UGR File L 84

Schlumberger

SIMULTANEOUS COMPENSATED NEUTRON-FORMATION DENSITY

COMPANY	NORTHERN ILLINOIS GAS COMPANY
WELL	MAK #1
FIELD	WILDCAT
COUNTY	TAZEWELL
STATE	ILLINOIS
LOCATION	110'S & 150'W NE/C NW/4
API SERIAL NO.	
SEC.	8
TWP.	23N
RANGE	2W

FILE COPY

Other Services: DIL, BHC, MLL

COUNTY ______ FIELD ______ LOCATION ______ WELL ______ COMPANY ______

Permanent Datum: GL ; Elev.: 641

Log Measured From GL, 0 Ft. Above Perm. Datum

Drilling Measured From GL

Elev.: K.B. - D.F. - G.L. 641

Date	8-21-77		
Run No.	ONE		
Depth—Driller	1500		
Depth—Logger	1494		
Btm. Log Interval	1493		
Top Log Interval	365		
Casing—Driller	7" @ 373	@	@
Casing—Logger	373		
Bit Size	6 1/4		
Type Fluid in Hole	LOW SOLIDS		
Dens. / Visc.	9.3 / 36		
pH / Fluid Loss	8.5 / 24 ml	ml	ml
Source of Sample	FLOWLINE		
Rm @ Meas. Temp.	2.03 @ 74 °F	@ °F	@ °F
Rmf @ Meas. Temp.	1.85 @ 74 °F	@ °F	@ °F
Rmc @ Meas. Temp.	- @ - °F	@ °F	@ °F
Source: Rmf / Rmc	M / -		
Rm @ BHT	2.04 @ 71 °F	@ °F	@ °F
TIME: Circulation Stopped	8-21 1500		
TIME: Logger on Bottom	8-21 2100		
Max. Rec. Temp.	71 °F	°F	°F
Equip. / Location	7642 / MT. VERNON		
Recorded By	LANGTON		
Witnessed By Mr.	PAT BARLOW		

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

RUN NO.	ONE			
Service Order No.	06646			
Fluid Level	FULL			
Salinity, PPM CL.	-			
Speed - F.P.M.	30			
EQUIPMENT DATA				
Dens. Panel				
Dens. Cart.				
Dens. Skid.				
Dens. Sonde				
Dens. Source				
Dens. Calibrator				
Neut. Panel				
Neut. Cart.				
Neut. Source				
Neut. Calibrator				
GR Cart.				
Memorizer Panel				
Tape Recorder (TTR)				
Depth Encoder (DRE)				
Pressure Wheel (CPW)				
Centralizers: Enter Spring, Standoffs, In-line, or None — Type				
No.				
S. O. — Inches				
CALIBRATION DATA				
GR — BKG. CPS	110			
GR — Source CPS	580			
GR — Sens. - Cal	200			
GR — T. C. - Cal	6			
CNL — Short Spacing - Before Log	2896			
CNL — Long Spacing - Before Log	1264			
CNL — Short Spacing - After Log	2896			
CNL — Long Spacing - After Log	1264			
FDC — P1 — Before Log	380			
FDC — P2 — Before Log	520			
FDC — P1 — After Log	380			
FDC — P2 — After Log	520			

Type Log	Depth		

REMARKS:

LOGGING DATA

DEPTH Top	DEPTH Bottom	CNP Porosity Scale	CNP Matrix	CNP Auto Corr. or Hole Size Setting	FDC Porosity Scale	FDC Grain Density	FDC Liquid Density	FDC Hole Fluid	GR Sens. Logged	GR T. C.	GR Zero. Div. Left	GR Scale Per 100 Div.
365	1493	20	LIME	AUTO	20	2.71	1.0	LIQ				

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.

