**Schlumberger**

SIMULTANEOUS
# COMPENSATED NEUTRON-FORMATION DENSITY

COMPANY AMERICAN QUASAR PETR[illegible]PANY
WELL QUASAR 29-14 CROWN ZE[illegible]ACH
FIELD WILDCAT
COUNTY COLUMBIA **STATE** OREGON

RECEIVED
JAN 23 1980
DEPT OF GEOLOGY [illegible]

LOCATION 251'NSL & 819'EWL
API SERIAL NO. | SEC. 29 | TWP. 6N | RANGE 4W

Other Services:
DI-SFL
BHC
CYBERLOOK
HDT

COUNTY COLUMBIA
FIELD WILDCAT
LOCATION 29-6N-4W
WELL QUASAR 29-14 CROWN ZELLERBACH
COMPANY AMERICAN QUASAR

Permanent Datum: GL ; Elev.: 566.9
Log Measured From KB , 10 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 576.9
D.F. --
G.L. 566.9

| | | | | |
|---|---|---|---|---|
| Date | 11-1-79 | | | |
| Run No. | ONE | | | |
| Depth—Driller | 2880 | | | |
| Depth—Logger | 2865 | | | |
| Btm. Log Interval | 2865 | | | |
| Top Log Interval | 508 | | | |
| Casing—Driller | 7" @ 508 | @ | @ | @ |
| Casing—Logger | 508 | | | |
| Bit Size | 6¼" | | | |
| Type Fluid in Hole | GEL | | | |
| Dens. \| Visc. | 9.4 \| 58 | | | |
| pH \| Fluid Loss | 10.8 \| 7 ml | ml | ml | ml |
| Source of Sample | CIRCULATED | | | |
| Rm @ Meas. Temp. | 2.56 @ 76 °F | @ °F | @ °F | @ °F |
| Rmf @ Meas. Temp. | 3.20 @ 58 °F | @ °F | @ °F | @ °F |
| Rmc @ Meas. Temp. | 3.34 @ 60 °F | @ °F | @ °F | @ °F |
| Source: Rmf \| Rmc | M \| M | | | |
| Rm @ BHT | 2.05 @ 95 °F | @ °F | @ °F | @ °F |
| TIME Circulation Stopped | 1400 11-1 | | | |
| TIME Logger on Bottom | 2030 | | | |
| Max. Rec. Temp. | 95 °F | °F | °F | °F |
| Equip. \| Location | 8126 \| ISAC | | | |
| Recorded By | ANDERSEN | | | |
| Witnessed By Mr. | LONG | | | |

FOLD HERE

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

| | | | | |
|---|---|---|---|---|
| RUN NO. | ONE | | | |
| Service Order No. | 31611 | | | |
| Fluid Level | FULL | | | |
| Salinity, PPM CL. | -- | | | |
| Speed - F.P.M. | 30 | | | |
| **EQUIPMENT DATA** | | | | |
| Dens. Panel | CSU | | | |
| Dens. Cart. | 260 | | | |
| Dens. Skid. | 253 | | | |
| Dens. Sonde | 426 | | | |
| Dens. Source | 5159 | | | |
| Dens. Calibrator | 1241 | | | |
| Neut. Panel | -- | | | |
| Neut. Cart. | 1208 | | | |
| Neut. Source | 708 | | | |
| Neut. Calibrator | 1192 | | | |
| GR Cart. | 1172 | | | |
| Memorizer Panel | -- | | | |
| Tape Recorder (TTR) | -- | | | |
| Depth Encoder (DRE) | -- | | | |
| Pressure Wheel (CPW) | -- | | | |
| Centralizers: Enter Spring, Standoffs, In-line, or None — Type | -- | | | |
| Centralizers — No. | -- | | | |
| Centralizers — S. O. — Inches | -- | | | |
| **CALIBRATION DATA** | | | | |
| GR — BKG. CPS | 87 | | | |
| GR — Source CPS | 233 | | | |
| GR — Sens. - Cal | -- | | | |
| GR — T. C. - Cal | -- | | | |
| CNL — Short Spacing - Before Log | 2708 | | | |
| CNL — Long Spacing - Before Log | 1163 | | | |
| CNL — Short Spacing - After Log | -- | | | |
| CNL — Long Spacing - After Log | -- | | | |
| FDC — P¹ — Before Log | 479 | | | |
| FDC — P² — Before Log | 804 | | | |
| FDC — P¹ — After Log | -- | | | |
| FDC — P² — After Log | -- | | | |

