



# **Noble Energy (Rockies)**

**Garfield County, CO (NAD 83)**

**Sec. 35-T7S-R95W (BM 35C PAD)**

**BM 35-22B**

**BM 35-22B**

**Plan: BM 35-22B Proposal 2.0**

## **Standard Proposal Report**

**13 February, 2010**



**HALLIBURTON**  
**Sperry Drilling Services**

Project: Garfield County, CO (NAD 83)  
Site: Sec. 35-T7S-R95W (BM 35C PAD)  
Well: BM 35-22B  
Wellbore: BM 35-22B  
Plan: BM 35-22B Proposal 2.0

Noble Energy (Rockies)

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00
425.00	4.50	170.00	424.77	-8.70	1.53	2.00	170.00	-8.70
500.00	4.50	170.00	499.54	-14.48	2.56	0.00	0.00	-14.49
848.39	9.16	191.19	849.41	-55.19	-0.46	1.50	39.21	-55.19
6494.72	9.16	191.19	6419.67	-937.32	-175.04	0.00	0.00	-937.32
7 7105.65	0.00	2.43	7028.00	-985.15	-184.51	1.50	180.00	-985.15
811205.65	0.00	2.43	1128.00	-985.15	-184.51	0.00	2.43	-985.15

WELL DETAILS: BM 35-22B

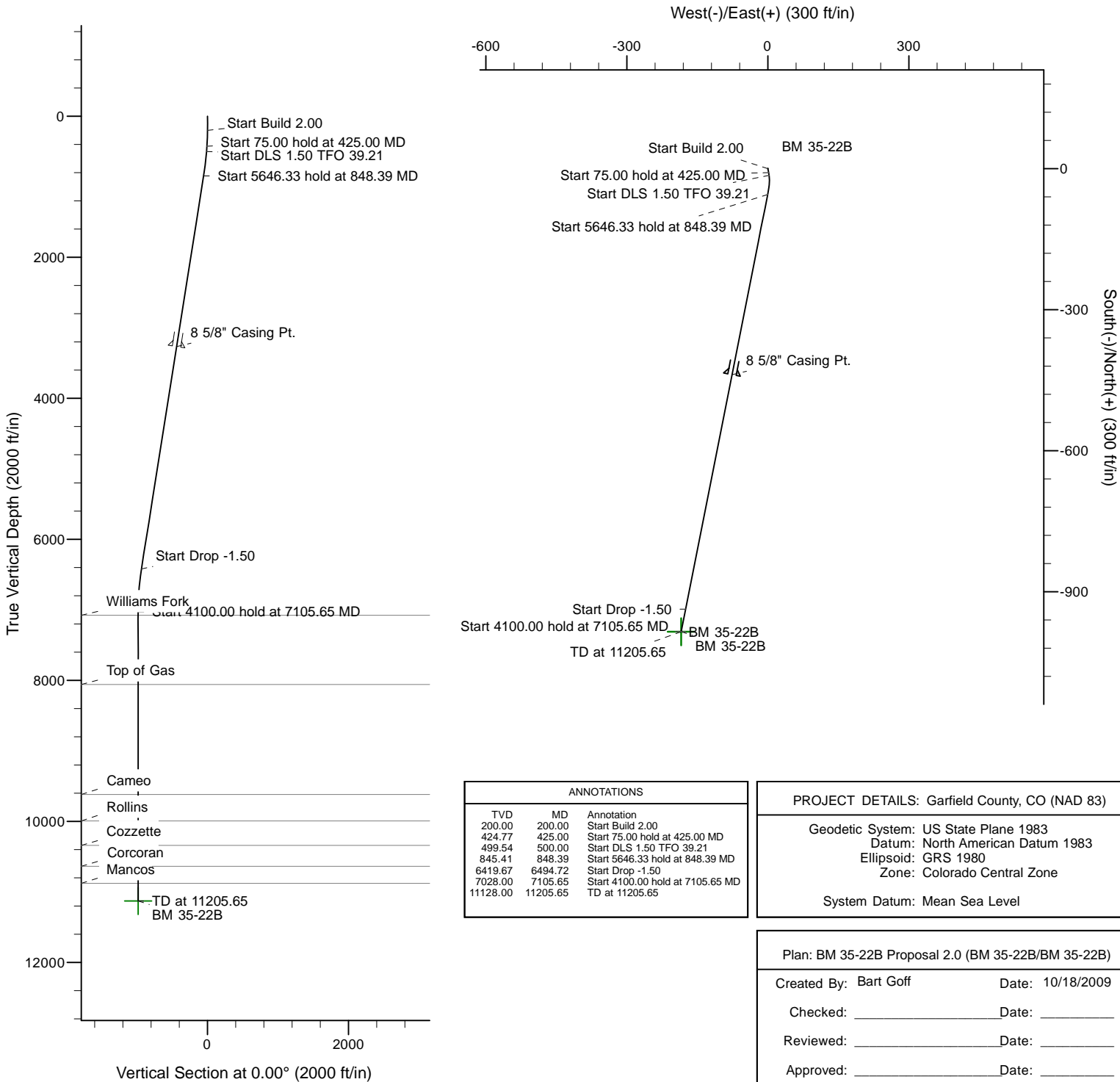
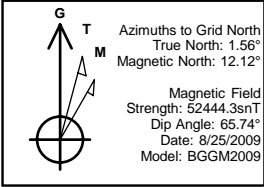
North	East	Ground Level	Latitude	Longitude
1579598.20	2303040.20	9233.00	39° 23' 55.607 N	107° 57' 59.866 W

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
7076.00	7153.65	Williams Fork
8058.00	8135.65	Top of Gas
9619.00	9696.65	Cameo
9992.00	10069.65	Rollins
10340.00	10417.65	Cozzette
10637.00	10714.65	Corcoran
10878.00	10955.65	Mancos

