Schlumberger

# HI RESOLUTION DIPMETER

CSU

COMPANY: REICHHOLD ENERGY CORPORATION

RECEIVED
NOV 12 1982

WELL: WERNER 14-21

FIELD: ST. LOUIS
COUNTY: MARION
STATE: OREGON

LOCATION: 604.5' N & 627.5' E
OF SW CORNER
SEC: 21 TWP: 5S RGE: 2W

OTHER SERVICES-
DIL
BHC

PERMANENT DATUM: GL
ELEV. OF PERM. DATUM: 178.0 '
LOG MEASURED FROM: KB
11.4 ' ABOVE PERM. DATUM
DRLG. MEASURED FROM: KB

ELEVATIONS-
KB: 189.4 '
DF:
GL: 178.0 '

PROGRAM
TAPE NO:
22.4
SERVICE
ORDER NO:
205819

DATE: 9 OCT 1982
RUN NO: 1

DEPTH-DRILLER: 3354.0 '
DEPTH-LOGGER: 3348.0 '
BTM. LOG INTERVAL: 3340.0 '
TOP LOG INTERVAL: 1206.0 '

CASING-DRILLER: 1206 '
CASING-LOGGER: 1206 '
CASING: 7"

BIT SIZE: 6.25"
DEPTH: 3354 '

TYPE FLUID IN HOLE: LIGNOSULFONATE
DENSITY: 9.4 LB/G
VISCOSITY: 52.0 S
PH: 9.5
FLUID LOSS: 4.6 C3
SOURCE OF SAMPLE: CIRC.
RM: 2.050 OHMM AT 80.0 DEGF
RMF: 3.060 OHMM AT 58.0 DEGF
RMC: 1.770 OHMM AT 62.0 DEGF
SOURCE RMF/RMC: MEAS. /MEAS.
RM AT BHT: 1.682 OHMM AT 99.0 DEGF
RMF AT BHT: 1.876 OHMM AT 99.0 DEGF
RMC AT BHT: 1.152 OHMM AT 99.0 DEGF

TIME CIRC. STOPPED: 0700
TIME LOGGER ON BTM.: 1415

MAX. REC. TEMP: 99.0 DEGF

LOGGING UNIT NO: 8216
LOGGING UNIT LOC: SACRAMENTO
RECORDED BY: ANDERSEN
WITNESSED BY: BRUER

REMARKS:

EQUIPMENT NUMBERS-

DAM 1891 HDE 1879 HDM 1726 HDS-D 1954

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FILE

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## CHANGED PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|---|---|---|---|---|---|
| VHOL | 65.0884 | F3 | | | |

| DEVI(DEG ) | | C2 (IN ) | |
|---|---|---|---|
| -1.000 | 9.0000 | 25.000 | 5.0000 |
| RB (DEG ) | | C1 (IN ) | |
| -40.00 | 360.00 | 25.000 | 5.0000 |
| AZIM(DEG ) | | | |
| -40.00 | 360.00 | | |

FILE

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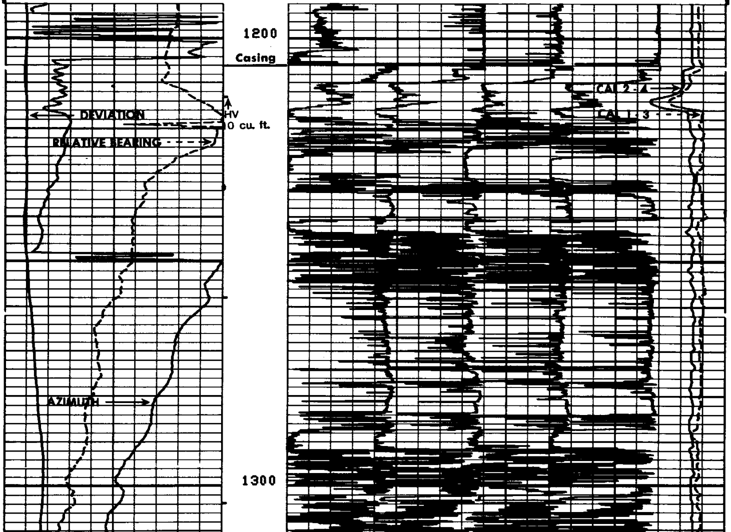
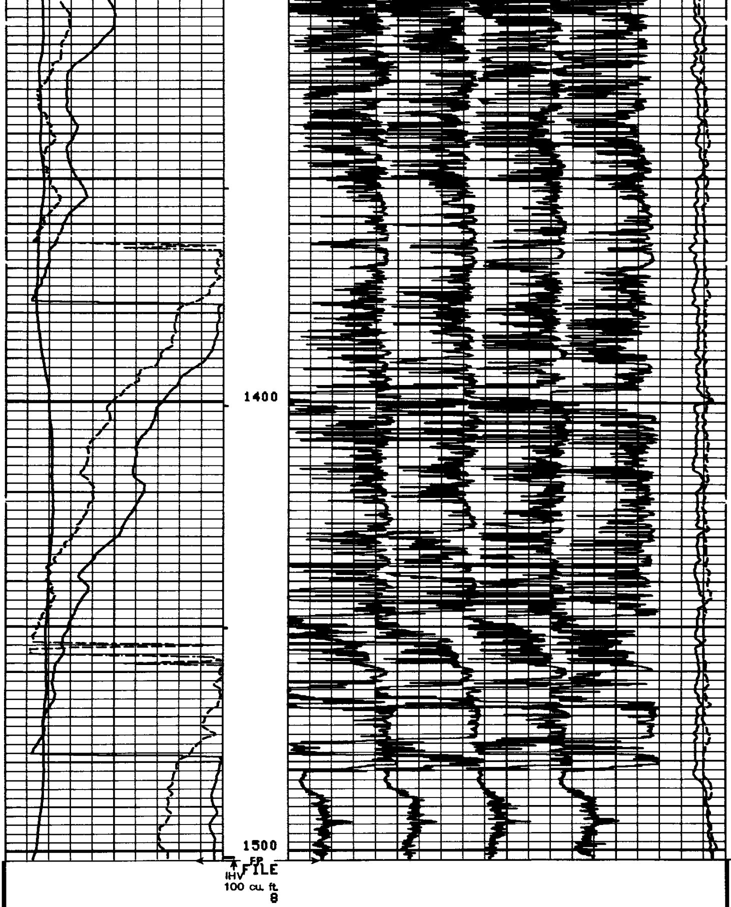




