



Noble Energy (Rockies)

Garfield County, CO (NAD 83)

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

BM 35-21A

BM 35-21A

Plan: BM 35-21A 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 35-21A
Wellbore: BM 35-21A
Plan: BM 35-21A 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
544.57	5.17	343.60	544.10	14.90	-4.39	1.50	343.60	14.90
6764.66	5.17	343.60	6738.90	552.43	-162.62	0.00	0.00	552.43
7109.22	0.00	2.43	7083.00	567.33	-167.01	1.50	180.00	567.33
11209.22	0.00	2.43	11183.00	567.33	-167.01	0.00	0.00	567.33

BM 35-21A

WELL DETAILS: BM 35-21A

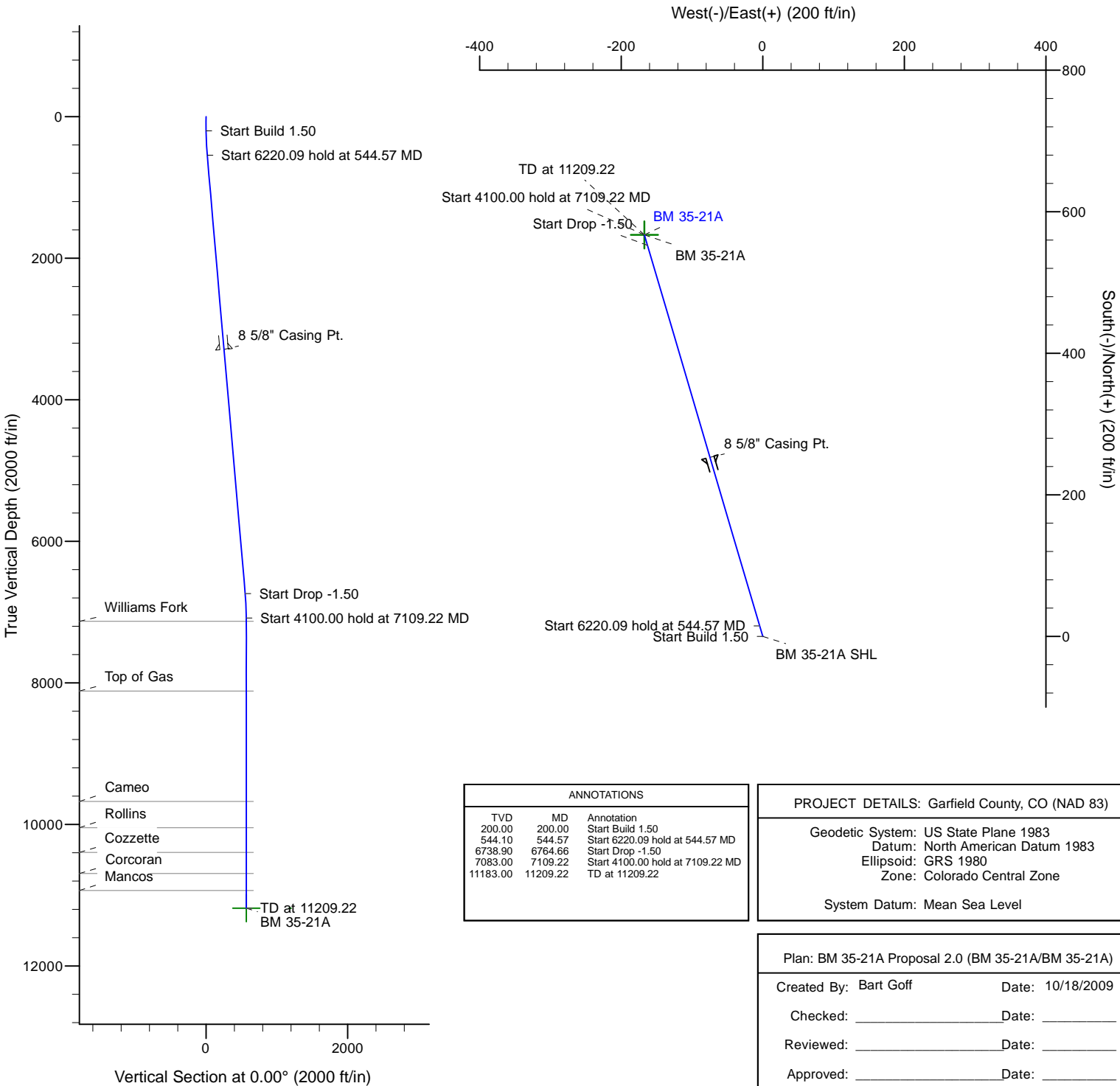
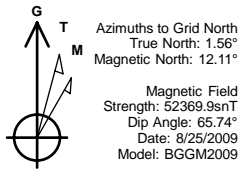
North	Ground Level	Latitude	Longitude
1579655.40	2303060.70	39° 23' 56.177 N	107° 57' 59.624 W

