011-15

Schlumberger

X - Y CALIPER

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE: FLORIDA

LOCATION: NORTH DISTRICT REGIONAL WWTP

OTHER SERVICES-

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
30.4
SERVICE
ORDER NO:
350714

DATE: 10 DEC 89
RUN NO: ONE

DEPTH-DRILLER: 165.0 F
DEPTH-LOGGER:
BTM. LOG INTERVAL: 164.0 F
TOP LOG INTERVAL: 16.0 F

CASING-DRILLER: 16.0 F
CASING-LOGGER:
CASING: 60"
WEIGHT:
BIT SIZE: 58 1/2
DEPTH:

TYPE FLUID IN HOLE: GEL
DENSITY:
VISCOSITY:
PH:
FLUID LOSS:
SOURCE OF SAMPLE:
RM: AT
RMF: AT
RMC: AT
SOURCE RMF/RMC: /
RM AT BHT: AT
RMF AT BHT: AT
RMC AT BHT: AT

TIME CIRC. STOPPED:
TIME LOGGER ON BTM.:

MAX. REC. TEMP:

LOGGING UNIT NO: 8306
LOGGING UNIT LOC: FT.MYERS
RECORDED BY: SCHULER
WITNESSED BY: BRANTLEY/MONTEMAYOR

REMARKS:

EQUIPMENT NUMBERS-

BGT 3804R

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.

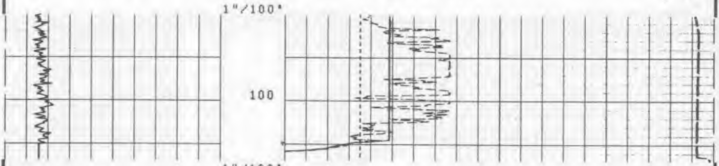
CP 30.4 FILE 9 10-DEC-89 11:57

TENS(LB)
10000. 0.0
BS (IN)
55.000 75.000
C2 (IN)
55.000 75.000
GR (GAPI)
0.0 100.00
C1 (IN)
55.000 75.000

CP 30.4 FILE 9 10-DEC-89 11:57

INPUT FILES
5

DATA ACQUIRED
10-DEC-89 11:31



CP 30.4 FILE 9 10-DEC-89 11:57

INPUT FILES
5

DATA ACQUIRED
10-DEC-89 11:28

TENS(LB)
10000. 0.0
BS (IN)
55.000 75.000
C2 (IN)
55.000 75.000
GR (GAPI)
0.0 100.00
C1 (IN)
55.000 75.000

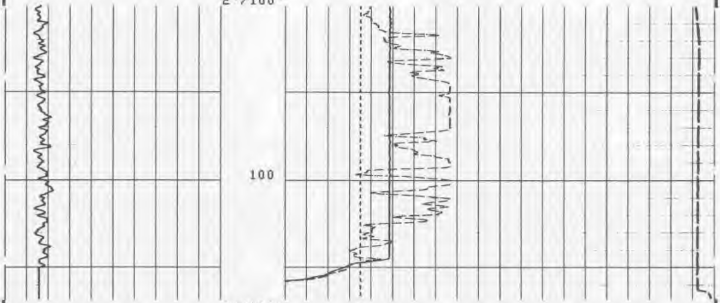
TENS(LB)
10000. 0.0
BS (IN)
55.000 75.000
C2 (IN)
55.000 75.000
GR (GAPI)
C1 (IN)
0.0 100.00 55.000 75.000

CP 30.4 FILE 8 10-DEC-89 11:56

INPUT FILES
5

DATA ACQUIRED
10-DEC-89 11:31

2"/100'



2"/100'

CP 30.4 FILE 8 10-DEC-89 11:56

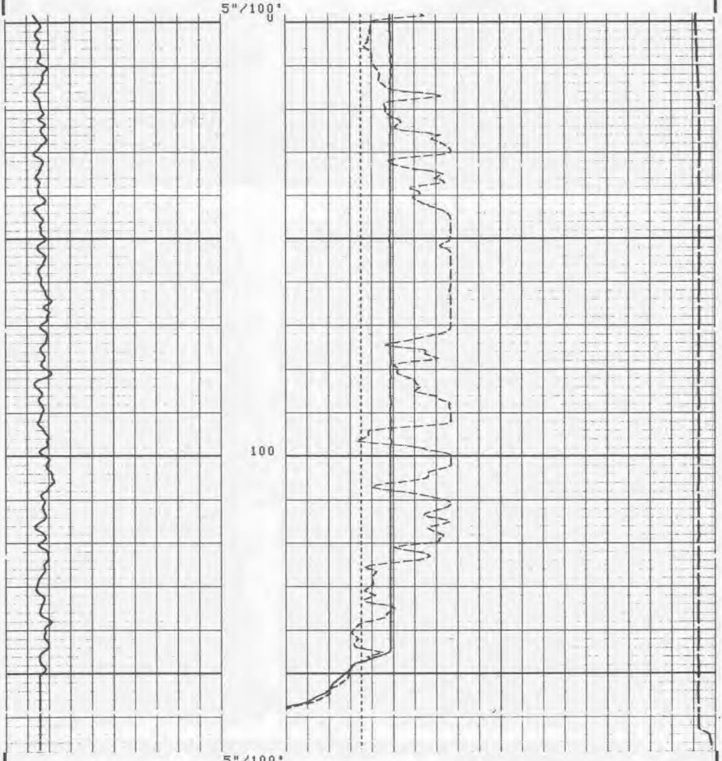
INPUT FILES
5

DATA ACQUIRED
10-DEC-89 11:28

TENS(LB)
10000. 0.0
BS (IN)
55.000 75.000
C2 (IN)
55.000 75.000
GR (GAPI)
C1 (IN)
0.0 100.00 55.000 75.000

TENS(LB)
10000. 0.0
BS (IN)
55.000 75.000
C2 (IN)
55.000 75.000
GR (GAPI)
C1 (IN)
0.0 100.00 55.000 75.000

CP 30.4 FILE 5 10-DEC-89 11:32



CP 30.4 FILE 5 10-DEC-89 11:26

TENS(LB)
10000. 0.0

BS (IN)
55.000 75.000

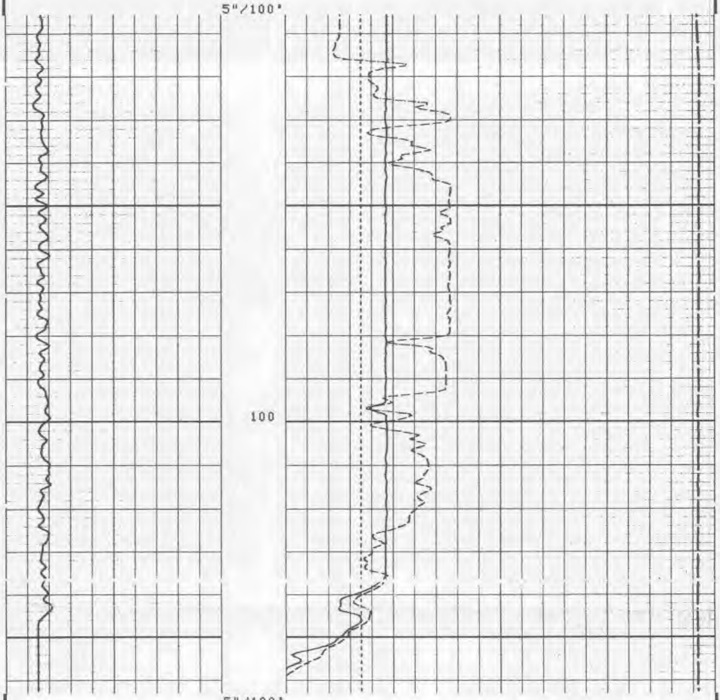
C2 (IN)
55.000 75.000

C1 (IN)
55.000 75.000

GR (GAPI)
0.0 100.00

TENS(LB)
10000. 0.0
BS (IN)
55.000 75.000
C2 (IN)
55.000 75.000
GR (GAPI) C1 (IN)
0.0 100.00 55.000 75.000

CP 30.4 FILE 4 10-DEC-89 11:23



CP 30.4 FILE 4 10-DEC-89 11:19

TENS(LB)
10000. 0.0
BS (IN)
55.000 75.000
C2 (IN)
55.000 75.000
GR (GAPI) C1 (IN)
0.0 100.00 55.000 75.000

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 10-DEC-89 11:02
PROGRAM FILE: BMS (VERSION 30.4 87/11/19 87/11/19)

BACK: JIG: COMP:

BGT CALIPER CALIBRATION SUMMARY

	MEASURED		CALIBRATED		
	SMALL	LARGE	SMALL	LARGE	UNITS
C1	11.95	30.2	16.00	59.3	IN
C2	13.30	31.7	16.00	59.3	IN

011-15

Schlumberger

X - Y CALIPER

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

ELL: NORTH DISTRICT REGIONAL IW NO.1

IELD: POMPANO BEACH
OUNTY: BROWARD
TATE: FLORIDA

OCATION: NORTH DISTRICT REGIONAL WASTE
WATER TREATMENT PLANT

RECEIVED
MAR 0 9 1990
Dept. of Environmental Reg.
West Palm Beach

OTHER SERVICES-

ERMANENT DATUM: PAD
LEV. OF PERM. DATUM:
OG MEASURED FROM: PAD
12.0 F ABOVE PERM. DATUM
RLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
30.4

ATE: 28 FEB 90
UN NO: ....

EPTH-DRILLER: 3005.0 F
EPTH-LOGGER: 3006.0 F
TM. LOG INTERVAL: 3000.0
OP LOG INTERVAL: 1000.0

ASING-DRILLER: 1950.0 F
ASING-LOGGER:
ASING: 34"
WEIGHT:
IT SIZE: 32 1/2
DEPTH:

TYPE FLUID IN HOLE: SALTWATER
DENSITY:
VISCOSITY:
PH:
FLUID LOSS:
SOURCE OF SAMPLE:
RM: AT
RMF: AT
RMC: AT
SOURCE RMF/RMC: /
RM AT BHT: AT
RMF AT BHT: AT
RMC AT BHT: AT

TIME CIRC. STOPPED:
TIME LOGGER ON BTM.:

MAX. REC. TEMP:

LOGGING UNIT NO: 8306
LOGGING UNIT LOC: FT.MYERS
RECORDED BY: SCHULER
WITNESSED BY: BRANTLEY/GREUEL

REMARKS:

CEMENT VOLUME 4398 CUFT FROM 3006 FT TO 1950 FT
HOLE VOLUME 7715 CUFT FROM 3006 FT TO 1950 FT
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.
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.
.

EQUIPMENT NUMBERS-

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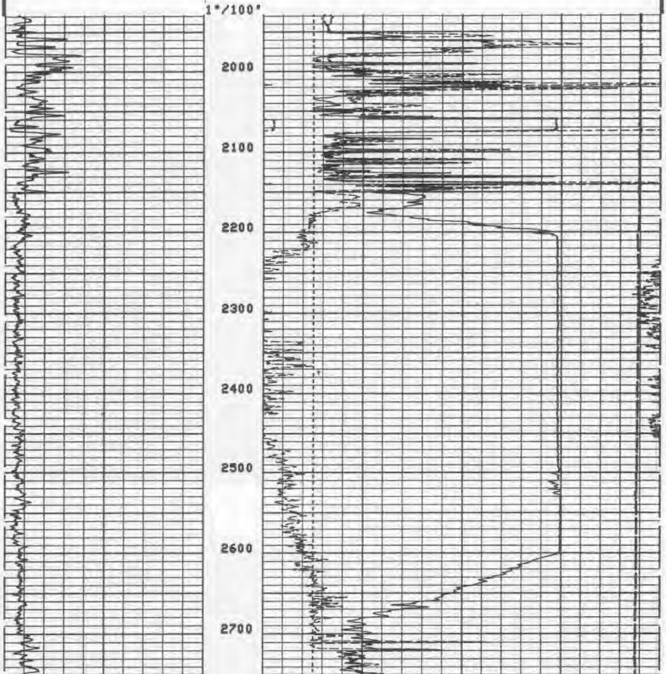
CP 30.4 FILE 15 28-FEB-90 23:11

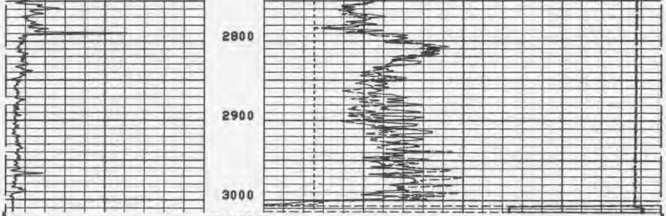
TENS(LB)	10000.	0.0
BS (IN)	30.000	50.000
C2 (IN)	30.000	50.000
C1 (IN)	30.000	50.000
GR (GAPI)	0.0	100.00

CP 30.4 FILE 15 28-FEB-90 23:11

INPUT FILES
11

DATA ACQUIRED
28-FEB-90 23:01





1"/100'

CP 30.4 FILE 15 28-FEB-90 23:09

INPUT FILES
11

DATA ACQUIRED
28-FEB-90 22:44

TENS(LB)
10000. 0.0

BS (IN)
30.000 50.000

C2 (IN)
30.000 50.000

GR (GAPI)
0.0 100.00

C1 (IN)
30.000 50.000

TENS(LB)
10000. 0.0

BS (IN)
30.000 50.000

C2 (IN)
30.000 50.000

GR (GAPI)
0.0 100.00

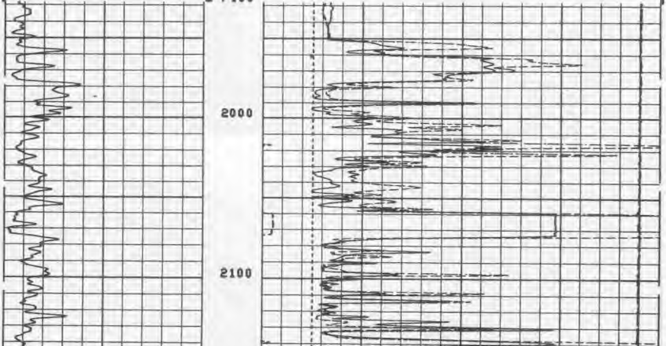
C1 (IN)
30.000 50.000

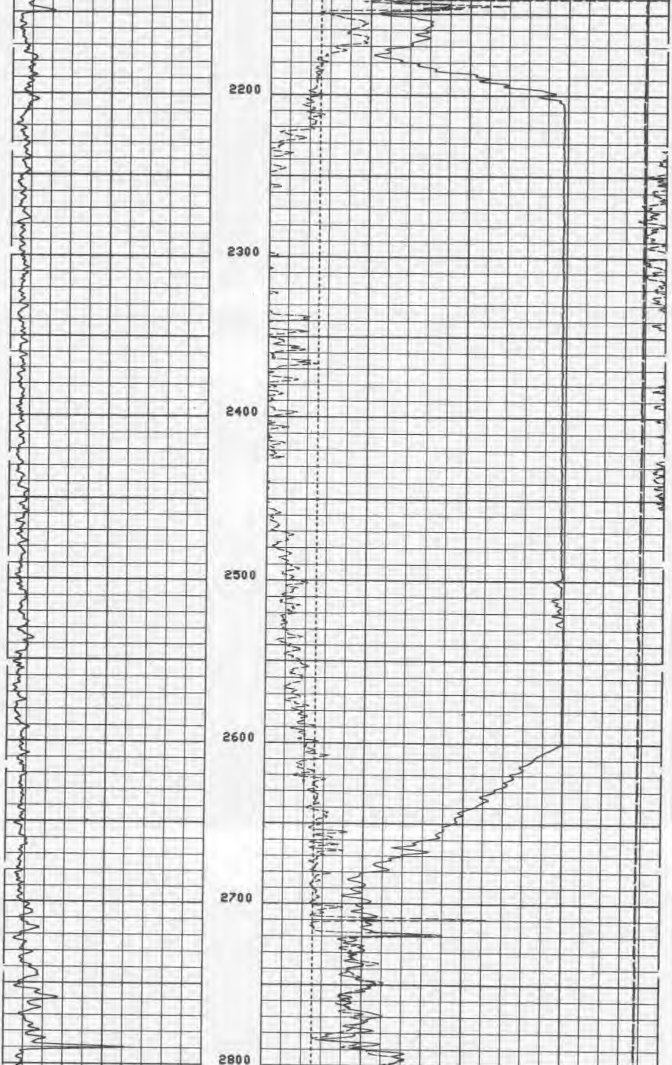
CP 30.4 FILE 14 28-FEB-90 23:08

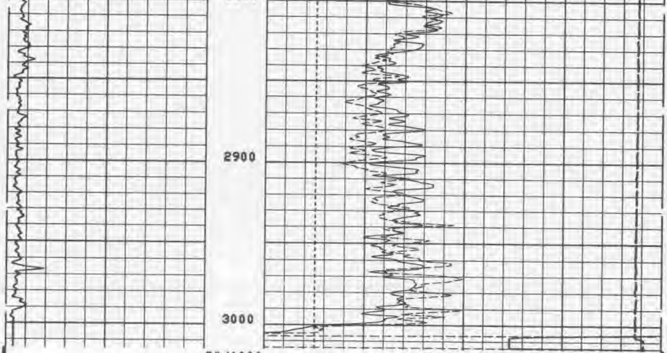
INPUT FILES
11

DATA ACQUIRED
28-FEB-90 23:01

2"/100'







2"/100'

CP 30.4 FILE 14 28-FEB-90 23:06

INPUT FILES
11

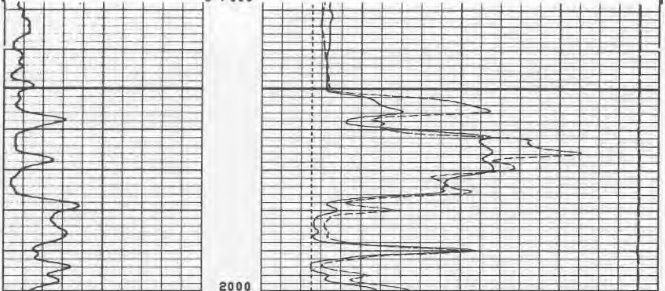
DATA ACQUIRED
28-FEB-90 22:44

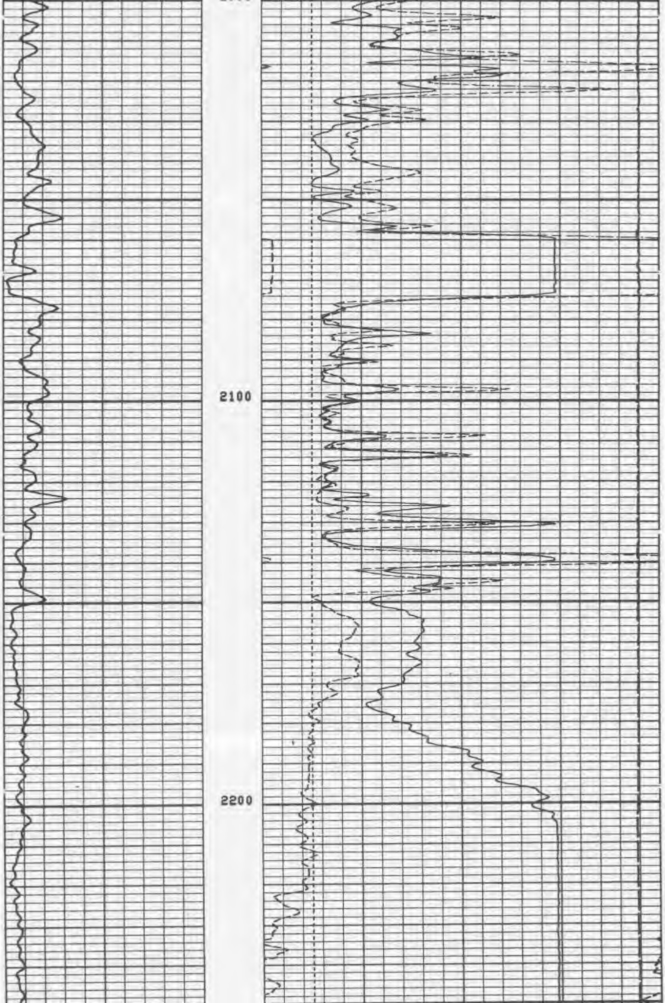
TENS(LB)
10000. 0.0
BS (IN)
30.000 50.000
C2 (IN)
30.000 50.000
GR (GAPI)
C1 (IN)
0.0 100.00
30.000 50.000

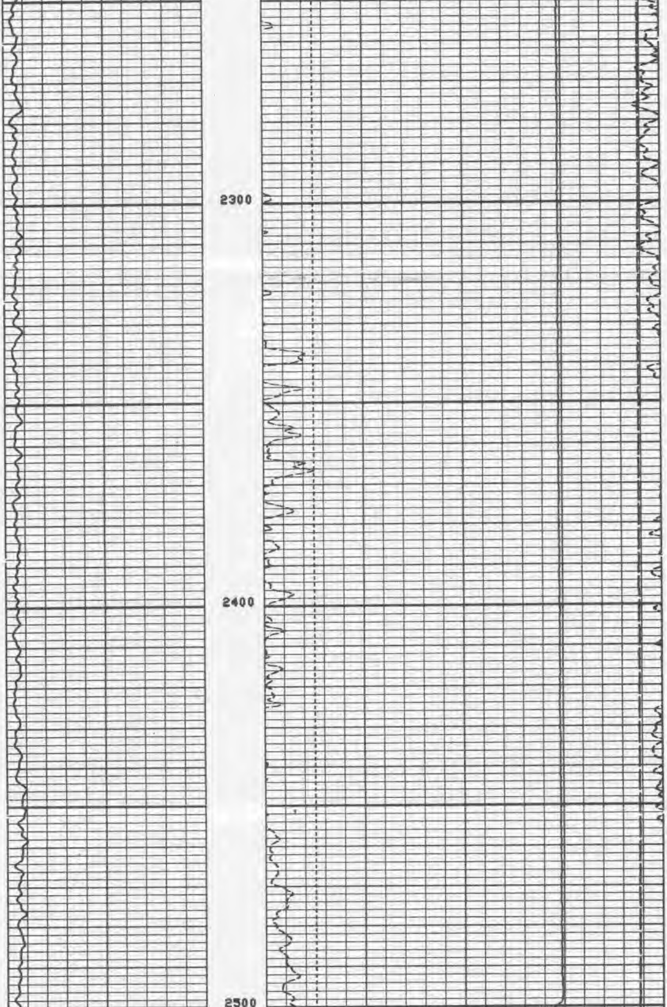
TENS(LB)
10000. 0.0
BS (IN)
30.000 50.000
C2 (IN)
30.000 50.000
GR (GAPI)
C1 (IN)
0.0 100.00
30.000 50.000

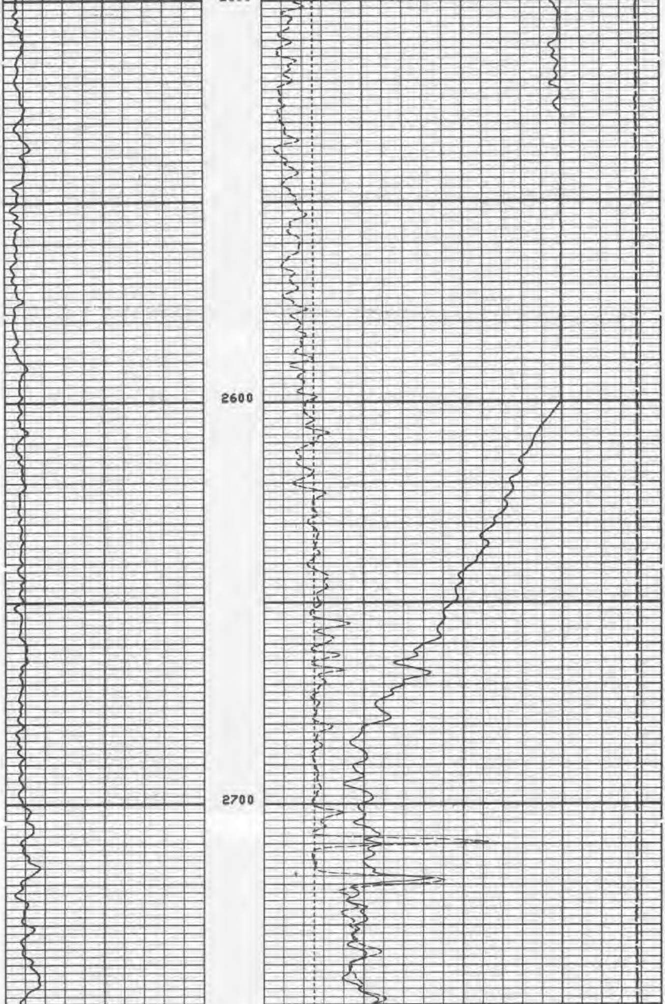
CP 30.4 FILE 11 28-FEB-90 23:01

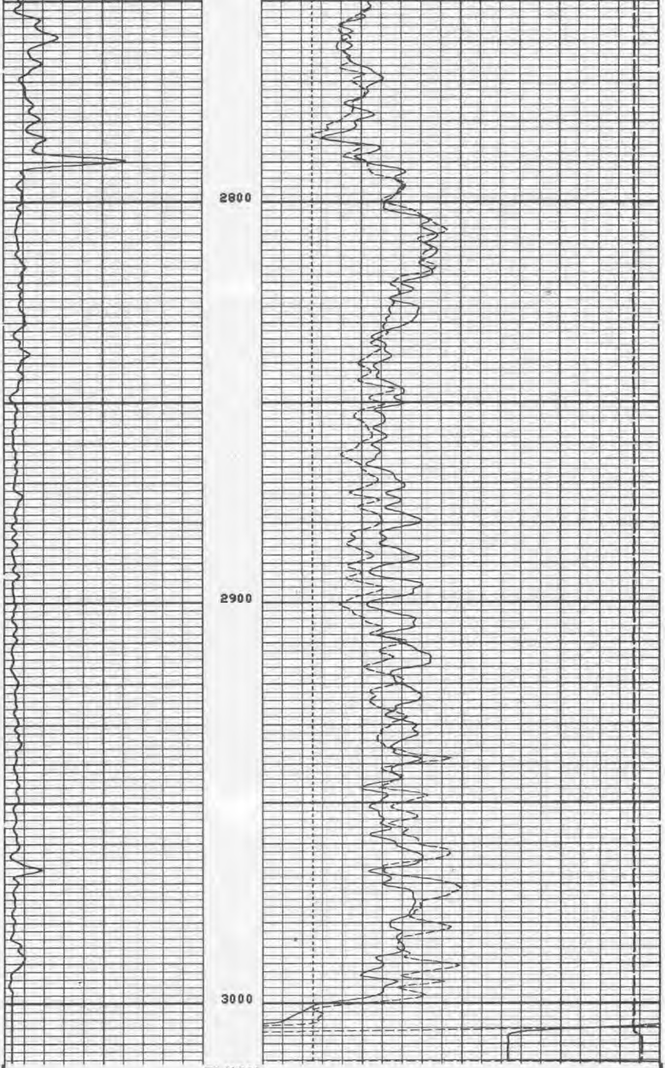
5"/100'











5"/100'

CP 30.4 FILE 11 28-FEB-90 22:41

TENS(LB)
10000. 0.0
BS (IN)
30.000 50.000
C2 (IN)
30.000 50.000
GR (GAPI)
C1 (IN)
0.0 100.00
30.000 50.000

Schlumberger

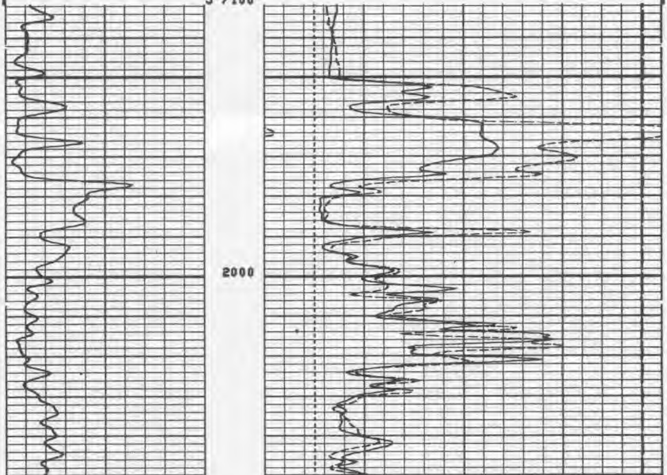
REPEAT SECTION

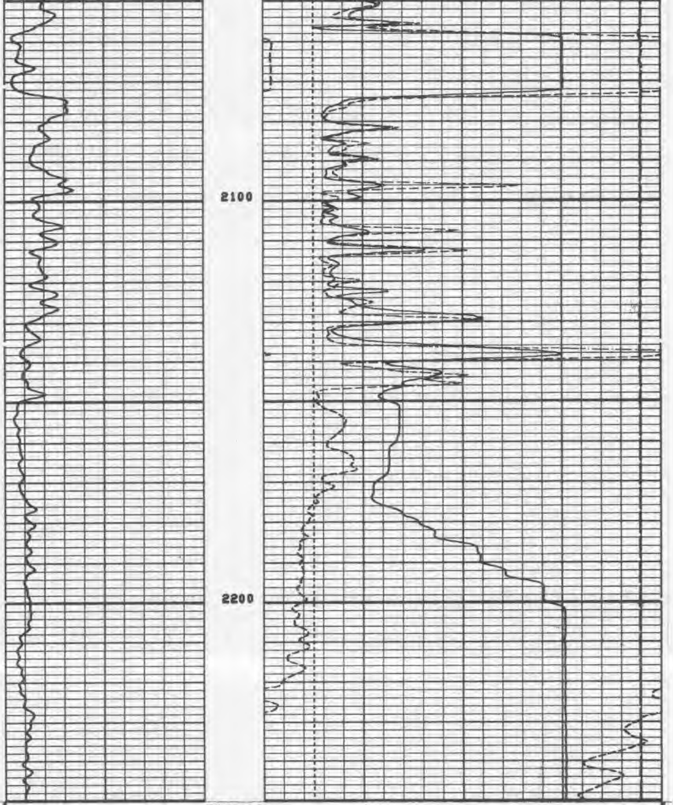
CSU Field Log

TENS(LB)
10000. 0.0
BS (IN)
30.000 50.000
C2 (IN)
30.000 50.000
GR (GAPI)
C1 (IN)
0.0 100.00
30.000 50.000

CP 30.4 FILE 9 28-FEB-90 21:49

5"/100'





5"/100'

CP 30.4 FILE 9 28-FEB-90 21:36

TENS(LB) 10000. 0.0

BS (IN) 30.000 50.000

C2 (IN) 30.000 50.000

C1 (IN) 30.000 50.000

GR (GAPI) 0.0 100.00

```
                BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED:    28-FEB-90 20:00
PROGRAM FILE: BMS    (VERSION    30.4    90/01/10  87/11/19)

BGT              CALIPER CALIBRATION SUMMARY

            MEASURED                     CALIBRATED
          SMALL    LARGE               SMALL    LARGE       UNITS
   C1     13.46    17.2                16.00    23.0         IN
   C2     14.06    18.2                16.00    23.0         IN
```

Schlumberger

FLUID RESISTIVITY

CSU Field Log

COMPANY:	YOUNGQUIST BROTHERS DRILLING
WELL:	NORTH DISTRICT REGIONAL IW-1
FIELD:	POMPANO BEACH
COUNTY:	BROWARD
STATE :	FLORIDA
LOCATION:	NORTH BROWARD DISTRICT REGIONAL WASTE WATER TREATMENT PLANT

OTHER SERVICES-
- X-Y CALIPER
- BHC/VDL
- FLOW
- FIL
- DIL/SFL
- TEMP

PERMANENT DATUM:	PAD	ELEVATIONS-	
ELEV. OF PERM. DATUM:		KB:	
LOG MEASURED FROM:	PAD ABOVE PERM. DATUM	DF:	
DRLG. MEASURED FROM:	PAD	GL:	

PROGRAM
TAPE NO:
30.4
SERVICE
ORDER NO:
519998

DATE:	4 FEB 90
RUN NO:	SIX

DEPTH-DRILLER:	3010.0 F
DEPTH-LOGGER:	3010.0 F
BTM. LOG INTERVAL:	3001.0 F
TOP LOG INTERVAL:	1950.0 F
CASING-DRILLER:	1950.0 F
CASING-LOGGER:	1950.0 F
CASING:	34"
WEIGHT:	
BIT SIZE:	12 1/4"
DEPTH:	3010.0 F

TYPE FLUID IN HOLE:	SALT WATER
DENSITY:	9.00 LB/G
TIME CIRC. STOPPED:	
TIME LOGGER ON BTM.:	09:00 4-FEB-90
MAX. REC. TEMP:	69.0 DEGF
LOGGING UNIT NO:	8306
LOGGING UNIT LOC:	FT.MYERS
RECORDED BY:	S.MILLER
WITNESSED BY:	J.BRANTLEY

REMARKS:

3" STANDOFF RUN ON FLUID R'S TOOL.
DATA GATHERED LOGGING DOWN.

EQUIPMENT NUMBERS-

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CP 30.4 FILE 4 04-FEB-90 09:06

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	

SENSOR MEASURE POINT TO TOOL ZERO

PROX	2.4	FEET	MNOR	2.4	FEET
MINV	2.4	FEET	TENS	4.4	FEET
CALI	2.4	FEET			

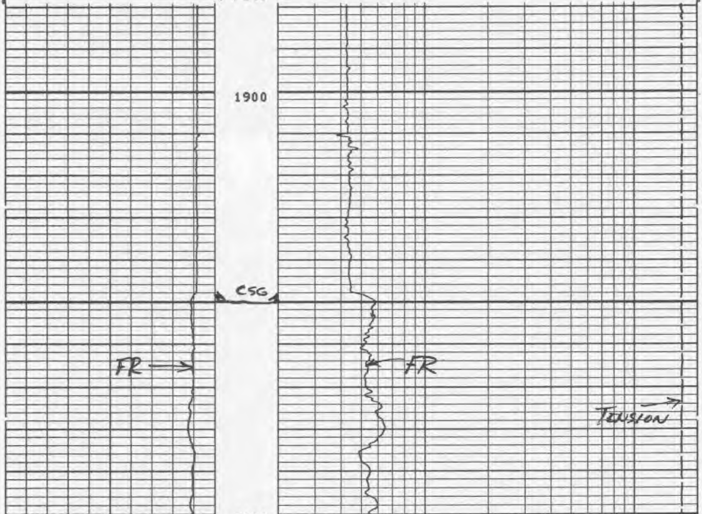
5.0000 MNOR(OHMM) 0.0

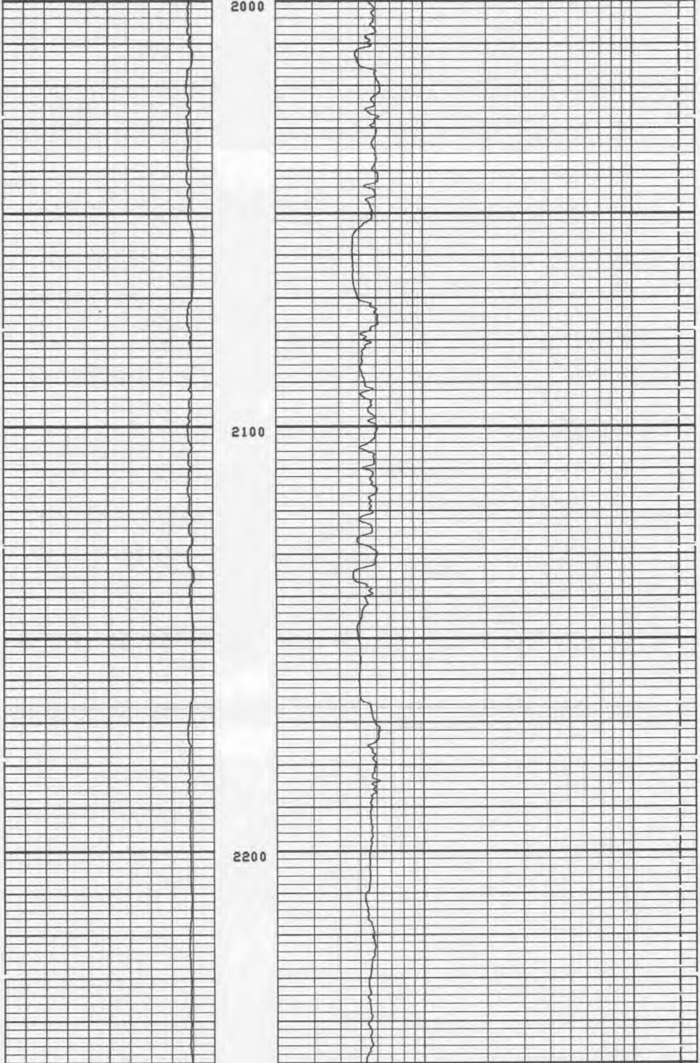
.20000 MNOR(OHMM) 20.000

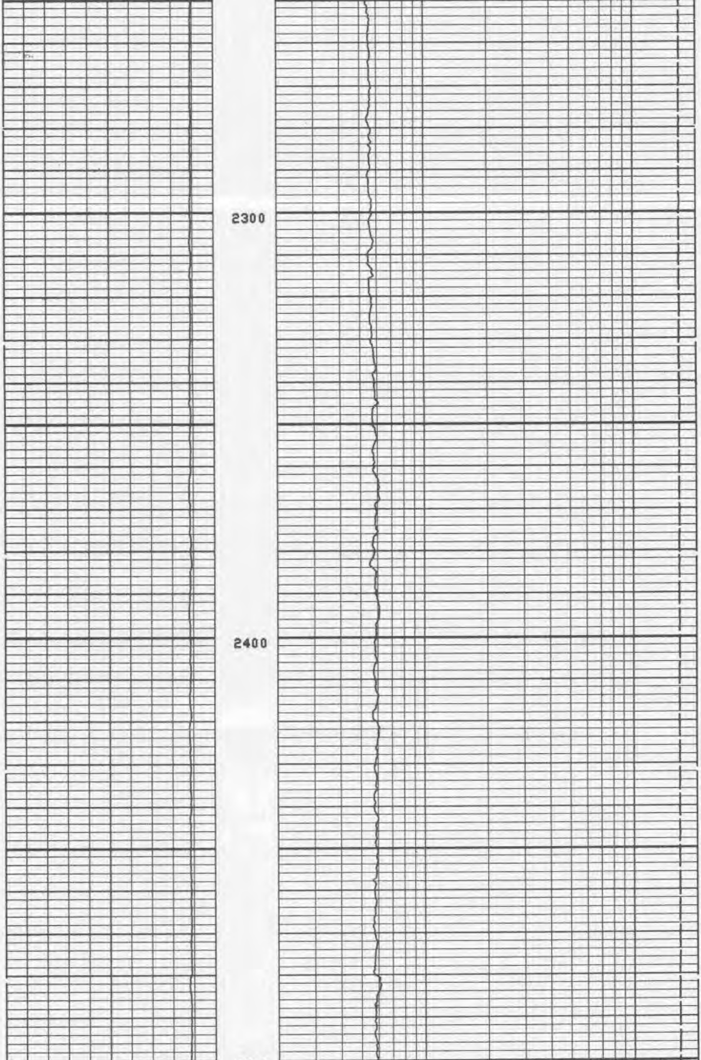
10000. TENS(LB) 0.0

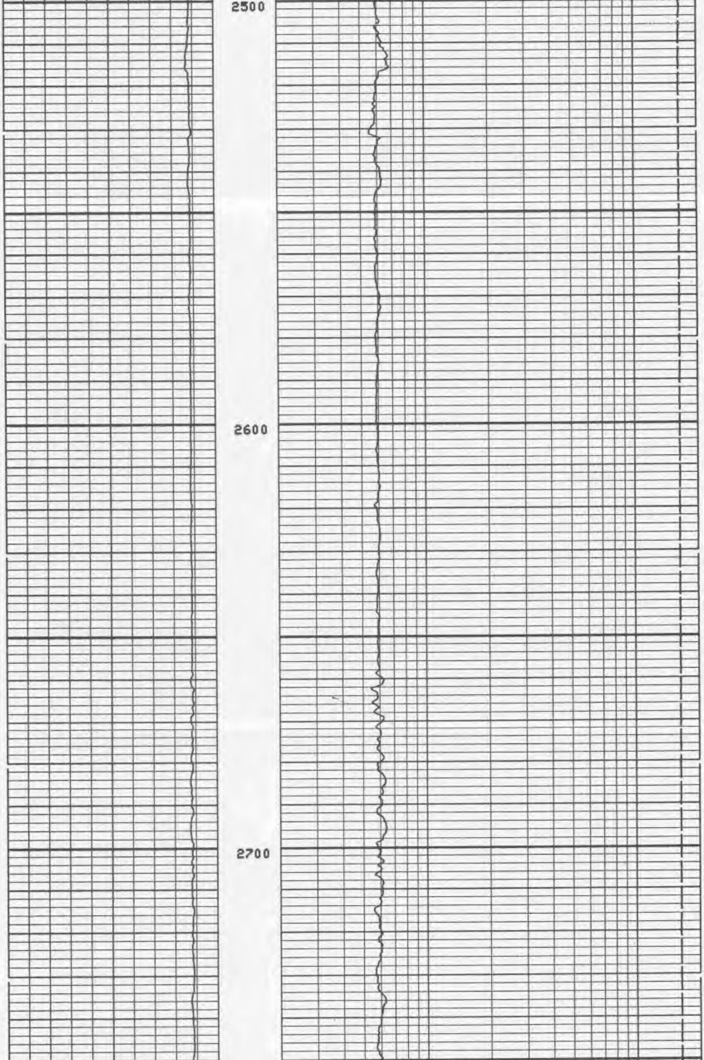
CP 30.4 FILE 1 04-FEB-90 08:38

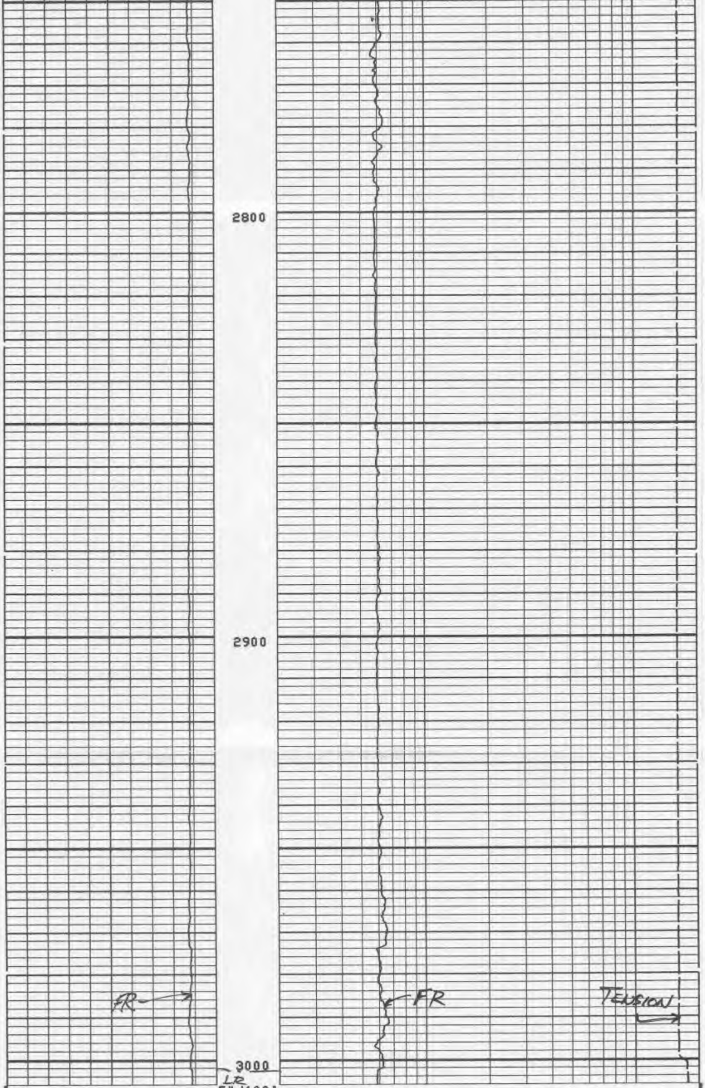
5"/100'











CP 30.4 FILE 1 04-FEB-90 09:01

```
5.0000                0.0        .20000                                    20.000
     MNOR(OHMM)                                  MNOR(OHMM)
                                                          10000.               0.0
                                                                 TENS(LB   )
```

```
CEMENT VOLUME = 118.751 F3
HOLE VOLUME =   118.751 F3
FROM  1880.0 TO  3006.5 FEET
```

```
                 BEFORE SURVEY CALIBRATION SUMMARY


 PERFORMED:     04-FEB-90 08:32
 PROGRAM FILE: BMS     (VERSION    30.4    90/01/10  87/11/19)


MPT                  ELECTRONICS CALIBRATION SUMMARY

              MEASURED                      CALIBRATED
           ZERO     PLUS                  ZERO      PLUS          UNITS
 MINV        .0      3.7                   0.0       5.0          OHMM
 MNOR        .0      3.4                   0.0       5.0          OHMM
 PROX     -11.0    551.6                   0.0     500.0          MMHO

  CP 30.4           FILE    0       04-FEB-90 08:32
```

Schlumberger

FLUID RESISTIVITY

CSU Field Log

Schlumberger

CSU Field Log

FLOWMETER SURVEY

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE: FLORIDA

LOCATION: NORTH BROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
DIL/SFL
BHC/VDL
X-Y CALIPER
FIL
FLUID R'S
TEMP

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM TAPE NO:
30.4
SERVICE ORDER NO:
519998

DATE: 2 FEB 90
RUN NO: SIX

DEPTH-DRILLER: 3010.0 F
DEPTH-LOGGER: 3010.0 F
BTM. LOG INTERVAL: 3010.0 F
TOP LOG INTERVAL: 1950.0 F

CASING-DRILLER: 1950.0 F
CASING-LOGGER: 1950.0 F
CASING: 34"
WEIGHT:
BIT SIZE: 12 1/4"
DEPTH: 3010.0 F

TYPE FLUID IN HOLE: SALT WATER
DENSITY: 9.00 LB/G
RMC AT BHT: AT 69.0 DEGF

TIME CIRC. STOPPED:
TIME LOGGER ON BTM.: 05:30 2-FEB-90

MAX. REC. TEMP: 69.0 DEGF

LOGGING UNIT NO: 8306
LOGGING UNIT LOC: FT.MYERS
RECORDED BY: S.MILLER
WITNESSED BY: J.BRANTLEY

REMARKS:

EQUIPMENT NUMBERS-

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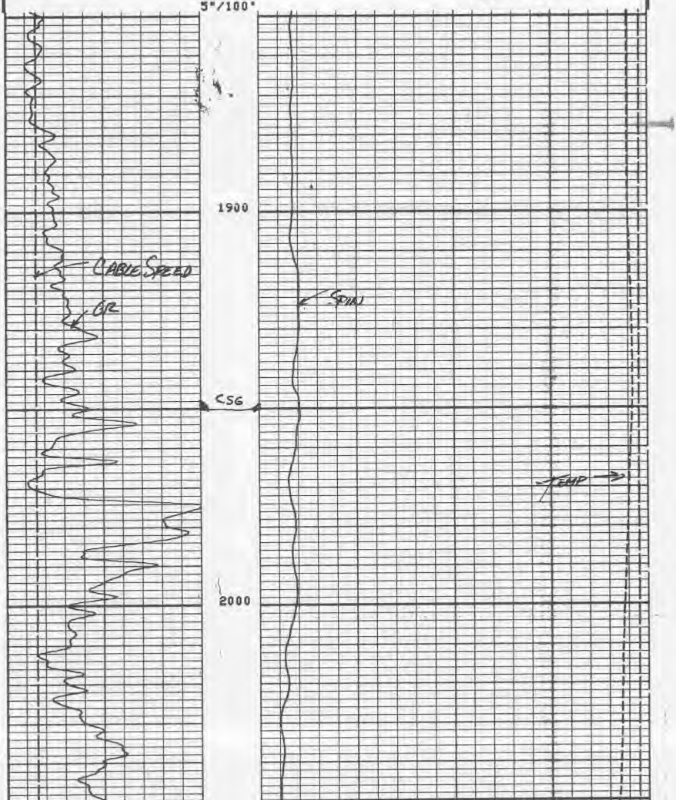
CP 30.4 FILE 8 02-FEB-90 06:05

