



Noble Energy (Rockies)

Garfield County, CO (NAD 83)

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

BM 35-31B

BM 35-31B

Plan: BM 35-31B Proposal 2.0

Standard Proposal Report

14 February, 2010



HALLIBURTON
Sperry Drilling Services

Project: Garfield County, CO (NAD 83)
Site: Sec. 35-T7S-R95W (BM 35C PAD)
Well: BM 35-31B
Wellbore: BM 35-31B
Plan: BM 35-31B 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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00
1772.40	22.84	76.84	1732.41	68.17	291.53	1.50	76.84	68.17
3235.23	22.84	76.84	3080.59	197.44	844.33	0.00	0.00	197.44
4757.63	0.00	2.43	4563.00	265.61	1135.86	1.50	180.00	265.61
11407.63	0.00	2.43	11213.00	265.61	1135.86	0.00	0.00	265.61

BM 35-31B

WELL DETAILS: BM 35-31B

	Ground Level:	9233.00		
Northing	Easting	Latitude		Longitude
1579648.80	2303057.10	39° 23' 56.111 N	107° 57'	59.668 W

FORMATION TOP DETAILS

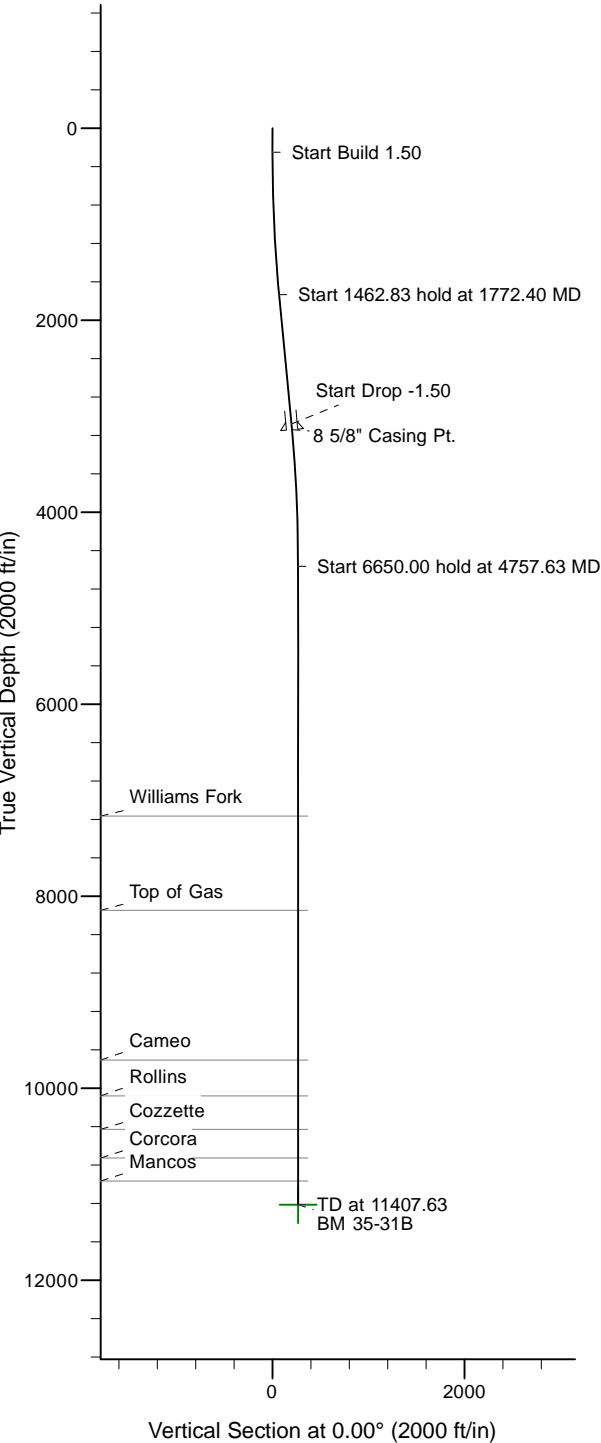
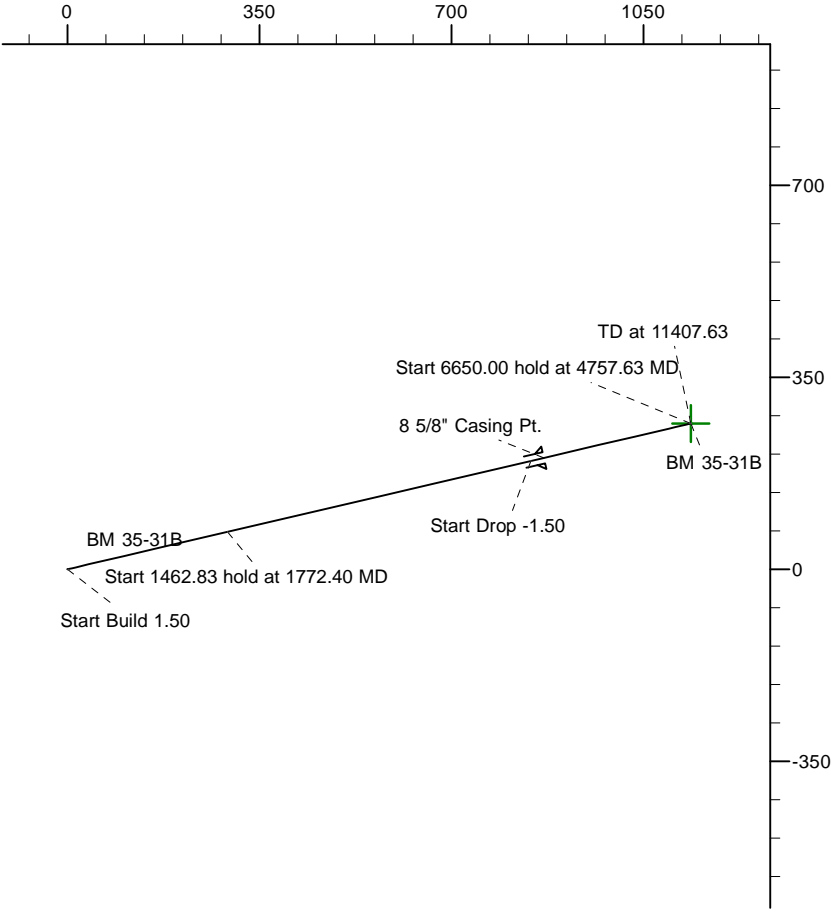
TVDPath	MDPath	Formation
7164.00	7358.63	Williams Fork
8146.00	8340.63	Top of Gas
9707.00	9901.63	Cameo
10080.00	10274.63	Rollins
10428.00	10622.63	Cozzette
10725.00	10919.63	Corcora
10966.00	11160.63	Mancos



WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape Point
BM 35-31B	11213.00	265.61	1135.86	Point

West(-)/East(+) (350 ft/in)



ANNOTATIONS

TVD	MD	Annotation
250.00	250.00	Start Build 1.50
1732.41	1772.40	Start 1462.83 hold at 1772.40 MD
3080.59	3235.23	Start Drop -1.50
4563.00	4757.63	Start 6650.00 hold at 4757.63 MD
11213.00	11407.63	TD at 11407.63

PROJECT DETAILS: Garfield County, CO (NAD 83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone

System Datum: Mean Sea Level

Plan: BM 35-31B Proposal 2.0 (BM 35-31B/BM 35-31B)

Created By: Bart Goff Date: 10/18/2009
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____

Database:	.Sperry EDM .16 PRD	Local Co-ordinate Reference:	Well BM 35-31B
Company:	Noble Energy (Rockies)	TVD Reference:	RKB - 24' @ 9257.00ft
Project:	Garfield County, CO (NAD 83)	MD Reference:	RKB - 24' @ 9257.00ft
Site:	Sec. 35-T7S-R95W (BM 35C PAD)	North Reference:	Grid
Well:	BM 35-31B	Survey Calculation Method:	Minimum Curvature
Wellbore:	BM 35-31B		
Design:	BM 35-31B Proposal 2.0		

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

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

Well	BM 35-31B		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	9,257.00 ft
		Latitude:	39° 23' 56.111 N
		Longitude:	107° 57' 59.668 W
		Ground Level:	9,233.00 ft

Wellbore	BM 35-31B				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2009	8/25/2009	10.56	65.74	52,370

Design	BM 35-31B Proposal 2.0			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	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
250.00	0.00	0.00	250.00	-9,007.00	0.00	0.00	0.00	0.00	0.00	0.00
1,772.40	22.84	76.84	1,732.41	-7,524.59	68.17	291.53	1.50	1.50	0.00	76.84
3,235.23	22.84	76.84	3,080.59	-6,176.41	197.44	844.33	0.00	0.00	0.00	0.00
4,757.63	0.00	2.43	4,563.00	-4,694.00	265.61	1,135.86	1.50	-1.50	0.00	180.00
11,407.63	0.00	2.43	11,213.00	1,956.00	265.61	1,135.86	0.00	0.00	0.00	0.00

