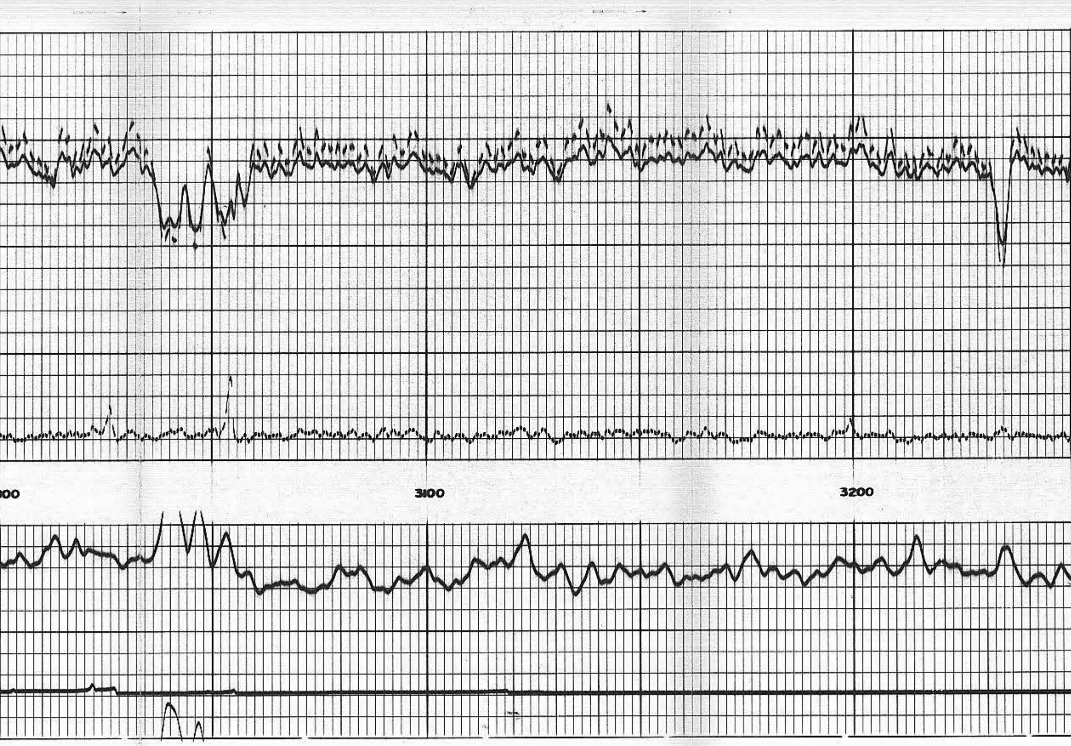

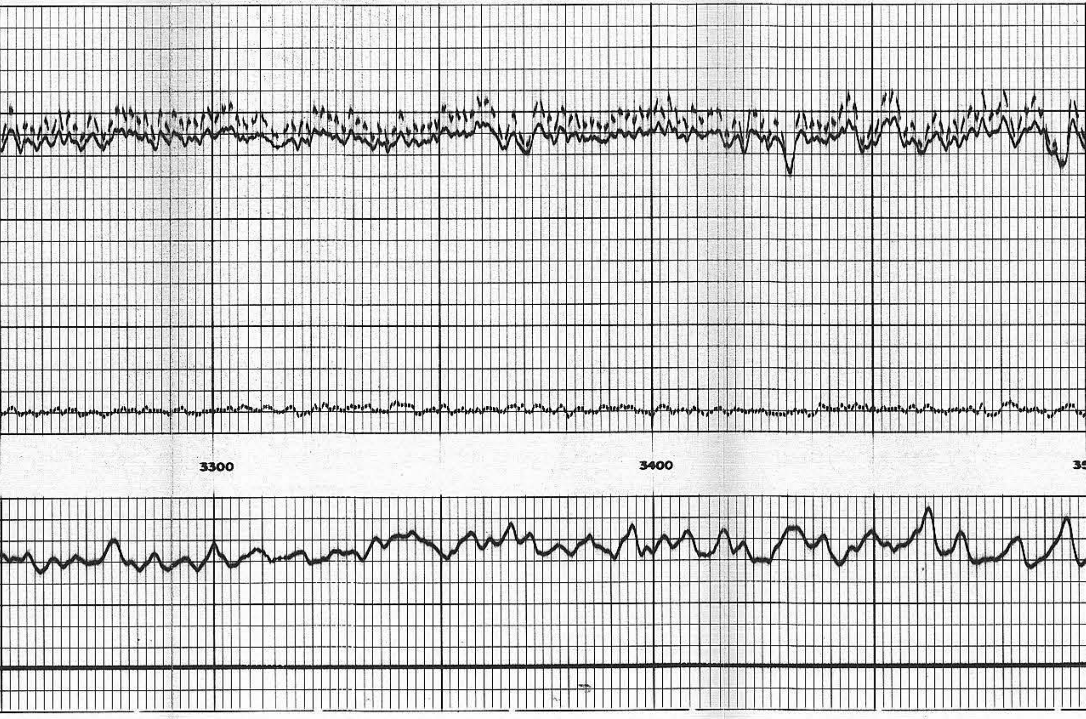

