ANADRILL

SCHLUMBERGER

Survey report 21-Jan-2001 11:47:56 Page 1 of 3

Client: Nearburg
Field: Ross Ranch

Well: Ross Ranch 22 #4
API number: 30-015-28380
Engineer.....:

Spud date.....:
Last survey date.....: 21-Jan-01
Total accepted surveys...: 40
MD of first survey.....: 7600.00 ft
MD of last survey.....: 9494.00 ft

COUNTY: Eddy
STATE: NM

---- Survey calculation methods----------
Method for positions.....: Minimum curvature
Method for DLS.....: Mason & Taylor

---- Depth reference ----------
Permanent datum.....: GROUND LEVEL
Depth reference.....:
GL above permanent.....: -50000.00 ft
KB above permanent.....: -50000.00 ft
DF above permanent.....: -50000.00 ft

---- Vertical section origin----------
Latitude (+N/S-).....: 0.00 ft
Departure (+E/W-).....: 0.00 ft

---- Platform reference point----------
Latitude (+N/S-).....: -999.25 ft
Departure (+E/W-).....: -999.25 ft

Azimuth from rotary table to target: 315.00 degrees

---- Geomagnetic data ----------
Magnetic model.....: BGGM version 2000
Magnetic date.....: 18-Jan-2001
Magnetic field strength..: 1001.23 HCNT
Magnetic dec (+E/W-).....: 9.09 degrees
Magnetic dip.....: 60.98 degrees

---- MWD survey Reference Criteria ----
Reference G.....: 999.56 mGal
Reference H.....: 1001.23 HCNT
Reference Dip.....: 60.24 degrees
Tolerance of G.....: (+/-) 2.50 mGal
Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

---- Corrections ----------
Magnetic dec (+E/W-).....: 9.07 degrees
Grid convergence (+E/W-).: 9.02 degrees
Total az corr (+E/W-)....: 0.05 degrees
(Total az corr = magnetic dec - grid conv)
Sag applied (Y/N).....: No degree: 0.00

Seq #	Measured depth (ft)	Incl angle (deg)	Azimuth angle (deg)	Course length (ft)	TVD depth (ft)	Vertical section (ft)	Displ +N/S- (ft)	Displ +E/W- (ft)	Total displ (ft)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	qu
1	7600.00	3.54	171.49	0.00	7599.10	31.65	-15.06	-59.82	61.69	255.87	0.00	TIP	
2	7686.00	25.20	324.41	86.00	7682.64	47.91	-2.54	-70.30	70.34	267.93	33.02	MWI	
3	7716.00	40.80	319.20	30.00	7707.73	64.09	10.15	-80.48	81.12	277.19	52.81	MW	
4	7746.00	55.47	309.83	30.00	7727.72	86.32	25.59	-96.49	99.82	284.86	54.05	SP	