CALIPER DIAM. IN INCHES 5 — 15

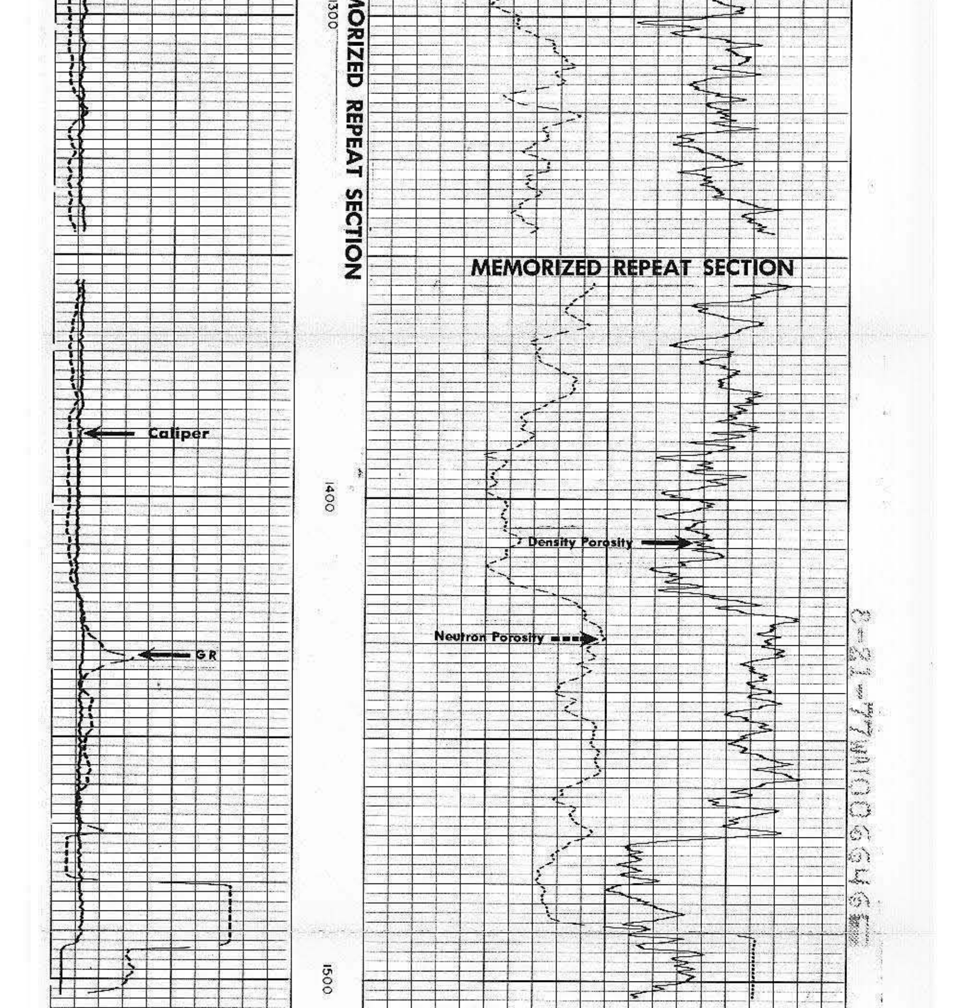
GAMMA RAY API UNITS 0 — 200; 200 — 400

DEPTH

POROSITY INDEX % LIME MATRIX

COMPENSATED FORMATION DENSITY POROSITY 30 20 10 0 -10

COMPENSATED NEUTRON POROSITY 30 20 10 0 -10



GAMMA RAY API UNITS 0 — 200; 200 — 400

CALIPER DIAM. IN INCHES 5 — 15

POROSITY INDEX (%) LIME MATRIX

COMPENSATED FORMATION DENSITY POROSITY 30 20 10 0 -10

COMPENSATED NEUTRON POROSITY 30 20 10 0 -10

SIMULTANEOUS COMPENSATED NEUTRON-FORMATION DENSITY

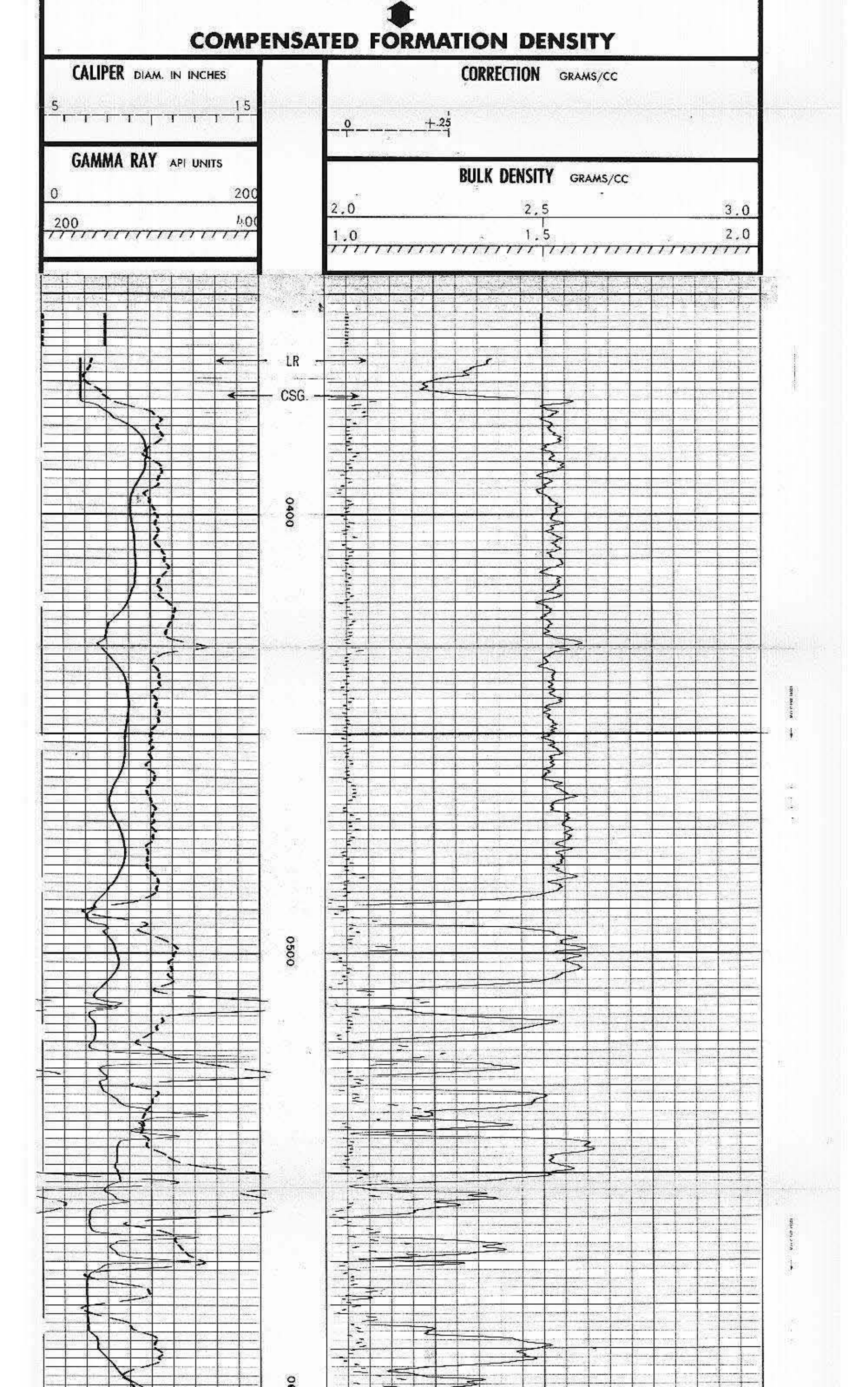
COMPENSATED FORMATION DENSITY

CALIPER DIAM. IN INCHES 5 — 15

GAMMA RAY API UNITS 0 — 200; 200 — 400

CORRECTION GRAMS/CC 0 — +.25

