Rau 18-14-64 & RD 1

Schlumberger

SIMULTANEOUS

COMPENSATED NEUTRON-FORMATION DENSITY

COUNTY COLUMBIA
FIELD MIST NEHALEM BASIN
LOCATION 18-6N-5W
WELL RAU NO. 18-14 RD
COMPANY AMERICAN QUASAR

COMPANY AMERICAN QUASAR PETROLEUM COMPANY
WELL RAU 18-14 RD
FIELD MIST NEHALEM BASIN
COUNTY COLUMBIA STATE OREGON

RECEIVED PTLD
NOV 24 1980
DEPT OF GEOLOGY

LOCATION 900'NORTH & 1099.41'EAST FROM THE SOUTHWEST CORNER OF:

API SERIAL NO	SEC.	TWP.	RANGE
	18	6N	5W

Other Services:
DIL
BHC
HDT

Permanent Datum: GL ; Elev.: 583
Log Measured From KB , 10.5 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 593.5
D.F. --
G.L. 583.0

Date	9-15-80			
Run No.	ONE			
Depth—Driller	2440			
Depth—Logger	2441			
Btm. Log Interval	2440			
Top Log Interval	515			
Casing—Driller	7" @515	@	@	@
Casing—Logger	515			
Bit Size	6¼"			
Type Fluid in Hole	Q-BROXIN			
Dens. | Visc.	9.7 | 40	|	|	|
pH | Fluid Loss	10.5 | 5.8 ml	| ml	| ml	| ml
Source of Sample	CIRCULATION			
Rm @ Meas. Temp.	2.23 @ 65 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	2.57 @ 48 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	3.39 @ 67 °F	@ °F	@ °F	@ °F
Source: Rmf | Rmc	M | M	|	|	|
Rm @ BHT	1.76 @ 84 °F	@ °F	@ °F	@ °F
TIME Circulation Stopped	2330 9/14			
TIME Logger on Bottom	0630			
Max. Rec. Temp.	84 °F	°F	°F	°F
Equip. | Location	8128 | SAC	|	|	|
Recorded By	LANGFORD			
Witnessed By	T SMITH			

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

RUN NO.	ONE			
Service Order No.	135729			
Fluid Level	FULL			
Salinity, PPM CL.	-			
Speed - F.P.M.	60			
EQUIPMENT DATA				
Dens. Panel	443			
Dens. Cart.	189			
Dens. Skid.	253			
Dens. Sonde	426			
Dens. Source	5199			
Dens. Calibrator	1241			
Neut. Panel	443			
Neut. Cart.	1420			
Neut. Source	-			
Neut. Calibrator	1441			
GR Cart.	2087			
Memorizer Panel	CSU			
Tape Recorder (TTR)	-			
Depth Encoder (DRE)	-			
Pressure Wheel (CPW)	-			
Centralizers: Enter Spring, Standoffs, In-line, or None — Type	FIN			
Centralizers — No.	1			
Centralizers — S. O. — Inches	1			
CALIBRATION DATA				
GR BKG. CPS	66			
GR Source CPS	243			
GR Sens. - Cal	165			
GR T. C. - Cal	CSU			
CNL Short Spacing - Before Log	2572			
CNL Long Spacing - Before Log	1188			
CNL Short Spacing - After Log	2550			
CNL Long Spacing - After Log	1192			
FDC P¹ — Before Log	826			
FDC P² — Before Log	469			
FDC P¹ — After Log	821			
FDC P² — After Log	464			

Type Log	Depth		

REMARKS:

REPEAT AT TOP DUE TO BOREHOLE CONDITIONS.

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.
515	2440	60-0	SS-OH	AUTO	60-0	2.65	1.00	WATER	165	CSU	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.

