

Oxy Permian

Eddy Co., New Mexico

Mustang State Com #1

Mustang State Com #1

Slant #1

Survey: MWD Survey #1

Standard Survey Report

29 November, 2006



Black Viper Energy

Survey Report



Company	Oxy Permian	Local Co-ordinate Reference	Site Mustang State Com #1
Project	Eddy Co., New Mexico	Well	WELL @ 0.00ft (Original Well Elev)
State	Mustang State Com #1	Well	WELL @ 0.00ft (Original Well Elev)
Well	Mustang State Com #1	Grid	Grid
Survey	Slant #1	Minimum Curvature	Minimum Curvature
Notes	Slant #1	EDM 2003.14 Server Db	EDM 2003.14 Server Db

8,410.00	8.70	170.40	8,405.11	-12.86	-77.20	18.00	0.88	-0.33	-5.33
8,441.00	8.70	172.40	8,435.75	-17.49	-76.49	22.58	0.98	0.00	6.45
8,471.00	8.70	178.50	8,465.41	-22.01	-76.14	27.06	3.07	0.00	20.33
8,502.00	8.50	179.20	8,496.06	-26.65	-76.04	31.68	0.73	-0.65	2.26
8,533.00	8.70	179.60	8,526.71	-31.28	-75.99	36.30	0.67	0.65	1.29
8,565.00	8.30	179.70	8,558.36	-36.01	-75.96	41.02	1.25	-1.25	0.31
8,596.00	8.40	179.80	8,589.03	-40.51	-75.94	45.51	0.33	0.32	0.32
8,627.00	9.10	178.30	8,619.67	-45.23	-75.86	50.21	2.37	2.26	-4.84
8,668.00	9.30	180.70	8,660.14	-51.78	-75.81	56.74	1.06	0.49	5.85
8,719.00	9.20	179.80	8,710.48	-59.98	-75.84	64.92	0.34	-0.20	-1.76
8,750.00	8.80	179.40	8,741.09	-64.83	-75.81	69.76	1.31	-1.29	-1.29
8,781.00	8.70	179.60	8,771.73	-69.54	-75.77	74.46	0.34	-0.32	0.65
8,812.00	8.30	180.90	8,802.39	-74.13	-75.79	79.04	1.43	-1.29	4.19
8,843.00	8.30	180.70	8,833.07	-78.60	-75.85	83.50	0.09	0.00	-0.65
8,874.00	8.40	179.40	8,863.74	-83.10	-75.85	88.00	0.69	0.32	-4.19
8,904.00	8.40	180.30	8,893.42	-87.48	-75.84	92.37	0.44	0.00	3.00
8,935.00	8.50	179.10	8,924.08	-92.04	-75.82	96.91	0.65	0.32	-3.87
8,967.00	8.70	180.00	8,955.72	-96.82	-75.78	101.68	0.75	0.63	2.81
8,998.00	8.70	177.70	8,986.37	-101.51	-75.69	106.35	1.12	0.00	-7.42
9,029.00	9.10	178.10	9,016.99	-106.30	-75.51	111.12	1.31	1.29	1.29
9,060.00	9.20	179.00	9,047.60	-111.23	-75.39	116.03	0.56	0.32	2.90
9,091.00	9.90	180.30	9,078.17	-116.37	-75.36	121.16	2.36	2.26	4.19
9,121.00	10.70	178.40	9,107.68	-121.74	-75.29	126.51	2.90	2.67	-6.33
9,152.00	13.30	176.10	9,138.00	-128.17	-74.97	132.91	8.53	8.39	-7.42
9,183.00	16.10	174.60	9,167.99	-136.01	-74.32	140.68	9.11	9.03	-4.84
9,214.00	17.80	173.70	9,197.64	-145.00	-73.40	149.59	5.55	5.48	-2.90
9,245.00	18.10	175.00	9,227.13	-154.51	-72.46	159.01	1.61	0.97	4.19
9,277.00	17.90	176.50	9,257.56	-164.37	-71.73	168.80	1.58	-0.63	4.69
9,308.00	17.80	176.30	9,287.07	-173.85	-71.13	178.23	0.38	-0.32	-0.65
9,339.00	17.50	175.30	9,316.61	-183.23	-70.44	187.53	1.38	-0.97	-3.23
9,369.00	17.80	175.80	9,345.20	-192.29	-69.74	196.53	1.12	1.00	1.67
9,401.00	18.50	177.20	9,375.61	-202.24	-69.13	206.42	2.58	2.19	4.38
9,432.00	18.40	179.60	9,405.02	-212.05	-68.86	216.18	2.47	-0.32	7.74
9,463.00	17.80	180.40	9,434.48	-221.68	-68.86	225.79	2.09	-1.94	2.58
9,494.00	17.50	179.80	9,464.02	-231.08	-68.87	235.17	1.13	-0.97	-1.94
9,526.00	18.30	177.00	9,494.47	-240.91	-68.59	244.96	3.67	2.50	-8.75
9,556.00	18.60	177.20	9,522.93	-250.39	-68.11	254.39	1.02	1.00	0.67
9,586.00	18.40	177.90	9,551.38	-259.90	-67.71	263.85	1.00	-0.67	2.33
9,617.00	17.70	176.80	9,580.86	-269.49	-67.26	273.39	2.51	-2.26	-3.55
9,647.00	17.10	175.70	9,609.48	-278.45	-66.68	282.29	2.28	-2.00	-3.67
9,678.00	17.30	174.30	9,639.10	-287.58	-65.88	291.34	1.48	0.65	-4.52
9,708.00	17.40	176.50	9,667.73	-296.49	-65.16	300.19	2.21	0.33	7.33
9,739.00	18.60	175.40	9,697.21	-306.05	-64.48	309.68	4.02	3.87	-3.55
9,771.00	18.90	174.00	9,727.52	-316.29	-63.53	319.83	1.69	0.94	-4.38
9,802.00	18.70	174.20	9,756.86	-326.23	-62.50	329.68	0.68	-0.65	0.65
9,832.00	17.70	173.70	9,785.36	-335.54	-61.52	338.91	3.37	-3.33	-1.67
9,863.00	17.40	173.10	9,814.92	-344.83	-60.44	348.10	1.13	-0.97	-1.94
9,895.00	17.50	173.80	9,845.45	-354.36	-59.35	357.54	0.73	0.31	2.19
9,926.00	17.70	171.10	9,874.99	-363.65	-58.12	366.73	2.71	0.65	-8.71
9,957.00	18.10	171.60	9,904.49	-373.07	-56.68	376.03	1.38	1.29	1.61
9,988.00	18.10	171.40	9,933.96	-382.60	-55.26	385.44	0.20	0.00	-0.65
10,020.00	18.40	171.90	9,964.35	-392.51	-53.81	395.23	1.06	0.94	1.56
10,051.00	17.60	173.30	9,993.83	-402.01	-52.57	404.63	2.93	-2.58	4.52
10,082.00	17.20	174.50	10,023.41	-411.23	-51.58	413.76	1.73	-1.29	3.87

