Schlumberger

5" DENSITY-NEUTRON-GR

CSU

COMPANY: ARCO EXPLORATION & TECHNOLOGY COMPANY

WELL: "LONGVIEW FIBRE" 13-6

FIELD: MIST
COUNTY: COLUMBIA
STATE: OREGON
NATION: U.S.A.
LOCATION: FROM W 1/4 - N 89 DEG 15' 21" E 591.62'
PERPEN. TO LINE S 0 DEG 44' 39" E 80.61'
SEC: 6 TWP: 5N RGE: 4W

OTHER SERVICES-
DIL
LSS
DIPMETER

PERMANENT DATUM: GL
ELEV. OF PERM. DATUM: 782.2 F
LOG MEASURED FROM: KB
11.0 F ABOVE PERM. DATUM
DRLG. MEASURED FROM: KB

ELEVATIONS-
KB: 793.2 F
DF:
GL: 782.2 F

PROGRAM
TAPE NO:
28.4
SERVICE
ORDER NO:
432083

DATE: 10 MAR 86
RUN NO: 1

DEPTH-DRILLER: 1473.0 F
DEPTH-LOGGER: 1448.0 F
BTM. LOG INTERVAL: 1445.0 F
TOP LOG INTERVAL: 459.0 F

CASING-DRILLER: 460.0 F
CASING-LOGGER: 459.0 F
CASING: 9 5/8 IN
WEIGHT: 36.0000 LB/F
BIT SIZE: 8 3/4 IN
DEPTH: 1473.0 F

RECEIVED - PTLD
APR 21 1986
DEPT. OF GEOLOGY
& MINERAL INDUS

TYPE FLUID IN HOLE:	DESCO WELPAC
DENSITY:	10.00 LB/G
VISCOSITY:	50.0 S
PH:	11.0
FLUID LOSS:	6.2 C3
SOURCE OF SAMPLE:	FLOW LINE
RM:	2.250 OHMM AT 63.0 DEGF
RMF:	6.100 OHMM AT 49.0 DEGF
RMC:	.550 OHMM AT 48.0 DEGF
SOURCE RMF/RMC:	MEASURED/MEASURED
RM AT BHT:	1.658 OHMM AT 88.0 DEGF
RMF AT BHT:	3.596 OHMM AT 88.0 DEGF
RMC AT BHT:	.318 OHMM AT 88.0 DEGF

TIME CIRC. STOPPED: 10:30 10 MAR
TIME LOGGER ON BTM.: 15:55 10 MAR

MAX. REC. TEMP: 88.0 DEGF

LOGGING UNIT NO: 8057
LOGGING UNIT LOC: SACRAMENTO
RECORDED BY: ROTHERS
WITNESSED BY: ANDERSON

REMARKS:

BOWSPRING RAN ON NEUTRON

EQUIPMENT NUMBERS-

PGS 86	PDH 1244	CNC 2453	SGC-JAA 581
NLM-BC 202			

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.

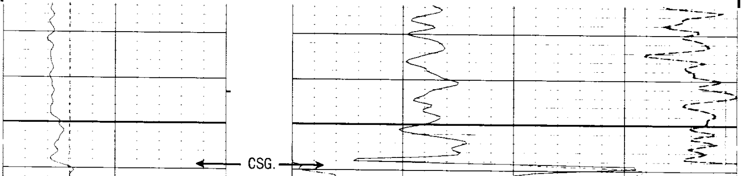
CP 28.4 FILE 8 10-MAR-86 16:37
DATA ACQUIRED NA