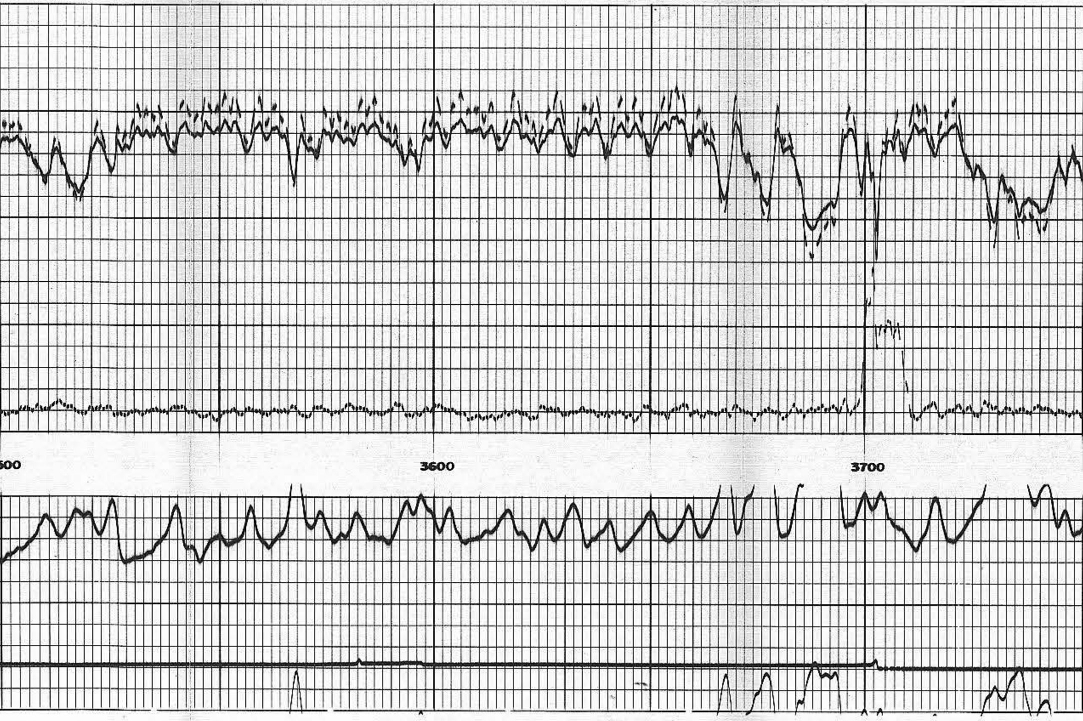
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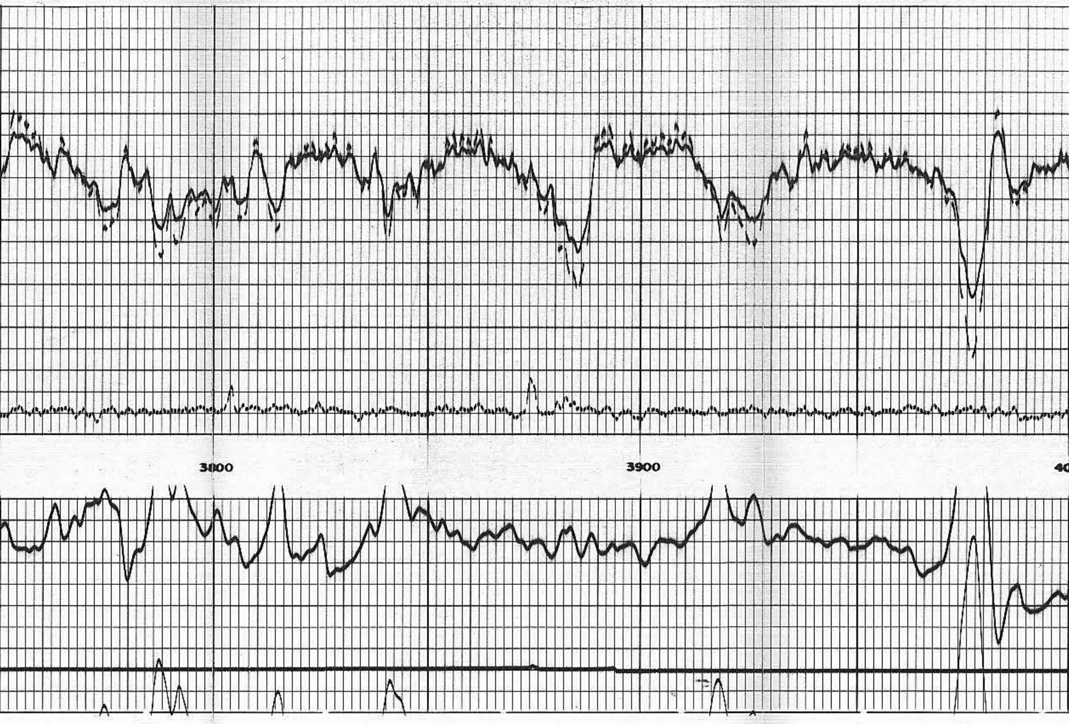
