Schlumberger

5" DENSITY NEUTRON GR

CSU

COMPANY:	ARCO EXPLORATION AND TECH.
WELL:	CROWN ZELLERBACH 23-15
FIELD:	PITTSBURG
COUNTY:	COLUMBIA
STATE:	OREGON
NATION:	USA
LOCATION:	841.09'S & 1799.72'E OF W 1/4 COR

SEC: 15 TWP: 5N RGE: 5W

PERMANENT DATUM: GL
ELEV. OF PERM. DATUM: 720.9 F
LOG MEASURED FROM: KB
20.0 F ABOVE PERM. DATUM
DRLG. MEASURED FROM: KB

ELEVATIONS-
KB: 740.9 F
DF:
GL: 720.9 F

DATE: 7 DEC 85
RUN NO: 1

DEPTH-DRILLER:	2770.0 F
DEPTH-LOGGER:	2751.0 F
BTM. LOG INTERVAL:	2749.0 F
TOP LOG INTERVAL:	420.0 F
CASING-DRILLER:	420.0 F
CASING-LOGGER:	420.0 F
CASING:	
WEIGHT:	
BIT SIZE:	8.75
DEPTH:	

RECEIVED
JAN 21 1986
DOGAMI
Portland

OTHER SERVICES-
DIL
SLTL
HDT

PROGRAM
TAPE NO:
28.2A
SERVICE
ORDER NO:
432363

TYPE FLUID IN HOLE:	MULTI DESCO
DENSITY:	9.00 LB/G
VISCOSITY:	40.0 S
PH:	8.5
FLUID LOSS:	8.0 C3
SOURCE OF SAMPLE:	FLOWLINE
RM:	2.330 OHMM AT 60.0 DEGF
RMF:	2.950 OHMM AT 44.0 DEGF
RMC:	3.090 OHMM AT 49.0 DEGF
SOURCE RMF/RMC:	MEAS/MEAS
RM AT BHT:	1.593 OHMM AT 91.0 DEGF
RMF AT BHT:	1.535 OHMM AT 91.0 DEGF
RMC AT BHT:	1.766 OHMM AT 91.0 DEGF
TIME CIRC. STOPPED:	21:00 12/6
TIME LOGGER ON BTM.:	06:00 12/7
MAX. REC. TEMP:	91.0 DEGF
LOGGING UNIT NO:	8126
LOGGING UNIT LOC:	SACRAMENTO
RECORDED BY:	KUNKLER
WITNESSED BY:	ANDERSON

REMARKS:

CHLORIDES: 300 PPM

EQUIPMENT NUMBERS-

PGS 542   PDH 1244   CNC 1132   SGT JAA 466

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.

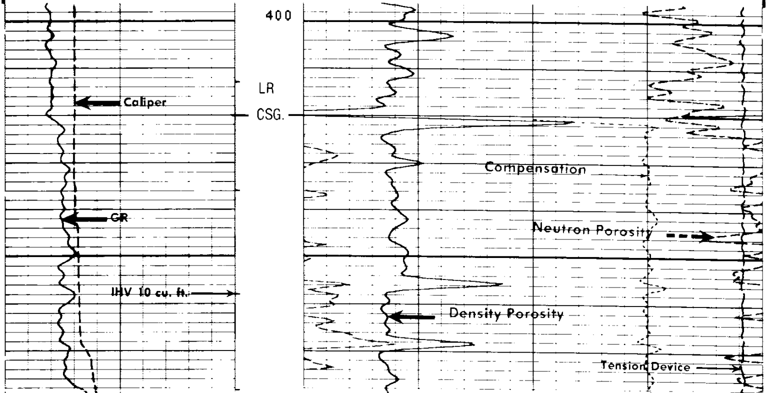
CP 28.2A   FILE 8   07-DEC-85 07:19
DATA ACQUIRED 00- -00 00:00