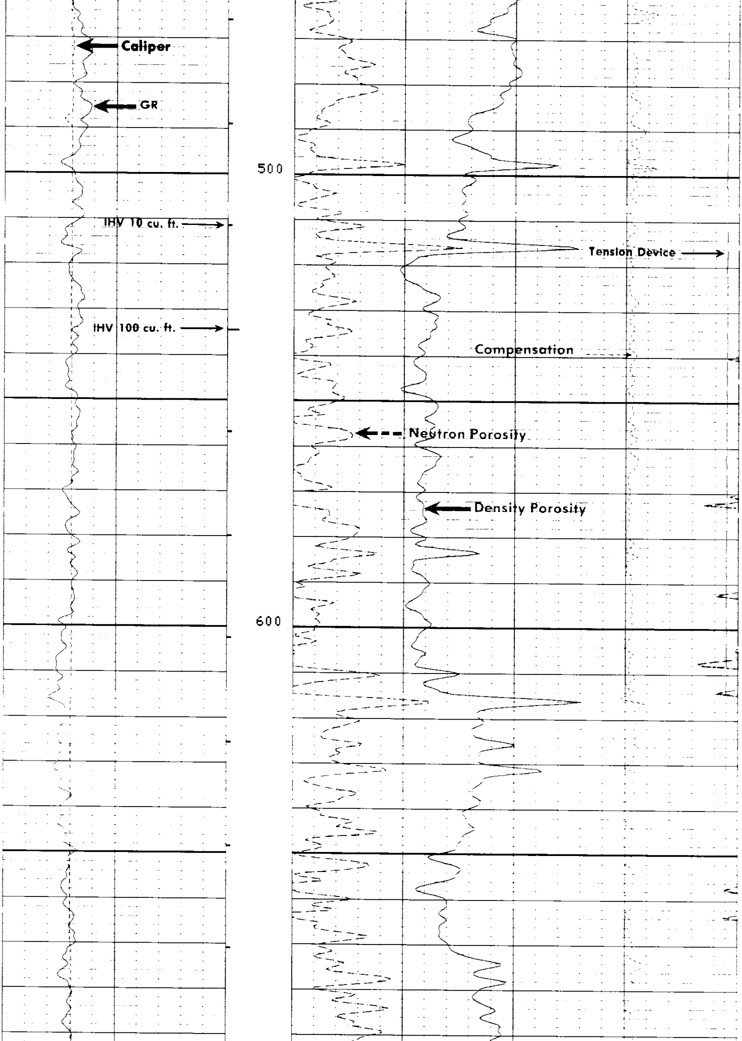
EVENT MARK SUMMARY:

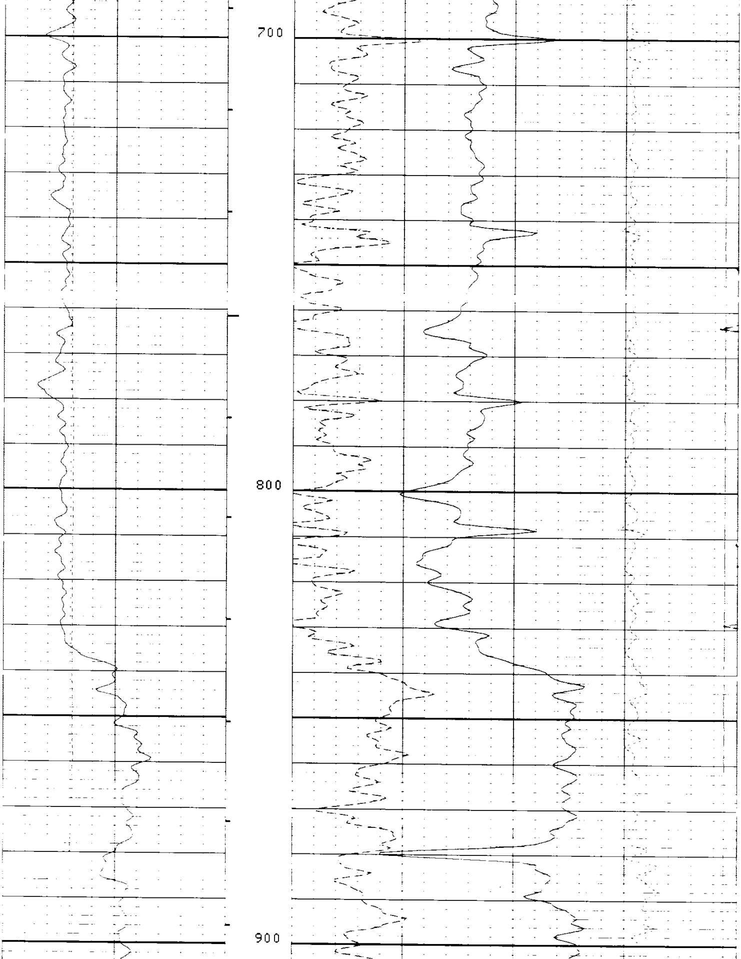
OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
IHV	10.0000 F3	LEFT EDGE

