Schlumberger

SIMULTANEOUS

COMPENSATED NEUTRON-FORMATION DENSITY

COUNTY
FIELD
LOCATION
WELL
COMPANY

COMPANY AMERICAN QUASAR PETROLEUM

RECEIVED-PTLD
FEB 24 1982
DEPT OF GEOLOG

WELL ~~WETGEN 26-32~~ Kenneth Wetgen et al 26-32

FIELD HALSEY

COUNTY LINN STATE OREGON

LOCATION 1980' FNL
1980' FEL

API SERIAL NO	SEC	TWP	RANGE
	26	13S	4W

Other Services:
DIL·BHC HDT·ST

Permanent Datum: GL ; Elev.: 266
Log Measured From KB , 11 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 277
D.F.
G.L. 266

Date	8/21/81			
Run No.	ONE			
Depth—Driller	2620			
Depth—Logger	2620			
Btm. Log Interval	2617			
Top Log Interval	516			
Casing—Driller	7" @ 516	@	@	@
Casing—Logger	516			
Bit Size	6¼			
Type Fluid in Hole	DRISPAC			
Dens. | Visc.	10.5 | 43	|	|	|
pH | Fluid Loss	8.0 | — ml	| ml	| ml	| ml
Source of Sample	FLOWLINE			
Rm @ Meas. Temp.	.044 @ 69 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.041 @ 57 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	.101 @ 68 °F	@ °F	@ °F	@ °F
Source: Rmf | Rmc	M | M	|	|	|
Rm @ BHT	.034 @ 90 °F	@ °F	@ °F	@ °F
TIME Circulation Stopped	01:45			
TIME Logger on Bottom	11:00			
Max. Rec. Temp.	90 °F	°F	°F	°F
Equip. | Location	8126 | SAC	|	|	|
Recorded By	MACMULLAN			
Witnessed By	MANN			

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

RUN NO.	ONE			
Service Order No.	213365			
Fluid Level	FULL			
Salinity, PPM CL.	10,000			
Speed - F.P.M.	30			
EQUIPMENT DATA				
Dens. Panel	NLM·BB·418			
Dens. Cart.	PGC·1292			
Dens. Skid.	PDH·79			
Dens. Sonde	PGS·324			
Dens. Source	GSR·J·5242			
Dens. Calibrator	SFT·106·1171			
Neut. Panel	NLM·BB·418			
Neut. Cart.	CNC·A·2191			
Neut. Source	NSR·F·2284			
Neut. Calibrator	CNB··			
GR Cart.	SGC·JAA·2692			
Memorizer Panel	CPU·CM·375			
Tape Recorder (TTR)	MTU·D·2702			
Depth Encoder (DRE)	CMD			
Pressure Wheel (CPW)	—			
Centralizers: Enter Spring, Standoffs, In-line, or None — Type	CALIPER			
Centralizers: No.	ONE			
Centralizers: S. O. — Inches	ECCENTERED			

Type Log	Depth		

REMARKS:

CALIBRATION DATA

GR	BKG. CPS	30.31
	Source CPS	182.1
	[illegible] Cal	165
	T. C. - Cal	AUTO
CNL	Short Spacing - Before Log	3098
	Long Spacing - Before Log	1420
	Short Spacing - After Log	3140
	Long Spacing - After Log	1434
FDC	P1 — Before Log	393.2
	P2 — Before Log	559
	P1 — After Log	392.2
	P2 — After Log	559

LOGGING DATA

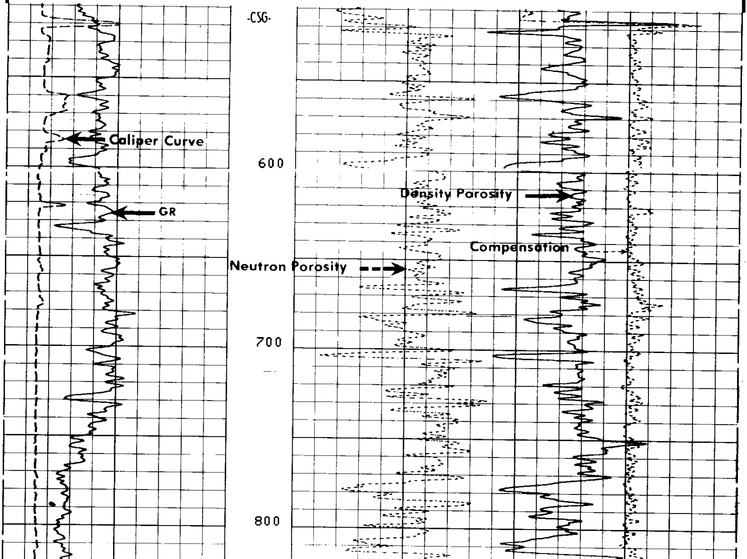
DEPTH		CNP			FDC				GR			
Top	Bottom	Porosity Scale	Matrix	Auto Corr. or Hole Size Setting	Porosity Scale	Grain Density	Liquid Density	Hole Fluid	Sens. Logged	T. C.	Zero. Div. Left	Scale Per 100 Div.
CSG	TD	30/TK	SAND	AUTO	30/TK	2.65	1.0	LIQ	150	AUTO	0	150