DEVI(DEG )
-1.000 9.0000

RB (DEG )
-40.00 360.00

AZIM(DEG )
-40.00 360.00

C2 (IN )
25.000 5.0000

C1 (IN )
25.000 5.0000

## SENSOR MEASURE POINT TO TENSION REFERENCE POINT

| | | | | | |
|---|---|---|---|---|---|
| RB | .0 | FEET | AZIM | .0 | FEET |
| FEP1 | .0 | FEET | DEVI | .0 | FEET |
| REFE | .0 | FEET | FEP2 | .0 | FEET |
| EMEX | .0 | FEET | RC | .0 | FEET |
| C2 | .0 | FEET | C1 | .0 | FEET |
| RC2 | .0 | FEET | RC1 | .0 | FEET |
| TEMP | .0 | FEET | PP | .0 | FEET |
| FC0 | .0 | FEET | TENS | .0 | FEET |
| FC2 | .0 | FEET | FC1 | .0 | FEET |
| FC4 | .0 | FEET | FC3 | .0 | FEET |
| SHDT | .0 | FEET | | | |

## PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|---|---|---|---|---|---|
| PYUM | 1.00000 | | BS | 6.25000 | IN |
| STYP | HDSD | | MCT | 36 | DEG |
| DO | 0.0 | F | BHS | OPEN | |

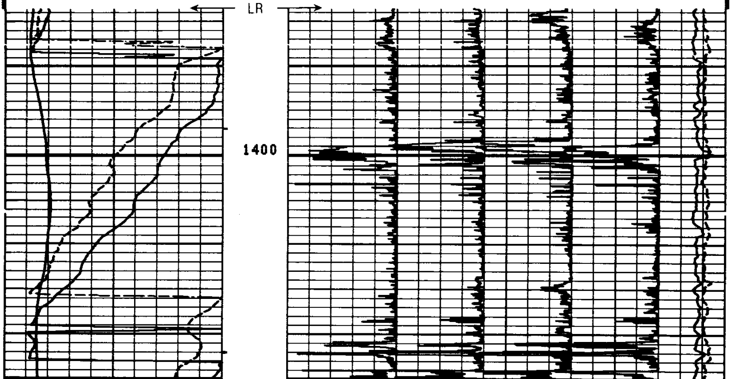
## CHANGED PARAMETERS

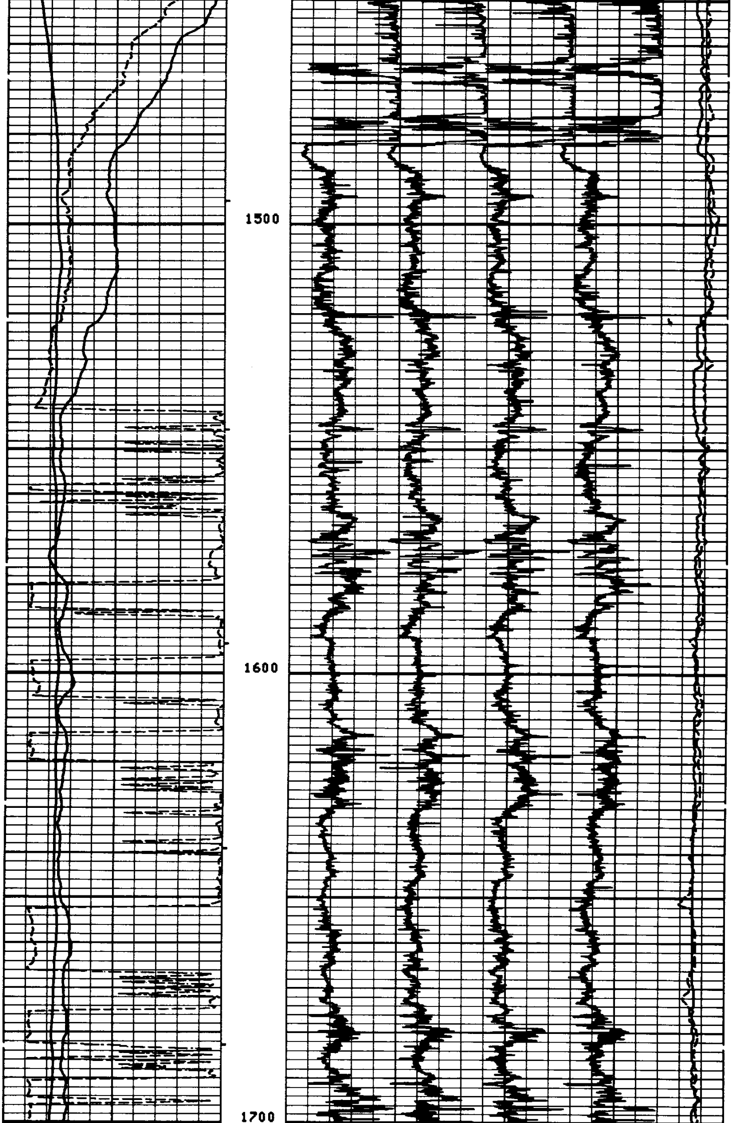
| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|---|---|---|---|---|---|
| VHOL | 95.6279 | F3 | | | |