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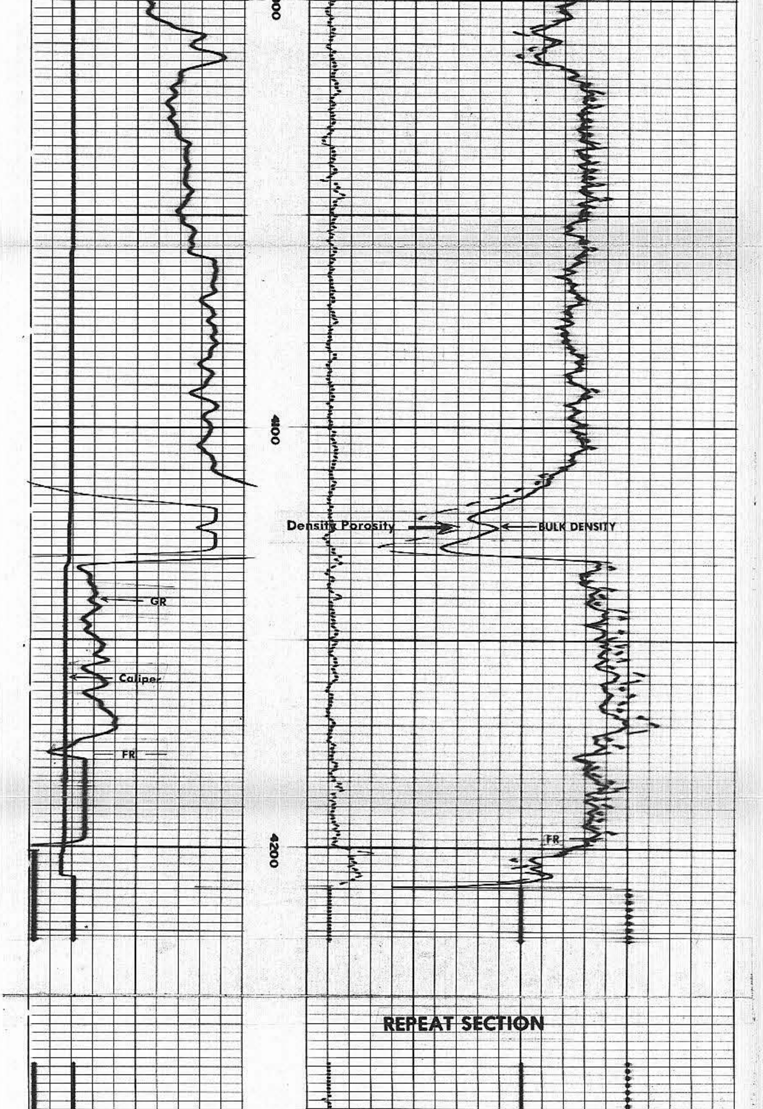