Database:	.Sperry EDM .16 PRD	Local Co-ordinate Reference:	Well BM 35-31B
Company:	Noble Energy (Rockies)	TVD Reference:	RKB - 24' @ 9257.00ft
Project:	Garfield County, CO (NAD 83)	MD Reference:	RKB - 24' @ 9257.00ft
Site:	Sec. 35-T7S-R95W (BM 35C PAD)	North Reference:	Grid
Well:	BM 35-31B	Survey Calculation Method:	Minimum Curvature
Wellbore:	BM 35-31B		
Design:	BM 35-31B 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	1,579,648.80	2,303,057.10	0.00	0.00
100.00	0.00	0.00	100.00	-9,157.00	0.00	0.00	1,579,648.80	2,303,057.10	0.00	0.00
200.00	0.00	0.00	200.00	-9,057.00	0.00	0.00	1,579,648.80	2,303,057.10	0.00	0.00
250.00	0.00	0.00	250.00	-9,007.00	0.00	0.00	1,579,648.80	2,303,057.10	0.00	0.00
Start Build 1.50										
300.00	0.75	76.84	300.00	-8,957.00	0.07	0.32	1,579,648.87	2,303,057.42	1.50	0.07
400.00	2.25	76.84	399.96	-8,857.04	0.67	2.87	1,579,649.47	2,303,059.97	1.50	0.67
500.00	3.75	76.84	499.82	-8,757.18	1.86	7.96	1,579,650.66	2,303,065.06	1.50	1.86
600.00	5.25	76.84	599.51	-8,657.49	3.65	15.60	1,579,652.45	2,303,072.70	1.50	3.65
700.00	6.75	76.84	698.96	-8,558.04	6.03	25.78	1,579,654.83	2,303,082.88	1.50	6.03
800.00	8.25	76.84	798.10	-8,458.90	9.00	38.49	1,579,657.80	2,303,095.59	1.50	9.00
900.00	9.75	76.84	896.87	-8,360.13	12.56	53.72	1,579,661.36	2,303,110.82	1.50	12.56
1,000.00	11.25	76.84	995.19	-8,261.81	16.71	71.47	1,579,665.51	2,303,128.56	1.50	16.71
1,100.00	12.75	76.84	1,093.00	-8,164.00	21.45	91.71	1,579,670.25	2,303,148.81	1.50	21.45
1,200.00	14.25	76.84	1,190.24	-8,066.76	26.76	114.44	1,579,675.56	2,303,171.54	1.50	26.76
1,300.00	15.75	76.84	1,286.83	-7,970.17	32.65	139.64	1,579,681.45	2,303,196.74	1.50	32.65
1,400.00	17.25	76.84	1,382.71	-7,874.29	39.12	167.30	1,579,687.92	2,303,224.39	1.50	39.12
1,500.00	18.75	76.84	1,477.81	-7,779.19	46.16	197.39	1,579,694.96	2,303,254.48	1.50	46.16
1,600.00	20.25	76.84	1,572.07	-7,684.93	53.76	229.89	1,579,702.56	2,303,286.98	1.50	53.76
1,700.00	21.75	76.84	1,665.43	-7,591.57	61.92	264.78	1,579,710.72	2,303,321.87	1.50	61.92
1,772.40	22.84	76.84	1,732.41	-7,524.59	68.17	291.53	1,579,716.97	2,303,348.61	1.50	68.17
Start 1462.83 hold at 1772.40 MD										
1,800.00	22.84	76.84	1,757.85	-7,499.15	70.61	301.96	1,579,719.41	2,303,359.04	0.00	70.61
1,900.00	22.84	76.84	1,850.01	-7,406.99	79.45	339.75	1,579,728.24	2,303,396.83	0.00	79.45
2,000.00	22.84	76.84	1,942.17	-7,314.83	88.28	377.54	1,579,737.08	2,303,434.62	0.00	88.28
2,100.00	22.84	76.84	2,034.34	-7,222.66	97.12	415.33	1,579,745.92	2,303,472.41	0.00	97.12
2,200.00	22.84	76.84	2,126.50	-7,130.50	105.96	453.12	1,579,754.75	2,303,510.19	0.00	105.96
2,300.00	22.84	76.84	2,218.66	-7,038.34	114.80	490.91	1,579,763.59	2,303,547.98	0.00	114.80
2,400.00	22.84	76.84	2,310.82	-6,946.18	123.63	528.70	1,579,772.43	2,303,585.77	0.00	123.63
2,500.00	22.84	76.84	2,402.98	-6,854.02	132.47	566.49	1,579,781.26	2,303,623.56	0.00	132.47
2,600.00	22.84	76.84	2,495.15	-6,761.85	141.31	604.28	1,579,790.10	2,303,661.35	0.00	141.31
2,700.00	22.84	76.84	2,587.31	-6,669.69	150.14	642.07	1,579,798.94	2,303,699.13	0.00	150.14
2,800.00	22.84	76.84	2,679.47	-6,577.53	158.98	679.86	1,579,807.77	2,303,736.92	0.00	158.98
2,900.00	22.84	76.84	2,771.63	-6,485.37	167.82	717.65	1,579,816.61	2,303,774.71	0.00	167.82
3,000.00	22.84	76.84	2,863.79	-6,393.21	176.65	755.44	1,579,825.45	2,303,812.50	0.00	176.65
3,100.00	22.84	76.84	2,955.95	-6,301.05	185.49	793.23	1,579,834.28	2,303,850.29	0.00	185.49
3,200.00	22.84	76.84	3,048.12	-6,208.88	194.33	831.02	1,579,843.12	2,303,888.07	0.00	194.33
3,235.23	22.84	76.84	3,080.59	-6,176.41	197.44	844.33	1,579,846.23	2,303,901.39	0.00	197.44
Start Drop -1.50										
3,300.00	21.86	76.84	3,140.49	-6,116.51	203.05	868.31	1,579,851.84	2,303,925.37	1.50	203.05
8 5/8" Casing Pt.										
3,400.00	20.36	76.84	3,233.77	-6,023.23	211.25	903.39	1,579,860.04	2,303,960.44	1.50	211.25
3,500.00	18.86	76.84	3,327.97	-5,929.03	218.90	936.07	1,579,867.68	2,303,993.13	1.50	218.90
3,600.00	17.36	76.84	3,423.01	-5,833.99	225.97	966.35	1,579,874.76	2,304,023.40	1.50	225.97
3,700.00	15.86	76.84	3,518.83	-5,738.17	232.49	994.19	1,579,881.27	2,304,051.24	1.50	232.49