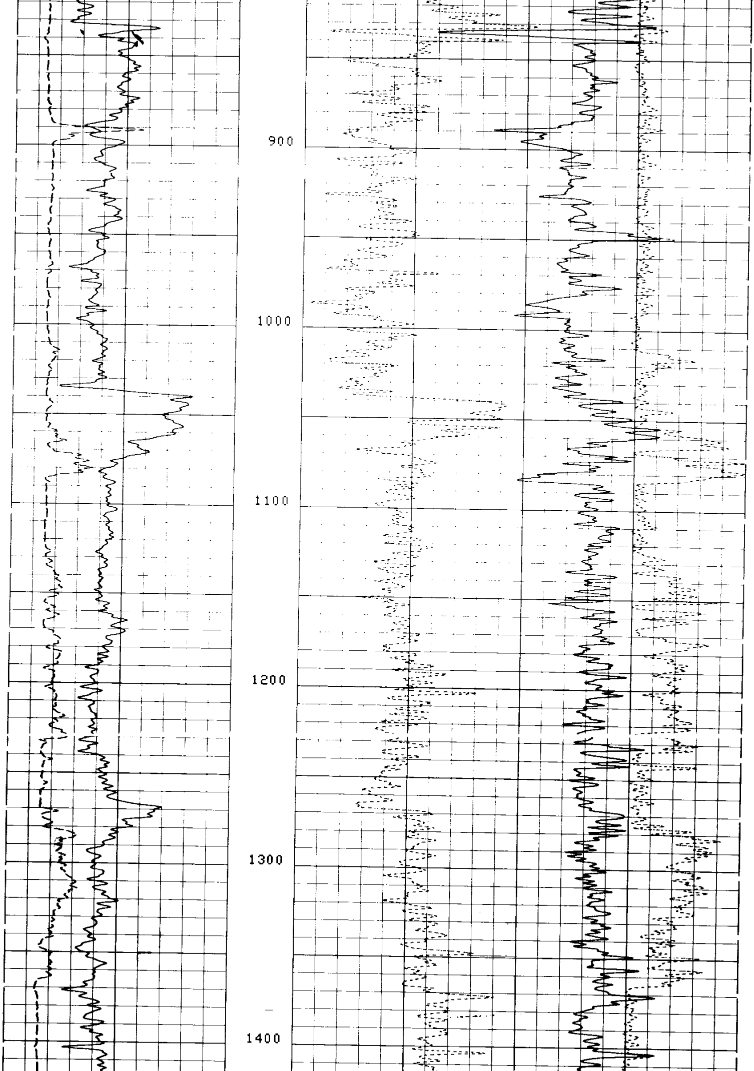
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

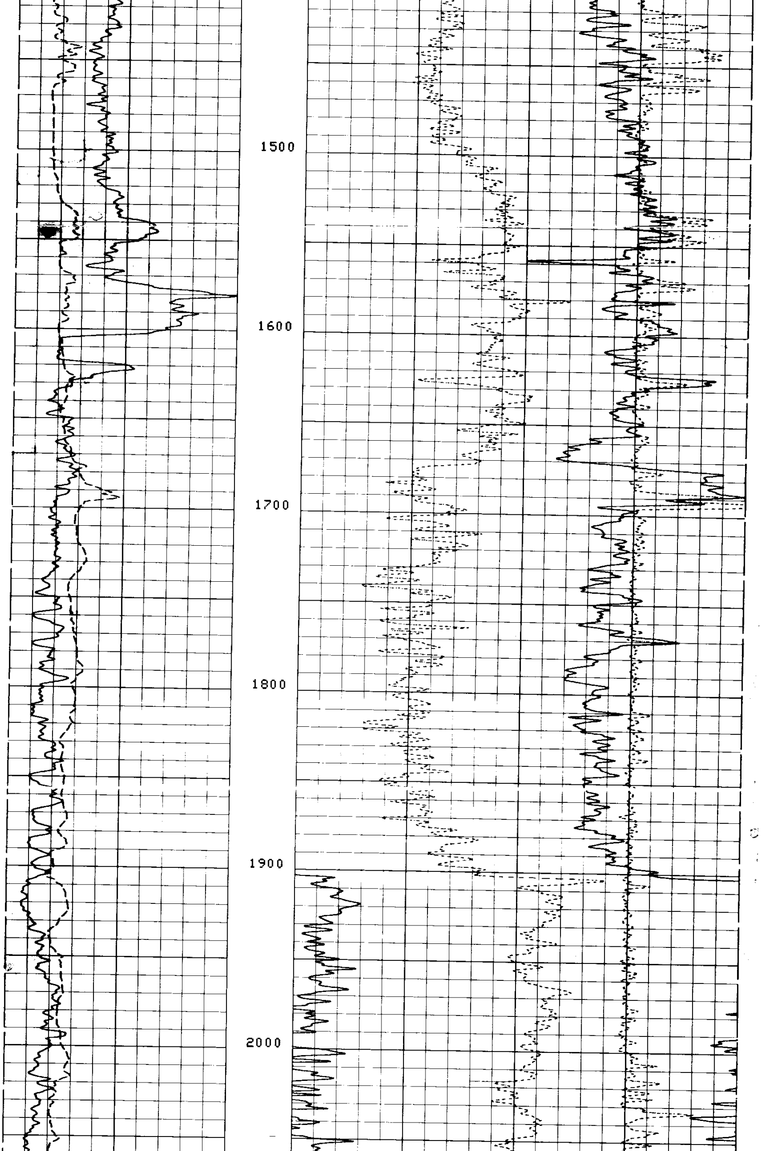
CALI(IN)		DRHO(G/C3)	
5.000	15.00	-0.250	0.2500
GR (GAPI)		DPHI( )	
0.0	150.0	0.6000	0.0
		NPHI( )	
		0.6000	0.0