Black Viper Energy

Survey Report



Company	Oxy Permian	Local Coordinate Reference	Site Mustang State Com #1
Location	Eddy Co., New Mexico	North Reference	WELL @ 0.00ft (Original Well Elev)
Well	Mustang State Com #1	Mag Reference	WELL @ 0.00ft (Original Well Elev)
Area	Mustang State Com #1	Survey Method	Grid
Notes	Slant #1	Survey Equipment	Minimum Curvature
Owner	Slant #1	Survey Date	EDM 2003.14 Server Db

10,113.00	17.30	176.70	10,053.02	-420.39	-50.88	422.86	2.13	0.32	7.10
10,143.00	16.90	178.70	10,081.69	-429.20	-50.52	431.62	2.37	-1.33	6.67
10,175.00	16.40	182.10	10,112.35	-438.37	-50.58	440.77	3.42	-1.56	10.63
10,206.00	17.20	179.90	10,142.03	-447.33	-50.73	449.72	3.30	2.58	-7.10
10,237.00	17.90	178.50	10,171.59	-456.67	-50.60	459.04	2.64	2.26	-4.52
10,268.00	18.20	175.90	10,201.06	-466.26	-50.13	468.57	2.77	0.97	-8.39
10,299.00	17.70	176.20	10,230.55	-475.79	-49.47	478.04	1.64	-1.61	0.97
10,330.00	17.90	176.10	10,260.07	-485.25	-48.84	487.43	0.65	0.65	-0.32
10,360.00	17.80	176.80	10,288.63	-494.43	-48.27	496.55	0.79	-0.33	2.33
10,391.00	17.80	175.20	10,318.14	-503.88	-47.61	505.94	1.58	0.00	-5.16
10,422.00	17.50	177.90	10,347.68	-513.26	-47.04	515.26	2.81	-0.97	8.71
10,454.00	17.90	178.70	10,378.17	-522.98	-46.75	524.94	1.46	1.25	2.50
10,485.00	19.00	177.10	10,407.57	-532.79	-46.39	534.70	3.91	3.55	-5.16
10,516.00	18.70	174.50	10,436.91	-542.77	-45.66	544.61	2.88	-0.97	-8.39
10,547.00	18.20	173.20	10,466.32	-552.53	-44.61	554.28	2.09	-1.61	-4.19
10,578.00	18.40	173.80	10,495.75	-562.20	-43.50	563.85	0.89	0.65	1.94
10,609.00	18.00	174.70	10,525.20	-571.83	-42.53	573.40	1.58	-1.29	2.90
10,640.00	17.30	174.90	10,554.74	-581.19	-41.68	582.68	2.27	-2.26	0.65
10,671.00	16.90	174.50	10,584.37	-590.27	-40.84	591.68	1.34	-1.29	-1.29
10,702.00	17.00	173.10	10,614.02	-599.25	-39.86	600.58	1.36	0.32	-4.52
10,733.00	17.60	171.50	10,643.62	-608.39	-38.63	609.61	2.47	1.94	-5.16
10,765.00	17.60	170.50	10,674.12	-617.94	-37.11	619.04	0.94	0.00	-3.13
10,795.00	17.80	170.80	10,702.70	-626.94	-35.63	627.92	0.73	0.67	1.00
10,827.00	16.10	171.70	10,733.31	-636.16	-34.21	637.03	5.38	-5.31	2.81
10,859.00	15.10	172.70	10,764.13	-644.69	-33.04	645.45	3.24	-3.13	3.13
10,891.00	13.80	174.20	10,795.12	-652.62	-32.12	653.31	4.23	-4.06	4.69
10,923.00	12.00	172.20	10,826.31	-659.71	-31.29	660.33	5.79	-5.63	-6.25
10,955.00	13.00	172.50	10,857.55	-666.58	-30.36	667.12	3.13	3.13	0.94