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BM 35-22B	11128.00	-985.15	-184.51	Point



<b>Database:</b>	.Sperry EDM .16 PRD	<b>Local Co-ordinate Reference:</b>	Well BM 35-22B
<b>Company:</b>	Noble Energy (Rockies)	<b>TVD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Project:</b>	Garfield County, CO (NAD 83)	<b>MD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Site:</b>	Sec. 35-T7S-R95W (BM 35C PAD)	<b>North Reference:</b>	Grid
<b>Well:</b>	BM 35-22B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BM 35-22B		
<b>Design:</b>	BM 35-22B Proposal 2.0		

<b>Project</b>	Garfield County, CO (NAD 83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		Using geodetic scale factor

Site	Sec. 35-T7S-R95W (BM 35C PAD)				
Site Position:		Northing:	1,579,611.24 ft	Latitude:	39° 23' 55.737 N
From:	Map	Easting:	2,303,047.45 ft	Longitude:	107° 57' 59.778 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-1.56 °

Well	BM 35-22B					
Well Position	+N/-S	0.00 ft	Northing:	1,579,598.20 ft	Latitude:	39° 23' 55.607 N
	+E/-W	0.00 ft	Easting:	2,303,040.20 ft	Longitude:	107° 57' 59.866 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	9,233.00 ft

<b>Wellbore</b>	BM 35-22B				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2009	8/25/2009	10.57	65.74	52,444

<b>Design</b>	BM 35-22B Proposal 2.0				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	0.00	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	TVD System ft	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Tool Face (°)
0.00	0.00	0.00	0.00	-9,257.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	-9,057.00	0.00	0.00	0.00	0.00	0.00	0.00
425.00	4.50	170.00	424.77	-8,832.23	-8.70	1.53	2.00	2.00	0.00	170.00
500.00	4.50	170.00	499.54	-8,757.46	-14.49	2.56	0.00	0.00	0.00	0.00
848.39	9.16	191.19	845.41	-8,411.59	-55.19	-0.46	1.50	1.34	6.08	39.21
6,494.72	9.16	191.19	6,419.67	-2,837.33	-937.32	-175.04	0.00	0.00	0.00	0.00
7,105.65	0.00	2.43	7,028.00	-2,229.00	-985.15	-184.51	1.50	-1.50	0.00	180.00
11,205.65	0.00	2.43	11,128.00	1,871.00	-985.15	-184.51	0.00	0.00	0.00	2.43