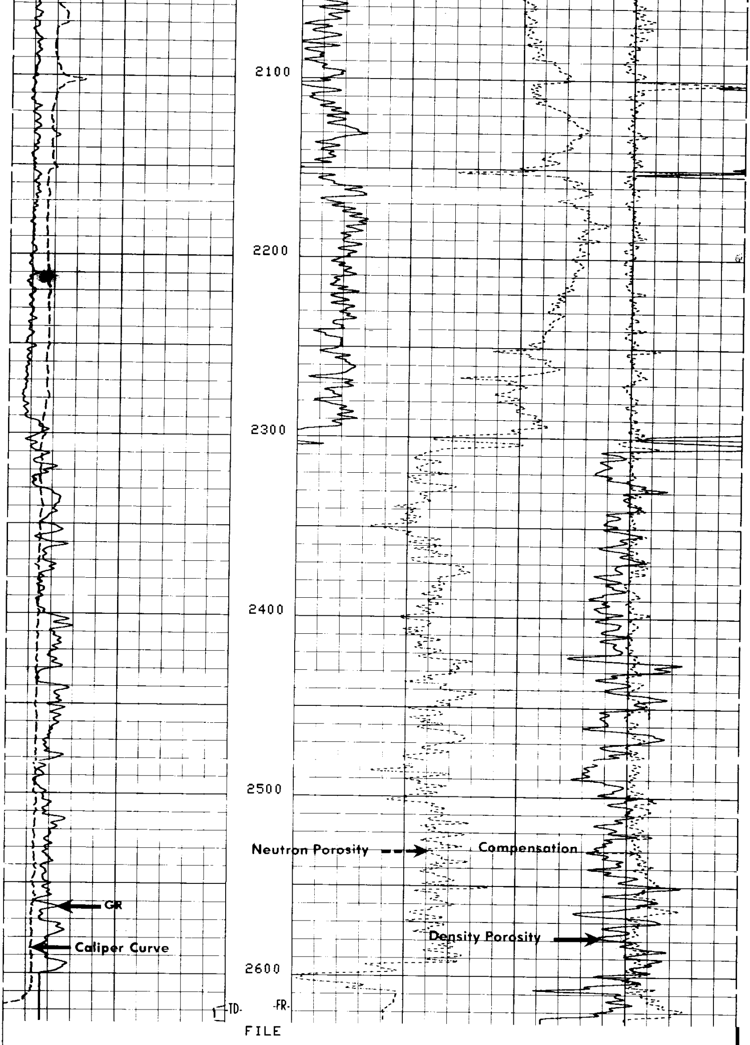
FILE

4









CALI(IN)	5.000		15.00
GR (GAPI)	0.0		150.0
DRHO(G/C3)	-0.250		0.2500
DPHI( )	0.6000		0.0
NPHI( )	0.6000		0.0

SENSOR MEASURE POINT TO TENSION REFERENCE POINT

NCNL	17.8	FEET	GR	26.3	FEET
FFDC	3.0	FEET	FCNL	17.8	FEET
CALI	3.0	FEET	NFDC	3.0	FEET
NRAT	17.8	FEET	TENS	.0	FEET

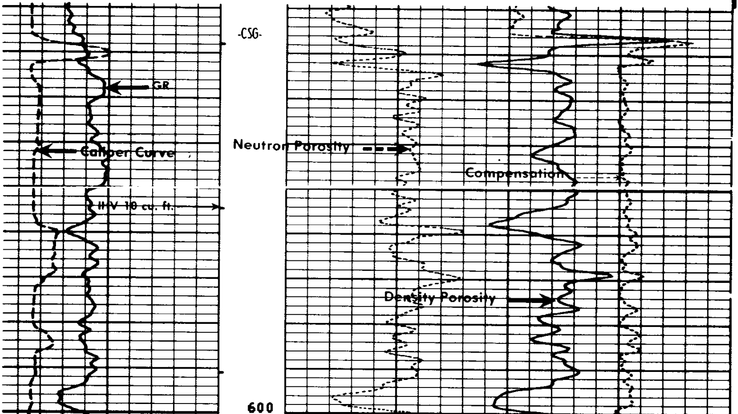
PARAMETERS

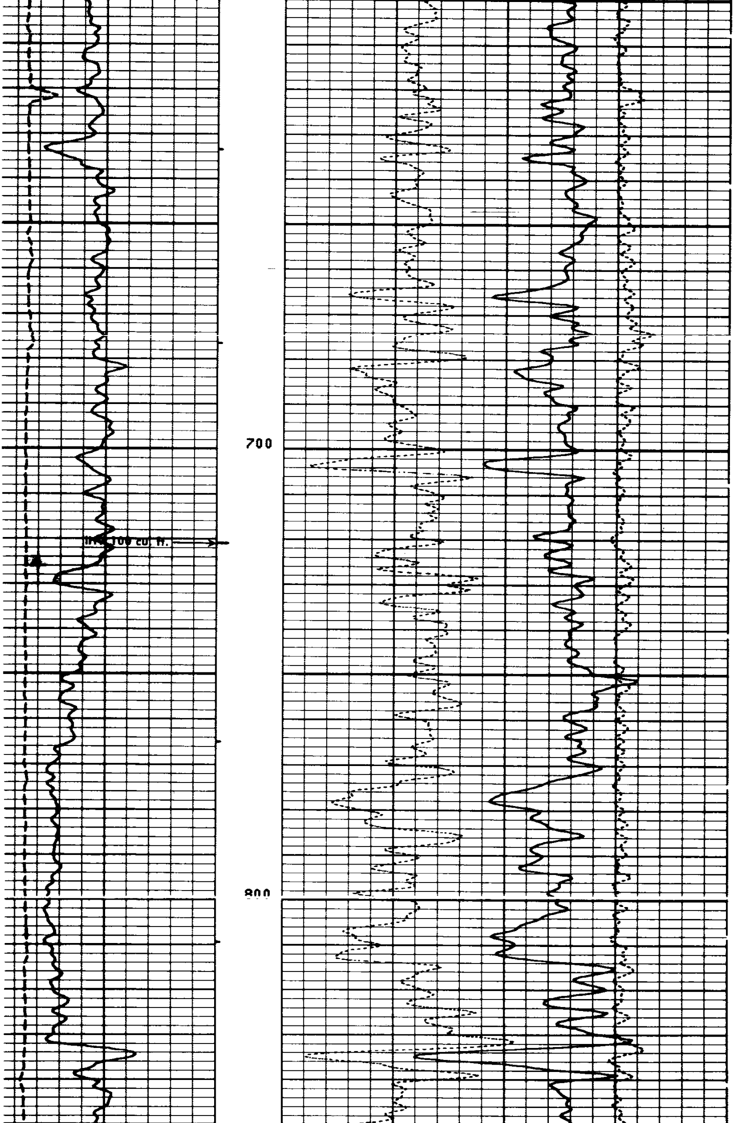
NAME	VALUE	UNIT	NAME	VALUE	UNIT
PSNR	2.240		BS	6.250	IN
MATR	SAND		HC	CALI	
MDEN	2.650	G/C3	FD	1.000	G/C3
BHF	WATE		FDCC	ALLO	
DO	0.0		BHS	OPEN	