10,986.00	14.70	176.90	10,887.65	-673.96	-29.70	674.44	6.45	5.48	14.19
11,017.00	16.40	179.20	10,917.52	-682.27	-29.42	682.71	5.83	5.48	7.42
11,049.00	16.70	176.00	10,948.19	-691.37	-29.04	691.76	3.00	0.94	-10.00
11,080.00	18.00	174.30	10,977.78	-700.58	-28.25	700.90	4.50	4.19	-5.48
11,112.00	19.40	173.20	11,008.09	-710.78	-27.13	711.00	4.51	4.38	-3.44
11,144.00	20.50	175.00	11,038.17	-721.64	-26.01	721.76	3.94	3.44	5.63
11,176.00	21.90	177.60	11,068.00	-733.18	-25.28	733.23	5.27	4.38	8.13
11,208.00	23.20	177.20	11,097.56	-745.44	-24.72	745.42	4.09	4.06	-1.25
11,240.00	25.00	178.00	11,126.77	-758.50	-24.17	758.41	5.72	5.63	2.50
11,271.00	24.90	178.80	11,154.87	-771.57	-23.81	771.43	1.14	-0.32	2.58
11,303.00	24.50	178.80	11,183.94	-784.94	-23.53	784.75	1.25	-1.25	0.00
11,335.00	24.00	180.80	11,213.12	-798.08	-23.48	797.86	3.00	-1.56	6.25
11,365.00	22.50	182.30	11,240.68	-809.91	-23.80	809.69	5.38	-5.00	5.00
11,378.00	22.20	182.50	11,252.71	-814.85	-24.00	814.63	2.38	-2.31	1.54

Last MWD Survey

Black Viper Energy

Survey Report



Company:	Oxy Permian	Local Co-ordinate Reference:	Site Mustang State Com #1
Location:	Eddy Co., New Mexico	Well:	WELL @ 0.00ft (Original Well Elev)
Survey:	Mustang State Com #1	Well:	WELL @ 0.00ft (Original Well Elev)
Survey:	Mustang State Com #1	Grid:	Grid
Survey:	Slant #1	Minimum Curvature:	Minimum Curvature
Survey:	Slant #1	EDM 2003.14 Server Db:	EDM 2003.14 Server Db

HL	0.00	360.00	0.00	0.00	40.00	0.00	40.00	30° 59' 24.517 N	105° 55' 43.878 W
- survey misses by 8098.41ft at 8100.00ft MD (8097.46 TVD, 19.05 N, -82.55 E)									
- Point									
PBHL#1[Mustang]	0.00	360.00	10,600.00	-600.00	-40.00	-600.00	-40.00	30° 59' 18.569 N	105° 55' 44.498 W
- survey misses by 4.79ft at 10688.80ft MD (10601.40 TVD, -595.42 N, -40.31 E)									
- Point									
PBHL#2[Mustang]	360.00	11,300.00	-828.21	-17.74	-828.21	-17.74	30° 59' 16.314 N	105° 55' 44.205 W	
- survey misses by 49.54ft at 11378.00ft MD (11252.71 TVD, -814.85 N, -24.00 E)									
- Point									
HLz	0.00	360.00	11,300.00	0.00	40.00	0.00	40.00	30° 59' 24.517 N	105° 55' 43.878 W
- survey misses by 770.50ft at 11144.00ft MD (11038.17 TVD, -721.64 N, -26.01 E)									
- Point									

8,126.00	8,123.46	19.53	-82.82	First MWD Survey
11,378.00	11,252.71	-814.85	-24.00	Last MWD Survey

Checked By: _____ Approved By: _____ Date: _____