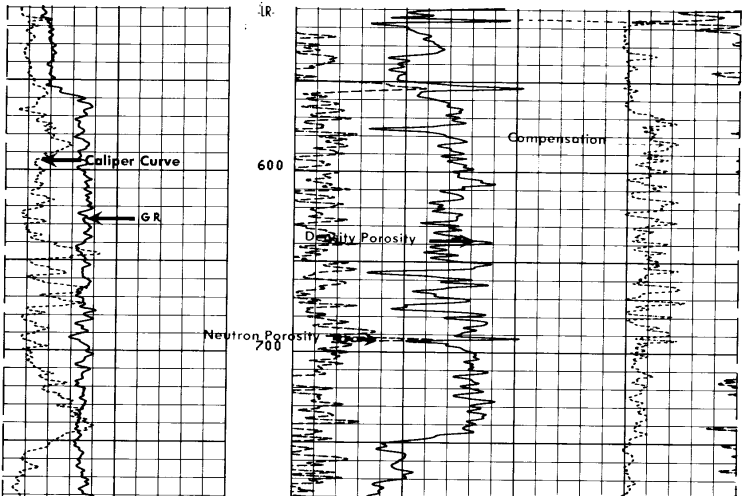
PARAMETERS

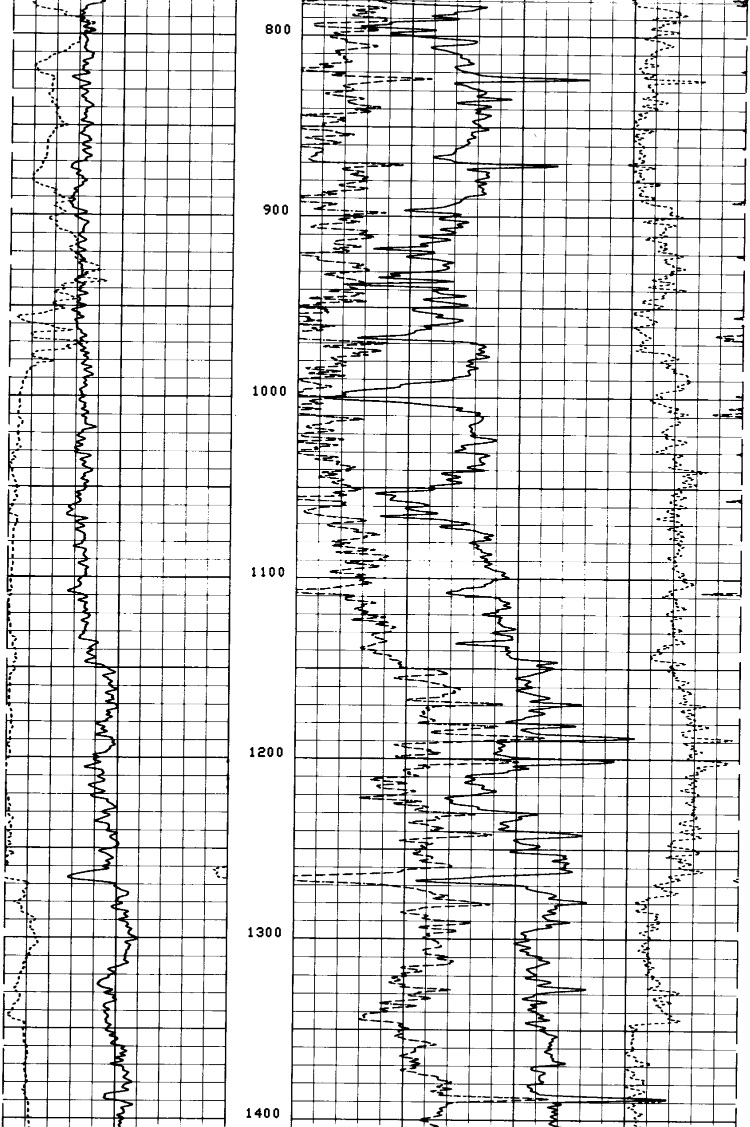
NAME	UNIT	VALUE	NAME	UNIT	VALUE	NAME	UNIT	VALUE
HC		CALI	PSNR		2.190	BS	INCH	6.250
MDEN	G/C3	2.650	FD	G/C3	1.000	MATR		SAND
BHF		WATE						
DO		0.0	BHS		OPEN	FPHI		PHIX

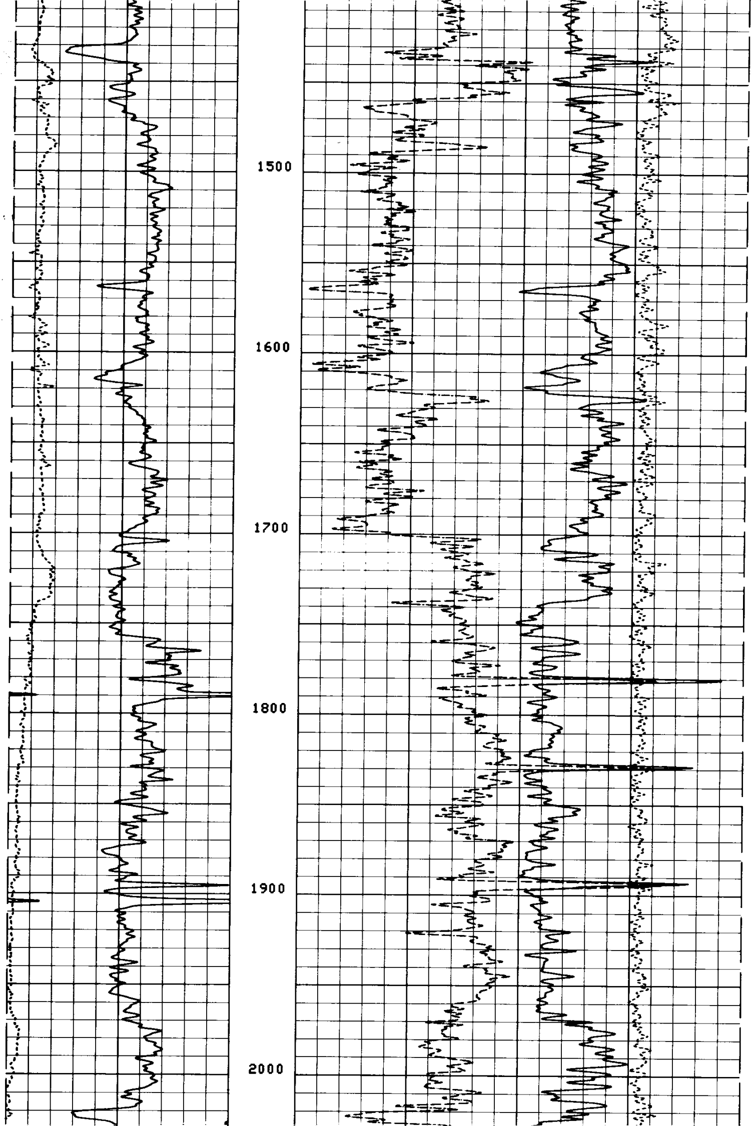
CALI(IN)		DRHO(G/C3)	
6.000	16.00	-0.250	0.2500
GR (GAPI)		DPHI( )	
0.0	150.0	0.6000	0.0
		NPHI( )	
		0.6000	0.0