<b>Database:</b>	.Sperry EDM .16 PRD	<b>Local Co-ordinate Reference:</b>	Well BM 35-22B
<b>Company:</b>	Noble Energy (Rockies)	<b>TVD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Project:</b>	Garfield County, CO (NAD 83)	<b>MD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Site:</b>	Sec. 35-T7S-R95W (BM 35C PAD)	<b>North Reference:</b>	Grid
<b>Well:</b>	BM 35-22B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BM 35-22B		
<b>Design:</b>	BM 35-22B Proposal 2.0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	TVDss ft	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	DLS -9,257.00	Vert Section
0.00	0.00	0.00	0.00	-9,257.00	0.00	0.00	1,579,598.20	2,303,040.20	0.00	0.00
100.00	0.00	0.00	100.00	-9,157.00	0.00	0.00	1,579,598.20	2,303,040.20	0.00	0.00
200.00	0.00	0.00	200.00	-9,057.00	0.00	0.00	1,579,598.20	2,303,040.20	0.00	0.00
<b>Start Build 2.00</b>										
300.00	2.00	170.00	299.98	-8,957.02	-1.72	0.30	1,579,596.48	2,303,040.50	2.00	-1.72
400.00	4.00	170.00	399.84	-8,857.16	-6.87	1.21	1,579,591.33	2,303,041.41	2.00	-6.87
425.00	4.50	170.00	424.77	-8,832.23	-8.70	1.53	1,579,589.50	2,303,041.73	2.00	-8.70
<b>Start 75.00 hold at 425.00 MD</b>										
500.00	4.50	170.00	499.54	-8,757.46	-14.49	2.56	1,579,583.71	2,303,042.76	0.00	-14.49
<b>Start DLS 1.50 TFO 39.21</b>										
600.00	5.74	179.52	599.14	-8,657.86	-23.36	3.28	1,579,574.84	2,303,043.48	1.50	-23.36
700.00	7.08	185.57	698.51	-8,558.49	-34.50	2.72	1,579,563.71	2,303,042.92	1.50	-34.50
800.00	8.48	189.66	797.59	-8,459.41	-47.90	0.89	1,579,550.30	2,303,041.09	1.50	-47.90
848.39	9.16	191.19	845.41	-8,411.59	-55.19	-0.46	1,579,543.01	2,303,039.74	1.50	-55.19
<b>Start 5646.33 hold at 848.39 MD</b>										
900.00	9.16	191.19	896.36	-8,360.64	-63.26	-2.06	1,579,534.95	2,303,038.14	0.00	-63.26
1,000.00	9.16	191.19	995.08	-8,261.92	-78.88	-5.15	1,579,519.32	2,303,035.05	0.00	-78.88
1,100.00	9.16	191.19	1,093.81	-8,163.19	-94.50	-8.24	1,579,503.70	2,303,031.96	0.00	-94.50
1,200.00	9.16	191.19	1,192.53	-8,064.47	-110.13	-11.33	1,579,488.08	2,303,028.87	0.00	-110.13
1,300.00	9.16	191.19	1,291.25	-7,965.75	-125.75	-14.42	1,579,472.46	2,303,025.78	0.00	-125.75
1,400.00	9.16	191.19	1,389.98	-7,867.02	-141.37	-17.52	1,579,456.83	2,303,022.69	0.00	-141.37
1,500.00	9.16	191.19	1,488.70	-7,768.30	-157.00	-20.61	1,579,441.21	2,303,019.59	0.00	-157.00
1,600.00	9.16	191.19	1,587.42	-7,669.58	-172.62	-23.70	1,579,425.59	2,303,016.50	0.00	-172.62
1,700.00	9.16	191.19	1,686.15	-7,570.85	-188.24	-26.79	1,579,409.97	2,303,013.41	0.00	-188.24
1,800.00	9.16	191.19	1,784.87	-7,472.13	-203.87	-29.88	1,579,394.35	2,303,010.32	0.00	-203.87
1,900.00	9.16	191.19	1,883.59	-7,373.41	-219.49	-32.98	1,579,378.72	2,303,007.23	0.00	-219.49
2,000.00	9.16	191.19	1,982.32	-7,274.68	-235.11	-36.07	1,579,363.10	2,303,004.13	0.00	-235.11
2,100.00	9.16	191.19	2,081.04	-7,175.96	-250.73	-39.16	1,579,347.48	2,303,001.04	0.00	-250.73
2,200.00	9.16	191.19	2,179.77	-7,077.23	-266.36	-42.25	1,579,331.86	2,302,997.95	0.00	-266.36
2,300.00	9.16	191.19	2,278.49	-6,978.51	-281.98	-45.34	1,579,316.23	2,302,994.86	0.00	-281.98
2,400.00	9.16	191.19	2,377.21	-6,879.79	-297.60	-48.44	1,579,300.61	2,302,991.77	0.00	-297.60
2,500.00	9.16	191.19	2,475.94	-6,781.06	-313.23	-51.53	1,579,284.99	2,302,988.68	0.00	-313.23
2,600.00	9.16	191.19	2,574.66	-6,682.34	-328.85	-54.62	1,579,269.37	2,302,985.58	0.00	-328.85
2,700.00	9.16	191.19	2,673.38	-6,583.62	-344.47	-57.71	1,579,253.74	2,302,982.49	0.00	-344.47
2,800.00	9.16	191.19	2,772.11	-6,484.89	-360.10	-60.80	1,579,238.12	2,302,979.40	0.00	-360.10
2,900.00	9.16	191.19	2,870.83	-6,386.17	-375.72	-63.90	1,579,222.50	2,302,976.31	0.00	-375.72
3,000.00	9.16	191.19	2,969.55	-6,287.45	-391.34	-66.99	1,579,206.88	2,302,973.22	0.00	-391.34
3,100.00	9.16	191.19	3,068.28	-6,188.72	-406.97	-70.08	1,579,191.26	2,302,970.12	0.00	-406.97
3,200.00	9.16	191.19	3,167.00	-6,090.00	-422.59	-73.17	1,579,175.63	2,302,967.03	0.00	-422.59
3,300.00	9.16	191.19	3,265.73	-5,991.27	-438.21	-76.26	1,579,160.01	2,302,963.94	0.00	-438.21
<b>8 5/8" Casing Pt.</b>										
3,400.00	9.16	191.19	3,364.45	-5,892.55	-453.83	-79.36	1,579,144.39	2,302,960.85	0.00	-453.83
3,500.00	9.16	191.19	3,463.17	-5,793.83	-469.46	-82.45	1,579,128.77	2,302,957.76	0.00	-469.46
3,600.00	9.16	191.19	3,561.90	-5,695.10	-485.08	-85.54	1,579,113.14	2,302,954.66	0.00	-485.08
3,700.00	9.16	191.19	3,660.62	-5,596.38	-500.70	-88.63	1,579,097.52	2,302,951.57	0.00	-500.70

