

A Gyrodata Directional Survey

for

CONOCO INC.

Location: MAST TRUCK, RIO ARRIBA CO., NM
Well: SAN JUAN 28-7 #147 F, 4 1/2" CASING

30-039-27034

Surface: 2070/S 850/W

BHL: 2221/' 547/E Sec. 9, 28 N. 7 W

Job Number: MD0902GBM238

Run Date: 9/16/02 12:00:00 PM

Surveyor: Andy Anderson

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 36.586944 deg. N Longitude: 107.567778 deg. E

Azimuth Correction:

Gyro: Bearings are Relative to True North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Local Horizontal Reference

A Gyrodata Directional Survey

Conoco Inc.

Well: SAN JUAN 28-7 #147 F, 4 1/2" CASING

Location: MAST TRUCK, RIO ARRIBA CO., NM

Job Number: MD0902GBM286_MB

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.0	0.00	0.00	N 0 0 E	0.00	0.0	0.0 0.0	0.00 N 0.00 E

0 - 7882 FT. RATE GYROSCOPIC MULTISHOT RUN INSIDE 4-1/2" CASING							
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO WELL HEAD							

500.0	3.55	207.56	S 27 33 W	0.71	499.7	15.5 207.6	13.72 S 7.16 W
1000.0	26.76	252.07	S 72 4 W	4.87	979.7	138.3 243.0	62.84 S 123.17 W
1500.0	24.63	267.42	S 87 25 W	1.39	1430.7	349.9 253.0	102.22 S 334.60 W
2000.0	26.29	269.67	S 89 40 W	0.38	1882.2	559.9 258.9	107.55 S 549.42 W
2500.0	27.75	268.65	S 88 39 W	0.31	2327.6	784.4 261.9	110.94 S 776.53 W
3000.0	21.96	261.76	S 81 46 W	1.29	2781.2	993.8 262.7	127.10 S 985.66 W
3500.0	18.36	262.19	S 82 11 W	0.72	3250.4	1166.1 262.5	151.21 S 1156.28 W
4000.0	11.56	282.26	N 77 44 W	1.69	3733.5	1292.4 263.3	151.27 S 1283.51 W
4500.0	3.69	275.19	N 84 48 W	1.58	4228.7	1355.8 264.1	139.15 S 1348.61 W
5000.0	1.62	269.60	S 89 36 W	0.42	4728.1	1378.6 264.3	137.74 S 1371.71 W
5500.0	0.56	239.70	S 59 42 W	0.23	5228.0	1387.9 264.3	139.03 S 1380.90 W
6000.0	0.62	225.55	S 45 33 W	0.03	5728.0	1392.2 264.1	142.15 S 1384.94 W
6500.0	0.50	250.76	S 70 46 W	0.05	6228.0	1396.4 264.1	144.75 S 1388.92 W
7000.0	0.38	231.99	S 51 59 W	0.04	6728.0	1400.0 264.0	146.49 S 1392.28 W
7500.0	0.47	223.02	S 43 1 W	0.02	7228.0	1402.9 263.9	149.00 S 1394.98 W
7882.0	0.24	225.23	S 45 14 W	0.06	7610.0	1404.7 263.8	150.72 S 1396.62 W

Final Station Closure: Distance: 1404.73 ft Az: 263.84 deg.