BULK DENSITY GRAMS/CC 2.0 2.5 3.0; 1.0 1.5 2.0



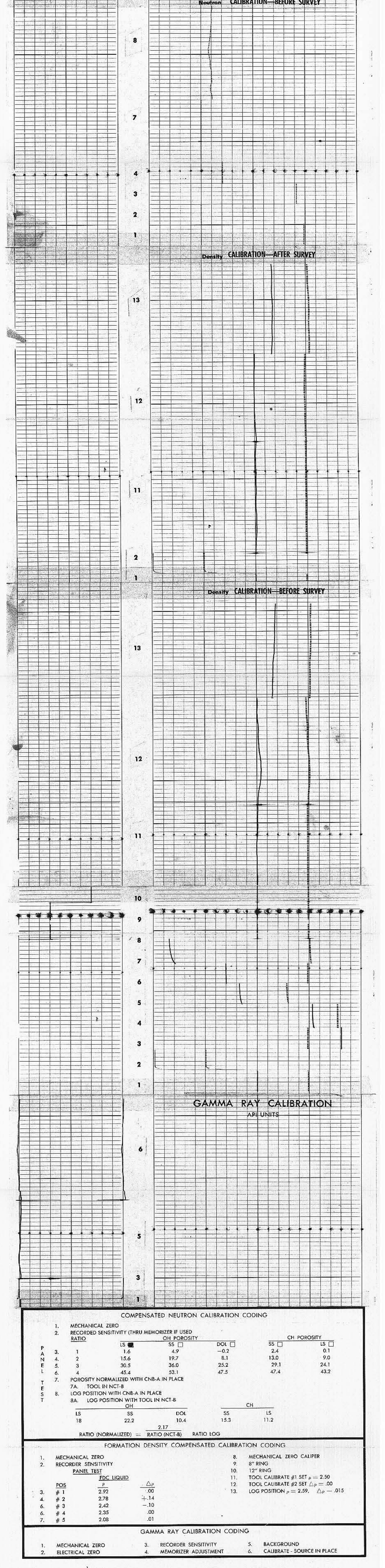
GAMMA RAY API UNITS	
0	200
200	400

CALIPER DIAM. IN INCHES	
5	15

BULK DENSITY GRAMS/CC		
2.0	2.5	3.0
1.0	1.5	2.0

CORRECTION GRAMS/CC	
0	+.25

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

RATIO (NORMALIZED) = 2.17 / RATIO (NCT-B) RATIO LOG

FORMATION DENSITY COMPENSATED CALIBRATION CODING

1. MECHANICAL ZERO
2. RECORDER SENSITIVITY

PANEL TEST

	POS	FDC LIQUID ρ	$\Delta\rho$
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

CALIBRATION RECORD

COMPANY NORTHERN ILLINOIS GAS COMPANY
WELL MAK #1
FIELD WILDCAT
COUNTY TAZEWELL STATE ILLINOIS

SCHL. FR 1493
SCHL. TD 1494
DRLR. TD 1500
Elev: KB -
DF -
GL 641