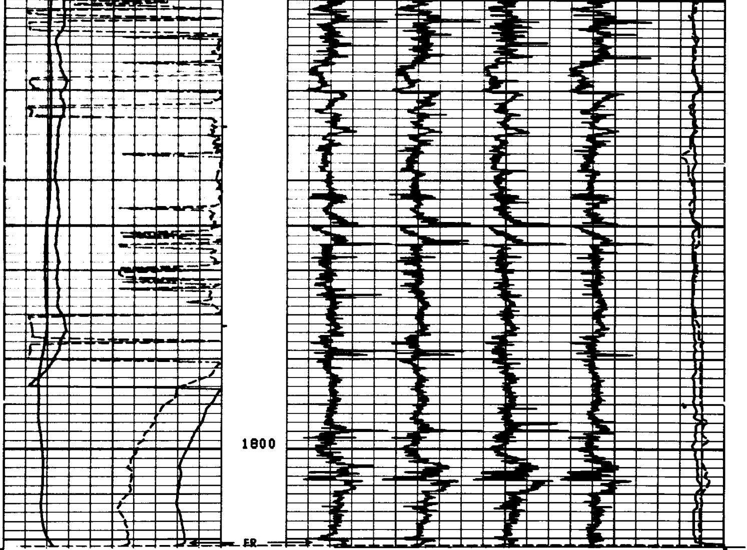
| DEVI(DEG ) | | C2 (IN ) | |
|---|---|---|---|
| -1.000 | 9.0000 | 25.000 | 5.0000 |
| RB (DEG ) | | C1 (IN ) | |
| -40.00 | 360.00 | 25.000 | 5.0000 |
| AZIM(DEG ) | | | |
| -40.00 | 360.00 | | |

FILE

7







FILE

7

| | |
|---|---|
| DEVI(DEG )<br>-1.000 9.0000 | |
| RB (DEG )<br>-40.00 360.00 | C2 (IN )<br>25.000 5.0000 |
| AZIM(DEG )<br>-40.00 360.00 | C1 (IN )<br>25.000 5.0000 |

SENSOR MEASURE POINT TO TENSION REFERENCE POINT

| | | | | | |
|---|---|---|---|---|---|
| RB | .0 | FEET | AZIM | .0 | FEET |
| FEP1 | .0 | FEET | DEVI | .0 | FEET |
| REFE | .0 | FEET | FEP2 | .0 | FEET |
| EMEX | .0 | FEET | RC | .0 | FEET |
| C2 | .0 | FEET | C1 | .0 | FEET |
| RC2 | .0 | FEET | RC1 | .0 | FEET |
| TEMP | .0 | FEET | PP | .0 | FEET |
| FC0 | .0 | FEET | TENS | .0 | FEET |
| FC2 | .0 | FEET | FC1 | .0 | FEET |
| FC4 | .0 | FEET | FC3 | .0 | FEET |
| SHDT | .0 | FEET | | | |

PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|---|---|---|---|---|---|
| PVUM | 1.00000 | | BS | 6.25000 | IN |
| STYP | HDSD | | MCT | 36 | DEG |
| DO | 0.0 | F | BHS | OPEN | |