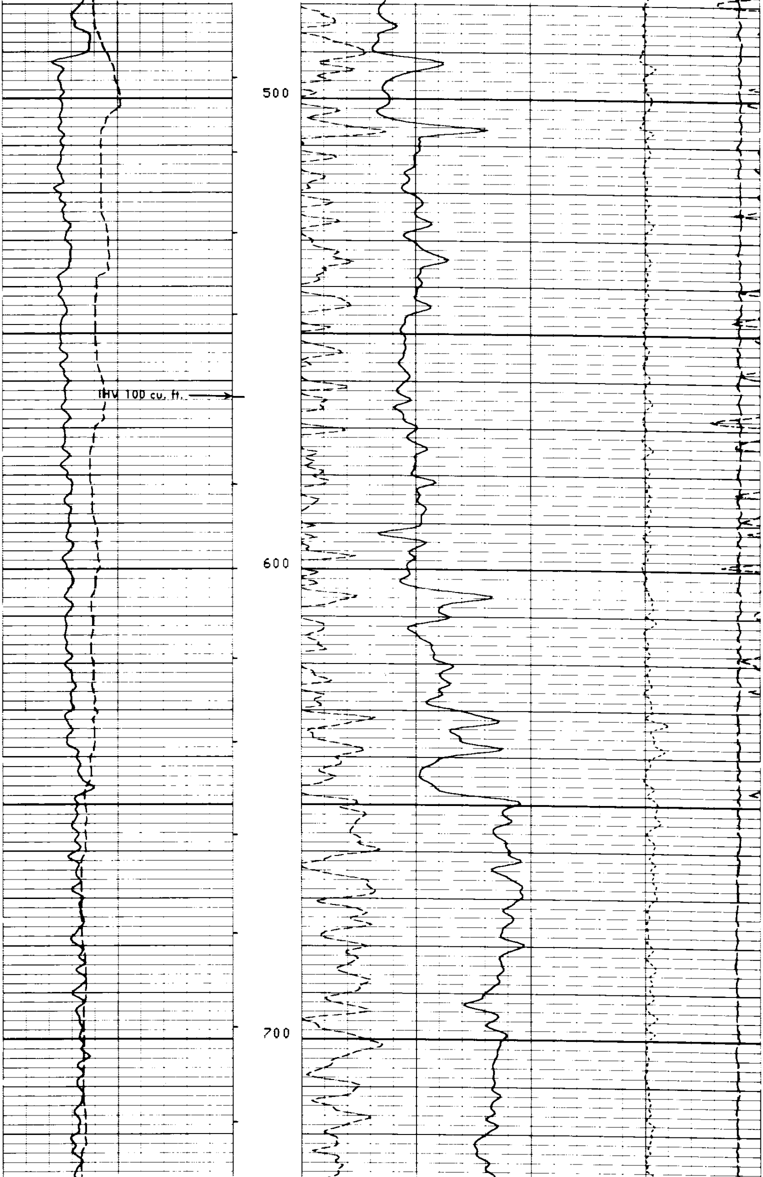
EVENT MARK SUMMARY:

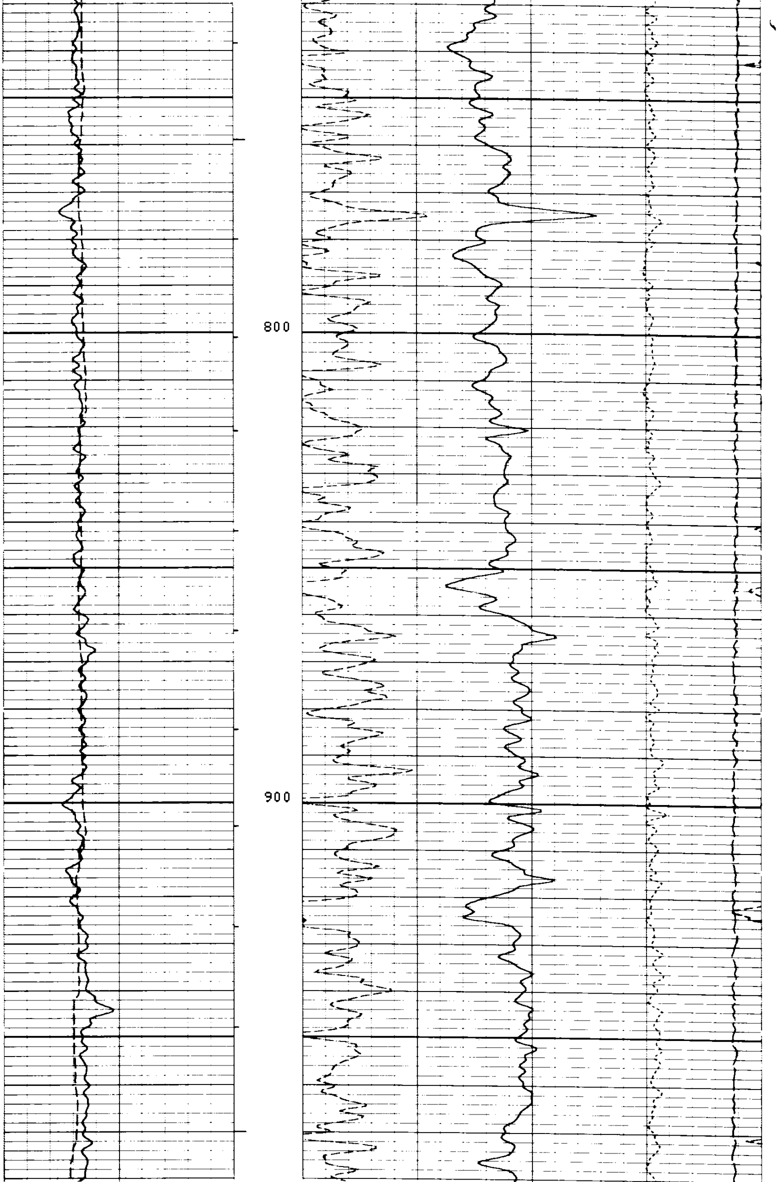
OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
IHV	10.0000 F3	LEFT EDGE