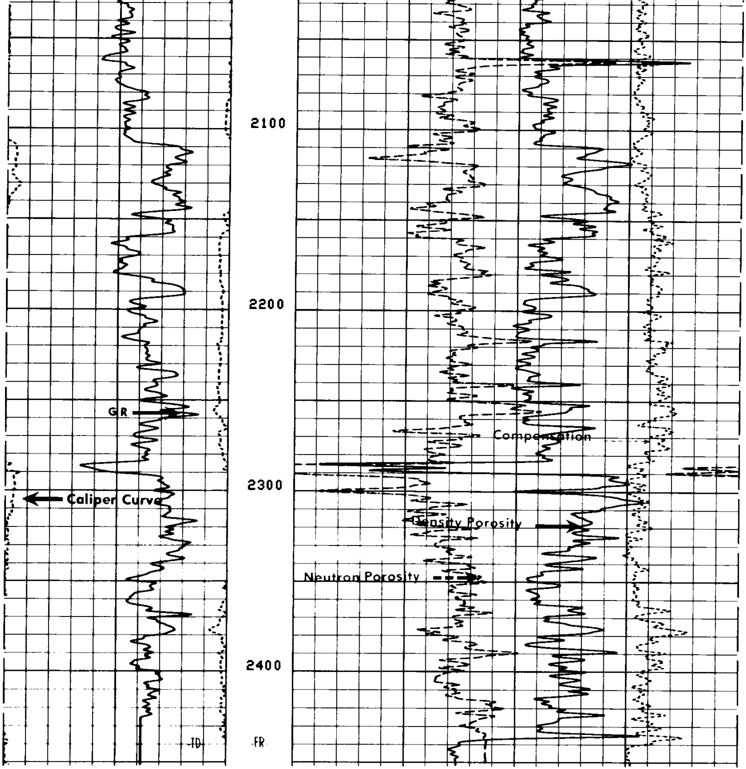
FILE

4









FILE

4

CALI(IN)		DRHO(G/C3)	
6.000	16.00	-0.250	0.2500
GR (GAPI)		DPHI( )	
0.0	150.0	0.6000	0.0
		NPHI( )	
		0.6000	0.0

PARAMETERS

NAME	UNIT	VALUE	NAME	UNIT	VALUE	NAME	UNIT	VALUE

HC		CALI	PSNR		2.190	BS	INCH	6.250
MDEN	G/C3	2.650	FD	G/C3	1.000	MATR		SAND
BHF		WATE						
DO		0.0	BHS		OPEN	FPHI		PHIX

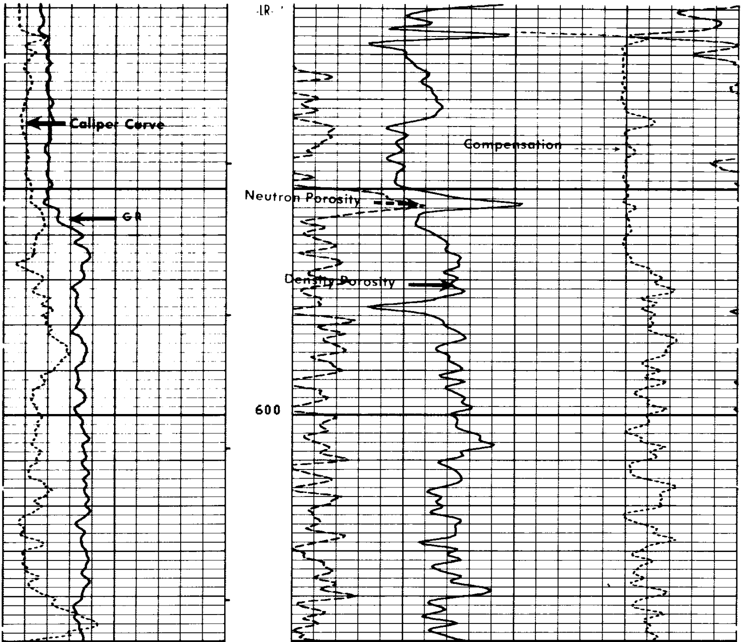
