



DIRECTIONAL DRILLING CONTRACTORS, LLC.

Job Number: MID-DR-0007

Company: Louis Dreyfus Natural Gas

Lease/Well: State ETA #4

Location: Lea County

Rig Name:

RKB:

G.L. or M.S.L.:

State/Country: New Mexico

Declination:

Grid:

File name: C:\PROPOS~2\00010\S\00-010\00-010.SVY

Date/Time: 03-Mar-00 / 16:11

Curve Name: As-Drilled Well

Sur: 660/N & 1650/W
 BHL: 711/N & 1861/W
 C - 8 - 165 - 35e
 30-025-34813

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 103.96
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	BUILD RATE Deg/100	Dogleg Severity Deg/100	CLOSURE Distance FT	Direction Deg
Tie-In										
5226.00	.30	299.40	5225.98	6.72	-11.92	-13.19	.00	.00	13.68	299.41
5701.00	.60	285.20	5700.96	7.98	-15.40	-16.87	.06	.07	17.35	297.39
6177.00	.40	239.10	6176.95	8.61	-19.47	-20.97	-.04	.05	21.29	293.86
6652.00	.40	173.30	6651.94	6.94	-20.93	-21.99	.00	.12	22.05	288.33
7127.00	1.10	151.21	7126.90	1.29	-18.55	-18.31	.15	.16	18.59	273.99
7602.00	1.00	146.60	7601.82	-6.16	-14.07	-12.17	-.02	.03	15.36	246.35
8077.00	1.10	130.50	8076.74	-12.58	-8.32	-5.04	.02	.07	15.08	213.47
8553.00	1.90	113.00	8552.57	-18.63	2.42	6.84	.17	.19	18.79	172.60
9001.00	2.20	93.10	9000.29	-22.00	17.84	22.62	.07	.17	28.33	140.96
9475.00	2.70	89.20	9473.86	-22.34	38.09	42.35	.11	.11	44.16	120.39
9994.00	1.80	96.60	9992.45	-23.10	58.41	62.26	-.17	.18	62.81	111.58
10519.00	3.50	101.50	10516.87	-27.25	82.31	86.45	.32	.33	86.70	108.32
10866.00	3.50	99.30	10863.23	-31.07	103.14	107.59	.00	.04	107.72	106.76
10921.00	4.20	96.80	10918.10	-31.58	106.80	111.26	1.27	1.31	111.37	106.47
10958.00	4.80	100.70	10954.99	-32.03	109.66	114.15	1.62	1.82	114.24	106.28
11039.00	3.90	107.10	11035.75	-33.47	115.62	120.28	-1.11	1.26	120.37	106.14
11103.00	2.50	113.40	11099.65	-34.66	118.99	123.83	-2.19	2.25	123.93	106.24
11166.00	1.80	113.20	11162.61	-35.60	121.16	126.17	-1.11	1.11	126.28	106.37
11229.00	.70	110.50	11225.59	-36.12	122.43	127.52	-1.75	1.75	127.64	106.44
11293.00	.70	190.80	11289.59	-36.64	122.72	127.93	.00	1.41	128.07	106.62
11323.00	.60	215.10	11319.59	-36.95	122.60	127.89	-.33	.97	128.04	106.77