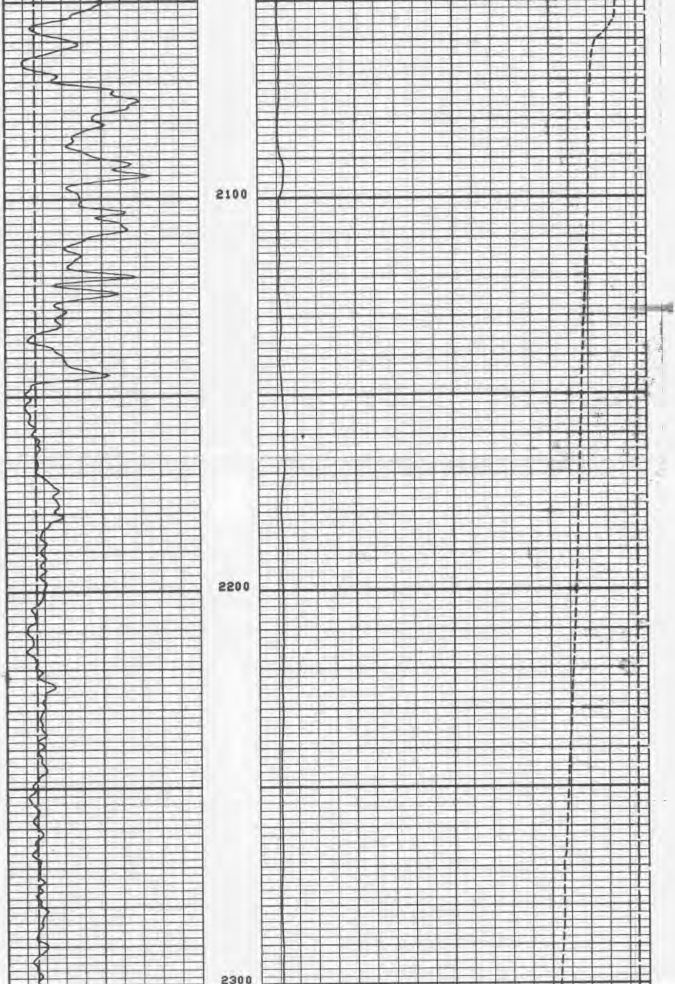
DATA ACQUIRED LOGGING UP

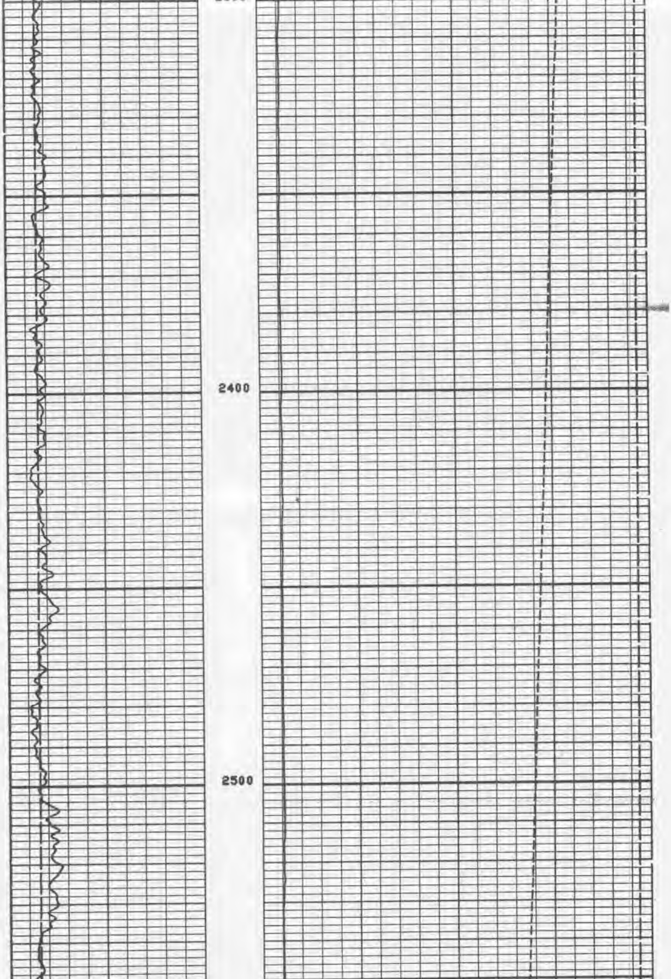
Curve	Left	Right
CVEL(F/MN)	0.0	200.00
CVEL(F/MN)	0.0	-200.0
GR (GAPI)	0.0	100.00
TENS(LB)	10000.	0.0
TEMP(DEGF)	50.000	70.000
SPIN(RPS)	0.0	10.000

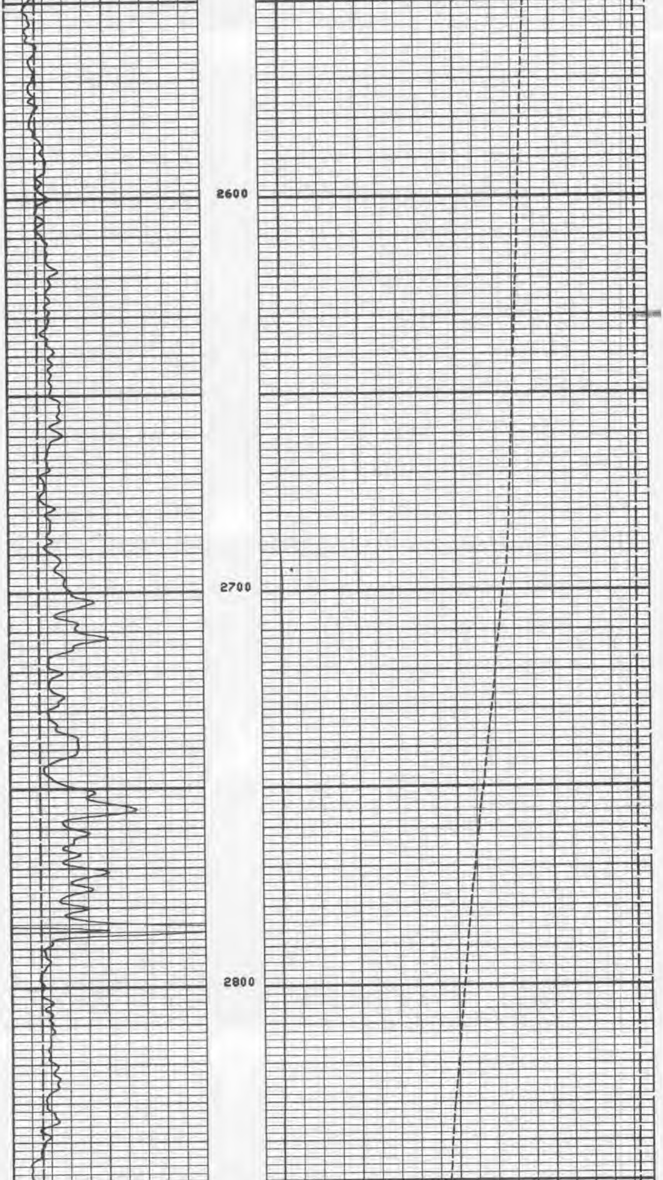
CP 30.4 FILE 7 02-FEB-90 06:04

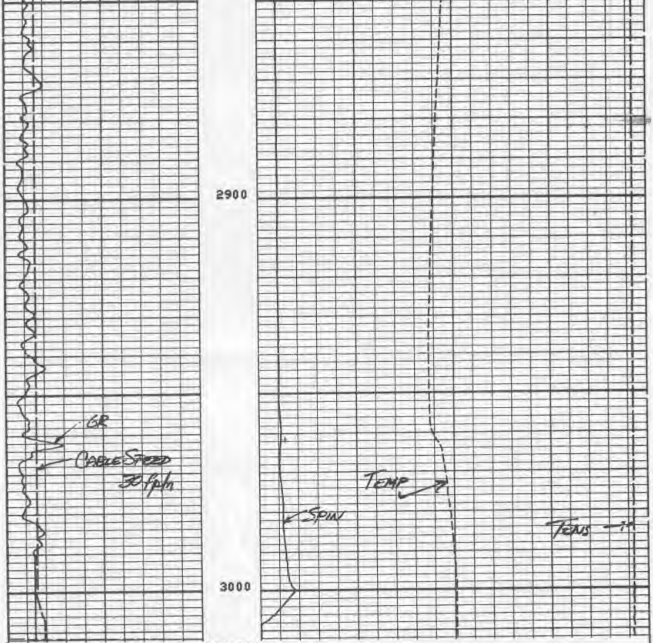
Up Log











5"/100'

CP 30.4 FILE 7 02-FEB-90 05:26 *Up Log*

CVEL(F/MN)		TENS(LB)	
0.0	200.00	10000.	0.0
CVEL(F/MN)		TEMP(DEGF)	
0.0	-200.0	50.000	70.000
GR (GAPI)		SPIN(RPS)	
0.0	100.00	0.0	10.000

SENSOR MEASURE POINT TO TOOL ZERO

EXP1	0.0	FEET	GR	13.3	FEET
EXP3	0.0	FEET	EXP2	0.0	FEET
TENS	-7.5	FEET	EXT	0.0	FEET
CCL	22.2	FEET	CVEL	1.0	FEET
SVFG	1.0	FEET	SPIN	1.0	FEET
MP	4.0	FEET	TEMP	5.4	FEET
DTEM	5.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	CASE	
QIOP	FLOW		TCSH	0.0	IN
VPCF	.830000		FDSH	0.0	G/C3
NTHR	-10.0000	F/MN	TIRA	.500000	
FCHD	CSID		PTHR	10.0000	F/MN
SGSN	0000A-00011		CDAT		
WMUD	9.00000	LB/G			

DATA ACQUIRED LOGGING UP

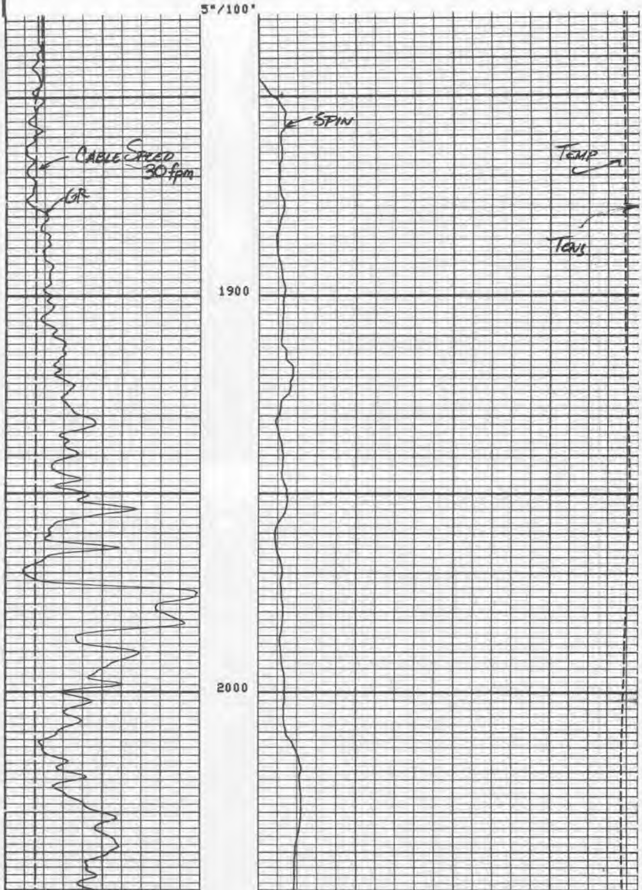
CVEL(F/MN)	0.0	200.00
CVEL(F/MN)	0.0	-200.0
GR (GAPI)	0.0	100.00
TENS(LB)	10000.	0.0
TEMP(DEGF)	50.000	70.000
SPIN(RPS)	0.0	10.000

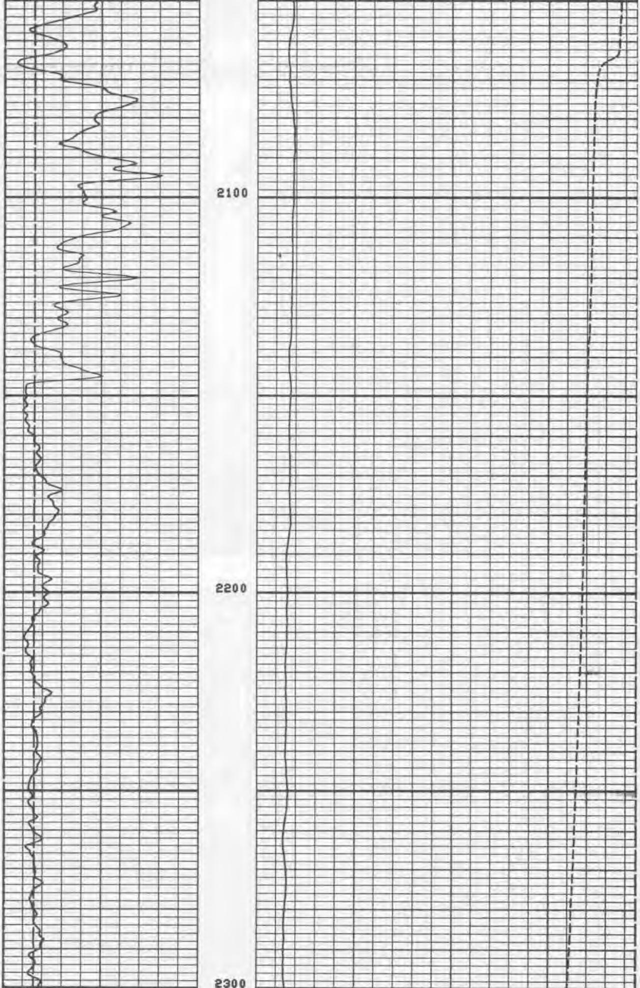
CP 30.4 FILE 6 02-FEB-90 05:23

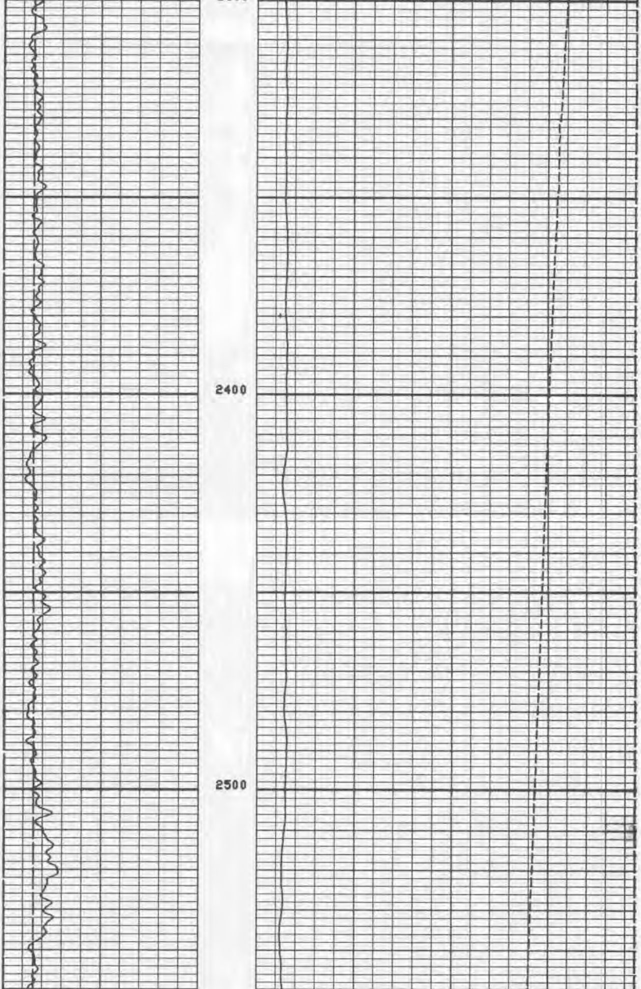
INPUT FILES
4

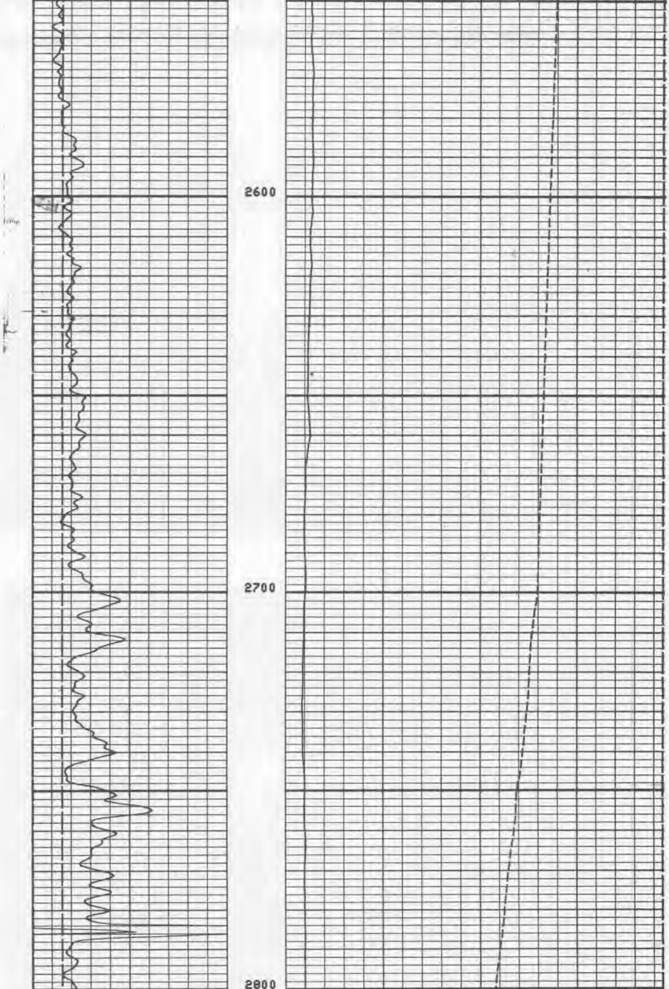
DATA ACQUIRED
02-FEB-90 04:35

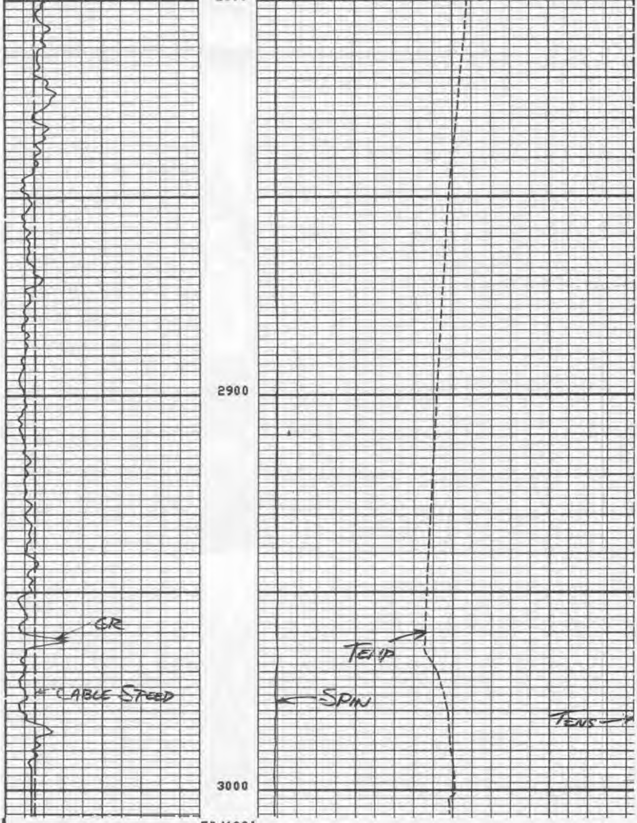
Down Log











5"/100'

CP 30.4 FILE 6 02-FEB-90 05:19 DOWN LOG

INPUT FILES
4

DATA ACQUIRED
02-FEB-90 05:13

CVEL(F/MN) 0.0 — 200.00
CVEL(F/MN) 0.0 — -200.0
GR (GAPI) 0.0 — 100.00
TENS(LB) 10000. — 0.
TEMP(DEGF) 50.000 — 70.00
SPIN(RPS) 0.0 — 10.00

SENSOR MEASURE POINT TO TOOL ZERO

EXP1	0.0	FEET	GR	13.3	FEET
EXP3	0.0	FEET	EXP2	0.0	FEET
TENS	22.2	FEET	EXT	0.0	FEET
CCL	22.2	FEET	CVEL	1.0	FEET
SVFG	1.0	FEET	SPIN	1.0	FEET
MP	4.0	FEET	TEMP	5.4	FEET
DTEM	5.4	FEET			

```
                              PARAMETERS

      NAME  VALUE       UNIT                    NAME  VALUE       UNIT

      BS    12.2500     IN                      BHS   CASE
      QIOP  FLOW                                TCSH  0.0         IN
      VPCF  .830000                             FDSH  0.0         G/C3
      NTHR  -10.0000    F/MN                    TIRA  .500000
      FCHD  CSID                                PTHR  10.0000     F/MN
      SGSN  0000A-00011                         CDAT
      DO    0.0         F                       WMUD  9.00000     LB/G
      PP    NORM

                           DATA NOT RECORDED
```

```
                 BEFORE SURVEY CALIBRATION SUMMARY

  PERFORMED:     02-FEB-90 04:30
  PROGRAM FILE: PL     (VERSION .  30.4    00/00/00  87/11/19)


 MTSC              ELECTRONICS CALIBRATION SUMMARY

             MEASURED                      CALIBRATED
           ZERO    PLUS                ZERO      PLUS         UNITS
  TEMP     52.2   160.5                 0.0      200.0        DEGF


 ATTB              DETECTOR CALIBRATION SUMMARY

             MEASURED
           BKGD    JIG        CALIBRATED          UNITS
    GR      87     188           135              GAPI
```

Schlumberger

FLOWMETER SURVEY

CSU Field Log

Schlumberger

HIGH RESOLUTION TEMPERATURE LOG

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE: FLORIDA

LOCATION: NORTH BROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
DIL/SFL
BHC/VDL
X-Y CALIPER
FIL
FLUID R'S
FLOW

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
30.4
SERVICE
ORDER NO:
519998

DATE: 2 FEB 90
RUN NO: SIX

DEPTH-DRILLER: 3010.0 F
DEPTH-LOGGER: 3010.0 F
BTM. LOG INTERVAL: 3010.0 F
TOP LOG INTERVAL: 1950.0 F

CASING-DRILLER: 1950.0 F
CASING-LOGGER: 1950.0 F
CASING: 34"
WEIGHT:
BIT SIZE: 12 1/4"
DEPTH: 3010.0 F

TYPE FLUID IN HOLE: SALT WATER
DENSITY: 9.00 LB/G

TIME CIRC. STOPPED:
TIME LOGGER ON BTM.: 05:30 2-FEB-90

MAX. REC. TEMP: 69.0 DEGF

LOGGING UNIT NO: 8306
LOGGING UNIT LOC: FT.MYERS
RECORDED BY: S.MILLER
WITNESSED BY: J.BRANTLEY

REMARKS:

DATA GATHERED LOGGING DOWN.

EQUIPMENT NUMBERS-

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 30.4 FILE 6 02-FEB-90 05:23

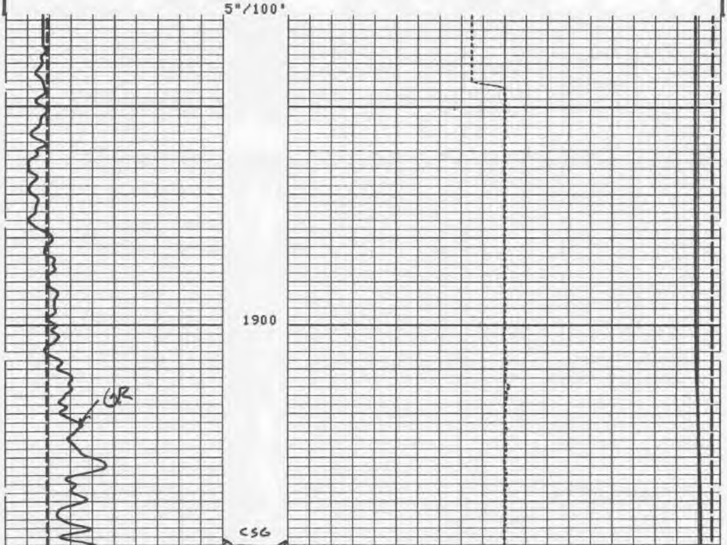
DATA ACQUIRED LOGGING UP

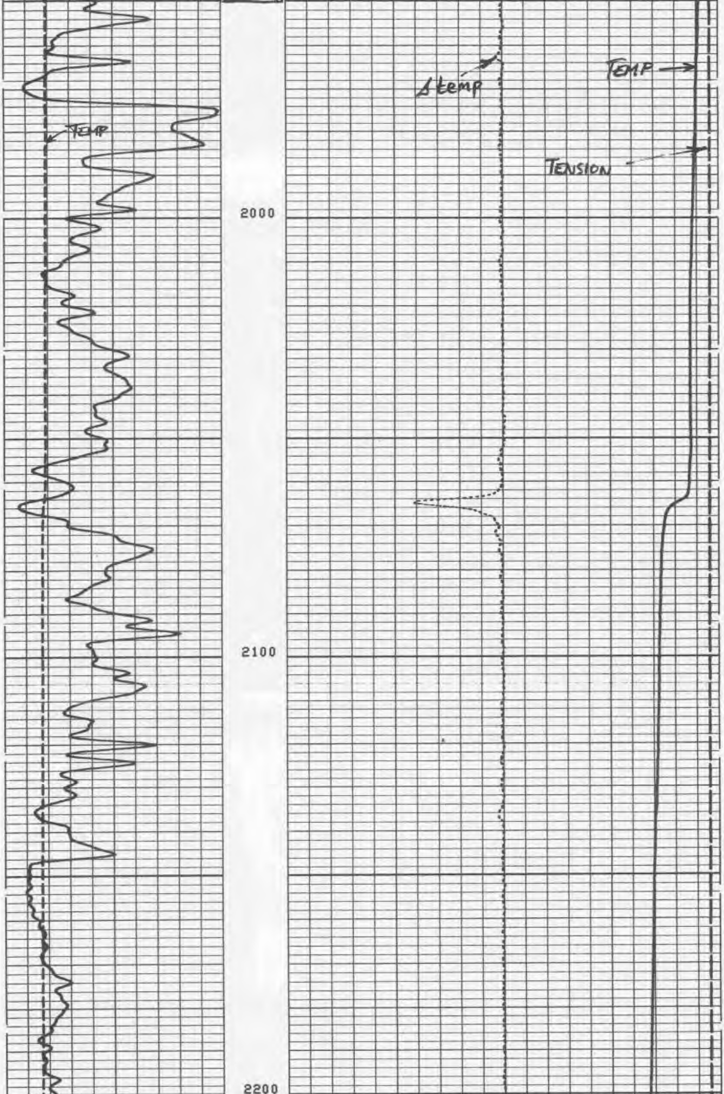
Track 1		Track 2	
		TENS(LB)	
		10000.	0.0
TEMP(DEGF)		DTEM(DF/F)	
50.000	150.00	-1.000	1.0000
GR (GAPI)		TEMP(DEGF)	
0.0	100.00	50.000	70.000

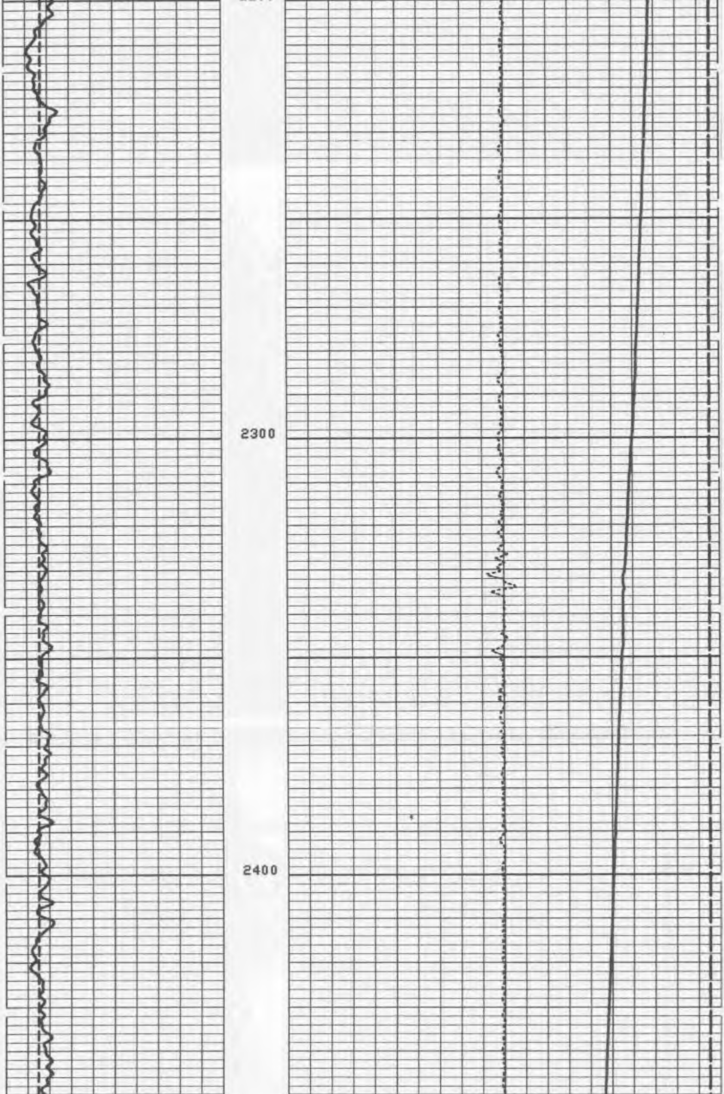
CP 30.4 FILE 6 02-FEB-90 05:23

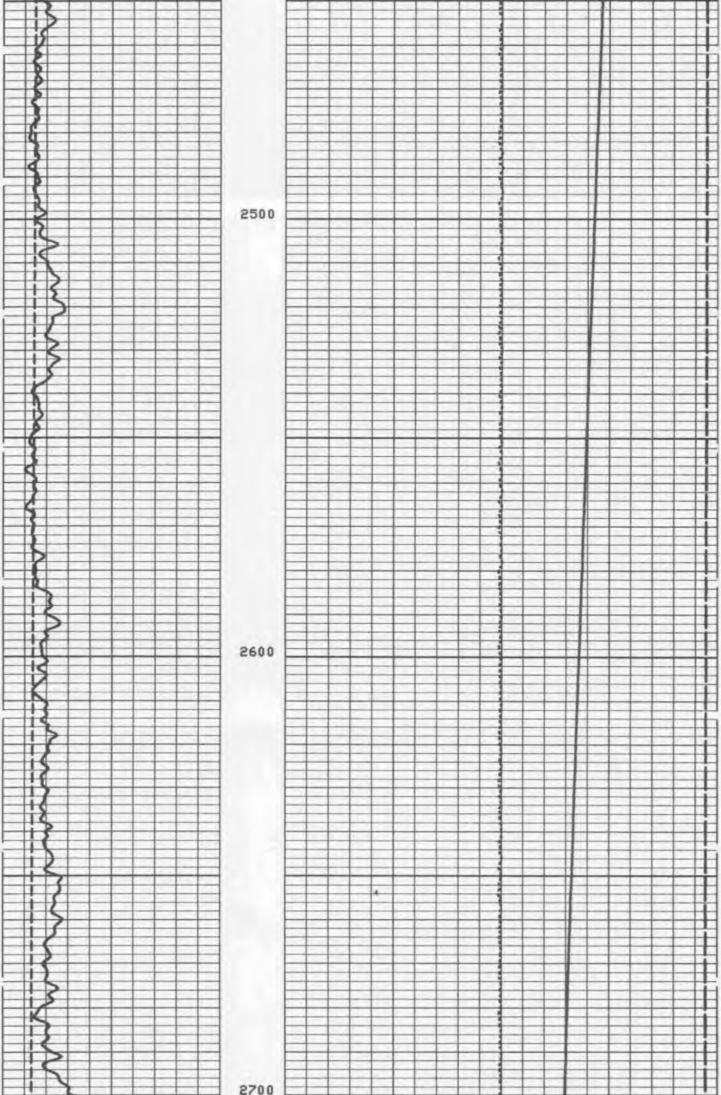
INPUT FILES
4

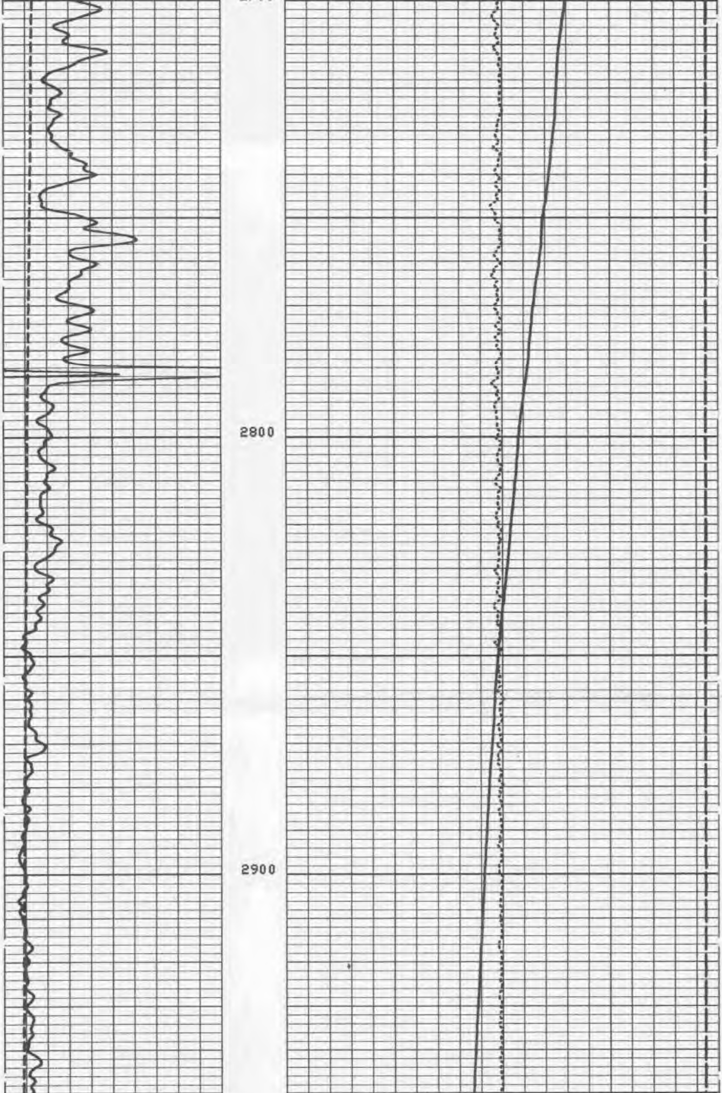
DATA ACQUIRED
02-FEB-90 04:35

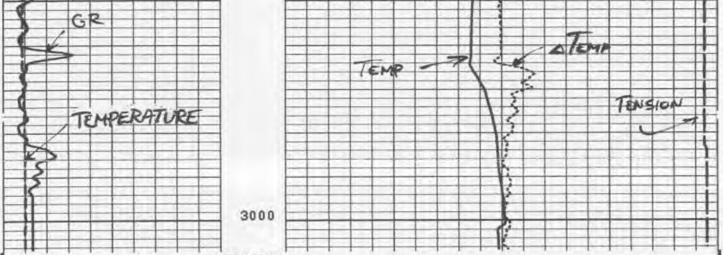












```
                                   5"/100'

    CP 30.4             FILE    6      02-FEB-90 05:19

            INPUT FILES                DATA ACQUIRED
            4                          02-FEB-90 05:13
```

```
                                                        TENS(LB  )
                                                    10000.            0.0
        TEMP(DEGF)                                DTEM(DF/F)
50.000          150.00        -1.000                                 1.0000
     GR  (GAPI)                                  TEMP(DEGF)
0.0             100.00        50.000                                 70.000
```

```
                     SENSOR MEASURE POINT TO TOOL ZERO

          EXP1  0.0  FEET                         GR   13.3  FEET
          EXP3  0.0  FEET                         EXP2  0.0  FEET
          TENS 22.2  FEET                         EXT   0.0  FEET
          CCL  22.2  FEET                         CVEL  1.0  FEET
          SVFG  1.0  FEET                         SPIN  1.0  FEET
          MP    4.0  FEET                         TEMP  5.4  FEET
          DTEM  5.4  FEET
```

```
                              PARAMETERS

        NAME  VALUE       UNIT                 NAME  VALUE       UNIT

        BS    12.2500     IN                   BHS  CASE
        QIOP FLOW                              TCSH 0.0          IN
        VPCF .830000                           FDSH 0.0          G/C3
        NTHR -10.0000     F/MN                 TIRA .500000
        FCHD CSID                              PTHR 10.0000      F/MN
        SGSN 0000A-00011                       CDAT
        DO    0.0         F                    WMUD 9.00000      LB/G
        PP    NORM

                           DATA NOT RECORDED
```

```
                BEFORE SURVEY CALIBRATION SUMMARY

     PERFORMED:     02-FEB-90 04:30
     PROGRAM FILE: PL      (VERSION    30.4    00/00/00  87/11/19)


   MTSC              ELECTRONICS CALIBRATION SUMMARY

               MEASURED                    CALIBRATED
             ZERO    PLUS               ZERO      PLUS          UNITS
     TEMP    52.2   160.5                0.0     200.0          DEGF

   ATTB              DETECTOR CALIBRATION SUMMARY

               MEASURED
             BKGD    JIG          CALIBRATED          UNITS
       GR     87     188             135              GAPI
```

Schlumberger

HIGH RESOLUTION TEMPERATURE LOG

CSU Field Log

DUAL INDUCTION/SFL

CSU

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE: FLORIDA

LOCATION: NORTH BROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
X-Y CALIPER
BHC/VDL
FLOW
FIL
FLUID R'S
TEMP

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
30.4
SERVICE
ORDER NO:
519998

DATE: 2 FEB 90
RUN NO: SIX

DEPTH-DRILLER: 3010.0 F
DEPTH-LOGGER: 3010.0 F
BTM. LOG INTERVAL: 3004.0 F
TOP LOG INTERVAL: 1950.0 F

CASING-DRILLER: 1950.0 F
CASING-LOGGER: 1950.0 F
CASING: 34"
WEIGHT:
BIT SIZE: 12 1/4"
DEPTH: 3010.0 F

TYPE FLUID IN HOLE: SALT WATER
DENSITY: 9.00 LB/G
TIME CIRC. STOPPED:
TIME LOGGER ON BTM.: 07:00 2-FEB-90

MAX. REC. TEMP: 69.0 DEGF

LOGGING UNIT NO: 8306
LOGGING UNIT LOC: FT.MYERS
RECORDED BY: S.MILLER
WITNESSED BY: J.BRANTLEY

REMARKS:

EQUIPMENT NUMBERS-

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```
CP 30.4            FILE  15      02-FEB-90 07:41

                 AFTER SURVEY TOOL CHECK SUMMARY

  PERFORMED:     02-FEB-90 07:14
  PROGRAM FILE: ISN    (VERSION    30.4    90/01/10  87/11/19)

 DITD                     TOOL  CHECK

                  ZERO                      PLUS
            BEFORE      AFTER        BEFORE      AFTER    UNITS
   ILD        0.0         -.1         500.0      500.1    MMHO
   ILM        0.0          .0         500.0      500.5    MMHO
   SFL        0.0          .0         500.0      499.6    MMHO

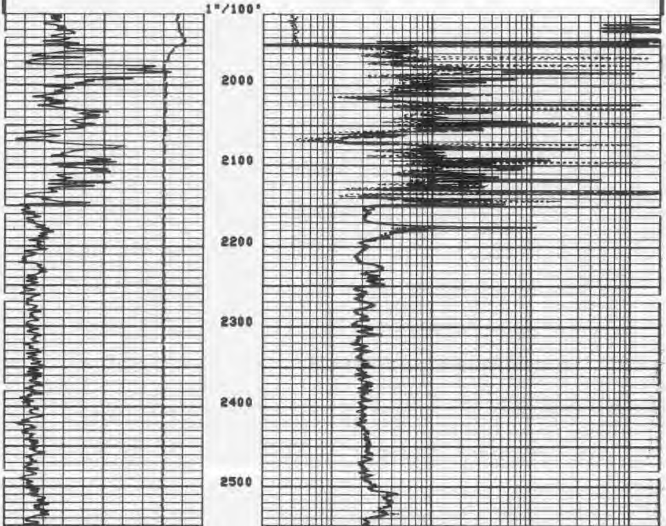
 ILD SONDE ERROR CORRECTION :         7.0 MMHO
 ILM SONDE ERROR CORRECTION :         9.5 MMHO

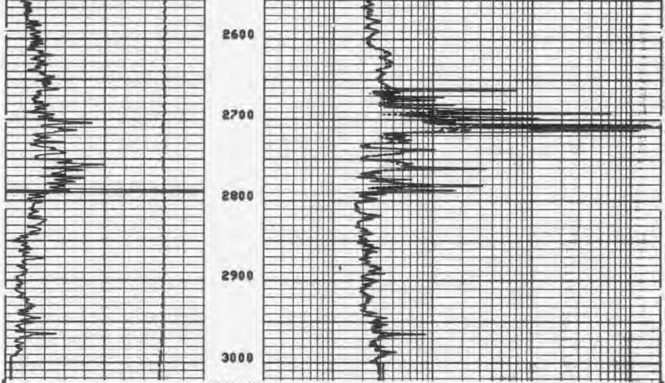
 BEFORE SURVEY:            ZERO: 02-FEB-90 06:54   PLUS: 02-FEB-90 06:55
 AFTER SURVEY CHECK:       ZERO: 02-FEB-90 07:13   PLUS: 02-FEB-90 07:14
```

GR (GAPI)			ILD (OHMM)	
0.0	100.00		.20000	2000.0
SP (MV)			ILM (OHMM)	
-160.0	40.000		.20000	2000.0
			SFLU(OHMM)	
			.20000	2000.0