## CHANGED PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|---|---|---|---|---|---|
| VHDL | 261.275 | F3 | | | |

DEVI(DEG )
-1.000 9.0000

RB (DEG )
-40.00 360.00

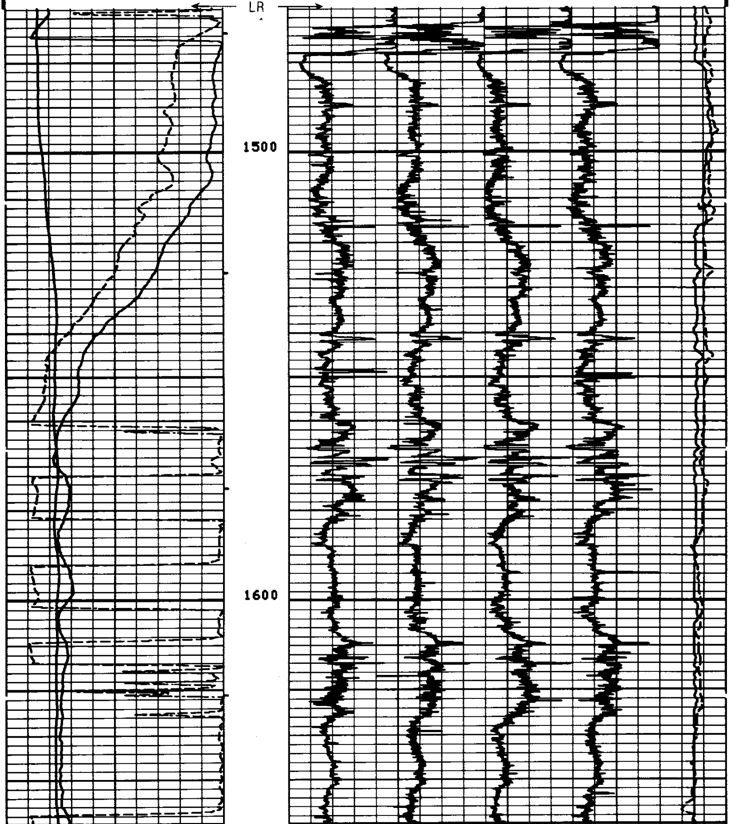
AZIM(DEG )
-40.00 360.00

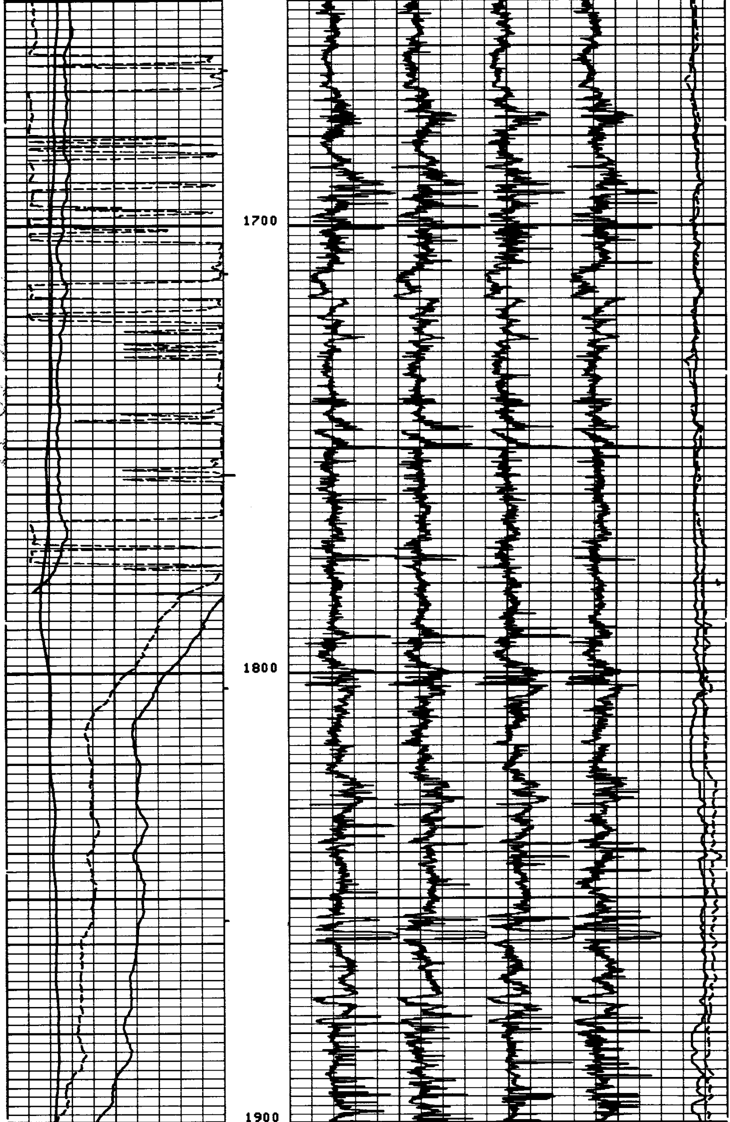
C2 (IN )
25.000 5.0000

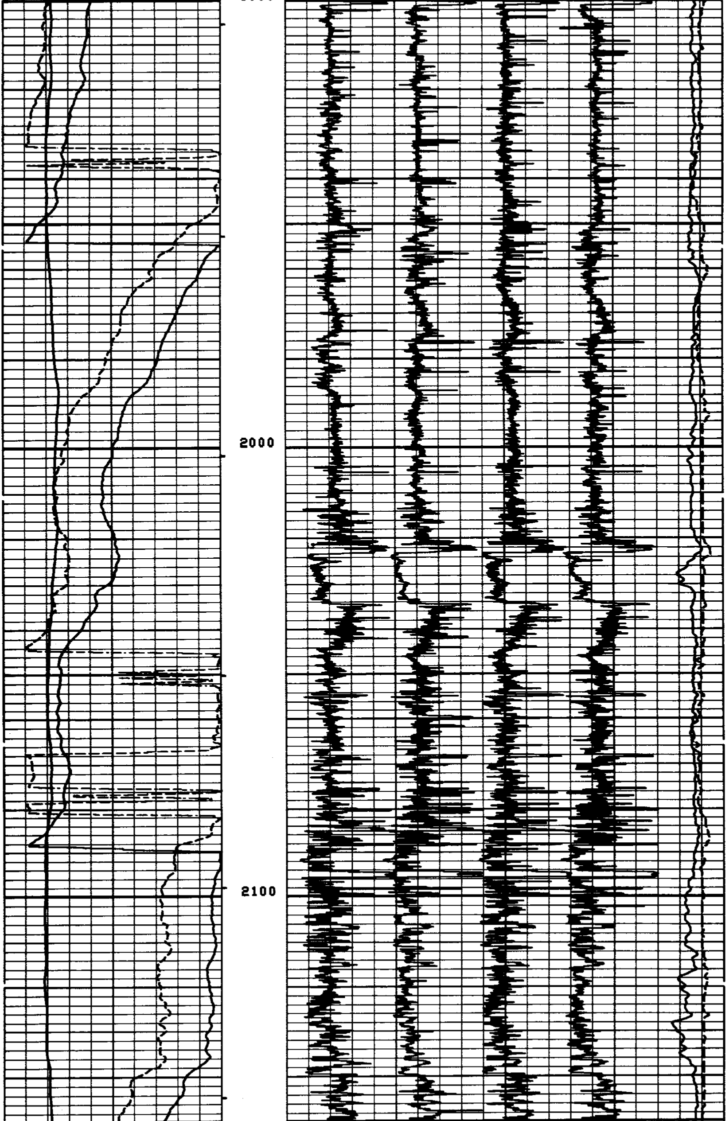
C1 (IN )
25.000 5.0000

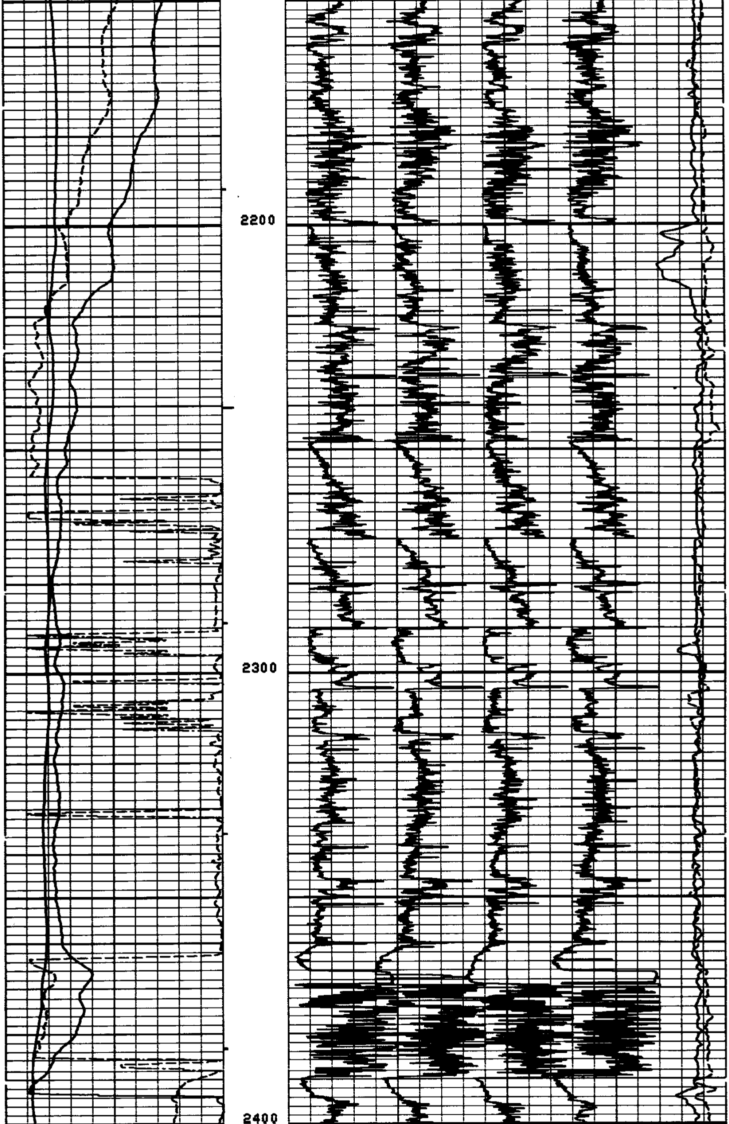
FILE

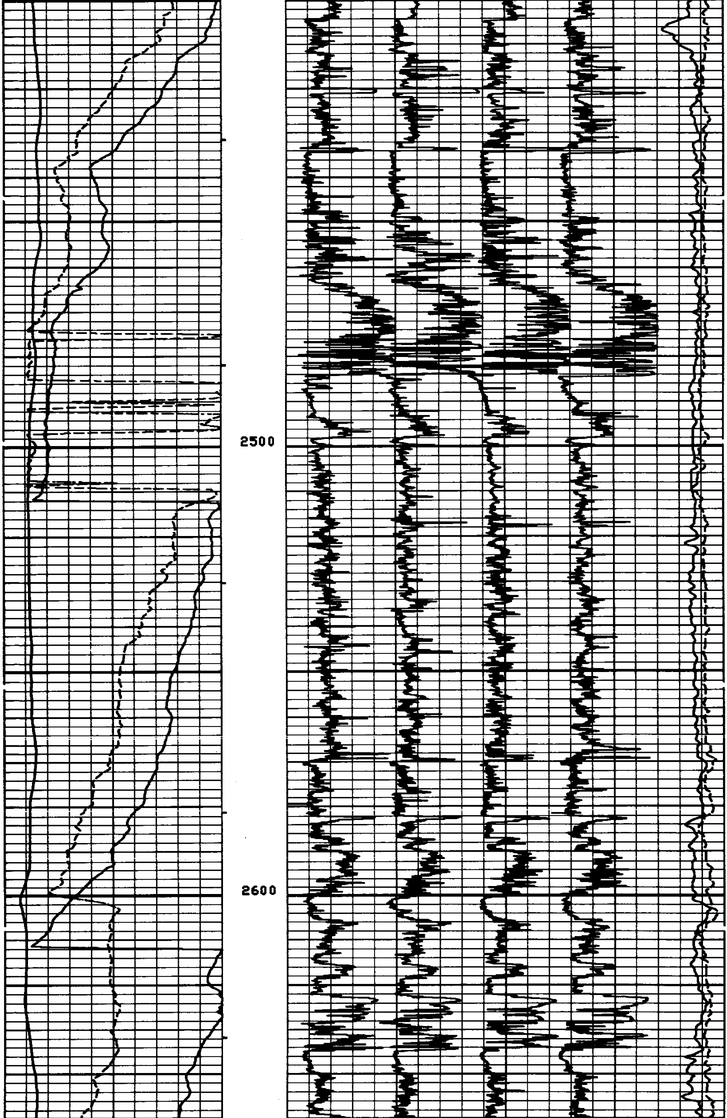
6