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Company:	Noble Energy (Rockies)	TVD Reference:	RKB - 24' @ 9257.00ft
Project:	Garfield County, CO (NAD 83)	MD Reference:	RKB - 24' @ 9257.00ft
Site:	Sec. 35-T7S-R95W (BM 35C PAD)	North Reference:	Grid
Well:	BM 35-31B	Survey Calculation Method:	Minimum Curvature
Wellbore:	BM 35-31B		
Design:	BM 35-31B 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 -5,641.63	Vert Section
3,800.00	14.36	76.84	3,615.37	-5,641.63	238.42	1,019.58	1,579,887.21	2,304,076.63	1.50	238.42
3,900.00	12.86	76.84	3,712.56	-5,544.44	243.78	1,042.50	1,579,892.57	2,304,099.55	1.50	243.78
4,000.00	11.36	76.84	3,810.33	-5,446.67	248.56	1,062.93	1,579,897.35	2,304,119.98	1.50	248.56
4,100.00	9.86	76.84	3,908.61	-5,348.39	252.75	1,080.87	1,579,901.54	2,304,137.91	1.50	252.75
4,200.00	8.36	76.84	4,007.35	-5,249.65	256.36	1,096.29	1,579,905.15	2,304,153.34	1.50	256.36
4,300.00	6.86	76.84	4,106.46	-5,150.54	259.38	1,109.20	1,579,908.17	2,304,166.24	1.50	259.38
4,400.00	5.36	76.84	4,205.89	-5,051.11	261.80	1,119.57	1,579,910.59	2,304,176.61	1.50	261.80
4,500.00	3.86	76.84	4,305.56	-4,951.44	263.64	1,127.40	1,579,912.42	2,304,184.44	1.50	263.64
4,600.00	2.36	76.84	4,405.41	-4,851.59	264.87	1,132.69	1,579,913.66	2,304,189.73	1.50	264.87
4,700.00	0.86	76.84	4,505.37	-4,751.63	265.51	1,135.43	1,579,914.30	2,304,192.48	1.50	265.51
4,757.63	0.00	2.43	4,563.00	-4,694.00	265.61	1,135.86	1,579,914.40	2,304,192.90	1.50	265.61
Start 6650.00 hold at 4757.63 MD										
4,800.00	0.00	2.43	4,605.37	-4,651.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
4,900.00	0.00	2.43	4,705.37	-4,551.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
5,000.00	0.00	2.43	4,805.37	-4,451.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
5,100.00	0.00	2.43	4,905.37	-4,351.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
5,200.00	0.00	2.43	5,005.37	-4,251.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
5,300.00	0.00	2.43	5,105.37	-4,151.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
5,400.00	0.00	2.43	5,205.37	-4,051.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
5,500.00	0.00	2.43	5,305.37	-3,951.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
5,600.00	0.00	2.43	5,405.37	-3,851.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
5,700.00	0.00	2.43	5,505.37	-3,751.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
5,800.00	0.00	2.43	5,605.37	-3,651.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
5,900.00	0.00	2.43	5,705.37	-3,551.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
6,000.00	0.00	2.43	5,805.37	-3,451.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
6,100.00	0.00	2.43	5,905.37	-3,351.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
6,200.00	0.00	2.43	6,005.37	-3,251.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
6,300.00	0.00	2.43	6,105.37	-3,151.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
6,400.00	0.00	2.43	6,205.37	-3,051.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
6,500.00	0.00	2.43	6,305.37	-2,951.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
6,600.00	0.00	2.43	6,405.37	-2,851.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
6,700.00	0.00	2.43	6,505.37	-2,751.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
6,800.00	0.00	2.43	6,605.37	-2,651.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
6,900.00	0.00	2.43	6,705.37	-2,551.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
7,000.00	0.00	2.43	6,805.37	-2,451.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
7,100.00	0.00	2.43	6,905.37	-2,351.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
7,200.00	0.00	2.43	7,005.37	-2,251.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
7,300.00	0.00	2.43	7,105.37	-2,151.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
7,358.63	0.00	2.43	7,164.00	-2,093.00	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
Williams Fork										
7,400.00	0.00	2.43	7,205.37	-2,051.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
7,500.00	0.00	2.43	7,305.37	-1,951.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
7,600.00	0.00	2.43	7,405.37	-1,851.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
7,700.00	0.00	2.43	7,505.37	-1,751.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
7,800.00	0.00	2.43	7,605.37	-1,651.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61

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Site:	Sec. 35-T7S-R95W (BM 35C PAD)	North Reference:	Grid
Well:	BM 35-31B	Survey Calculation Method:	Minimum Curvature
Wellbore:	BM 35-31B		
Design:	BM 35-31B 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 -1,551.63	Vert Section
7,900.00	0.00	2.43	7,705.37	-1,551.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
8,000.00	0.00	2.43	7,805.37	-1,451.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
8,100.00	0.00	2.43	7,905.37	-1,351.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
8,200.00	0.00	2.43	8,005.37	-1,251.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
8,300.00	0.00	2.43	8,105.37	-1,151.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
8,340.63	0.00	2.43	8,146.00	-1,111.00	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
Top of Gas										
8,400.00	0.00	2.43	8,205.37	-1,051.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
8,500.00	0.00	2.43	8,305.37	-951.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
8,600.00	0.00	2.43	8,405.37	-851.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
8,700.00	0.00	2.43	8,505.37	-751.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
8,800.00	0.00	2.43	8,605.37	-651.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
8,900.00	0.00	2.43	8,705.37	-551.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,000.00	0.00	2.43	8,805.37	-451.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,100.00	0.00	2.43	8,905.37	-351.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,200.00	0.00	2.43	9,005.37	-251.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,300.00	0.00	2.43	9,105.37	-151.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,400.00	0.00	2.43	9,205.37	-51.63	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,500.00	0.00	2.43	9,305.37	48.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,600.00	0.00	2.43	9,405.37	148.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,700.00	0.00	2.43	9,505.37	248.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,800.00	0.00	2.43	9,605.37	348.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,900.00	0.00	2.43	9,705.37	448.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
9,901.63	0.00	2.43	9,707.00	450.00	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
Cameo										
10,000.00	0.00	2.43	9,805.37	548.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
10,100.00	0.00	2.43	9,905.37	648.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
10,200.00	0.00	2.43	10,005.37	748.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
10,274.63	0.00	2.43	10,080.00	823.00	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
Rollins										
10,300.00	0.00	2.43	10,105.37	848.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
10,400.00	0.00	2.43	10,205.37	948.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
10,500.00	0.00	2.43	10,305.37	1,048.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
10,600.00	0.00	2.43	10,405.37	1,148.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
10,622.63	0.00	2.43	10,428.00	1,171.00	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
Cozzette										
10,700.00	0.00	2.43	10,505.37	1,248.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
10,800.00	0.00	2.43	10,605.37	1,348.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
10,900.00	0.00	2.43	10,705.37	1,448.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
10,919.63	0.00	2.43	10,725.00	1,468.00	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
Corcora										
11,000.00	0.00	2.43	10,805.37	1,548.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
11,100.00	0.00	2.43	10,905.37	1,648.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
11,160.63	0.00	2.43	10,966.00	1,709.00	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
Mancos										