```
CP 30.4            FILE  15      02-FEB-90 07:18

           INPUT FILES            DATA ACQUIRED
           12                     02-FEB-90 07:11
```





1"/100'

CP 30.4 FILE 15 02-FEB-90 07:16

INPUT FILES
12

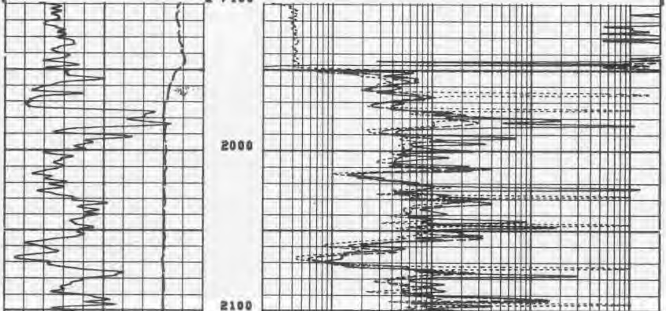
DATA ACQUIRED
02-FEB-90 07:00

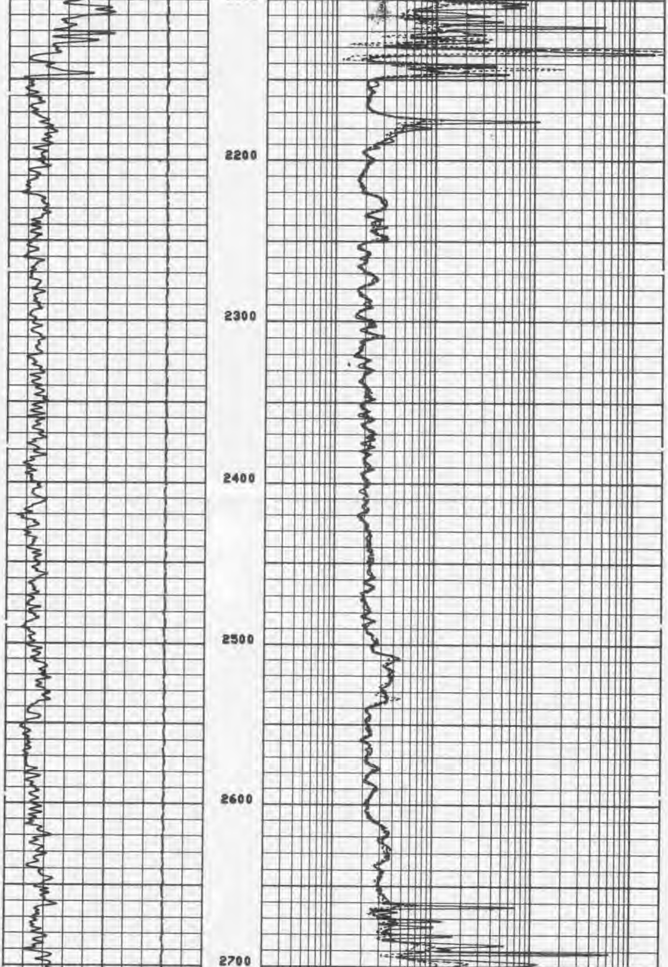
GR (GAPI)
0.0 100.00
SP (MV)
-160.0 40.000

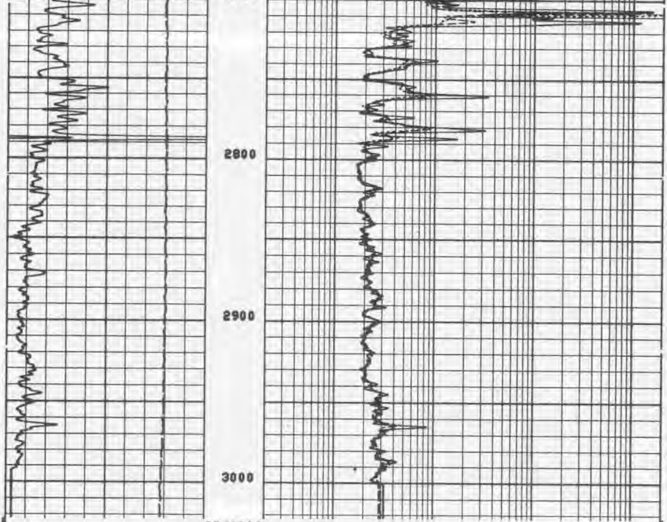
ILD (OHMM)
.20000 2000.0
ILM (OHMM)
.20000 2000.0
SFLU(OHMM)
.20000 2000.0

CP 30.4 FILE 12 02-FEB-90 07:11

2"/100'







2"/100'

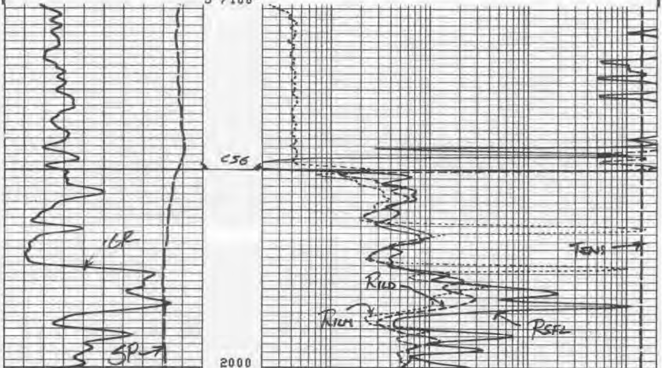
CP 30.4 FILE 12 02-FEB-90 07:00

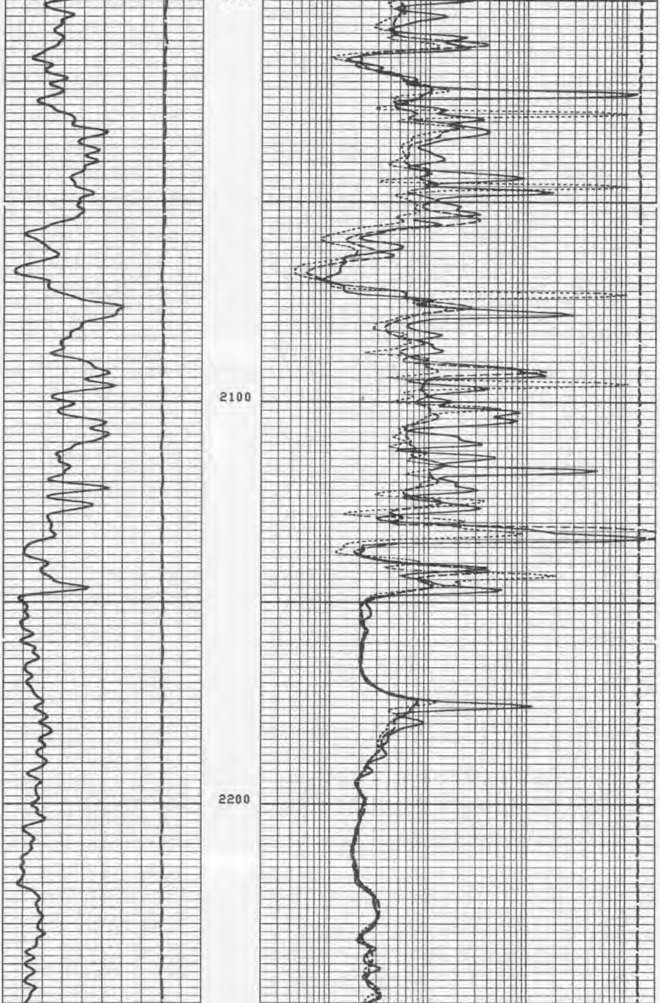
GR (GAPI)
0.0 100.00
SP (MV)
-160.0 40.000

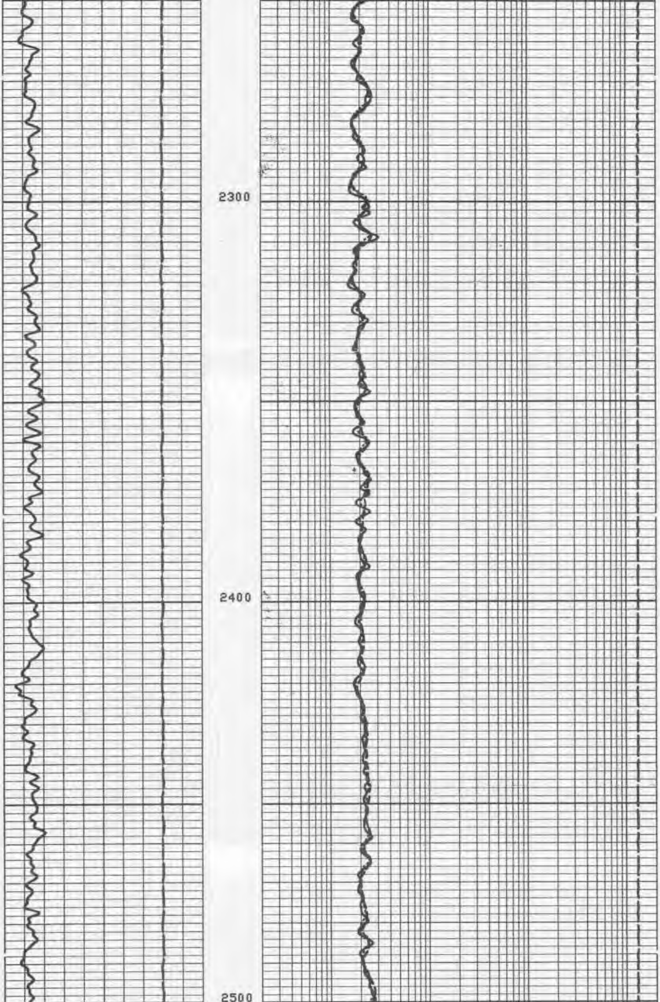
ILD (OHMM)
.20000 2000.0
ILM (OHMM)
.20000 2000.0
SFLU(OHMM)
.20000 2000.0

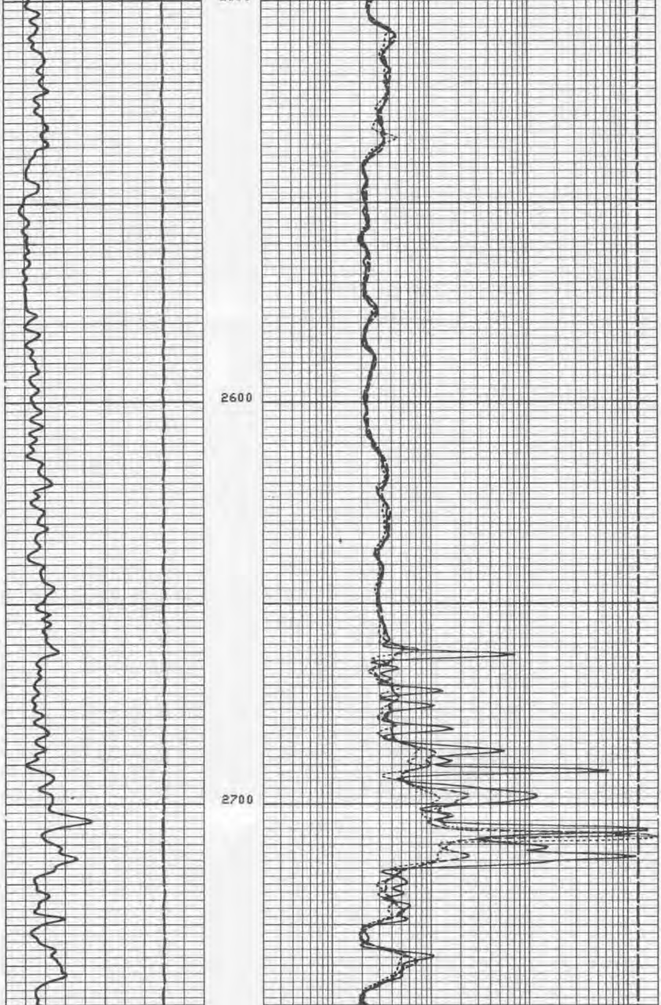
CP 30.4 FILE 12 02-FEB-90 07:11

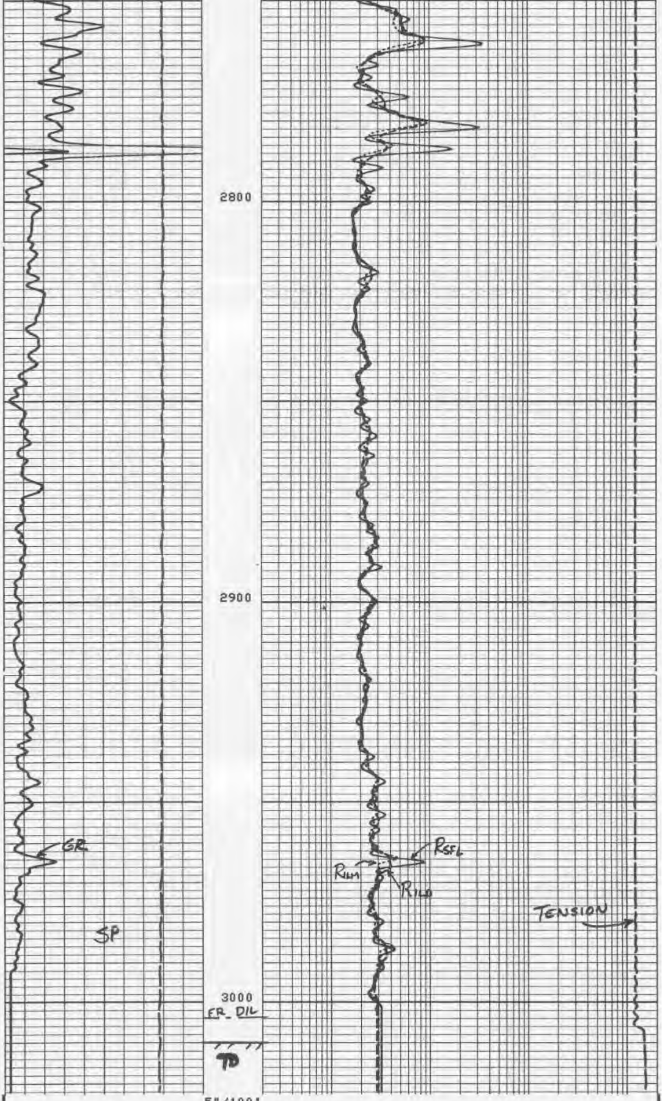
5"/100'











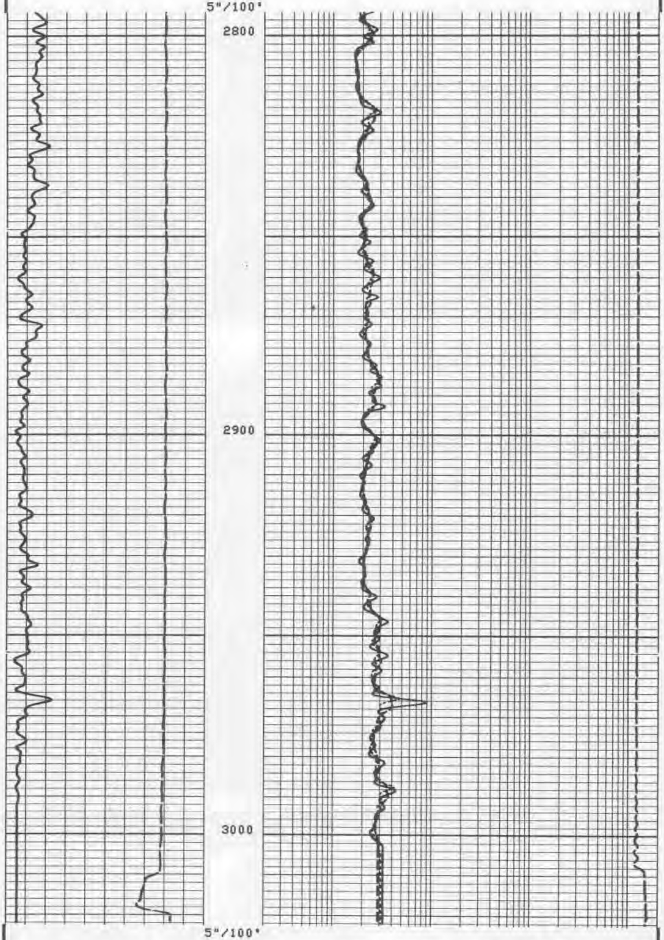
5"/100'

CP 30.4 FILE 12 02-FEB-90 07:00

GR (GAPI)
0.0 100.00
SP (MV)
-160.0 40.000

TENS(LB)
10000. 0.0
ILD (OHMM)
.20000 2000.0
ILM (OHMM)
.20000 2000.0
SFLU(OHMM)
.20000 2000.0

CP 30.4 FILE 11 02-FEB-90 06:59 REPEAT SECTION



```
CP 30.4            FILE   11       02-FEB-90 06:56
```

REPEAT SECTION

```
                                                        TENS(LB  )
                                                   10000.              0.0
                                    ILD (OHMM)
                       .20000                                       2000.0
     GR   (GAPI)                    ILM (OHMM)
0.0           100.00   .20000                                       2000.0
     SP   (MV  )                    SFLU(OHMM)
-160.0        40.000   .20000                                       2000.0
```

```
              SENSOR MEASURE POINT TO TOOL ZERO

     ILD   9.4  FEET                       GR   32.9  FEET
     SFL   6.4  FEET                       ILM   5.8  FEET
     SPAR  2.5  FEET                       SP    2.5  FEET
     TENS  2.5  FEET
```

```
                          PARAMETERS

     NAME  VALUE       UNIT               NAME  VALUE       UNIT

     BS    12.2500     IN                 BHS   OPEN
     SBR   1.00000     OHMM               DSEC 7.00000      MMHO
     WMUD 9.00000      LB/G               MSEC 9.50000      MMHO
```

```
              BEFORE SURVEY CALIBRATION SUMMARY

  PERFORMED:     02-FEB-90 06:55
  PROGRAM FILE: ISN    (VERSION    30.4    90/01/10  87/11/19)

DITD              ELECTRONICS CALIBRATION SUMMARY

           MEASURED                     CALIBRATED
         ZERO     PLUS               ZERO       PLUS          UNITS
  ILD     .61    552.3               0.0        500.0          MMHO
  ILM     .07    528.7               0.0        500.0          MMHO
  SFL     .00    542.3               0.0        500.0          MMHO

ILD SONDE ERROR CORRECTION :         7.0 MMHO
ILM SONDE ERROR CORRECTION :         9.5 MMHO

ZERO: 02-FEB-90 06:54   PLUS: 02-FEB-90 06:55   COMP: 02-FEB-90 06:55
```

Schlumberger

DUAL INDUCTION/SFL

CSU Field Log

Schlumberger

BOREHOLE COMPENSATED SONIC W/VDL

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE: FLORIDA

LOCATION: NORTH BROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
X-Y CALIPER
DIL/SFL
FLOW
FIL
FLUID R'S
TEMP

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
30.4
SERVICE
ORDER NO:
519998

DATE: 2 FEB 90
RUN NO: SIX

DEPTH-DRILLER: 3010.0 F
DEPTH-LOGGER: 3010.0 F
BTM. LOG INTERVAL: 3001.0 F
TOP LOG INTERVAL: 1950.0 F

CASING-DRILLER: 1950.0 F
CASING-LOGGER: 1950.0 F
CASING: 34"
WEIGHT:
BIT SIZE: 12 1/4"
DEPTH: 3010.0 F

TYPE FLUID IN HOLE: SALT WATER

TIME CIRC. STOPPED:
TIME LOGGER ON BTM.: 08:00 2-FEB-90

MAX. REC. TEMP: 69.0 DEGF

LOGGING UNIT NO: 8306
LOGGING UNIT LOC: FT.MYERS
RECORDED BY: S.MILLER
WITNESSED BY: J.BRANTLEY

REMARKS:

EQUIPMENT NUMBERS-

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.

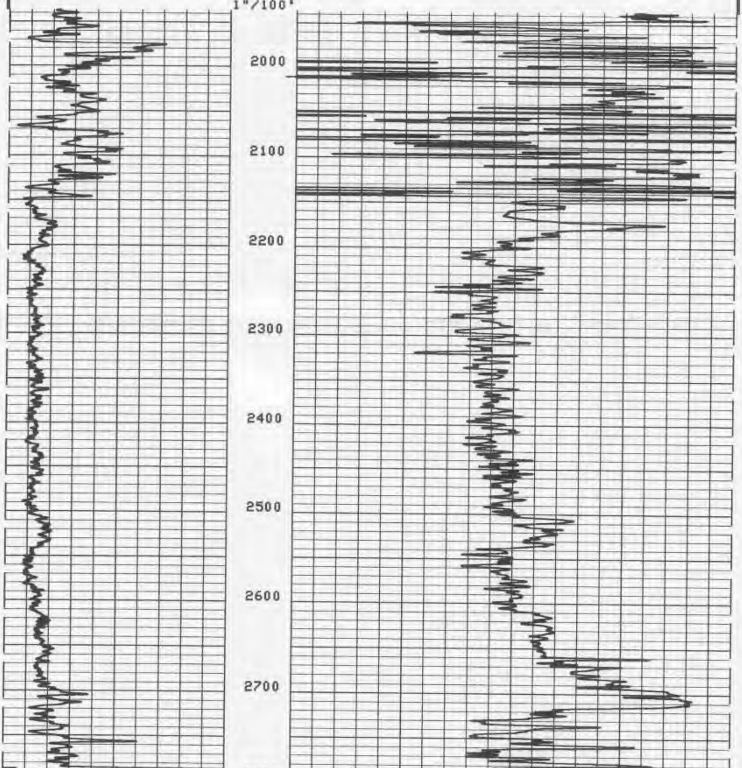
CP 30.4 FILE 23 02-FEB-90 08:51

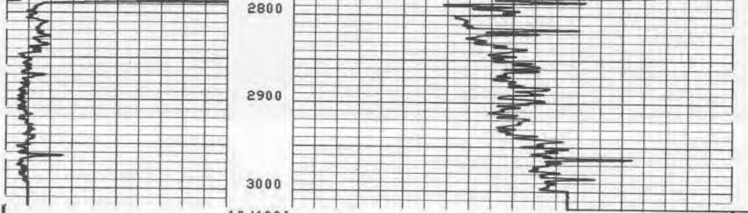
GR (GAPI)			DT (US/F)	
0.0	100.00		140.00	40.000

CP 30.4 FILE 23 02-FEB-90 08:50

INPUT FILES 18

DATA ACQUIRED 02-FEB-90 08:29





1"/100'

CP 30.4 FILE 23 02-FEB-90 08:48

INPUT FILES
18

DATA ACQUIRED
02-FEB-90 08:07

GR (GAPI)			DT (US/F)	
0.0	100.00		140.00	40.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBL5	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.4	FEET
NOIS	3.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
SPFS	R-H		FPHI	SPHI	
DTM	56.0000	US/F	CDTS	100.000	
DDEL	200	US	DTF	189.000	US/F
DWCO	512		DSIN	5	US
DO	-2.00000	F	WMUD	9.00000	LB/G
PP	NORM				

DATA NOT RECORDED

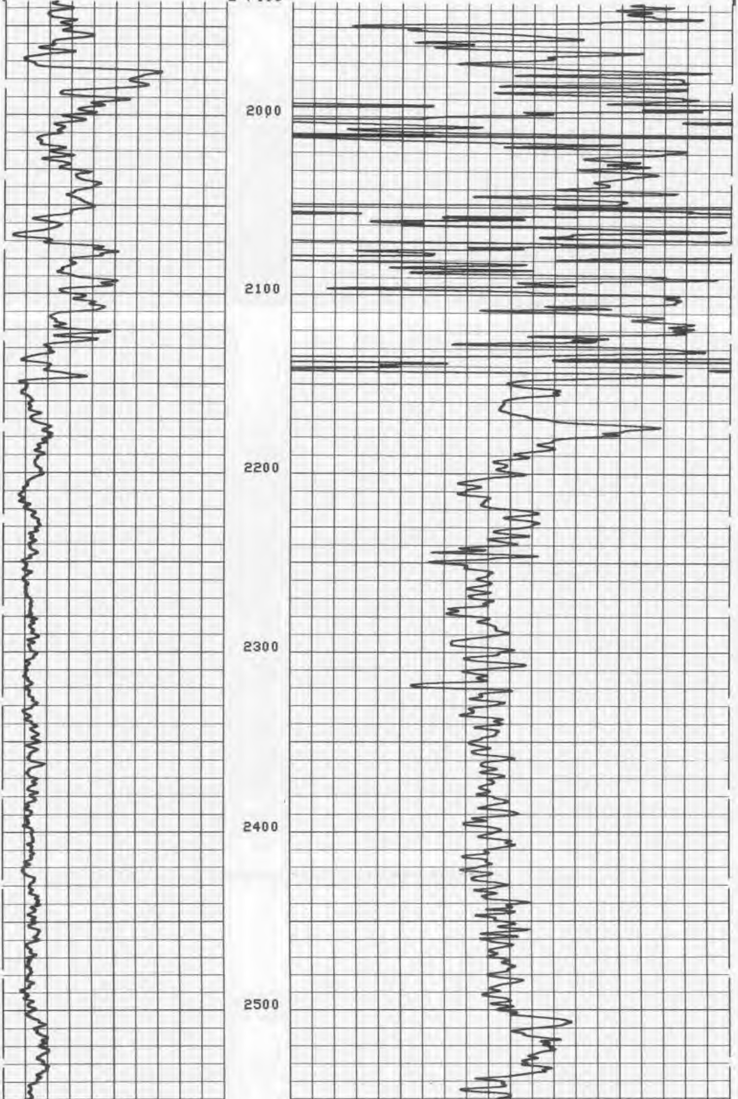
GR (GAPI)			DT (US/F)	
0.0	100.00		140.00	40.000

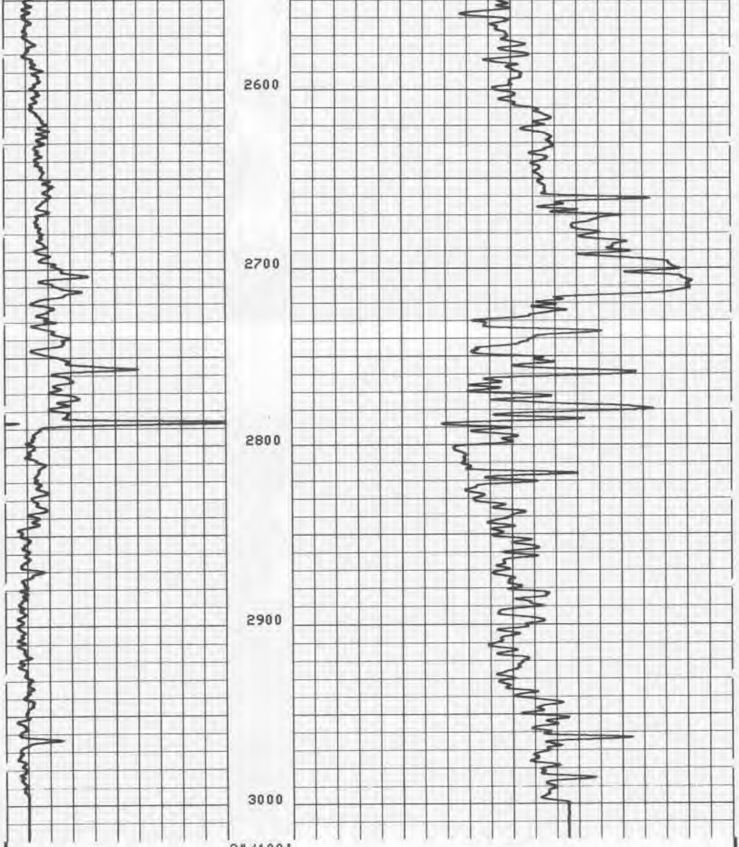
CP 30.4 FILE 22 02-FEB-90 08:45

INPUT FILES
18

DATA ACQUIRED
02-FEB-90 08:29

2"/100'





2"/100'

CP 30.4 FILE 22 02-FEB-90 08:43

INPUT FILES
18

DATA ACQUIRED
02-FEB-90 08:07

GR (GAPI)		DT (US/F)	
0.0	100.00	140.00	40.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBL5	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.4	FEET
NOIS	3.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
SPFS	R-H		FPHI	SPHI	
DTM	56.0000	US/F	CDTS	100.000	
DDEL	200	US	DTF	189.000	US/F
DWCO	512		DSIN	5	US
DO	-2.00000	F	WMUD	9.00000	LB/G
PP	NORM				

DATA NOT RECORDED

CHANGED PARAMETERS

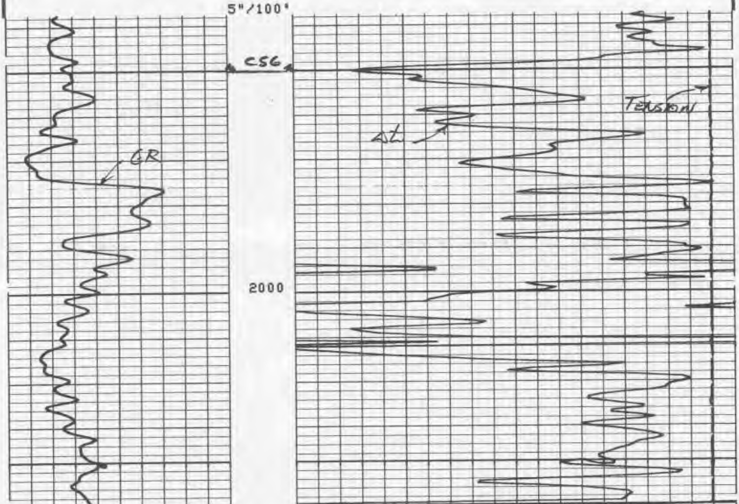
NAME	VALUE	UNIT	DEPTH (F)	NAME	VALUE	UNIT	DEPTH (F)
DO	-2.00000	F	2611.0				

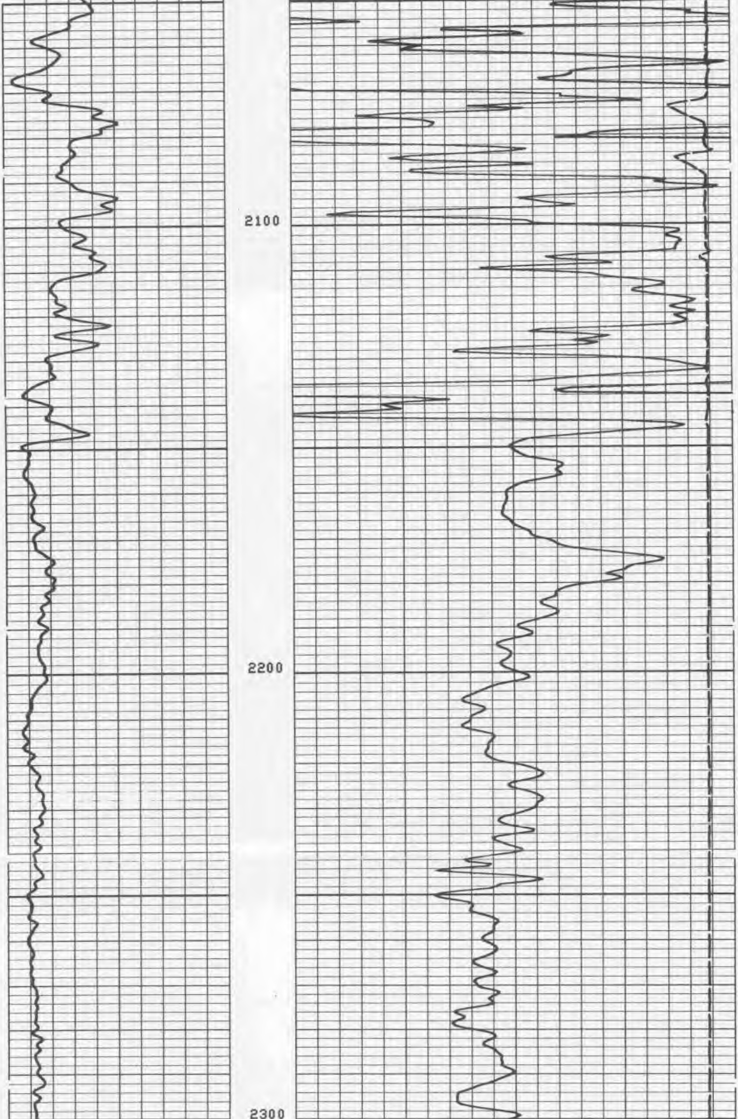
GR (GAPI)		DT (US/F)	TENS(LB)
0.0 — 100.00		140.00 — 40.000	10000. — 0.0

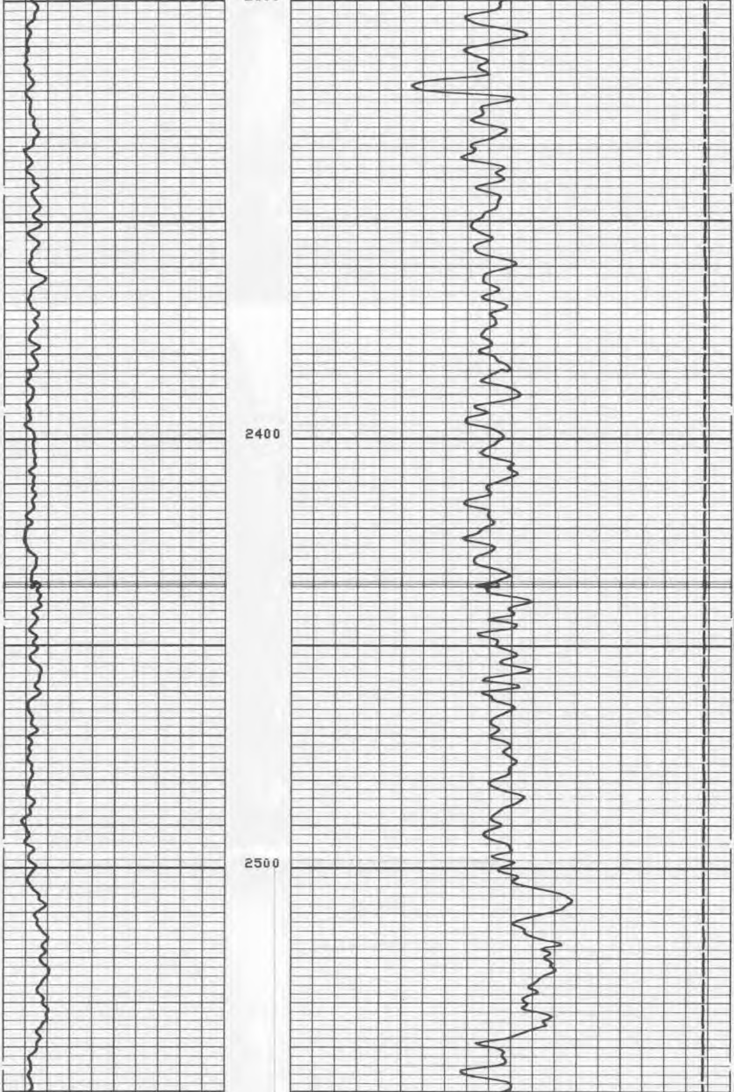
CP 30.4 FILE 21 02-FEB-90 08:42

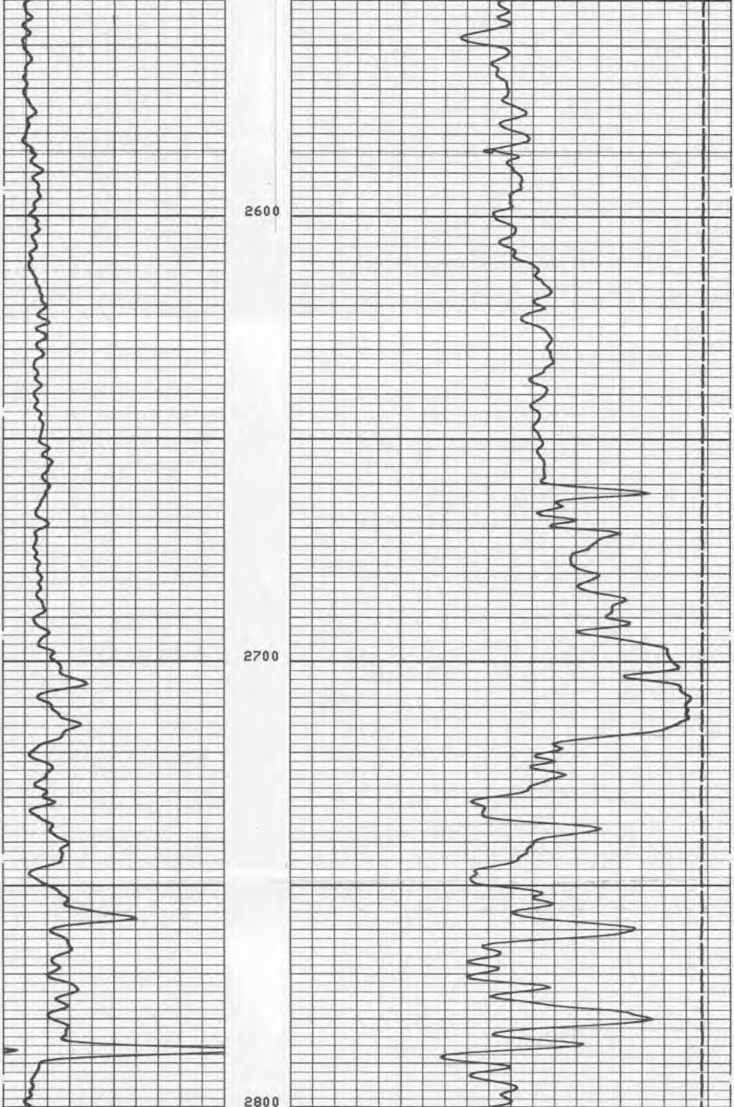
INPUT FILES
18

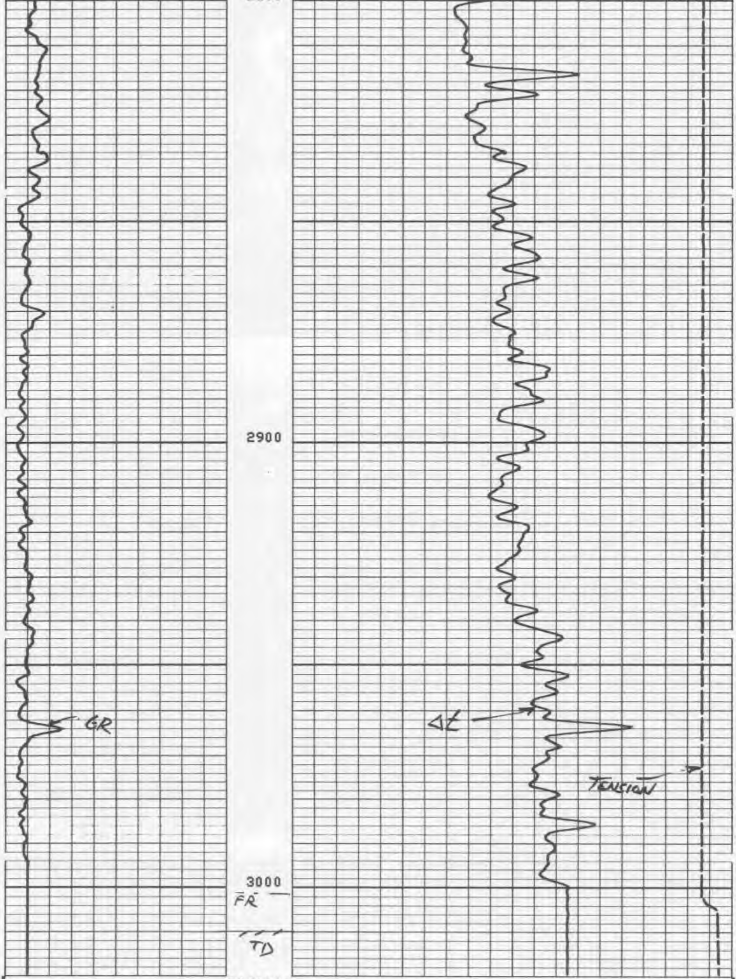
DATA ACQUIRED
02-FEB-90 08:29











5"/100'

CP 30.4　　FILE　21　　02-FEB-90 08:40

INPUT FILES
18

DATA ACQUIRED
02-FEB-90 08:07

TENS(LB)
10000.　　0.0

GR (GAPI)
0.0　　100.00

DT (US/F)
140.00　　40.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBL5	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.4	FEET
NOIS	3.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
SPFS	R-H		FPHI	SPHI	
DTM	56.0000	US/F	CDTS	100.000	
DDEL	200	US	DTF	189.000	US/F
DWCO	512		DSIN	5	US
DO	-1.50000	F	WMUD	9.00000	LB/G
PP	NORM				

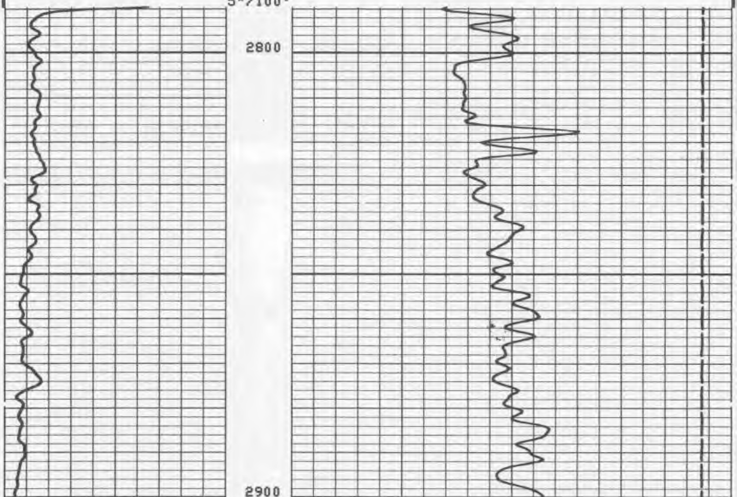
DATA NOT RECORDED

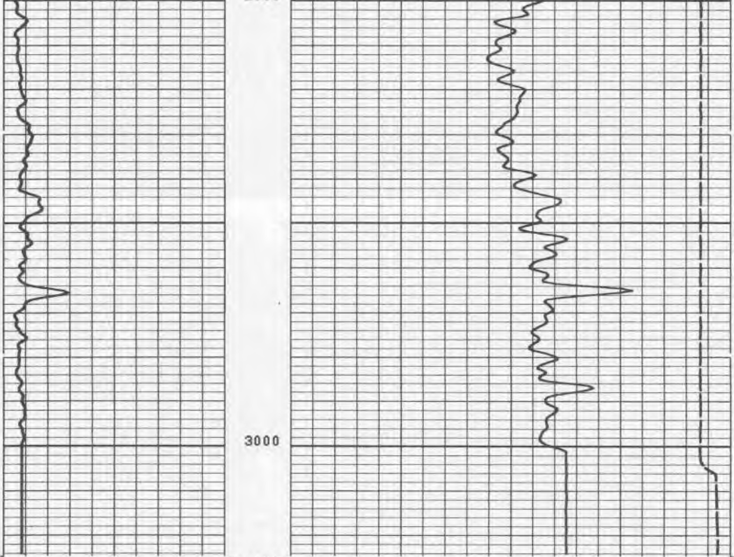
GR (GAPI)		DT (US/F)	TENS(LB)
0.0 — 100.00		140.00 — 40.000	10000. — 0.0

CP 30.4 FILE 17 02-FEB-90 08:06

REPEAT SECTION

5"/100'





5"/100'

CP 30.4 FILE 17 02-FEB-90 08:01 REPEAT SECTION

TENS(LB)
10000. 0.0

GR (GAPI)
0.0 100.00

DT (US/F)
140.00 40.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBL5	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.4	FEET
NOIS	3.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
SPFS	R-H		FPHI	SPHI	
DTM	56.0000	US/F	CDTS	100.000	
DDEL	200	US	DTF	189.000	US/F
DWCO	512		DSIN	5	US
WMUD	9.00000	LB/G			

Schlumberger

BOREHOLE COMPENSATED SONIC W/VDL

CSU Field Log

Schlumberger

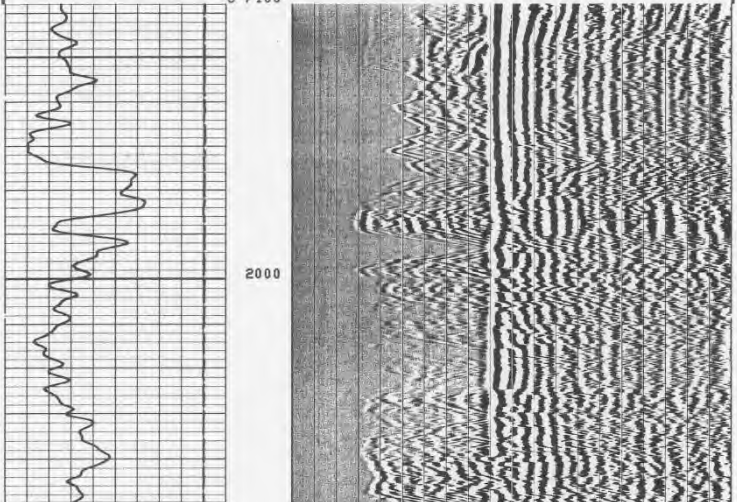
VARIABLE DENSITY LOG

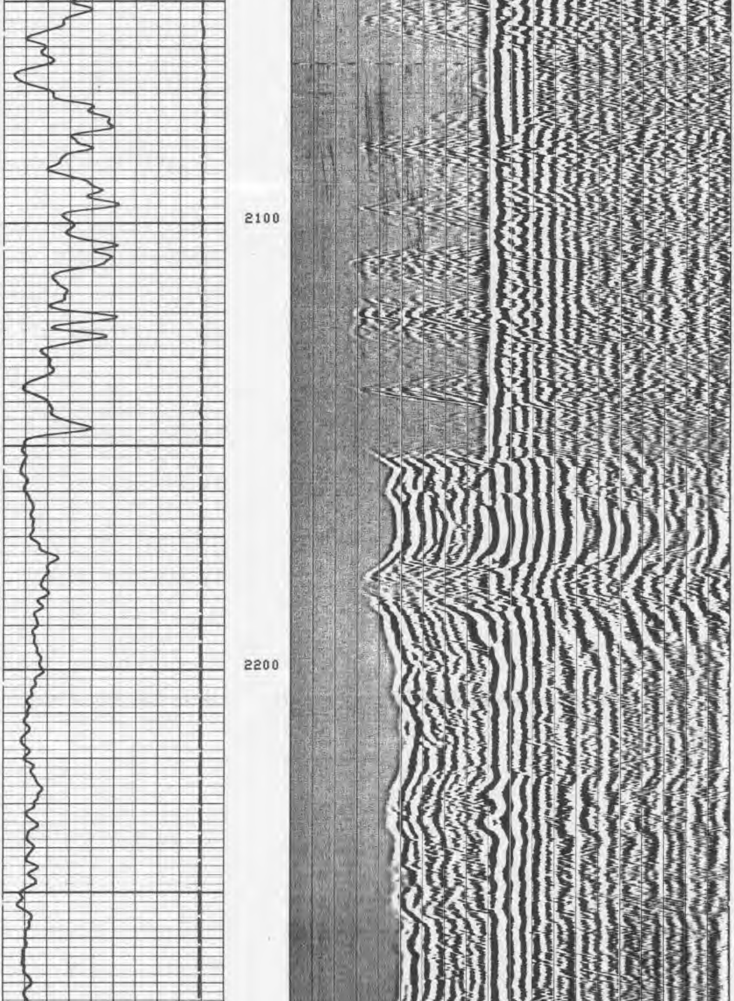
CSU Field Log

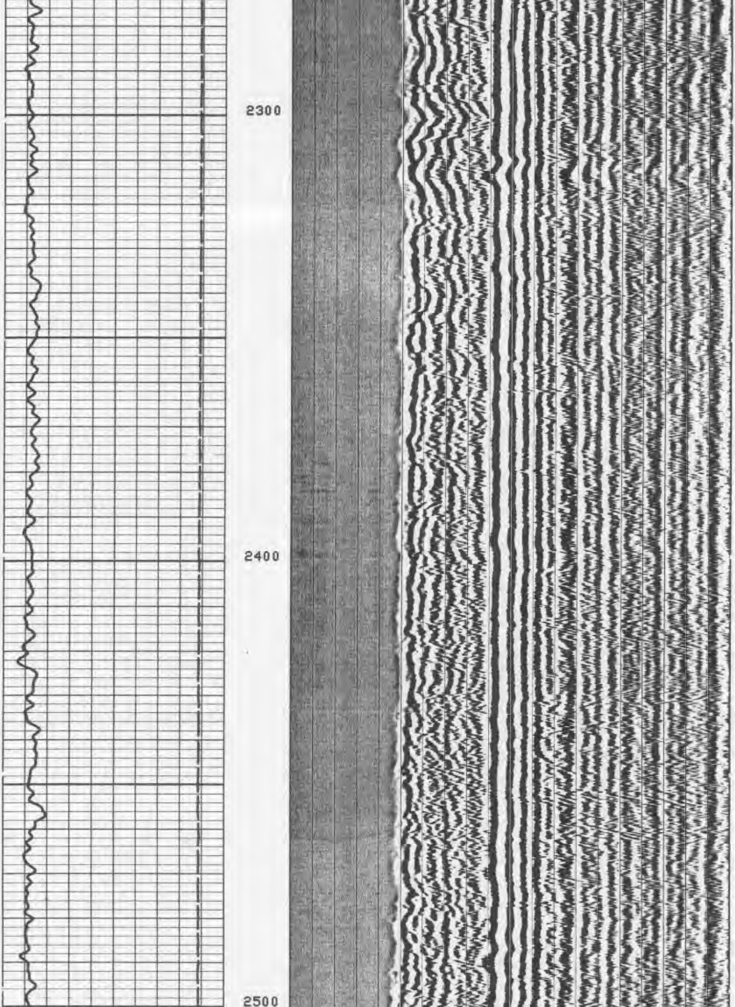
TENS(LB)			
10000.	0.0		
GR (GAPI)			VDL
0.0	100.00	200.00	2200.0

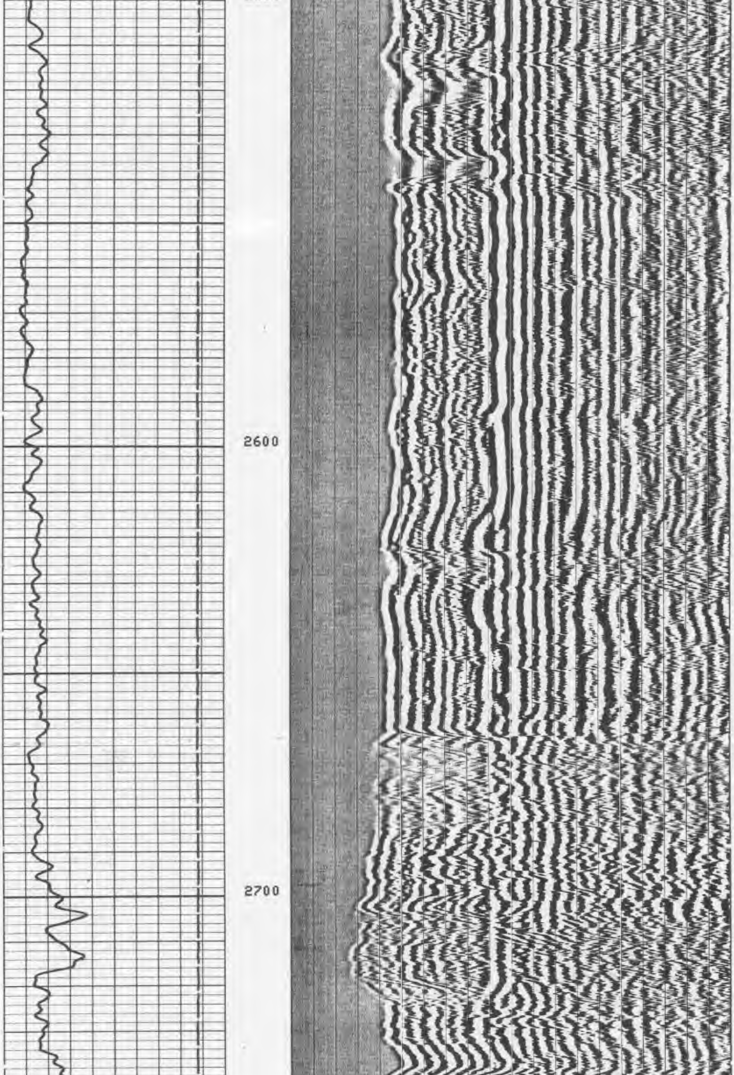
CP 30.4 FILE 23 03-FEB-90 05:14

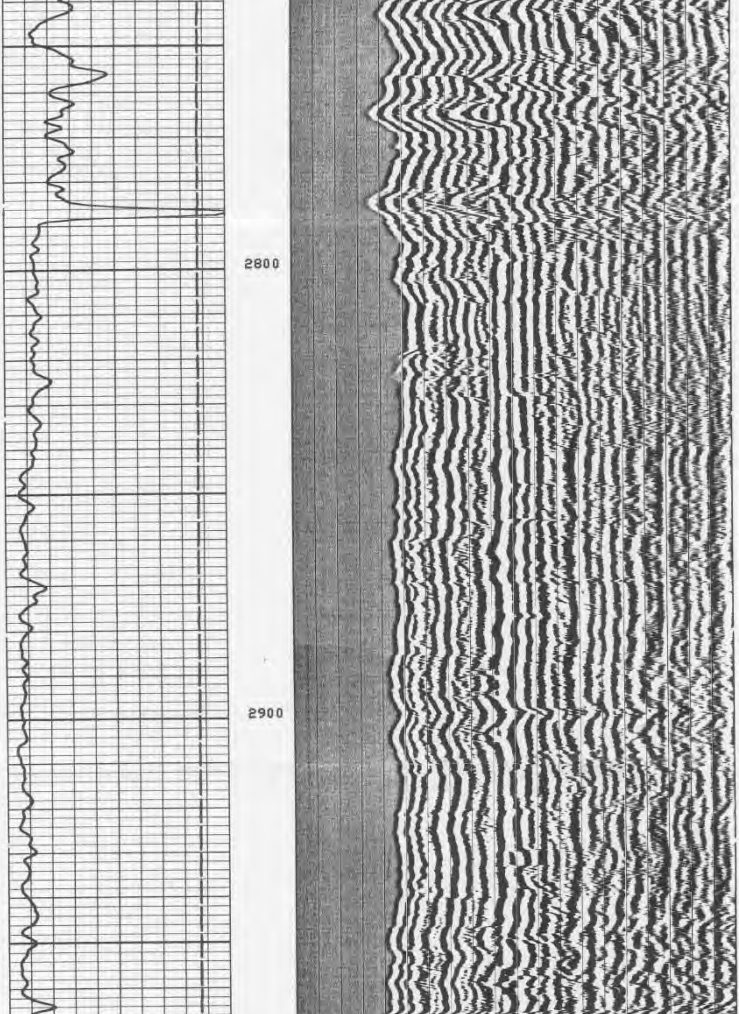
5"/100'

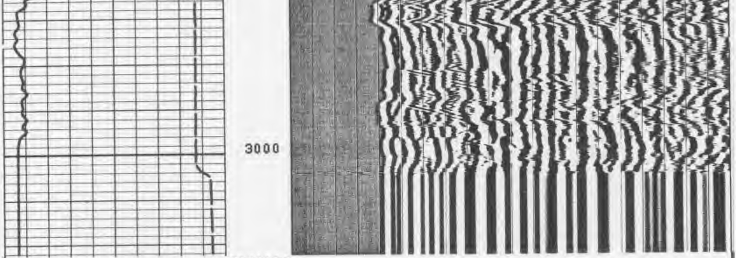












5"/100'

CP 30.4 FILE 23 03-FEB-90 04:52

TENS(LB)
10000. 0.0
GR (GAPI)
0.0 100.00

VDL
200.00 2200.0

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBL5	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.4	FEET
NOIS	3.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
SPFS	R-H		FPHI	SPHI	
DTM	56.0000	US/F	CDTS	100.000	
DDEL	200	US	DTF	189.000	US/F
DWCO	512		DSIN	5	US
WMUD	9.00000	LB/G			

Schlumberger

VARIABLE DENSITY LOG

CSU Field Log

011- 15

Schlumberger

X - Y CALIPER

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE: FLORIDA

LOCATION: NORTH DBROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

DATE: 14 JAN 90
RUN NO: SIX

DEPTH-DRILLER: 1971.0 F
DEPTH-LOGGER: 1968.0 F
BTM. LOG INTERVAL: 1968.0 F
TOP LOG INTERVAL: 999.0 F

CASING-DRILLER: 1000.0 F
CASING-LOGGER: 999.0 F
CASING: 42"
WEIGHT:
BIT SIZE: 40 1/2"
DEPTH: 1971.0 F

OTHER SERVICES-
NONE

PROGRAM
TAPE NO:
30.4
SERVICE
ORDER NO:
519994

TYPE FLUID IN HOLE: SALTWATER
DENSITY: 9.00 LB/G
TIME CIRC. STOPPED: 10:00 14-JAN-90
TIME LOGGER ON BTM.: 15:30 14-JAN-90

MAX. REC. TEMP: 76.0 DEGF

LOGGING UNIT NO: 8193
LOGGING UNIT LOC: FT. MYERS
RECORDED BY: S.MILLER
WITNESSED BY: J.BRANTLEY

REMARKS:

EQUIPMENT NUMBERS-

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CP 30.4 FILE 10 14-JAN-90 16:43

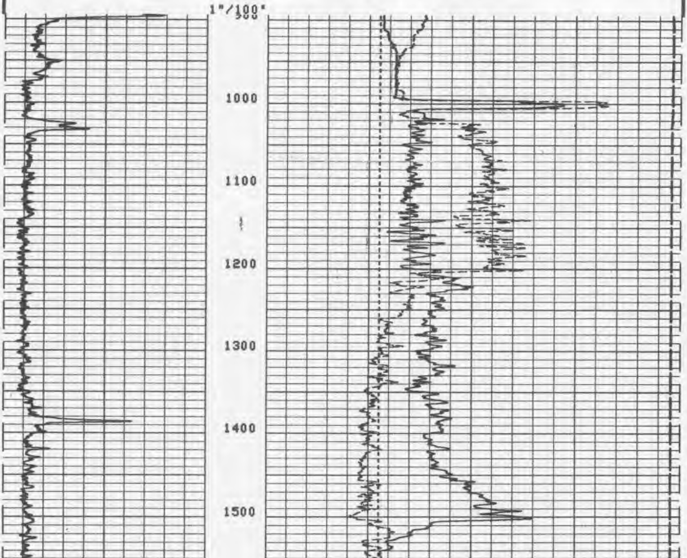
CEMENT VOLUME = 10256.8 F3
HOLE VOLUME = 10256.8 F3
FROM 1982.0 TO 893.0 FEET

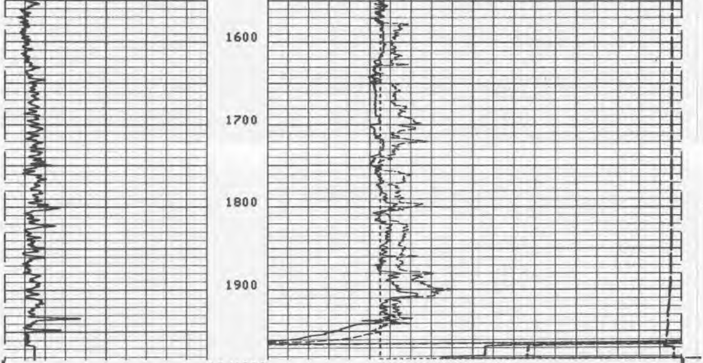
TENS(LB) 10000. 0.0
BS (IN) 35.000 55.000
C2 (IN) 35.000 55.000
GR (GAPI) 0.0 100.00
C1 (IN) 35.000 55.000

CP 30.4 FILE 10 14-JAN-90 16:40

INPUT FILES
2

DATA ACQUIRED
14-JAN-90 15:48





1"/100'

CP 30.4　　FILE 10　　14-JAN-90 16:38

INPUT FILES
2

DATA ACQUIRED
14-JAN-90 15:26

TENS(LB)
10000.　0.0

BS (IN)
35.000　55.000

C2 (IN)
35.000　55.000

GR (GAPI)
0.0　100.00

C1 (IN)
35.000　55.000

SENSOR MEASURE POINT TO TOOL ZERO

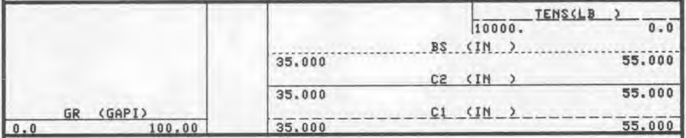
C2	0.0	FEET	GR	16.1	FEET
DEVI	0.0	FEET	C1	0.0	FEET
AZIM	0.0	FEET	RB	0.0	FEET
TENS	0.0	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	40.5000	IN	BHS	OPEN	
WMUD	8.00000	LB/G	MCT	36	
PP	RECO		DO	0.0	F

DATA NOT RECORDED

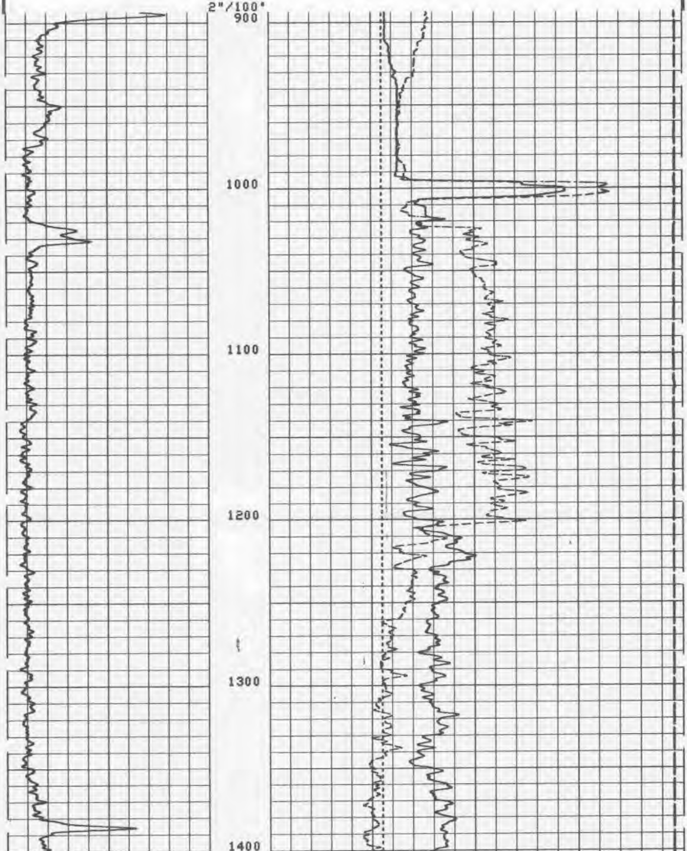
CEMENT VOLUME = 10256.8 F3
HOLE VOLUME = 10256.8 F3
FROM 1982.0 TO 893.0 FEET

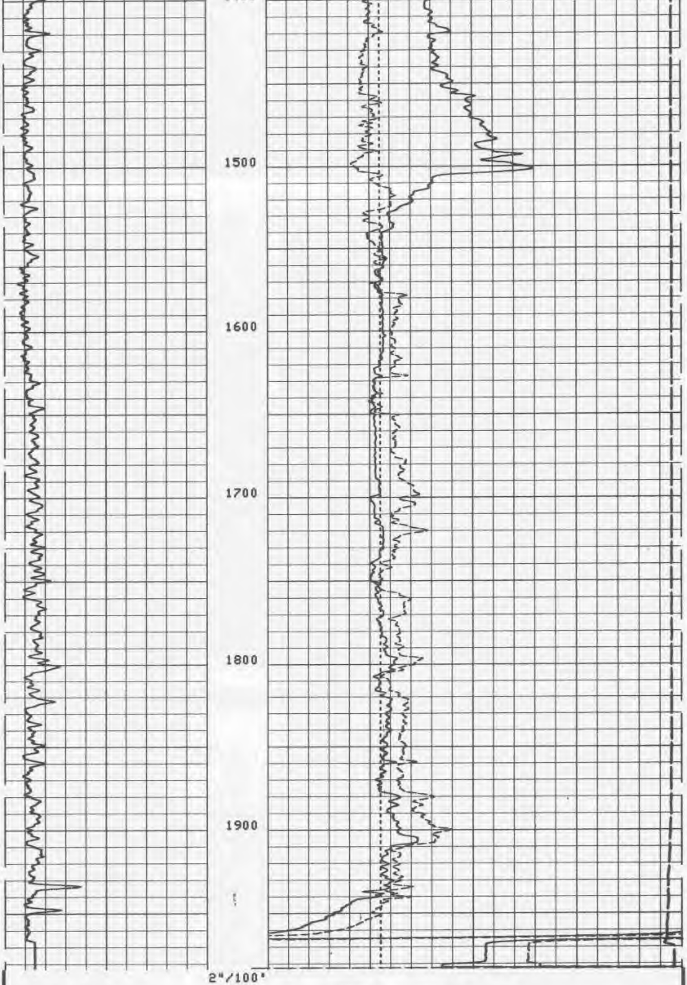


CP 30.4 FILE 9 14-JAN-90 16:37

INPUT FILES
2

DATA ACQUIRED
14-JAN-90 15:48





CP 30.4 FILE 9 14-JAN-90 16:34

INPUT FILES
2

DATA ACQUIRED
14-JAN-90 15:26

TENS(LB)
10000. 0.0
BS (IN)
35.000 55.000
C2 (IN)
35.000 55.000
GR (GAPI)
0.0 100.00
C1 (IN)
35.000 55.000

SENSOR MEASURE POINT TO TOOL ZERO

C2	0.0	FEET	GR	16.1	FEET
DEVI	0.0	FEET	C1	0.0	FEET
AZIM	0.0	FEET	RB	0.0	FEET
TENS	0.0	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	40.5000	IN	BHS	OPEN	
WMUD	8.00000	LB/G	MCT	36	
PP	RECO		DO	0.0	F

DATA NOT RECORDED

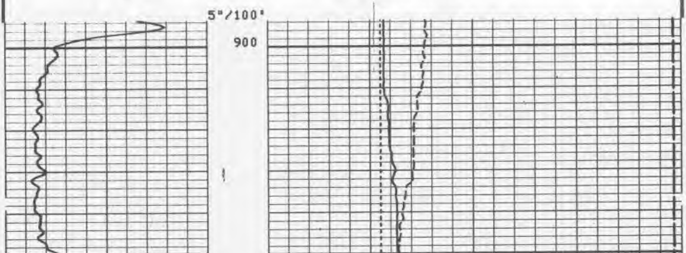
CEMENT VOLUME = 10257.6 F3
HOLE VOLUME = 10257.6 F3
FROM 1982.0 TO 893.0 FEET

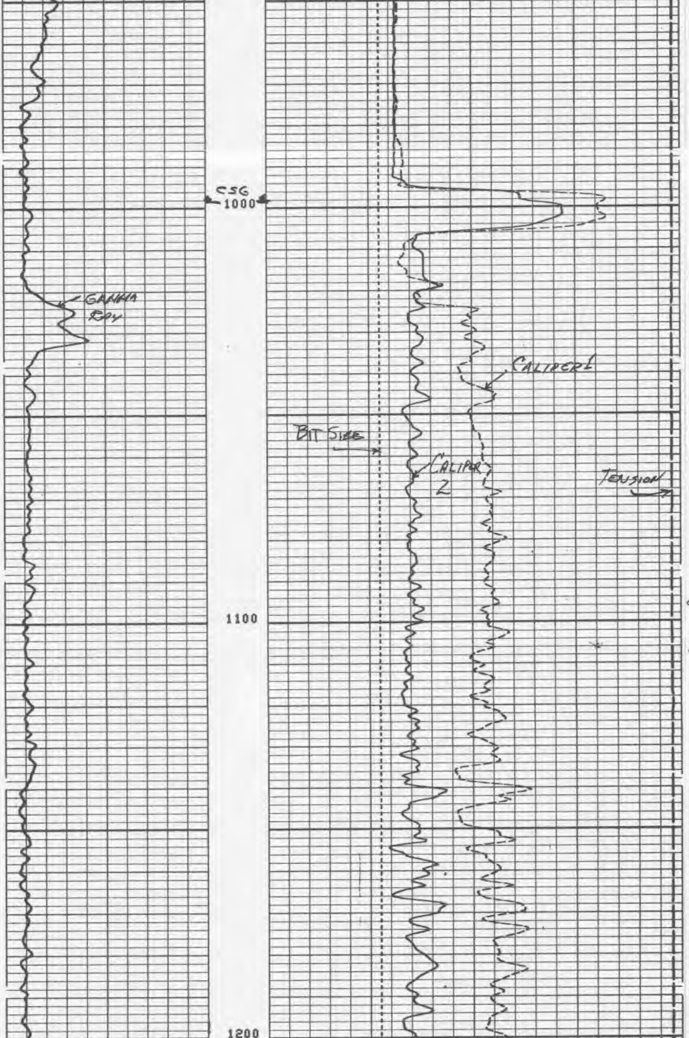
TENS(LB)
10000. 0.0
BS (IN)
35.000 55.000
C2 (IN)
35.000 55.000
GR (GAPI)
0.0 100.00
C1 (IN)
35.000 55.000

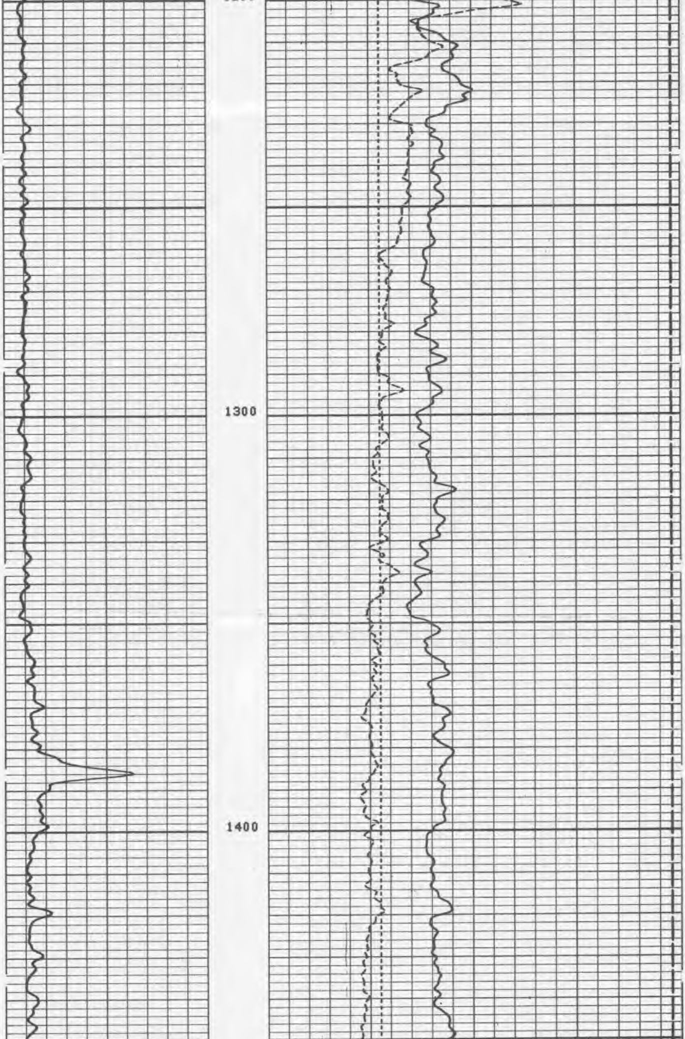
CP 30.4 FILE 8 14-JAN-90 16:33

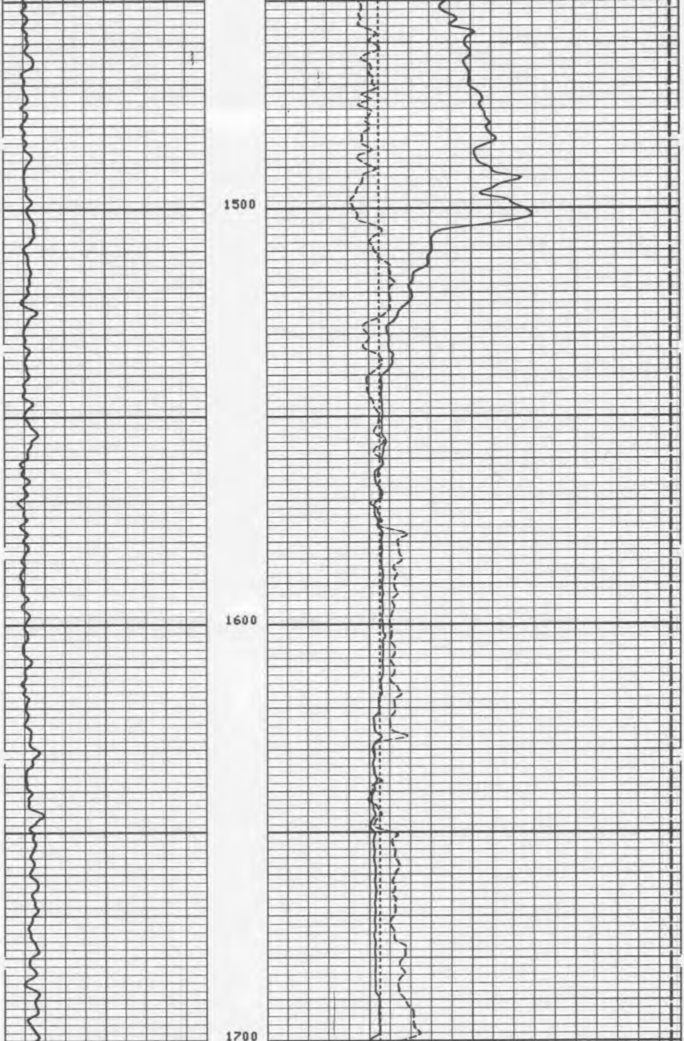
INPUT FILES
2

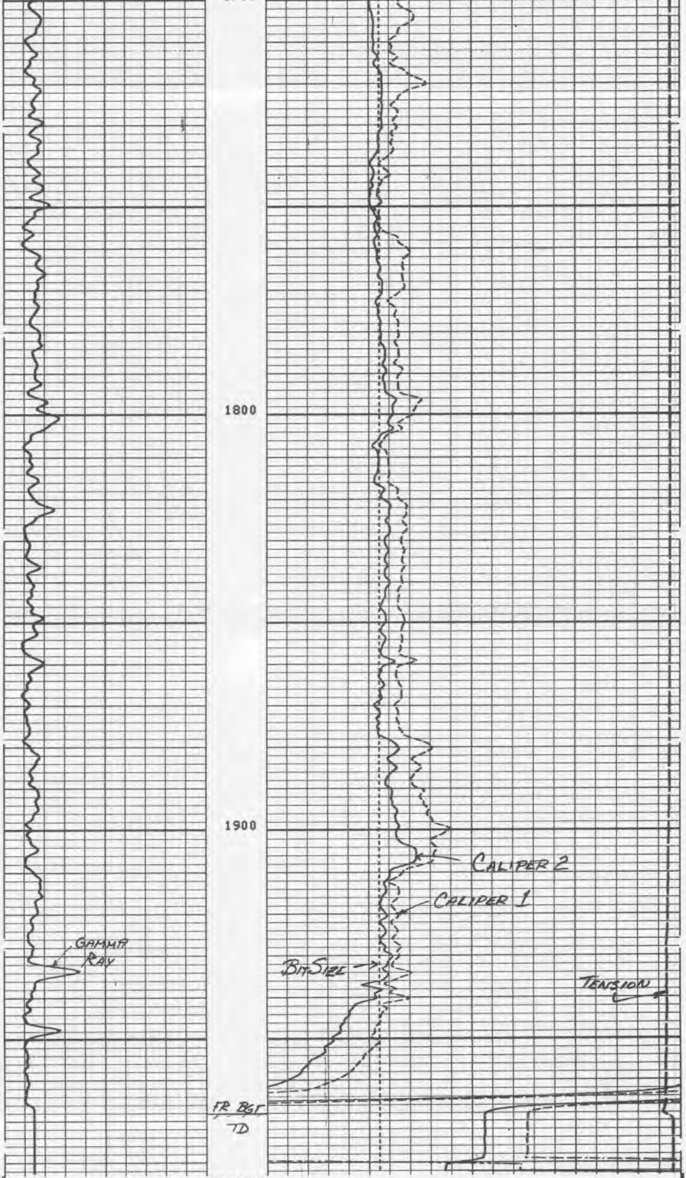
DATA ACQUIRED
14-JAN-90 15:48











5"/100'

CP 30.4 FILE 8 14-JAN-90 16:30

INPUT FILES
2

DATA ACQUIRED
14-JAN-90 15:26

GR (GAPI)
0.0 100.00

TENS(LB)
10000. 0.0

BS (IN)
35.000 55.000

C2 (IN)
35.000 55.000

C1 (IN)
35.000 55.000

SENSOR MEASURE POINT TO TOOL ZERO

C2	0.0	FEET	GR	16.1	FEET
DEVI	0.0	FEET	C1	0.0	FEET
AZIM	0.0	FEET	RB	0.0	FEET
TENS	0.0	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	40.5000	IN	BHS	OPEN	
WMUD	8.00000	LB/G	MCT	36	
PP	RECO		DO	0.0	F

DATA NOT RECORDED

Schlumberger

REPEAT SECTION

CSU Field Log

CEMENT VOLUME = 3376.26 F3
HOLE VOLUME = 3376.26 F3
FROM 1204.0 TO 895.0 FEET

GR (GAPI)
0.0 100.00

TENS(LB)
10000. 0.0

BS (IN)
35.000 55.000

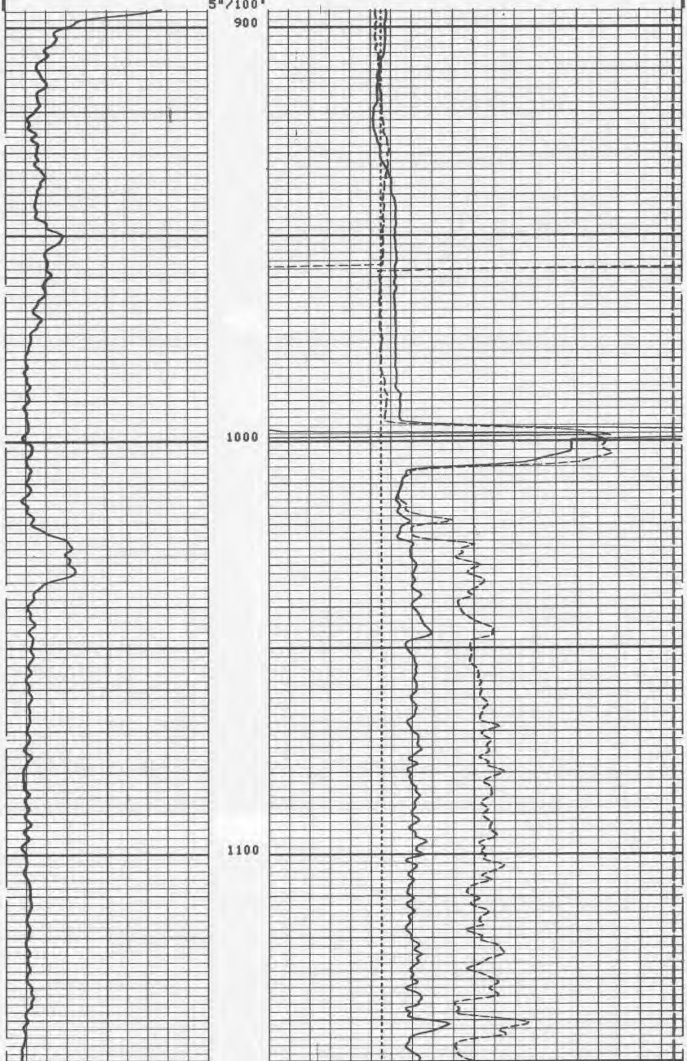
C2 (IN)
35.000 55.000

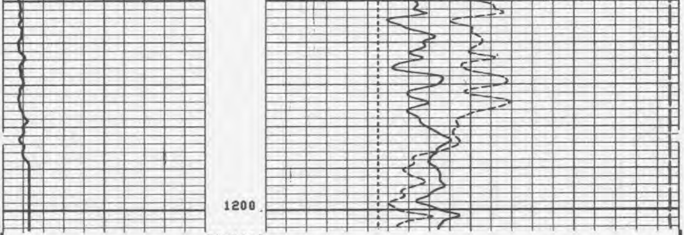
C1 (IN)
35.000 55.000

CP 30.4 FILE 7 14-JAN-90 16:28

INPUT FILES
3

DATA ACQUIRED
14-JAN-90 16:00