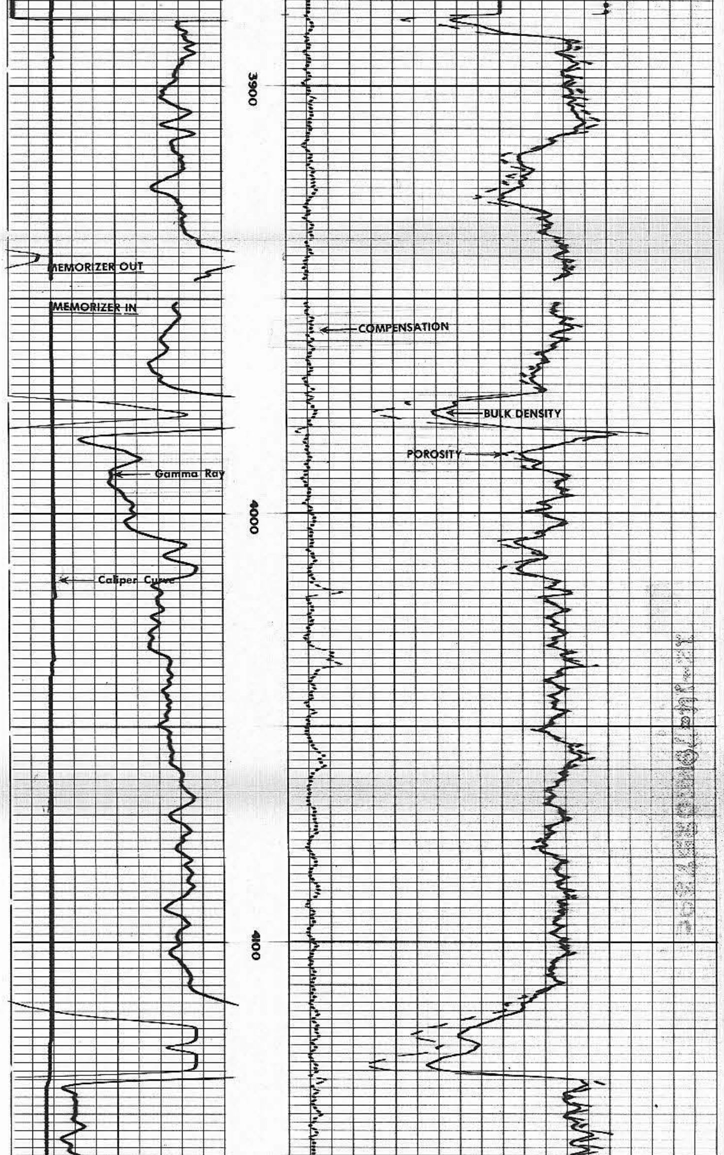
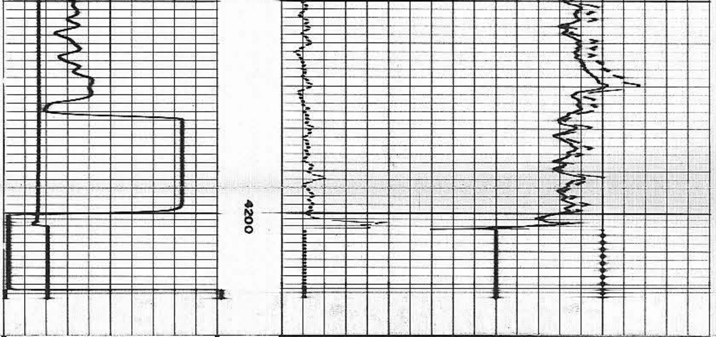