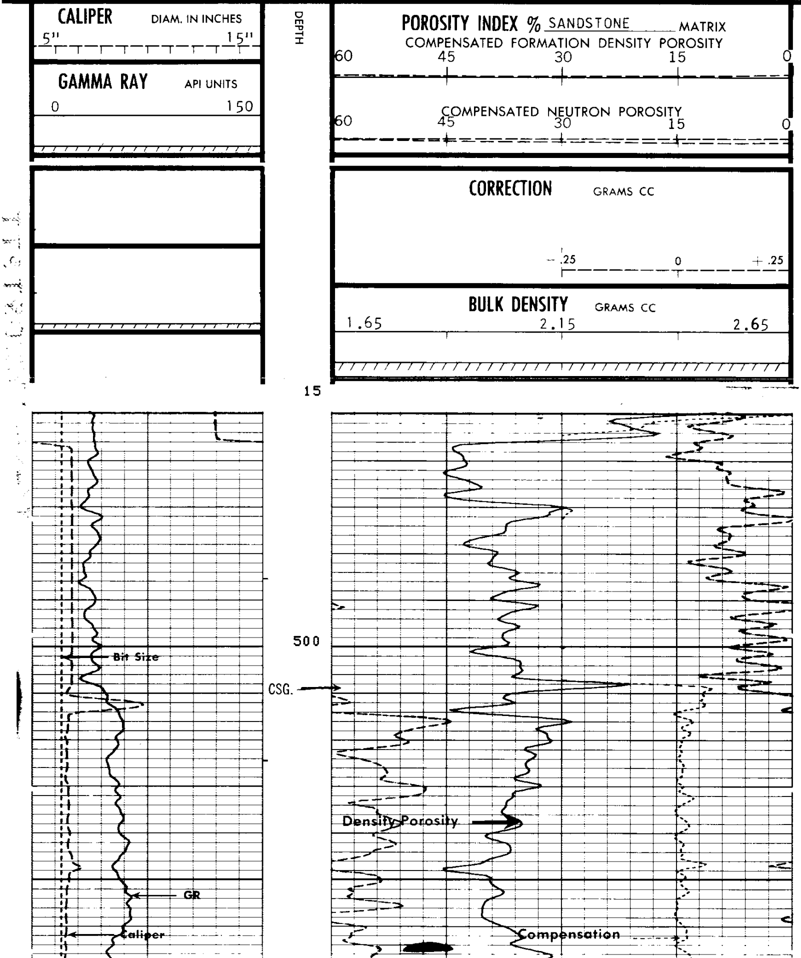
| Type Log | Depth | | |
|---|---|---|---|
| | | | |

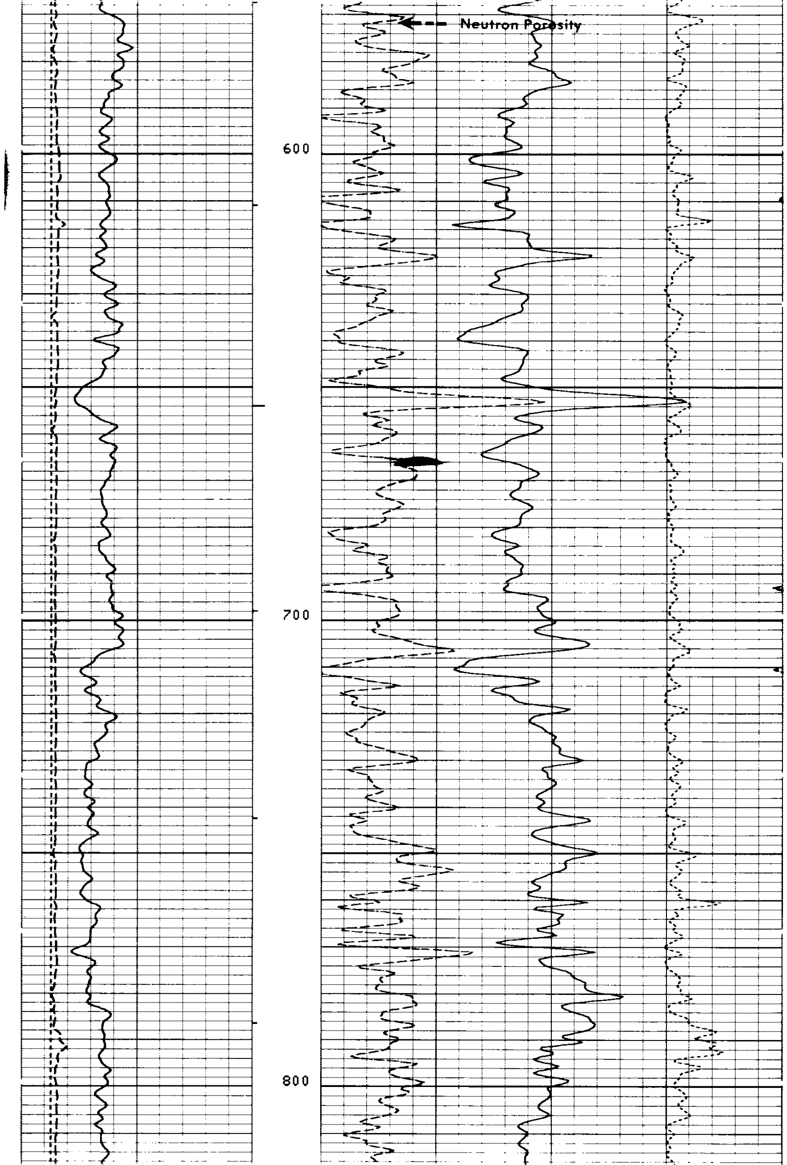
REMARKS:

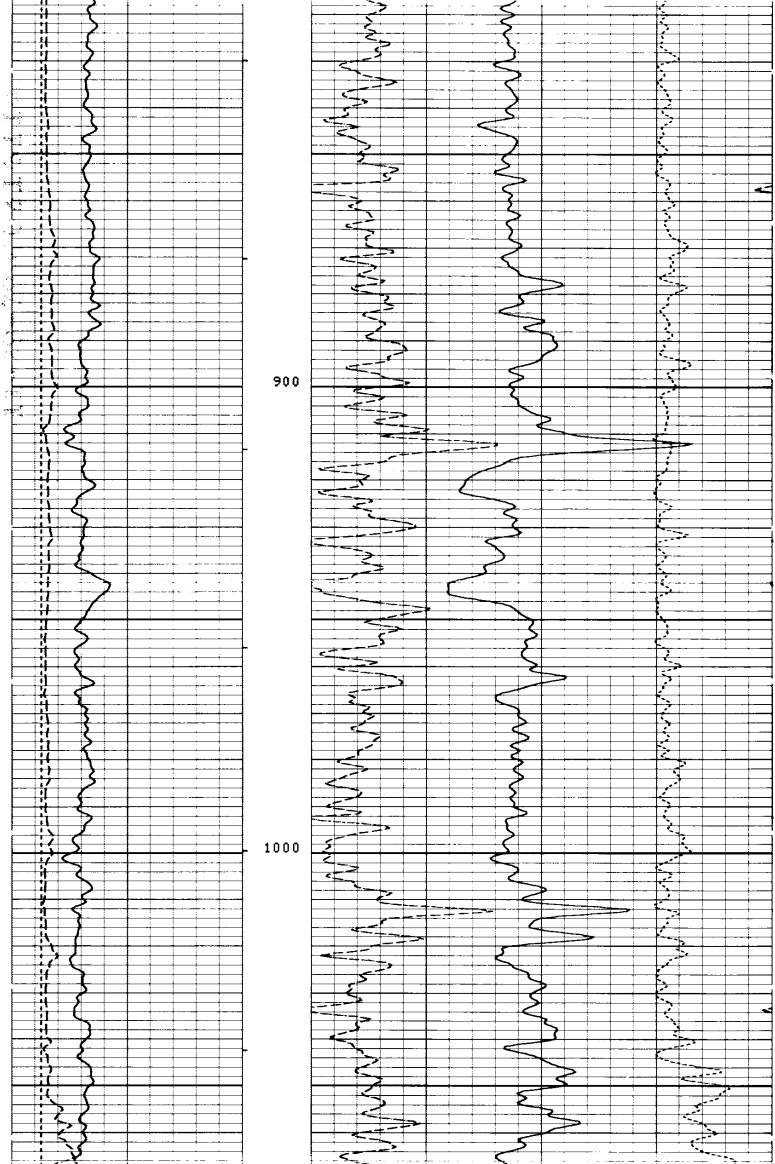
## LOGGING DATA

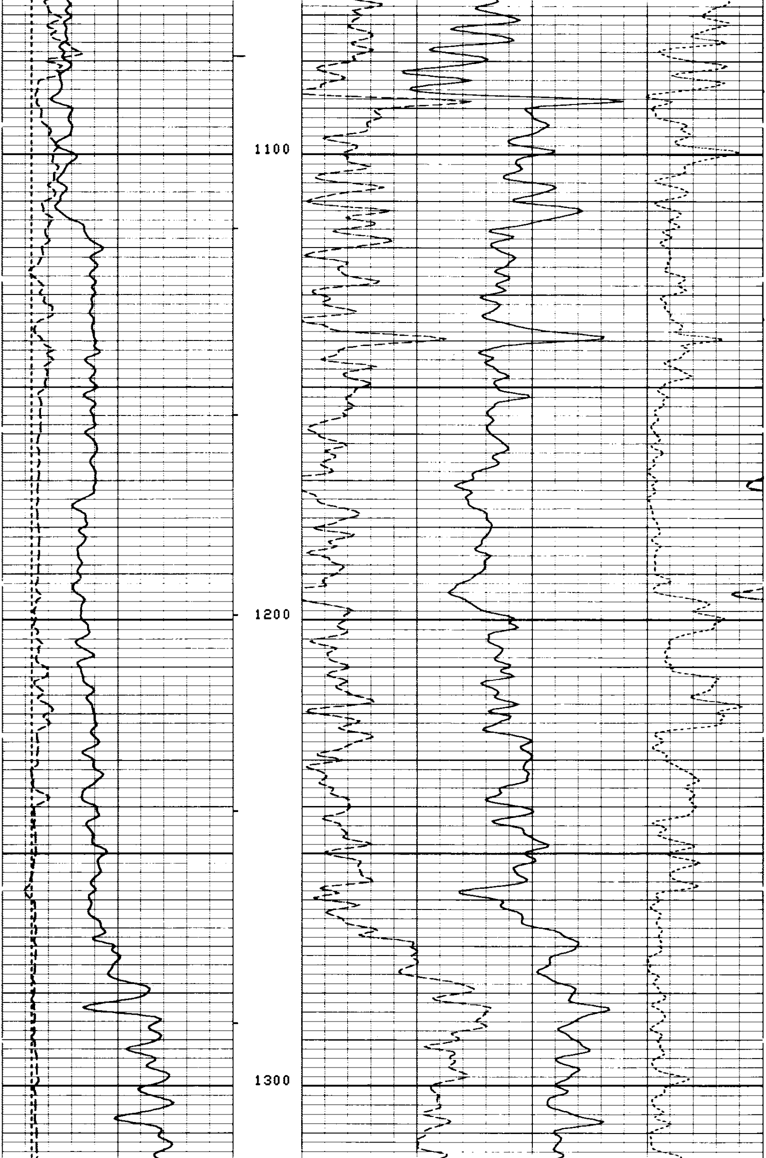
| DEPTH | | CNP | | | FDC | | | | GR | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Top | Bottom | Porosity Scale | Matrix | Auto Corr. or Hole Size Setting | Porosity Scale | Grain Density | Liquid Density | Hole Fluid | Sens. Logged | T. C. | Zero. Div. Left | Scale Per 100 Div. |
| 508 | 2865 | 60-0 | SS-OH | AUTO | 60-0 | 2.65 | 1.00 | LIQ | 150 | AUTO | 0 | 150 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