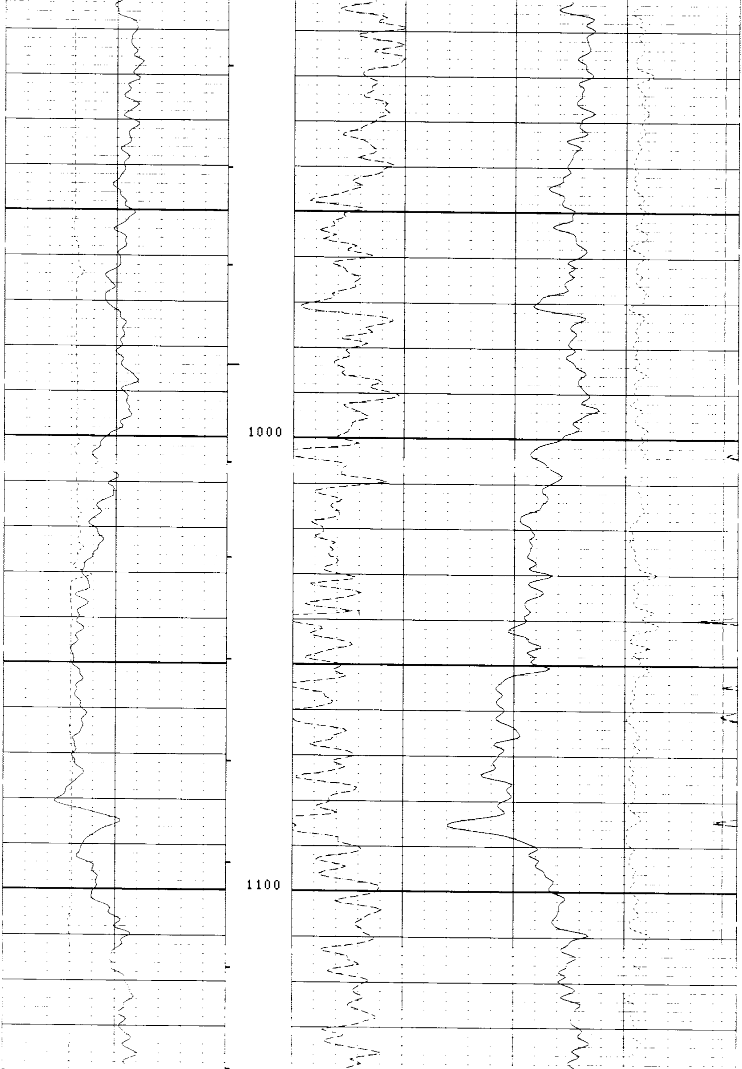
TENS(LB)
10000. 0.0
DRHO(G/C3)
-.2500 .25000
CALI(IN)
6.0000 16.000
NPHI
.60000 0.0
GR (GAPI)
0.0 150.00
DPHI
.60000 0.0

