

HALLIBURTON

EXCELLITH
SONIC

HIGH RES. INDUCTION
BOREHOLE COMP. SONIC
TRUE VERTICAL DEPTH
2"=100'

COMPANY NORTHWEST NATURAL GAS

WELL IW 13B-23-65

FIELD MIST (SCHLICHER POOL STORAGE)

COUNTY COLUMBIA

STATE OR

Location: 43827 WEST AWD
26834 SOUTH FROM
OF SECTION 22, W84M
THE NORTHEAST CORNER

Elevations: K.B.: 778.4' R.T.: G.L.: 759.4'

Date Processed 09-29-2004 Logs Processed HRID, BCSD

Job Number 33310704 Date Logged 08-28-2004

Interval Processed 2231-411' Type Fluid in Hole GEL

Processed By G. ROUSSEAU Location WILD

Processed At WILD

COMPUTER PROCESSED PRODUCT

Service Ticket No.: 3310704 API Serial No.: 36-009-00357 PGM Version: XL v5.0

Directional Information Table with columns: Maximum Deviation (54.32 deg.), 1759' KOP, 182'

Remarks: HRID-BCSD-FIAC-NGRT RUN IN COMBINATION.

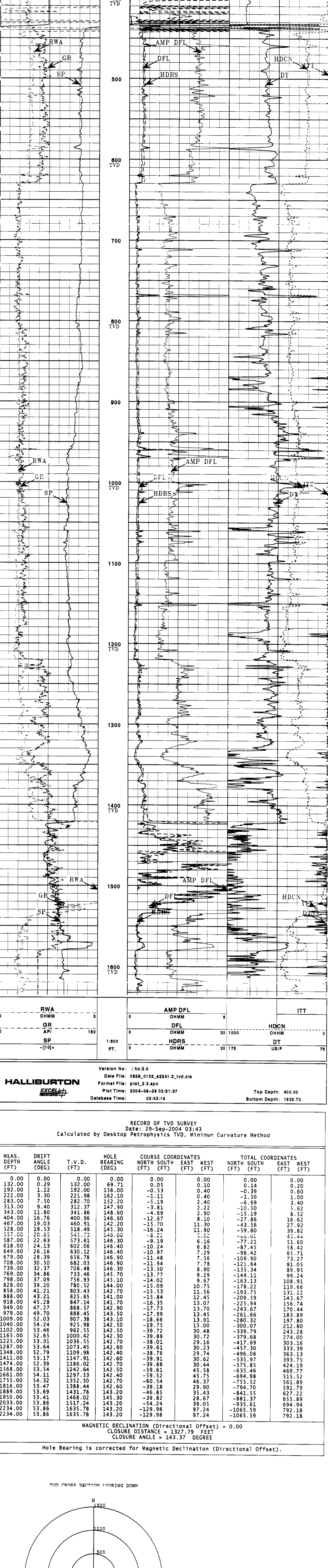
CREW: D. ROSENSTEEL, D. BRIGHT, K. CHAN. RIG: TAYLOR DRILLING NO. 9.

Disclaimer: HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA...