```
                              5"/100'

   CP 30.4             FILE    7       14-JAN-90 16:25

              INPUT FILES                DATA ACQUIRED
              3                          14-JAN-90 15:52
```

```
                                                        TENS(LB  )
                                                  10000.            0.0
                                       BS  (IN  )
                          35.000                                  55.000
                                       C2  (IN  )
                          35.000                                  55.000
        GR  (GAPI)                     C1  (IN  )
0.0            100.00     35.000                                  55.000
```

```
                    SENSOR MEASURE POINT TO TOOL ZERO

          C2     0.0  FEET                   GR    16.1  FEET
          DEVI   0.0  FEET                   C1     0.0  FEET
          AZIM   0.0  FEET                   RB     0.0  FEET
          TENS   0.0  FEET
```

```
                                PARAMETERS

         NAME  VALUE       UNIT               NAME  VALUE       UNIT

         BS    40.5000     IN                 BHS   OPEN
         WMUD  8.00000     LB/G               MCT   36
         PP    RECO                           DO    0.0         F

                             DATA NOT RECORDED
```

```
                   BEFORE SURVEY CALIBRATION SUMMARY


    PERFORMED:     14-JAN-90 15:18
    PROGRAM FILE: BMS    (VERSION    30.4    00/00/00  87/11/19)

  SGTE              DETECTOR CALIBRATION SUMMARY

               MEASURED
             BKGD    JIG        CALIBRATED         UNITS
     GR        0      0              0             GAPI

  BACK:                    JIG:                   COMP:

   BGT              CALIPER CALIBRATION SUMMARY

               MEASURED                   CALIBRATED
             SMALL   LARGE             SMALL     LARGE       UNITS
     C1      14.33   21.6              24.00     41.3          IN
     C2      15.84   23.1              24.00     41.3          IN

   BGT              ELECTRONICS CALIBRATION SUMMARY

               MEASURED                   CALIBRATED
             ZERO    PLUS              ZERO      PLUS        UNITS
    AZIM      0.0     0.0               0.0       0.0         DEG
      RB      0.0     0.0               0.0       0.0         DEG
    DEVI      0.0     0.0               0.0       0.0         DEG