GAMMA RAY API UNITS

0 — 200

200 — 400

CALIPER DIAM. IN INCHES

6 — 16

BULK DENSITY GRAMS/CC

2.0 — 2.5 — 3.0

1.0 — 1.5 — 2.0

CORRECTION GRAMS/CC

Use this scale when correction curve is presented in Track 2

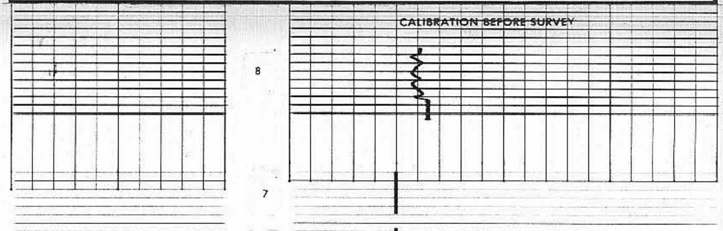
0 — +.25

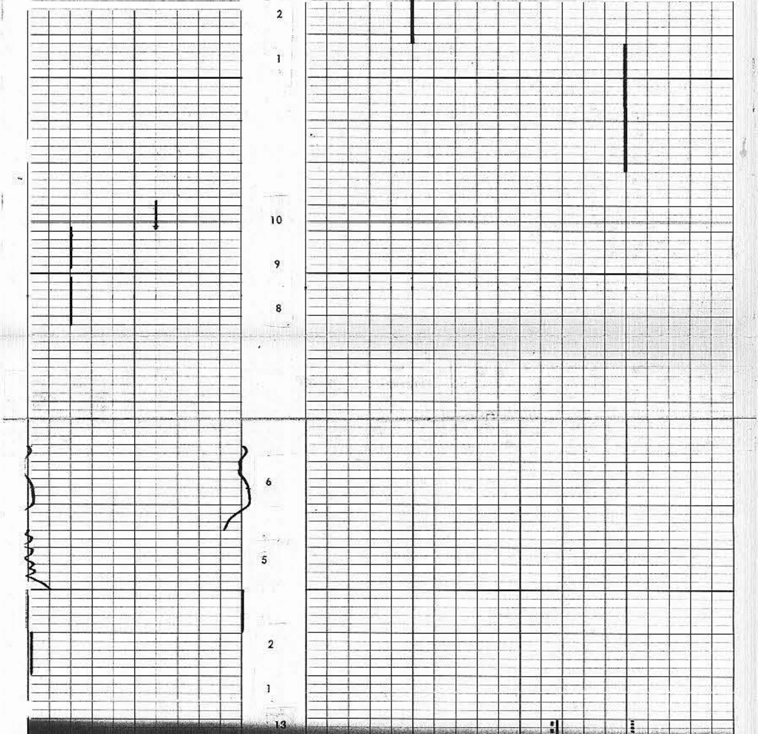
COMPANY PEOPLES NATURAL GAS COMPANY
WELL C. SOKEVITZ #1 (E.G.S.P. PA. #5)
FIELD WILDCAT
COUNTY LAWRENCE STATE PENNSYLVANIA

