

SANTA FE ENERGY OPERATING PARTNERS.L.P.
P.G."4" FEDERAL NO.1
SEC.4-9,T23S,R31E,EDDY COUNTY, NEW MEXICO

PROPOSED DIRECTIONAL WELL PLAN
RADIUS OF CURVATURE METHOD

MEASURE	COURSE	INCL	AZIM	+NORTH	+EAST	TVD	VERTICAL	DOGLEG
DEPTH	LENGTH	ANGLE	ANGLE	-SOUTH	-WEST		SECTION	SEVERITY
(FT)	(FT)	(DEG)	(DEG)	(FT)	(FT)	(FT)	(FT)	(DEG/100')
6000	0	0.00	5.46	0.00	0.00	6000.00	0.00	0.00
6100	100	1.50	5.46	1.30	0.12	6099.99	1.31	1.50
6200	100	3.00	5.46	5.21	0.50	6199.91	5.23	1.50
6300	100	4.50	5.46	11.72	1.12	6299.69	11.77	1.50
6400	100	6.00	5.46	20.83	1.99	6399.27	20.92	1.50
6500	100	7.50	5.46	32.53	3.11	6498.57	32.68	1.50
6600	100	9.00	5.46	46.81	4.48	6597.54	47.03	1.50
6700	100	10.50	5.46	63.67	6.09	6696.09	63.96	1.50
6800	100	12.00	5.46	83.09	7.95	6794.16	83.47	1.50
6900	100	13.50	5.46	105.06	10.05	6891.70	105.54	1.50
7000	100	15.00	5.46	129.56	12.39	6988.62	130.15	1.50
7100	100	16.50	5.46	156.58	14.98	7084.86	157.30	1.50
7200	100	18.00	5.46	186.10	17.80	7180.36	186.95	1.50
7300	100	19.50	5.46	218.10	20.86	7275.05	219.09	1.50
7400	100	21.00	5.46	252.55	24.16	7368.87	253.70	1.50
7500	100	22.50	5.46	289.44	27.69	7461.74	290.76	1.50
7600	100	23.23	5.46	328.42	31.41	7553.76	329.92	1.50
7700	100	23.23	5.46	367.69	35.17	7645.65	369.37	0.00
9900	2200	23.23	5.46	1231.59	117.80	9667.24	1237.21	0.00
10000	100	23.02	5.46	1270.69	121.54	9759.20	1276.49	0.21
10100	100	22.02	5.46	1308.82	125.19	9851.57	1314.79	1.00
10200	100	21.02	5.46	1345.34	128.68	9944.60	1351.48	1.00
10300	100	20.02	5.46	1380.24	132.02	10038.25	1388.54	1.00
10400	100	19.02	5.46	1413.50	135.20	10132.49	1419.96	1.00
10500	100	18.02	5.46	1445.13	138.23	10227.31	1451.72	1.00
10600	100	17.02	5.46	1475.10	141.10	10322.66	1481.83	1.00
10700	100	16.02	5.46	1503.41	143.80	10418.53	1510.27	1.00
10800	100	15.02	5.46	1530.05	146.35	10514.88	1537.03	1.00
10900	100	14.02	5.46	1555.01	148.74	10611.68	1562.11	1.00
11000	100	13.02	5.46	1578.29	150.97	10708.90	1585.49	1.00
11100	100	12.02	5.46	1599.87	153.03	10806.52	1607.17	1.00
11200	100	11.02	5.46	1619.76	154.93	10904.50	1627.15	1.00
11300	100	10.02	5.46	1637.94	156.67	11002.82	1645.41	1.00
11400	100	9.02	5.46	1654.41	158.25	11101.43	1661.96	1.00
11500	100	8.02	5.46	1669.16	159.66	11200.33	1676.78	1.00
11600	100	7.02	5.46	1682.19	160.91	11299.46	1689.87	1.00
11700	100	6.02	5.46	1693.50	161.99	11398.81	1701.23	1.00
11800	100	5.02	5.46	1703.08	162.90	11498.34	1710.85	1.00
11900	100	4.02	5.46	1710.93	163.65	11598.03	1718.74	1.00
12000	100	3.02	5.46	1717.05	164.24	11697.83	1724.88	1.00
12100	100	2.02	5.46	1721.43	164.66	11797.73	1729.29	1.00
12200	100	1.02	5.46	1724.08	164.91	11897.69	1731.94	1.00