<b>Database:</b>	.Sperry EDM .16 PRD	<b>Local Co-ordinate Reference:</b>	Well BM 35-22B
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<b>Site:</b>	Sec. 35-T7S-R95W (BM 35C PAD)	<b>North Reference:</b>	Grid
<b>Well:</b>	BM 35-22B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BM 35-22B		
<b>Design:</b>	BM 35-22B Proposal 2.0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	TVDss ft	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	DLS -5,497.66	Vert Section
3,800.00	9.16	191.19	3,759.34	-5,497.66	-516.33	-91.72	1,579,081.90	2,302,948.48	0.00	-516.33
3,900.00	9.16	191.19	3,858.07	-5,398.93	-531.95	-94.82	1,579,066.28	2,302,945.39	0.00	-531.95
4,000.00	9.16	191.19	3,956.79	-5,300.21	-547.57	-97.91	1,579,050.65	2,302,942.30	0.00	-547.57
4,100.00	9.16	191.19	4,055.52	-5,201.48	-563.20	-101.00	1,579,035.03	2,302,939.21	0.00	-563.20
4,200.00	9.16	191.19	4,154.24	-5,102.76	-578.82	-104.09	1,579,019.41	2,302,936.11	0.00	-578.82
4,300.00	9.16	191.19	4,252.96	-5,004.04	-594.44	-107.18	1,579,003.79	2,302,933.02	0.00	-594.44
4,400.00	9.16	191.19	4,351.69	-4,905.31	-610.07	-110.28	1,578,988.17	2,302,929.93	0.00	-610.07
4,500.00	9.16	191.19	4,450.41	-4,806.59	-625.69	-113.37	1,578,972.54	2,302,926.84	0.00	-625.69
4,600.00	9.16	191.19	4,549.13	-4,707.87	-641.31	-116.46	1,578,956.92	2,302,923.75	0.00	-641.31
4,700.00	9.16	191.19	4,647.86	-4,609.14	-656.93	-119.55	1,578,941.30	2,302,920.65	0.00	-656.93
4,800.00	9.16	191.19	4,746.58	-4,510.42	-672.56	-122.64	1,578,925.68	2,302,917.56	0.00	-672.56
4,900.00	9.16	191.19	4,845.30	-4,411.70	-688.18	-125.74	1,578,910.05	2,302,914.47	0.00	-688.18
5,000.00	9.16	191.19	4,944.03	-4,312.97	-703.80	-128.83	1,578,894.43	2,302,911.38	0.00	-703.80
5,100.00	9.16	191.19	5,042.75	-4,214.25	-719.43	-131.92	1,578,878.81	2,302,908.29	0.00	-719.43
5,200.00	9.16	191.19	5,141.48	-4,115.52	-735.05	-135.01	1,578,863.19	2,302,905.20	0.00	-735.05
5,300.00	9.16	191.19	5,240.20	-4,016.80	-750.67	-138.10	1,578,847.57	2,302,902.10	0.00	-750.67
5,400.00	9.16	191.19	5,338.92	-3,918.08	-766.30	-141.20	1,578,831.94	2,302,899.01	0.00	-766.30
5,500.00	9.16	191.19	5,437.65	-3,819.35	-781.92	-144.29	1,578,816.32	2,302,895.92	0.00	-781.92
5,600.00	9.16	191.19	5,536.37	-3,720.63	-797.54	-147.38	1,578,800.70	2,302,892.83	0.00	-797.54
5,700.00	9.16	191.19	5,635.09	-3,621.91	-813.17	-150.47	1,578,785.08	2,302,889.74	0.00	-813.17
5,800.00	9.16	191.19	5,733.82	-3,523.18	-828.79	-153.56	1,578,769.45	2,302,886.64	0.00	-828.79
5,900.00	9.16	191.19	5,832.54	-3,424.46	-844.41	-156.66	1,578,753.83	2,302,883.55	0.00	-844.41
6,000.00	9.16	191.19	5,931.26	-3,325.74	-860.03	-159.75	1,578,738.21	2,302,880.46	0.00	-860.03
6,100.00	9.16	191.19	6,029.99	-3,227.01	-875.66	-162.84	1,578,722.59	2,302,877.37	0.00	-875.66
6,200.00	9.16	191.19	6,128.71	-3,128.29	-891.28	-165.93	1,578,706.96	2,302,874.28	0.00	-891.28
6,300.00	9.16	191.19	6,227.44	-3,029.56	-906.90	-169.02	1,578,691.34	2,302,871.19	0.00	-906.90
6,400.00	9.16	191.19	6,326.16	-2,930.84	-922.53	-172.12	1,578,675.72	2,302,868.09	0.00	-922.53
6,494.72	9.16	191.19	6,419.67	-2,837.33	-937.32	-175.04	1,578,660.92	2,302,865.16	0.00	-937.32
Start Drop -1.50										
6,500.00	9.08	191.19	6,424.88	-2,832.12	-938.15	-175.21	1,578,660.10	2,302,865.00	1.50	-938.15
6,600.00	7.58	191.19	6,523.82	-2,733.18	-952.37	-178.02	1,578,645.88	2,302,862.19	1.50	-952.37
6,700.00	6.08	191.19	6,623.11	-2,633.89	-964.04	-180.33	1,578,634.21	2,302,859.88	1.50	-964.04
6,800.00	4.58	191.19	6,722.67	-2,534.33	-973.16	-182.14	1,578,625.09	2,302,858.07	1.50	-973.16
6,900.00	3.08	191.19	6,822.45	-2,434.55	-979.72	-183.43	1,578,618.53	2,302,856.77	1.50	-979.72
7,000.00	1.58	191.19	6,922.36	-2,334.64	-983.72	-184.23	1,578,614.53	2,302,855.98	1.50	-983.72
7,100.00	0.08	191.19	7,022.35	-2,234.65	-985.15	-184.51	1,578,613.10	2,302,855.70	1.50	-985.15
7,105.65	0.00	2.43	7,028.00	-2,229.00	-985.15	-184.51	1,578,613.10	2,302,855.70	1.50	-985.15
Start 4100.00 hold at 7105.65 MD										
7,153.65	0.00	2.43	7,076.00	-2,181.00	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
Williams Fork										
7,200.00	0.00	2.43	7,122.35	-2,134.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
7,300.00	0.00	2.43	7,222.35	-2,034.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
7,400.00	0.00	2.43	7,322.35	-1,934.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
7,500.00	0.00	2.43	7,422.35	-1,834.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
7,600.00	0.00	2.43	7,522.35	-1,734.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15