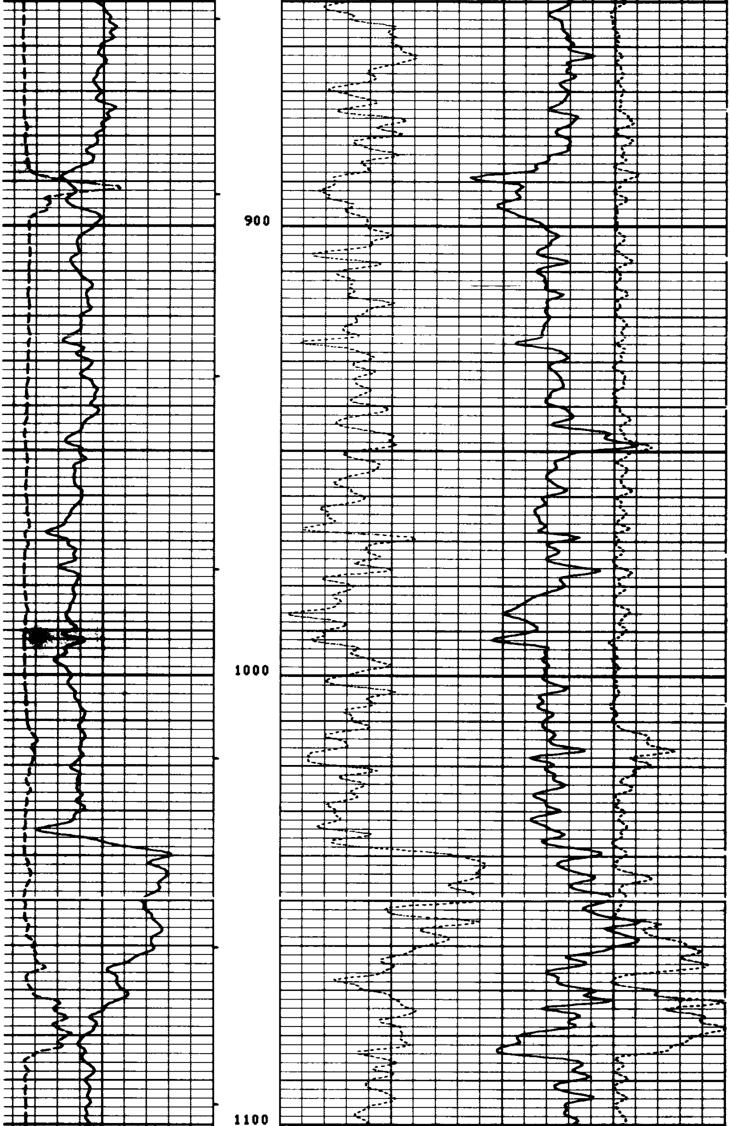
CALI(IN)	5.000		15.00
GR (GAPI)	0.0		150.0
DRHO(G/C3)	-0.250		0.2500
DPHI( )	0.6000		0.0
NPHI( )	0.6000		0.0