   CP 30.4             FILE    0       14-JAN-90 15:18
```

Schlumberger

X - Y CALIPER

CSU Field Log

Schlumberger

BOREHOLE COMPENSATED SONIC W/VDL

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE : FLORIDA

LOCATION: NORTH DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

DATE: 2 JAN ~~89~~ 90
RUN NO: FIVE

OTHER SERVICES-
DIL/SFL
FLUID R'S
X-Y CALIPER
FIL
TEMP
FLOW

PROGRAM
TAPE NO:
30.4
SERVICE
ORDER NO:
519993

DEPTH-DRILLER: 2006.0 F
DEPTH-LOGGER: 2006.0 F
BTM. LOG INTERVAL: 2000.0 F
TOP LOG INTERVAL: 999.0 F

CASING-DRILLER: 1000.0 F
CASING-LOGGER: 999.0 F
CASING: 42"
WEIGHT:
BIT SIZE: 12 1/4"
DEPTH: 2006.0 F

TYPE FLUID IN HOLE: SALTWATER
DENSITY: 9.00 LB/G
RMF AT BHT: AT 76.0 DEGF
RMC AT BHT: AT 76.0 DEGF

TIME CIRC. STOPPED:
TIME LOGGER ON BTM.: 00:00 2-JAN-90

MAX. REC. TEMP: 76.0 DEGF

LOGGING UNIT NO: 8193
LOGGING UNIT LOC: FORT MYERS
RECORDED BY: S.MILLER
WITNESSED BY: BRANTLEY/WHEATLEY

REMARKS:

NO CENTRALIZERS RUN--DRILL PIPE IN HOLE.

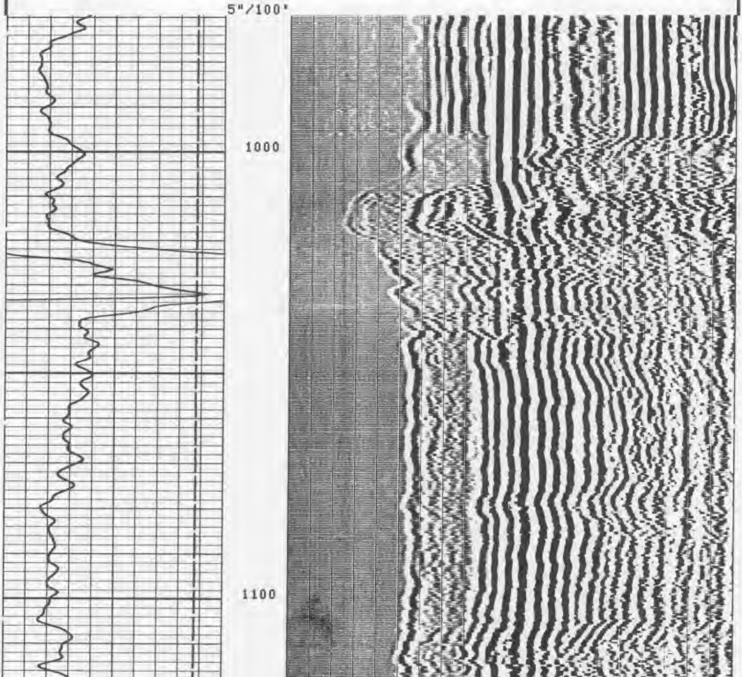
EQUIPMENT NUMBERS-

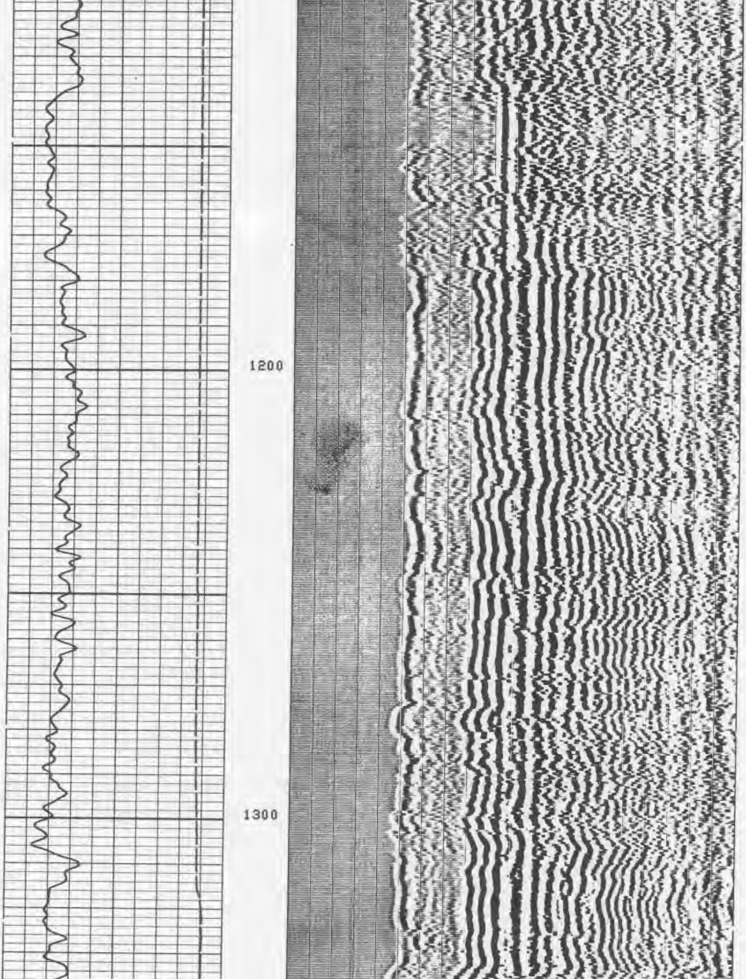
ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATIONS, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, 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.

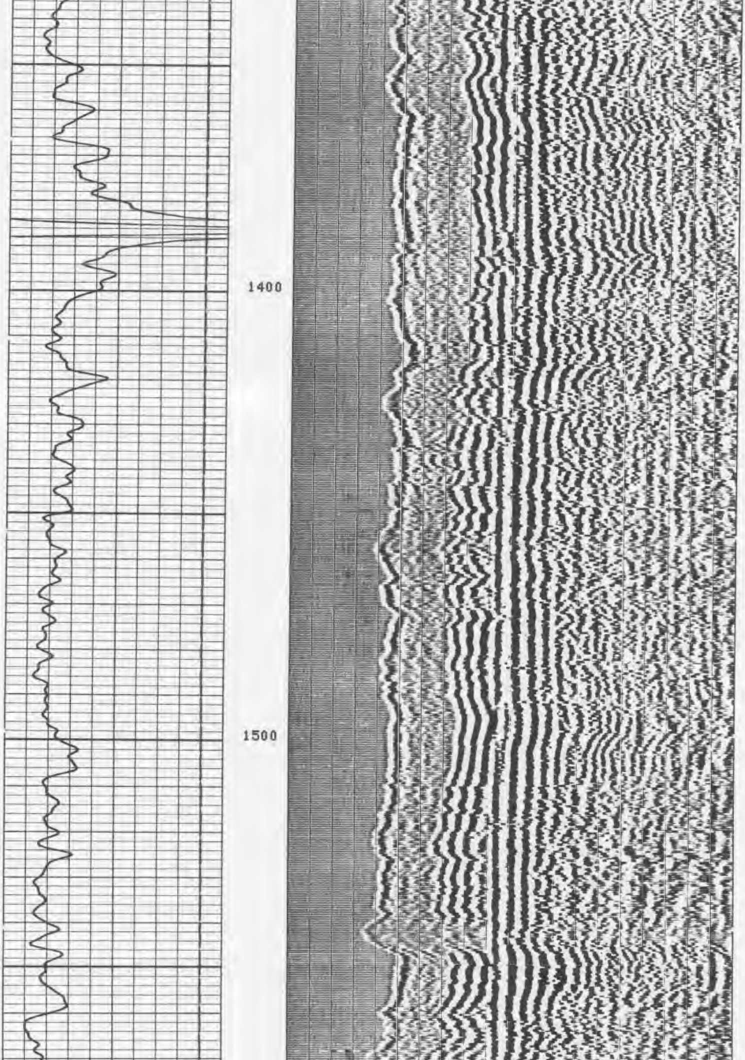
CP 30.4 FILE 24 02-JAN-89 01:14

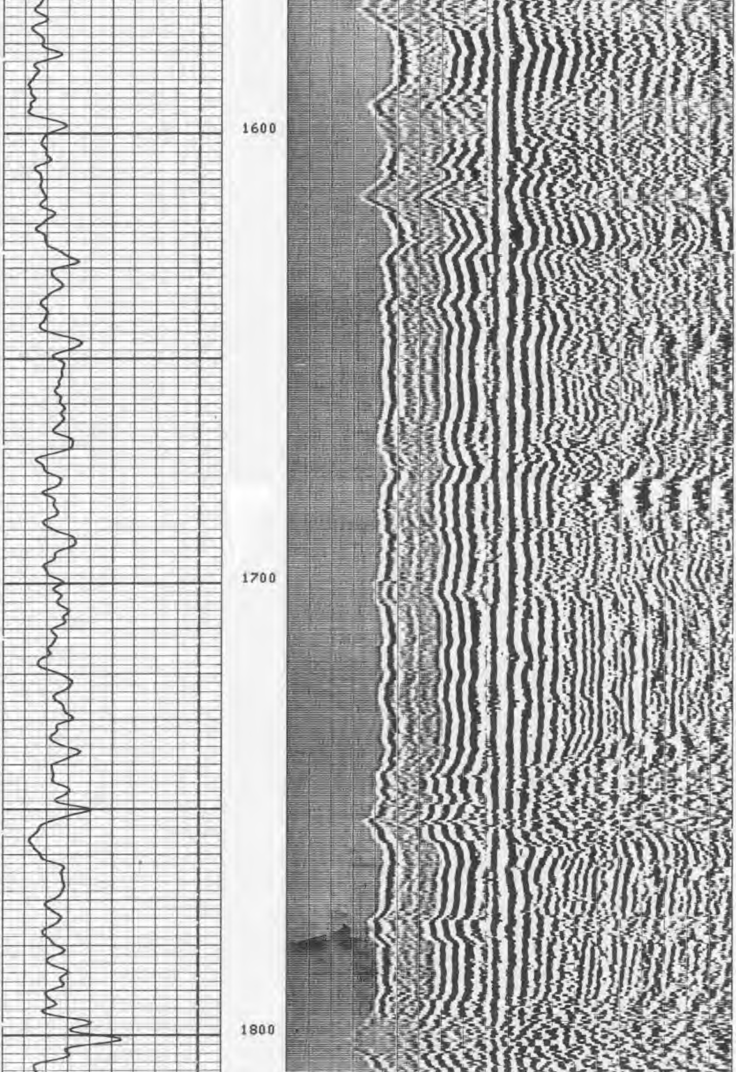
TENS(LB)	
10000.	0.0
GR (GAPI)	
0.0	100.00

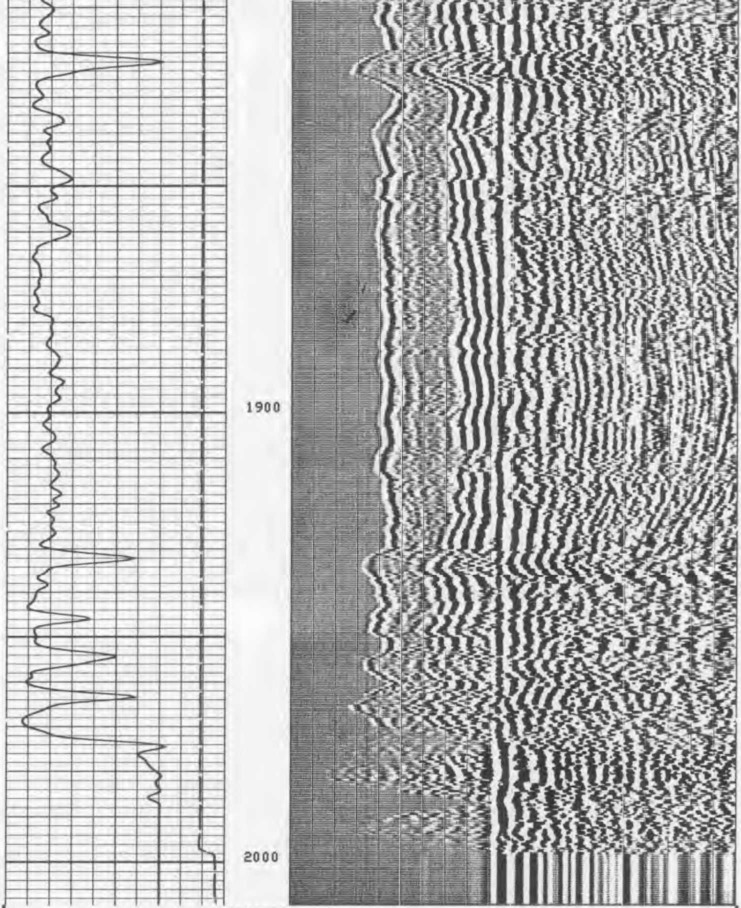
CP 30.4 FILE 24 02-JAN-89 01:12











5"/100'

CP 30.4 FILE 24 02-JAN-89 00:48

TENS(LB)	
10000.	0.0
GR (GAPI)	
0.0	100.00

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	7.2	FEET	AMPL	8.2	FEET
CBL5	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	7.2	FEET	TT3	7.2	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	7.2	FEET	GR	28.4	FEET
NOIS	7.2	FEET			

PARAMETERS

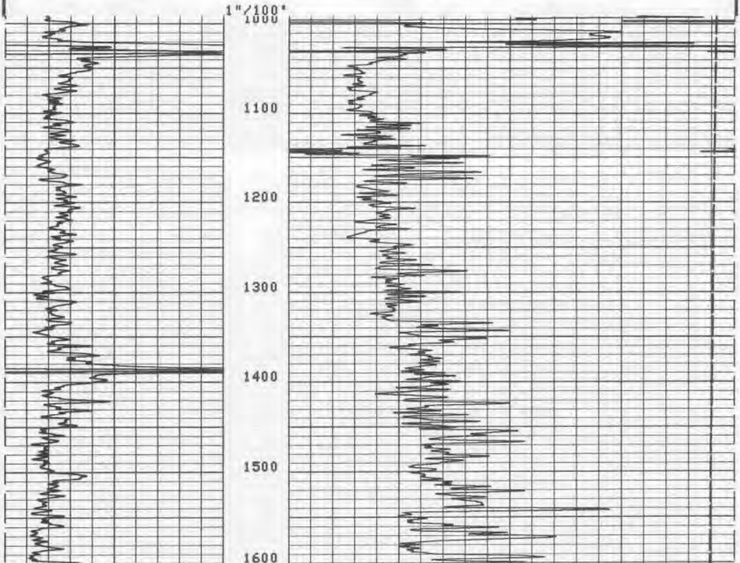
NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	CASE	
CDTS	100.000		SPFS	R-H	
DTF	189.000	US/F	DTM	56.0000	US/F
DSIN	5	US	DDEL	200	US
WMUD	9.00000	LB/G	DWCO	512	

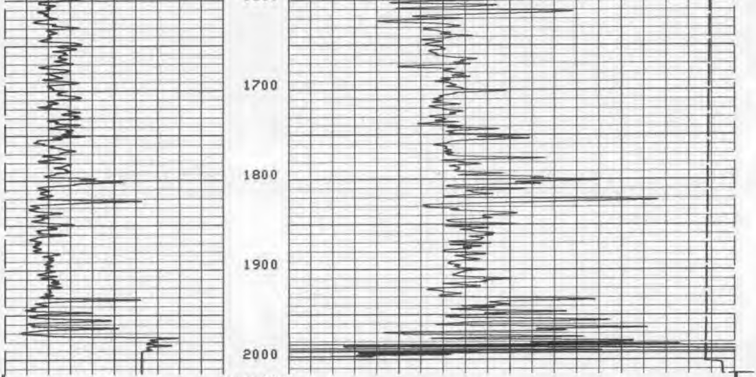
GR (GAPI)		DT (US/F)		TENS(LB)	
0.0	100.00	140.00	40.000	10000.	0.0

CP 30.4 FILE 23 02-JAN-89 00:41

INPUT FILES
20

DATA ACQUIRED
02-JAN-89 00:35





1"/100'

CP 30.4 FILE 23 02-JAN-89 00:39

INPUT FILES
20

DATA ACQUIRED
02-JAN-89 00:11

GR (GAPI)			DT (US/F)	TENS(LB)	
				10000.	0.0
0.0	100.00	140.00			40.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBL5	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.4	FEET
NOIS	3.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
CDTS	100.000		SPFS	R-H	
DTF	189.000	US/F	DTM	56.0000	US/F
DSIN	5	US	DDEL	200	US
WMUD	9.00000	LB/G	DWCO	512	
PP	NORM		DO	0.0	F

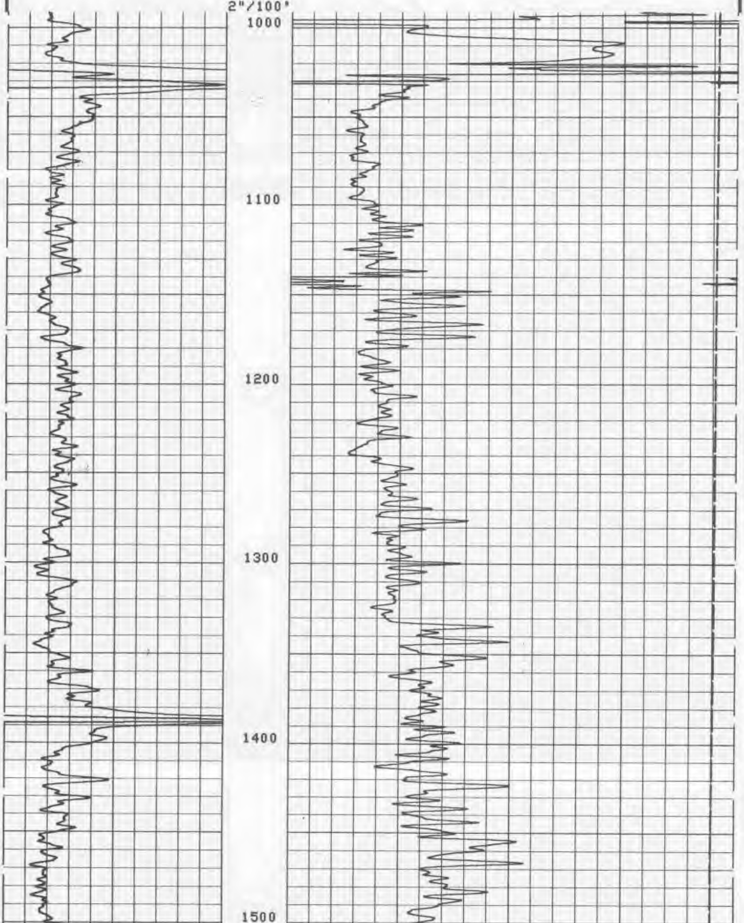
DATA NOT RECORDED

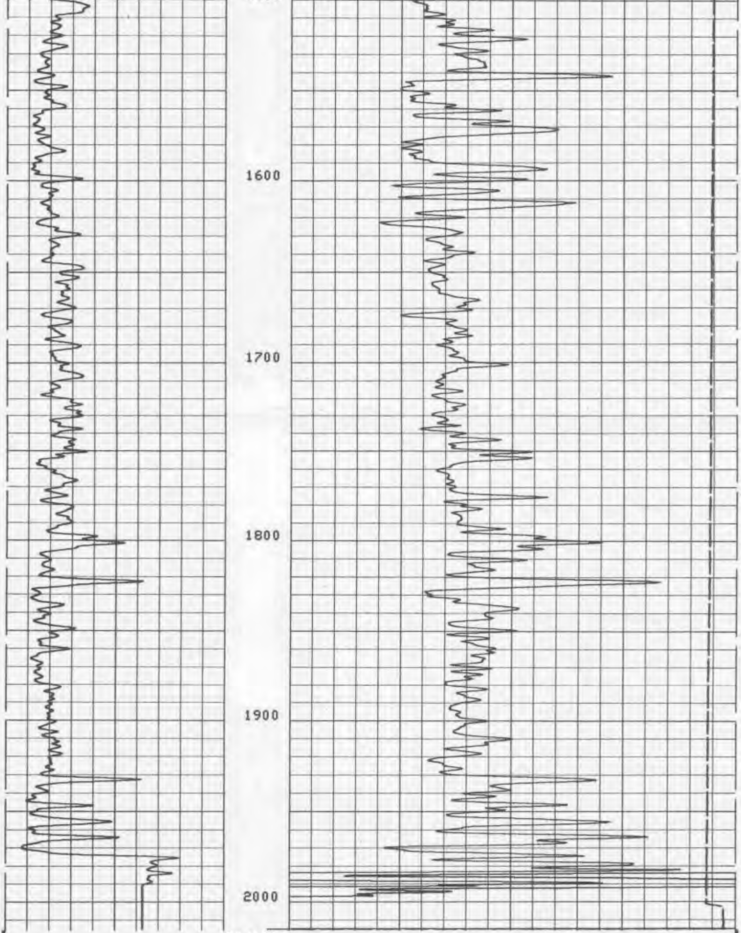
TENS(LB)
10000. 0.0
GR (GAPI)
0.0 100.00
DT (US/F)
140.00 40.000

CP 30.4 FILE 22 02-JAN-89 00:38

INPUT FILES
20

DATA ACQUIRED
02-JAN-89 00:35





2"/100'

CP 30.4 FILE 22 02-JAN-89 00:37

INPUT FILES
20

DATA ACQUIRED
02-JAN-89 00:11

GR (GAPI)		DT (US/F)	TENS(LB)
0.0 100.00		140.00 40.000	10000. 0.0

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBL5	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.4	FEET
NOIS	3.4	FEET			

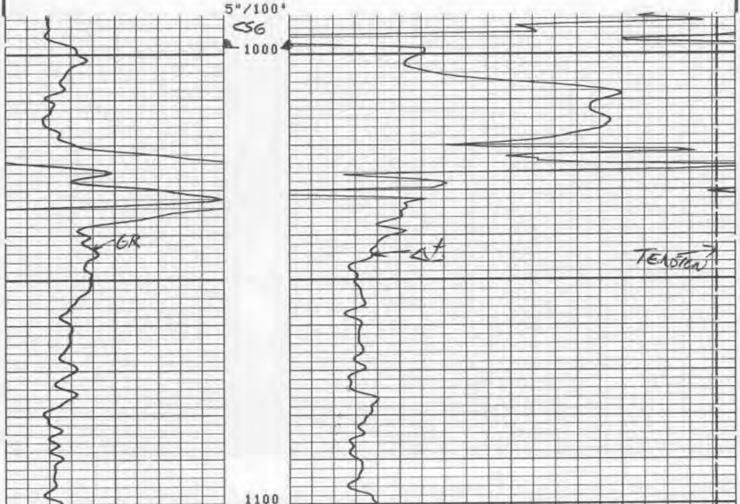
PARAMETERS

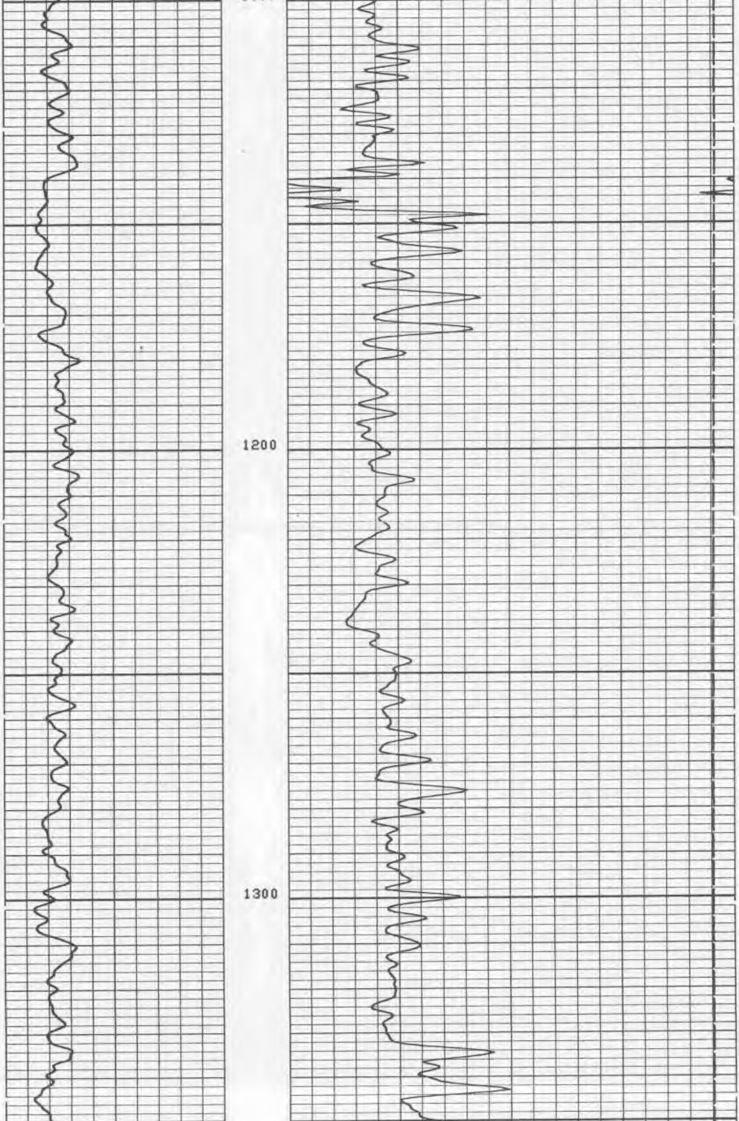
NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
CDTS	100.000		SPFS	R-H	
DTF	189.000	US/F	DTM	56.0000	US/F
DSIN	5	US	DDEL	200	US
WMUD	9.00000	LB/G	DWCO	512	
PP	NORM		DO	0.0	F

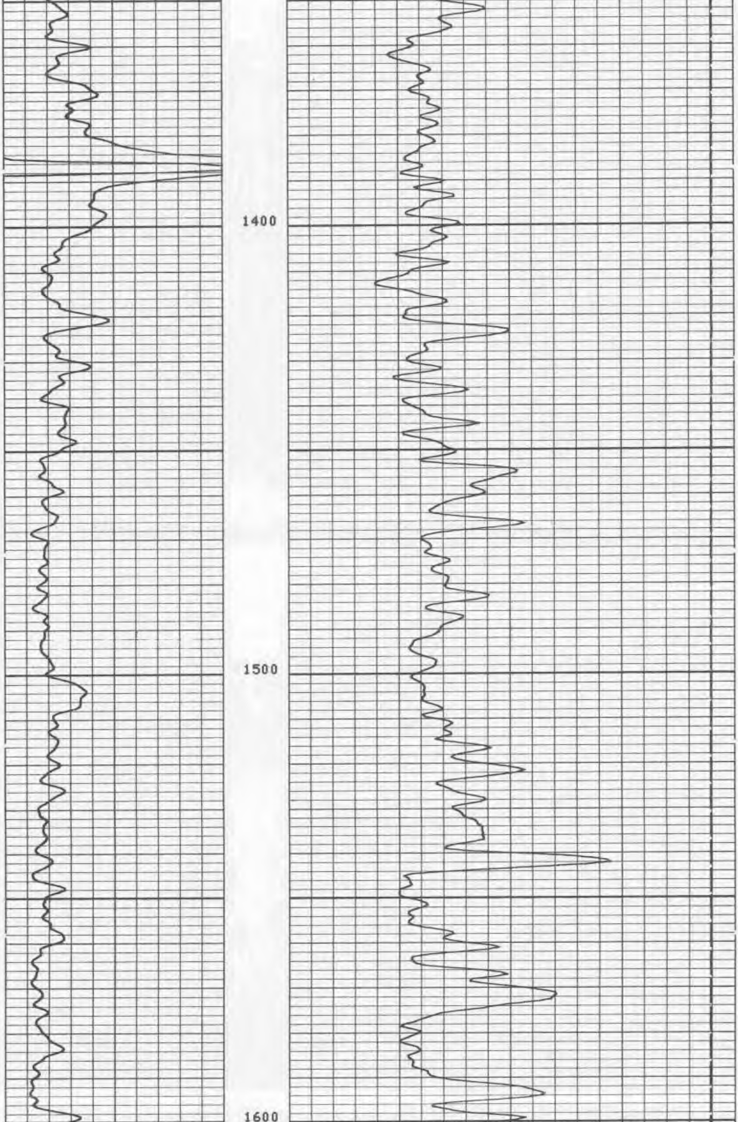
DATA NOT RECORDED

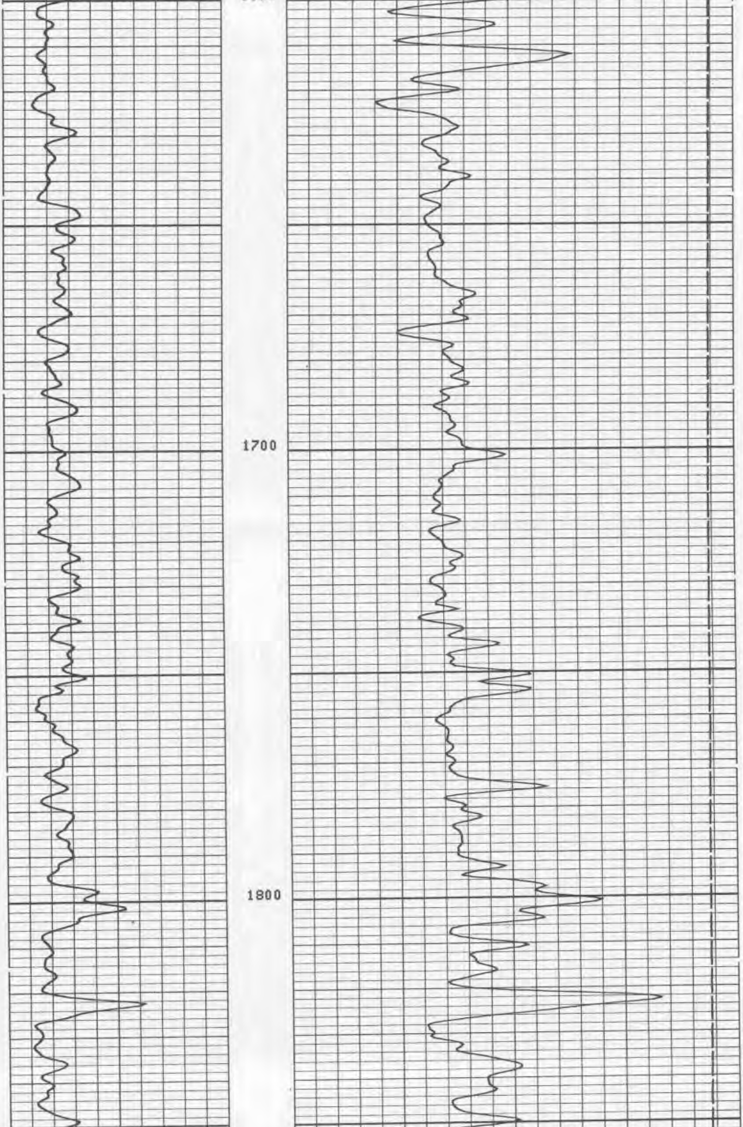
GR (GAPI)		DT (US/F)	TENS(LB)
0.0 100.00		140.00 40.000	10000. 0.0

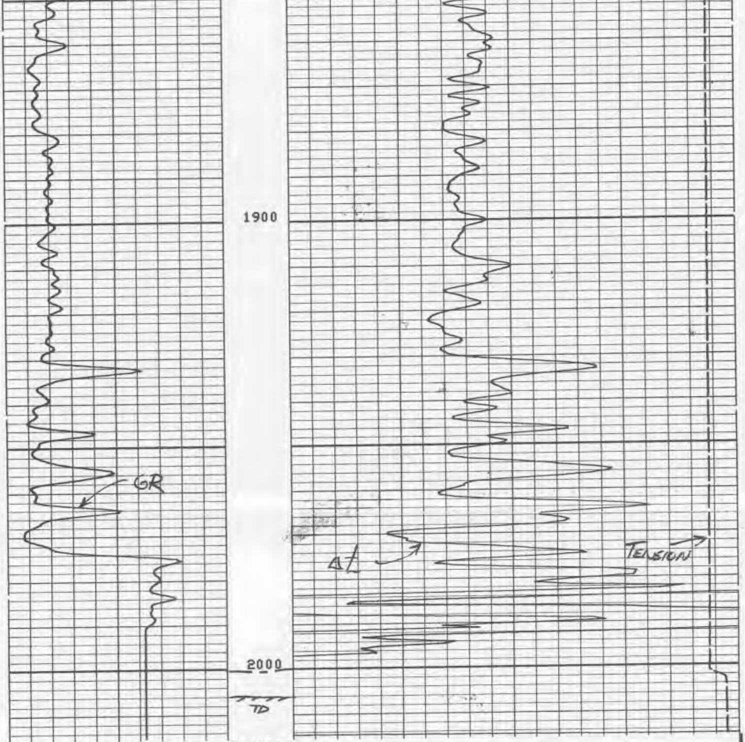
CP 30.4 FILE 20 02-JAN-89 00:35











5"/100'

CP 30.4 FILE 20 02-JAN-89 00:11

TENS(LB)
10000. 0.0

GR (GAPI)
0.0 100.00

DT (US/F)
140.00 40.000

SENSOR MEASURE POINT TO TOOL ZERO

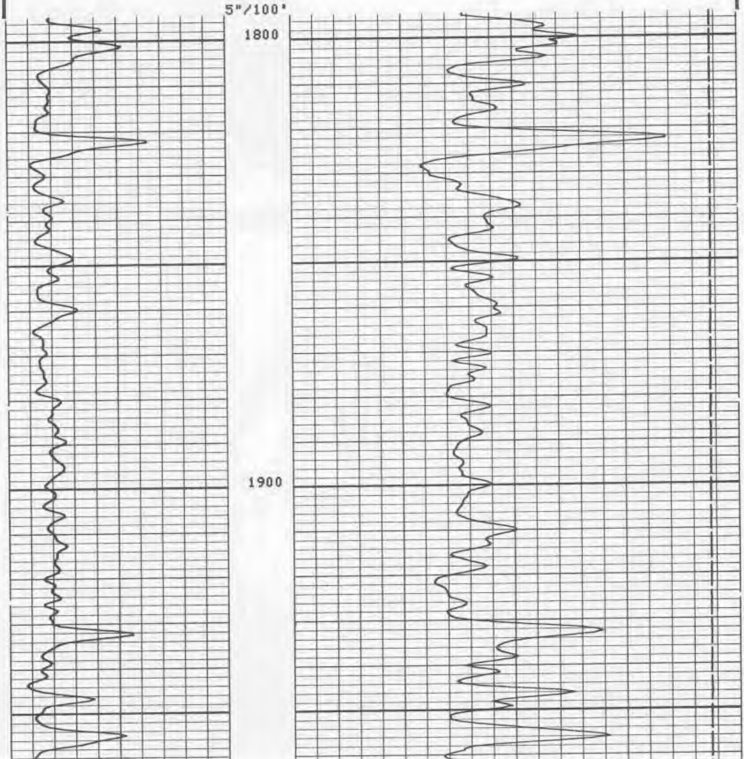
SRAT	5.8	FEET	AMPL	8.2	FEET
CBL5	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.4	FEET
NOIS	3.4	FEET			

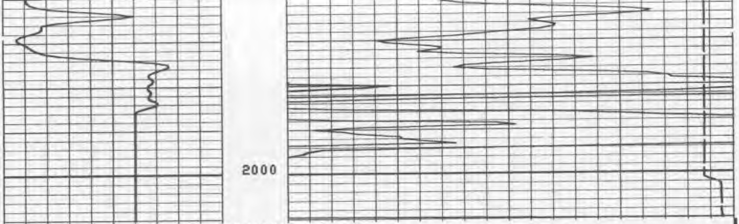
PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
CDTS	100.000		SPFS	R-H	
DTF	189.000	US/F	DTM	56.0000	US/F
DSIN	5	US	DDEL	200	US
WMUD	9.00000	LB/G	DWCD	512	

GR (GAPI)		DT (US/F)	TENS(LB)
0.0 — 100.00		140.00 — 40.000	10000. — 0.0

CP 30.4 FILE 19 02-JAN-89 00:10 REPEAT SECTION





5"/100'

CP 30.4 FILE 19 02-JAN-89 00:05 *Repeat Section*

TENS(LB)
10000. 0.0

GR (GAPI)
0.0 100.00

DT (US/F)
140.00 40.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBL5	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.4	FEET
NOIS	3.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
CDTS	100.000		SPFS	R-H	
DTF	189.000	US/F	DTM	56.0000	US/F
DSIN	5	US	DDEL	200	US
WMUD	9.00000	LB/G	DWCO	512	

Schlumberger

DUAL INDUCTION/SFL

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE : FLORIDA

LOCATION: NORTH DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
BHC/VDL
FLUID R'S
X-Y CALIPER
FIL
TEMP
FLOW

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
30.4
SERVICE
ORDER NO:
519993

DATE: 1 JAN 89 90
RUN NO: FIVE

DEPTH-DRILLER: 2006.0 F
DEPTH-LOGGER: 2006.0 F
BTM. LOG INTERVAL: 2000.0 F
TOP LOG INTERVAL: 999.0 F

CASING-DRILLER: 1000.0 F
CASING-LOGGER: 999.0 F
CASING: 42"
WEIGHT:
BIT SIZE: 12 1/4"
DEPTH: 2006.0 F

TYPE FLUID IN HOLE: SALTWATER
DENSITY: 9.00 LB/G
MAX. REC. TEMP: 76.0 DEGF

LOGGING UNIT NO: 8193
LOGGING UNIT LOC: FORT MYERS
RECORDED BY: S.MILLER
WITNESSED BY: BRANTLEY/WHEATLEY

REMARKS:

EQUIPMENT NUMBERS-

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CP 30.4 FILE 18 01-JAN-89 23:35

TENS(LB)
10000. 0.0

ILD (OHMM)
.20000 2000.0

GR (GAPI)
0.0 100.00

ILM (OHMM)
.20000 2000.0

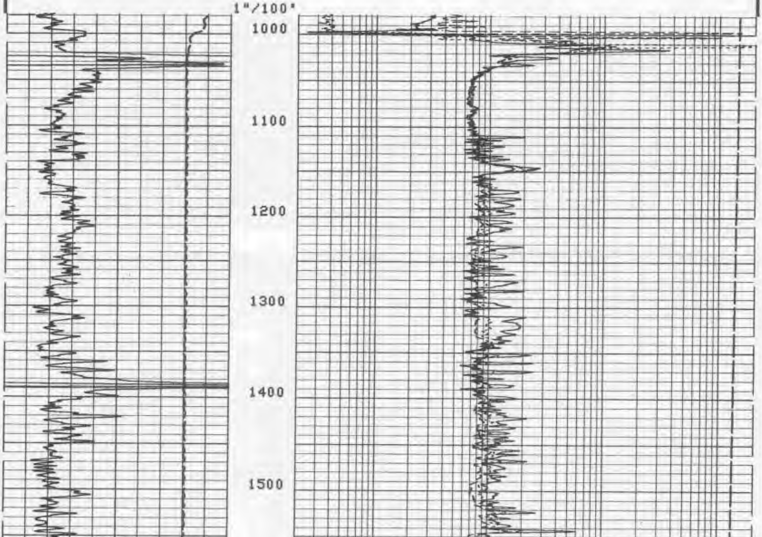
SP (MV)
-160.0 40.000

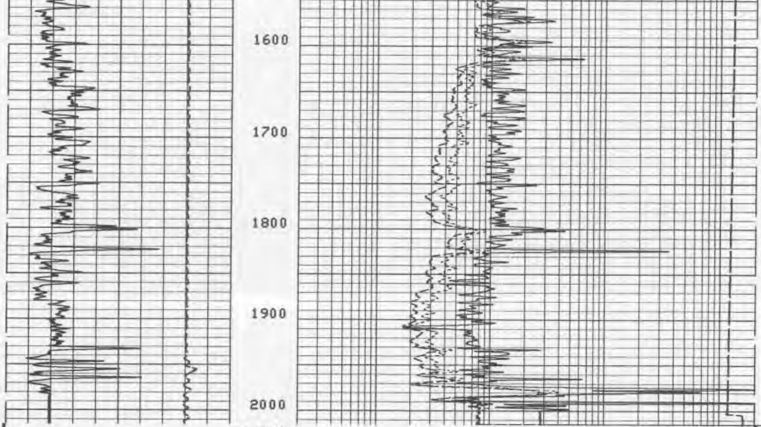
SFLU(OHMM)
.20000 2000.0

CP 30.4 FILE 18 01-JAN-89 23:34

INPUT FILES
13

DATA ACQUIRED
01-JAN-89 23:20





1"/100'

CP 30.4 FILE 18 01-JAN-89 23:30

INPUT FILES
13

DATA ACQUIRED
01-JAN-89 23:04

TENS(LB)
10000. 0.0

ILD (OHMM)
.20000 2000.0

ILM (OHMM)
.20000 2000.0

SFLU(OHMM)
.20000 2000.0

GR (GAPI)
0.0 100.00

SP (MV)
-160.0 40.000

SENSOR MEASURE POINT TO TOOL ZERO

ILD	9.4	FEET	GR	32.9	FEET
SFL	6.4	FEET	ILM	5.8	FEET
SPAR	2.5	FEET	SP	2.5	FEET
TENS	2.5	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
SBR	1.00000	OHMM	DSEC	7.50000	MMHO
WMUD	9.00000	LB/G	MSEC	9.00000	MMHO
PP	NORM		DO	0.0	F

DATA NOT RECORDED

TENS(LB)
10000. 0.0

ILD (OHMM)
.20000 2000.0

GR (GAPI)
0.0 100.00

ILM (OHMM)
.20000 2000.0

SP (MV)
-160.0 40.000

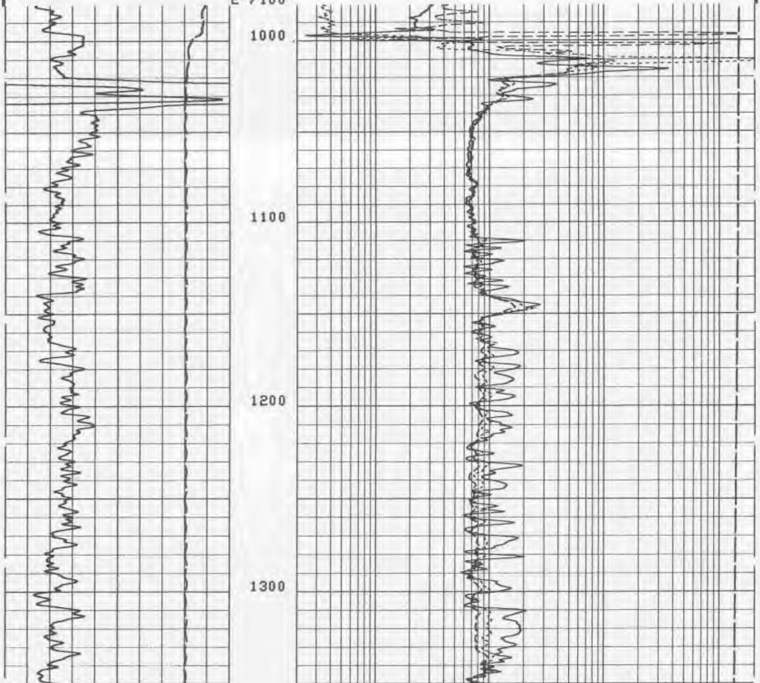
SFLU(OHMM)
.20000 2000.0

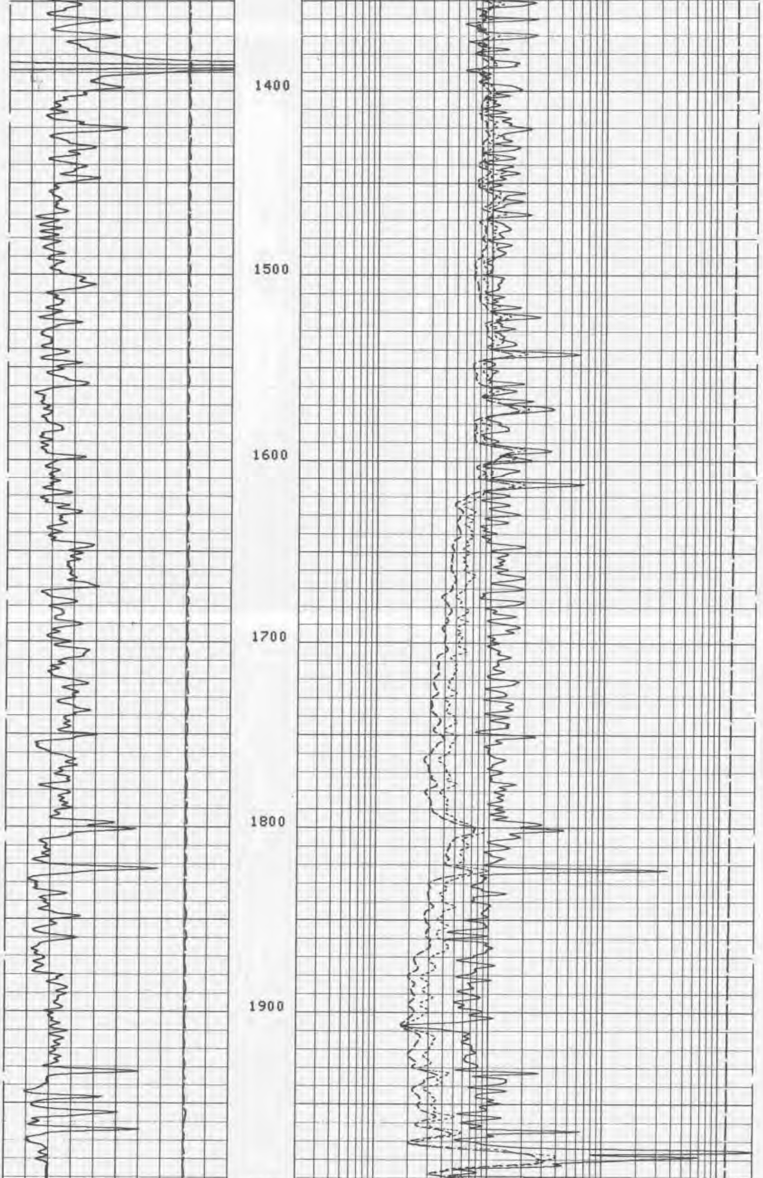
CP 30.4 FILE 17 01-JAN-89 23:29

INPUT FILES
13

DATA ACQUIRED
01-JAN-89 23:20

2"/100'





2"/100'

CP 30.4 FILE 17 01-JAN-89 23:27

INPUT FILES
13

DATA ACQUIRED
01-JAN-89 23:04

Curve	Left	Right
TENS(LB)	10000.	0.0
ILD (OHMM)	.20000	2000.0
ILM (OHMM)	.20000	2000.0
SFLU(OHMM)	.20000	2000.0
GR (GAPI)	0.0	100.00
SP (MV)	-160.0	40.000

SENSOR MEASURE POINT TO TOOL ZERO

ILD	9.4	FEET	GR	32.9	FEET
SFL	6.4	FEET	ILM	5.8	FEET
SPAR	2.5	FEET	SP	2.5	FEET
TENS	2.5	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
SBR	1.00000	OHMM	DSEC	7.50000	MMHO
WMUD	9.00000	LB/G	MSEC	9.00000	MMHO
PP	NORM		DO	0.0	F

DATA NOT RECORDED

AFTER SURVEY TOOL CHECK SUMMARY

PERFORMED: 01-JAN-89 23:24
PROGRAM FILE: ISN (VERSION 30.4 87/11/19 87/11/19)

DITD TOOL CHECK

	ZERO BEFORE	ZERO AFTER	PLUS BEFORE	PLUS AFTER	UNITS
ILD	0.0	.3	500.0	500.6	MMHO
ILM	0.0	-.0	500.0	500.0	MMHO
SFL	0.0	.0	500.0	492.1	MMHO

ILD SONDE ERROR CORRECTION : 7.5 MMHO
ILM SONDE ERROR CORRECTION : 9.0 MMHO

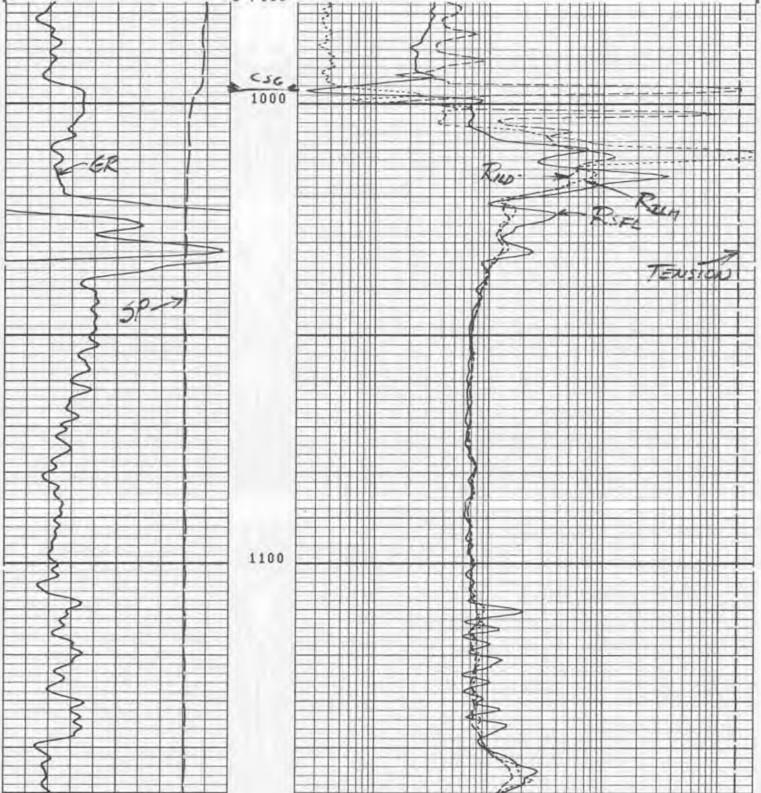
BEFORE SURVEY: ZERO: 01-JAN-89 22:48 PLUS: 01-JAN-89 22:49
AFTER SURVEY CHECK: ZERO: 01-JAN-89 23:22 PLUS: 01-JAN-89 23:23

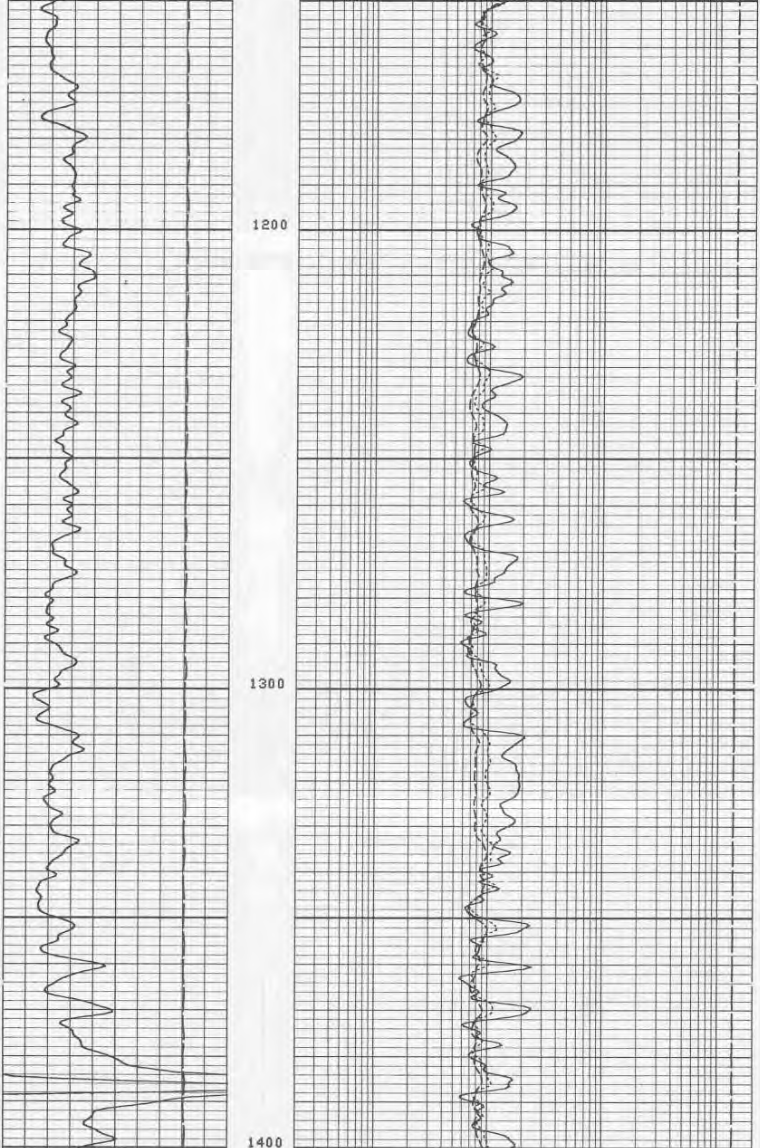
CP 30.4 FILE 15 01-JAN-89 23:24

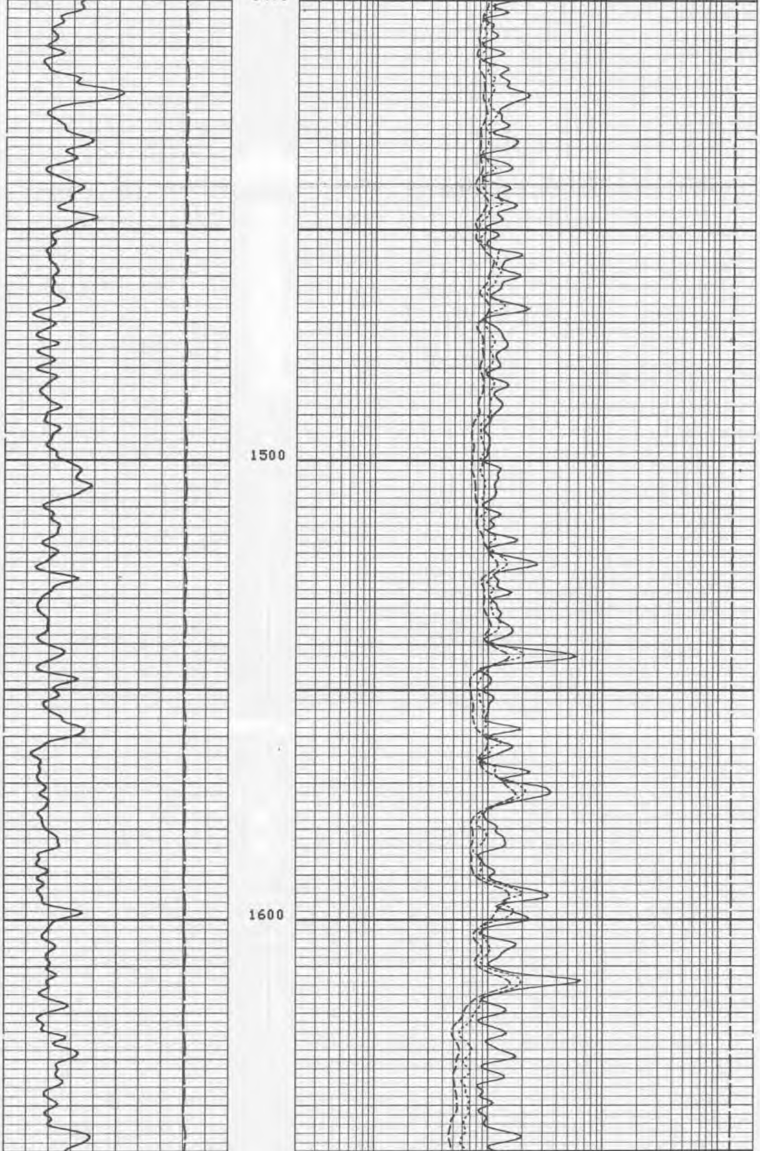
Track 1		Track 3	
		TENS(LB)	
		10000.	0.0
		ILD (OHMM)	
		.20000	2000.0
GR (GAPI)		ILM (OHMM)	
0.0	100.00	.20000	2000.0
SP (MV)		SFLU(OHMM)	
-160.0	40.000	.20000	2000.0

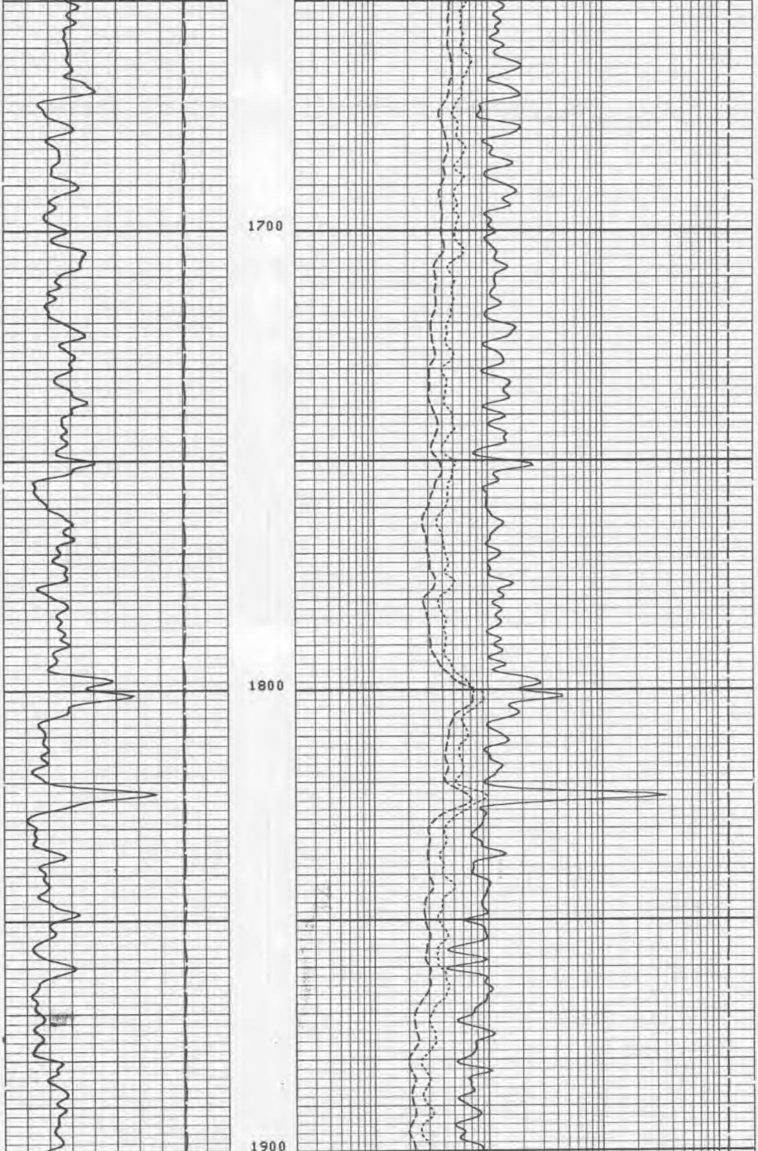
CP 30.4 FILE 13 01-JAN-89 23:20

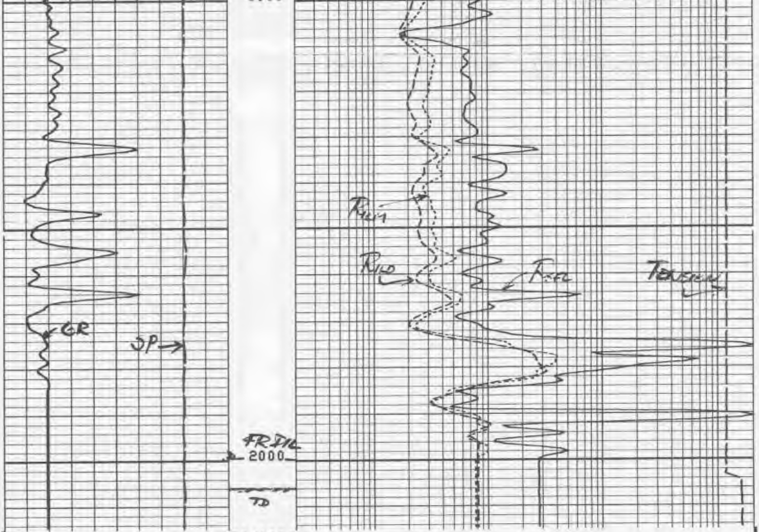
5"/100'











5"/100'

CP 30.4 FILE 13 01-JAN-89 23:03

TENS(LB)
10000. 0.0

ILD (OHMM)
.20000 2000.0

ILM (OHMM)
.20000 2000.0

SFLU(OHMM)
.20000 2000.0

SP (MV)
-640.0 160.00

GR (GAPI)
0.0 100.00

SENSOR MEASURE POINT TO TOOL ZERO

ILD	9.4	FEET	GR	32.9	FEET
SFL	6.4	FEET	ILM	5.8	FEET
SPAR	2.5	FEET	SP	2.5	FEET
TENS	2.5	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
SBR	1.00000	OHMM	DSEC	7.50000	MMHO
WMUD	9.00000	LB/G	MSEC	9.00000	MMHO

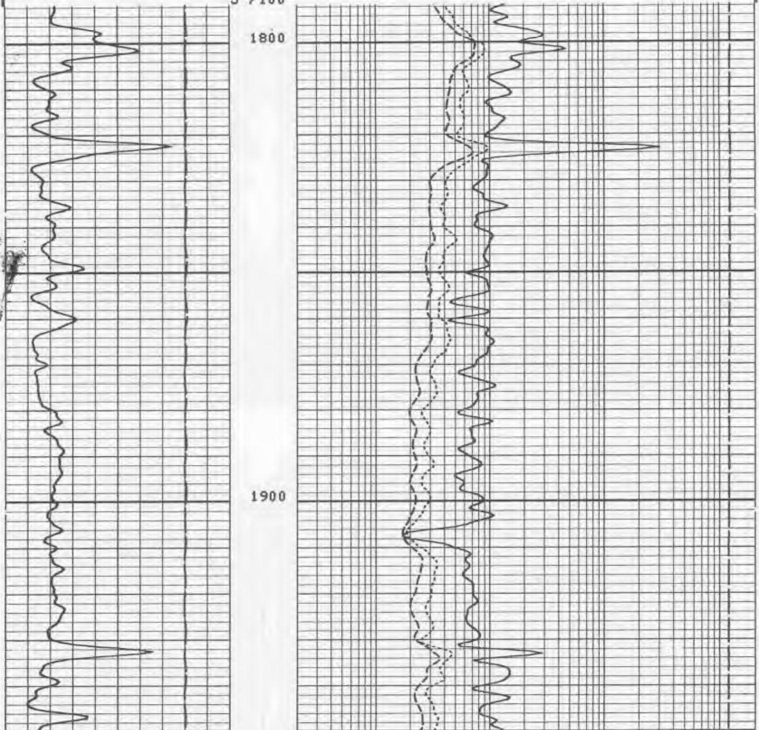
SP (MV)
-640.0 160.00
GR (GAPI)
0.0 100.00

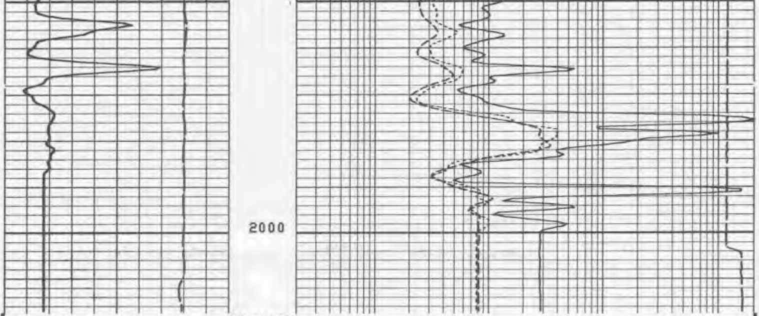
TENS(LB)
10000. 0.0
ILD (OHMM)
.20000 2000.0
ILM (OHMM)
.20000 2000.0
SFLU(OHMM)
.20000 2000.0

CP 30.4 FILE 12 01-JAN-89 23:03

REPEAT SECTION

5"/100'





5"/100'

CP 30.4 FILE 12 01-JAN-89 22:59 *Repeat Section*

GR (GAPI) 0.0 100.00		TENS(LB) 10000. 0.0
SP (MV) -160.0 40.000		ILD (OHMM) .20000 2000.0
		ILM (OHMM) .20000 2000.0
		SFLU(OHMM) .20000 2000.0

SENSOR MEASURE POINT TO TOOL ZERO

ILD	9.4	FEET	GR	32.9	FEET
SFL	6.4	FEET	ILM	5.8	FEET
SPAR	2.5	FEET	SP	2.5	FEET
TENS	2.5	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	12.2500	IN	BHS	OPEN	
SBR	1.00000	OHMM	DSEC	7.50000	MMHO
WMUD	9.00000	LB/G	MSEC	9.00000	MMHO

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 01-JAN-89 22:50
PROGRAM FILE: ISN (VERSION 30.4 87/11/19 87/11/19)

DITD

ELECTRONICS CALIBRATION SUMMARY

	MEASURED		CALIBRATED		
	ZERO	PLUS	ZERO	PLUS	UNITS
ILD	.57	550.2	0.0	500.0	MMHO
ILM	-.13	524.3	0.0	500.0	MMHO
SFL	.96	552.3	0.0	500.0	MMHO

ILD SONDE ERROR CORRECTION : 7.5 MMHO
ILM SONDE ERROR CORRECTION : 9.0 MMHO

ZERO: 01-JAN-89 22:48 PLUS: 01-JAN-89 22:49 COMP: 01-JAN-89 22:49

Schlumberger

DUAL INDUCTION/SFL

CSU Field Log

011-15

Schlumberger

X - Y CALIPER

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING
WELL: NORTH DISTRICT REGIONAL IW-1
FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE : FLORIDA
LOCATION: NORTH DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
NONE

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
30.4
SERVICE
ORDER NO:
519991

DATE: 21 DEC 89
RUN NO:

DEPTH-DRILLER: 1016.0 F
DEPTH-LOGGER: 1007.0 F
BTM. LOG INTERVAL: 1007.0 F
TOP LOG INTERVAL: 160.0 F

CASING-DRILLER: 160.0 F
CASING-LOGGER: 160.0 F
CASING: 50"
WEIGHT:
BIT SIZE: 48 1/2"
DEPTH: 1008.0 F

TYPE FLUID IN HOLE: GEL
DENSITY: 9.00 LB/G
TIME CIRC. STOPPED:
TIME LOGGER ON BTM.: 23:15 21-DEC-89

MAX. REC. TEMP:

LOGGING UNIT NO: 8193
LOGGING UNIT LOC: FORT MYERS
RECORDED BY: S.MILLER
WITNESSED BY: J.BRANTLEY

REMARKS:

DRILL FLOOR IS 12.5' ABOVE PAD

EQUIPMENT NUMBERS-

BGT 3804R

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 30.4 FILE 7 22-DEC-89 00:01

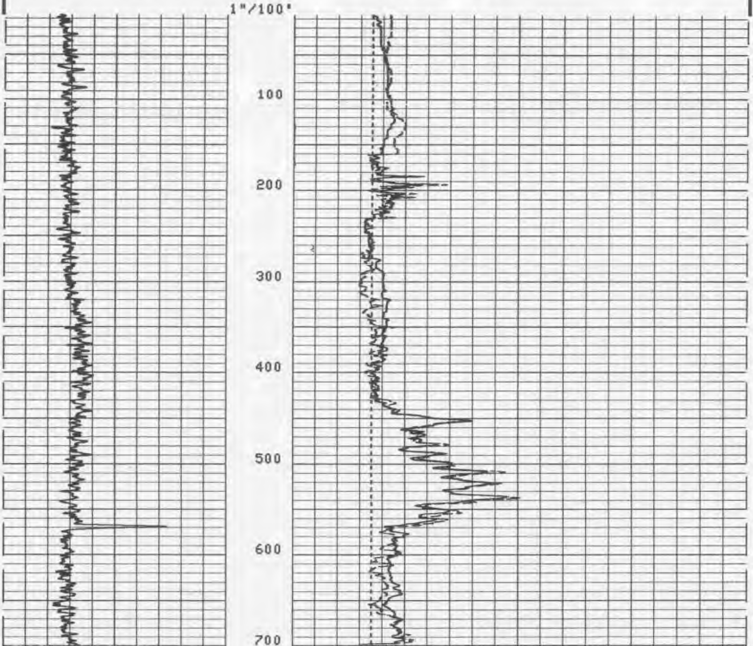
CEMENT VOLUME = 13356.3 F3
HOLE VOLUME = 13356.3 F3
FROM 1024.0 TO 5.0 FEET

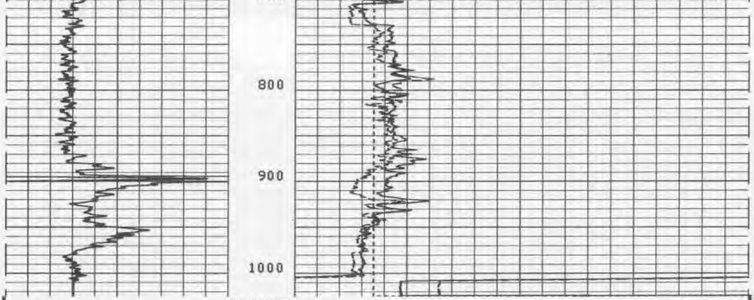
GR (GAPI)		BS (IN) / C2 (IN) / C1 (IN)
		BS (IN): 45.000 — 65.000
		C2 (IN): 45.000 — 65.000
0.0 — 100.00		C1 (IN): 45.000 — 65.000

CP 30.4 FILE 7 21-DEC-89 23:59

INPUT FILES
2

DATA ACQUIRED
21-DEC-89 23:45





1"/100'

CP 30.4 FILE 7 21-DEC-89 23:57

INPUT FILES
2

DATA ACQUIRED
21-DEC-89 23:25

GR (GAPI)
0.0 100.00

BS (IN)
45.000 65.000

C2 (IN)
45.000 65.000

C1 (IN)
45.000 65.000

SENSOR MEASURE POINT TO TOOL ZERO

C2	0.0	FEET	GR	16.1	FEET
DEVI	0.0	FEET	C1	0.0	FEET
AZIM	0.0	FEET	RB	0.0	FEET
TENS	0.0	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	48.5000	IN	BHS	OPEN	
WMUD	8.00000	LB/G	MCT	36	
PP	RECO		DO	3.00000	F

DATA NOT RECORDED

CEMENT VOLUME = 13356.3 F3
HOLE VOLUME = 13356.3 F3
FROM 1024.0 TO 5.0 FEET

GR (GAPI)
0.0 100.00

BS (IN)
45.000 65.000

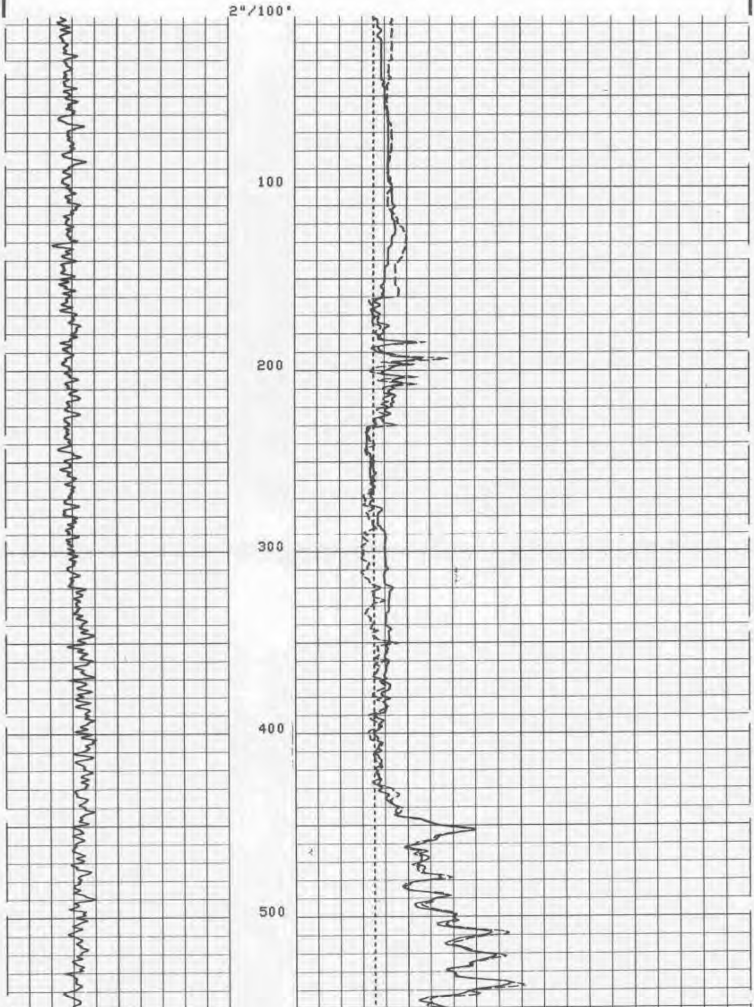
C2 (IN)
45.000 65.000

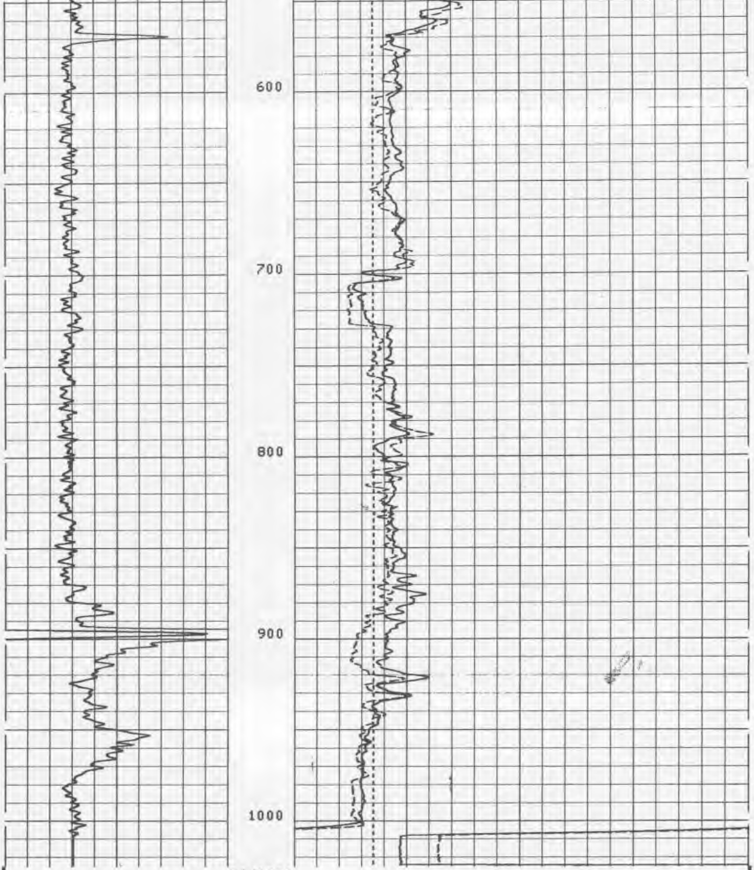
C1 (IN)
45.000 65.000

CP 30.4 FILE 6 21-DEC-89 23:56

INPUT FILES
2

DATA ACQUIRED
21-DEC-89 23:45





2"/100'

CP 30.4 FILE 6 21-DEC-89 23:54

INPUT FILES
2

DATA ACQUIRED
21-DEC-89 23:25

	BS (IN) 45.000 65.000
	C2 (IN) 45.000 65.000
GR (GAPI) 0.0 100.00	C1 (IN) 45.000 65.000