PARAMETERS

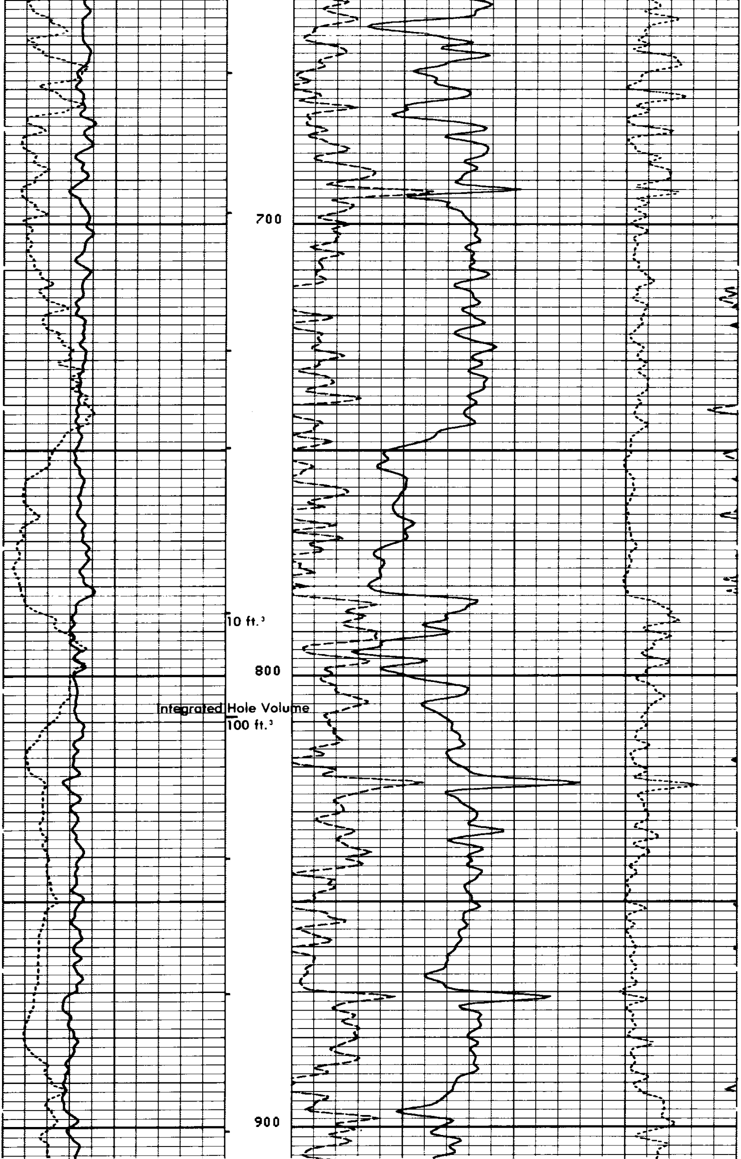
NAME	UNIT	VALUE	NAME	UNIT	VALUE	NAME	UNIT	VALUE
HC		CALI	PSNR		2.190	BS	INCH	6.250
MDEN	G/C3	2.650	FD	G/C3	1.000	MATR		SAND
BHF		WATE						
DO		0.0	BHS		OPEN	FPHI		PHIX

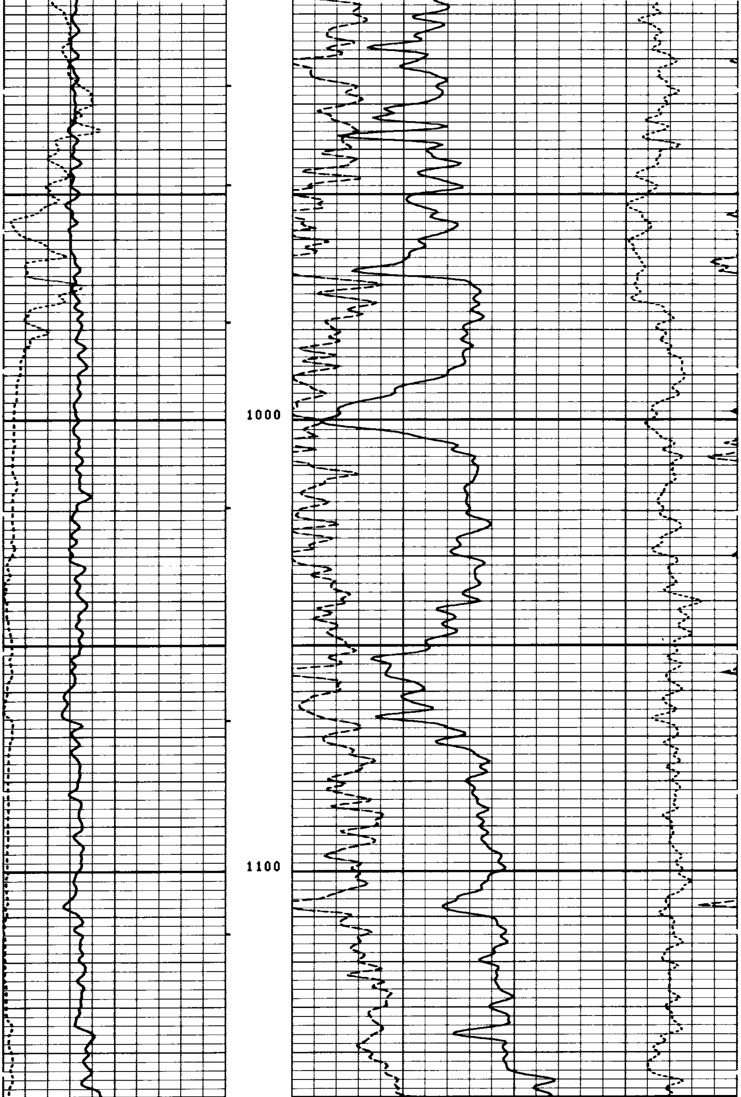
CALI(IN)		DRHO(G/C3)
6.000 16.00		-0.250 0.2500
GR (GAPI)		DPHI( )
0.0 150.0		0.6000 0.0
		NPHI( )
		0.6000 0.0