Database:	.Sperry EDM .16 PRD	Local Co-ordinate Reference:	Well BM 35-31B
Company:	Noble Energy (Rockies)	TVD Reference:	RKB - 24' @ 9257.00ft
Project:	Garfield County, CO (NAD 83)	MD Reference:	RKB - 24' @ 9257.00ft
Site:	Sec. 35-T7S-R95W (BM 35C PAD)	North Reference:	Grid
Well:	BM 35-31B	Survey Calculation Method:	Minimum Curvature
Wellbore:	BM 35-31B		
Design:	BM 35-31B 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 1,748.37	Vert Section
11,200.00	0.00	2.43	11,005.37	1,748.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
11,300.00	0.00	2.43	11,105.37	1,848.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
11,400.00	0.00	2.43	11,205.37	1,948.37	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
11,407.63	0.00	2.43	11,213.00	1,956.00	265.61	1,135.86	1,579,914.40	2,304,192.90	0.00	265.61
BM 35-31B										

Targets								
Target Name								
- hit/miss target		Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)
- Shape								
BM 35-31B		0.00	2.43	11,213.00	265.61	1,135.86	1,579,914.40	2,304,192.90
- plan hits target center								
- Point								

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
3,300.00	3,140.49	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 (°)	
10,622.63	10,428.00		Cozzette		0.00		
10,274.63	10,080.00		Rollins		0.00		
7,358.63	7,164.00		Williams Fork		0.00		
9,901.63	9,707.00		Cameo		0.00		
8,340.63	8,146.00		Top of Gas		0.00		
10,919.63	10,725.00		Corcora		0.00		
11,160.63	10,966.00		Mancos		0.00		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
250.00	250.00	0.00	0.00	Start Build 1.50
1,772.40	1,732.41	68.17	291.53	Start 1462.83 hold at 1772.40 MD
3,235.23	3,080.59	197.44	844.33	Start Drop -1.50
4,757.63	4,563.00	265.61	1,135.86	Start 6650.00 hold at 4757.63 MD
11,407.63	11,213.00	265.61	1,135.86	TD at 11407.63

Sperry Drilling

Anticollision Summary Report

Company:	Noble Energy (Rockies)	Local Co-ordinate Reference:	Well BM 35-31B
Project:	Garfield County, CO (NAD 83)	TVD Reference:	RKB - 24' @ 9257.00ft
Reference Site:	Sec. 35-T7S-R95W (BM 35C PAD)	MD Reference:	RKB - 24' @ 9257.00ft
Site Error:	0.00ft	North Reference:	Grid
Reference Well:	BM 35-31B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BM 35-31B	Database:	.Sperry EDM .16 PRD
Reference Design:	BM 35-31B Proposal 2.0	Offset TVD Reference:	Offset Datum

Reference	BM 35-31B Proposal 2.0		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,340.76ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	2/13/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	400.00	BM 35-31B Proposal 2.0 (BM 35-31B)	SRG-GYRO-MS	surface readout gyro multishot	
400.00	11,407.63	BM 35-31B Proposal 2.0 (BM 35-31B)	MWD	MWD - Standard	

Sperry Drilling

Anticollision Summary Report

Company:	Noble Energy (Rockies)	Local Co-ordinate Reference:	Well BM 35-31B
Project:	Garfield County, CO (NAD 83)	TVD Reference:	RKB - 24' @ 9257.00ft
Reference Site:	Sec. 35-T7S-R95W (BM 35C PAD)	MD Reference:	RKB - 24' @ 9257.00ft
Site Error:	0.00ft	North Reference:	Grid
Reference Well:	BM 35-31B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BM 35-31B	Database:	.Sperry EDM .16 PRD
Reference Design:	BM 35-31B Proposal 2.0	Offset TVD Reference:	Offset Datum

