**Schlumberger**

# FOUR — ARM
# HIGH RESOLUTION
# CONTINUOUS DIPMETER
(COMPUTED)

COUNTY COLUMBIA
FIELD or LOCATION 15-6N-5W WB&M
WELL COLUMBIA COUNTY #4 (REDRILL #1)
COMPANY REICHHOLD ENERGY

COMPANY REICHHOLD ENERGY CORPORATION
WELL COLUMBIA COUNTY #4 (REDRILL #1)
FIELD MIST
COUNTY COLUMBIA STATE OREGON

LOCATION
867' SOUTH & 1149' WEST FROM THE NORTHEAST CORNER OF:
Sec. 15 Twp. 6N Rge. 5W WB&M

Other Services:
-

Permanent Datum: GL, Elev. 753.6
Log Measured From KB, 11.4 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 765.0
D.F. N/A
G.L. 753.6

| | | | | |
|---|---|---|---|---|
| Date | 20 JUL 82 | | | |
| Run No. | ONE | | | |
| Depth—Driller | 2896 | | | |
| Depth—Logger | 2891 | | | |
| Btm. Log Interval | 2875 | | | |
| Top Log Interval | 400 | | | |
| Casing—Driller | 7" @401 | @ | @ | @ |
| Casing—Logger | 400 | | | |
| Bit Size | 6¼" | | | |
| Type Fluid in Hole | LIGNOSULFONATE (BAROID) | | | |
| Dens. \| Visc. | 10.4 \| 63.0 | \| | \| | \| |
| pH \| Fluid Loss | 10.5 \| 4.3 ml | ml | ml | ml |
| Source of Sample | FLOWLINE | | | |
| $R_m$ @ Meas. Temp. | 1.63 @ 82 °F | @ °F | @ °F | @ °F |
| $R_{mf}$ @ Meas. Temp. | 1.16 @ 70 °F | @ °F | @ °F | @ °F |
| $R_{mc}$ @ Meas. Temp. | 1.13 @ 69 °F | @ °F | @ °F | @ °F |
| Source: $R_{mf}$ \| $R_{mc}$ | M \| M | \| | \| | \| |
| $R_m$ @ BHT | 1.32 @ 103 °F | @ °F | @ °F | @ °F |
| Time Since Circ. | 1515 | | | |
| Max. Rec. Temp. | 103 °F | °F | °F | °F |
| Equip. \| Location | 8076 \| SAC | \| | \| | \| |
| Recorded By | MAYER | | | |
| Witnessed By | ALGER | | | |

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

| Changes in Mud Type or Additional Samples | | |
|---|---|---|
| Date \| Sample No. | \| | \| |
| Depth—Driller | | |
| Type Fluid in Hole | | |
| | | |
| Dens. \| Visc. | \| | \| |
| ph \| Fluid Loss | ml | ml |
| Source of Sample | | |
| $R_m$ @ Meas. Temp. | @ °F | @ °F |
| $R_{mf}$ @ Meas. Temp. | @ °F | @ °F |
| $R_{mc}$ @ Meas. Temp. | @ °F | @ °F |
| Source: $R_{mf}$ \| $R_{mc}$ | \| | \| |
| $R_m$ @ BHT | @ °F | @ °F |
| $R_{mf}$ @ BHT | @ °F | @ °F |
| $R_{mc}$ @ BHT | @ °F | @ °F |

| Run No. | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Tool Type | HDSD | | | |
| HDM No. | 1726 | | | |
| Magnetic Declination | 20° E | | | |
| Analog Panel No. | - | | | |
| Digital Panel No. | 1891 | | | |
| Correlated By | PCDCC | | | |
| Computed By | PCDCC | | | |
| Plotted By | PCDCC | | | |

Remarks — HDM-LOW ANGLE UNIT (0-36°).
SERVICE ORDER NO. 303905.

"Any directional computations made from the dipmeter log must be regarded as approximate only. This is because the dipmeter log indicates the orientation of the instrument itself, rather than the direction and amount of the wall drift. Therefore, we do not and cannot guarantee the accuracy of such directional computations, and we shall not, except in the case of willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained that may result from any such computations."

TABLE OF VERTICAL DISPLACEMENT IN FEET CORRESPONDING TO

SWS-1854-B

## VARIOUS HORIZONTAL DISTANCES AND ANGLES OF DIP

| | VERTICAL DISPLACEMENT FOR HORIZONTAL DISTANCES OF | | | | VERTICAL DISPLACEMENT FOR HORIZONTAL DISTANCES OF | | |
|---|---|---|---|---|---|---|---|
| DIP ANGLES (degrees) | 100′ | 1000′ | 1 mile (5280′) | DIP ANGLES (degrees) | 100′ | 1000′ | 1 mile (5280′) |
| 1 | 1.75 | 17.5 | 92.2 | 19 | 34.4 | 344. | 1818. |
| 2 | 3.5 | 35. | 184. | 20 | 36.4 | 364. | 1922. |
| 3 | 5.2 | 52. | 277. | 21 | 38.4 | 384. | 2027. |
| 4 | 7.0 | 70. | 369. | 22 | 40.4 | 404. | 2133. |
| 5 | 8.8 | 88. | 462. | 23 | 42.5 | 425. | 2241. |
| 6 | 10.5 | 105. | 555. | 24 | 44.5 | 445. | 2351. |
| 7 | 12.3 | 123. | 648. | 25 | 46.6 | 466. | 2462. |
| 8 | 14.1 | 141. | 742. | 30 | 57.7 | 577. | 3048. |
| 9 | 15.8 | 158. | 836. | 35 | 70.0 | 700. | 3697. |
| 10 | 17.6 | 176. | 931. | 40 | 83.9 | 839. | 4430. |
| 11 | 19.4 | 194. | 1026. | 45 | 100.0 | 1000. | 5280. |
| 12 | 21.3 | 213. | 1122. | 50 | 119.2 | 1192. | 6293. |
| 13 | 23.1 | 231. | 1219. | 55 | 142.8 | 1428. | 7540. |
| 14 | 24.9 | 249. | 1316. | 60 | 173.2 | 1732. | 9145. |
| 15 | 26.8 | 268. | 1415. | 65 | 214.4 | 2144. | 11323. |
| 16 | 28.7 | 287. | 1514. | 70 | 274.8 | 2748. | 14507. |
| 17 | 30.6 | 306. | 1614. | 75 | 373.2 | 3732. | 19705. |
| 18 | 32.5 | 325. | 1716. | 80 | 567.1 | 5671. | 29945. |

To obtain vertical displacements corresponding to multiples of hundreds feet, thousands of feet or miles, multiply the number found in the table by the number of hundreds, thousands or miles.

Example: The formation dip is 16 degrees. The vertical displacement occurring at a spot 660 feet away from the well is desired. The table shows 28.7 feet per 100 feet for 16° dip. Therefore 28.7 x 6.60 = 189.42, or 189. feet.

N

## GRAPHIC PRESENTATION

| CORRELATION CURVE | DEPTHS | TRUE DIP ANGLE AND DIRECTION | DRIFT & DIRECTION OF SONDE |
|---|---|---|---|
| | | 0° 10° 20° 30° 40° 50° 60° 70° 80° 90° | 0° |

REICHHOLD ENERGY
COLUMBIA COUNTY #4
MIST FIELD
COLUMBIA COUNTY,OREGON
RUN NO. ONE 20-JUL-82
PCCC
ARROW PLOT FROM CLUSTER PROGRA

CORRELATION LENGTH 4 FT.
STEP LENGTH 2 FT.
SEARCH ANGLE 30 DEGREES
HDT-G CSU VAX 11/780

6663.00

X2

POOLED ARROW PLOT

2 LEVELS POOLED WHEN WITHIN

3.5 DEGREES SOLID ANGLE

BLACK ARROWS ARE POOLED RESULTS

CORRELATION LENGTH 4 FT.

STEP LENGTH 2 FT.