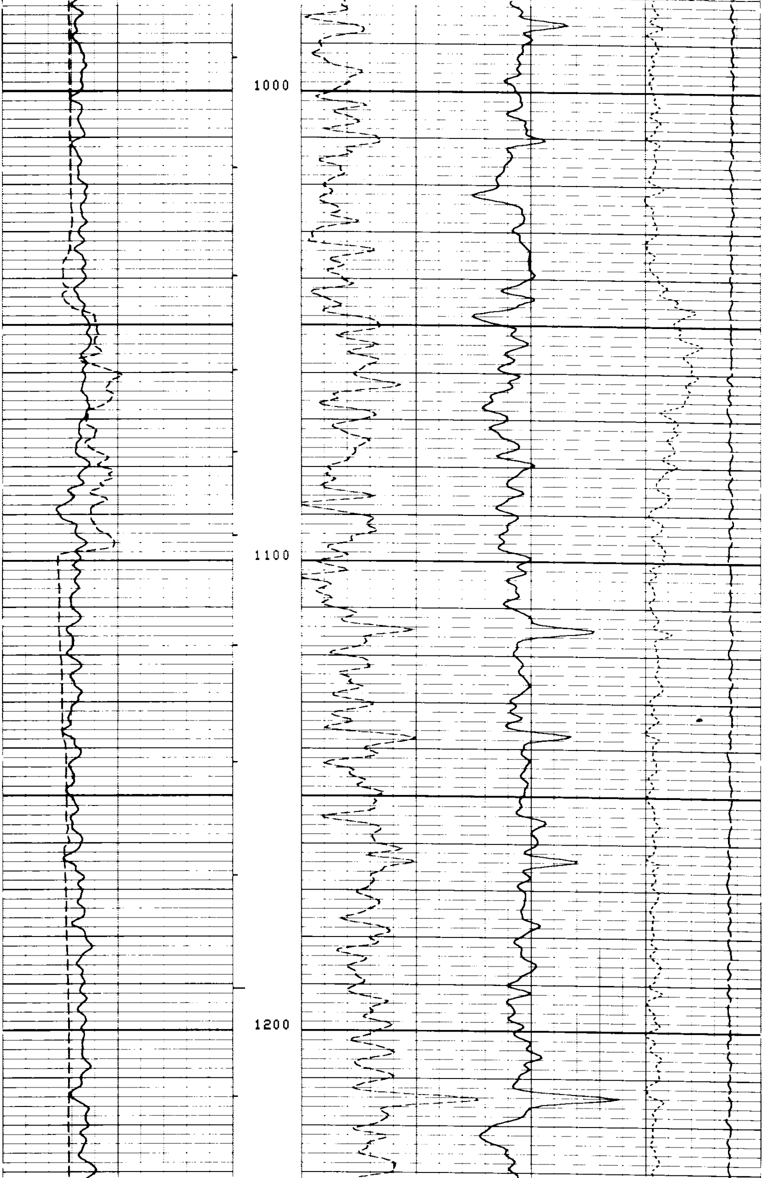
TENS(LB) 10000. 0.0
DRHO(G/C3) -.2500 .25000
CALI(IN) 6.0000 16.000
DPHI .60000 0.0
GR (GAPI) 0.0 150.00
NPHI .60000 0.0

