

HALLIBURTON

QUAD COMBO  
HRI/BCS/SDL/DSN  
TRUE VERTICAL DEPTH  
2"=100'

COMPANY NORTHWEST NATURAL GAS

WELL "NWN" 44-3-65

FIELD MIST

COUNTY COLUMBIA

STATE OR

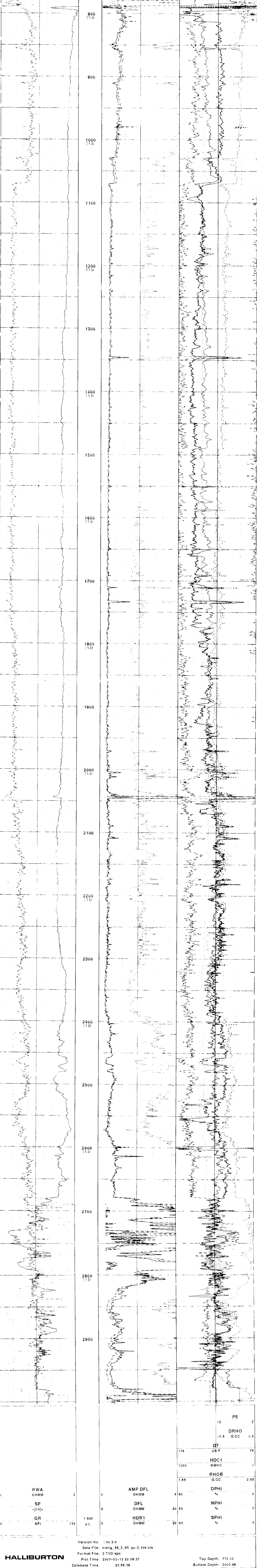
COORDINATES  
Location: 232.3 N 94.54 W  
124.1 N 91.9 W  
N 234.2 W 123.4 W

Table with 2 columns: Item, Value. Includes Elevations, Date Processed, Interval Processed, Processed At.

Service Ticket No: 4948881, API Serial No: 34-009-00246, POM Version: XL v3.7, Maximum Deviation: 32.87 deg. ±, Directional Information: 2525 NCP 8023

Remarks: HRI/BCS/SDL/DSN-NRI-RICH RUN IN COMBINATION.  
CREW: M. EMERSON, J. WILLIAMS. RIG: T.D. DRILLING NO. 101.

Version No: 1 hc 3.0, Data File: nwn\_44\_3\_65\_qu\_3\_tvd.cis, Format File: 2 TVD.spc, Plot Time: 2007-03-12 23:58:45, Database Time: 23:58:38, Top Depth: 775.00, Bottom Depth: 3003.48



Summary table for parameters: RWA OHMM, SP, GR API, AMP DFL OHMM, DEL OHMM, HDR1 OHMM, NPHI %, DPFI %, RHOB G.CC, HDC1 MMHO, DT US F, DRHO G.CC, PE.

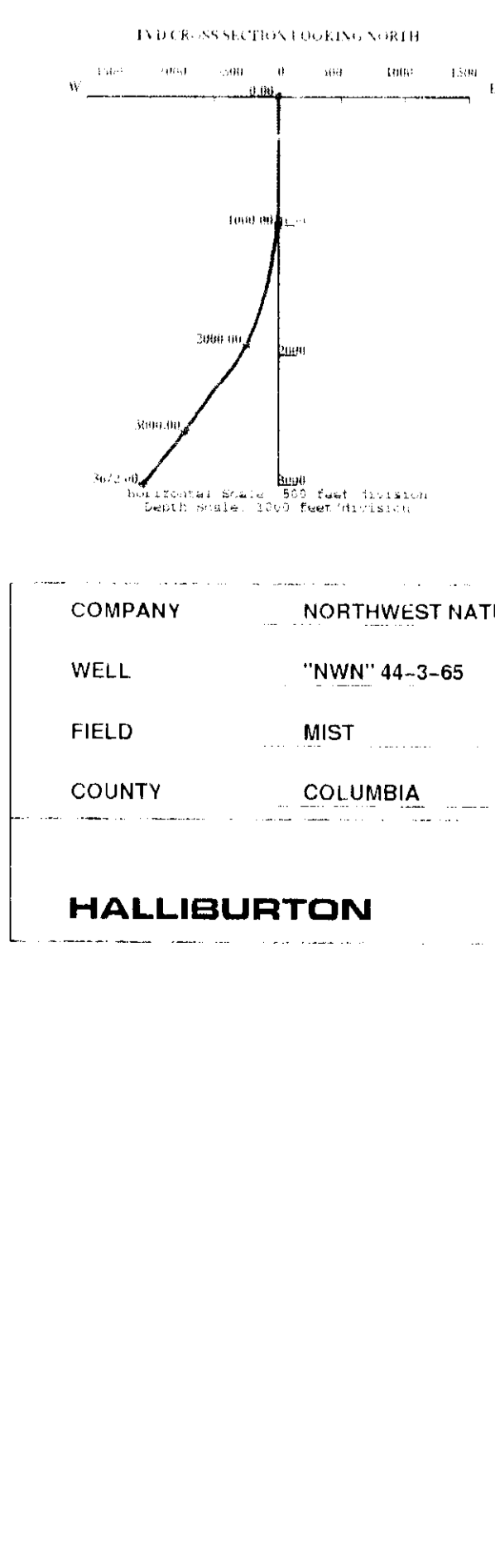
Version No: 1 hc 3.0, Data File: nwn\_44\_3\_65\_qu\_3\_tvd.cis, Format File: 2 TVD.spc, Plot Time: 2007-03-12 23:58:37, Database Time: 23:58:38, Top Depth: 775.00, Bottom Depth: 3003.48

RECORD OF TVD SURVEY  
Date: 12-Mar-2007 23:56  
Calculated by Desktop Petrophysics TVD, Minimum Curvature Method

Table with 7 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 = 1640.04 FEET  
CLOSURE ANGLE = 220.36 DEGREE

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



COMPANY NORTHWEST NATURAL GAS  
WELL "NWN" 44-3-65  
FIELD MIST  
COUNTY COLUMBIA STATE OR  
HALLIBURTON QUAD COMBO HRI/BCS/SDL/DSN TRUE VERTICAL DEPTH 2"=100'