SEARCH ANGLE 30 DEGREES X2

PC0130023518307001020420

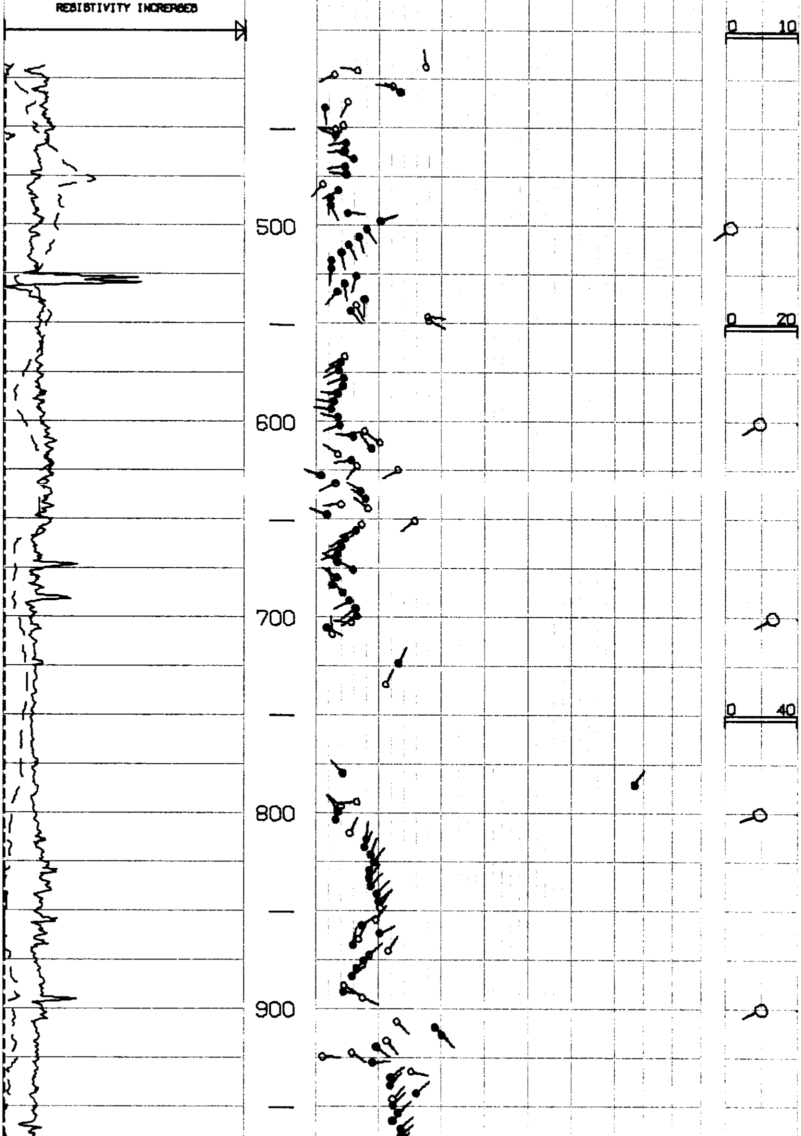
ZONE FROM 418 TO 2870

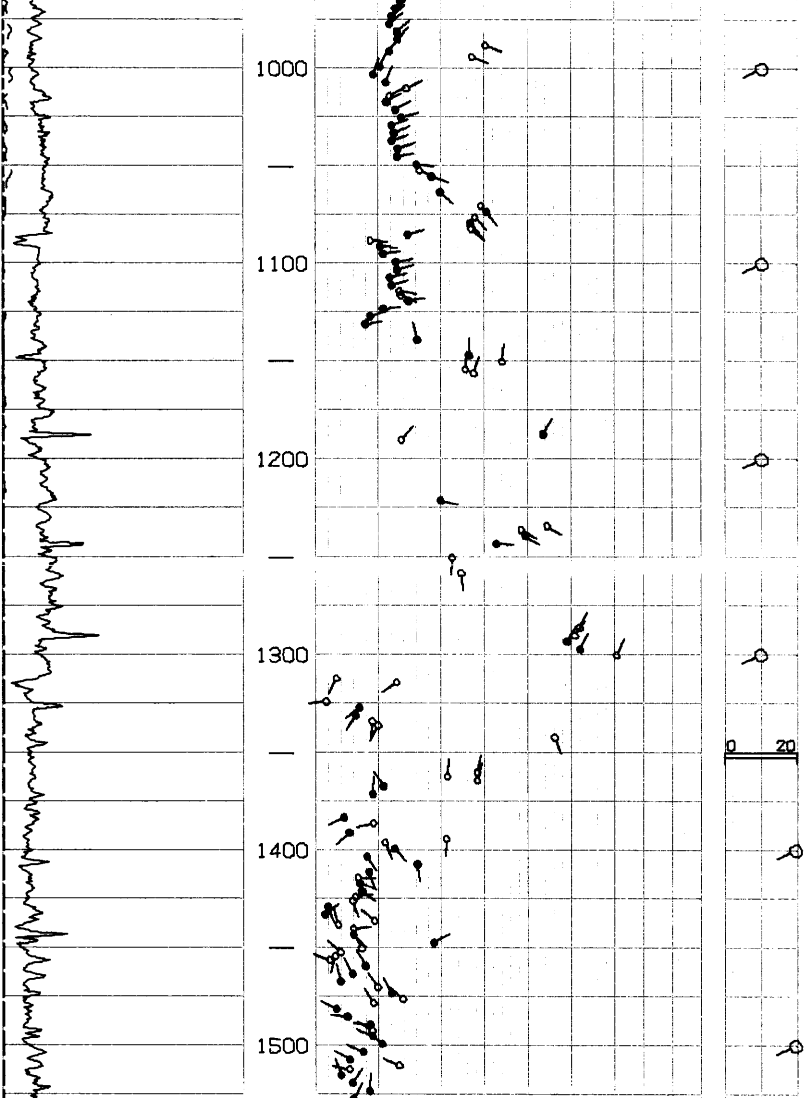
CORRELATION CURVE
CALIPERS
8 C1-3 — — — C2-4 - - - - - 18