<b>Database:</b>	.Sperry EDM .16 PRD	<b>Local Co-ordinate Reference:</b>	Well BM 35-22B
<b>Company:</b>	Noble Energy (Rockies)	<b>TVD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Project:</b>	Garfield County, CO (NAD 83)	<b>MD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Site:</b>	Sec. 35-T7S-R95W (BM 35C PAD)	<b>North Reference:</b>	Grid
<b>Well:</b>	BM 35-22B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BM 35-22B		
<b>Design:</b>	BM 35-22B Proposal 2.0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	TVDss ft	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	DLS -1,634.65	Vert Section
7,700.00	0.00	2.43	7,622.35	-1,634.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
7,800.00	0.00	2.43	7,722.35	-1,534.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
7,900.00	0.00	2.43	7,822.35	-1,434.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
8,000.00	0.00	2.43	7,922.35	-1,334.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
8,100.00	0.00	2.43	8,022.35	-1,234.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
8,135.65	0.00	2.43	8,058.00	-1,199.00	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
<b>Top of Gas</b>										
8,200.00	0.00	2.43	8,122.35	-1,134.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
8,300.00	0.00	2.43	8,222.35	-1,034.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
8,400.00	0.00	2.43	8,322.35	-934.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
8,500.00	0.00	2.43	8,422.35	-834.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
8,600.00	0.00	2.43	8,522.35	-734.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
8,700.00	0.00	2.43	8,622.35	-634.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
8,800.00	0.00	2.43	8,722.35	-534.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
8,900.00	0.00	2.43	8,822.35	-434.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
9,000.00	0.00	2.43	8,922.35	-334.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
9,100.00	0.00	2.43	9,022.35	-234.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
9,200.00	0.00	2.43	9,122.35	-134.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
9,300.00	0.00	2.43	9,222.35	-34.65	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
9,400.00	0.00	2.43	9,322.35	65.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
9,500.00	0.00	2.43	9,422.35	165.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
9,600.00	0.00	2.43	9,522.35	265.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
9,696.65	0.00	2.43	9,619.00	362.00	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
<b>Cameo</b>										
9,700.00	0.00	2.43	9,622.35	365.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
9,800.00	0.00	2.43	9,722.35	465.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
9,900.00	0.00	2.43	9,822.35	565.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,000.00	0.00	2.43	9,922.35	665.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,069.65	0.00	2.43	9,992.00	735.00	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
<b>Rollins</b>										
10,100.00	0.00	2.43	10,022.35	765.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,200.00	0.00	2.43	10,122.35	865.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,300.00	0.00	2.43	10,222.35	965.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,400.00	0.00	2.43	10,322.35	1,065.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,417.65	0.00	2.43	10,340.00	1,083.00	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
<b>Cozzette</b>										
10,500.00	0.00	2.43	10,422.35	1,165.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,600.00	0.00	2.43	10,522.35	1,265.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,700.00	0.00	2.43	10,622.35	1,365.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,714.65	0.00	2.43	10,637.00	1,380.00	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
<b>Corcoran</b>										
10,800.00	0.00	2.43	10,722.35	1,465.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,900.00	0.00	2.43	10,822.35	1,565.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
10,955.65	0.00	2.43	10,878.00	1,621.00	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
<b>Mancos</b>										

<b>Database:</b>	.Sperry EDM .16 PRD	<b>Local Co-ordinate Reference:</b>	Well BM 35-22B
<b>Company:</b>	Noble Energy (Rockies)	<b>TVD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Project:</b>	Garfield County, CO (NAD 83)	<b>MD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Site:</b>	Sec. 35-T7S-R95W (BM 35C PAD)	<b>North Reference:</b>	Grid
<b>Well:</b>	BM 35-22B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BM 35-22B		
<b>Design:</b>	BM 35-22B Proposal 2.0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	TVDss ft	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	DLS 1,665.35	Vert Section
11,000.00	0.00	2.43	10,922.35	1,665.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
11,100.00	0.00	2.43	11,022.35	1,765.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
11,200.00	0.00	2.43	11,122.35	1,865.35	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
11,205.65	0.00	2.43	11,128.00	1,871.00	-985.15	-184.51	1,578,613.10	2,302,855.70	0.00	-985.15
TD at 11205.65 - BM 35-22B										

Targets								
Target Name								
- hit/miss target		Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting
- Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)
BM 35-22B		0.00	2.43	11,128.00	-985.15	-184.51	1,578,613.10	2,302,855.70
- plan hits target center								
- Point								

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
3,300.00	3,265.73	8 5/8" Casing Pt.	8-5/8	11	

Formations							
Measured Depth (ft)	Vertical Depth (ft)	Vertical Depth SS ft	Name	Lithology	Dip (°)	Dip Direction (°)	
10,417.65	10,340.00		Cozzette				
8,135.65	8,058.00		Top of Gas				
10,714.65	10,637.00		Corcoran				
10,069.65	9,992.00		Rollins				
9,696.65	9,619.00		Cameo				
10,955.65	10,878.00		Mancos				
7,153.65	7,076.00		Williams Fork				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.00	200.00	0.00	0.00	Start Build 2.00
425.00	424.77	-8.70	1.53	Start 75.00 hold at 425.00 MD
500.00	499.54	-14.49	2.56	Start DLS 1.50 TFO 39.21
848.39	845.41	-55.19	-0.46	Start 5646.33 hold at 848.39 MD
6,494.72	6,419.67	-937.32	-175.04	Start Drop -1.50
7,105.65	7,028.00	-985.15	-184.51	Start 4100.00 hold at 7105.65 MD
11,205.65	11,128.00	-985.15	-184.51	TD at 11205.65