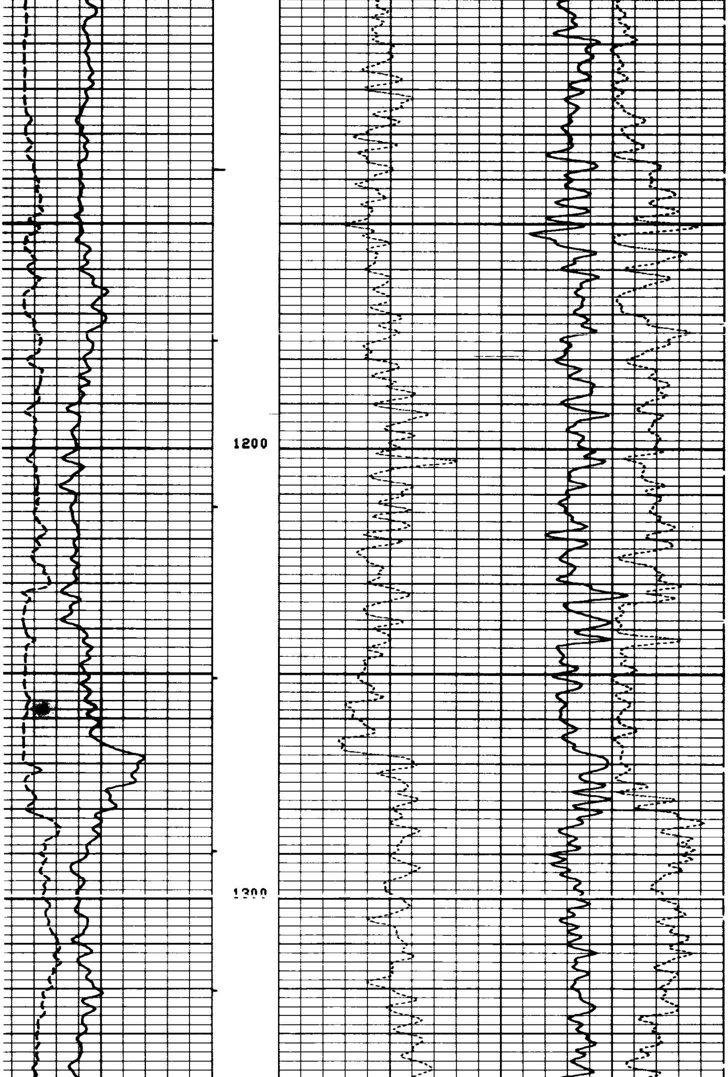
FILE

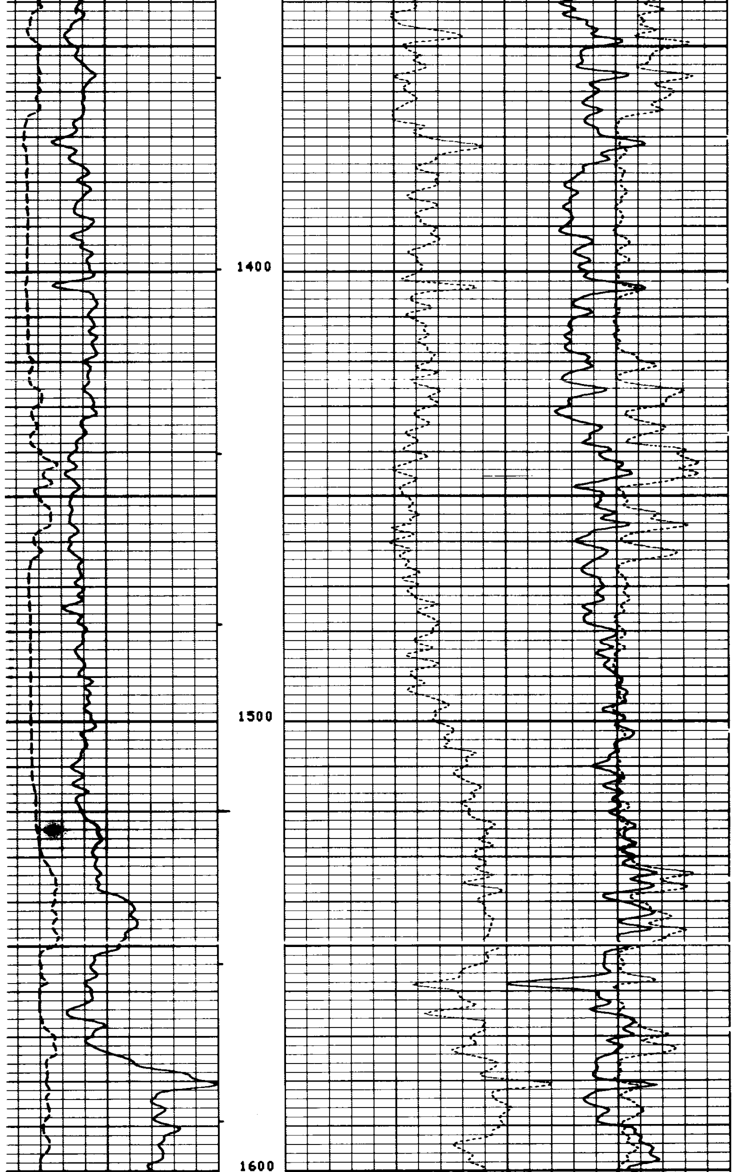
4

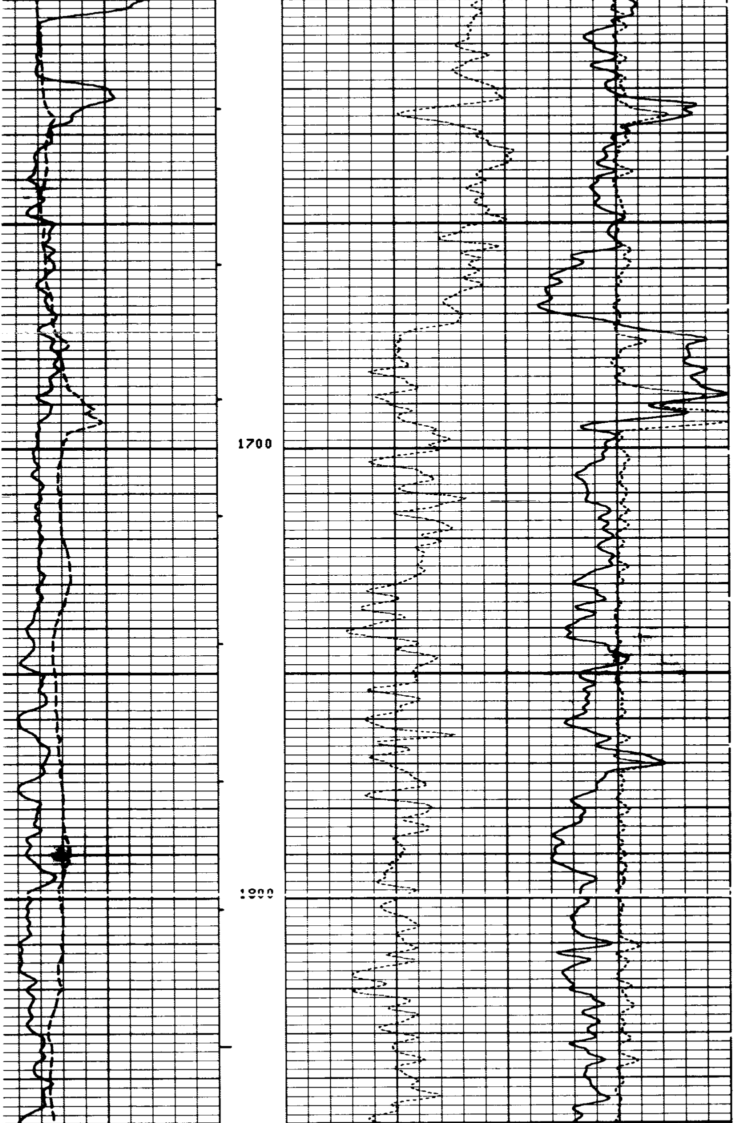


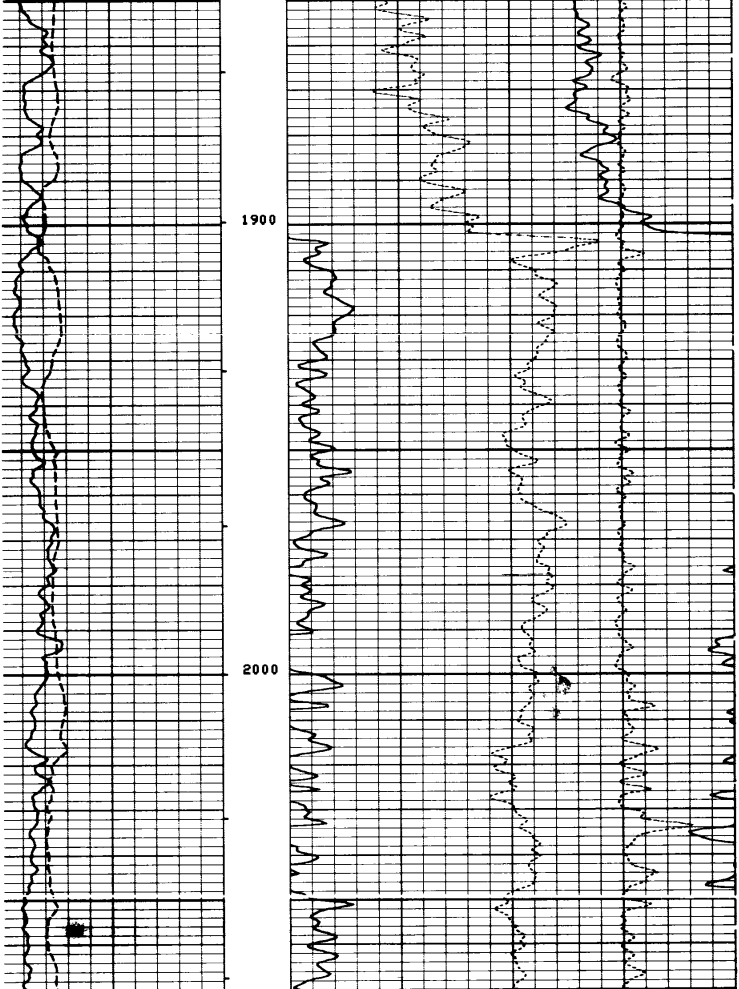


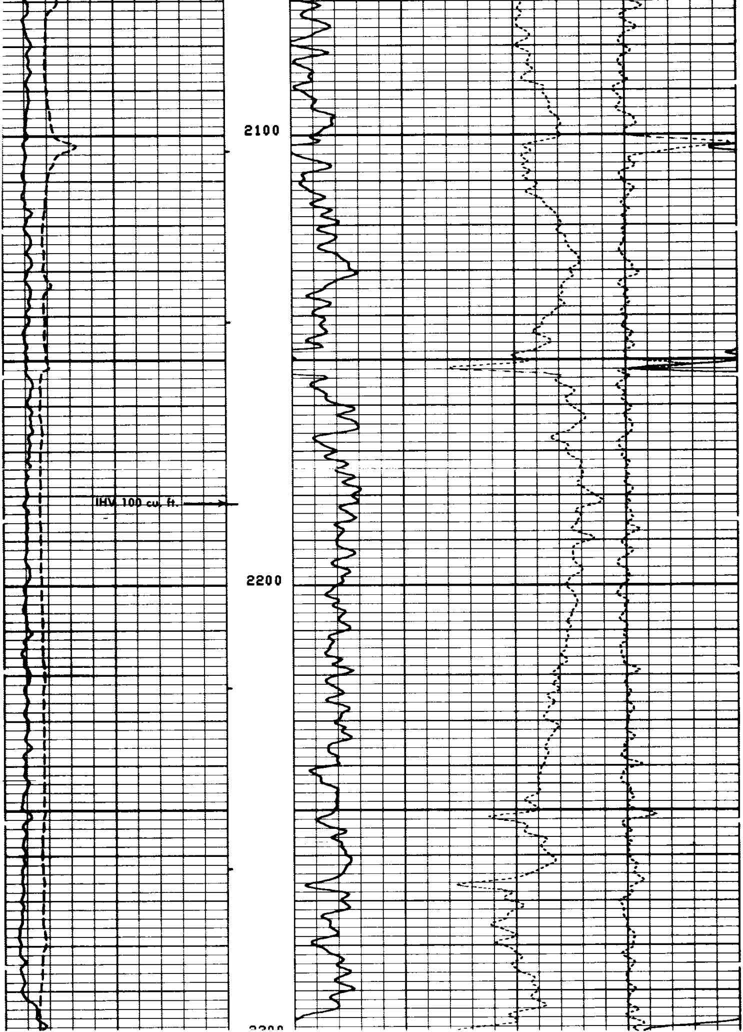


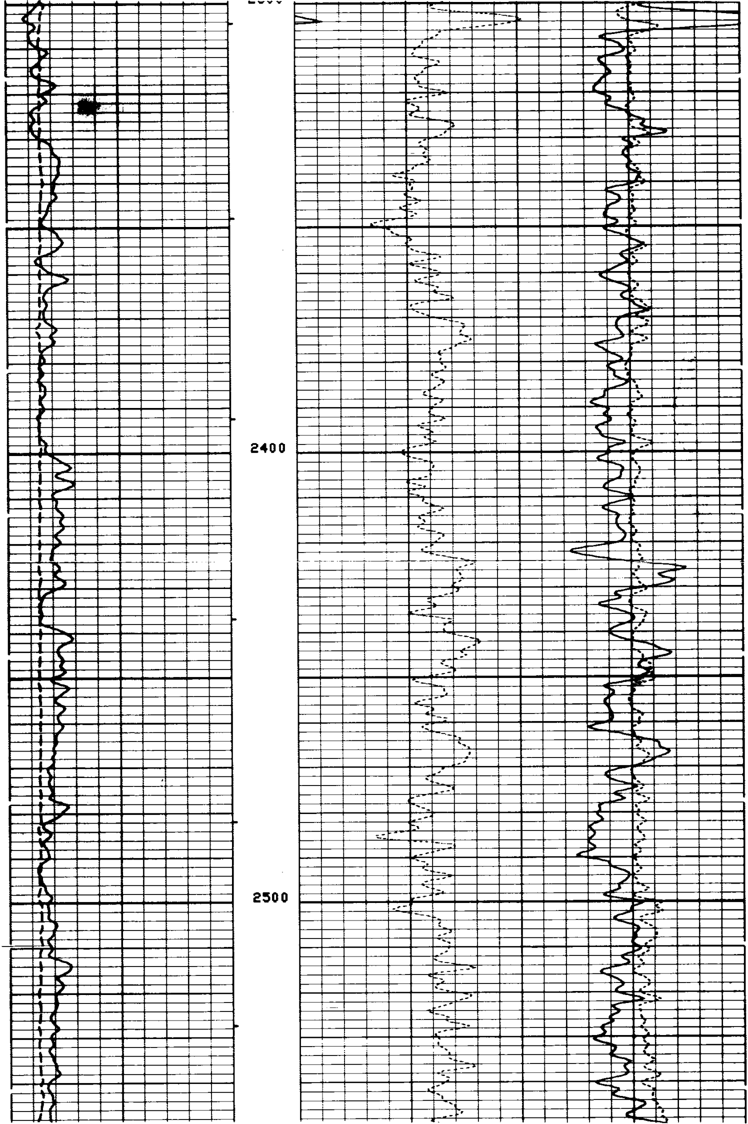