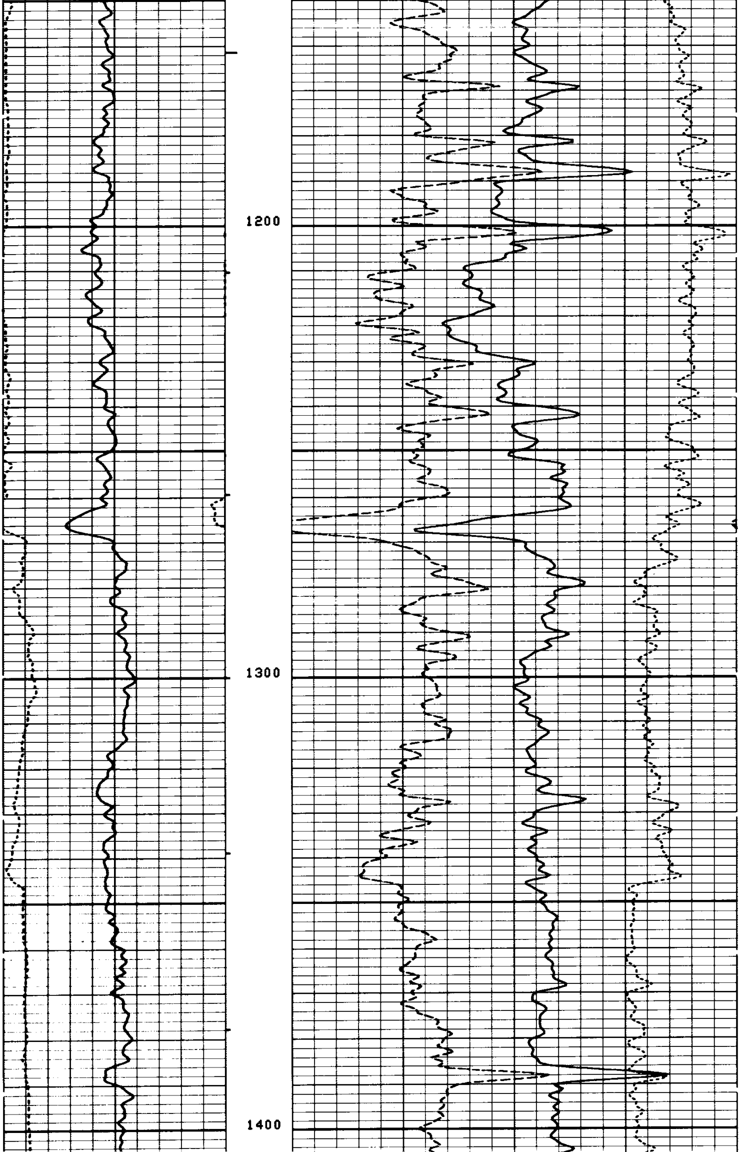
FILE

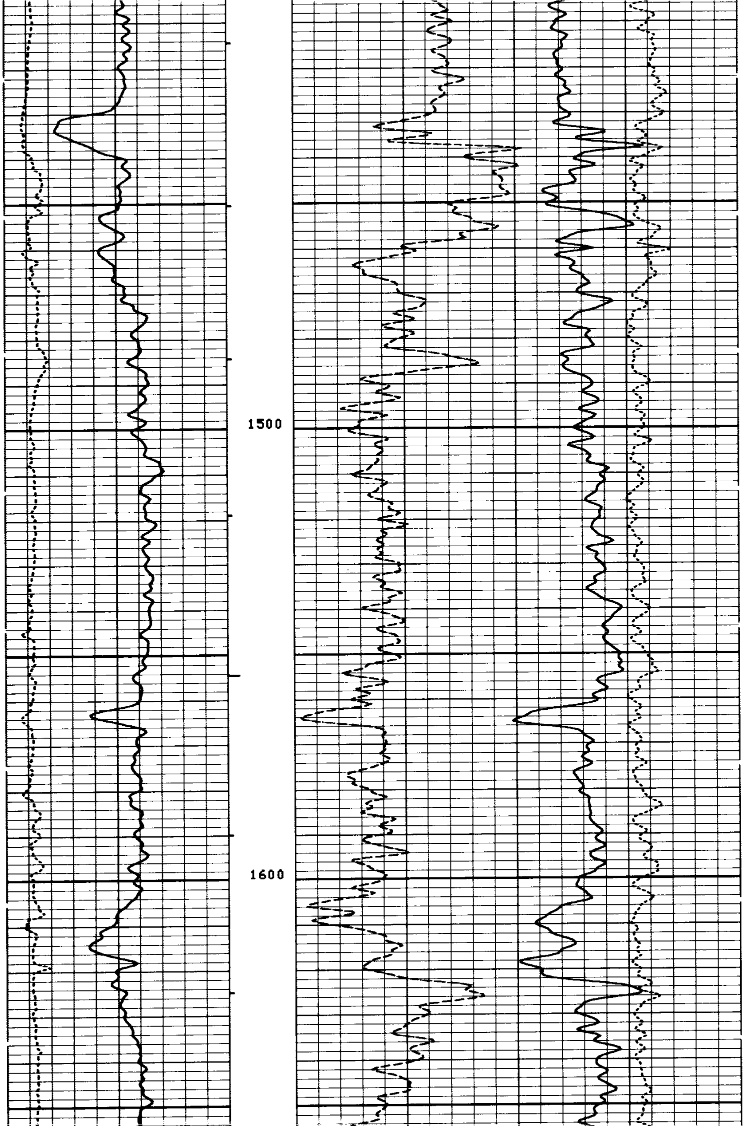
4

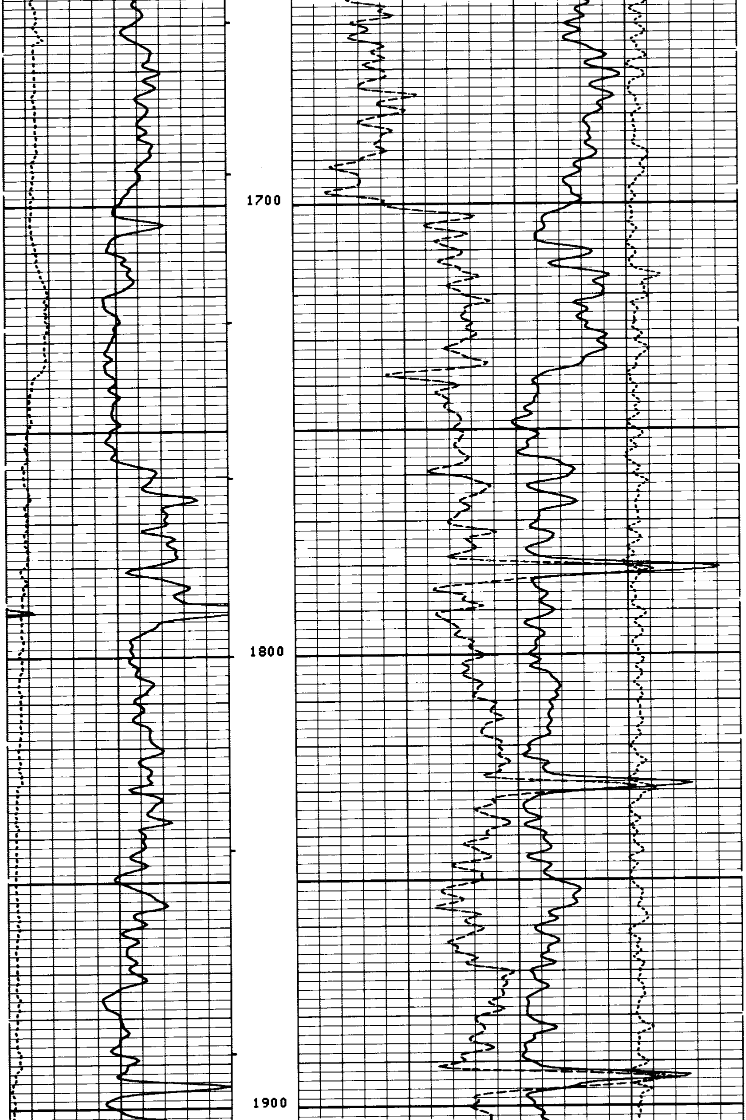


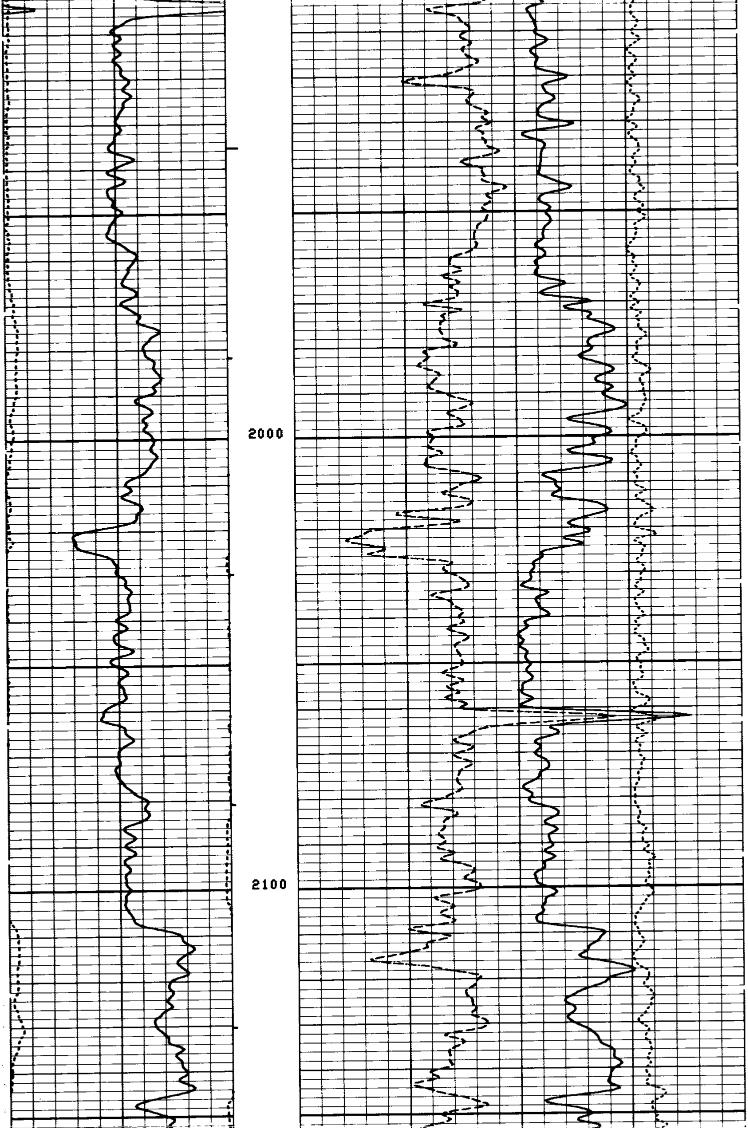