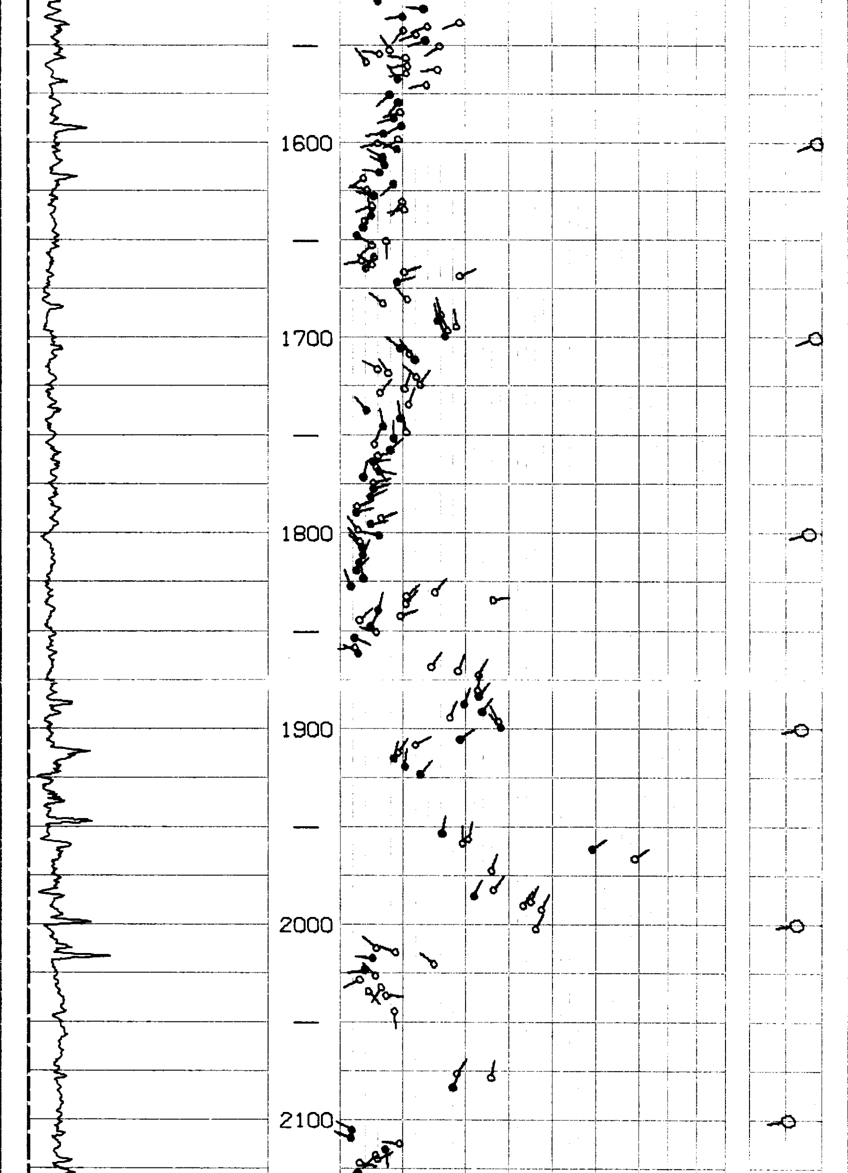
DEPTHS

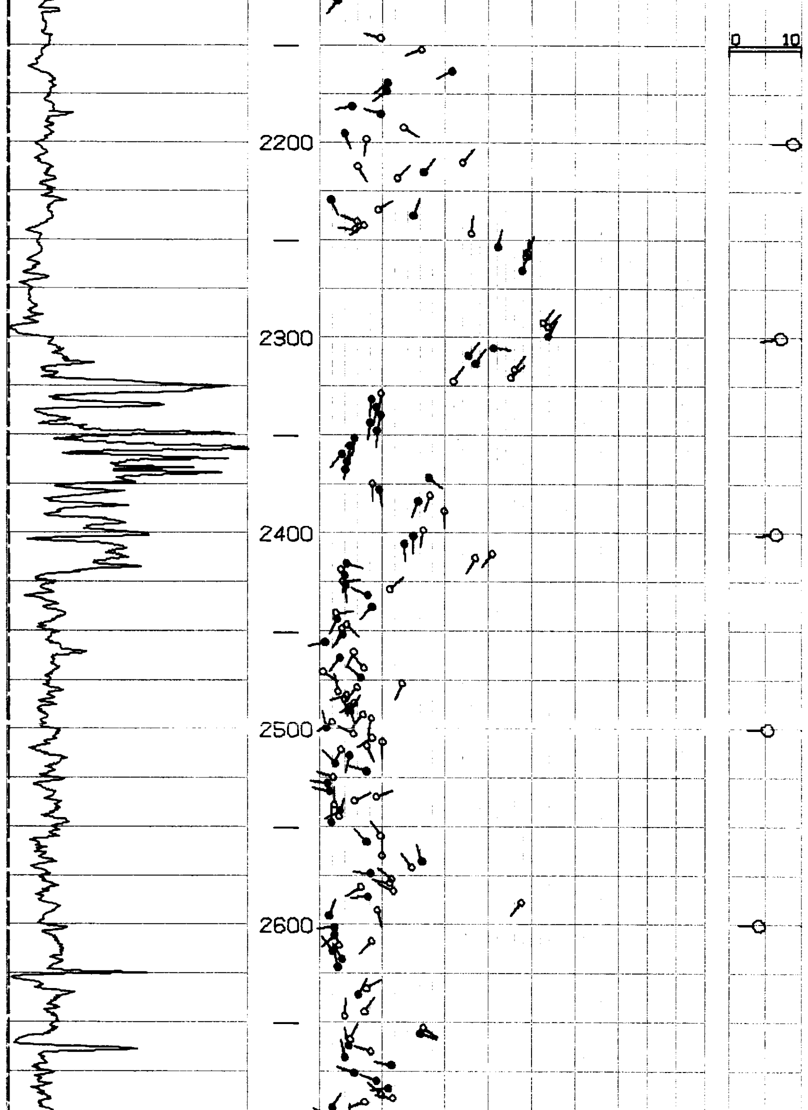
DIP ANGLE AND DIRECTION
0 10 20 30 40 50 60 70 80 90