# Sperry Drilling

## Anticollision Summary Report

<b>Company:</b>	Noble Energy (Rockies)	<b>Local Co-ordinate Reference:</b>	Well BM 35-22B
<b>Project:</b>	Garfield County, CO (NAD 83)	<b>TVD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Reference Site:</b>	Sec. 35-T7S-R95W (BM 35C PAD)	<b>MD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	BM 35-22B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BM 35-22B	<b>Database:</b>	.Sperry EDM .16 PRD
<b>Reference Design:</b>	BM 35-22B Proposal 2.0	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	BM 35-22B Proposal 2.0		
<b>Filter type:</b>	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
<b>Interpolation Method:</b>	MD Interval 100.00ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,320.57ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b>	2/13/2010		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	11,205.65	BM 35-22B Proposal 2.0 (BM 35-22B)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec. 35-T7S-R95W (BM 35C PAD)						
BM 35-12 (Existing Well) - BM 35-12 - Plan #1 Proposal	200.00	203.00	37.42	36.79	59.667 CC, ES	
BM 35-12 (Existing Well) - BM 35-12 - Plan #1 Proposal	10,100.00	10,000.00	1,038.19	993.75	23.360 SF	
BM 35-21A - BM 35-21A - BM 35-21A Proposal 2.0	200.00	200.00	60.77	60.15	97.953 CC, ES	
BM 35-21A - BM 35-21A - BM 35-21A Proposal 2.0	600.00	591.46	100.54	98.11	41.497 SF	
BM 35-21B - BM 35-21B - BM 35-21B Proposal 2.0	200.00	200.00	45.97	45.35	74.100 CC, ES	
BM 35-21B - BM 35-21B - BM 35-21B Proposal 2.0	11,205.65	11,135.75	1,305.93	1,256.53	26.440 SF	
BM 35-21C - BM 35-21C - BM 35-21C Proposal 2.0	200.00	200.00	31.40	30.78	50.616 CC, ES	
BM 35-21C - BM 35-21C - BM 35-21C Proposal 2.0	11,205.65	11,131.39	907.71	859.45	18.809 SF	
BM 35-21D (Existing Well) - BM 35-21D - BM 35-21D	281.16	284.59	13.01	12.01	12.993 CC, ES	
BM 35-21D (Existing Well) - BM 35-21D - BM 35-21D	400.00	403.19	17.17	15.64	11.223 SF	
BM 35-22A - BM 35-22A - BM 35-22A Proposal 2.0	200.00	200.00	7.52	6.90	12.119 CC	
BM 35-22A - BM 35-22A - BM 35-22A Proposal 2.0	300.00	299.74	7.87	6.85	7.675 ES	
BM 35-22A - BM 35-22A - BM 35-22A Proposal 2.0	1,000.00	998.62	17.03	12.16	3.494 SF	
BM 35-22C - BM 35-22C - BM 35-22C Proposal 2.0	200.00	200.00	7.43	6.81	11.978 CC, ES	
BM 35-22C - BM 35-22C - BM 35-22C Proposal 2.0	1,900.00	1,904.89	29.32	17.67	2.518 SF	
BM 35-31A - BM 35-31A - BM 35-31A Proposal 2.0	200.00	200.00	68.11	67.49	109.792 CC, ES	
BM 35-31A - BM 35-31A - BM 35-31A Proposal 2.0	700.00	687.10	124.95	122.06	43.284 SF	
BM 35-31B - BM 35-31B - BM 35-31B Proposal 2.0	200.00	200.00	53.35	51.80	34.516 CC, ES	
BM 35-31B - BM 35-31B - BM 35-31B Proposal 2.0	400.00	398.19	62.21	58.84	18.457 SF	
BM 35-31C - BM 35-31C - BM 35-31C Proposal 2.0	200.00	200.00	67.49	66.87	108.792 CC, ES	
BM 35-31C - BM 35-31C - BM 35-31C Proposal 2.0	800.00	790.06	126.85	123.42	36.931 SF	
BM 35-31D - BM 35-31D - BM 35-31D Proposal 2.0	200.00	200.00	59.97	59.35	96.673 CC, ES	
BM 35-31D - BM 35-31D - BM 35-31D Proposal 2.0	800.00	793.01	113.58	110.06	32.276 SF	
BM 35-32A (Existing Well) - BM 35-32A - BM 35-32A	301.02	305.46	52.20	51.15	49.554 CC, ES	
BM 35-32A (Existing Well) - BM 35-32A - BM 35-32A	10,400.00	10,400.00	1,285.37	1,229.61	23.053 SF	
BM 35-32B - BM 35-32B - BM 35-32B Proposal 2.0	200.00	200.00	29.99	29.37	48.336 CC, ES	
BM 35-32B - BM 35-32B - BM 35-32B Proposal 2.0	1,300.00	1,294.15	134.72	128.12	20.419 SF	
BM 35-32C - BM 35-32C - BM 35-32C Proposal 2.0	200.00	200.00	22.47	21.85	36.217 CC, ES	
BM 35-32C - BM 35-32C - BM 35-32C Proposal 2.0	700.00	700.17	41.21	38.17	13.583 SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



