



1724-B Townhurst Dr, Houston, Tx 77043
(713) 827-8302
www.nevisenergy.com

Job Number: 71126
Company: Black Hills Gas Resources
Lease/Well: Many Canyons 30-04-13#111
Location: Rio Arriba County, NM
Rig Name: Patt. 744
RKB: 13'
G.L. or M.S.L.: 6934'

State/Country: NM/USA
Declination: 10.14662
Grid: -0.32
File name: C:\CURREN-1\71126M-1\30413111.SVY
Date/Time: 21-May-07 / 08:04
Curve Name: MC 30-04-13#111 Actual Surveys

MC 30-4-13 #111

API # 30-039-29969

MC 30-04-13#111 Actual Surveys

MJ 6577 TVD 3743

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 98.87

Vertical Section Referenced to Wellhead
Angular Coordinates Referenced to Wellhead

SURF: 590' FN 1280' FW
D 559' 3259'
1149' FN 4539' FW
5247'
708' FE

BH₂

BH₁ 722/N 1953/W

MJ 4089 TVD 3643

6-12-07

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
-------------------------	----------------------	---------------------------	---------------------------	---------------------------	-----------	-----------	---------------------------	------------------	-------------------------------

Surface Tie-In

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

First Nevis MWD Survey

250.00	.50	210.60	250.00	-.40	-.94	-.56	1.09	210.60	.20
495.00	.50	215.60	494.99	-1.28	-2.73	-1.72	3.23	212.25	.02
682.00	.30	210.80	681.98	-1.83	-3.81	-2.45	4.53	212.70	.11
870.00	.70	208.60	869.98	-2.40	-5.24	-3.25	6.17	211.79	.21
1058.00	1.00	205.60	1057.95	-3.26	-7.73	-4.51	8.95	210.25	.16
1246.00	1.40	184.80	1245.91	-3.57	-11.50	-5.41	12.71	205.19	.31
1427.00	1.80	184.70	1426.84	-3.21	-16.54	-5.83	17.53	199.41	.22
1606.00	1.70	175.50	1605.76	-2.39	-21.98	-5.85	22.75	194.90	.17
1786.00	1.90	179.70	1785.67	-1.30	-27.63	-5.62	28.20	191.50	.13
1963.00	1.80	182.20	1962.58	-.51	-33.34	-5.71	33.83	189.73	.07
2151.00	1.80	182.00	2150.49	.19	-39.24	-5.93	39.69	188.59	.00
2339.00	1.90	191.80	2338.39	.38	-45.24	-6.67	45.73	188.39	.18
2528.00	2.40	211.50	2527.26	-1.30	-51.69	-9.38	52.53	190.29	.47
2713.00	2.10	215.20	2712.11	-4.29	-57.76	-13.36	59.28	193.02	.18
2814.00	1.60	200.80	2813.06	-5.40	-60.59	-14.93	62.40	193.84	.67
2845.00	1.30	134.70	2844.05	-5.21	-61.24	-14.83	63.01	193.61	5.17
2876.00	3.00	100.10	2875.03	-4.11	-61.63	-13.78	63.15	192.60	6.67
2907.00	5.40	87.90	2905.95	-1.87	-61.72	-11.52	62.79	190.58	8.22
2939.00	7.80	81.80	2937.73	1.69	-61.35	-7.87	61.86	187.31	7.80
2970.00	9.70	80.60	2968.37	6.18	-60.63	-3.21	60.71	183.03	6.16