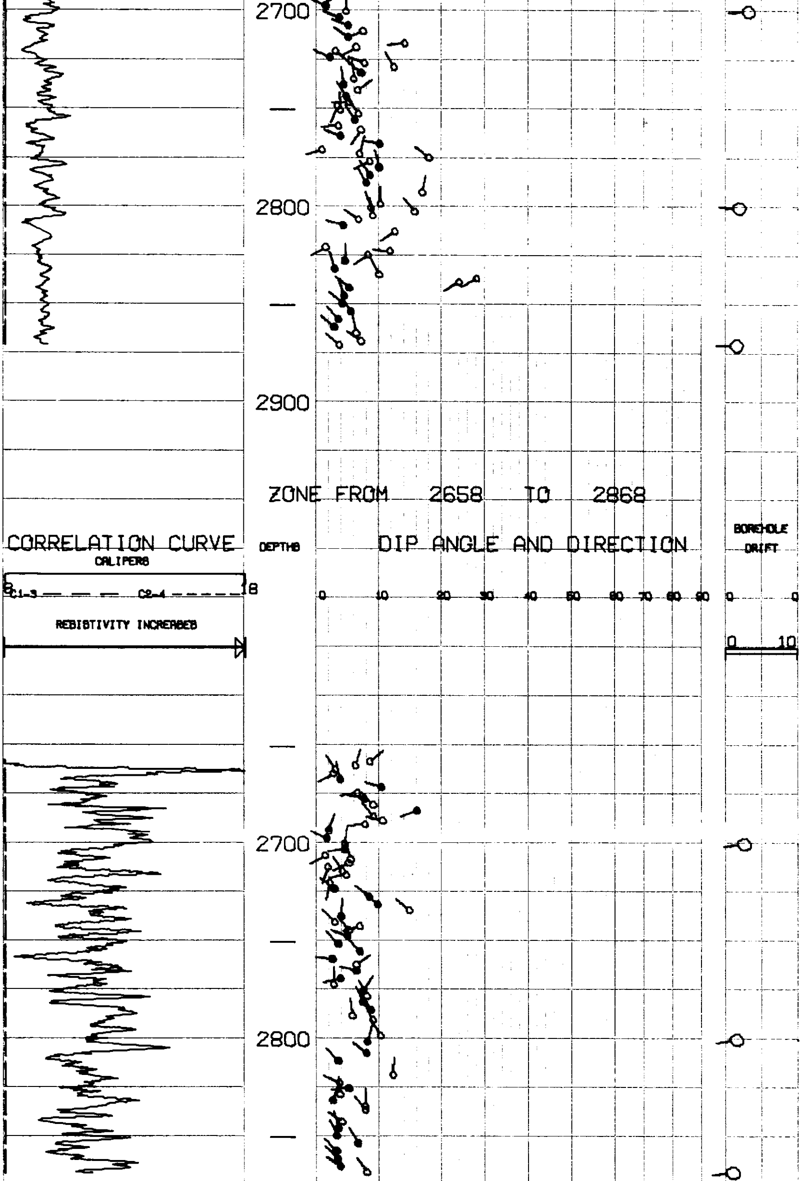
BOREHOLE DRIFT
0 0

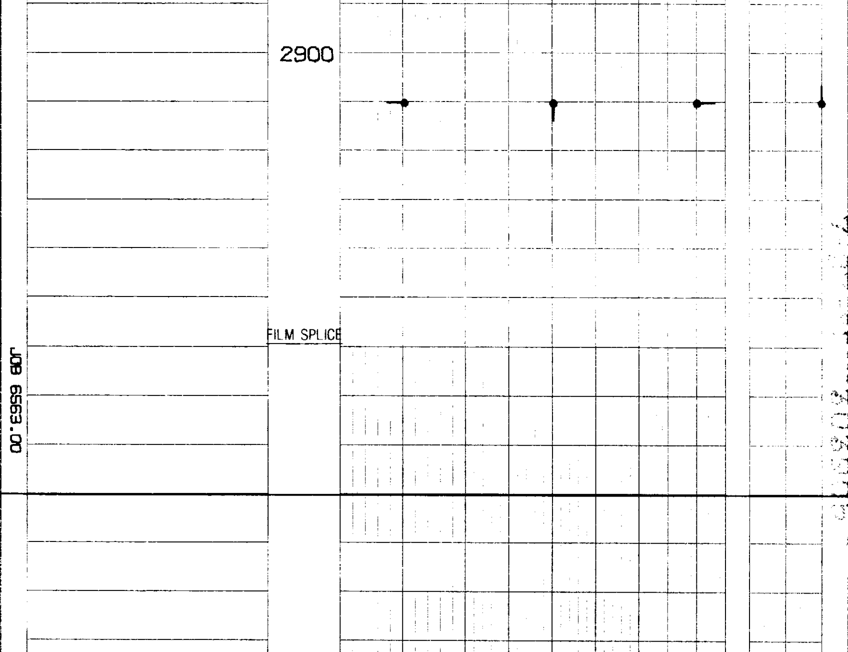












ALL QUALITY ARROW PLOT 6563

FROM THE CLUSTER PROGRAM

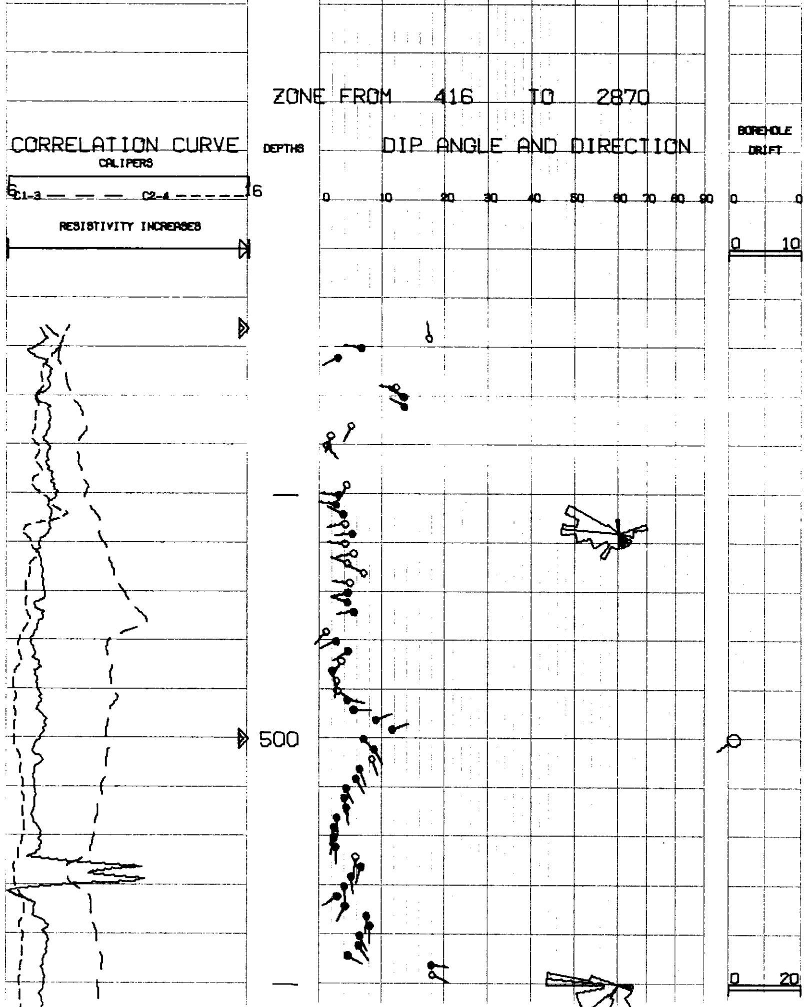
BLACK ARROWS ARE HIGHEST QUALITY

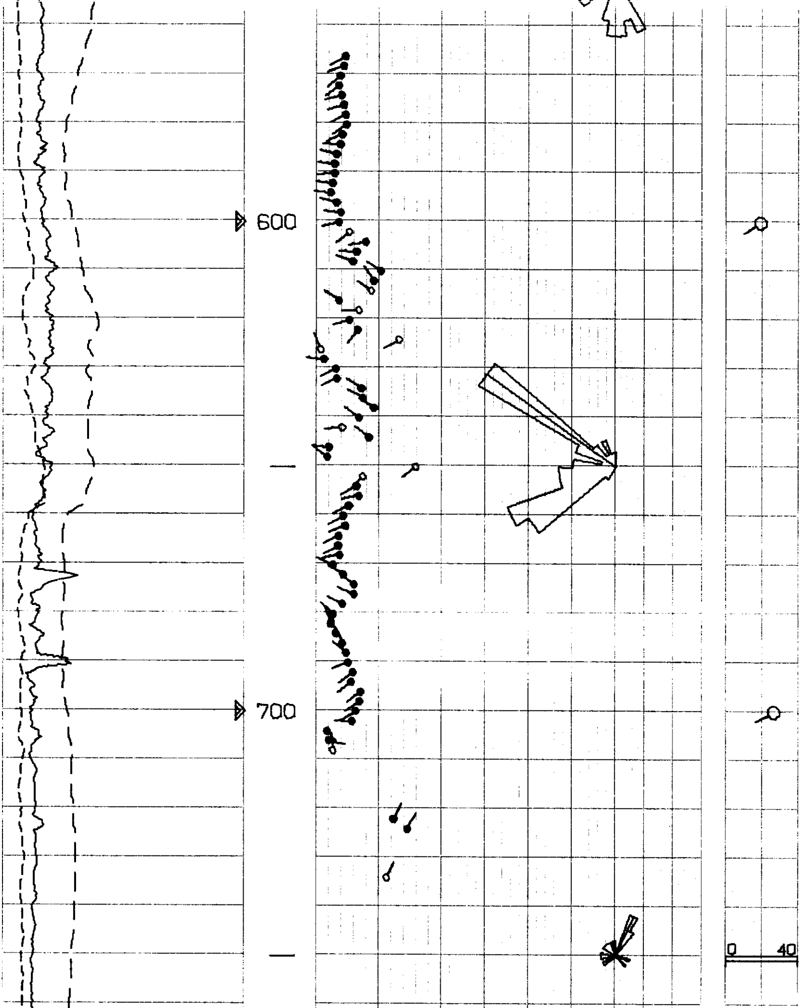
CORRELATION LENGTH 4 FT.