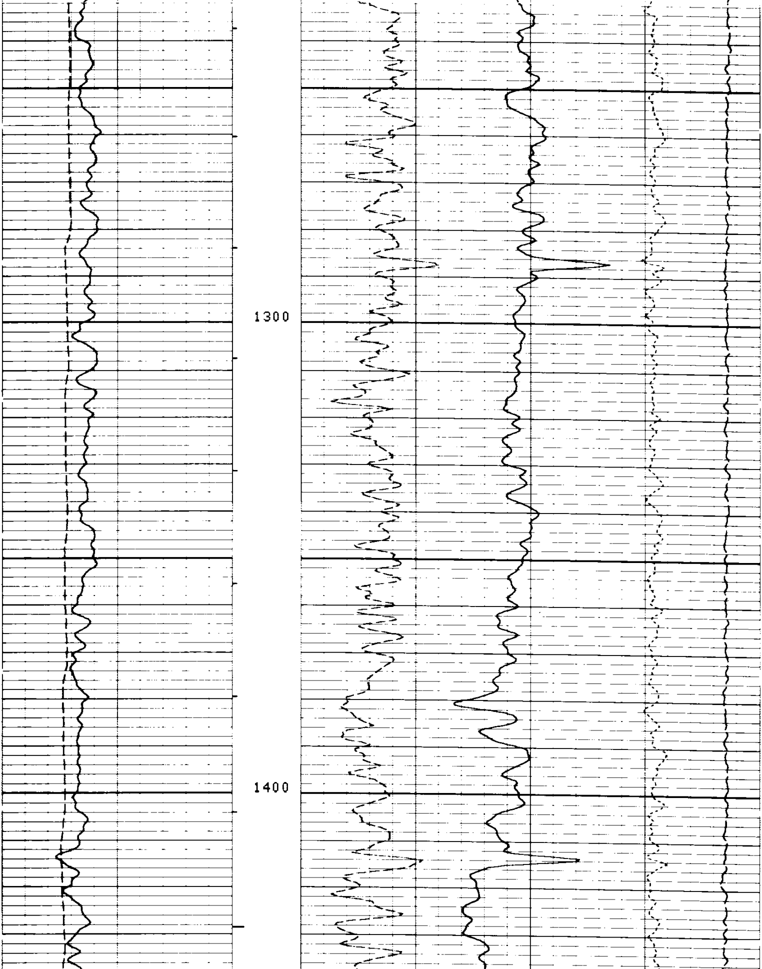
CP 28.2A   FILE 5   07-DEC-85 07:14

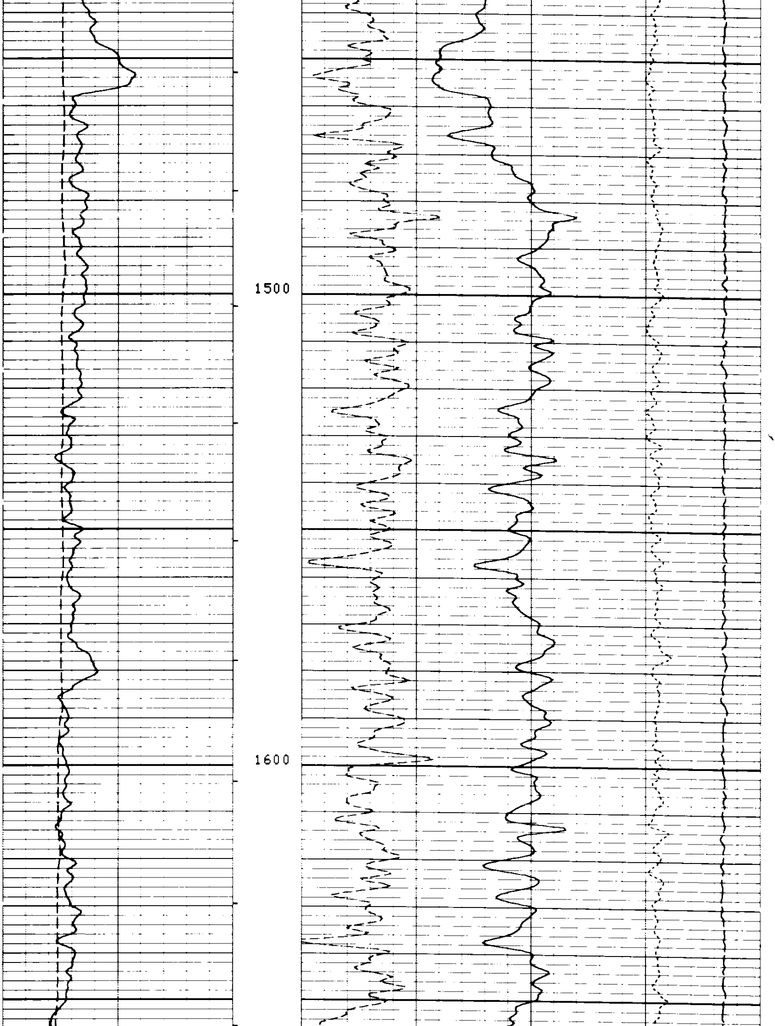


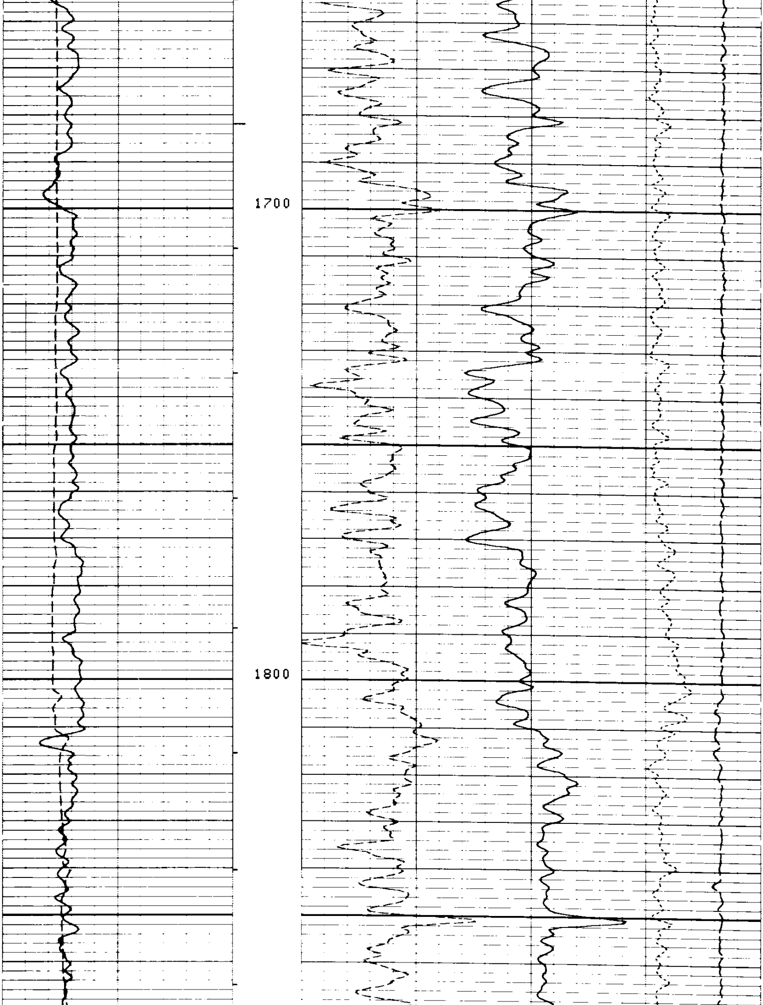