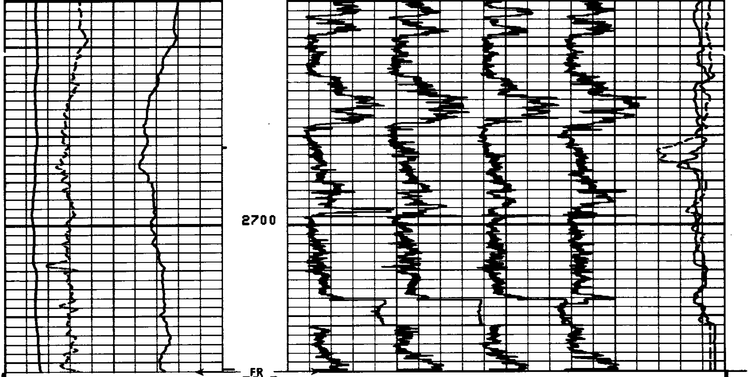












FILE

6

| DEVI(DEG ) | | | C2 (IN ) | |
|---|---|---|---|---|
| -1.000 | 9.0000 | | | |
| RB (DEG ) | | | | |
| -40.00 | 360.00 | | 25.000 | 5.0000 |
| AZIM(DEG ) | | | C1 (IN ) | |
| -40.00 | 360.00 | | 25.000 | 5.0000 |

## SENSOR MEASURE POINT TO TENSION REFERENCE POINT

| | | | | | |
|---|---|---|---|---|---|
| RB | .0 | FEET | AZIM | .0 | FEET |
| FEP1 | .0 | FEET | DEVI | .0 | FEET |
| REFE | .0 | FEET | FEP2 | .0 | FEET |
| EMEX | .0 | FEET | RC | .0 | FEET |
| C2 | .0 | FEET | C1 | .0 | FEET |
| RC2 | .0 | FEET | RC1 | .0 | FEET |
| TEMP | .0 | FEET | PP | .0 | FEET |
| FC0 | .0 | FEET | TENS | .0 | FEET |
| FC2 | .0 | FEET | FC1 | .0 | FEET |
| FC4 | .0 | FEET | FC3 | .0 | FEET |
| SHDT | .0 | FEET | | | |

## PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|---|---|---|---|---|---|
| PVUM | 1.00000 | | BS | 6.25000 | IN |
| STYP | HDSD | | MCT | 36 | DEG |
| DO | 0.0 | F | BHS | OPEN | |