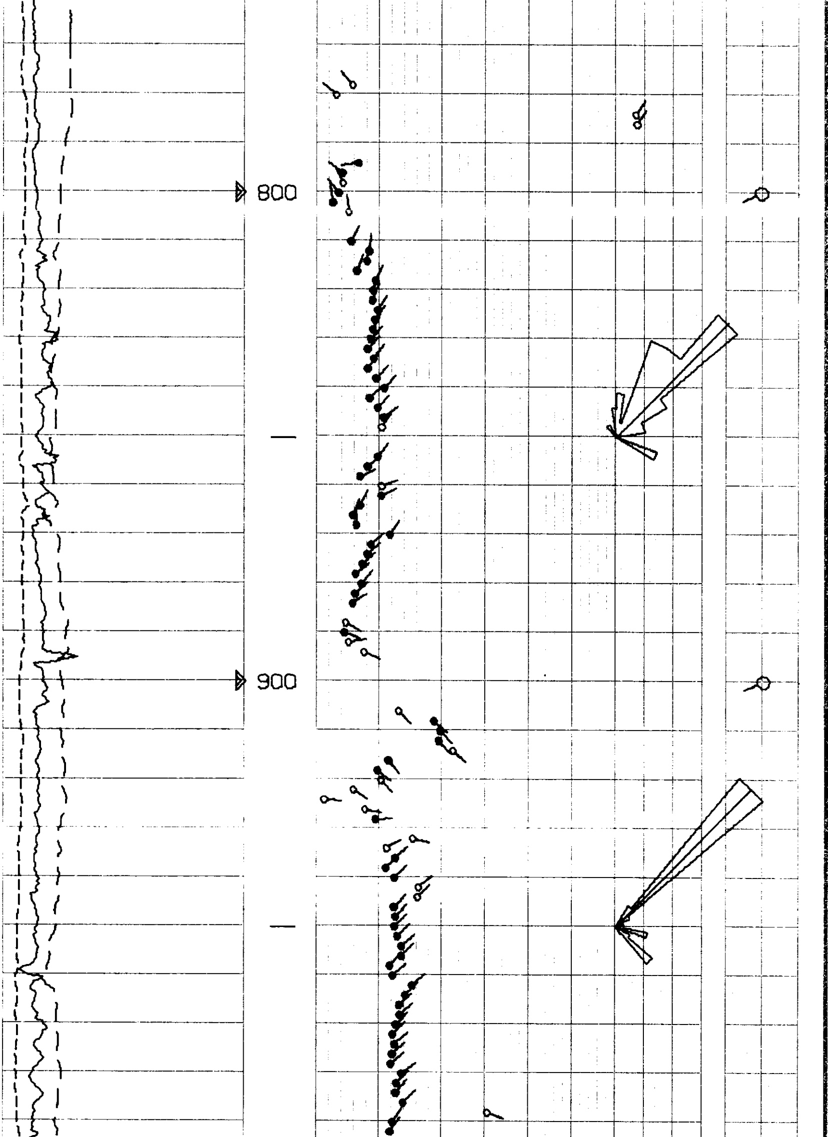
STEP LENGTH 2 FT.