Reference	BM 35-31B Proposal 2.0		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,340.76ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	2/14/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	11,407.63	BM 35-31B Proposal 2.0 (BM 35-31B)	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
Sec. 35-T7S-R95W (BM 35C PAD)						
BM 35-12 (Existing Well) - BM 35-12 - Plan #1 Proposal	200.00	203.00	17.86	17.23	28.482 CC	
BM 35-12 (Existing Well) - BM 35-12 - Plan #1 Proposal	300.00	303.00	17.92	16.85	16.719 ES	
BM 35-12 (Existing Well) - BM 35-12 - Plan #1 Proposal	500.00	502.82	20.83	18.87	10.604 SF	
BM 35-21A - BM 35-21A - BM 35-21A Proposal 2.0	200.00	200.00	7.52	6.90	12.119 CC, ES	
BM 35-21A - BM 35-21A - BM 35-21A Proposal 2.0	400.00	399.49	10.97	9.46	7.265 SF	
BM 35-21B - BM 35-21B - BM 35-21B Proposal 2.0	300.00	300.06	7.42	6.35	6.970 CC, ES	
BM 35-21B - BM 35-21B - BM 35-21B Proposal 2.0	400.00	399.97	9.37	7.86	6.210 SF	
BM 35-21C - BM 35-21C - BM 35-21C Proposal 2.0	200.00	200.00	22.56	21.93	36.358 CC, ES	
BM 35-21C - BM 35-21C - BM 35-21C Proposal 2.0	400.00	399.07	27.85	26.35	18.636 SF	
BM 35-21D (Existing Well) - BM 35-21D - BM 35-21D	110.44	113.45	37.80	37.53	145.247 CC, ES	
BM 35-21D (Existing Well) - BM 35-21D - BM 35-21D	500.00	499.89	56.37	54.37	28.179 SF	
BM 35-22A - BM 35-22A - BM 35-22A Proposal 2.0	200.00	200.00	60.77	60.15	97.953 CC, ES	
BM 35-22A - BM 35-22A - BM 35-22A Proposal 2.0	800.00	786.97	132.02	128.65	39.174 SF	
BM 35-22B - BM 35-22B - BM 35-22B Proposal 2.0	200.00	200.00	53.35	52.73	86.000 CC, ES	
BM 35-22B - BM 35-22B - BM 35-22B Proposal 2.0	700.00	689.07	98.89	96.00	34.228 SF	
BM 35-22C - BM 35-22C - BM 35-22C Proposal 2.0	200.00	200.00	46.06	45.44	74.255 CC	
BM 35-22C - BM 35-22C - BM 35-22C Proposal 2.0	227.83	227.83	46.09	45.35	61.936 ES	
BM 35-22C - BM 35-22C - BM 35-22C Proposal 2.0	700.00	695.43	74.32	71.47	26.067 SF	
BM 35-31A - BM 35-31A - BM 35-31A Proposal 2.0	200.00	200.00	14.95	14.33	24.098 CC, ES	
BM 35-31A - BM 35-31A - BM 35-31A Proposal 2.0	11,407.63	11,433.64	300.80	235.94	4.637 SF	
BM 35-31C - BM 35-31C - BM 35-31C Proposal 2.0	709.03	707.11	16.14	13.28	5.655 CC	
BM 35-31C - BM 35-31C - BM 35-31C Proposal 2.0	800.00	797.63	16.45	13.17	5.017 ES	
BM 35-31C - BM 35-31C - BM 35-31C Proposal 2.0	1,200.00	1,196.33	24.07	17.65	3.750 SF	
BM 35-31D - BM 35-31D - BM 35-31D Proposal 2.0	200.00	200.00	12.07	11.45	19.453 CC, ES	
BM 35-31D - BM 35-31D - BM 35-31D Proposal 2.0	600.00	598.38	17.96	15.59	7.592 SF	
BM 35-32A (Existing Well) - BM 35-32A - BM 35-32A	141.62	144.62	9.54	9.17	25.740 CC, ES	
BM 35-32A (Existing Well) - BM 35-32A - BM 35-32A	700.00	701.10	30.63	27.70	10.460 SF	
BM 35-32B - BM 35-32B - BM 35-32B Proposal 2.0	200.00	200.00	24.43	23.81	39.380 CC	
BM 35-32B - BM 35-32B - BM 35-32B Proposal 2.0	300.00	300.00	24.54	23.47	23.039 ES	
BM 35-32B - BM 35-32B - BM 35-32B Proposal 2.0	600.00	599.28	33.63	31.23	14.004 SF	
BM 35-32C - BM 35-32C - BM 35-32C Proposal 2.0	200.00	200.00	31.50	30.88	50.774 CC, ES	
BM 35-32C - BM 35-32C - BM 35-32C Proposal 2.0	600.00	595.81	53.46	51.03	22.013 SF	