## CHANGED PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|---|---|---|---|---|---|

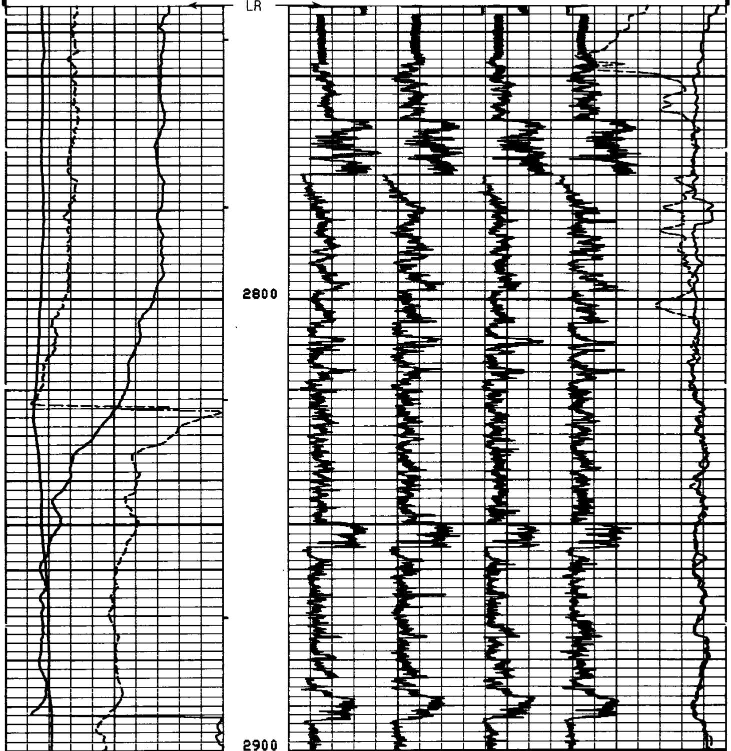
VHOL 82.4217 F3

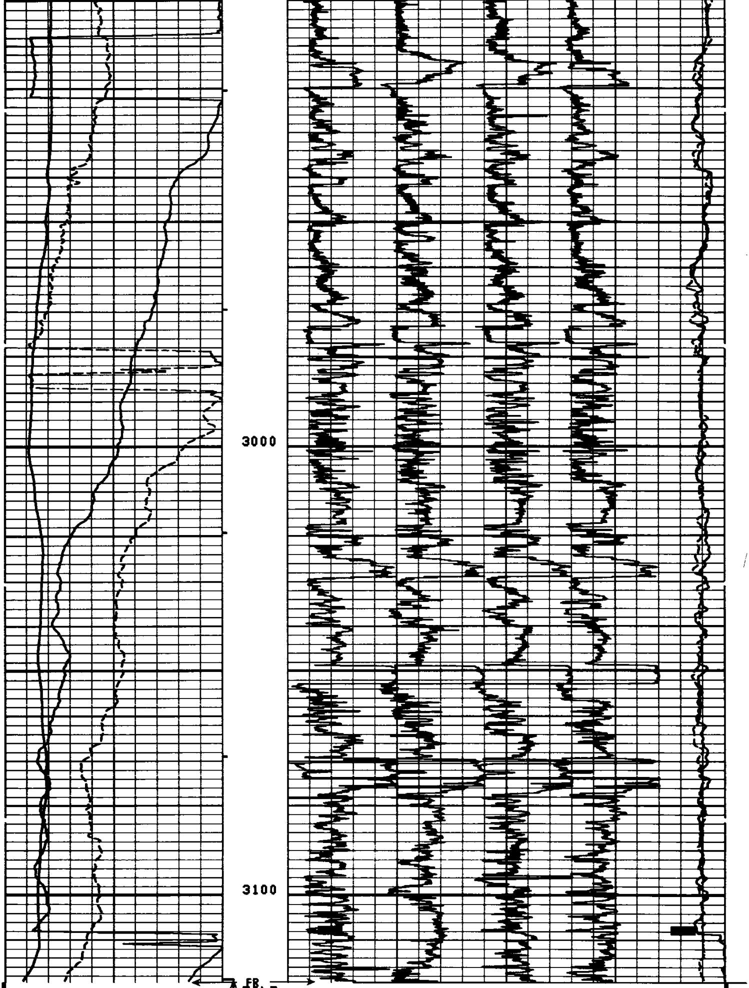
| | |
|---|---|
| DEVI(DEG ) | |
| -1.000 9.0000 | |
| RB (DEG ) | C2 (IN ) |
| -40.00 360.00 | 25.000 5.0000 |
| AZIM(DEG ) | C1 (IN ) |
| -40.00 360.00 | 25.000 5.0000 |

| SCALE CHANGES | | | |
|---|---|---|---|
| | 25.000 | C2 | 5.0000 |
| | 26.000 | 3108 | 6.0000 |

FILE

5





FILE
5

DEVI(DEG )
-1.000 9.0000
RB (DEG )
-40.00 360.00
AZIM(DEG )
-40.00 360.00

C2 (IN )
26.000 6.0000
C1 (IN )
25.000 5.0000

## SENSOR MEASURE POINT TO TENSION REFERENCE POINT

| | | | | | |
|---|---|---|---|---|---|
| RB | .0 | FEET | AZIM | .0 | FEET |
| FEP1 | .0 | FEET | DEVI | .0 | FEET |
| REFE | .0 | FEET | FEP2 | .0 | FEET |
| EMEX | .0 | FEET | RC | .0 | FEET |
| C2 | .0 | FEET | C1 | .0 | FEET |
| RC2 | .0 | FEET | RC1 | .0 | FEET |
| TEMP | .0 | FEET | PP | .0 | FEET |
| FC0 | .0 | FEET | TENS | .0 | FEET |
| FC2 | .0 | FEET | FC1 | .0 | FEET |
| FC4 | .0 | FEET | FC3 | .0 | FEET |
| SHDT | .0 | FEET | | | |

## PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|---|---|---|---|---|---|
| PVUM | 1.00000 | | BS | 6.25000 | IN |
| STYP | HDSD | | MCT | 36 | DEG |
| DO | 0.0 | F | BHS | OPEN | |