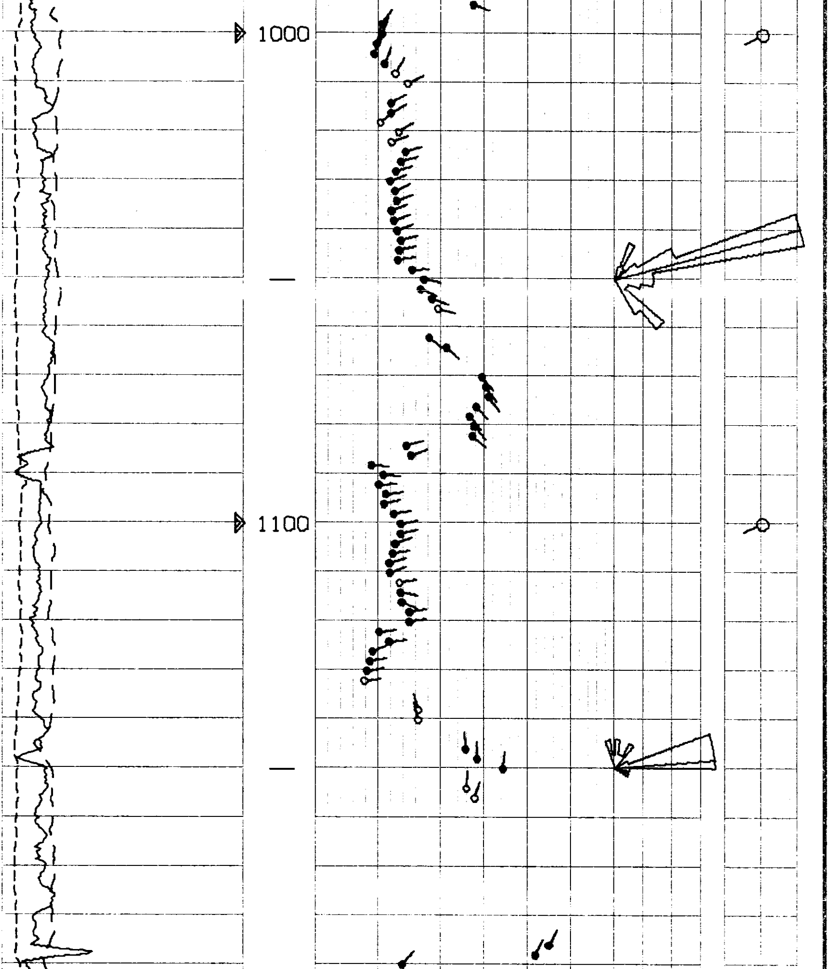
SEARCH ANGLE 30 DEGREES X2

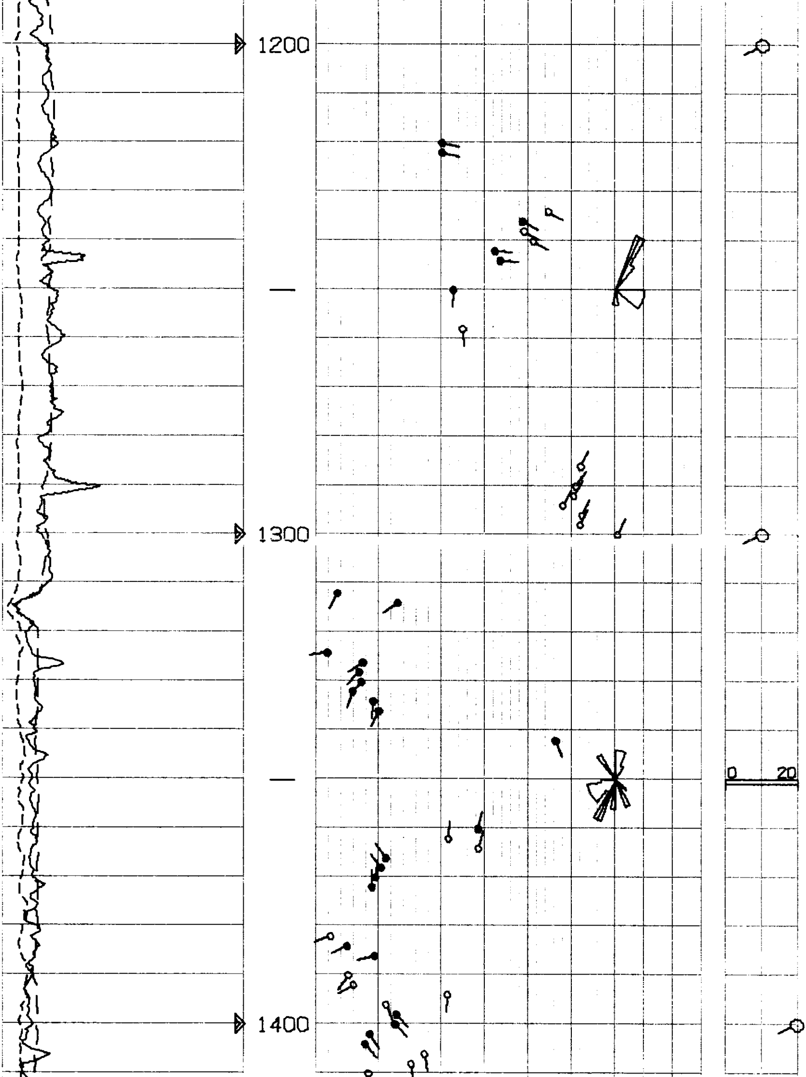
PC0130023518307001020420

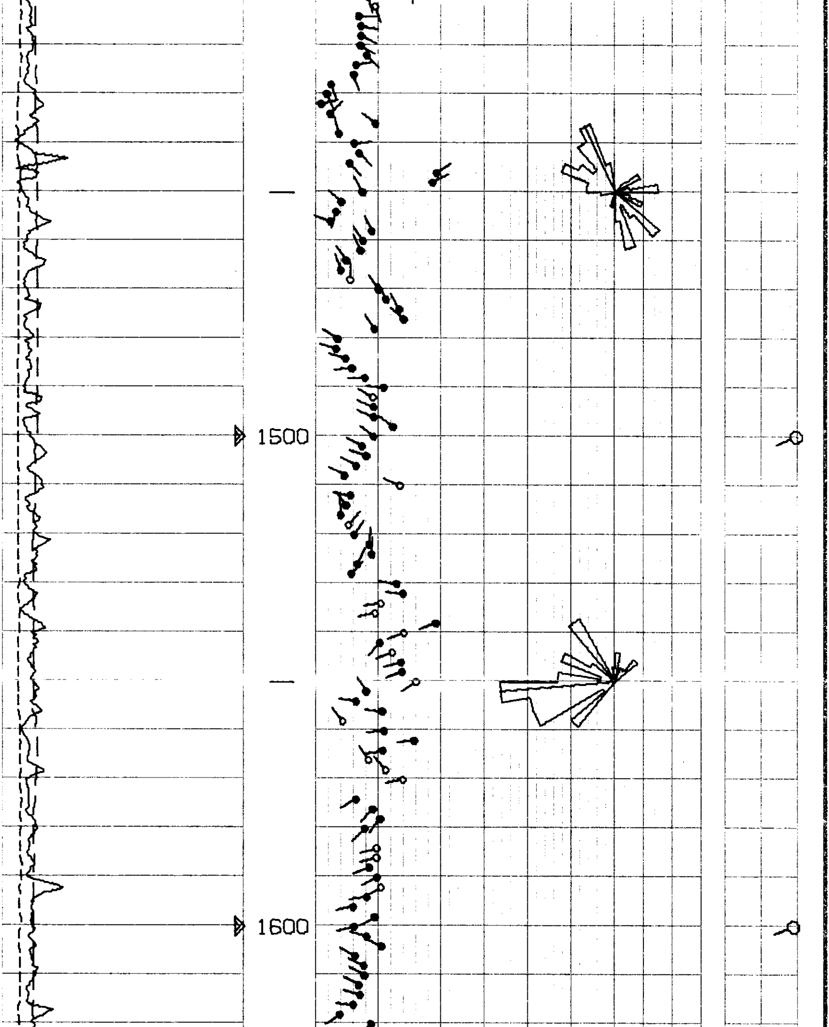


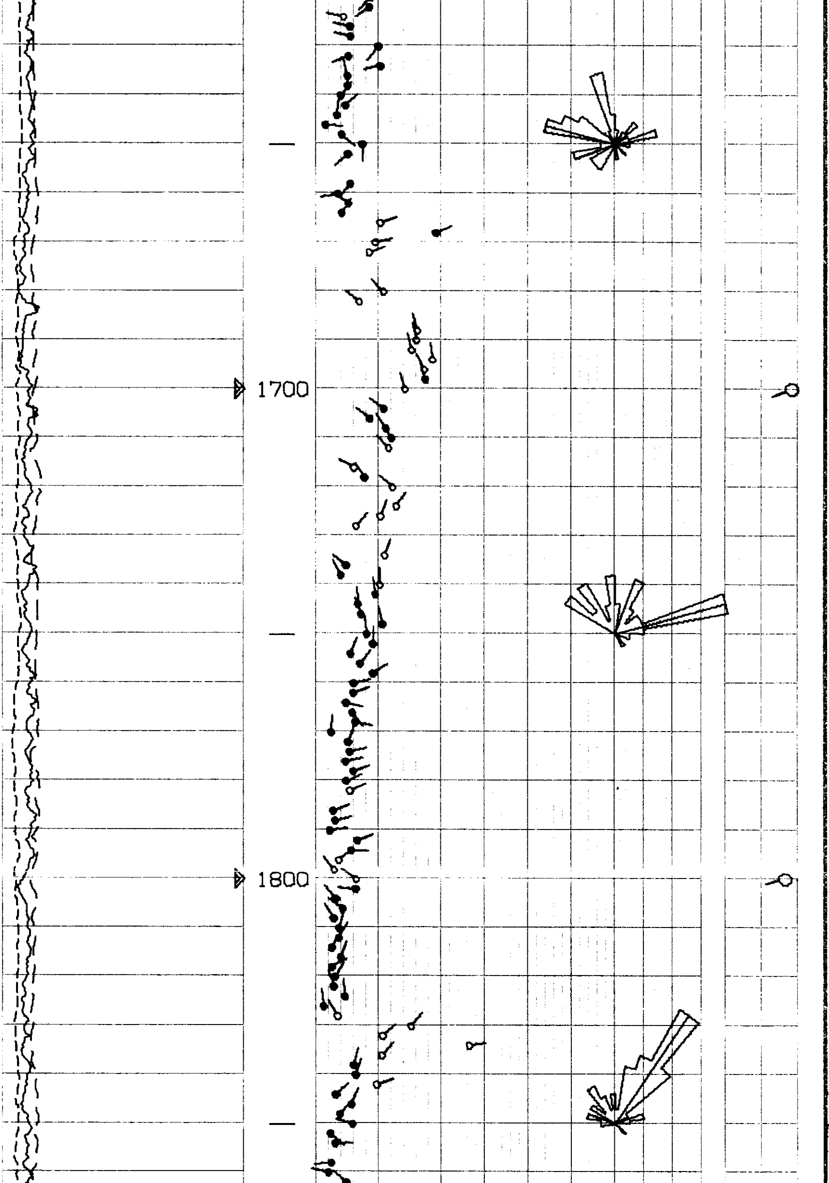


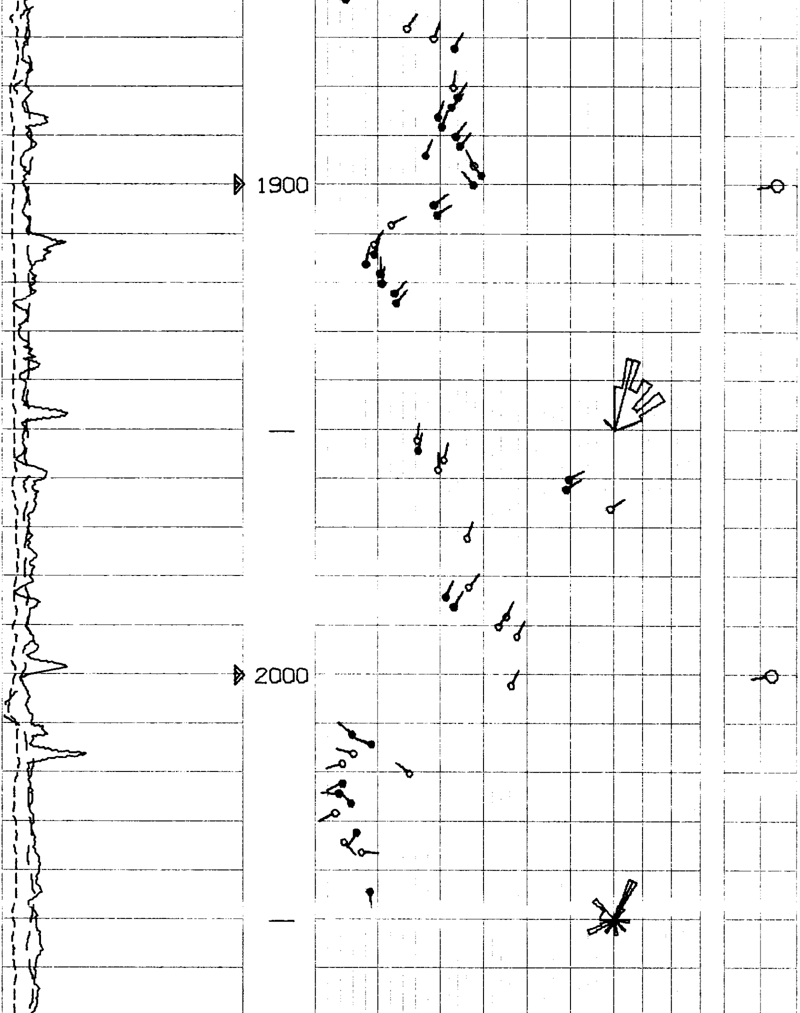


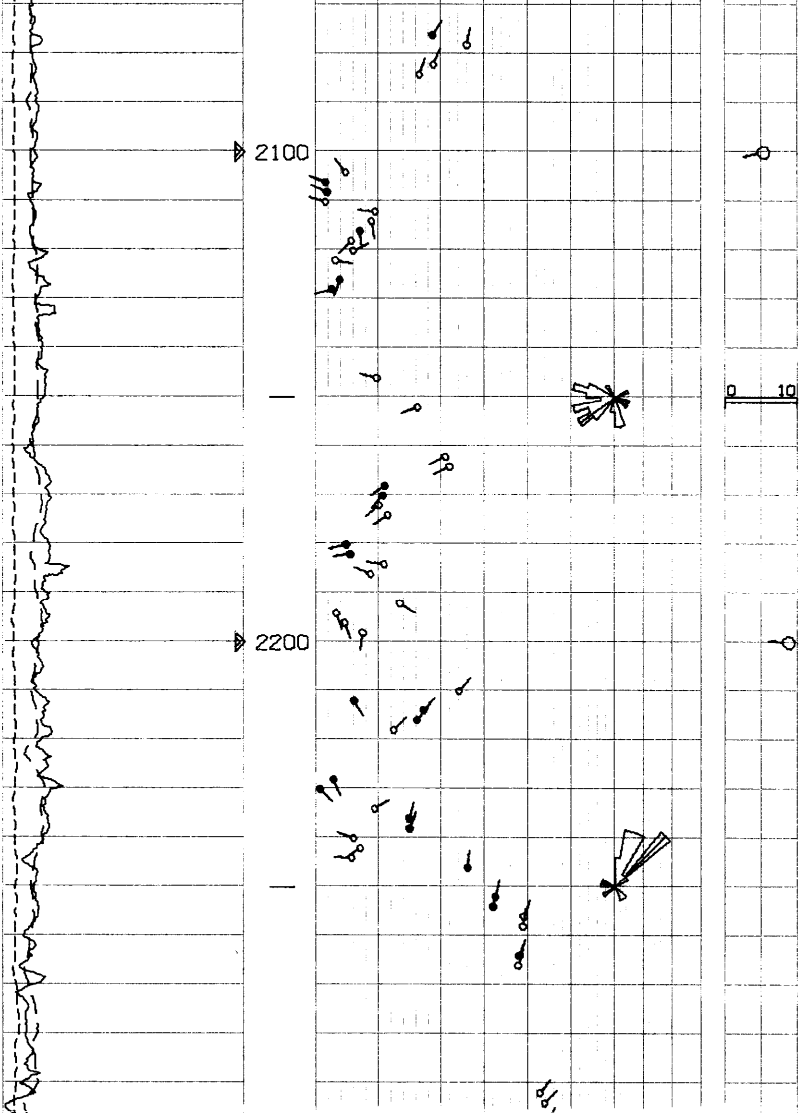