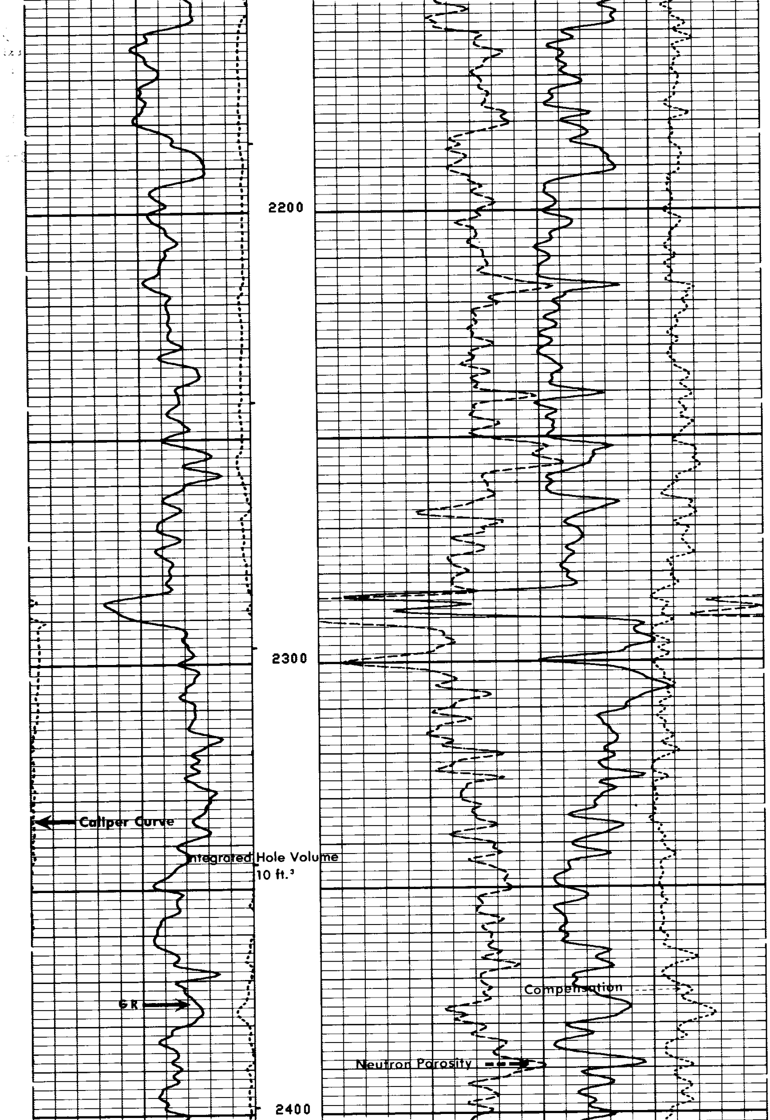


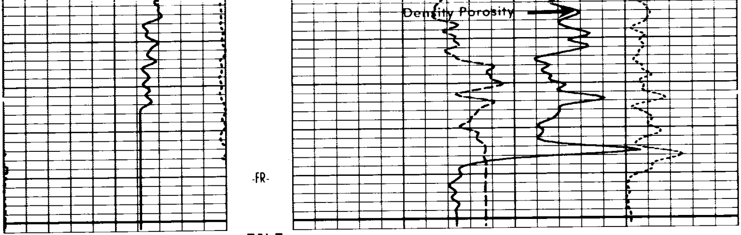












FILE

4

CALI(IN)
6.000 16.00
GR (GAPI)
0.0 150.0

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

PARAMETERS

NAME	UNIT	VALUE	NAME	UNIT	VALUE	NAME	UNIT	VALUE
HC		CALI	PSNR		2.190	BS	INCH	6.250
MDEN	G/C3	2.650	FD	G/C3	1.000	MATR		SAND
BHF		WATE						
DO		0.0	BHS		OPEN	FPHI		PHIX