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

Sperry Drilling

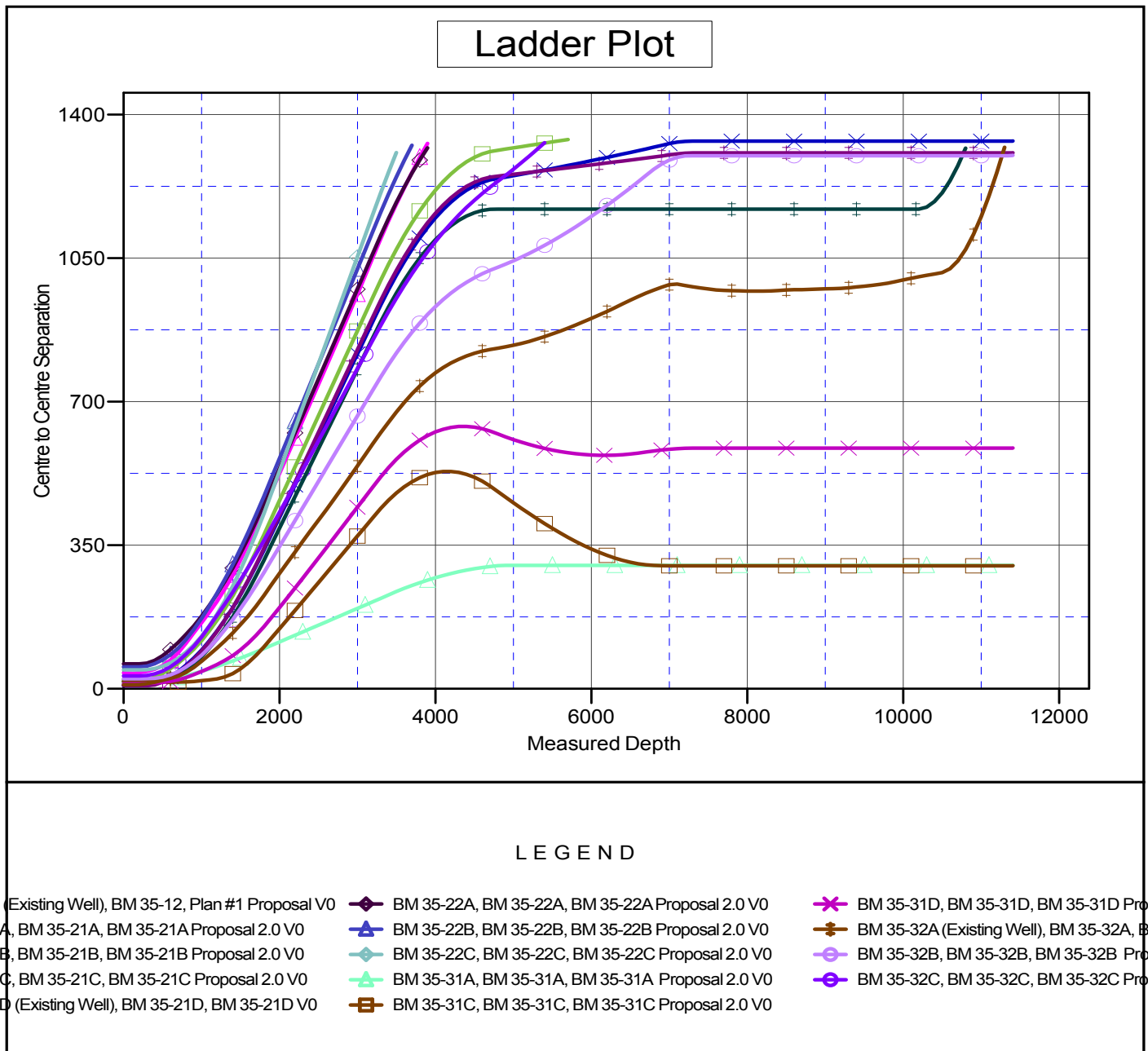
Anticollision Summary Report

Company: Noble Energy (Rockies)
Project: Garfield County, CO (NAD 83)
Reference Site: Sec. 35-T7S-R95W (BM 35C PAD)
Site Error: 0.00ft
Reference Well: BM 35-31B
Well Error: 0.00ft
Reference Wellbore: BM 35-31B
Reference Design: BM 35-31B Proposal 2.0

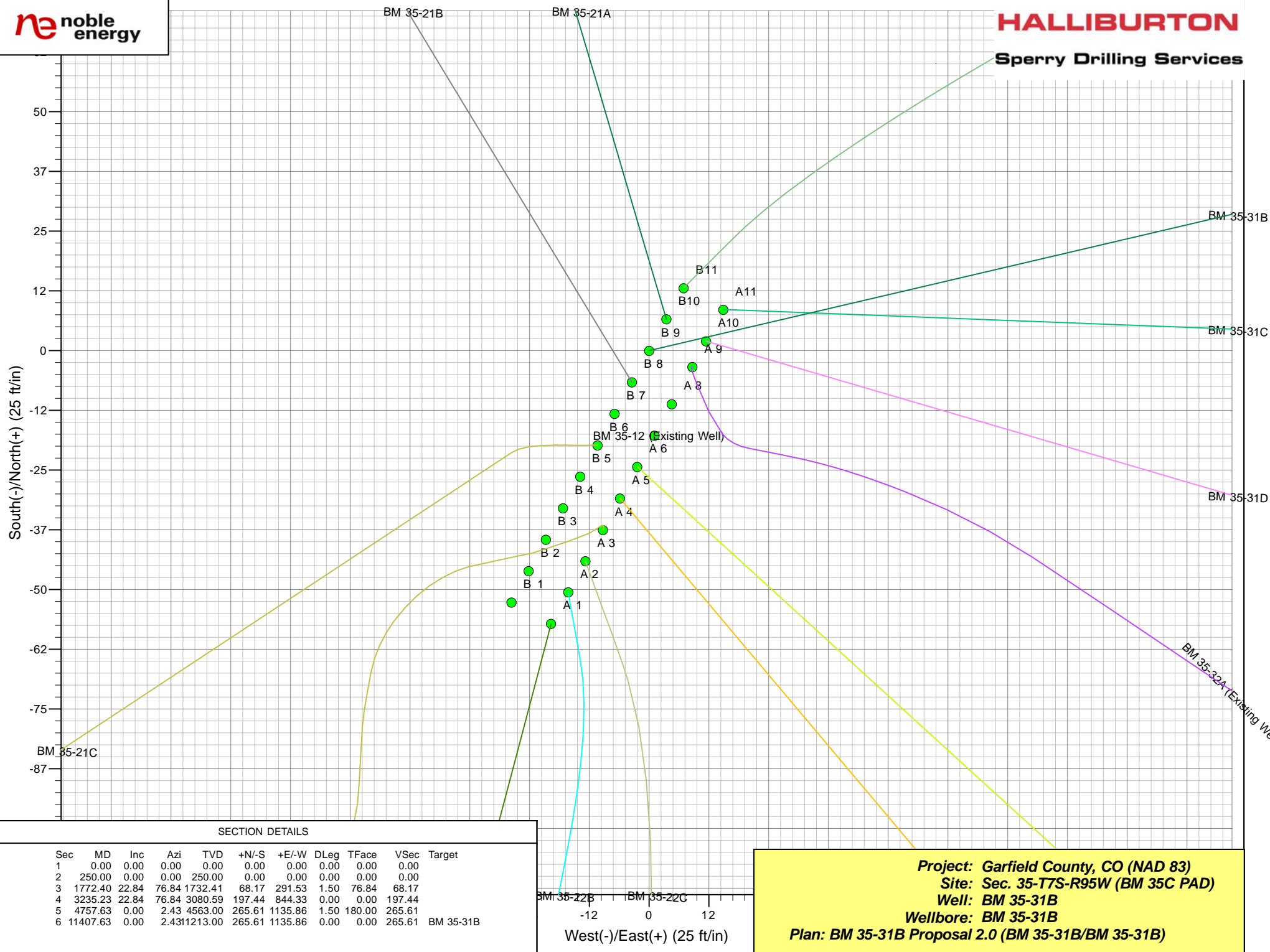
Local Co-ordinate Reference: Well BM 35-31B
TVD Reference: RKB - 24' @ 9257.00ft
MD Reference: RKB - 24' @ 9257.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: .Sperry EDM .16 PRD
Offset TVD Reference: Offset Datum