6/13

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
3002.00	11.90	78.10	2999.80	11.82	-59.51	2.68	59.57	177.42	7.03
3033.00	13.80	78.60	3030.02	18.28	-58.12	9.43	58.88	170.78	6.14
3065.00	15.80	79.20	3060.96	25.96	-56.55	17.45	59.18	162.85	6.27
3096.00	17.90	80.20	3090.63	34.45	-54.94	26.29	60.91	154.43	6.84
3127.00	20.20	81.40	3119.93	44.07	-53.33	36.28	64.50	145.77	7.53
3159.00	22.60	83.90	3149.72	55.28	-51.85	47.86	70.56	137.29	8.02
3190.00	25.50	85.90	3178.03	67.54	-50.74	60.44	78.92	130.01	9.72
3220.00	28.10	87.60	3204.80	80.77	-49.98	73.94	89.25	124.06	9.03
3253.00	31.40	87.50	3233.45	96.82	-49.28	90.30	102.88	118.62	10.00
3283.00	34.00	88.10	3258.69	112.73	-48.67	106.50	117.09	114.56	8.73
3314.00	36.10	89.60	3284.07	130.26	-48.31	124.29	133.35	111.24	7.32
3345.00	37.60	91.00	3308.88	148.64	-48.42	142.88	150.86	108.72	5.54
3377.00	39.50	92.40	3333.90	168.42	-49.01	162.81	170.03	106.75	6.53
3408.00	41.60	93.20	3357.46	188.46	-50.00	182.94	189.65	105.29	6.98
3439.00	44.00	93.80	3380.20	209.43	-51.29	203.96	210.31	104.11	7.85
3470.00	46.30	94.50	3402.06	231.33	-52.88	225.88	231.99	103.18	7.59
3500.00	48.00	95.20	3422.46	253.27	-54.74	247.80	253.77	102.46	5.92
3532.00	50.10	96.00	3443.44	277.40	-57.10	271.85	277.78	101.86	6.83
3563.00	52.10	96.60	3462.90	301.50	-59.75	295.83	301.80	101.42	6.63
3595.00	54.10	97.10	3482.11	327.07	-62.81	321.23	327.31	101.06	6.37
3626.00	56.30	97.60	3499.80	352.52	-66.06	346.48	352.72	100.80	7.22
3658.00	58.70	98.00	3517.00	379.50	-69.73	373.21	379.67	100.58	7.57
3689.00	61.10	98.40	3532.54	406.32	-73.55	399.76	406.47	100.43	7.82
3721.00	63.50	98.80	3547.42	434.65	-77.79	427.77	434.78	100.31	7.58
3753.00	65.80	98.80	3561.12	463.56	-82.21	456.34	463.69	100.21	7.19
3784.00	68.00	98.90	3573.28	492.08	-86.60	484.52	492.20	100.13	7.10
3816.00	70.10	99.00	3584.72	521.96	-91.25	514.04	522.07	100.07	6.57
3846.00	71.80	99.20	3594.51	550.31	-95.74	542.04	550.42	100.02	5.70
3877.00	73.90	100.20	3603.65	579.93	-100.73	571.23	580.04	100.00	7.44
3908.00	76.40	100.70	3611.60	609.88	-106.16	600.70	610.00	100.02	8.21
3939.00	78.60	100.70	3618.31	640.13	-111.78	630.43	640.27	100.05	7.10
3971.00	80.40	100.00	3624.14	671.58	-117.43	661.38	671.73	100.07	6.02
4002.00	81.30	99.40	3629.07	702.18	-122.59	691.55	702.33	100.05	3.48
4033.00	81.50	99.10	3633.70	732.83	-127.52	721.80	732.98	100.02	1.15
4065.00	82.20	98.90	3638.24	764.51	-132.47	753.09	764.65	99.98	2.27
4086			3643						
4206.00	82.00	96.40	3657.62	904.13	-151.06	891.50	904.21	99.62	1.76
4238.00	80.60	96.70	3662.46	935.73	-154.67	922.92	935.79	99.51	4.47
4269.00	81.30	97.10	3667.34	966.33	-158.35	953.31	966.38	99.43	2.59
4301.00	82.80	97.40	3671.76	998.01	-162.35	984.75	998.05	99.36	4.78
4332.00	84.30	97.70	3675.25	1028.80	-166.40	1015.29	1028.83	99.31	4.93
4363.00	86.00	97.60	3677.87	1059.68	-170.51	1045.90	1059.71	99.26	5.49
4394.00	88.60	98.50	3679.33	1090.64	-174.84	1076.56	1090.66	99.22	8.87
4426.00	90.90	100.10	3679.47	1122.64	-180.01	1108.13	1122.66	99.23	8.76
4457.00	91.50	99.90	3678.82	1153.63	-185.40	1138.66	1153.65	99.25	2.04
4489.00	91.30	99.40	3678.04	1185.61	-190.76	1170.19	1185.64	99.26	1.68