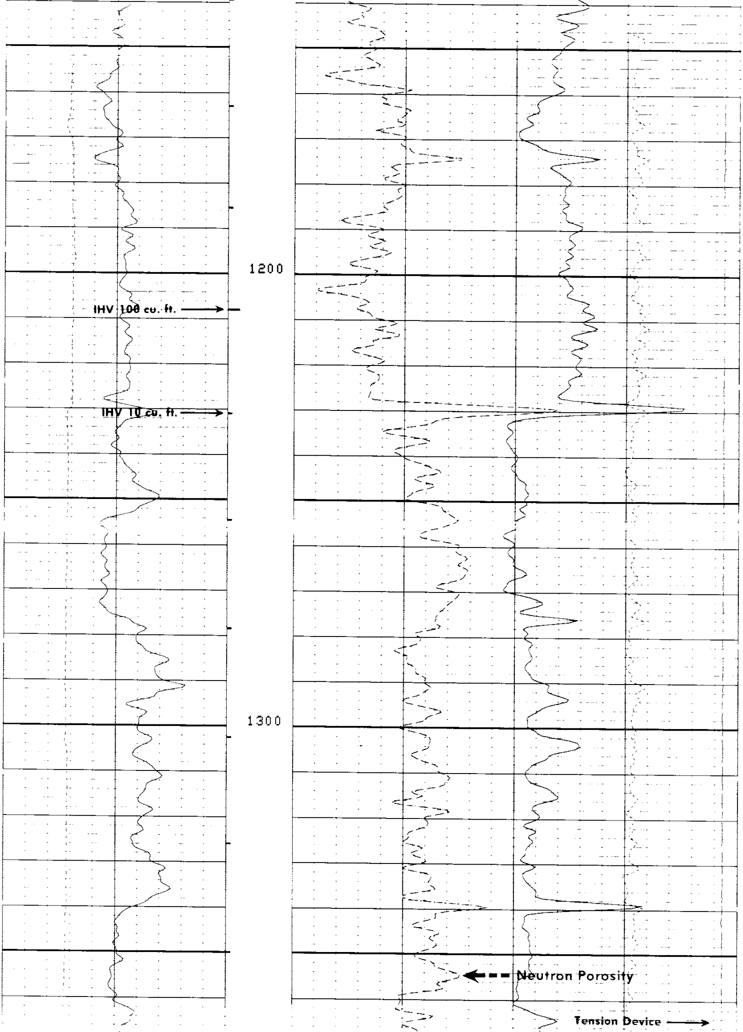
CP 28.4 FILE 5 10-MAR-86 16:30

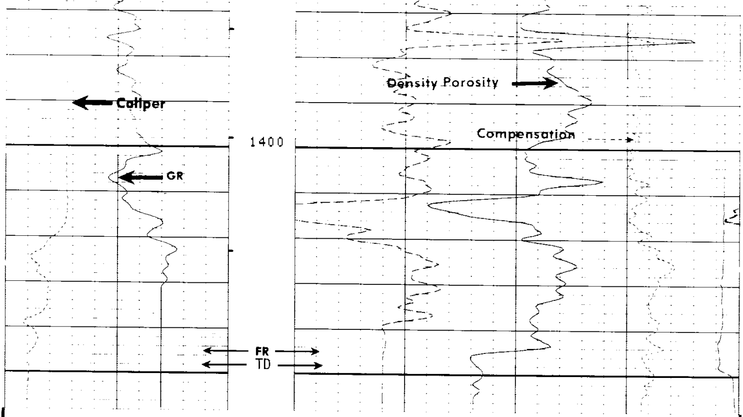












```
     CP 28.4              FILE    5       10-MAR-86 15:54
```

```
                                                     TENS(LB  )
                                              10000.                0.0
                                                     DRHO(G/C3)
                                              -.2500            .25000
          CALI(IN  )                               NPHI
 6.0000                16.000     .60000                            0.0
          GR   (GAPI)                              DPHI
 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 2.16200
      FD     1.00000      G/C3               MATR SAND
      FDCC   ALLO                            MDEN 2.65000       G/C3
      WMUD   10.0000      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
```