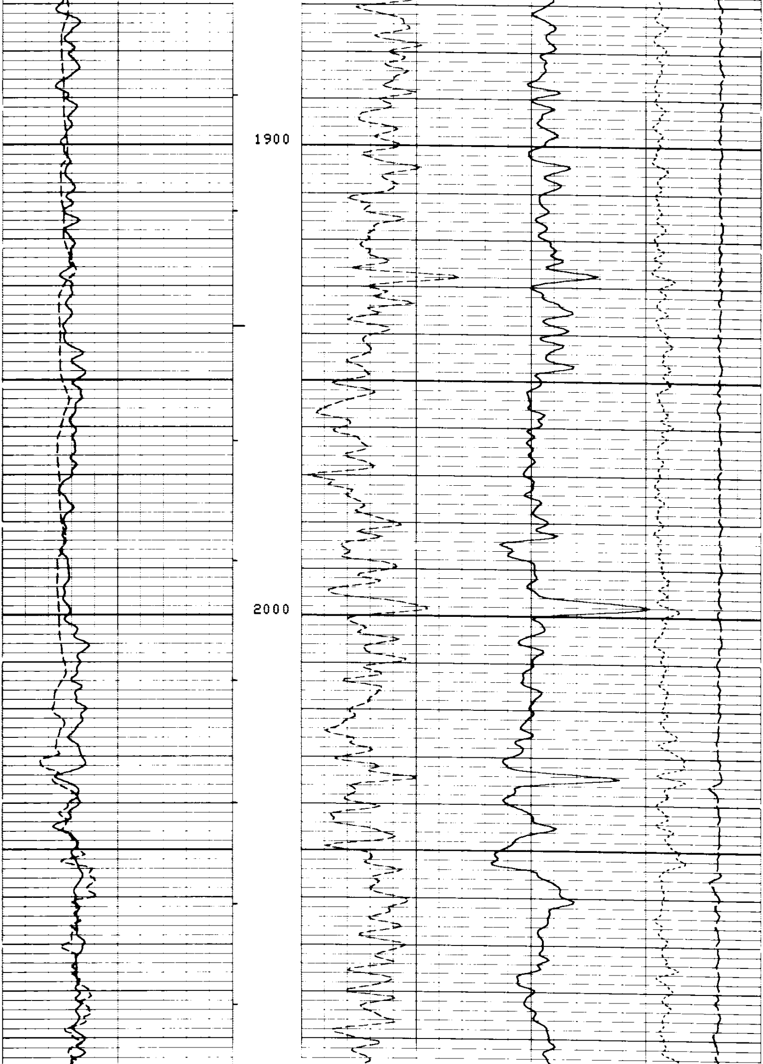


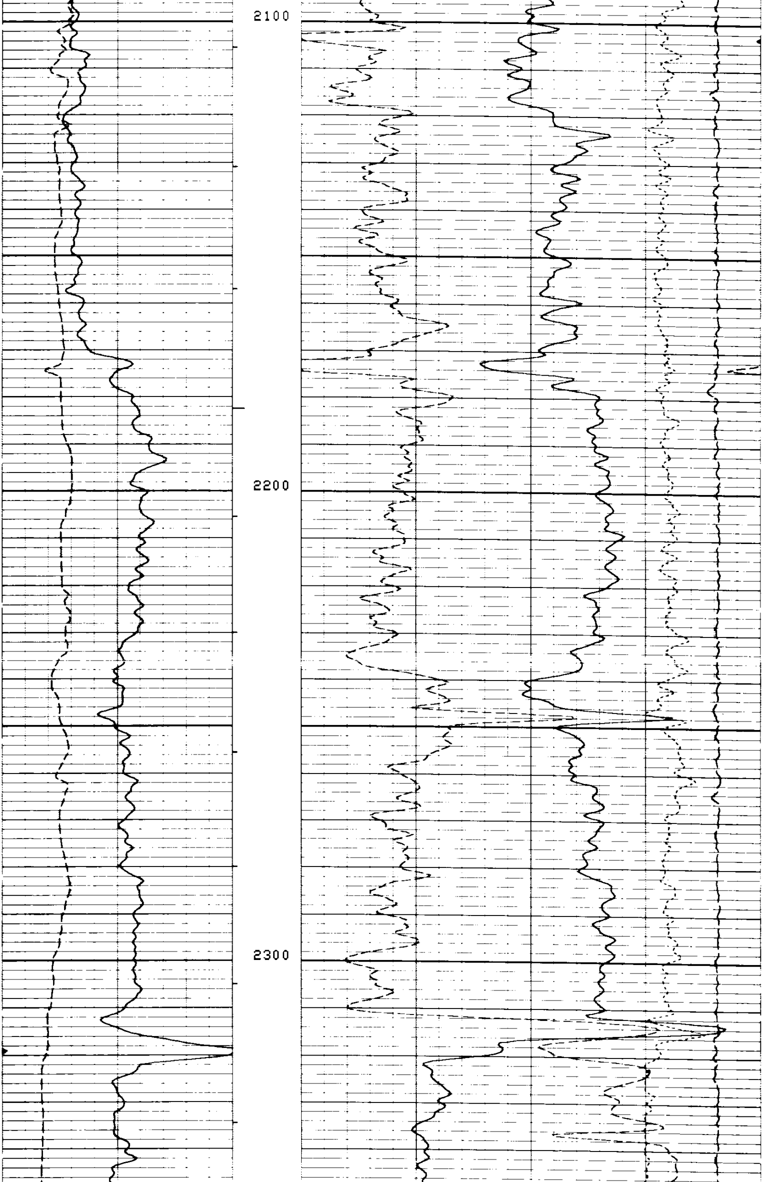


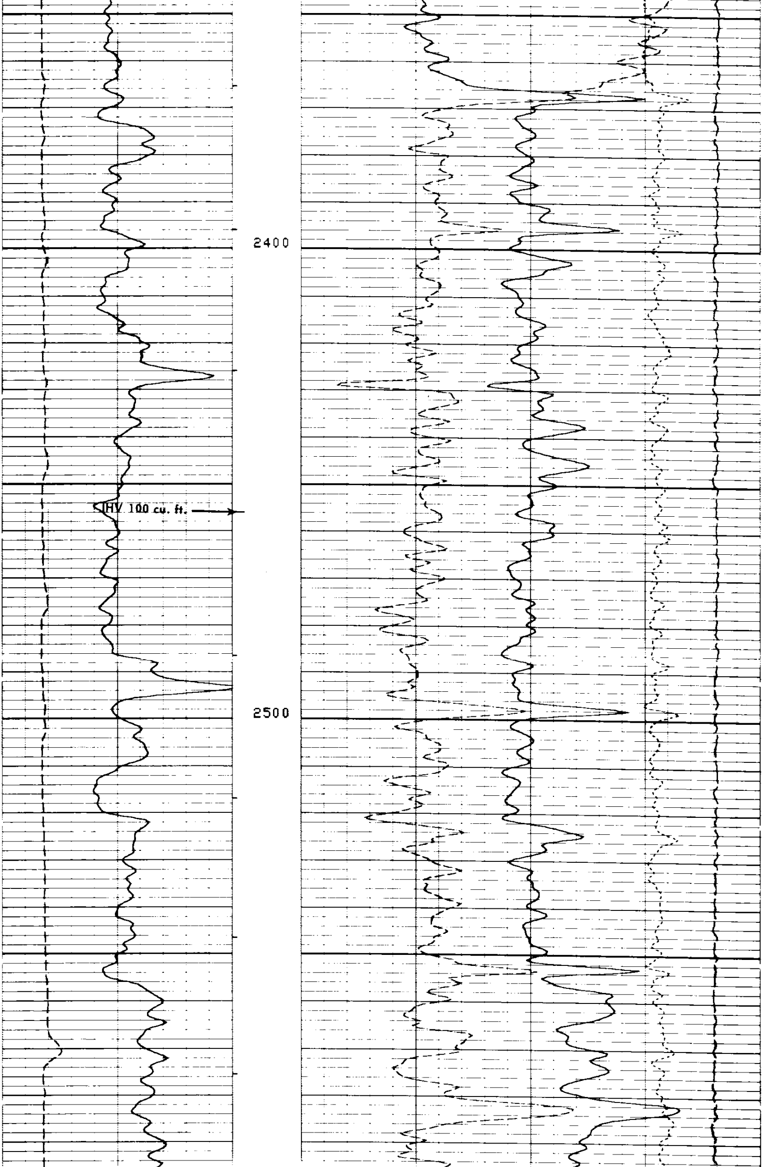


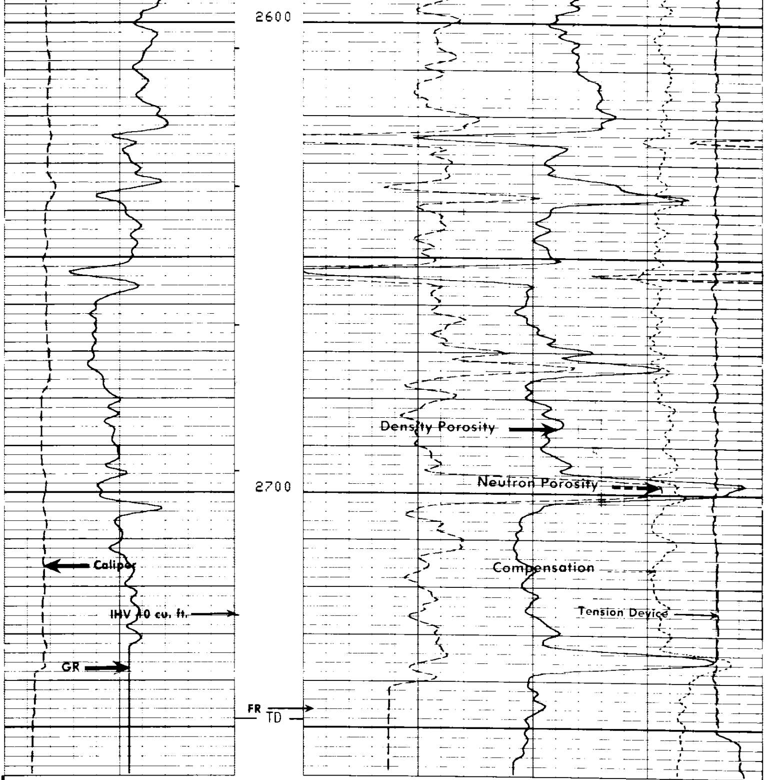












CP 28.2A FILE 5 07-DEC-85 05:55

TENS(LB)	10000.	4000.0
DRHO(G/C3)	-.2500	.25000
CALI(IN)	6.0000	16.000
GR (GAPI)	0.0	150.00
DPHI	.60000	0.0
NPHI	.60000	0.0