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
4520.00	90.80	99.20	3677.47	1216.61	-195.77	1200.78	1216.64	99.26	1.74
4552.00	91.70	100.20	3676.77	1248.60	-201.16	1232.32	1248.63	99.27	4.20
4584.00	91.40	100.40	3675.90	1280.57	-206.88	1263.79	1280.61	99.30	1.13
4615.00	91.20	100.60	3675.20	1311.55	-212.53	1294.26	1311.60	99.33	.91
4647.00	91.90	100.60	3674.33	1343.53	-218.41	1325.70	1343.58	99.36	2.19
4678.00	91.90	101.00	3673.31	1374.49	-224.22	1356.14	1374.55	99.39	1.29
4709.00	92.00	101.40	3672.25	1405.45	-230.23	1386.53	1405.52	99.43	1.33
4740.00	91.90	102.60	3671.20	1436.38	-236.67	1416.83	1436.47	99.48	3.88
4771.00	91.70	102.20	3670.22	1467.31	-243.33	1447.10	1467.41	99.54	1.44
4803.00	91.20	102.60	3669.41	1499.24	-250.20	1478.34	1499.36	99.61	2.00
4834.00	90.70	102.50	3668.90	1530.17	-256.93	1508.60	1530.32	99.67	1.64
4866.00	91.10	101.00	3668.40	1562.13	-263.45	1539.92	1562.29	99.71	4.85
4898.00	91.50	102.20	3667.67	1594.08	-269.88	1571.26	1594.27	99.75	3.95
4928.00	91.80	101.20	3666.81	1624.03	-275.96	1600.62	1624.24	99.78	3.48
4960.00	91.70	101.60	3665.83	1655.98	-282.28	1631.98	1656.21	99.81	1.29
4991.00	91.70	101.40	3664.91	1686.94	-288.46	1662.34	1687.18	99.84	.64
5022.00	91.70	102.10	3663.99	1717.89	-294.77	1692.68	1718.15	99.88	2.26
5085.00	90.20	102.90	3662.95	1780.75	-308.41	1754.17	1781.08	99.97	2.70
5117.00	88.80	102.90	3663.23	1812.67	-315.55	1785.36	1813.03	100.02	4.37
5148.00	88.80	102.90	3663.87	1843.58	-322.47	1815.57	1843.99	100.07	.00
5179.00	87.30	102.00	3664.93	1874.50	-329.15	1845.83	1874.94	100.11	5.64
5211.00	88.50	101.70	3666.10	1906.44	-335.71	1877.12	1906.91	100.14	3.87
5242.00	87.90	101.10	3667.08	1937.39	-341.84	1907.50	1937.88	100.16	2.74
5273.00	88.60	100.10	3668.02	1968.36	-347.54	1937.95	1968.87	100.17	3.94
5304.00	90.30	99.80	3668.32	1999.36	-352.89	1968.48	1999.86	100.16	5.57
5335.00	92.40	98.60	3667.59	2030.34	-357.85	1999.07	2030.85	100.15	7.80
5367.00	91.70	98.10	3666.44	2062.32	-362.49	2030.71	2062.81	100.12	2.69
5398.00	91.70	98.60	3665.53	2093.31	-366.99	2061.37	2093.79	100.09	1.61
5429.00	93.50	98.20	3664.12	2124.27	-371.52	2092.01	2124.74	100.07	5.95
5460.00	93.90	97.90	3662.12	2155.20	-375.85	2122.64	2155.65	100.04	1.61
5492.00	94.20	98.70	3659.86	2187.12	-380.46	2154.22	2187.56	100.02	2.66
5523.00	94.20	98.00	3657.59	2218.04	-384.95	2184.81	2218.46	99.99	2.25
5554.00	94.50	98.20	3655.24	2248.95	-389.30	2215.41	2249.36	99.97	1.16
5586.00	94.80	98.10	3652.64	2280.84	-393.82	2246.99	2281.24	99.94	.99
5617.00	95.30	98.90	3649.91	2311.72	-398.39	2277.53	2312.11	99.92	3.03
5648.00	94.10	98.90	3647.37	2342.61	-403.17	2308.05	2343.00	99.91	3.87
5680.00	94.40	98.40	3645.00	2374.52	-407.97	2339.60	2374.90	99.89	1.82
5711.00	95.00	99.10	3642.46	2405.42	-412.67	2370.13	2405.79	99.88	2.97
5743.00	93.40	98.20	3640.12	2437.33	-417.47	2401.68	2437.70	99.86	5.73
5774.00	94.00	98.40	3638.12	2468.27	-421.93	2432.29	2468.62	99.84	2.04
5806.00	92.60	98.60	3636.28	2500.21	-426.65	2463.89	2500.56	99.82	4.42
5837.00	91.80	97.80	3635.09	2531.19	-431.07	2494.55	2531.52	99.80	3.65
5868.00	91.50	97.90	3634.19	2562.17	-435.30	2525.25	2562.49	99.78	1.02
5899.00	90.30	98.60	3633.71	2593.16	-439.75	2555.92	2593.48	99.76	4.48
5931.00	90.40	98.50	3633.51	2625.16	-444.51	2587.57	2625.47	99.75	.44