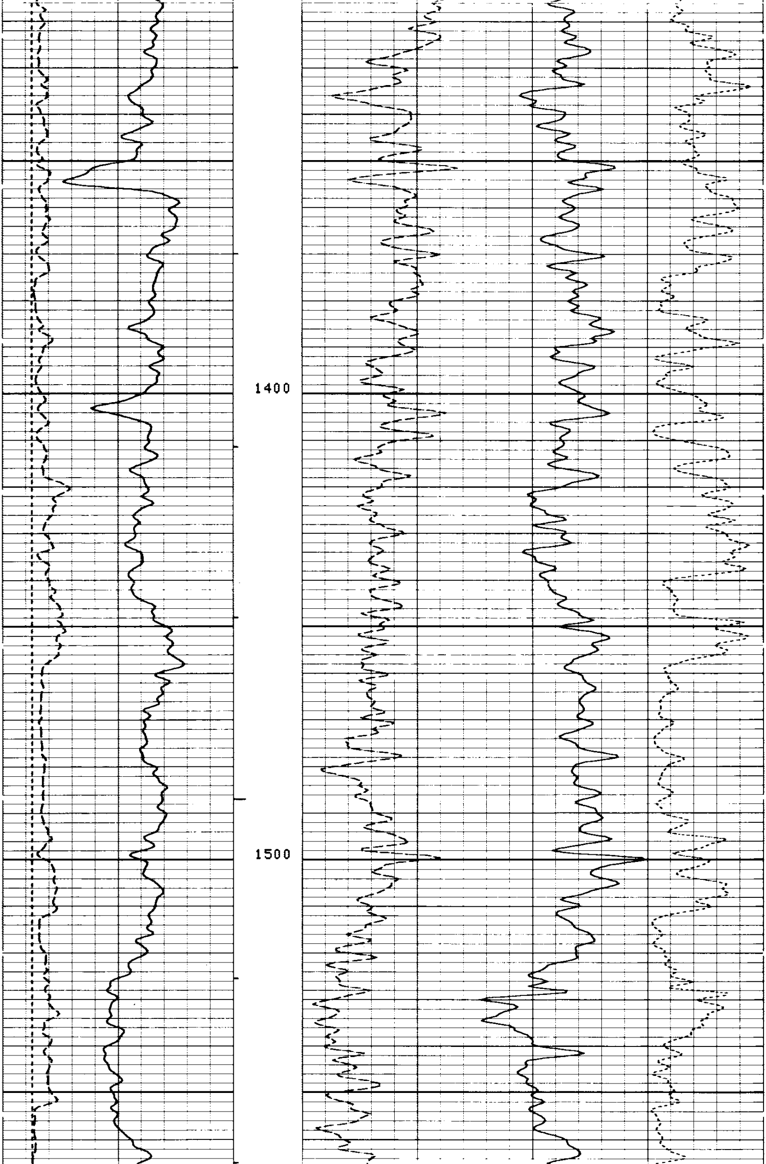
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