SENSOR MEASURE POINT TO TOOL ZERO

FCNL	18.1	FEET	GR	26.6	FEET
FFDC	2.7	FEET	NCNL	18.1	FEET
CALI	2.7	FEET	NFDC	2.7	FEET
NRAT	18.1	FEET	TENS	-.3	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT

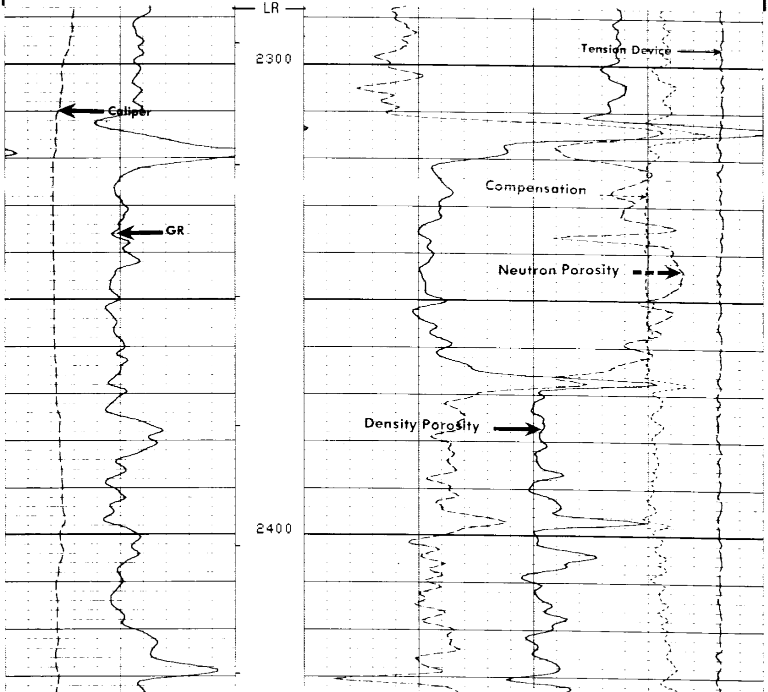
```
          HC    CALI                                        PSNR 2.30000
          FD    1.00000       G/C3                          MATR SAND
          FDCC  ALLO                                        MDEN 2.65000       G/C3
          WMUD  8.00000       LB/G                          BHF  WATE
          BS    8.75000       IN                            BHS  OPEN
```

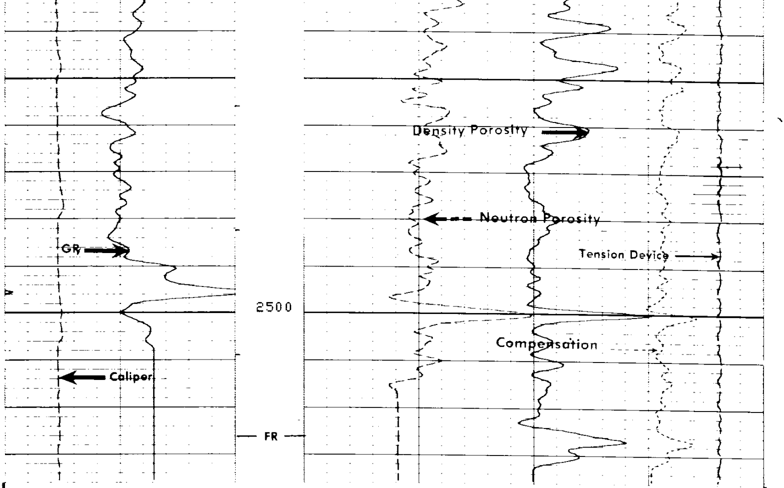
```
EVENT MARK SUMMARY:

OUTPUT   INTERVAL         DEPTH TRACK
         BETWEEN PIPS     EDGE

IHV      10.0000 F3       LEFT EDGE
```

TENS(LB)
10000. 4000.0
DRHO(G/C3)
-.2500 .25000
CALI(IN)
6.0000 16.000
DPHI
.60000 0.0
GR (GAPI)
0.0 150.00
NPHI
.60000 0.0

REPEAT SECTION

CP 28.2A FILE 4 07-DEC-85 05:44





CP 28.2A FILE 4 07-DEC-85 05:34

TENS(LB)
10000. 4000.0
DRHO(G/C3)
-.2500 .25000
CALI(IN) DPHI
6.0000 16.000 .60000 0.0
GR (GAPI) NPHI
0.0 150.00 .60000 0.0

SENSOR MEASURE POINT TO TOOL ZERO

FCNL	18.1	FEET	GR	26.6	FEET
FFDC	2.7	FEET	NCNL	18.1	FEET
CALI	2.7	FEET	NFDC	2.7	FEET
NRAT	18.1	FEET	TENS	-.3	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
HC	CALI		PSNR	2.30000	
FD	1.00000	G/C3	MATR	SAND	
FDCC	ALLO		MDEN	2.65000	G/C3
WMUD	8.00000	LB/G	BHF	WATE	
BS	8.75000	IN	BHS	OPEN	