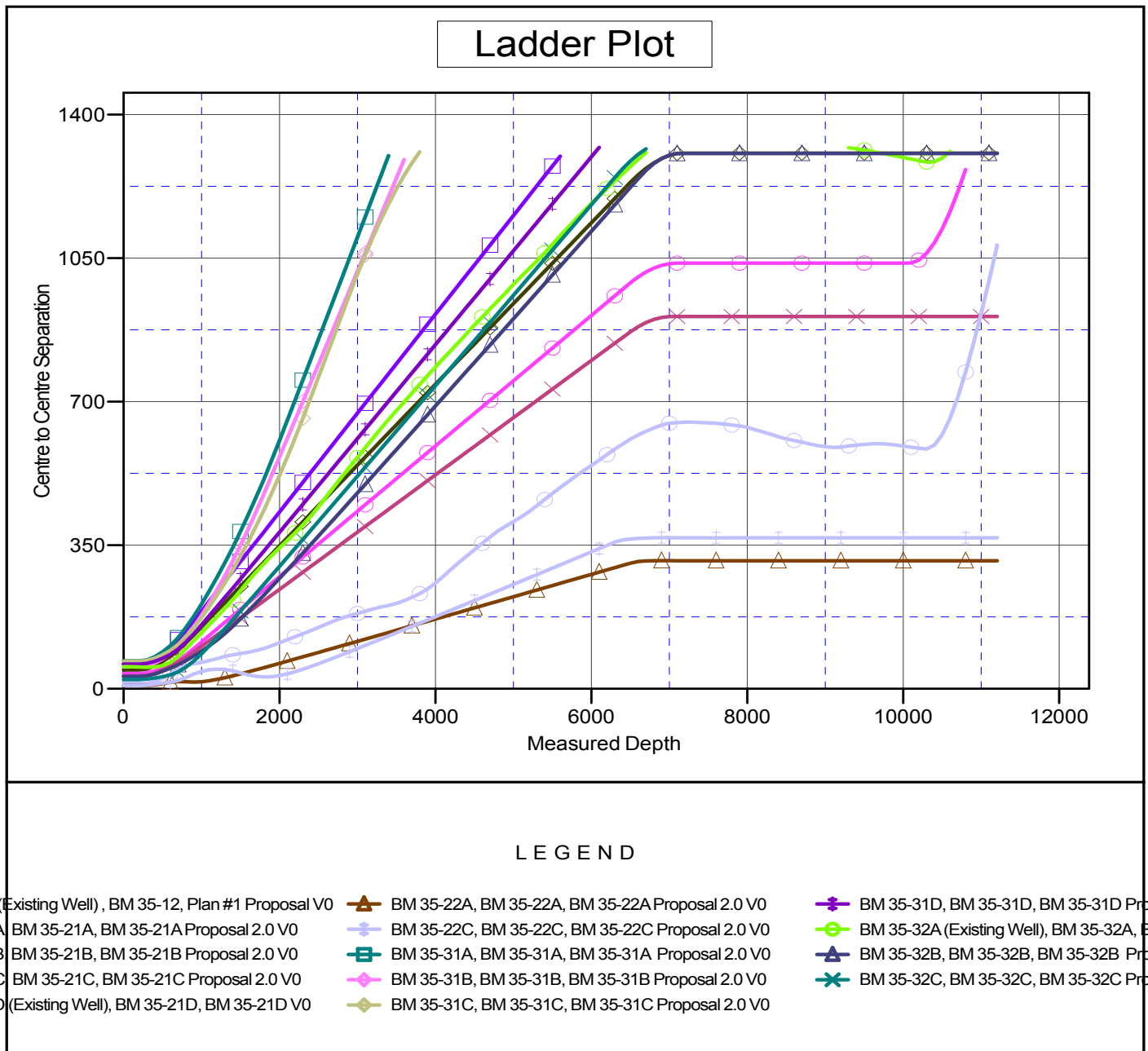
# Sperry Drilling

## Anticollision Summary Report

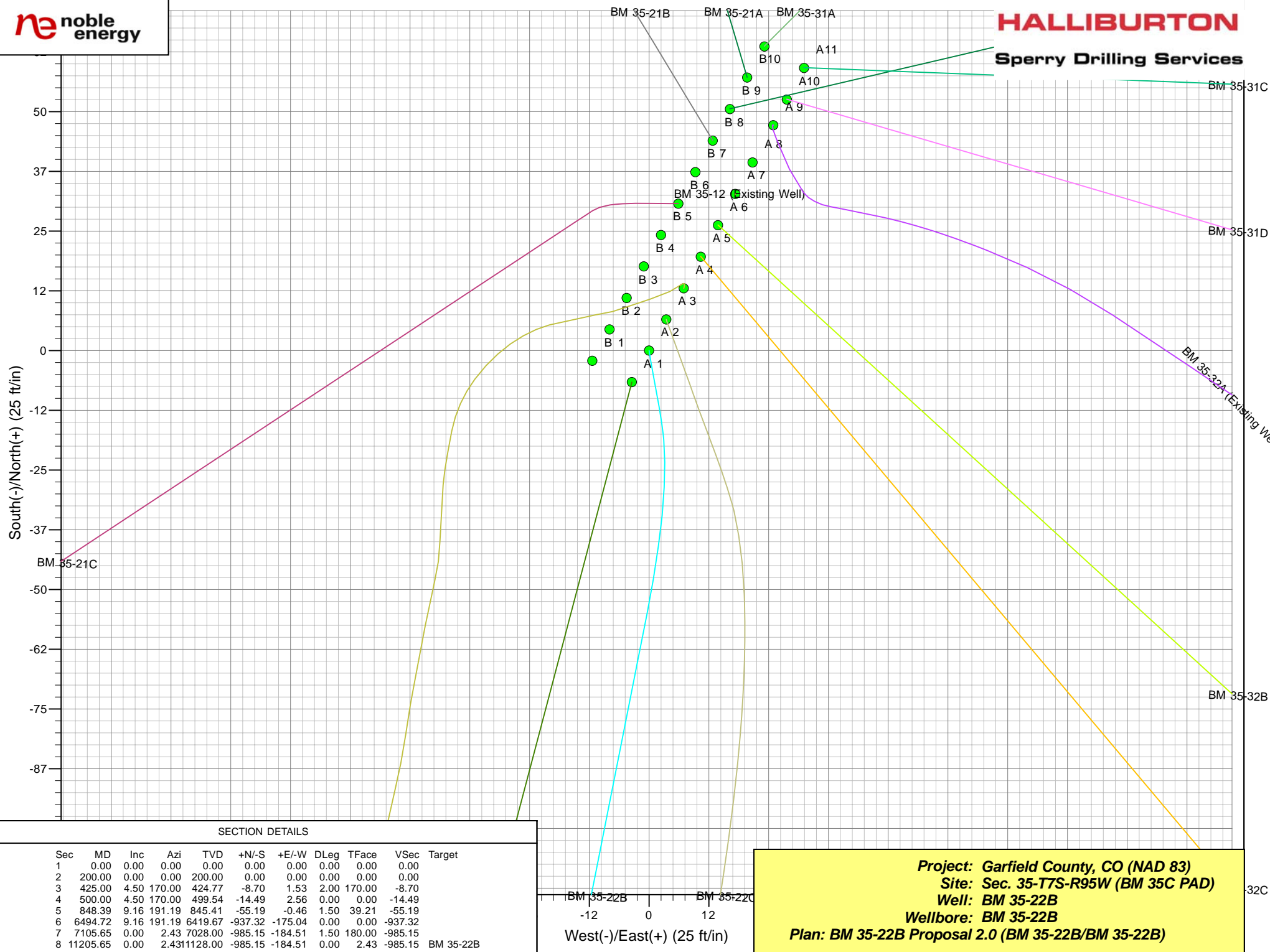
<b>Company:</b>	Noble Energy (Rockies)	<b>Local Co-ordinate Reference:</b>	Well BM 35-22B
<b>Project:</b>	Garfield County, CO (NAD 83)	<b>TVD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Reference Site:</b>	Sec. 35-T7S-R95W (BM 35C PAD)	<b>MD Reference:</b>	RKB - 24' @ 9257.00ft
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	BM 35-22B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BM 35-22B	<b>Database:</b>	.Sperry EDM .16 PRD
<b>Reference Design:</b>	BM 35-22B Proposal 2.0	<b>Offset TVD Reference:</b>	Offset Datum