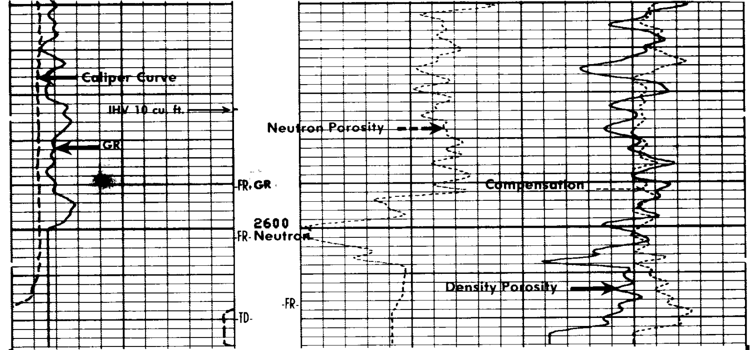












FILE

4

DRHO(G/C3)
-0.250 0.2500

CALI(IN)
5.000 15.00
GR (GAPI)
0.0 150.0

DPHI( )
0.6000 0.0
NPHI( )
0.6000 0.0

SENSOR MEASURE POINT TO TENSION REFERENCE POINT

NCNL	17.8	FEET	GR	26.3	FEET
FFDC	3.0	FEET	FCNL	17.8	FEET
CALI	3.0	FEET	NFDC	3.0	FEET
NRAT	17.8	FEET	TENS	.0	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PSNR	2.240		BS	6.250	IN
MATR	SAND		HC	CALI	
MDEN	2.650	G/C3	FD	1.000	G/C3
BHF	WATE		FDCC	ALLO	
DO	0.0		BHS	OPEN	