REPEAT SECTION

PARAMETERS

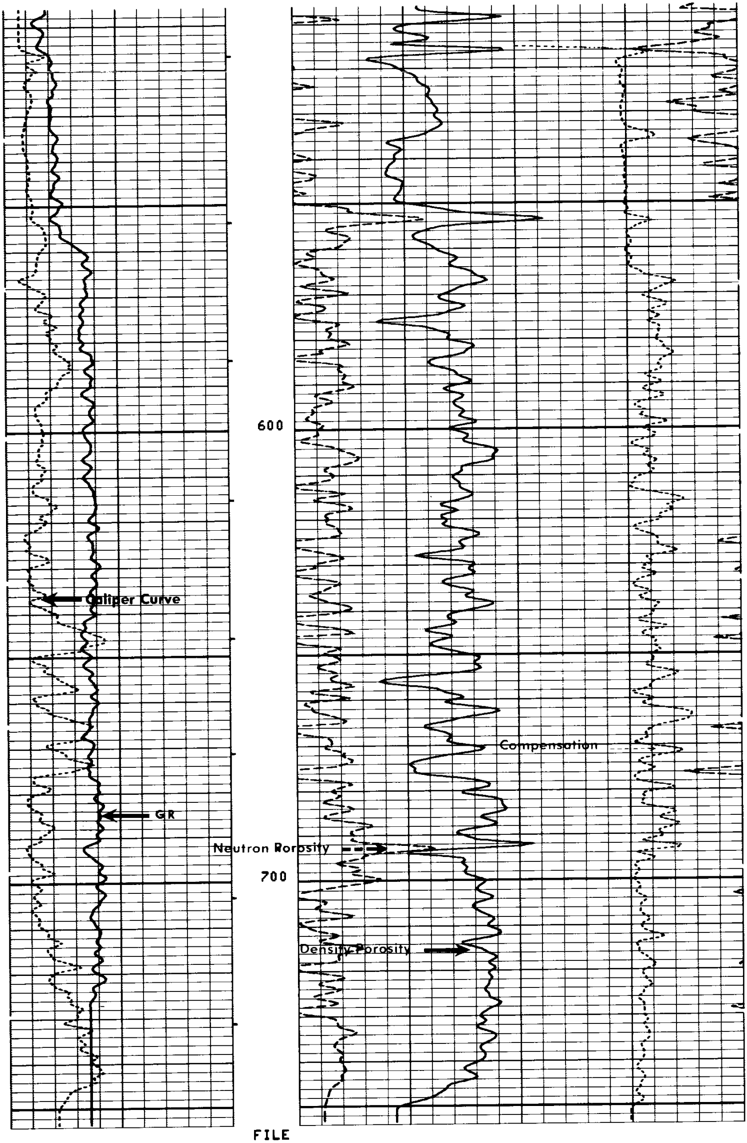
NAME	UNIT	VALUE	NAME	UNIT	VALUE	NAME	UNIT	VALUE
HC		CALI	PSNR		2.190	BS	INCH	6.250
MDEN	G/C3	2.650	FD	G/C3	1.000	MATR		SAND
BHF		WATE						
DO		0.0	BHS		OPEN	FPHI		PHIX

CALI(IN)
6.000 16.00
GR (GAPI)
0.0 150.0

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

FILE

5



FILE

5

```
                                                            DRHO(G/C3)
                                                      -0.250               0.2500
    CALI(IN  )                                      DPHI(     )
6.000              16.00         0.6000                                       0.0
    GR   (GAPI)                                     NPHI(     )
0.0                150.0         0.6000                                       0.0
```

PARAMETERS

NAME	UNIT	VALUE	NAME	UNIT	VALUE	NAME	UNIT	VALUE
HC		CALI	PSNR		2.190	BS	INCH	6.250
MDEN	G/C3	2.650	FD	G/C3	1.000	MATR		SAND
BHF		WATE						
DO		0.0	BHS		OPEN	FPHI		PHIX

CALIBRATION RECORD

```
              BEFORE SURVEY CALIBRATION SUMMARY


  PERFORMED:      80/09/14
  PROGRAM FILE: ISN    (VERSION    18.2    80/ 4/29)


SGTE                 DETECTOR CALIBRATION SUMMARY

             MEASURED
           BKGD     JIG          CALIBRATED          UNITS
   GR       66      243             165              GAPI


CNTA                 DETECTOR CALIBRATION SUMMARY

              TANK                            JIG
          INPUT   CALIBRATED          MEASURED    CALIBRATED
  NRAT    2.190     2.158               2.164       2.132


PGTE                 DETECTOR CALIBRATION SUMMARY

             BLOCK                            JIG
          INPUT   CALIBRATED          MEASURED    CALIBRATED     UNITS
  FFDC     496       337                 469         318          CPS
  NFDC     961       528                 826         453          CPS


PGTE                 CALIPER CALIBRATION SUMMARY

            MEASURED                       CALIBRATED
          SMALL    LARGE                 SMALL      LARGE        UNITS
  CALI     6.8      9.4                   8.0        12.0         IN
                      FILE


              AFTER SURVEY TOOL CHECK SUMMARY


  PERFORMED:      80/09/14
  PROGRAM FILE: ISN    (VERSION    18.2    80/ 4/29)


CNTA                         TOOL   CHECK

                        JIG
                BEFORE        AFTER
  NRAT          2.132         2.107

  POROSITY CHANGE  (LIME): -0.003
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PGTE                    TOOL  CHECK

                          JIG
             BEFORE            AFTER      UNITS
  FFDC        318               315        CPS
  NFDC        453               451        CPS
                          FILE

                            -

             SHOP SUMMARY


  PERFORMED:      80/08/07
  PROGRAM FILE:   SHOP   (VERSION    16.4    79/11/20)

CNTA                 DETECTOR CALIBRATION SUMMARY

               TANK                          JIG
       MEASURED  CALIBRATED        MEASURED   CALIBRATED

  NRAT    2.19        2.15            2.16          2.12

                    (CNC:1420 , CNB:1446 )
```

```
             SHOP SUMMARY


  PERFORMED:      80/09/06
  PROGRAM FILE: SHOP   (VERSION    18.2    80/ 4/29)

PGTE                 DETECTOR CALIBRATION SUMMARY

              BLOCK                          JIG
      MEASURED   CALIBRATED     MEASURED  CALIBRATED     UNITS

  FFDC    496        334            464        312          CPS
  NFDC    961        529            828        455          CPS

          (PGS:426  , PDH:253  , GSR:5199 , SFT  :1241 )
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CALIBRATION RECORD

COMPANY AMERICAN QUASAR PETROLEUM COMPANY

WELL RAU NO. 18-14 RD

FIELD MIST NEHALEM BASIN

COUNTY COLUMBIA STATE OREGON

SCHL. FR 2440
SCHL. TD 2441
DRLR TD 2440

Elev: KB 593.5
DF --
GL 583.0