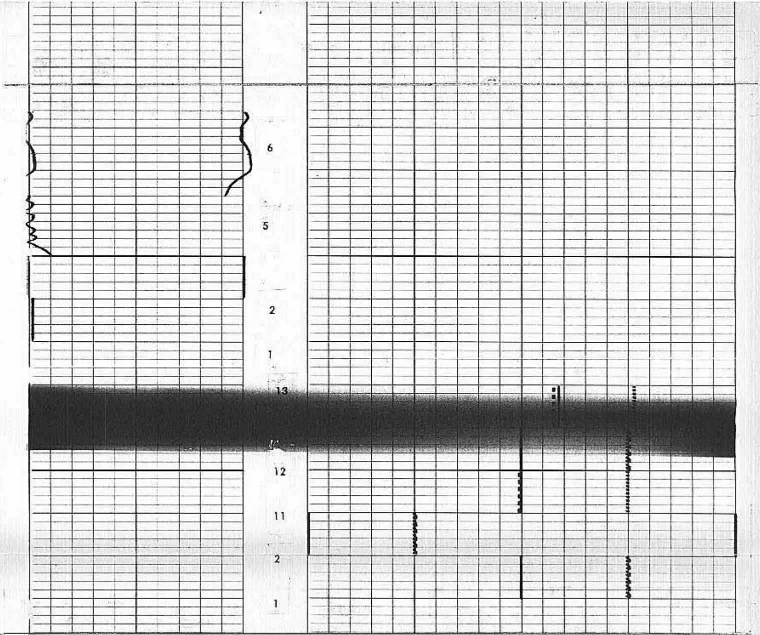
SCHL. FR 4200
SCHL. TD 4203
DRLR. TD 4200

Elev: KB 1081
DF 1079
GL 1067

CALIBRATION RECORD







COMPENSATED NEUTRON CALIBRATION CODING

1. MECHANICAL ZERO
2. RECORDED SENSITIVITY (THRU MEMORIZER IF USED

PANEL TEST

	RATIO	OH POROSITY LS ☐	OH POROSITY SS ☐	OH POROSITY DOL ☐	CH POROSITY SS ☐	CH POROSITY LS ☐
3.	1	1.6	4.9	−0.2	2.4	0.1
4.	2	15.6	19.7	8.1	13.0	9.0
5.	3	30.5	36.0	25.2	29.1	24.1
6.	4	45.4	53.1	47.5	47.4	43.2

7. POROSITY NORMALIZED WITH CNB-A IN PLACE
   7A. TOOL IN NCT-B
8. LOG POSITION WITH CNB-A IN PLACE
   8A. LOG POSITION WITH TOOL IN NCT-B

OH LS	OH SS	OH DOL	CH SS	CH LS
18	22.2	10.4	15.3	11.2

$\text{RATIO (NORMALIZED)} = \frac{2.17}{\text{RATIO (NCT-B)}}$ RATIO LOG

FORMATION DENSITY COMPENSATED CALIBRATION CODING

1. MECHANICAL ZERO
2. RECORDER SENSITIVITY

PANEL TEST

	POS	FDC LIQUID ρ	FDC LIQUID $\Delta\rho$
3.	# 1	2.92	.00
4.	# 2	2.78	+.14
6.	# 3	2.42	−.10
6.	# 4	2.35	.00
7.	# 5	2.08	.01

8. MECHANICAL ZERO CALIPER
9. 8″ RING
10. 12″ RING
11. TOOL CALIBRATE #1 SET $\rho = 2.50$
12. TOOL CALIBRATE #2 SET $\Delta\rho = .00$
13. LOG POSITION $\rho = 2.59$, $\Delta\rho = .015$

GAMMA RAY CALIBRATION CODING

1. MECHANICAL ZERO
2. ELECTRICAL ZERO
3. RECORDER SENSITIVITY
4. MEMORIZER ADJUSTMENT
5. BACKGROUND
6. CALIBRATE - SOURCE IN PLACE