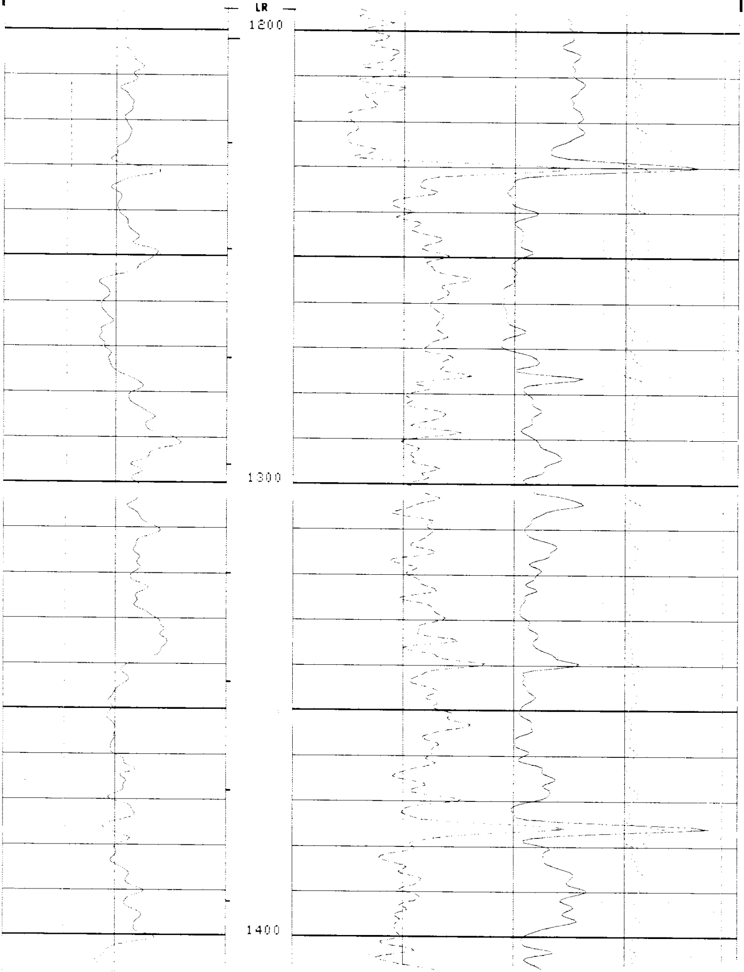
```
                                                     TENS(LB  )
                                              10000.                0.0
                                                     DRHO(G/C3)
                                              -.2500            .25000
          CALI IN        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

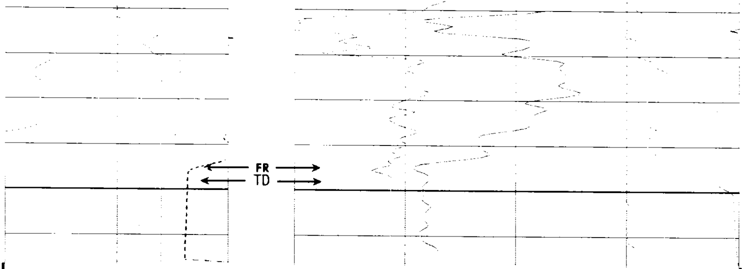
GR (GAPI) DPHI

0.0 150.00 .60000 0.0

REPEAT SECTION

CF 28.4 FILE 4 10-MAR-86 15:45





CP 28.4 FILE 4 10-MAR-86 15:32

TENS(LB)
10000. 0.0
DRHO(G/C3)
-.2500 .25000
CALI(IN)
6.0000 16.000
NPHI
.60000 0.0
GR (GAPI)
0.0 150.00
DPHI
.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	2.16200	
FD	1.00000	G/C3	MATR	SAND	
FDCC	ALLD		MDEN	2.65000	G/C3
WMUD	10.0000	LB/G	BHF	WATE	
BS	8.75000	IN	BHS	OPEN	

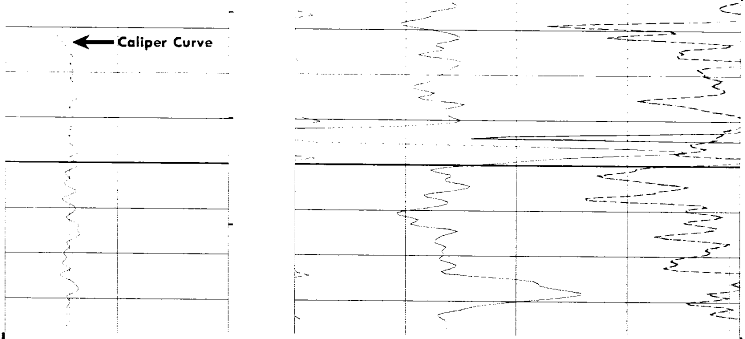
EVENT MARK SUMMARY:

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
NPHI
.60000 0.0
GR (GAPI)
0.0 150.00
DPHI
.60000 0.0

Check in Casing

CP 28.4 FILE 3 10-MAR-86 15:12