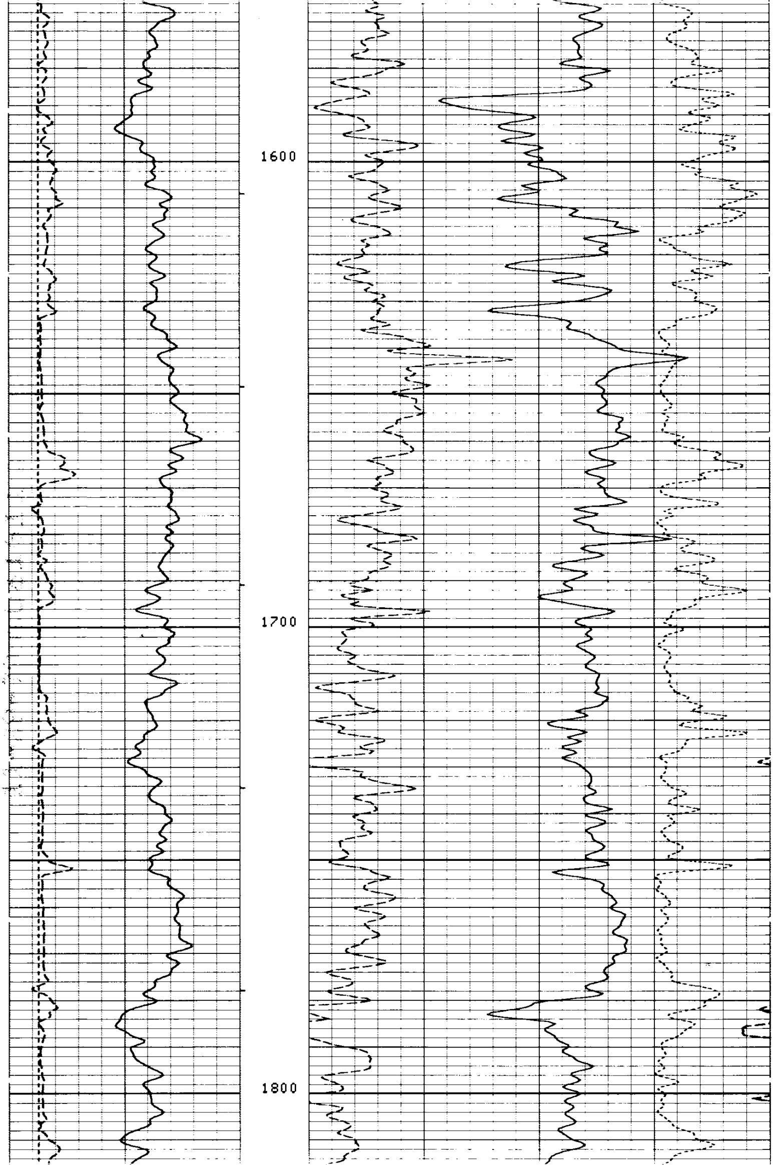


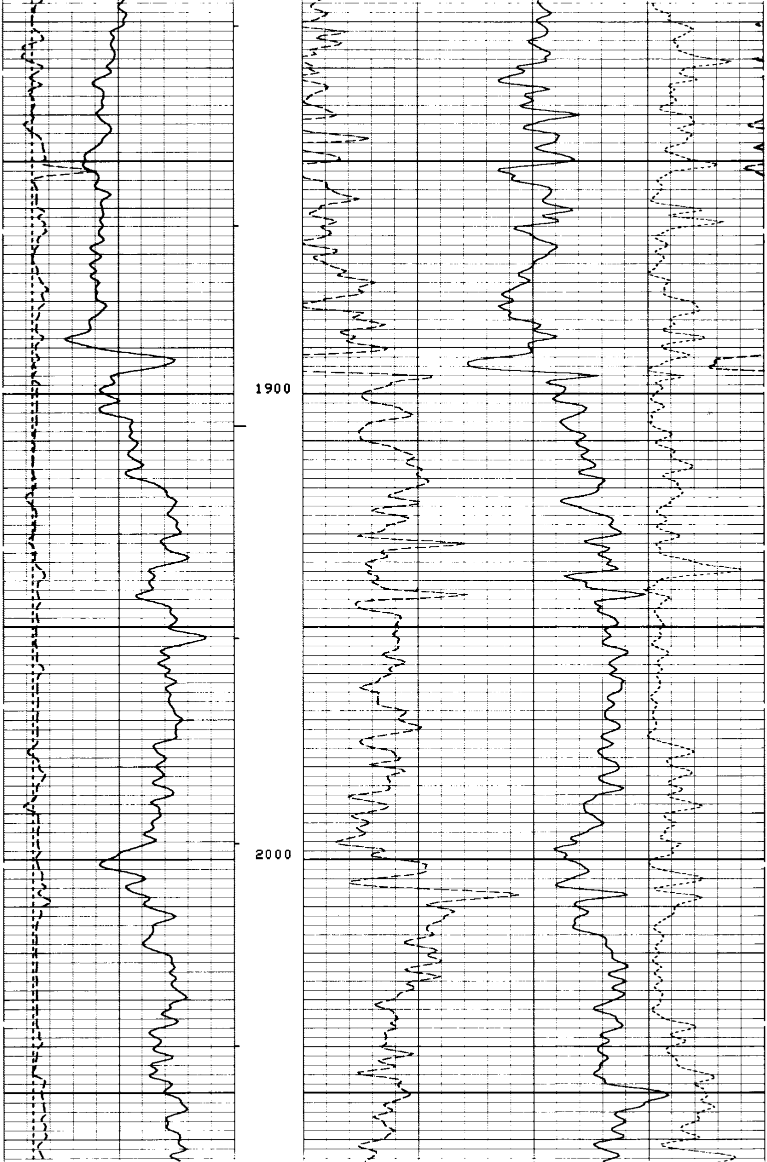


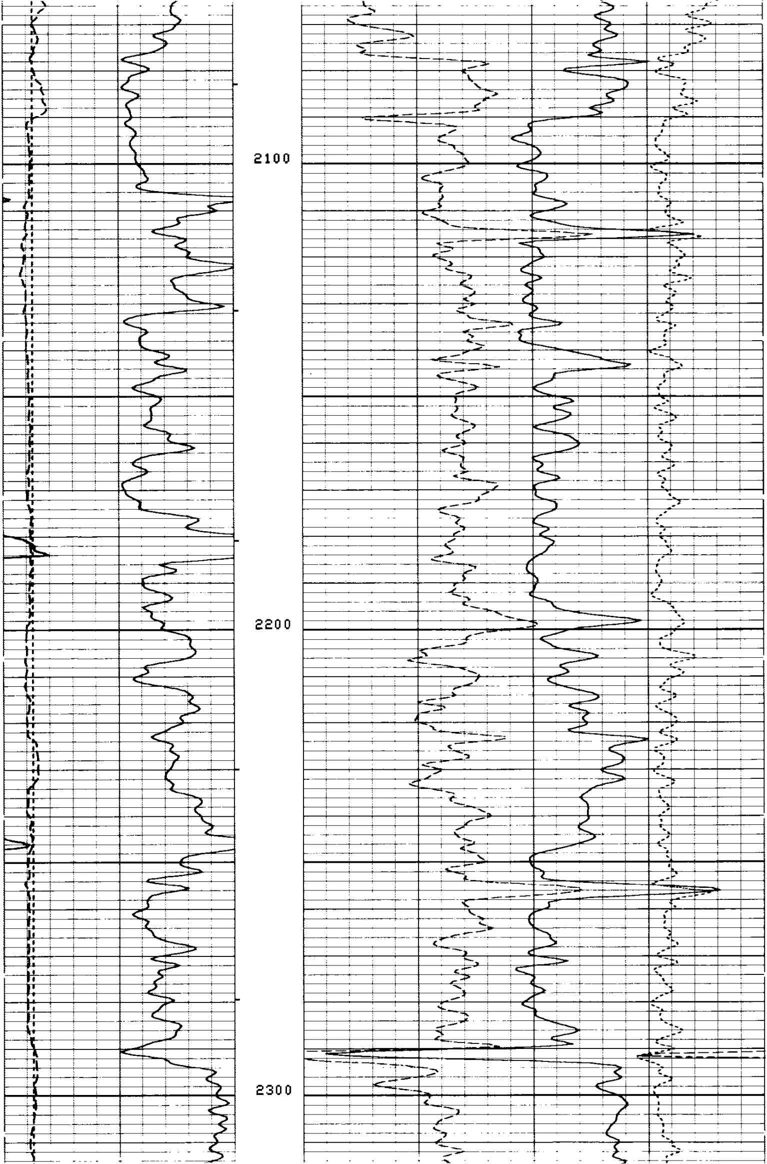


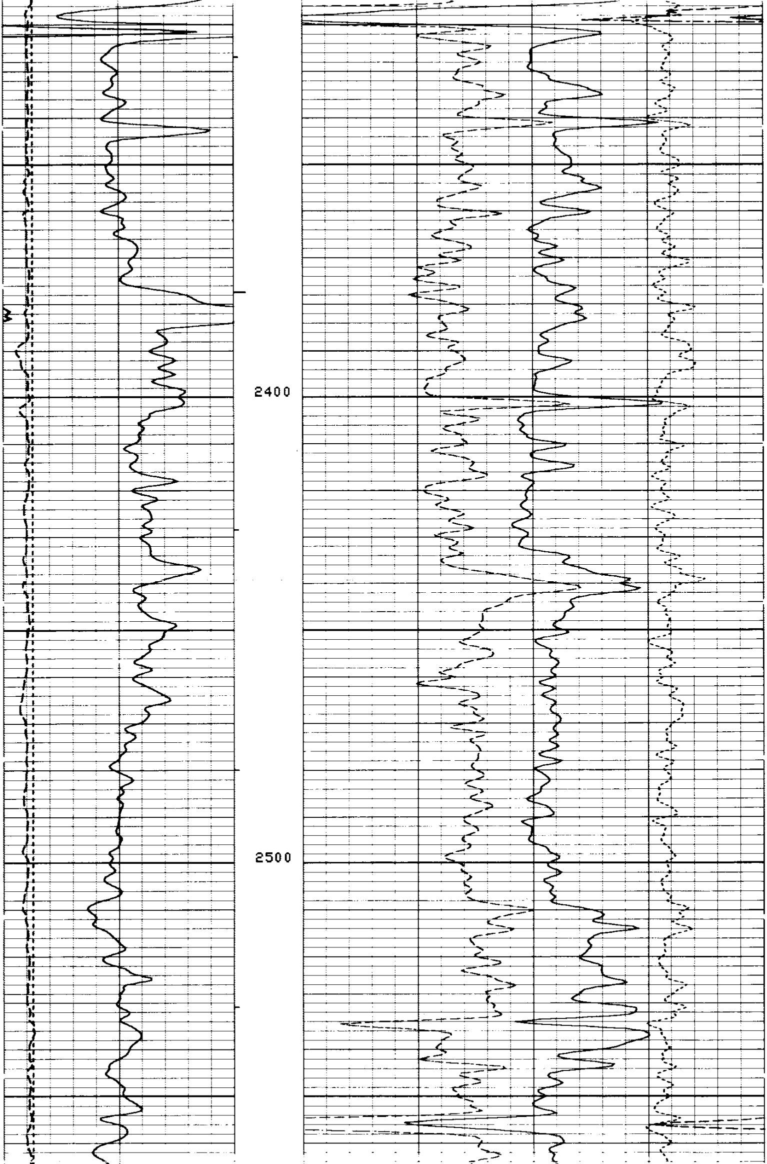


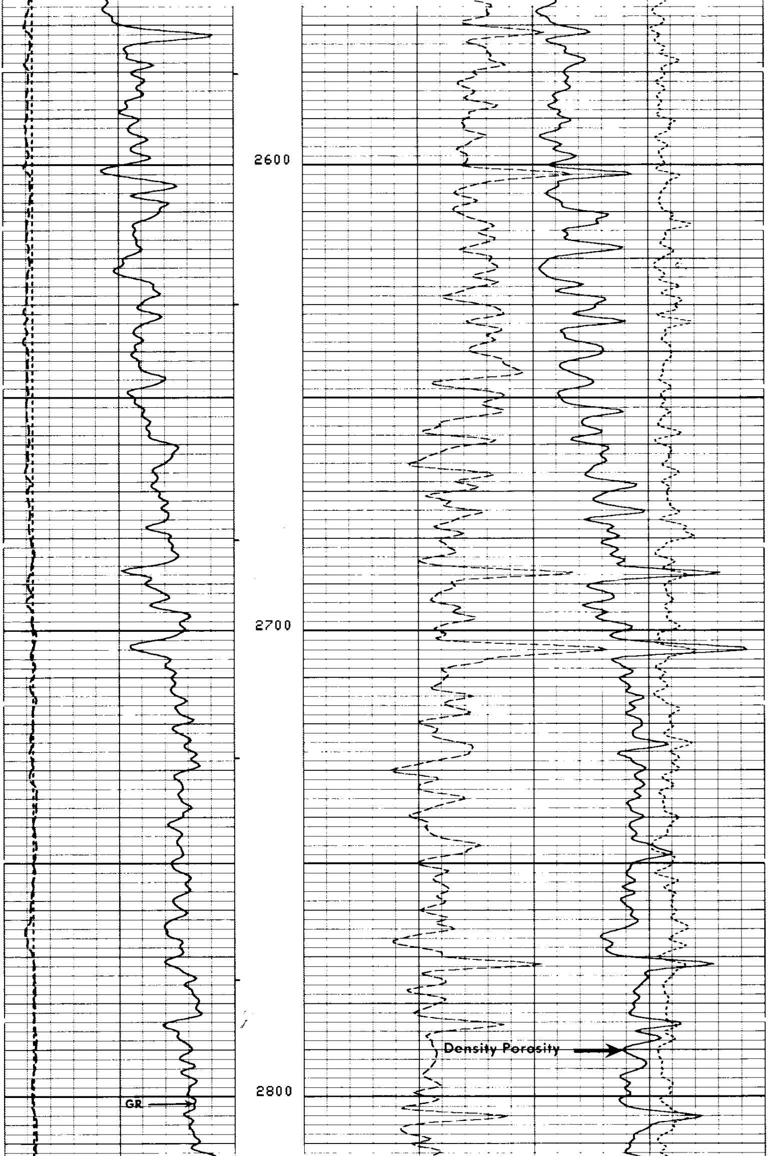


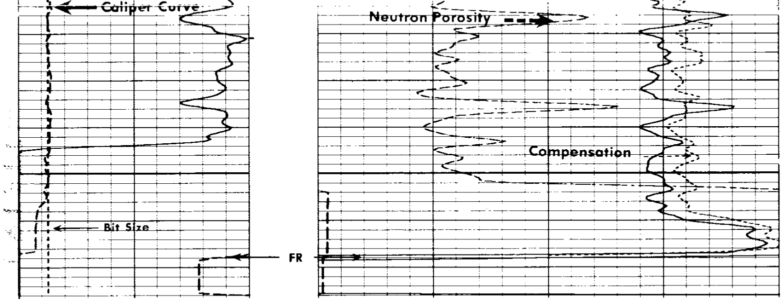








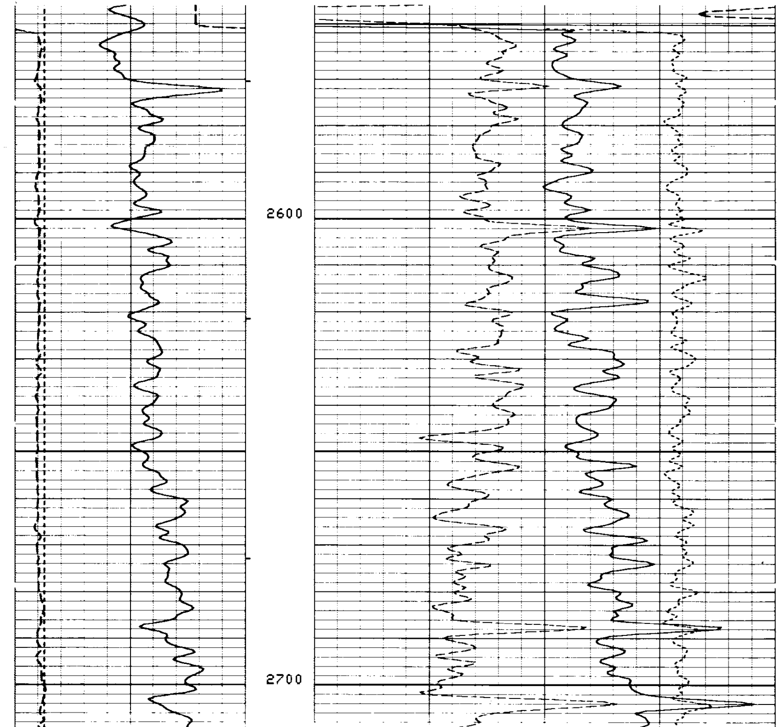


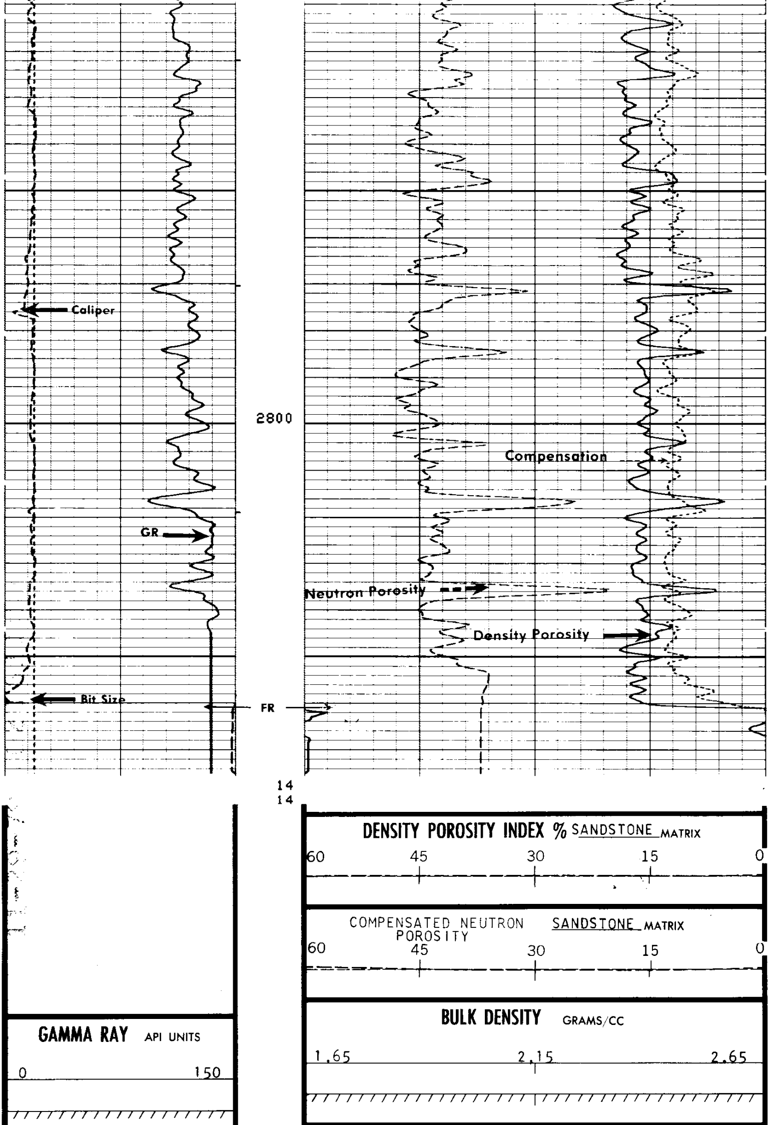


15
15

## REPEAT SECTION

14
14





**CALIPER** DIAM. IN INCHES

5'' 15''

**CORRECTION** GRAMS CC

-.25 0

## CALIBRATION RECORD

```
                                6
                                6


                BEFORE SURVEY CALIBRATION SUMMARY


     PERFORMED:      79/11/01
     PROGRAM FILE:   NUC     (VERSION     14.4     79/09/05)

   SGTE                 DETECTOR CALIBRATION SUMMARY

                 MEASURED
               BKGD     JIG          CALIBRATED          UNITS
       GR       87      233             165              GAPI