```
                 SENSOR MEASURE POINT TO TOOL ZERO

     C2    0.0  FEET                    GR   16.1  FEET
     DEVI  0.0  FEET                    C1    0.0  FEET
     AZIM  0.0  FEET                    RB    0.0  FEET
     TENS  0.0  FEET
```

```
                              PARAMETERS

   NAME  VALUE       UNIT               NAME  VALUE       UNIT

   BS    48.5000     IN                 BHS   OPEN
   WMUD  8.00000     LB/G               MCT   36
   PP    RECO                           DO    3.00000     F

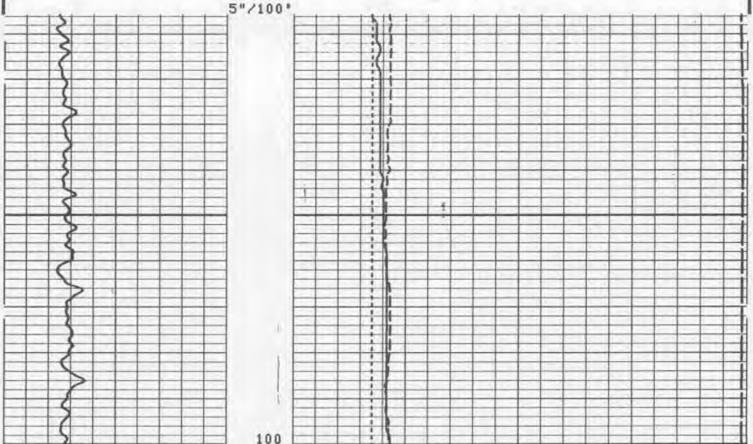
                           DATA NOT RECORDED
```

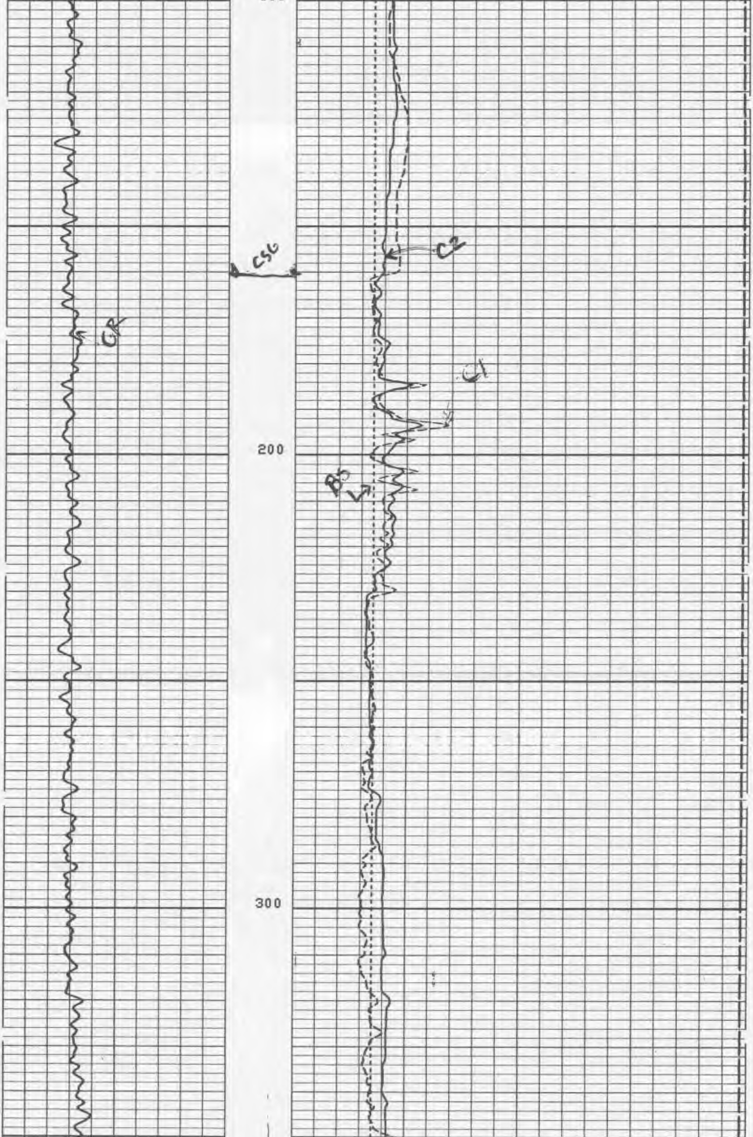
```
CEMENT VOLUME = 13356.3 F3
HOLE VOLUME =    13356.3 F3
FROM  1024.0 TO      5.0 FEET
```

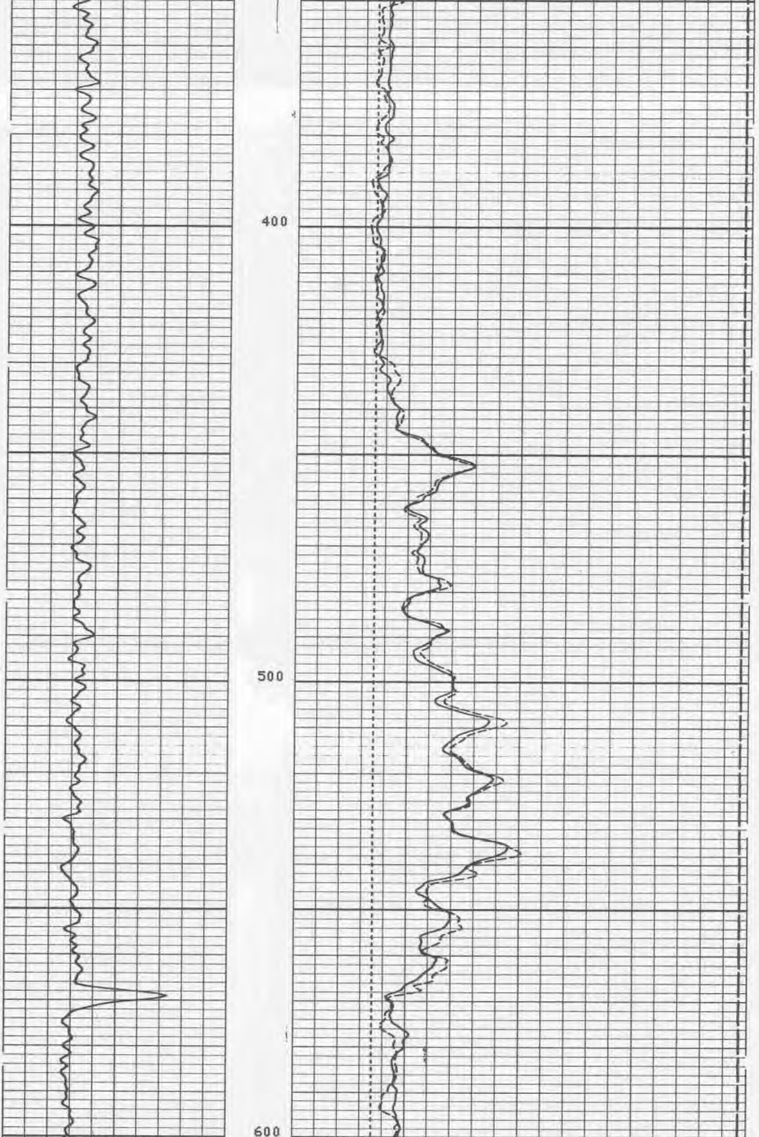
```
                                                      TENS(LB  )
                                               10000.            0.0
                                         BS  (IN  )
                             45.000                            65.000
                                         C2  (IN  )
                             45.000                            65.000
       GR  (GAPI)                        C1  (IN  )
0.0         100.00           45.000                            65.000
```

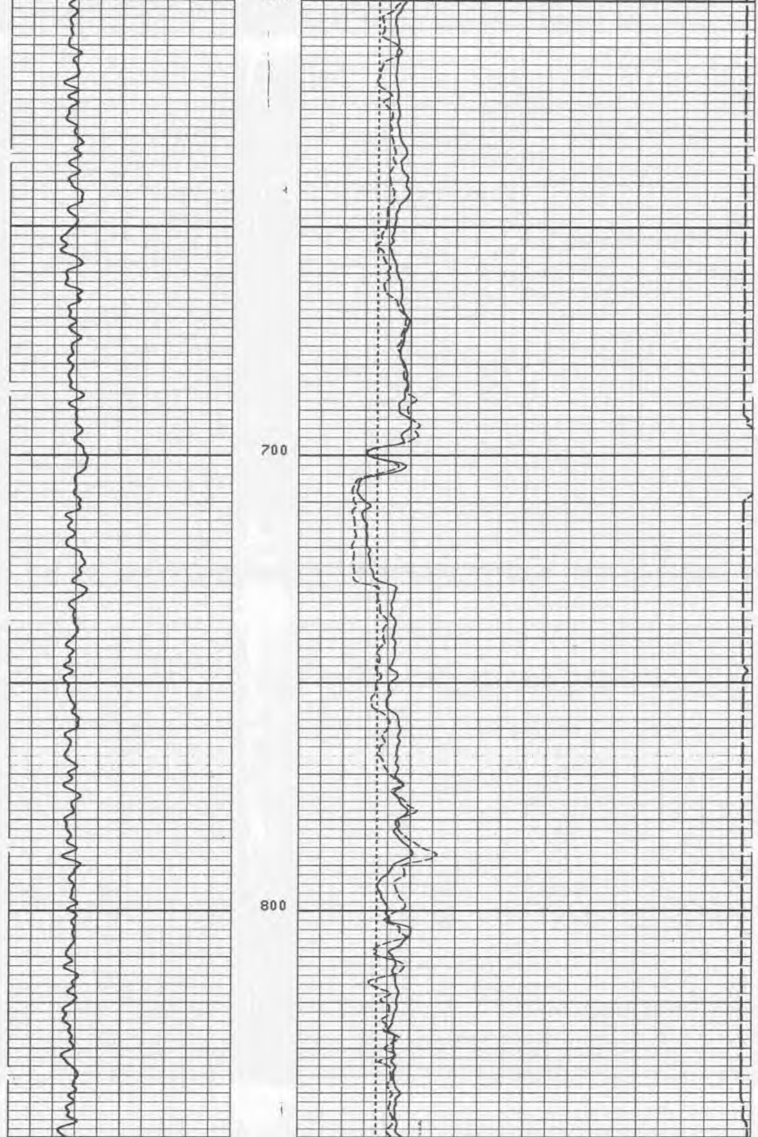
```
   CP 30.4          FILE    5      21-DEC-89 23:53

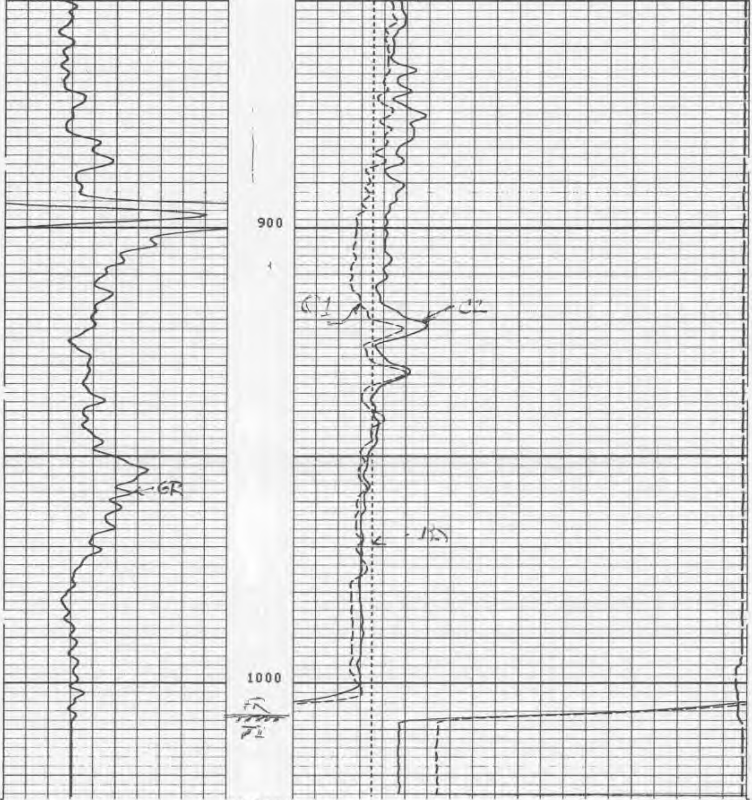
          INPUT FILES              DATA ACQUIRED
          2                        21-DEC-89 23:45
```











5"/100'

CP 30.4 FILE 5 21-DEC-89 23:50

INPUT FILES
2

DATA ACQUIRED
21-DEC-89 23:25

TENS(LB)
10000. 0.0

BS (IN)
45.000 65.000

C2 (IN)
45.000 65.000

GR (GAPI)
0.0 100.00

C1 (IN)
45.000 65.000

SENSOR MEASURE POINT TO TOOL ZERO

C2	0.0	FEET	GR	16.1	FEET
DEVI	0.0	FEET	C1	0.0	FEET
AZIM	0.0	FEET	RB	0.0	FEET
TENS	0.0	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	48.5000	IN	BHS	OPEN	
WMUD	8.00000	LB/G	MCT	36	
PP	RECO		DO	3.00000	F

DATA NOT RECORDED

CEMENT VOLUME = 2719.20 F3
HOLE VOLUME = 2719.20 F3
FROM 1018.5 TO 804.5 FEET

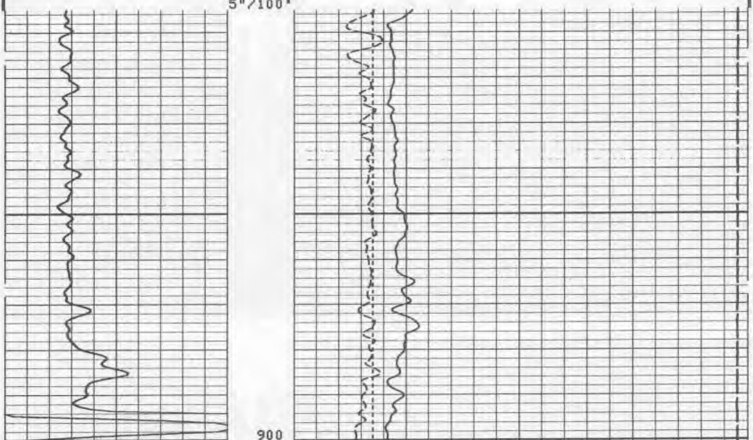
TENS(LB) 10000. 0.0
BS (IN) 45.000 65.000
C2 (IN) 45.000 65.000
GR (GAPI) 0.0 100.00
C1 (IN) 45.000 65.000

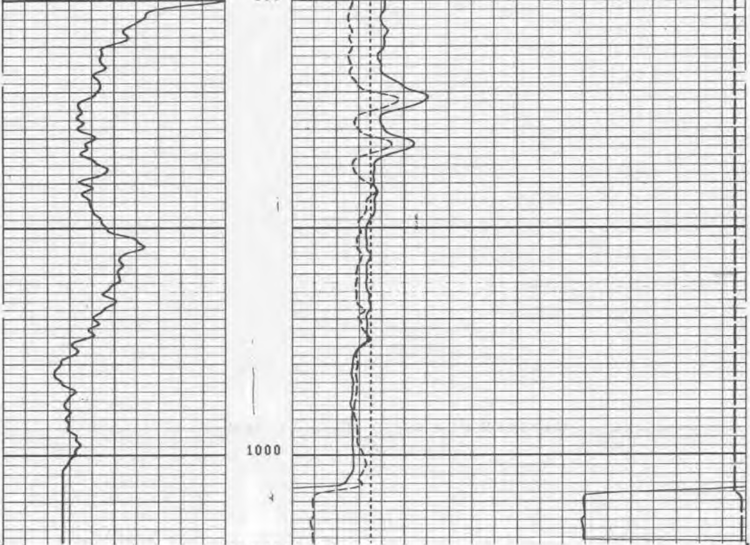
CP 30.4 FILE 4 21-DEC-89 23:50

REPEAT SECTION

INPUT FILES
1

DATA ACQUIRED
21-DEC-89 23:19





5"/100'

CP 30.4 FILE 4 21-DEC-89 23:49

REPEAT SECTION

INPUT FILES
1

DATA ACQUIRED
21-DEC-89 23:14

TENS(LB)
10000. 0.0

BS (IN)
45.000 65.000

C2 (IN)
45.000 65.000

GR (GAPI)
0.0 100.00

C1 (IN)
45.000 65.000

SENSOR MEASURE POINT TO TOOL ZERO

C2	0.0	FEET	GR	16.1	FEET
DEVI	0.0	FEET	C1	0.0	FEET
AZIM	0.0	FEET	RB	0.0	FEET
TENS	0.0	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BS	48.5000	IN	BHS	OPEN	
WMUD	8.00000	LB/G	MCT	36	
PP	RECO		DO	3.00000	F

DATA NOT RECORDED

```
               BEFORE SURVEY CALIBRATION SUMMARY

  PERFORMED:    21-DEC-89 22:41
  PROGRAM FILE: BMS    (VERSION    30.4    00/00/00  87/11/19)


 BGT                 CALIPER CALIBRATION SUMMARY

           MEASURED                            CALIBRATED
         SMALL     LARGE                   SMALL      LARGE         UNITS
   C1    14.59     32.4                    23.00      72.0           IN
   C2    16.00     31.8                    23.00      70.0           IN
```

Schlumberger

X - Y CALIPER

CSU Field Log

Schlumberger

FLOWMETER SURVEY

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE: FLORIDA

LOCATION: NORTH BROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
BHC/VDL
DIL/SFL
X-Y CALIPER
FLUID R'S
HRT

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
32.2
SERVICE
ORDER NO:
520005

DATE: 28 MAR 90
RUN NO: TEN

DEPTH-DRILLER: 3512.0 F
DEPTH-LOGGER: 3007.0 F
BTM. LOG INTERVAL: 3498.0 F
TOP LOG INTERVAL: 2987.0 F

CASING-DRILLER: 2990.0 F
CASING-LOGGER: 2987.0 F
CASING: 24"
WEIGHT:
BIT SIZE: 22 1/2"
DEPTH: 3514.0 F

TYPE FLUID IN HOLE: SALT WATER

TIME CIRC. STOPPED: 10:30 28-MAR-90
TIME LOGGER ON BTM.: 22:15 28-MAR-90

MAX. REC. TEMP:

LOGGING UNIT NO: 8193
LOGGING UNIT LOC: FORT MYERS
RECORDED BY: S.MILLER
WITNESSED BY: KEVIN

REMARKS:

ONE PASS LOGGED DOWN AT 1800 FPM.
ONE PASS LOGGED UP AT 1800 FPM.

EQUIPMENT NUMBERS-

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 32.2 FILE 14 28-MAR-1990 23:33

DATA ACQUIRED LOGGING UP

SKET
1.0000 0.0

CCL
-13.50 1.5000

CVEL(F/MN)
0.0 200.00

CVEL(F/MN)
0.0 -200.0

GR(GAPI)
0.0 100.00

TENS(LBF)
5000.0 0.0

TEMP(DEGF)
55.000 75.000

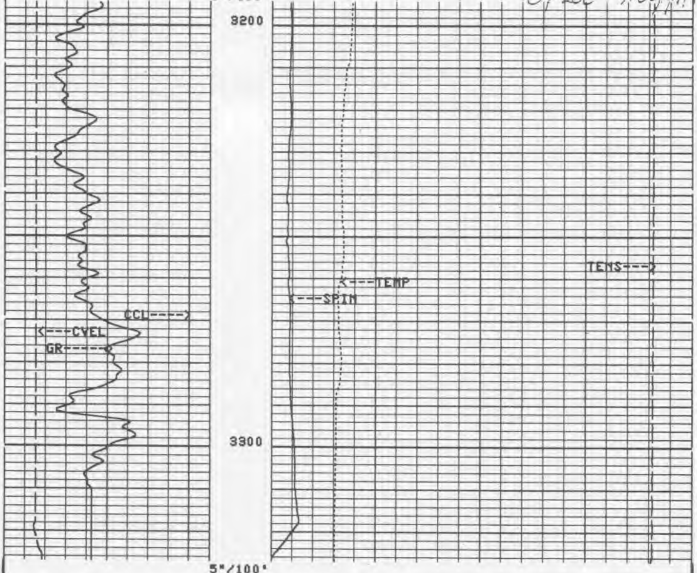
SPIN(RPS)
0.0 10.000

TSKE - Z2

CP 32.2 FILE 13 28-MAR-1990 23:26

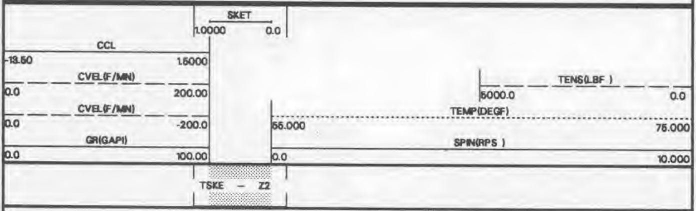
REPEAT
Up Log 1800fph

5"/100'



5"/100'

CP 32.2 FILE 13 28-MAR-1990 23:21



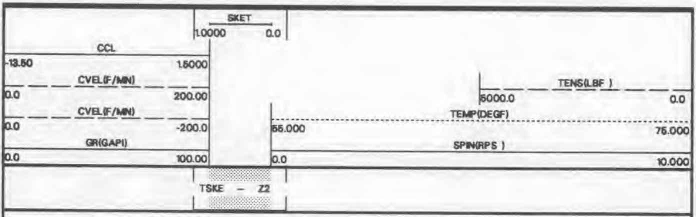
SENSOR MEASURE POINT TO TOOL ZERO

```
GR    13.3  FEET              CVEL  1.0  FEET
MP     4.0  FEET              TEMP  5.4  FEET
SPIN   1.0  FEET              SVFG  1.0  FEET
EXP3   0.0  FEET              EXT   0.0  FEET
EXP1   0.0  FEET              EXP2  0.0  FEET
CCL   22.2  FEET              TENS -4.0  FEET
```

PARAMETERS

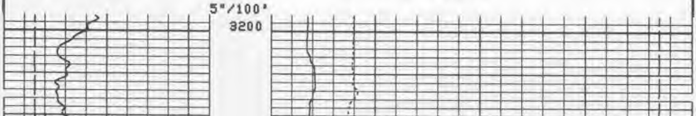
```
NAME  VALUE       UNIT              NAME  VALUE        UNIT

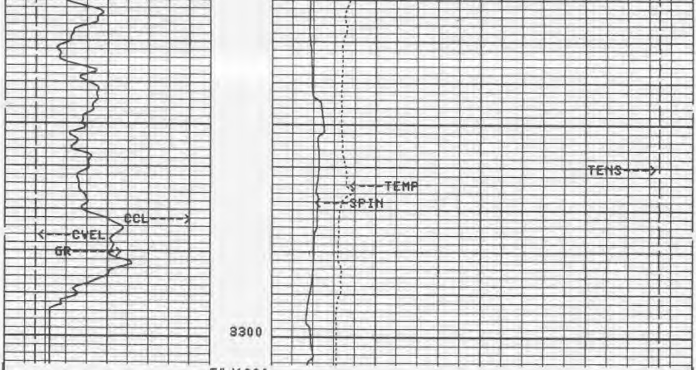
WMUD 8.00000      LB/G              SGSN 0000A-00011
CDAT                                FCHD CSID
PTHR 10.0000      F/MN              NTHR -10.0000      F/MN
TIRA .500000                        VPCF .830000
DEVI 0.0          DEG               FDSH 0.0           G/C3
QIOP FLOW                           TCSH 0.0           IN
BS   22.5000      IN                BHS  CASE
```