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
5962.00	91.00	98.20	3633.13	2656.16	-449.01	2618.23	2656.46	99.73	2.16
5993.00	91.40	98.60	3632.48	2687.15	-453.54	2648.89	2687.44	99.72	1.82
6023.00	91.40	99.20	3631.75	2717.14	-458.18	2678.52	2717.43	99.71	2.00
6054.00	91.30	98.40	3631.02	2748.13	-462.92	2709.15	2748.42	99.70	2.60
6086.00	90.10	97.70	3630.63	2780.12	-467.40	2740.83	2780.40	99.68	4.34
6117.00	90.50	98.60	3630.47	2811.12	-471.79	2771.52	2811.39	99.66	3.18
6149.00	90.90	98.50	3630.08	2843.12	-476.55	2803.16	2843.38	99.65	1.29
6180.00	91.30	99.60	3629.48	2874.11	-481.43	2833.77	2874.37	99.64	3.78
6211.00	91.60	100.20	3628.70	2905.10	-486.75	2864.30	2905.36	99.64	2.16
6242.00	91.90	100.50	3627.75	2936.07	-492.32	2894.78	2936.34	99.65	1.37
6274.00	90.60	99.80	3627.05	2968.05	-497.96	2926.27	2968.33	99.66	4.61
6305.00	91.00	100.70	3626.62	2999.04	-503.47	2956.77	2999.33	99.66	3.18
6336.00	91.30	100.90	3626.00	3030.02	-509.28	2987.22	3030.32	99.68	1.16
6368.00	91.10	100.70	3625.33	3061.99	-515.28	3018.64	3062.30	99.69	.88
6400.00	91.20	100.40	3624.68	3093.97	-521.13	3050.09	3094.29	99.70	.99
6431.00	91.00	100.50	3624.09	3124.96	-526.76	3080.57	3125.29	99.70	.72
6462.00	91.00	100.70	3623.55	3155.94	-532.46	3111.04	3156.28	99.71	.65
6494.00	90.50	100.70	3623.13	3187.92	-538.40	3142.48	3188.27	99.72	1.56
6525.00	90.50	100.20	3622.86	3218.90	-544.02	3172.97	3219.27	99.73	1.61
Last Nevis MWD Survey									
6557.00	90.30	100.20	3622.63	3250.89	-549.69	3204.46	3251.26	99.73	.62
Survey Projection to TD									
6612.00	90.20	100.00	3622.39	3305.88	-559.33	3258.61	3306.26	99.74	.41