```
    CP 28.4              FILE     3       10-MAR-86 15:11
```

```
                                                      TENS(LB  )
                                          10000.                    0.0
                                                      DRHO(G/C3)
                                          -.2500                 .25000
      CALI(IN  )                                NPHI
6.0000             16.000        .60000                             0.0
      GR   (GAPI)                               DPHI
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 2.16200
        FD    1.00000      G/C3                MATR SAND
        FDCC  ALLO                             MDEN 2.65000      G/C3
        WMUD  10.0000      LB/G                BHF  WATE
        BS    8.75000      IN                  BHS  OPEN
```

```
                 BEFORE SURVEY CALIBRATION SUMMARY


    PERFORMED:     10-MAR-86 15:08
    PROGRAM FILE: ISN     (VERSION    28.4    85/11/11)


  SGTE                 DETECTOR CALIBRATION SUMMARY

                 MEASURED
               BKGD     JIG          CALIBRATED          UNITS
     GR         33      193             165              GAPI
```

```
CNTA                DETECTOR CALIBRATION SUMMARY

              TANK                             JIG
         INPUT  CALIBRATED            MEASURED   CALIBRATED
  NRAT   2.16200  2.124                 2.197       2.158


PGTK                DETECTOR CALIBRATION SUMMARY

GAIN COMPUTED FROM SHOP BLOCK COUNTS

              BLOCK                            JIG
         INPUT  CALIBRATED            MEASURED   CALIBRATED    UNITS
  FFDC    478      317                   508        337
  NFDC   1057      529                  1055        528


PGTK                CALIPER CALIBRATION SUMMARY

           MEASURED                         CALIBRATED
         SMALL    LARGE                  SMALL      LARGE        UNITS
  CALI   11.17    15.1                   8.00       12.0          IN

   CP 28.4            FILE    2       10-MAR-86 15:08
```

```
               AFTER SURVEY TOOL CHECK SUMMARY


  PERFORMED:     10-MAR-86 16:33
  PROGRAM FILE: ISN    (VERSION    28.4    85/11/11)


CNTA                          TOOL  CHECK

                      JIG
             BEFORE        AFTER
  NRAT       2.158         2.160

  POROSITY CHANGE  (LIME):   .001


PGTK                          TOOL  CHECK

                      JIG
             BEFORE        AFTER      UNITS
  FFDC        337           336        CPS
  NFDC        528           525        CPS

  RHOB  CHANGE (WATER):  -.001 G/C3

   CP 28.4            FILE    7       10-MAR-86 16:33
```

```
               SHOP SUMMARY


  PERFORMED:     06-MAR-86 15:54
  PROGRAM FILE: SHOP   (VERSION    28.2A   85/07/10)


PGTK               DETECTOR CALIBRATION SUMMARY

           BLOCK                           JIG
      MEASURED   CALIBRATED    MEASURED   CALIBRATED    UNITS

  FFDC   478        337           511         360        CPS
  NFDC  1057        528          1059         529        CPS

         (PGS:86  , PDH:1244, GSR:8016, SFT :477 )


               SHOP SUMMARY
```

```
   PERFORMED:     06-MAR-86 16:26
   PROGRAM FILE: SHOP   (VERSION    28.2A   85/07/10)

 CNTA                   DETECTOR CALIBRATION SUMMARY

             TANK                              JIG
      MEASURED  CALIBRATED      MEASURED   CALIBRATED

   NRAT     2.162      2.158          2.181       2.178

                       (CNC:2453, CNB:1446)
```