   CNTA                 DETECTOR CALIBRATION SUMMARY

                    TANK                          JIG
              INPUT   CALIBRATED           MEASURED    CALIBRATED
      NRAT     2.320     2.15                2.32         2.16


   PGTE                 DETECTOR CALIBRATION SUMMARY

                    BLOCK                         JIG
              INPUT   CALIBRATED           MEASURED    CALIBRATED      UNITS
     FFDC      446       337                 479          362           CPS
     NFDC      839       528                 804          505           CPS


   PGTE                 CALIPER CALIBRATION SUMMARY

                MEASURED                        CALIBRATED
               SMALL    LARGE                 SMALL      LARGE          UNITS
     CALI       5.6     10.5                   6.0       12.0            IN
                                6
```

### COMPENSATED NEUTRON CALIBRATION CODING

MECHANICAL ZERO

RECORDED SENSITIVITY (THRU MEMORIZER IF USED

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

POROSITY NORMALIZED WITH CNB-A IN PLACE

7A. TOOL IN NCT-B

LOG POSITION WITH CNB-A IN PLACE

8A. LOG POSITION WITH TOOL IN NCT-B

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

SEPTEMBER 7, 1979
CNC-A 1208
CNB-AB 1192
RATIO 2.32
FCNL-145
NCNL-336

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

## FORMATION DENSITY COMPENSATED CALIBRATION CODING

ECHANICAL ZERO
ECORDER SENSITIVITY
PANEL TEST

| OS | FDC LIQUID $\rho$ | $\Delta\rho$ |
|---|---|---|
| # 1 | 2.92 | .00 |
| # 2 | 2.78 | +.14 |
| # 3 | 2.42 | −.10 |
| # 4 | 2.35 | .00 |
| # 5 | 2.08 | .01 |

SEPTEMBER 5, 1979
ORANGE SET
PGS-EC 426
PGC-G 260
PDH-E 253
SFT 106-1241
$P_1$- 111.4
$P_2$- 209.7
SOURCE 5199

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

ECHANICAL ZERO
LECTRICAL ZERO
3. RECORDER SENSITIVITY
4. MEMORIZER ADJUSTMENT
5. BACKGROUND
6. CALIBRATE - SOURCE IN PLACE

```
              AFTER SURVEY TOOL CHECK SUMMARY


   PERFORMED:      79/11/01
   PROGRAM FILE:   NUC    (VERSION    14.4    79/09/05)


  CNTA                        TOOL   CHECK

                           JIG
                    BEFORE        AFTER
    NRAT             2.16          2.17

    POROSITY CHANGE  (LIME):   0.001


  PGTE                        TOOL   CHECK

                           JIG
                    BEFORE        AFTER       UNITS
    FFDC             362           353         CPS
    NFDC             505           506         CPS
                             17
                             17
```

# CALIBRATION RECORD

COMPANY AMERICAN QUASAR PETROLEUM COMPANY
WELL QUASAR 29-14 CROWN ZELLERBACH
FIELD WILDCAT
COUNTY COLUMBIA STATE OREGON

SCHL. FR 2865
SCHL. TD 2865
DRLR. TD 2880
Elev: KB 576.9
DF --
GL 566.9

SWS-2244-A