## CHANGED PARAMETERS

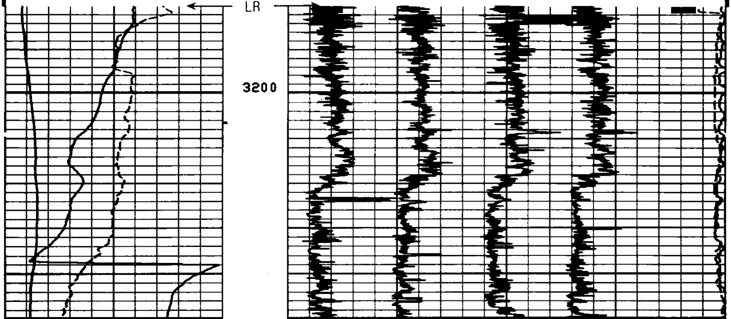
| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|---|---|---|---|---|---|
| VHOL | 35.7762 | F3 | | | |

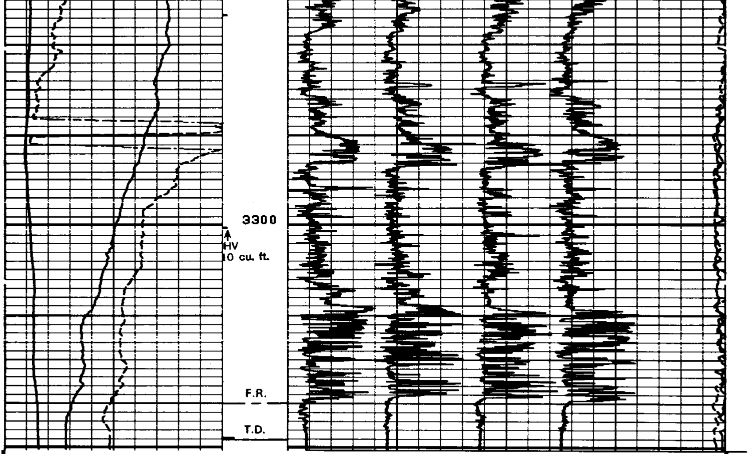
| Curve | Left | Right |
|---|---|---|
| DEVI(DEG ) | -1.000 | 9.0000 |
| RB (DEG ) | -40.00 | 360.00 |
| AZIM(DEG ) | -40.00 | 360.00 |
| C2 (IN ) | 26.000 | 6.0000 |
| C1 (IN ) | 25.000 | 5.0000 |

| SCALE CHANGES | | | |
|---|---|---|---|
| | 25.000 | C1 | 5.0000 |
| | 26.000 | 3181 | 6.0000 |

FILE

4





FILE

4

| | | | |
|---|---|---|---|
| **DEVI(DEG )** | | | |
| -1.000 | 9.0000 | | |
| **RB (DEG )** | | **C2 (IN )** | |
| -40.00 | 360.00 | 26.000 | 6.0000 |
| **AZIM(DEG )** | | **C1 (IN )** | |
| -40.00 | 360.00 | 26.000 | 6.0000 |

## SENSOR MEASURE POINT TO TENSION REFERENCE POINT

| | | | | | |
|---|---|---|---|---|---|
| RB | .0 | FEET | AZIM | .0 | FEET |
| FEP1 | .0 | FEET | DEVI | .0 | FEET |
| REFE | .0 | FEET | FEP2 | .0 | FEET |
| EMEX | .0 | FEET | RC | .0 | FEET |
| C2 | .0 | FEET | C1 | .0 | FEET |
| RC2 | .0 | FEET | RC1 | .0 | FEET |
| TEMP | .0 | FEET | PP | .0 | FEET |
| FC0 | .0 | FEET | TENS | .0 | FEET |
| FC2 | .0 | FEET | FC1 | .0 | FEET |
| FC4 | .0 | FEET | FC3 | .0 | FEET |
| SHDT | .0 | FEET | | | |

## PARAMETERS

| NAME | VALUE | UNIT | NAME | VALUE | UNIT |
|---|---|---|---|---|---|
| PVUM | 1.00000 | | BS | 6.25000 | IN |
| STYP | HDSD | | MCT | 36 | DEG |
| DO | 0.0 | F | BHS | OPEN | |

## BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 82/10/09
PROGRAM FILE: HDT (VERSION 22.4 82/09/01)

HDT CALIPER CALIBRATION SUMMARY

| | MEASURED | | CALIBRATED | | |
|---|---|---|---|---|---|
| | SMALL | LARGE | SMALL | LARGE | UNITS |
| C1 | 9.0 | 13.7 | 8.0 | 12.0 | IN |
| C2 | 8.7 | 13.4 | 8.0 | 12.0 | IN |

FILE

2

| | | | |
|---|---|---|---|
| COMPANY | REICHHOLD ENERGY CORPORATION | SCHL. FR | 3340.0' |
| | | SCHL. TD | 3348.0' |
| WELL | WERNER 14-21 | DRLR. TD | 3354.0' |
| FIELD | ST. LOUIS | Elev: KB | 189.4' |
| | | DF | N/A |
| COUNTY | MARION STATE OREGON | GL | 178.0' |