```
CP 32.2          FILE   12      28-MAR-1990 23:19

      INPUT FILE(S)             DATA ACQUIRED
      10                        28-MAR-1990 23:13
```





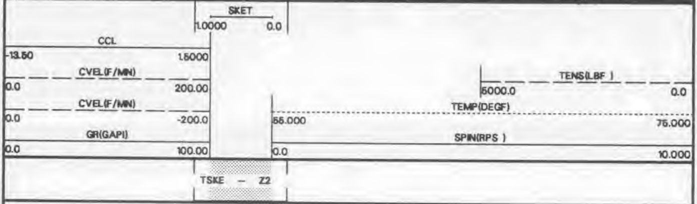
5"/100'

CP 32.2 FILE 12 28-MAR-1990 23:18

INPUT FILE(S)
10

DATA ACQUIRED
28-MAR-1990 23:16

Repeat
Down Log
1800 fph



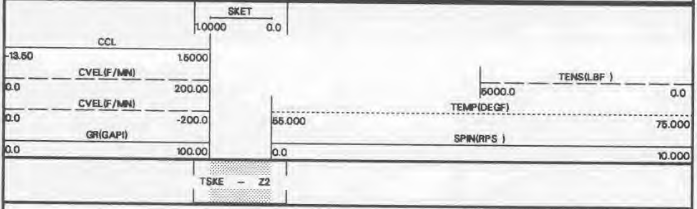
SENSOR MEASURE POINT TO TOOL ZERO

GR	13.3	FEET	CVEL	1.0	FEET
MP	4.0	FEET	TEMP	5.4	FEET
SPIN	1.0	FEET	SVFG	1.0	FEET
EXP3	0.0	FEET	EXT	0.0	FEET
EXP1	0.0	FEET	EXP2	0.0	FEET
CCL	22.2	FEET	TENS	22.2	FEET

PARAMETERS

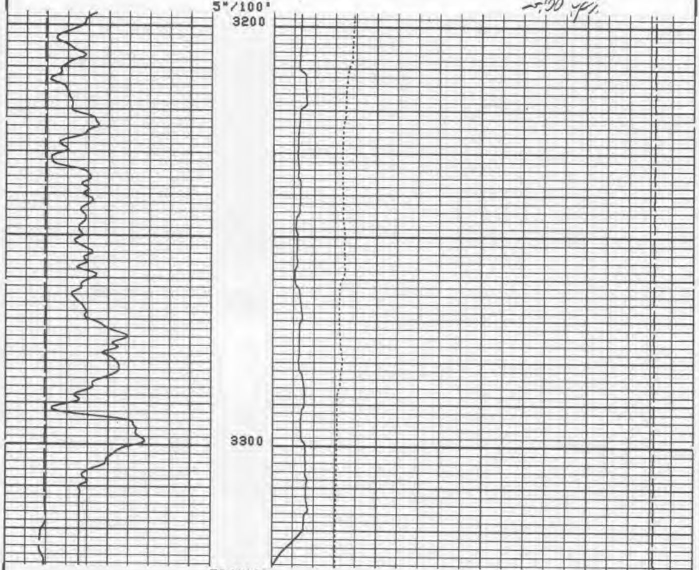
NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	0.0	F
WMUD	8.00000	LB/G	SGSN	0000A-00011	
CDAT			FCHD	CSID	
PTHR	10.0000	F/MN	NTHR	-10.0000	F/MN
TIRA	.500000		VPCF	.830000	
DEVI	0.0	DEG	FDSH	0.0	G/C3
QIOP	FLOW		TCSH	0.0	IN
BS	22.5000	IN	BHS	CASE	

DATA ACQUIRED LOGGING UP



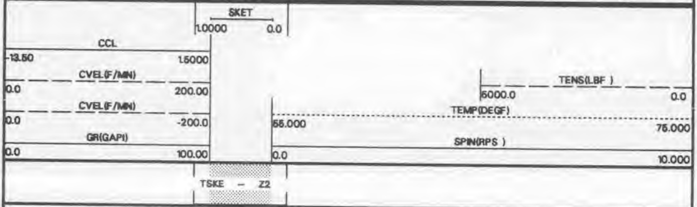
CP 32.2 FILE 9 28-MAR-1990 23:10

Up Log
2400 fph



CP 32.2 FILE 9 28-MAR-1990 23:06

Up Log 2400 fph



SENSOR MEASURE POINT TO TOOL ZERO

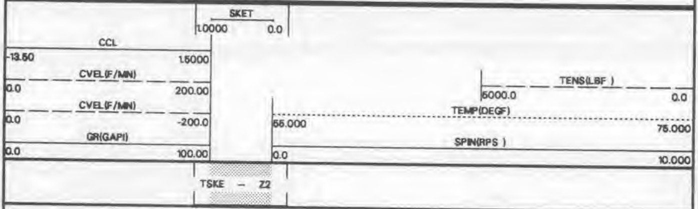
GR	13.3	FEET	CVEL	1.0	FEET
MP	4.0	FEET	TEMP	5.4	FEET
SPIN	1.0	FEET	SVFG	1.0	FEET
EXP3	0.0	FEET	EXT	0.0	FEET
EXP1	0.0	FEET	EXP2	0.0	FEET
CCL	22.2	FEET	TENS	-4.0	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
WMUD	8.00000	LB/G	SGSN	0000A-00011	
CDAT			FCHD	CSID	
PTHR	10.0000	F/MN	NTHR	-10.0000	F/MN
TIRA	.500000		VPCF	.830000	
DEVI	0.0	DEG	FDSH	0.0	G/C3
QIOP	FLOW		TCSH	0.0	IN
BS	22.5000	IN	BHS	CASE	

CHANGED PARAMETERS

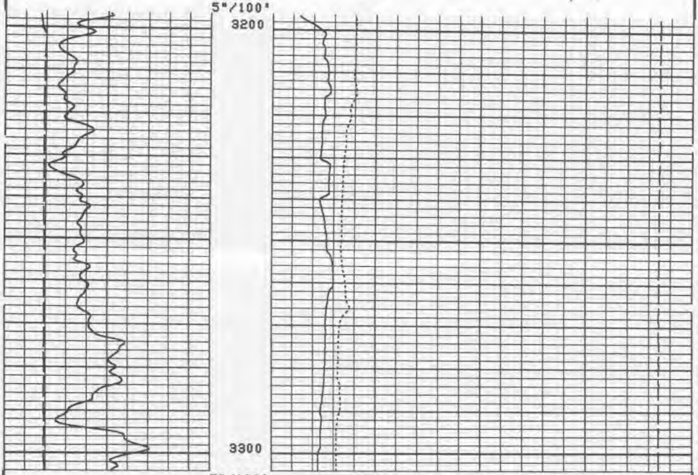
NAME	VALUE	UNIT	DEPTH (F)	NAME	VALUE	UNIT	DEPTH (F)
DO	0.0	F	3304.0				



CP 32.2   FILE 8   28-MAR-1990 23:04   Ikwi Lee

INPUT FILE(S)
6

DATA ACQUIRED
28-MAR-1990 22:57   2400 BPI

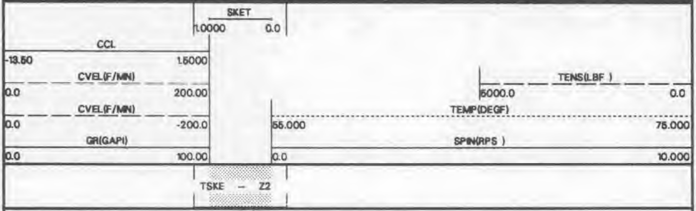


CP 32.2 FILE 8 28-MAR-1990 23:03

Down Log
2400 fph

INPUT FILE(S)
6

DATA ACQUIRED
00- -1900 00:00



SENSOR MEASURE POINT TO TOOL ZERO

GR	13.3	FEET	CVEL	1.0	FEET
MP	4.0	FEET	TEMP	5.4	FEET
SPIN	1.0	FEET	SVFG	1.0	FEET
EXP3	0.0	FEET	EXT	0.0	FEET
EXP1	0.0	FEET	EXP2	0.0	FEET
CCL	22.2	FEET	TENS	22.2	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	-2.50000	F
WMUD	8.00000	LB/G	SGSN	0000A-00011	
CDAT			ECHD	CSID	

DATA ACQUIRED LOGGING UP

SKET
1.0000 0.0

CCL
-13.50 1.5000

CVEL(F/MIN)
0.0 200.00

CVEL(F/MIN)
0.0 -200.0

GR(GAPI)
0.0 100.00

TENS(LBF)
5000.0 0.0

TEMP(DEGF)
55.000 75.000

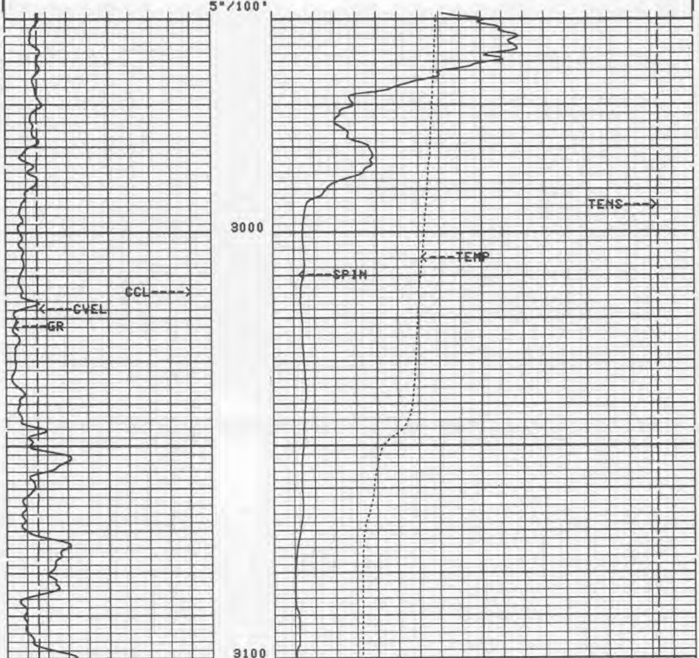
SPIN(RPS)
0.0 10.000

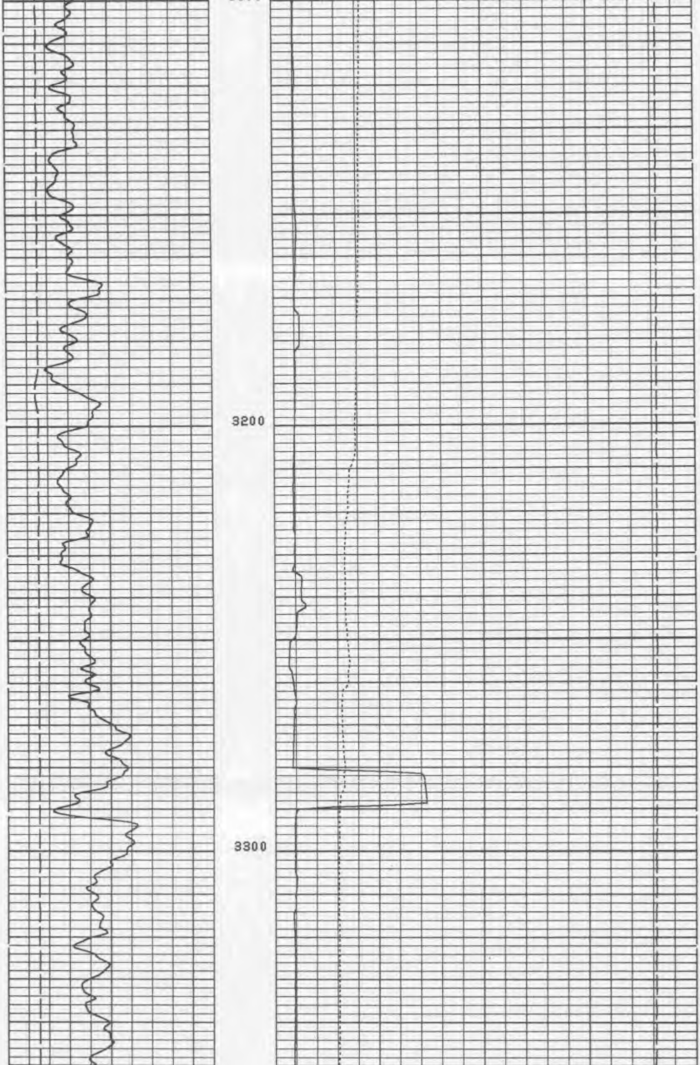
TSKE - Z2

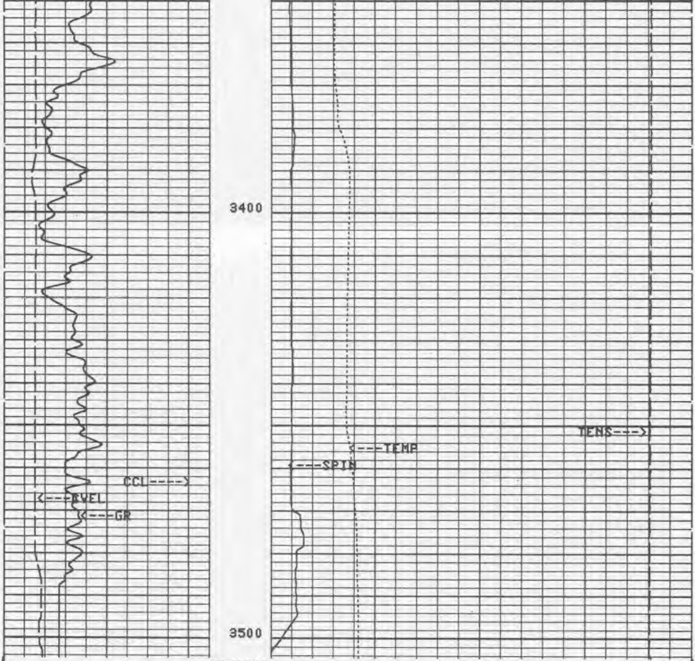
CP 32.2 FILE 5 28-MAR-1990 22:54

P Loc 1800 fph

5"/100'

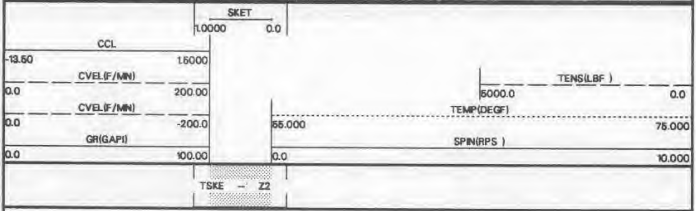






5"/100'

CP 32.2 FILE 5 28-MAR-1990 22:36 UP Log 1800 fph

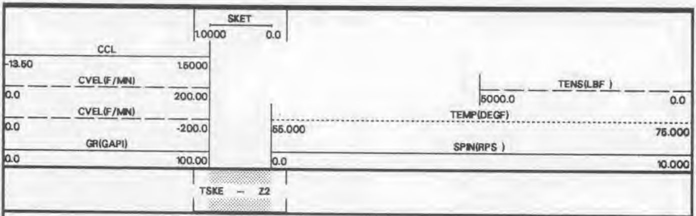

SKET
1.0000
0.0
CCL
-13.60
1.6000
CVEL(F/MIN)
0.0
200.00
CVEL(F/MIN)
0.0
-200.0
GR(GAPI)
0.0
100.00
TENS(LBF)
5000.0
0.0
TEMP(DEGF)
55.000
75.000
SPIN(RPS)
0.0
10.000
TSKE -- Z2

SENSOR MEASURE POINT TO TOOL ZERO

GR	13.3	FEET	CVEL	1.0	FEET
MP	4.0	FEET	TEMP	5.4	FEET
SPIN	1.0	FEET	SVFG	1.0	FEET
EXP3	0.0	FEET	EXT	0.0	FEET
EXP1	0.0	FEET	EXP2	0.0	FEET
CCL	22.2	FEET	TENS	-4.0	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
WMUD	8.00000	LB/G	SGSN	0000A-00011	
CDAT			FCHD	CSID	
PTHR	10.0000	F/MN	NTHR	-10.0000	F/MN
TIRA	.500000		VPCF	.830000	
DEVI	0.0	DEG	FDSH	0.0	G/C3
QIOP	FLOW		TCSH	0.0	IN
BS	22.5000	IN	BHS	CASE	

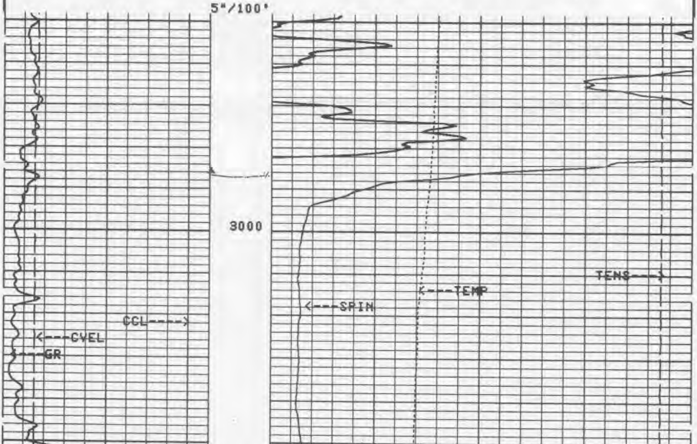


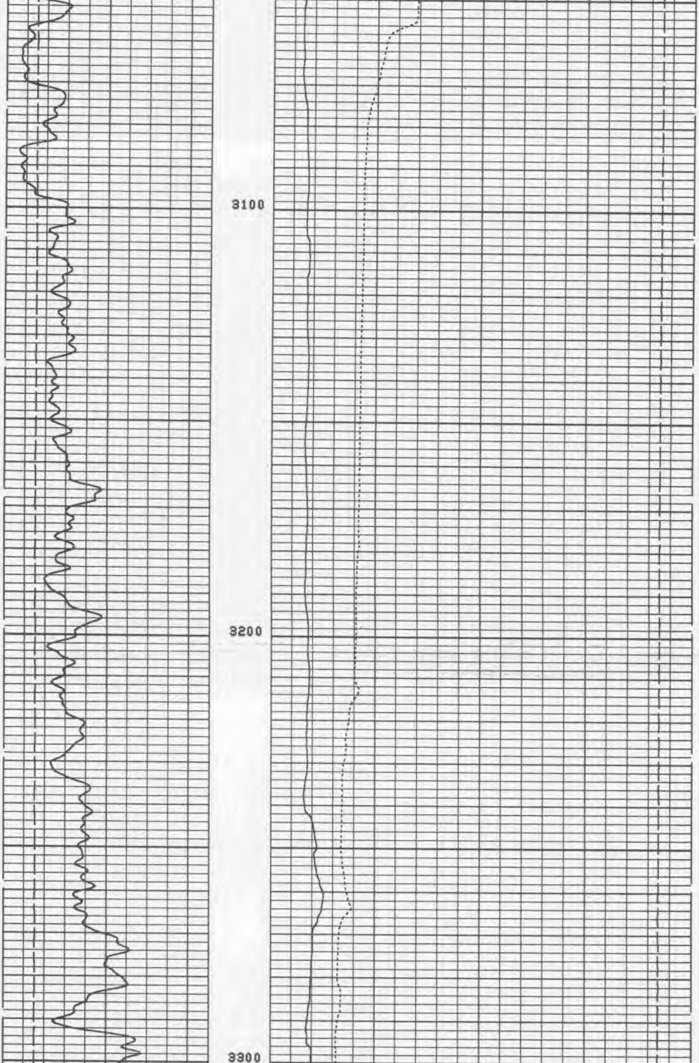
CP 32.2 FILE 4 28-MAR-1990 22:27

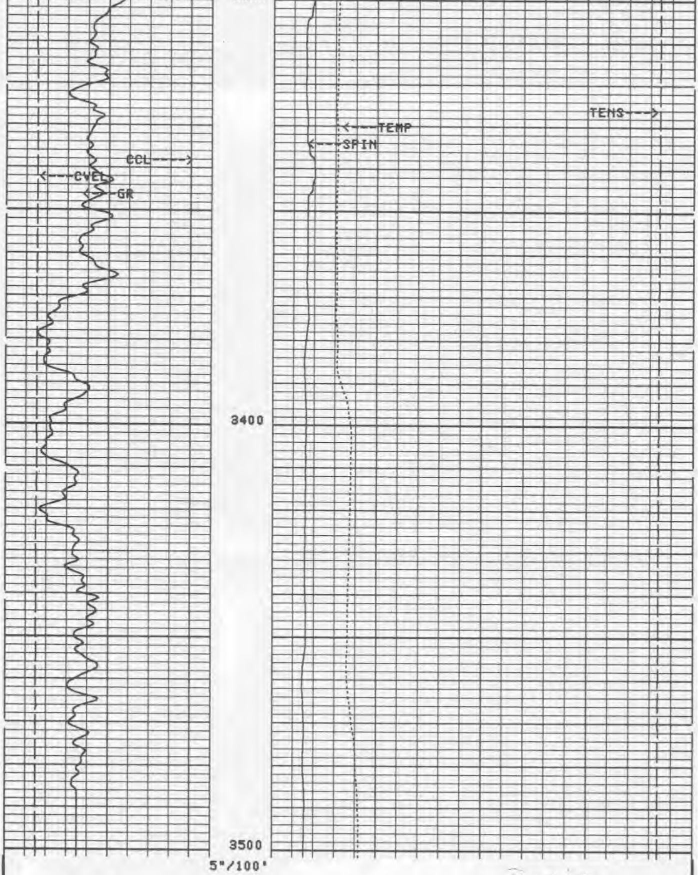
INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 22:01

Down pass
300 fph





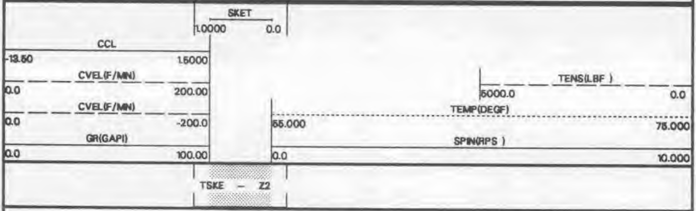


CP 32.2 FILE 4 28-MAR-1990 22:23

INPUT FILE(S)
2

DATA ACQUIRED
00- -1900 00:00

Down Log
[illegible]


SKET
1.0000
0.0
CCL
-13.50
1.5000
CVEL(F/MN)
0.0
200.00
TENS(LBF)
5000.0
0.0
CVEL(F/MN)
0.0
-200.0
TEMP(DEGF)
65.000
75.000
GR(GAPI)
SPIN(RPS)
0.0
100.00
0.0
10.000
TSKE – Z2

SENSOR MEASURE POINT TO TOOL ZERO

GR	13.3	FEET	CVEL	1.0	FEET
MP	4.0	FEET	TEMP	5.4	FEET
SPIN	1.0	FEET	SVFG	1.0	FEET
EXP3	0.0	FEET	EXT	0.0	FEET
EXP1	0.0	FEET	EXP2	0.0	FEET
CCL	22.2	FEET	TENS	22.2	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	-2.50000	F
WMUD	8.00000	LB/G	SGSN	0000A-00011	
CDAT			FCHD	CSID	
PTHR	10.0000	F/MN	NTHR	-10.0000	F/MN
TIRA	.500000		VPCF	.830000	
DEVI	0.0	DEG	FDSH	0.0	G/C3
QIOP	FLOW		TCSH	0.0	IN
BS	22.5000	IN	BHS	CASE	

Schlumberger

FLOWMETER SURVEY

CSU Field Log

011-15

Schlumberger

X - Y CALIPER

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE: FLORIDA

LOCATION: NORTH BROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
BHC/VDL
DIL/SFL
FLUID R'S
HRT
FLOW

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
32.2
SERVICE
ORDER NO:
520005

DATE: 28 MAR 90
RUN NO: TEN

DEPTH-DRILLER:	3512.0 F
DEPTH-LOGGER:	3007.0 F
BTM. LOG INTERVAL:	3505.0 F
TOP LOG INTERVAL:	2987.0 F
CASING-DRILLER:	2990.0 F
CASING-LOGGER:	2987.0 F
CASING:	24"
WEIGHT:	
BIT SIZE:	22 1/2"
DEPTH:	3514.0 F

TYPE FLUID IN HOLE: SALT WATER
DENSITY:

TIME CIRC. STOPPED: 10:30 28-MAR-90
TIME LOGGER ON BTM.: 19:30 28-MAR-90

MAX. REC. TEMP:

LOGGING UNIT NO: 8193
LOGGING UNIT LOC: FORT MYERS
RECORDED BY: S.MILLER
WITNESSED BY: KEVIN

REMARKS:

EQUIPMENT NUMBERS-

DIS 686 DIC 1323

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.

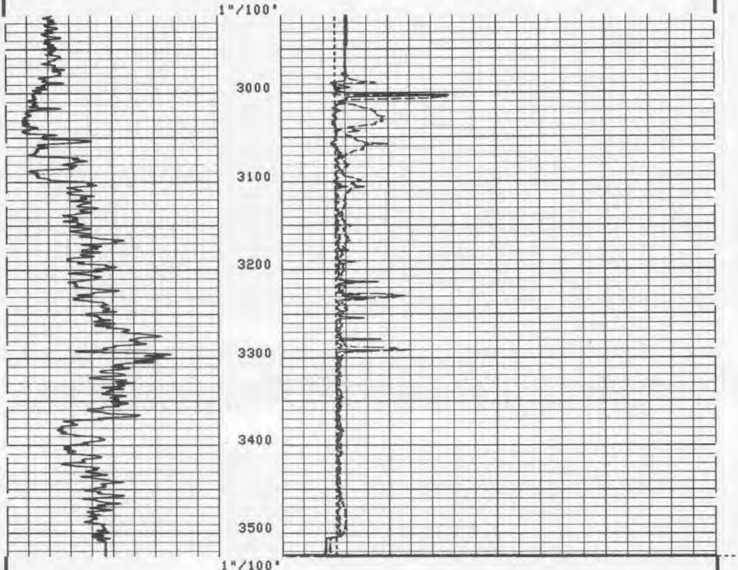
CP 32.2 FILE 7 28-MAR-1990 20:12

		BS (IN) 20.000 40.000
		C2 (IN) 20.000 40.000
GR (GAPI) 0.0 100.00		C1 (IN) 20.000 40.000

CP 32.2 FILE 7 28-MAR-1990 20:12

INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 19:59



CP 32.2 FILE 7 28-MAR-1990 20:10

INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 19:44

GR (GAPI)
0.0 100.00

BS (IN)
20.000 40.000
C2 (IN)
20.000 40.000
C1 (IN)
20.000 40.000

SENSOR MEASURE POINT TO TOOL ZERO

```
C2    0.0  FEET                  GR   16.1  FEET
DEVI  0.0  FEET                  C1    0.0  FEET
AZIM  0.0  FEET                  RB    0.0  FEET
TENS  0.0  FEET
```

PARAMETERS

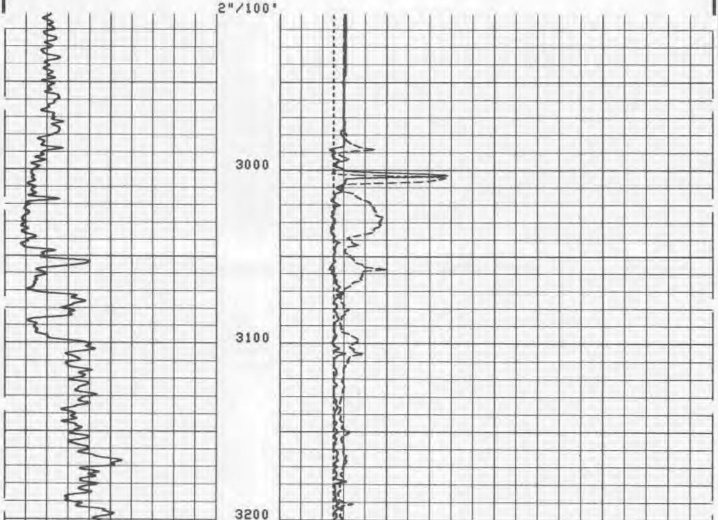
NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	RECO		DO	0.0	F
WMUD	8.00000	LB/G	MCT	36	
FCD	0.0	IN	BS	22.5000	IN
BHS	OPEN				

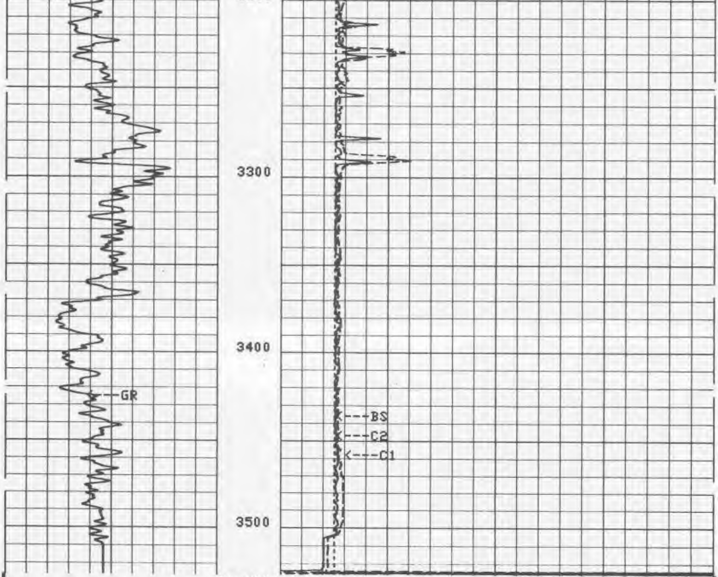
GR (GAPI)
0.0 100.00

BS (IN)
20.000 40.000
C2 (IN)
20.000 40.000
C1 (IN)
20.000 40.000

```
CP 32.2            FILE    6       28-MAR-1990 20:10

       INPUT FILE(S)               DATA ACQUIRED
       2                           28-MAR-1990 19:59
```





2"/100'

CP 32.2 FILE 6 28-MAR-1990 20:08

INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 19:44

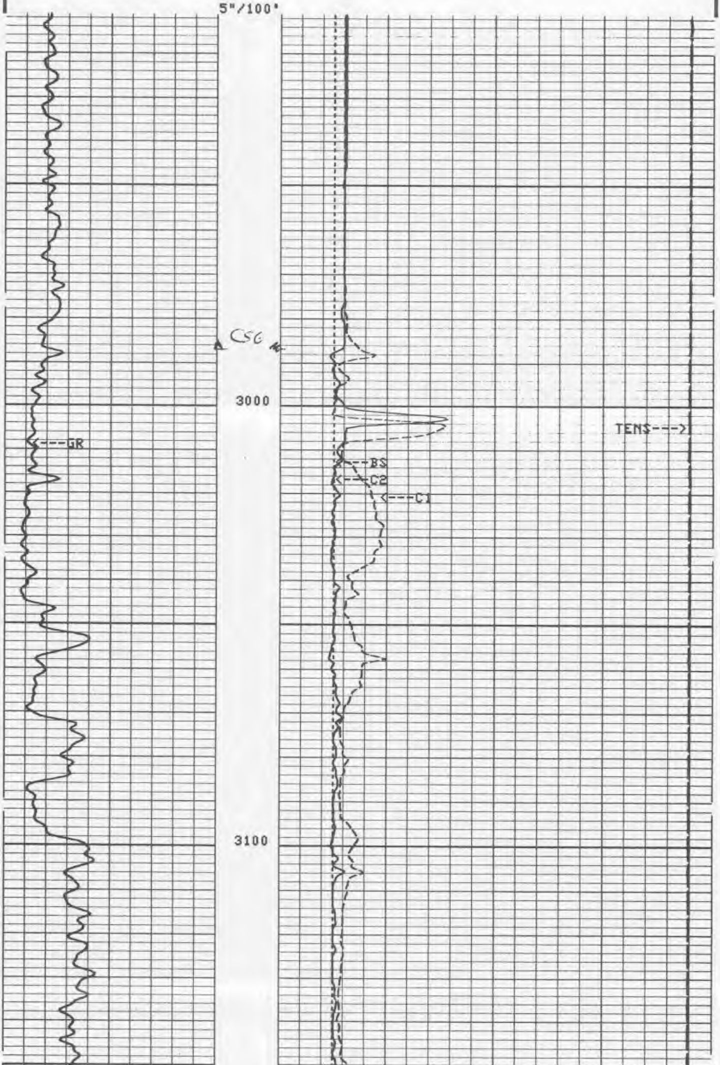
BS (IN)
20.000 40.000
C2 (IN)
20.000 40.000
GR (GAPI)
0.0 100.00
C1 (IN)
20.000 40.000

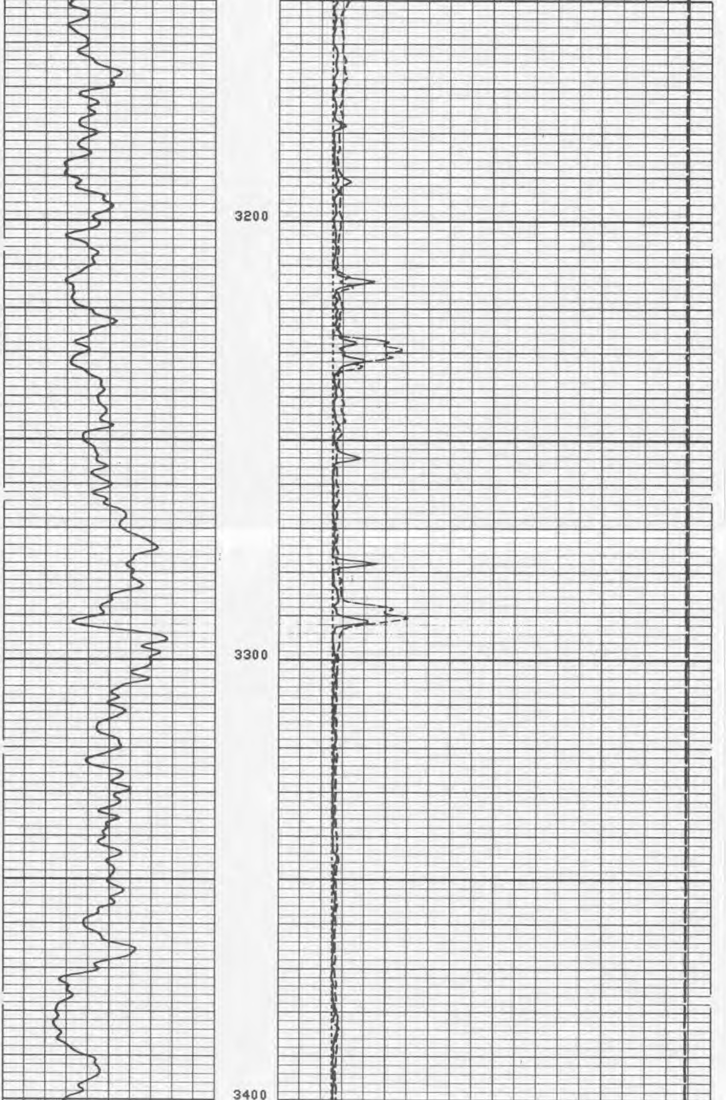
TENS(LBF)
10000. 0.0
BS (IN)
20.000 40.000
C2 (IN)
20.000 40.000
GR (GAPI)
0.0 100.00
C1 (IN)
20.000 40.000

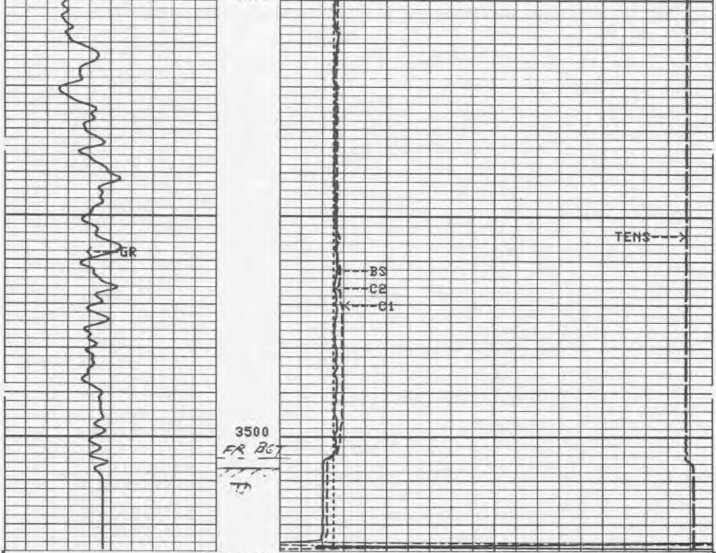
CP 32.2 FILE 5 28-MAR-1990 20:06

INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 19:59







5"/100'

CP 32.2 FILE 5 28-MAR-1990 20:04

INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 19:44

TENS(LBF)
10000. 0.0

BS (IN)
20.000 40.000

C2 (IN)
20.000 40.000

GR (GAPI)
0.0 100.00

C1 (IN)
20.000 40.000

SENSOR MEASURE POINT TO TOOL ZERO

C2	0.0	FEET	GR	16.1	FEET
DEVI	0.0	FEET	C1	0.0	FEET
AZIM	0.0	FEET	RB	0.0	FEET
TENS	0.0	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	RECO		DO	0.0	F
WMUD	8.00000	LB/G	MCT	36	
FCD	0.0	IN	BS	22.5000	IN
BHS	OPEN				

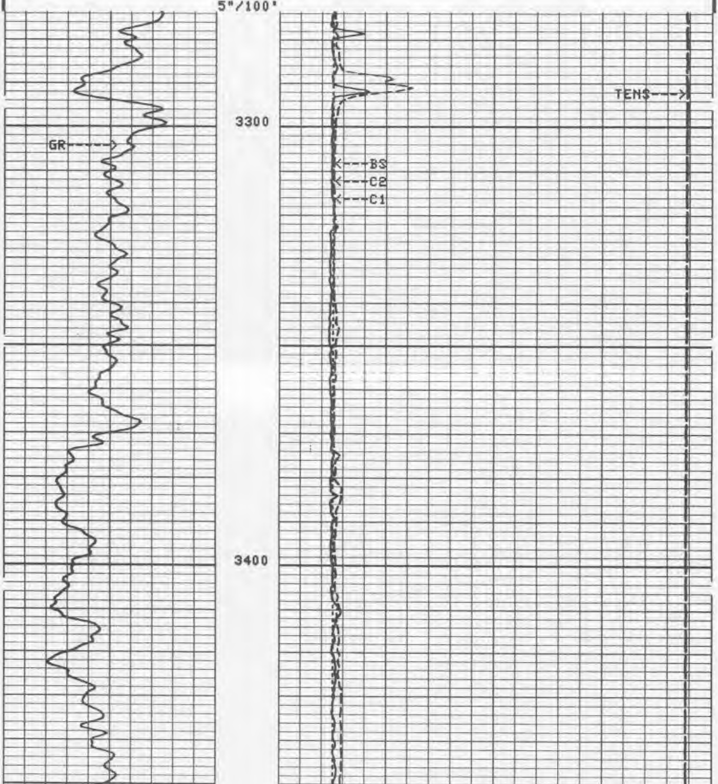
GR (GAPI)		TENS(LBF) / BS (IN) / C2 (IN) / C1 (IN)
0.0 — 100.00		TENS(LBF): 10000. — 0.0 BS (IN): 20.000 — 40.000 C2 (IN): 20.000 — 40.000 C1 (IN): 20.000 — 40.000

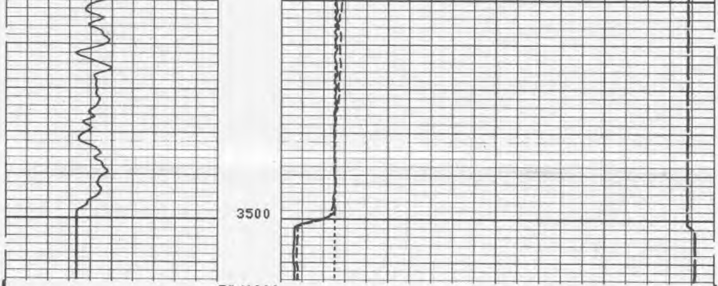
CP 32.2 FILE 4 28-MAR-1990 20:03

INPUT FILE(S)
1

DATA ACQUIRED
28-MAR-1990 19:40

REPEAT SECTION





CP 32.2 FILE 4 28-MAR-1990 20:02

INPUT FILE(S)
1

DATA ACQUIRED
28-MAR-1990 19:35

REPEAT SECTION

TENS(LBF)
10000. 0.0

BS (IN)
20.000 40.000

C2 (IN)
20.000 40.000

C1 (IN)
20.000 40.000

GR (GAPI)
0.0 100.00

SENSOR MEASURE POINT TO TOOL ZERO

C2	0.0	FEET	GR	16.1	FEET
DEVI	0.0	FEET	C1	0.0	FEET
AZIM	0.0	FEET	RB	0.0	FEET
TENS	0.0	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	RECO		DO	0.0	F
WMUD	8.00000	LB/G	MCT	36	
FCD	0.0	IN	BS	22.5000	IN
BHS	OPEN				

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 28-MAR-1990 19:25
PROGRAM FILE: BMS (VERSION 32.2 00/00/00 88/11/16)

BGT

CALIPER CALIBRATION SUMMARY

	MEASURED		CALIBRATED		
	SMALL	LARGE	SMALL	LARGE	UNITS
C1	12.70	16.9	16.00	23.0	IN
C2	13.49	17.4	16.00	23.0	IN

Schlumberger

X - Y CALIPER

CSU Field Log

Schlumberger

DUAL INDUCTION/SFL

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING
WELL: NORTH DISTRICT REGIONAL IW-1
FIELD: POMPANO BEACH
STATE: FLORIDA
LOCATION: NORTH BROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
BHC/VDL
X-Y CALIPER
FLUID R'S
HRT
FLOW

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM TAPE NO:
32.2
SERVICE ORDER NO:
520005

DATE: 28 MAR 90
RUN NO: TEN

DEPTH-DRILLER: 3512.0 F
DEPTH-LOGGER: 3007.0 F
BTM. LOG INTERVAL: 3501.0 F
TOP LOG INTERVAL: 2987.0 F

CASING-DRILLER: 2990.0 F
CASING-LOGGER: 2987.0 F
CASING: 24"
WEIGHT:
BIT SIZE: 22 1/2"
DEPTH: 3514.0 F

TYPE FLUID IN HOLE: SALT WATER
DENSITY:

TIME CIRC. STOPPED: 10:30 28-MAR-90
TIME LOGGER ON BTM.: 18:15 28-MAR-90

MAX. REC. TEMP:

LOGGING UNIT NO: 8193
LOGGING UNIT LOC: FORT MYERS
RECORDED BY: S.MILLER
WITNESSED BY: KEVIN

REMARKS:

EQUIPMENT NUMBERS-

DIS 686 DIC 1323

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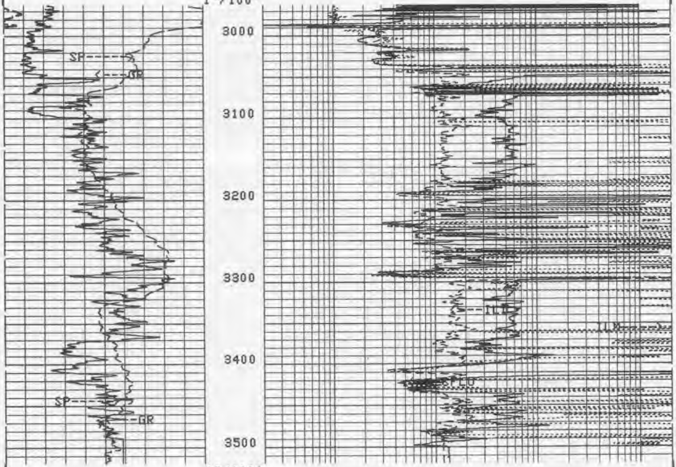
CP 32.2 FILE 17 28-MAR-1990 18:34

SP(MV)		ILD(OHMM)	
-160.0	40.000	20000	2000.0
GR(GAPI)		ILM(OHMM)	
0.0	100.00	20000	2000.0
		SFLU(OHMM)	
		20000	2000.0

CP 32.2　　FILE 15　　28-MAR-1990 18:28

1"/100'



1"/100'

CP 32.2　　FILE 15　　28-MAR-1990 18:18

SP(MV)		ILD(OHMM)	
-160.0	40.000	20000	2000.0
GR(GAPI)		ILM(OHMM)	
0.0	100.00	20000	2000.0
		SFLU(OHMM)	
		20000	2000.0

SENSOR MEASURE POINT TO TOOL ZERO

ILD	9.9	FEET	GR	33.0	FEET
SFL	6.8	FEET	ILM	6.1	FEET
SPAR	2.5	FEET	SP	2.5	FEET
TENS	2.5	FEET			

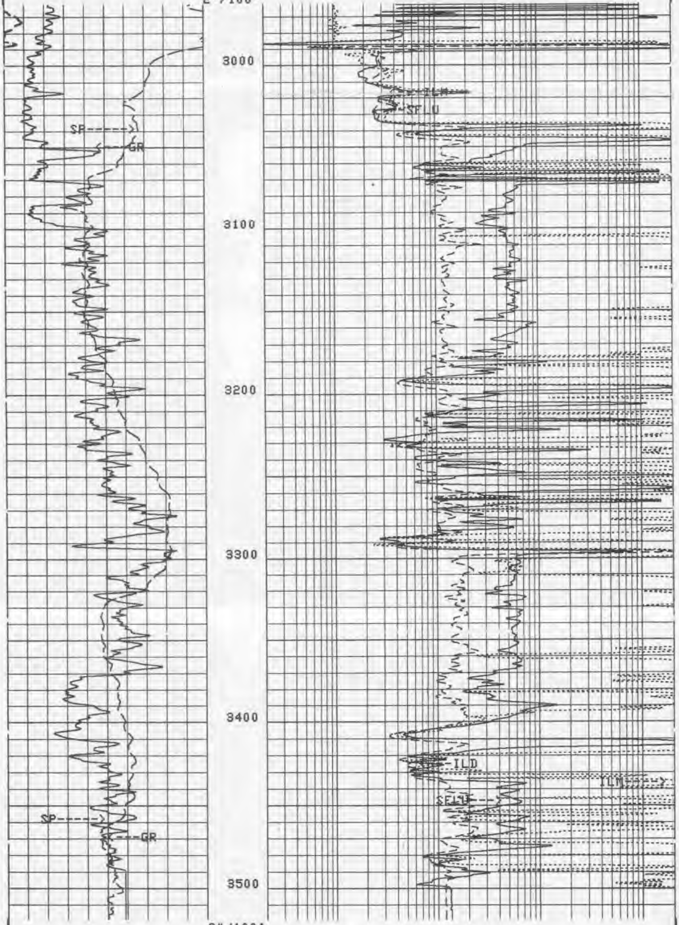
PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
WMUD	8.00000	LB/G	MSEC	7.50000	MM/M
SBR	1.00000	OHMM	DSEC	6.50000	MM/M
BS	22.5000	IN	BHS	OPEN	

SP(MV) -160.0 … 40.000	ILD(OHMM) .20000 … 2000.0
GR(GAPI) 0.0 … 100.00	ILM(OHMM) .20000 … 2000.0
	SFLU(OHMM) .20000 … 2000.0

CP 32.2 FILE 15 28-MAR-1990 18:28

2"/100'



2"/100'

CP 32.2 FILE 15 28-MAR-1990 18:18

SP(MV)		ILD(OHMM)	
-160.0	40.000	20000	2000.0
GR(GAPI)		ILM(OHMM)	
0.0	100.00	20000	2000.0
		SFLU(OHMM)	
		20000	2000.0

SENSOR MEASURE POINT TO TOOL ZERO

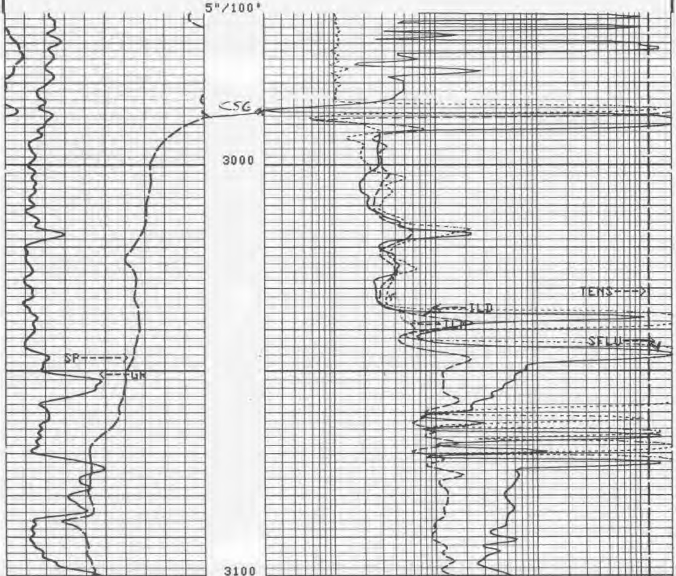
ILD	9.9	FEET	GR	33.0	FEET
SFL	6.8	FEET	ILM	6.1	FEET
SPAR	2.5	FEET	SP	2.5	FEET
TENS	2.5	FEET			

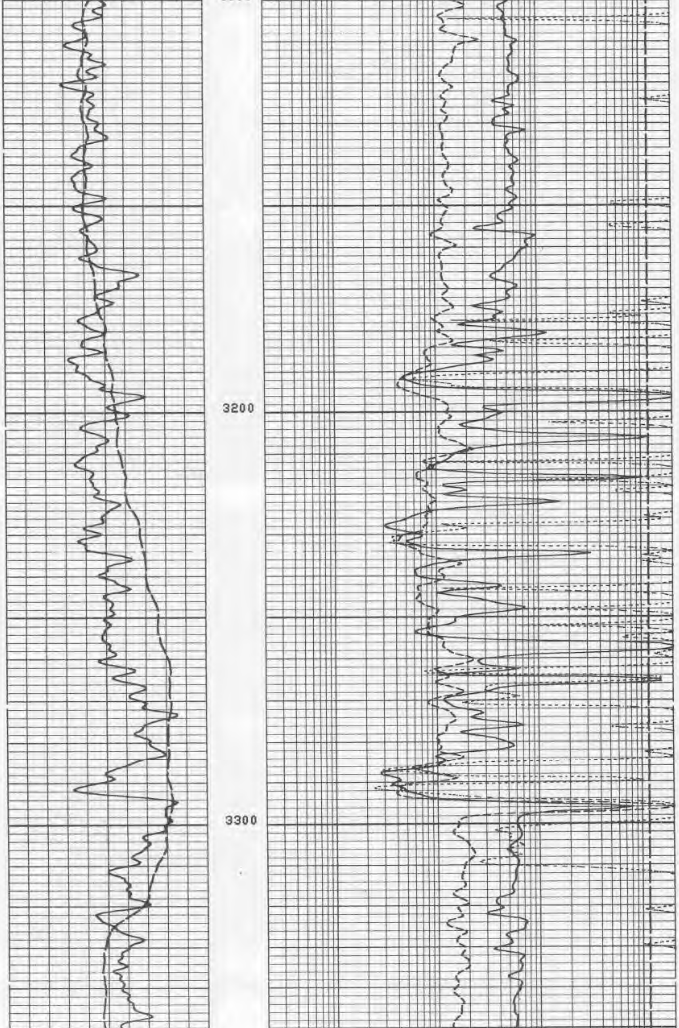
PARAMETERS

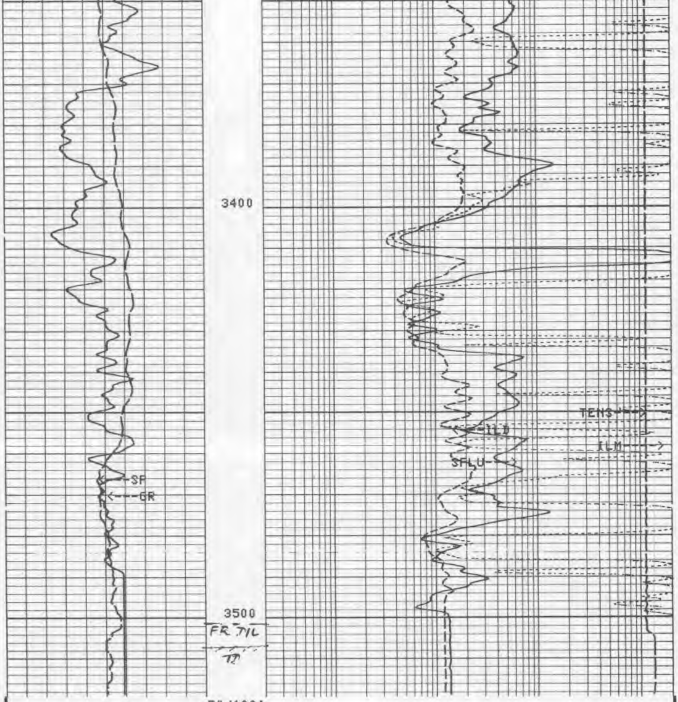
NAME	VALUE	UNIT	NAME	VALUE	UNIT
WMUD	8.00000	LB/G	MSEC	7.50000	MM/M
SBR	1.00000	OHMM	DSEC	6.50000	MM/M
BS	22.5000	IN	BHS	OPEN	

SP (MV)		TENS(LBF)	
		10000.	0.0
		ILD (OHMM)	
		.20000	2000.0
		ILM (OHMM)	
-160.0	40.000	.20000	2000.0
GR (GAPI)		SFLU(OHMM)	
0.0	100.00	.20000	2000.0

CP 32.2 FILE 15 28-MAR-1990 18:28







5"/100'

CP 32.2 FILE 15 28-MAR-1990 18:18

	TENS(LBF)
	10000. 0.0
	ILD (OHMM)
	.20000 2000.0
SP (MV)	ILM (OHMM)
-160.0 40.000	.20000 2000.0
GR (GAPI)	SFLU(OHMM)
0.0 100.00	.20000 2000.0

SENSOR MEASURE POINT TO TOOL ZERO

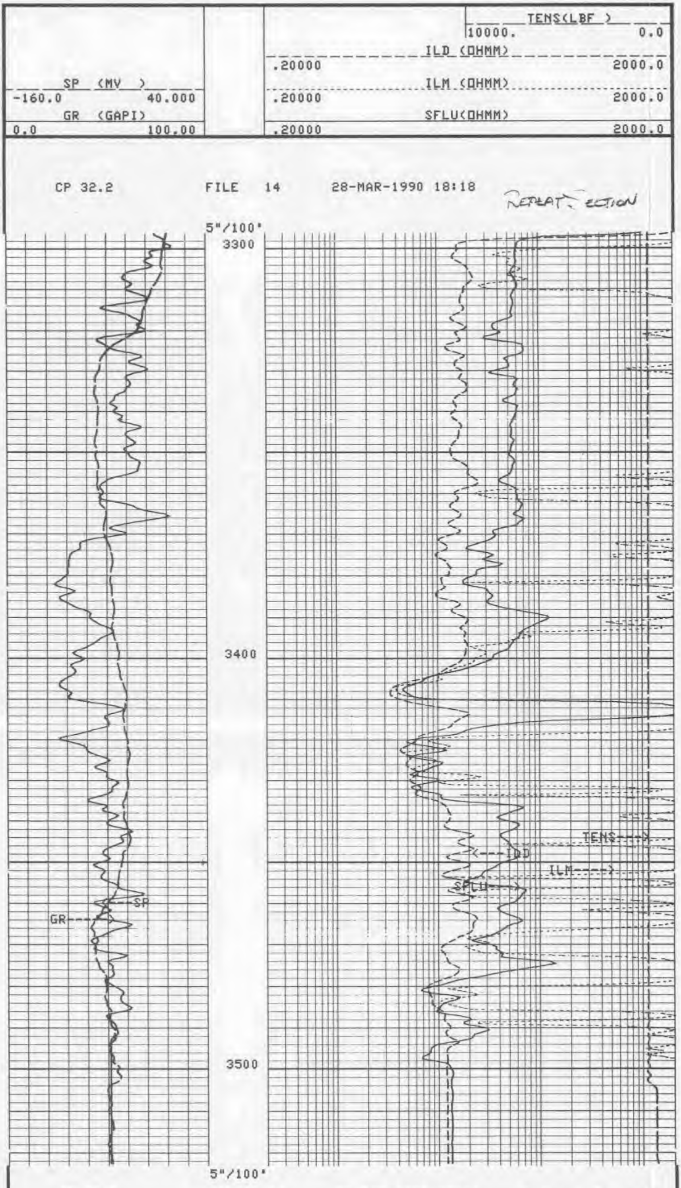
ILD	9.9	FEET	GR	33.0	FEET
SFL	6.8	FEET	ILM	6.1	FEET
SPAR	2.5	FEET	SP	2.5	FEET
TENS	2.5	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
WMUD	8.00000	LB/G	MSEC	7.50000	MM/M
SBR	1.00000	OHMM	DSEC	6.50000	MM/M
BS	22.5000	IN	BHS	OPEN	

CP 32.2 FILE 14 28-MAR-1990 18:18

REPEAT SECTION



```
   CP 32.2            FILE   14        28-MAR-1990 18:14
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Repeat Section

```
                                                       TENS(LBF )
                                                  10000.                 0.0
                                                       ILD (OHMM)
                                 .20000                               2000.0
        SP  (MV   )                                    ILM (OHMM)
-160.0               40.000      .20000                               2000.0
      GR  (GAPI)                                       SFLU(OHMM)
0.0                  100.00      .20000                               2000.0

                      SENSOR MEASURE POINT TO TOOL ZERO

          ILD   9.9  FEET                      GR    33.0  FEET
          SFL   6.8  FEET                      ILM    6.1  FEET
          SPAR  2.5  FEET                      SP     2.5  FEET
          TENS  2.5  FEET

                                  PARAMETERS

       NAME  VALUE       UNIT               NAME  VALUE        UNIT

       WMUD 8.00000      LB/G               MSEC 7.50000       MM/M
       SBR  1.00000      OHMM               DSEC 6.50000       MM/M
       BS   22.5000      IN                 BHS  OPEN


                      AFTER SURVEY TOOL CHECK SUMMARY


    PERFORMED:     28-MAR-1990 18:36
    PROGRAM FILE: ISN    (VERSION     32.2    00/00/00  88/11/16)

  DITD                      TOOL  CHECK

                      ZERO                            PLUS
              BEFORE        AFTER           BEFORE       AFTER     UNITS
     ILD        0.0           .0            488.9        493.9     MM/M
     ILM        0.0          -.1            497.9        499.6     MM/M
     SFL        0.0          -.0            500.0        500.5     MM/M

  ILD SONDE ERROR CORRECTION :          6.5 MM/M
  ILM SONDE ERROR CORRECTION :          7.5 MM/M

  BEFORE SURVEY:             ZERO: 28-MAR-1990 18:04  PLUS: 28-MAR-1990 18:05
  AFTER SURVEY CHECK:        ZERO: 28-MAR-1990 18:30  PLUS: 28-MAR-1990 18:31

     CP 32.2            FILE   17        28-MAR-1990 18:35


                      BEFORE SURVEY CALIBRATION SUMMARY


    PERFORMED:     28-MAR-1990 18:38
    PROGRAM FILE: ISN    (VERSION     32.2    00/00/00  88/11/16)

  DITD                  ELECTRONICS CALIBRATION SUMMARY

                 MEASURED                         CALIBRATED
              ZERO     PLUS                    ZERO       PLUS          UNITS
     ILD       .17    529.8                    0.0        488.9          MM/M
     ILM       .09    523.5                    0.0        497.9          MM/M
     SFL      -.40    524.3                    0.0        500.0          MM/M

  ILD SONDE ERROR CORRECTION :          6.5 MM/M
  ILM SONDE ERROR CORRECTION :          7.5 MM/M

  ZERO: 28-MAR-1990 18:04  PLUS: 28-MAR-1990 18:05  COMP: 28-MAR-1990 18:06


  SGTE                  DETECTOR CALIBRATION SUMMARY

                 MEASURED
              BKGD    JIG          CALIBRATED          UNITS
     GR        35     189             165              GAPI

  BACK: 27-MAR-1990 13:42   JIG: 27-MAR-1990 13:44  COMP: 27-MAR-1990 13:44

     CP 32.2            FILE   18        28-MAR-1990 18:38
```

```
                SHOP SUMMARY

  PERFORMED:    25-MAR-1990 11:25
  PROGRAM FILE: SHOP   (VERSION    32.2     88/12/01  88/11/16)

DITD              ELECTRONICS CALIBRATION SUMMARY

               TEST LOOP CALIBRATION             TOOL CHECK
            MEASURED         CALIBRATED          CALIBRATED
          ZERO    PLUS     ZERO      PLUS      ZERO      PLUS   UNITS
   ILD    -6.8    538.3     0.0      500.0      0.0      488.9  MM/M
   ILM    -8.7    508.2     0.0      500.0      0.0      497.9  MM/M
ILD  SONDE ERROR CORRECTION :       6.5 MM/M
ILM  SONDE ERROR CORRECTION :       7.5 MM/M

                       (IS:686 , IC:1323)

   CP 32.2           FILE    3      25-MAR-1990 11:24
```

Schlumberger

DUAL INDUCTION/SFL

CSU Field Log

Schlumberger

BOREHOLE COMPENSATED SONIC W/VDL

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING
WELL: NORTH DISTRICT REGIONAL IW-1
FIELD: POMPANO BEACH
STATE: FLORIDA
LOCATION: NORTH BROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
DIL/SFL
X-Y CALIPER
FLUID R'S
HRT
FLOW

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
32.2
SERVICE
ORDER NO:
520005

DATE: 28 MAR 90
RUN NO: TEN

DEPTH-DRILLER: 3512.0 F
DEPTH-LOGGER: 3007.0 F
BTM. LOG INTERVAL: 3501.0 F
TOP LOG INTERVAL: 2487.0 F

CASING-DRILLER: 2990.0 F
CASING-LOGGER: 2487.0 F
CASING: 24"
WEIGHT:
BIT SIZE: 22 1/2"
DEPTH: 3514.0 F

TYPE FLUID IN HOLE: SALT WATER
DENSITY:

TIME CIRC. STOPPED: 10:30 28-MAR-90
TIME LOGGER ON BTM.: 16:30 28-MAR-90

MAX. REC. TEMP:

LOGGING UNIT NO: 8193
LOGGING UNIT LOC: FORT MYERS
RECORDED BY: S.MILLER
WITNESSED BY: KEVIN

REMARKS:

BHC SONIC IS CENTRALIZED BY TWO SPRING MODIFIED
CMEZ CENTRALIZERS.