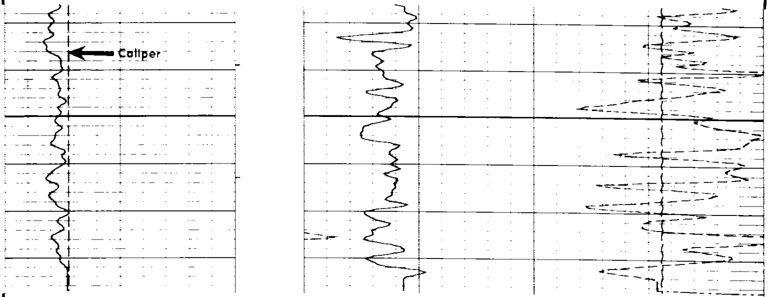
EVENT MARK SUMMARY:

OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
IHV	10.0000 F3	LEFT EDGE

TENS(LB)
10000. 0.0
DRHO(G/C3)
-.2500 .25000
CALI(IN)
6.0000 16.000
DPHI
.60000 0.0
GR (GAPI)
0.0 150.00
NPHI
.60000 0.0

Check in Casing

CP 28.2A FILE 3 07-DEC-85 05:16



CP 28.2A FILE 3 07-DEC-85 05:15

TENS(LB)
10000. 0.0
DRHO(G/C3)
-.2500 .25000
CALI(IN)
6.0000 16.000
DPHI
.60000 0.0
GR (GAPI)
0.0 150.00
NPHI
.60000 0.0

SENSOR MEASURE POINT TO TOOL ZERO

FCNL	18.1	FEET	GR	26.6	FEET
FFDC	2.7	FEET	NCNL	18.1	FEET
CALI	2.7	FEET	NFDC	2.7	FEET
NRAT	18.1	FEET	TENS	-.3	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
HC	CALI		PSNR	2.30000	
FD	1.00000	G/C3	MATR	SAND	
FDCC	ALLO		MDEN	2.65000	G/C3
WMUD	8.00000	LB/G	BHF	WATE	
BS	8.75000	IN	BHS	OPEN	

```
               BEFORE SURVEY CALIBRATION SUMMARY


  PERFORMED:     07-DEC-85 04:40
  PROGRAM FILE: ISN     (VERSION    28.2A   85/07/10)


SGTE                 DETECTOR CALIBRATION SUMMARY

              MEASURED
            BKGD     JIG          CALIBRATED          UNITS
   GR        35      200             165              GAPI


CNTA                 DETECTOR CALIBRATION SUMMARY

                TANK                            JIG
           INPUT  CALIBRATED           MEASURED   CALIBRATED
  NRAT    2.30000  2.158                 2.355       2.210


PGTK                 DETECTOR CALIBRATION SUMMARY

GAIN COMPUTED FROM SHOP BLOCK COUNTS

                BLOCK                           JIG
           INPUT  CALIBRATED           MEASURED   CALIBRATED     UNITS
  FFDC      497      337                  509        345
  NFDC     1072      528                  986        486


PGTK                 CALIPER CALIBRATION SUMMARY

              MEASURED                       CALIBRATED
            SMALL    LARGE                SMALL      LARGE         UNITS
  CALI      9.82     15.5                 6.00       12.0           IN

   CP 28.2A           FILE     2       07-DEC-85 04:39
```

```
               AFTER SURVEY TOOL CHECK SUMMARY


  PERFORMED:     07-DEC-85 07:17
  PROGRAM FILE: ISN     (VERSION    28.2A   85/07/10)


CNTA                         TOOL   CHECK

                      JIG
              BEFORE       AFTER
  NRAT        2.210        2.225

  POROSITY CHANGE  (LIME):    .003


PGTK                         TOOL   CHECK

                      JIG
              BEFORE       AFTER     UNITS
  FFDC         345          345       CPS
  NFDC         486          486       CPS

  RHOB  CHANGE (WATER):    .001 G/C3

   CP 28.2A           FILE     7       07-DEC-85 07:17
```

```
                 SHOP SUMMARY


  PERFORMED:     20-NOV-85 16:00
  PROGRAM FILE: SHOP   (VERSION    28.2A   85/07/10)
```

```
PGTK                    DETECTOR CALIBRATION SUMMARY

               BLOCK                             JIG
      MEASURED    CALIBRATED      MEASURED    CALIBRATED      UNITS

   FFDC   497        337             512          348          CPS
   NFDC  1072        528            1031          508          CPS

          (PGS:542 , PDH:1244, GSR:8016, SFT :1171)

    CP 28.2A          FILE     1       20-NOV-85 16:00

                  SHOP SUMMARY

   PERFORMED:      20-NOV-85 10:20
   PROGRAM FILE:  SHOP    (VERSION     28.2A    85/07/10)

  CNTA                  DETECTOR CALIBRATION SUMMARY

               TANK                           JIG
      MEASURED  CALIBRATED         MEASURED    CALIBRATED

  NRAT     2.300        2.158          2.306        2.165

                         (CNC:1132, CNB:3200)

    CP 28.2A          FILE     0       20-NOV-85 10:20
```