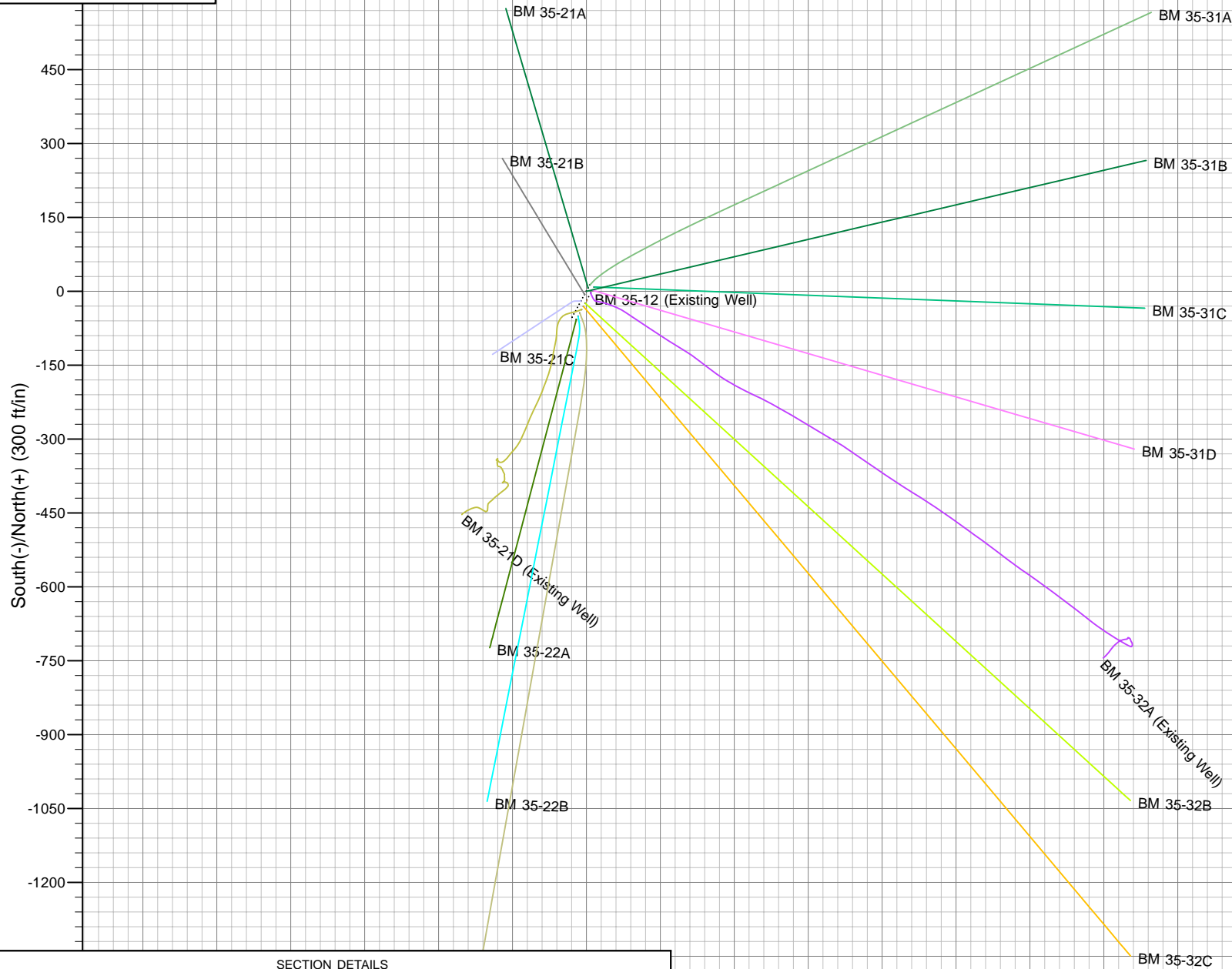
Reference Depths are relative to RKB - 24' @ 9257.00ft
 Offset Depths are relative to Offset Datum
 Central Meridian is 105° 30' 0.000 W °

Coordinates are relative to: BM 35-31B
 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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1772.40	22.84	76.84	1732.41	68.17	291.53	1.50	76.84	68.17	
4	3235.23	22.84	76.84	3080.59	197.44	844.33	0.00	0.00	197.44	
5	4757.63	0.00	2.43	4563.00	265.61	1135.86	1.50	180.00	265.61	
6	11407.63	0.00	2.43	11213.00	265.61	1135.86	0.00	0.00	265.61	BM 35-31B

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

Project: Garfield County, CO (NAD 83)
Site: Sec. 35-T7S-R95W (BM 35C PAD)
Well: BM 35-31B
Wellbore: BM 35-31B
Plan: BM 35-31B Proposal 2.0 (BM 35-31B/BM 35-31B)