



Job Number: NM-410
 Company: M&M ENERGY
 Lease/Well: State 26 #1
 Location: 32° 27' 19.58N, 103° 20' 09.00W
 Rig Name: United #22
 RKB: 12'
 G.L. or M.S.L.: 3599 us/ft

State/Country: New Mexico, USA
 Declination: 7.39
 Grid: North
 File name: C:\USERS\TERRAS~1\DESKTOP\410.SVY
 Date/Time: 11-Feb-14 / 23:35
 Curve Name: Work

Terra Directional Services LLC

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane .00
 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	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
416.00	.40	207.80	416.00	-1.28	-.68	-1.28	1.45	207.80	.10
446.00	.20	193.40	446.00	-1.43	-.74	-1.43	1.61	207.34	.71
478.00	.20	212.40	478.00	-1.53	-.78	-1.53	1.72	207.05	.21
510.00	.40	203.56	510.00	-1.68	-.86	-1.68	1.88	207.00	.64
541.00	.40	192.00	540.99	-1.88	-.92	-1.88	2.10	206.06	.26
573.00	.40	194.80	572.99	-2.10	-.97	-2.10	2.32	204.85	.06
605.00	.20	189.10	604.99	-2.26	-1.01	-2.26	2.48	204.05	.63
668.00	.20	191.30	667.99	-2.48	-1.05	-2.48	2.69	202.93	.01
732.00	.20	188.40	731.99	-2.70	-1.09	-2.70	2.91	201.93	.02
795.00	.20	214.80	794.99	-2.90	-1.17	-2.90	3.13	201.91	.14
859.00	.40	247.20	858.99	-3.08	-1.44	-3.08	3.40	205.01	.40
923.00	.50	248.90	922.99	-3.27	-1.90	-3.27	3.78	210.23	.16
1018.00	.50	237.70	1017.99	-3.64	-2.64	-3.64	4.49	215.98	.10
1113.00	.50	221.50	1112.98	-4.17	-3.26	-4.17	5.29	218.07	.15
1208.00	.50	226.10	1207.98	-4.77	-3.84	-4.77	6.12	218.85	.04
1303.00	.50	245.40	1302.98	-5.23	-4.51	-5.23	6.91	220.82	.18
1398.00	.50	199.30	1397.97	-5.79	-5.03	-5.79	7.67	220.97	.41
1493.00	.70	192.70	1492.97	-6.75	-5.29	-6.75	8.57	218.11	.22
1588.00	.90	185.60	1587.96	-8.06	-5.49	-8.06	9.75	214.29	.23
1683.00	.70	182.50	1682.95	-9.38	-5.59	-9.38	10.92	210.80	.22
1778.00	.90	194.80	1777.94	-10.68	-5.81	-10.68	12.16	208.53	.28
1873.00	1.10	208.50	1872.92	-12.20	-6.43	-12.20	13.79	207.80	.33
1968.00	.50	186.00	1967.92	-13.42	-6.91	-13.42	15.09	207.25	.70
2063.00	.50	89.30	2062.91	-13.82	-6.54	-13.82	15.29	205.32	.79

APR 28

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
2158.00	.40	91.80	2157.91	-13.83	-5.79	-13.83	14.99	202.73	.11
2253.00	.50	88.20	2252.91	-13.83	-5.05	-13.83	14.72	200.06	.11
2349.00	.40	100.60	2348.90	-13.87	-4.30	-13.87	14.52	197.22	.14
2444.00	.40	72.80	2443.90	-13.84	-3.66	-13.84	14.31	194.80	.20
2539.00	.40	74.50	2538.90	-13.65	-3.02	-13.65	13.98	192.48	.01
2634.00	.70	48.50	2633.90	-13.18	-2.27	-13.18	13.37	189.76	.40
2729.00	.90	44.00	2728.89	-12.26	-1.31	-12.26	12.33	186.12	.22
2824.00	1.20	56.30	2823.87	-11.17	.03	-11.17	11.17	179.83	.39
2919.00	2.10	52.00	2918.83	-9.54	2.23	-9.54	9.80	166.84	.96
3014.00	.90	46.80	3013.80	-7.96	4.15	-7.96	8.98	152.48	1.27
3109.00	1.90	65.00	3108.77	-6.78	6.12	-6.78	9.14	137.96	1.14
3204.00	1.10	105.50	3203.74	-6.36	8.42	-6.36	10.56	127.06	1.35
3299.00	1.40	359.00	3298.72	-5.45	9.28	-5.45	10.76	120.40	2.12
3395.00	1.80	42.20	3394.69	-3.16	10.28	-3.16	10.75	107.08	1.29
3490.00	.50	306.90	3489.67	-1.80	10.95	-1.80	11.09	99.35	2.01
3585.00	.50	356.10	3584.67	-1.14	10.59	-1.14	10.65	96.15	.44
3680.00	.40	19.00	3679.67	-.41	10.67	-.41	10.67	92.22	.21
3775.00	.40	49.20	3774.66	.12	11.03	.12	11.03	89.39	.22
3870.00	.50	77.70	3869.66	.42	11.68	.42	11.69	87.93	.25
Straightline PTB									
4002.00	.50	77.70	4001.66	.67	12.81	.67	12.82	87.01	.00