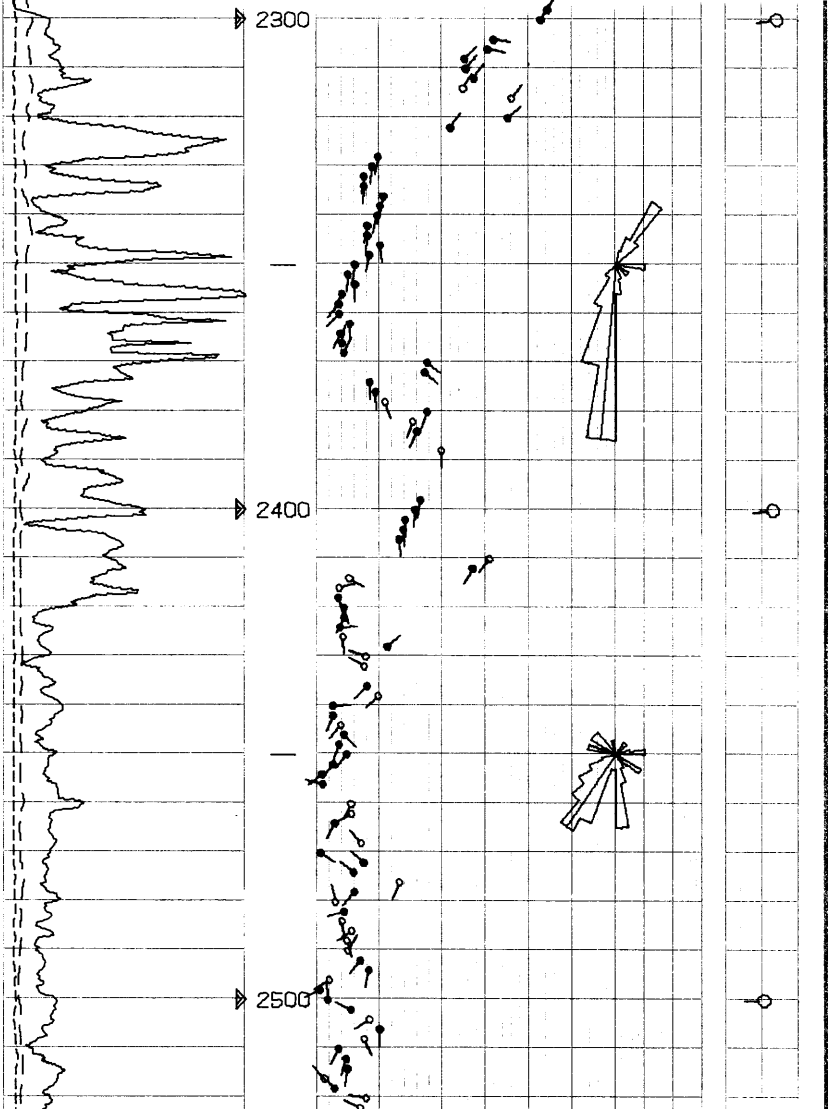


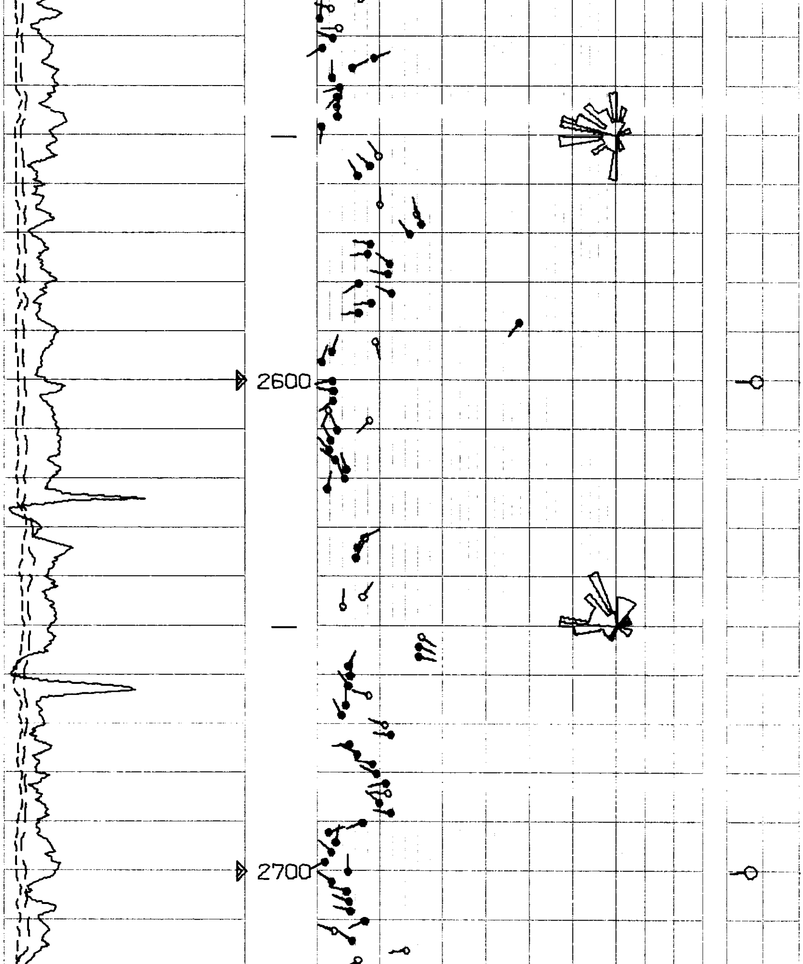


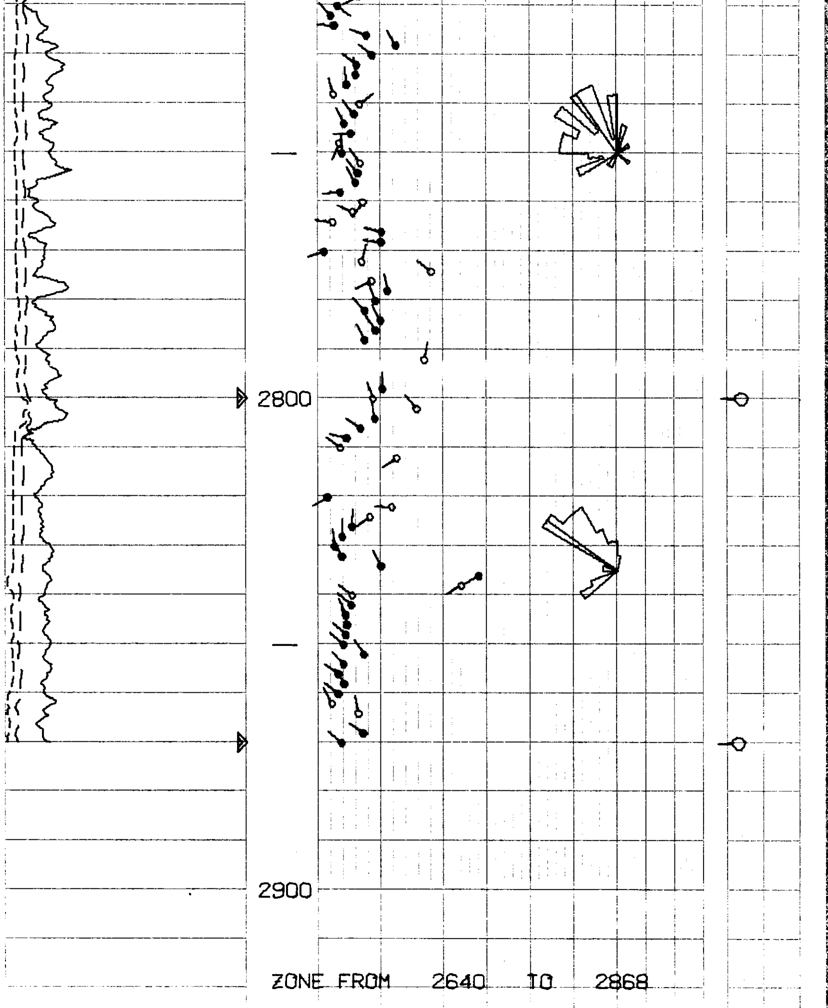


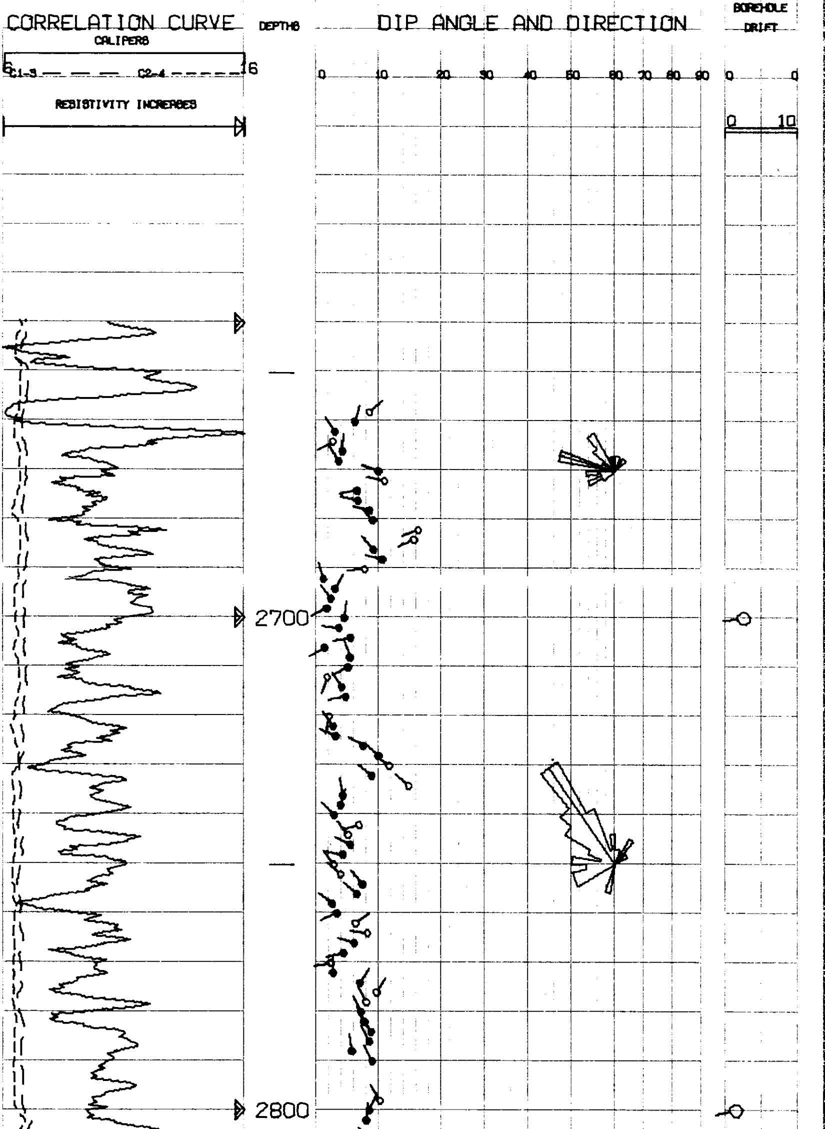


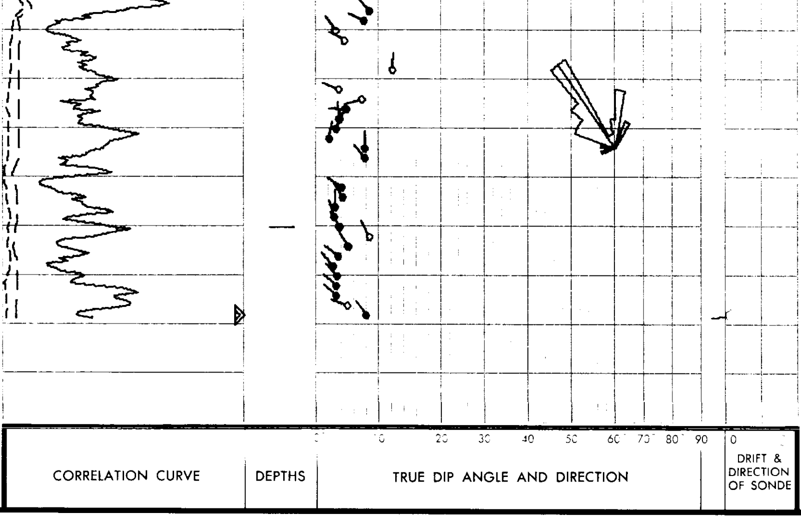












|  |  |  |  |
|---|---|---|---|
| COMPANY REICHHOLD ENERGY CORPORATION | Rm 1.63 @ 82 °F | | SCHL. FR 2875.0 |
| WELL COLUMBIA COUNTY #4 (REDRILL #1) | Rmf 1.16 @ 70 °F | | SCHL. TD 2891.0 |
| | Rmc 1.13 @ 69 °F | | DRLR TD 2896.0 |
| FIELD MIST | BHT 103 °F | | Elev: |
| | | | KB 765.0 |
| | | | DF N/A |
| COUNTY COLUMBIA STATE OREGON | | | GL 753.6 |