EQUIPMENT NUMBERS-

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 32.2 FILE 10 28-MAR-1990 17:40

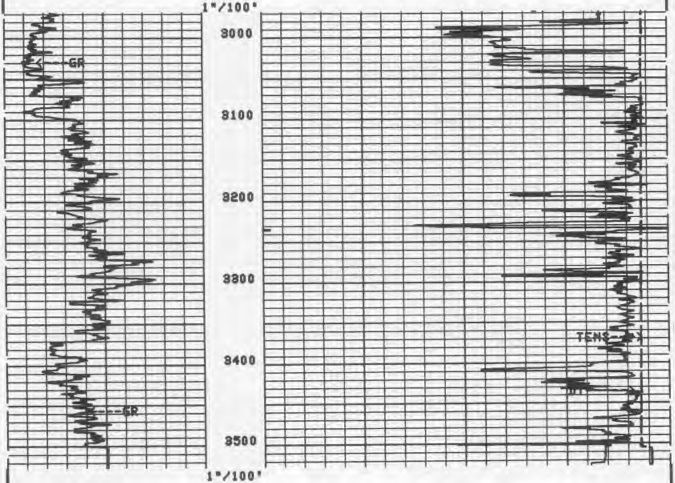
TENS(LBF) 10000. 0.0

GR(GAPI) 0.0 100.00

DT(US/F) 140.00 40.000

CP 32.2 FILE 10 28-MAR-1990 17:37

INPUT FILE(S) DATA ACQUIRED
2 28-MAR-1990 16:52



CP 32.2 FILE 10 28-MAR-1990 17:35

INPUT FILE(S) DATA ACQUIRED
2 28-MAR-1990 16:42

TENS(LBF) 10000. 0.0

GR(GAPI) 0.0 100.00

DT(US/F) 140.00 40.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBFS	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.7	FEET
NOIS	3.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	6.00000	F
WMUD	8.00000	LB/G	FPHI	SPHI	
DWCO	512		DSIN	5	US
DDEL	200	US	DTF	189.000	US/F
DTM	56.0000	US/F	CDTS	100.000	
SPFS	R-H		BS	22.5000	IN
BHS	OPEN				

TENS(LBF) 10000. 0.0

GR(GAPI) 0.0 100.00

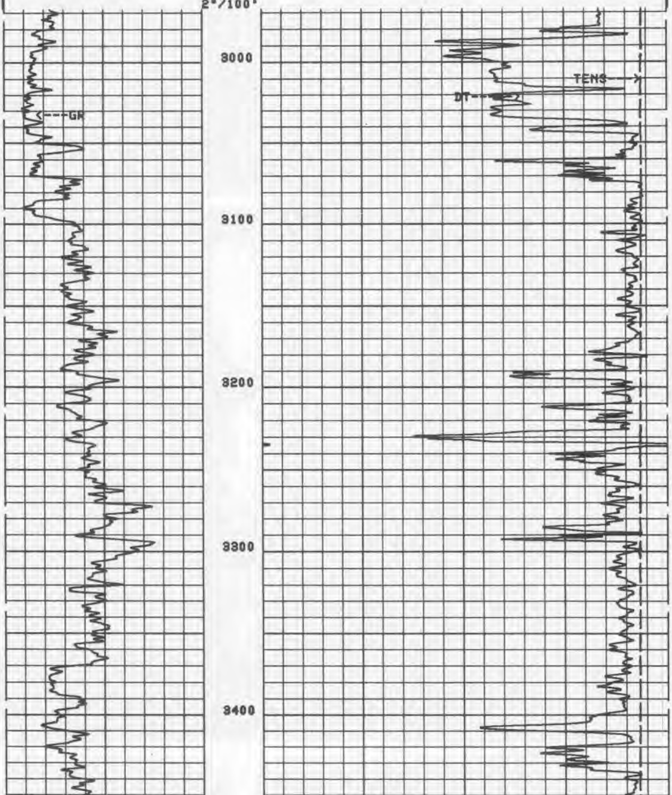
DT(US/F) 140.00 40.000

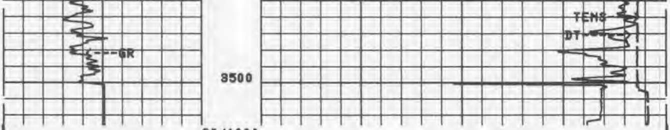
CP 32.2 FILE 10 28-MAR-1990 17:37

INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 16:52

2"/100'





2"/100'

CP 32.2 FILE 10 28-MAR-1990 17:35

INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 16:42

TENS(LBF)
10000. 0.0

GR(GAPI)
0.0 100.00

DT(US/F)
140.00 40.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBFS	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.7	FEET
NOIS	3.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	6.00000	F
WMUD	8.00000	LB/G	FPHI	SPHI	
DWCO	512		DSIN	5	US
DDEL	200	US	DTF	189.000	US/F
DTM	56.0000	US/F	CDTS	100.000	
SPFS	R-H		BS	22.5000	IN
BHS	OPEN				

TENS(LBF)
10000. 0.0

GR (GAPI)
0.0 100.00

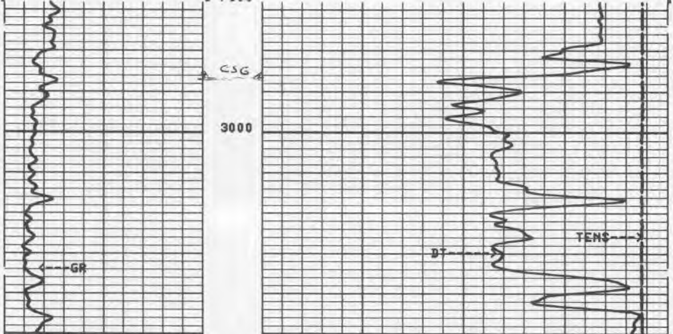
DT (US/F)
140.00 40.000

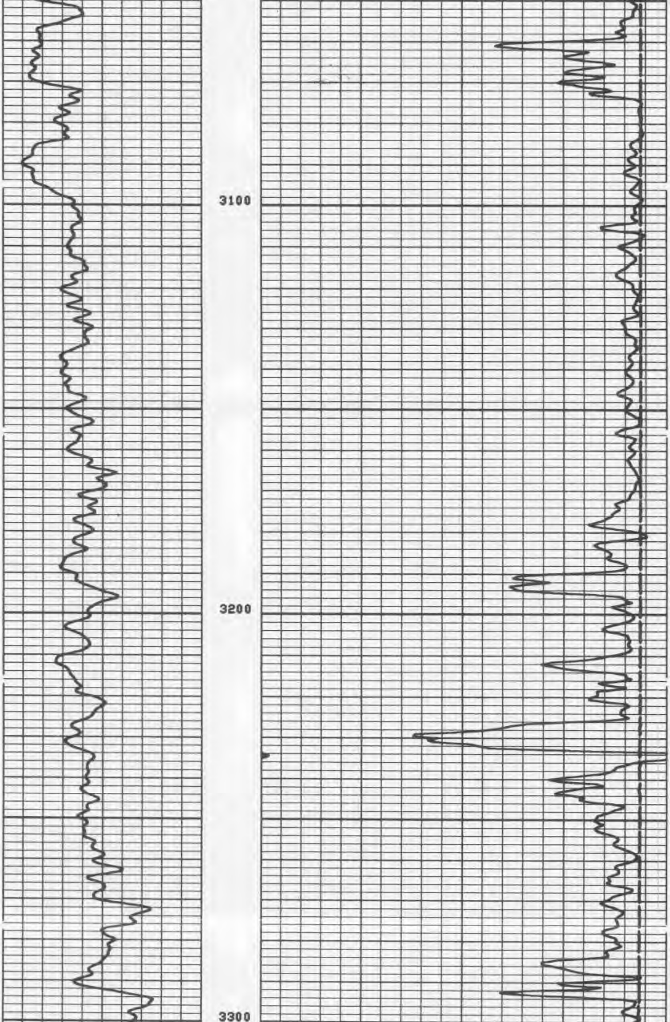
CP 32.2 FILE 10 28-MAR-1990 17:37

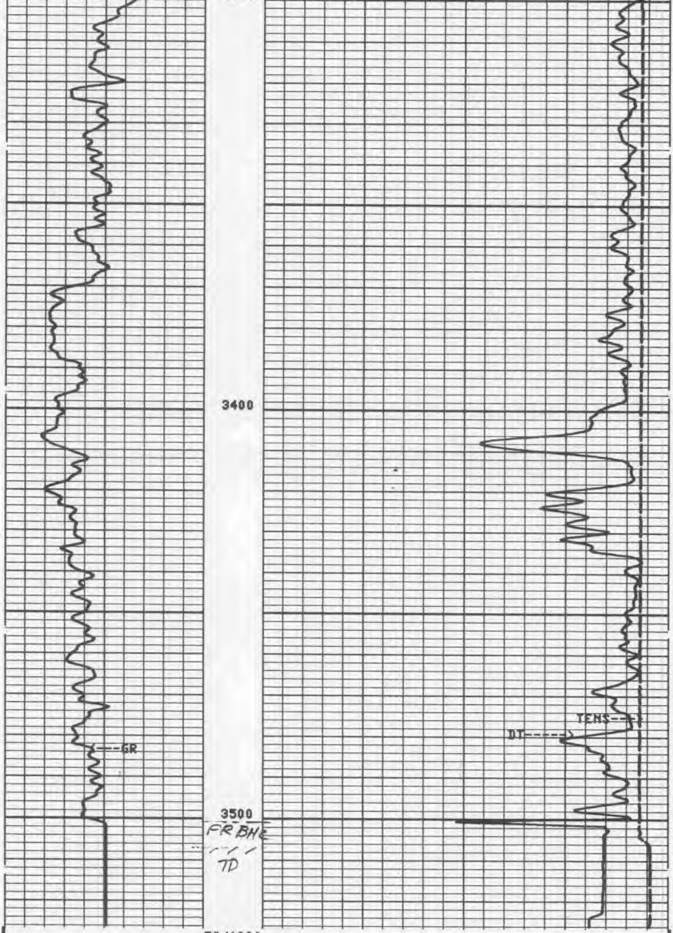
INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 16:52

5"/100'







5"/100'

CP 32.2 FILE 10 28-MAR-1990 17:35

INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 16:42

TENS(LBF)
10000. 0.0
GR (GAPI) DT (US/F)
0.0 100.00 140.00 40.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBFS	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	TO	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.7	FEET
NOIS	3.4	FEET			

PARAMETERS

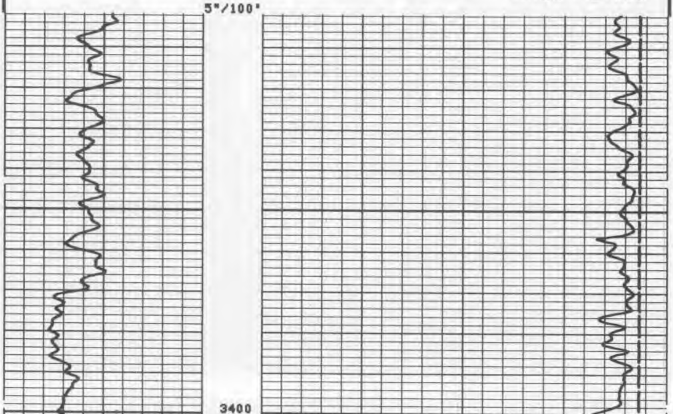
NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	6.00000	F
WMUD	8.00000	LB/G	FPHI	SPHI	
DWCO	512		DSIN	5	US
DDEL	200	US	DTF	189.000	US/F
DTM	56.0000	US/F	CDTS	100.000	
SPFS	R-H		BS	22.5000	IN
BHS	OPEN				

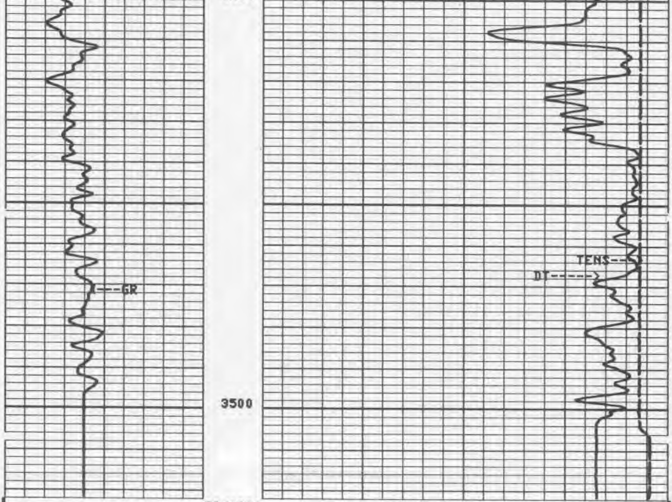
TENS(LBF)
10000. 0.0
GR (GAPI) DT (US/F)
0.0 100.00 140.00 40.000

CP 32.2 FILE 9 28-MAR-1990 17:35

INPUT FILE(S) DATA ACQUIRED
1 28-MAR-1990 16:41

REPEAT SECTION





5"/100'

CP 32.2 FILE 9 28-MAR-1990 17:34

INPUT FILE(S)
1

DATA ACQUIRED
28-MAR-1990 16:37

REPEAT SECTION

TENS(LBF)
10000. 0.0

GR (GAPI)
0.0 100.00

DT (US/F)
140.00 40.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	5.8	FEET	AMPL	8.2	FEET
CBFS	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	3.4	FEET	TT3	4.4	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	3.4	FEET	GR	28.7	FEET
NOIS	3.4	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	6.00000	F
WMUD	8.00000	LB/G	FPHI	SPHI	
DWCO	512		DSIN	5	US
DDEL	200	US	DTF	189.000	US/F
DTM	56.0000	US/F	CDTS	100.000	
SPFS	R-H		BS	22.5000	IN
BHS	OPEN				

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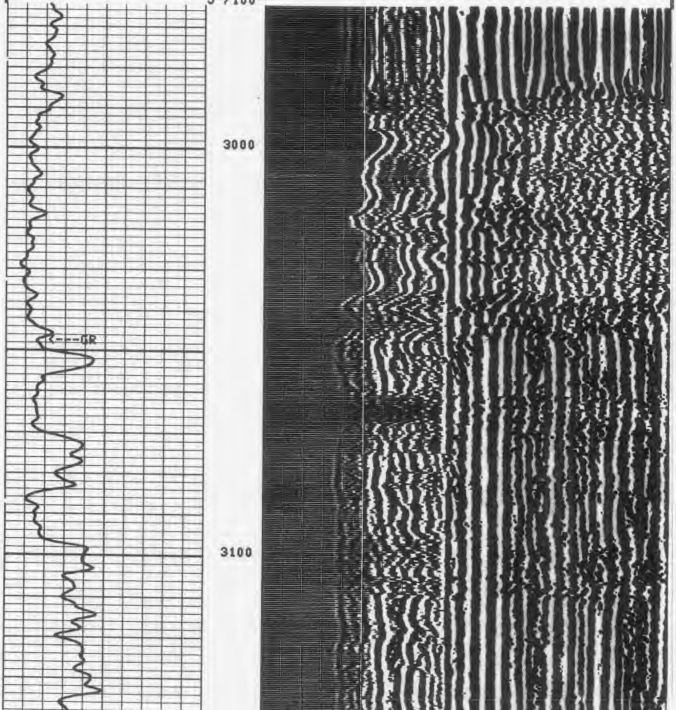
VARIABLE DENSITY LOG

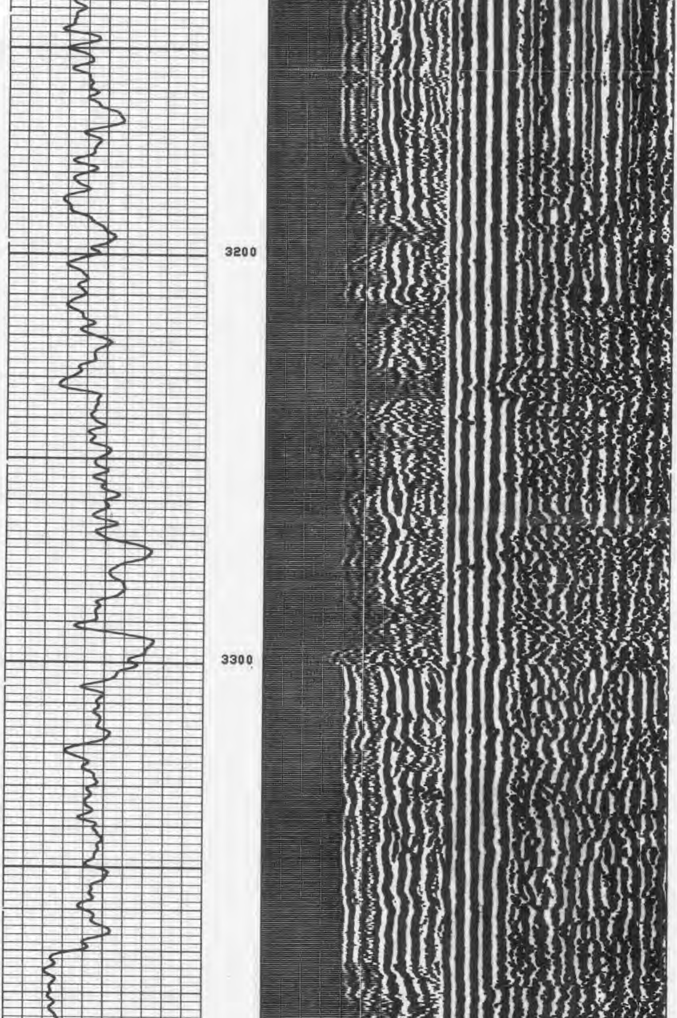
CSU Field Log

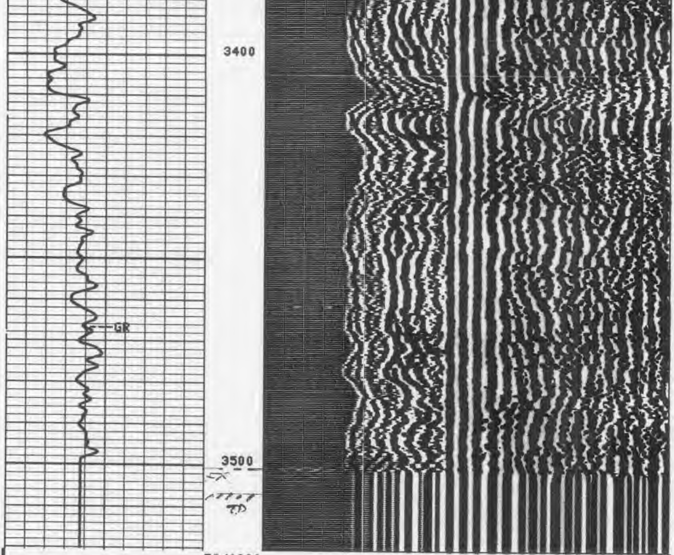
GR (GAPI)		VDL	TENS(LBF)
0.0 100.00		200.00 2200.0	10000. 0.0

CP 32.2 FILE 6 28-MAR-1990 17:30

5"/100'







5"/100'

CP 32.2 FILE 6 28-MAR-1990 17:20

GR (GAPI)		VDL	TENS(LBF)
0.0 — 100.00		200.00 — 2200.0	10000. — 0.0

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	7.2	FEET	AMPL	8.2	FEET
CBFS	7.2	FEET	CBL	8.2	FEET
TT2	8.2	FEET	TT1	7.2	FEET
TT4	7.2	FEET	TT3	7.2	FEET
TT	8.2	FEET	T0	8.2	FEET
CBSL	8.2	FEET	TTSL	8.2	FEET
TENS	7.2	FEET	GR	28.7	FEET
NOIS	7.2	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
WMUD	8.00000	LB/G	FPHI	SPHI	
DWCO	512		DSIN	5	US
DDEL	200	US	DTF	189.000	US/F
DTM	56.0000	US/F	CDTS	100.000	
SPFS	R-H		BS	22.5000	IN
BHS	CASE				

Schlumberger

VARIABLE DENSITY LOG

CSU Field Log

```
                BEFORE SURVEY CALIBRATION SUMMARY

  PERFORMED:     28-MAR-1990 17:18
  PROGRAM FILE: ISN     (VERSION    32.2    00/00/00  88/11/16)

SGTE                   DETECTOR CALIBRATION SUMMARY

                MEASURED
            BKGD     JIG          CALIBRATED           UNITS
   GR        35      189             165               GAPI

BACK: 27-MAR-1990 13:42   JIG: 27-MAR-1990 13:44  COMP: 27-MAR-1990 13:44

   CP 32.2              FILE    5       28-MAR-1990 17:18
```

Schlumberger

BOREHOLE COMPENSATED SONIC W/VDL

CSU Field Log

Schlumberger

HIGH RESOLUTION TEMPERATURE LOG

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE: FLORIDA

LOCATION: NORTH BROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

OTHER SERVICES-
BHC/VDL
DIL/SFL
X-Y CALIPER
FLUID R'S
FLOW

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

PROGRAM
TAPE NO:
32.2
SERVICE
ORDER NO:
520005

DATE: 28 MAR 90
RUN NO: TEN

DEPTH-DRILLER: 3512.0 F
DEPTH-LOGGER: 3007.0 F
BTM. LOG INTERVAL: 3498.0 F
TOP LOG INTERVAL: 2987.0 F

CASING-DRILLER: 2990.0 F
CASING-LOGGER: 2987.0 F
CASING: 24"
WEIGHT:
BIT SIZE: 22 1/2"
DEPTH: 3514.0 F

TYPE FLUID IN HOLE: SALT WATER
DENSITY:
TIME CIRC. STOPPED: 10:30 28-MAR-90
TIME LOGGER ON BTM.: 22:15 28-MAR-90

MAX. REC. TEMP:

LOGGING UNIT NO: 8193
LOGGING UNIT LOC: FORT MYERS
RECORDED BY: S.MILLER
WITNESSED BY: KEVIN

REMARKS:

DATA GATHERED LOGGING DOWN.

EQUIPMENT NUMBERS-

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 32.2 FILE 4 28-MAR-1990 22:29

SKET
1.0000 0.0

TEMP(DEGF)
50.000 150.00

CCL
-13.50 1.5000

GR(GAPI)
0.0 100.00

TENS(LBF)
5000.0 0.0

TEMP(DEGF)
65.000 75.000

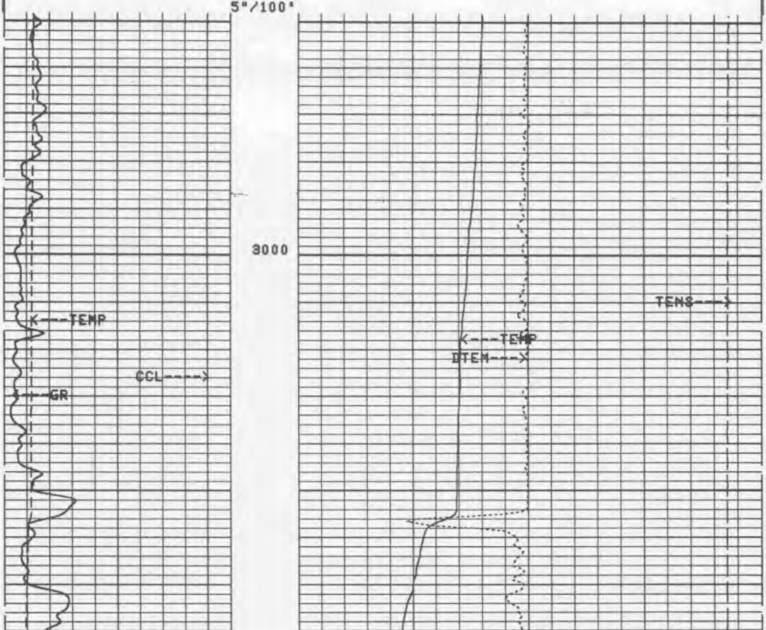
DTEM(DF/F)
-1.000 1.0000

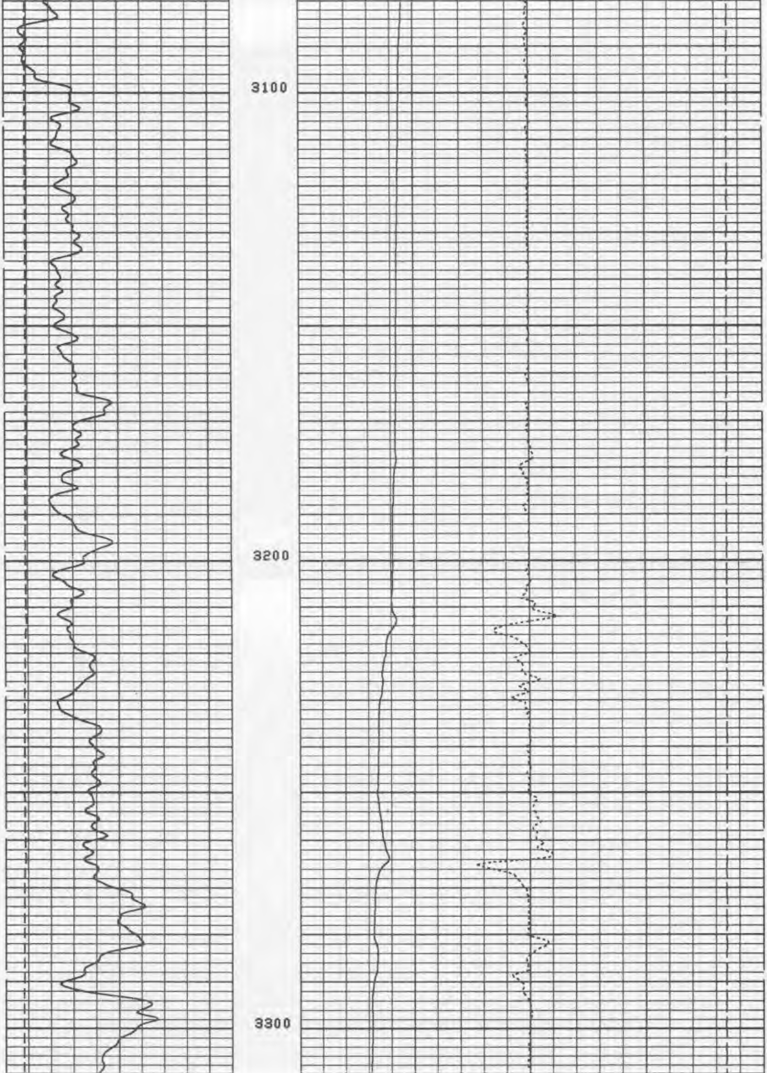
TSKE – Z2

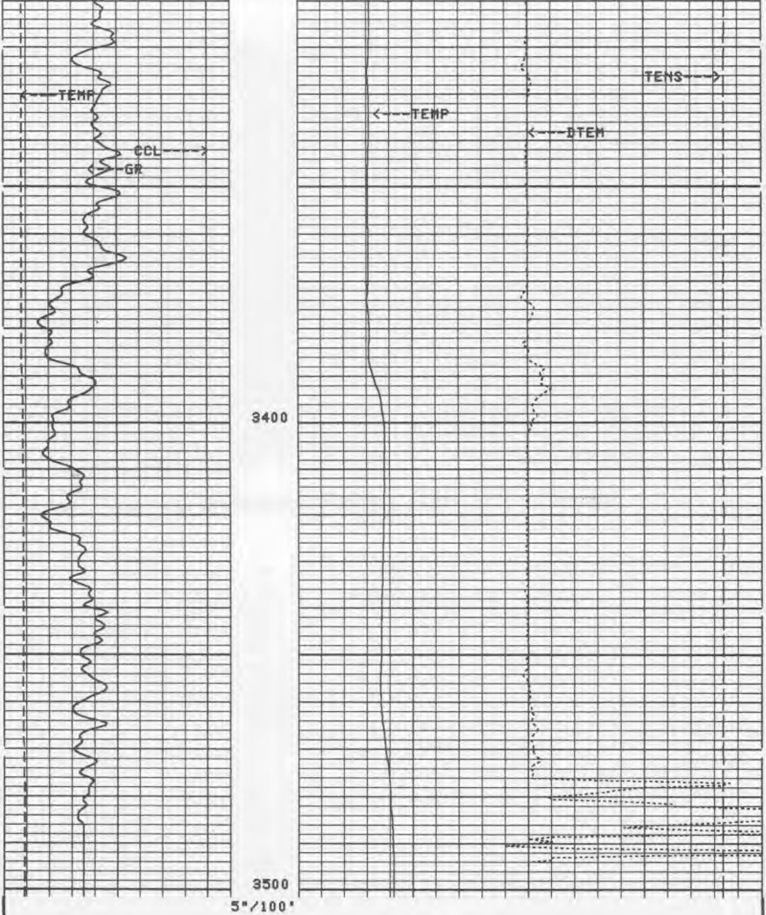
CP 32.2 FILE 4 28-MAR-1990 22:27

INPUT FILE(S)
2

DATA ACQUIRED
28-MAR-1990 22:01







CP 32.2 FILE 4 28-MAR-1990 22:23

INPUT FILE(S)
2

DATA ACQUIRED
00- -1900 00:00

TEMP(DEGF) 50.000 160.00	SKET 1.0000 0.0	TENS(LBF) 6000.0 0.0
CCL -13.50 1.5000		TEMP(DEGF) 65.000 75.000
GR(GAPI) 0.0 100.00		DTEM(DF/F) -1.000 1.0000
	TSKE — Z2	

SENSOR MEASURE POINT TO TOOL ZERO

GR	13.3	FEET	CVEL	1.0	FEET
MP	4.0	FEET	TEMP	5.4	FEET
SPIN	1.0	FEET	SVFG	1.0	FEET
EXP3	0.0	FEET	EXT	0.0	FEET
EXP1	0.0	FEET	EXP2	0.0	FEET
CCL	22.2	FEET	TENS	22.2	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	-2.50000	F
WMUD	8.00000	LB/G	SGSN	0000A-00011	
CDAT			FCHD	CSID	
PTHR	10.0000	F/MN	NTHR	-10.0000	F/MN
TIRA	.500000		VPCF	.830000	
DEVI	0.0	DEG	FDSH	0.0	G/C3
QIOP	FLOW		TCSH	0.0	IN
BS	22.5000	IN	BHS	CASE	

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 28-MAR-1990 21:31
PROGRAM FILE: PL (VERSION 32.2 00/00/00 88/11/16)

MP	0.0	0.0	0.0	0.0	PSIG

MTSC

ELECTRONICS CALIBRATION SUMMARY

	MEASURED		CALIBRATED		
	ZERO	PLUS	ZERO	PLUS	UNITS
TEMP	52.2	160.5	0.0	200.0	DEGF

Schlumberger

FLUID RESISTIVITY

CSU Field Log

COMPANY: YOUNGQUIST BROTHERS DRILLING

WELL: NORTH DISTRICT REGIONAL IW-1

FIELD: POMPANO BEACH
COUNTY: BROWARD
STATE: FLORIDA

LOCATION: NORTH BROWARD DISTRICT REGIONAL
WASTE WATER TREATMENT PLANT

PERMANENT DATUM: PAD
ELEV. OF PERM. DATUM:
LOG MEASURED FROM: PAD
ABOVE PERM. DATUM
DRLG. MEASURED FROM: PAD

ELEVATIONS-
KB:
DF:
GL:

DATE: 28 MAR 90
RUN NO: TEN

DEPTH-DRILLER: 3512.0 F
DEPTH-LOGGER: 3007.0 F
BTM. LOG INTERVAL: 3505.0 F
TOP LOG INTERVAL: 2987.0 F

CASING-DRILLER: 2990.0 F
CASING-LOGGER: 2987.0 F
CASING: 24"
WEIGHT:
BIT SIZE: 22 1/2"
DEPTH: 3514.0 F

OTHER SERVICES-
- BHC/VDL
- DIL/SFL
- X-Y CALIPER
- HRT
- FLOW

PROGRAM
TAPE NO:
32.2
SERVICE
ORDER NO:
520005

TYPE FLUID IN HOLE: SALT WATER

TIME CIRC. STOPPED: 10:30 28-MAR-90
TIME LOGGER ON BTM.: 21:00 28 MAR-90

MAX. REC. TEMP:

LOGGING UNIT NO: 8193
LOGGING UNIT LOC: FORT MYERS
RECORDED BY: S.MILLER
WITNESSED BY: KEVIN

REMARKS:

EQUIPMENT NUMBERS-

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 32.2 FILE 5 28-MAR-1990 21:02

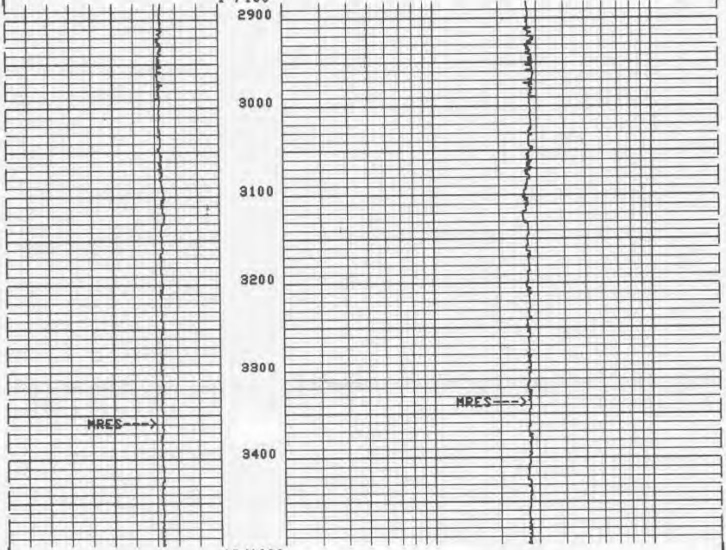
MRES(OHMM)		MRES(OHMM)
1.0000 0.0		.02000 2.0000

CP 32.2 FILE 5 28-MAR-1990 20:59

INPUT FILE(S) 3

DATA ACQUIRED 28-MAR-1990 20:34

1"/100'



1"/100'

CP 32.2 FILE 5 28-MAR-1990 20:57

INPUT FILE(S) 3

DATA ACQUIRED 28-MAR-1990 20:53

MRES(OHMM)		MRES(OHMM)
1.0000 0.0		.02000 2.0000

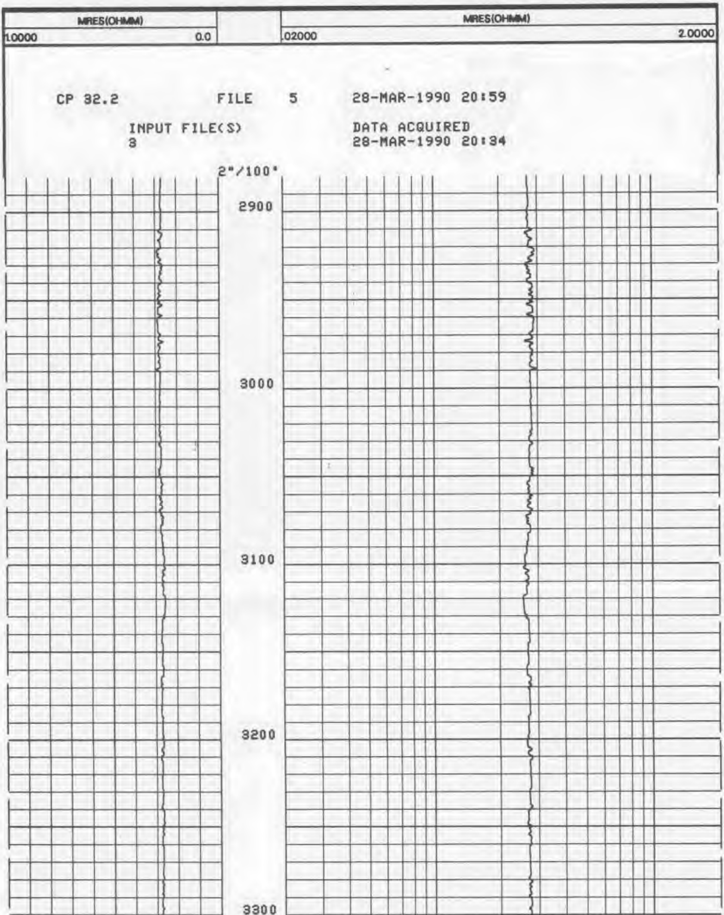
SENSOR MEASURE POINT TO TOOL ZERO

MTEM 11.3 FEET
TENS 16.3 FEET

HTEN 16.3 FEET
MRES 11.3 FEET

PARAMETERS

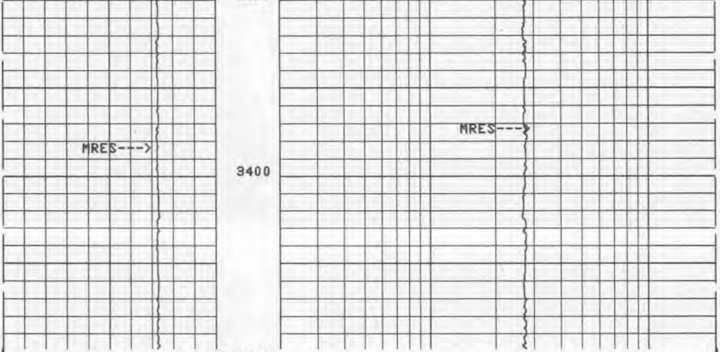
NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	0.0	F
DTCI	0.0	F	BS	22.5000	IN
BHS	OPEN				



CP 32.2 FILE 5 28-MAR-1990 20:59

INPUT FILE(S)
3

DATA ACQUIRED
28-MAR-1990 20:34



2"/100'

CP 32.2 FILE 5 28-MAR-1990 20:57

INPUT FILE(S)
3

DATA ACQUIRED
28-MAR-1990 20:53

MRES(OHMM)		MRES(OHMM)
1.0000 0.0		.02000 2.0000

SENSOR MEASURE POINT TO TOOL ZERO

MTEM 11.3 FEET
TENS 16.3 FEET
HTEN 16.3 FEET
MRES 11.3 FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	0.0	F
DTCI	0.0	F	BS	22.5000	IN
BHS	OPEN				

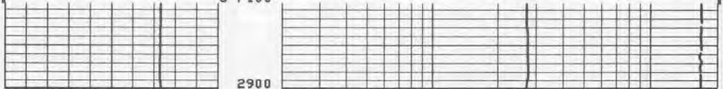
		TENS(LBF) 10000. 0.0
MRES(OHMM) 1.0000 0.0		MRES(OHMM) .02000 2.0000

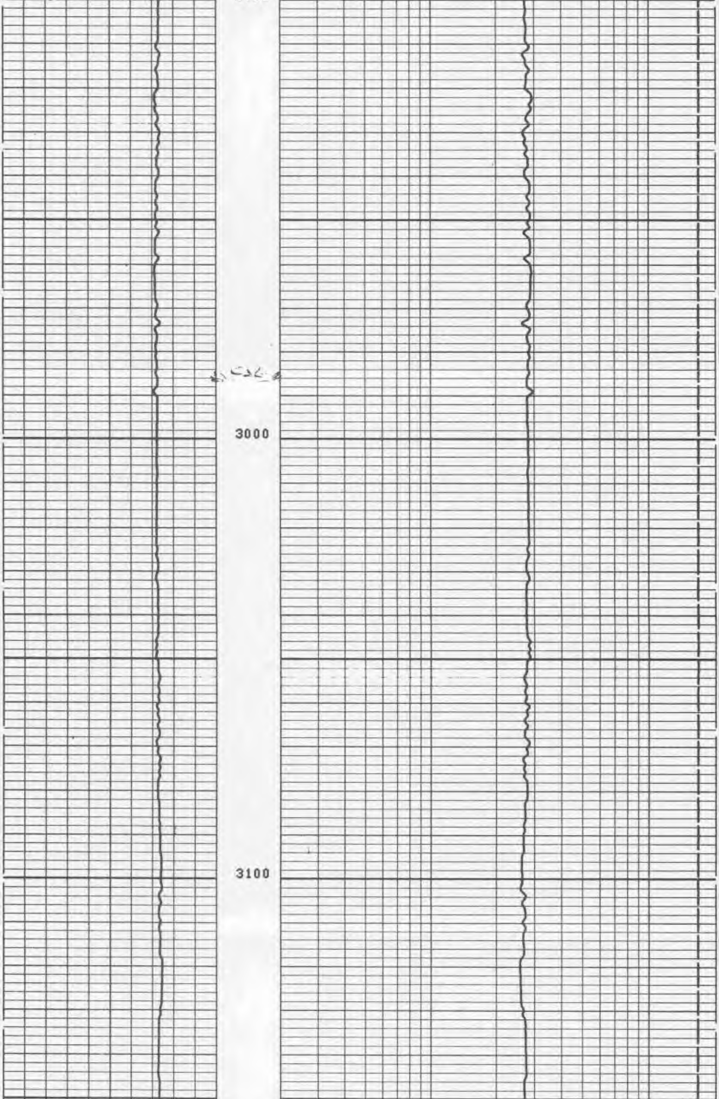
CP 32.2 FILE 5 28-MAR-1990 20:59

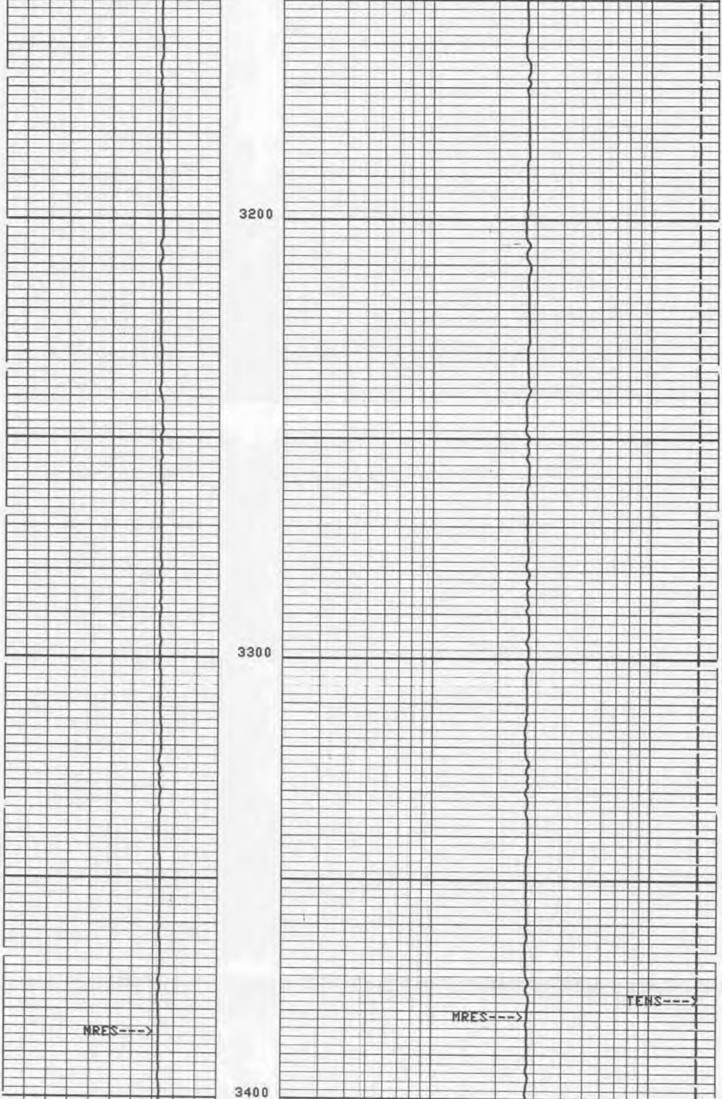
INPUT FILE(S)
3

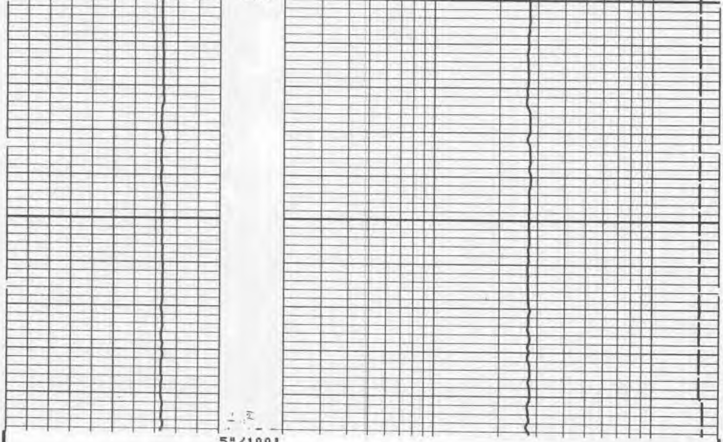
DATA ACQUIRED
28-MAR-1990 20:34

5"/100'









5"/100'

CP 32.2 FILE 5 28-MAR-1990 20:57

INPUT FILE(S)
3

DATA ACQUIRED
28-MAR-1990 20:53

- Logged
- Down

MRES(OHMM) 1.0000 — 0.0		MRES(OHMM) .02000 — 2.0000	TENS(LBF) 10000. — 0.0

SENSOR MEASURE POINT TO TOOL ZERO

MTEM 11.3 FEET
TENS 16.3 FEET
HTEN 16.3 FEET
MRES 11.3 FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	0.0	F
DTCI	0.0	F	BS	22.5000	IN
BHS	OPEN				

Schlumberger

FLUID RESISTIVITY

CSU Field Log