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416.00	.40	207.80	416.00	-1.28	-.68	-1.28	1.45	207.80	.10
446.00	.20	193.40	446.00	-1.43	-.74	-1.43	1.61	207.34	.71
478.00	.20	212.40	478.00	-1.53	-.78	-1.53	1.72	207.05	.21
510.00	.40	203.56	510.00	-1.68	-.86	-1.68	1.88	207.00	.64
541.00	.40	192.00	540.99	-1.88	-.92	-1.88	2.10	206.06	.26
573.00	.40	194.80	572.99	-2.10	-.97	-2.10	2.32	204.85	.06
605.00	.20	189.10	604.99	-2.26	-1.01	-2.26	2.48	204.05	.63
668.00	.20	191.30	667.99	-2.48	-1.05	-2.48	2.69	202.93	.01
732.00	.20	188.40	731.99	-2.70	-1.09	-2.70	2.91	201.93	.02
795.00	.20	214.80	794.99	-2.90	-1.17	-2.90	3.13	201.91	.14
859.00	.40	247.20	858.99	-3.08	-1.44	-3.08	3.40	205.01	.40
923.00	.50	248.90	922.99	-3.27	-1.90	-3.27	3.78	210.23	.16
1018.00	.50	237.70	1017.99	-3.64	-2.64	-3.64	4.49	215.98	.10
1113.00	.50	221.50	1112.98	-4.17	-3.26	-4.17	5.29	218.07	.15
1208.00	.50	226.10	1207.98	-4.77	-3.84	-4.77	6.12	218.85	.04
1303.00	.50	245.40	1302.98	-5.23	-4.51	-5.23	6.91	220.82	.18
1398.00	.50	199.30	1397.97	-5.79	-5.03	-5.79	7.67	220.97	.41
1493.00	.70	192.70	1492.97	-6.75	-5.29	-6.75	8.57	218.11	.22
1588.00	.90	185.60	1587.96	-8.06	-5.49	-8.06	9.75	214.29	.23
1683.00	.70	182.50	1682.95	-9.38	-5.59	-9.38	10.92	210.80	.22
1778.00	.90	194.80	1777.94	-10.68	-5.81	-10.68	12.16	208.53	.28
1873.00	1.10	208.50	1872.92	-12.20	-6.43	-12.20	13.79	207.80	.33
1968.00	.50	186.00	1967.92	-13.42	-6.91	-13.42	15.09	207.25	.70
2063.00	.50	89.30	2062.91	-13.82	-6.54	-13.82	15.29	205.32	.79

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
2158.00	.40	91.80	2157.91	-13.83	-5.79	-13.83	14.99	202.73	.11
2253.00	.50	88.20	2252.91	-13.83	-5.05	-13.83	14.72	200.06	.11
2349.00	.40	100.60	2348.90	-13.87	-4.30	-13.87	14.52	197.22	.14
2444.00	.40	72.80	2443.90	-13.84	-3.66	-13.84	14.31	194.80	.20
2539.00	.40	74.50	2538.90	-13.65	-3.02	-13.65	13.98	192.48	.01
2634.00	.70	48.50	2633.90	-13.18	-2.27	-13.18	13.37	189.76	.40
2729.00	.90	44.00	2728.89	-12.26	-1.31	-12.26	12.33	186.12	.22
2824.00	1.20	56.30	2823.87	-11.17	.03	-11.17	11.17	179.83	.39
2919.00	2.10	52.00	2918.83	-9.54	2.23	-9.54	9.80	166.84	.96
3014.00	.90	46.80	3013.80	-7.96	4.15	-7.96	8.98	152.48	1.27
3109.00	1.90	65.00	3108.77	-6.78	6.12	-6.78	9.14	137.96	1.14
3204.00	1.10	105.50	3203.74	-6.36	8.42	-6.36	10.56	127.06	1.35
3299.00	1.40	359.00	3298.72	-5.45	9.28	-5.45	10.76	120.40	2.12
3395.00	1.80	42.20	3394.69	-3.16	10.28	-3.16	10.75	107.08	1.29
3490.00	.50	306.90	3489.67	-1.80	10.95	-1.80	11.09	99.35	2.01
3585.00	.50	356.10	3584.67	-1.14	10.59	-1.14	10.65	96.15	.44
3680.00	.40	19.00	3679.67	-.41	10.67	-.41	10.67	92.22	.21
3775.00	.40	49.20	3774.66	.12	11.03	.12	11.03	89.39	.22
3870.00	.50	77.70	3869.66	.42	11.68	.42	11.69	87.93	.25
Straightline PTB									
4002.00	.50	77.70	4001.66	.67	12.81	.67	12.82	87.01	.00