Version No: | hc:3.0 Data File: 0929_0102_s2241.3_tvd.cis

Format File: plot_2.3.spc Plot Time: 2004-09-29 03:52:04 Database Time: 03:43:14

Top Depth: 400.00 Bottom Depth: 1635.73



Version No: | hc:3.0 Data File: 0929_0102_s2241.3_tvd.cis

Format File: plot_2.3.spc Plot Time: 2004-09-29 03:51:37 Database Time: 03:43:14

Top Depth: 400.00 Bottom Depth: 1635.73

RECORD OF SURVEY Date: 29-Sep-2004 03:43

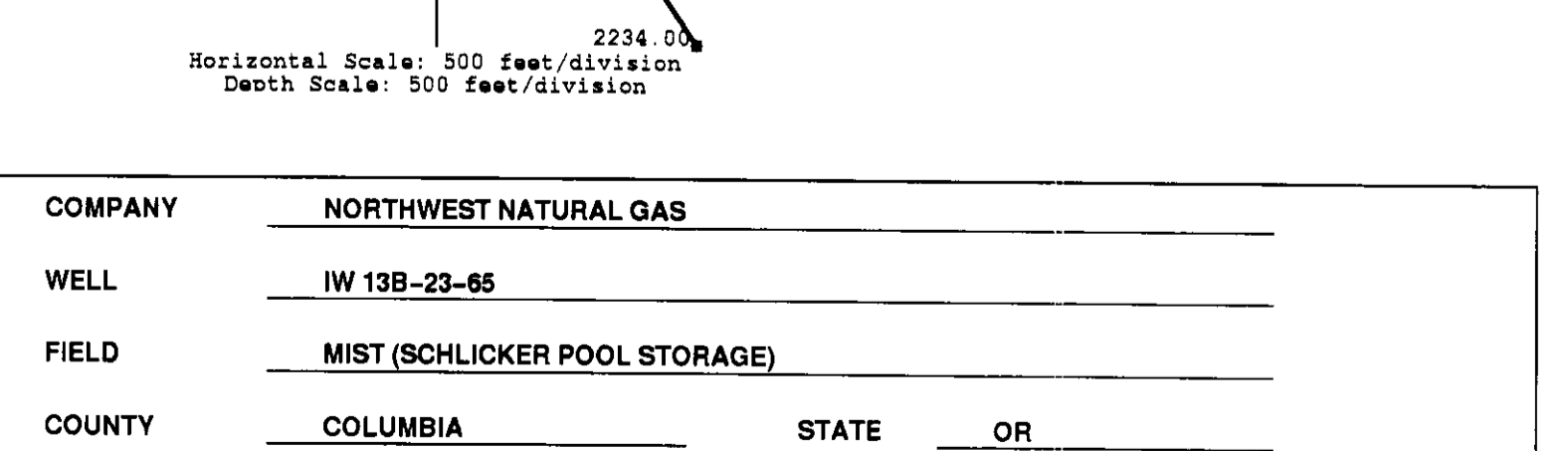
Calculated by Desktop Petrophysics TVD, Minimum Curvature Method

Table with columns: MEAS. DEPTH (FT), DRIFT ANGLE (DEG), T.V.D. (FT), HOLE BEARING (DEG), COURSE COORDINATES (North/South, East/West), TOTAL COORDINATES (North/South, East/West)

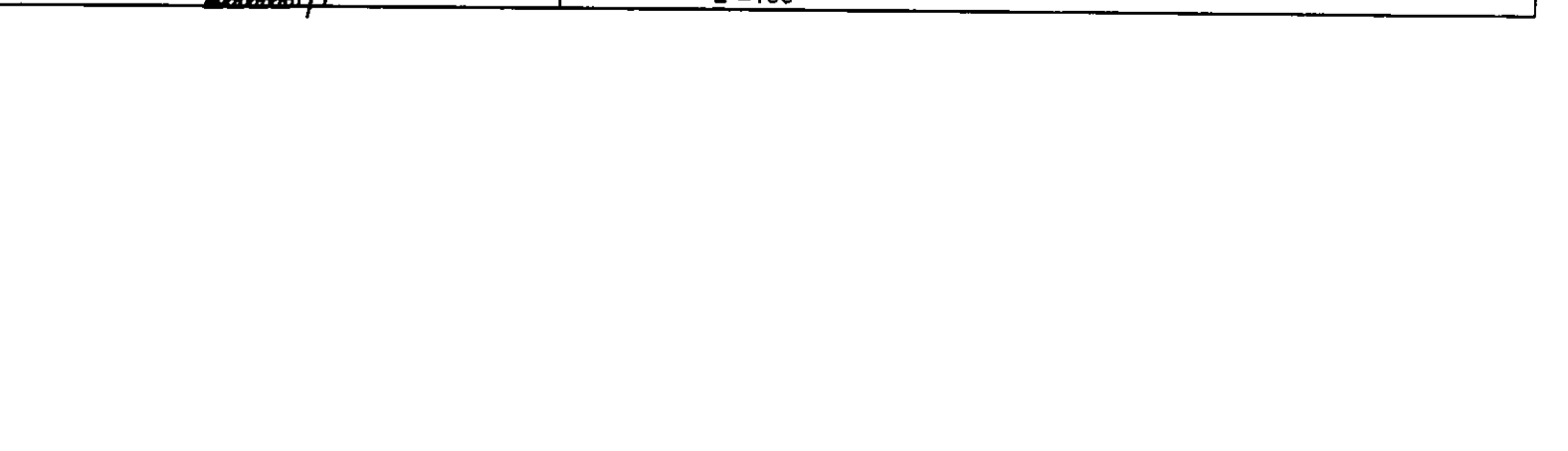
MAGNETIC DECLINATION (Directional Offset) = 0.00 CLOSURE DISTANCE = 1327.79 FEET CLOSURE ANGLE = 143.37 DEGREE

Hole Bearing is corrected for Magnetic Declination (Directional Offset).

TVD CROSS SECTION LOOKING DOWN



TVD CROSS SECTION LOOKING WEST



TVD CROSS SECTION LOOKING NORTH



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