DRHO(G/C3)
-0.250 0.2500

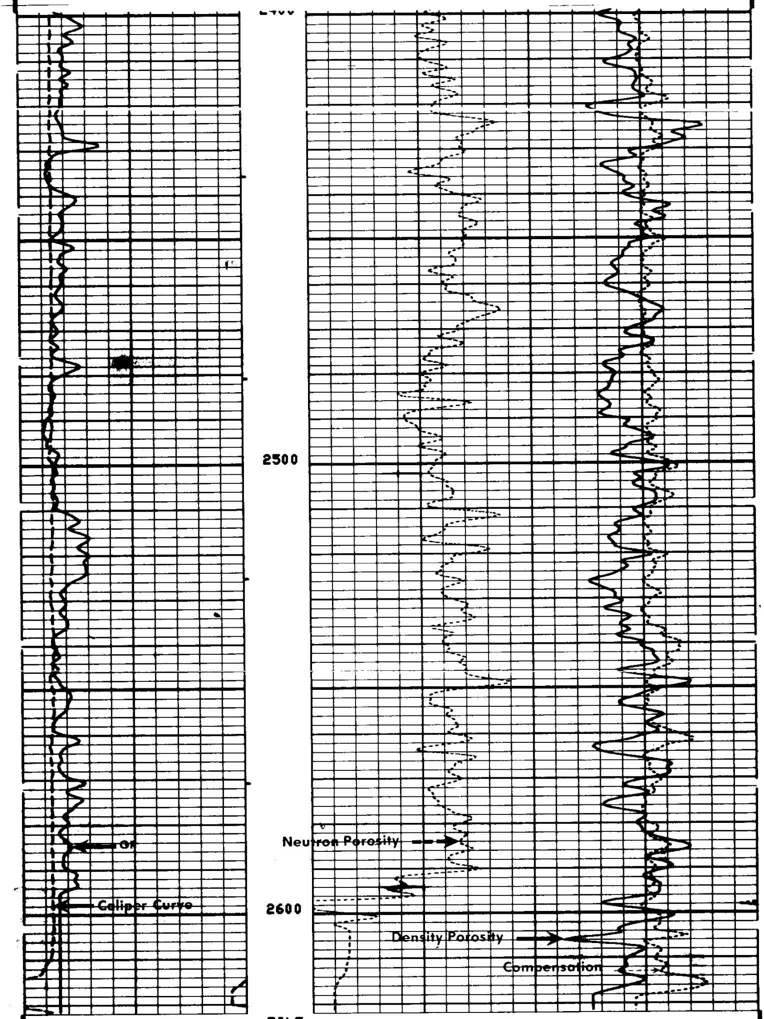
CALI(IN)
5.000 15.00
GR (GAPI)
0.0 150.0

DPHI( )
0.6000 0.0
NPHI( )
0.6000 0.0

FILE

3

REPEAT SECTION



FILE

3

REPEAT SECTION

CALI(IN)
5.000 15.00
GR (GAPI)
0.0 150.0

DRHO(G/C3)
-0.250 0.2500
DPHI( )
0.6000 0.0
NPHI( )
0.6000 0.0

```
                SENSOR MEASURE POINT TO TENSION REFERENCE POINT

          NCNL   17.8   FEET                                 GR    26.3   FEET
          FFDC    3.0   FEET                                 FCNL  17.8   FEET
          CALI    3.0   FEET                                 NFDC   3.0   FEET
          NRAT   17.8   FEET                                 TENS    .0   FEET
```

```
                                   PARAMETERS

          NAME   VALUE     UNIT                              NAME  VALUE     UNIT

          PSNR   2.240                                       BS    6.250     IN
          MATR   SAND                                        HC    CALI
          MDEN   2.650     G/C3                              FD    1.000     G/C3
          BHF    WATE                                        FDCC  ALLO
          DO     0.0                                         BHS   OPEN
```

```
                   BEFORE SURVEY CALIBRATION SUMMARY


    PERFORMED:      81/08/21
    PROGRAM FILE: ISN    (VERSION    20.2    81/ 1/30)


  SGTE                  DETECTOR CALIBRATION SUMMARY

              MEASURED
             BKGD     JIG         CALIBRATED          UNITS
     GR       30      182            165              GAPI


  CNTA                  DETECTOR CALIBRATION SUMMARY

               TANK                           JIG
           INPUT  CALIBRATED          MEASURED   CALIBRATED
    NRAT   2.240    2.158              2.181       2.101


  PGTE                  DETECTOR CALIBRATION SUMMARY

               BLOCK                          JIG
           INPUT  CALIBRATED          MEASURED   CALIBRATED     UNITS
    FFDC    365      337                393         363          CPS
    NFDC    655      528                559         450          CPS


  PGTE                  CALIPER CALIBRATION SUMMARY

              MEASURED                        CALIBRATED
             SMALL    LARGE            SMALL      LARGE         UNITS
    CALI      5.7     10.2              6.0       12.0           IN
                         FILE

                            2
```

```
                   AFTER SURVEY TOOL CHECK SUMMARY


    PERFORMED:      81/08/21
    PROGRAM FILE: ISN    (VERSION    20.2    81/ 1/30)


  CNTA                          TOOL   CHECK

                          JIG
                    BEFORE       AFTER
    NRAT            2.101        2.109

    POROSITY CHANGE  (LIME):  0.001


  PGTE                          TOOL   CHECK
```

```
                      JIG
               BEFORE      AFTER      UNITS
  FFDC          363         362        CPS
  NFDC          450         450        CPS
                      FILE

                        6


               SHOP SUMMARY


  PERFORMED:      81/08/04
  PROGRAM FILE: SHOP   (VERSION    20.2    81/ 1/30)


PGTE                DETECTOR CALIBRATION SUMMARY

              BLOCK                              JIG
      MEASURED   CALIBRATED    MEASURED   CALIBRATED    UNITS

  FFDC    365         337          386          356         CPS
  NFDC    655         528          561          451         CPS

           (PGS:384  , PDH:79    , GSR:5242 , SFT  :1171 )


               SHOP SUMMARY


  PERFORMED:      81/08/05
  PROGRAM FILE: SHOP   (VERSION    20.2    81/ 1/30)


CNTA                DETECTOR CALIBRATION SUMMARY

               TANK                              JIG
                                 MEASURED   CALIBRATED
```