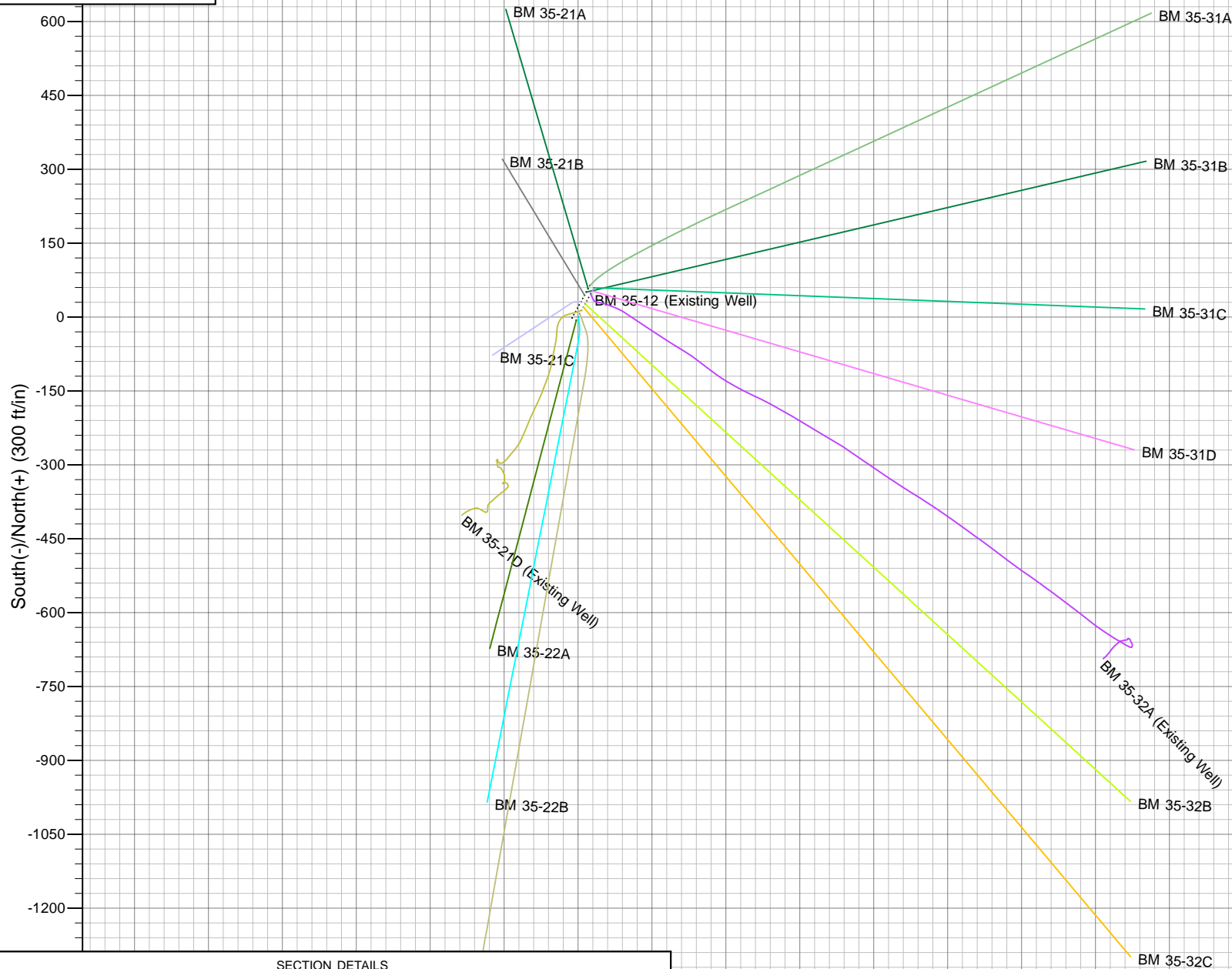
Reference Depths are relative to RKB - 24' @ 9257.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W °

Coordinates are relative to: BM 35-22B  
Coordinate System is US State Plane 1983, Colorado Central Zone  
Grid Convergence at Surface is: -1.56°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation





**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N-/S	+E-/W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	425.00	4.50	170.00	424.77	-8.70	1.53	2.00	170.00	-8.70	
4	500.00	4.50	170.00	499.54	-14.49	2.56	0.00	0.00	-14.49	
5	848.39	9.16	191.19	845.41	-55.19	-0.46	1.50	39.21	-55.19	
6	6494.72	9.16	191.19	6419.67	-937.32	-175.04	0.00	0.00	-937.32	
7	7105.65	0.00	2.43	7028.00	-985.15	-184.51	1.50	180.00	-985.15	
8	11205.65	0.00	2.43	11128.00	-985.15	-184.51	0.00	2.43	-985.15	BM 35-22B

West(-)/East(+) (300 ft/in)

**Project: Garfield County, CO (NAD 83)**  
**Site: Sec. 35-T7S-R95W (BM 35C PAD)**  
**Well: BM 35-22B**  
**Wellbore: BM 35-22B**  
**Plan: BM 35-22B Proposal 2.0 (BM 35-22B/BM 35-22B)**