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
7131.00	7157.22	Williams Fork
8113.00	8139.22	Top of Gas
9674.00	9700.22	Cameo
10047.00	10073.22	Rollins
10395.00	10421.22	Cozzette
10692.00	10718.22	Corcoran
10933.00	10959.22	Mancos

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BM 35-21A	11183.00	567.33	-167.01	Polygon



ANNOTATIONS

TVD	MD	Annotation
200.00	200.00	Start Build 1.50
544.10	544.57	Start 6220.09 hold at 544.57 MD
6738.90	6764.66	Start Drop -1.50
7083.00	7109.22	Start 4100.00 hold at 7109.22 MD
11183.00	11209.22	TD at 11209.22

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 35-21A Proposal 2.0 (BM 35-21A/BM 35-21A)

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 35-21A
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 35-21A	Survey Calculation Method:	Minimum Curvature
Wellbore:	BM 35-21A		
Design:	BM 35-21A 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	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 35-21A					
Well Position	+N/-S	0.00 ft	Northing:	1,579,655.40 ft	Latitude:	39° 23' 56.177 N
	+E/-W	0.00 ft	Easting:	2,303,060.70 ft	Longitude:	107° 57' 59.624 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	9,257.00 ft	Ground Level:	9,233.00 ft

Wellbore	BM 35-21A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2009	8/25/2009	10.56	65.74	52,370

Design	BM 35-21A 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
200.00	0.00	0.00	200.00	-9,057.00	0.00	0.00	0.00	0.00	0.00	0.00
544.57	5.17	343.60	544.10	-8,712.90	14.90	-4.39	1.50	1.50	0.00	343.60
6,764.66	5.17	343.60	6,738.90	-2,518.10	552.43	-162.62	0.00	0.00	0.00	0.00
7,109.22	0.00	2.43	7,083.00	-2,174.00	567.33	-167.01	1.50	-1.50	0.00	180.00
11,209.22	0.00	2.43	11,183.00	1,926.00	567.33	-167.01	0.00	0.00	0.00	0.00

Database:	.Sperry EDM .16 PRD	Local Co-ordinate Reference:	Well BM 35-21A
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 35-21A	Survey Calculation Method:	Minimum Curvature
Wellbore:	BM 35-21A		
Design:	BM 35-21A 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	1,579,655.40	2,303,060.70	0.00	0.00
100.00	0.00	0.00	100.00	-9,157.00	0.00	0.00	1,579,655.40	2,303,060.70	0.00	0.00
200.00	0.00	0.00	200.00	-9,057.00	0.00	0.00	1,579,655.40	2,303,060.70	0.00	0.00
Start Build 1.50										
300.00	1.50	343.60	299.99	-8,957.01	1.26	-0.37	1,579,656.66	2,303,060.33	1.50	1.26
400.00	3.00	343.60	399.91	-8,857.09	5.02	-1.48	1,579,660.42	2,303,059.22	1.50	5.02
500.00	4.50	343.60	499.69	-8,757.31	11.30	-3.33	1,579,666.70	2,303,057.37	1.50	11.30
544.57	5.17	343.60	544.10	-8,712.90	14.90	-4.39	1,579,670.30	2,303,056.31	1.50	14.90
Start 6220.09 hold at 544.57 MD										
600.00	5.17	343.60	599.31	-8,657.69	19.69	-5.80	1,579,675.09	2,303,054.90	0.00	19.69
700.00	5.17	343.60	698.90	-8,558.10	28.33	-8.34	1,579,683.73	2,303,052.36	0.00	28.33
800.00	5.17	343.60	798.49	-8,458.51	36.97	-10.88	1,579,692.37	2,303,049.82	0.00	36.97
900.00	5.17	343.60	898.09	-8,358.91	45.61	-13.43	1,579,701.01	2,303,047.27	0.00	45.61
1,000.00	5.17	343.60	997.68	-8,259.32	54.26	-15.97	1,579,709.65	2,303,044.73	0.00	54.26
1,100.00	5.17	343.60	1,097.27	-8,159.73	62.90	-18.52	1,579,718.30	2,303,042.19	0.00	62.90
1,200.00	5.17	343.60	1,196.87	-8,060.13	71.54	-21.06	1,579,726.94	2,303,039.64	0.00	71.54
1,300.00	5.17	343.60	1,296.46	-7,960.54	80.18	-23.60	1,579,735.58	2,303,037.10	0.00	80.18
1,400.00	5.17	343.60	1,396.05	-7,860.95	88.82	-26.15	1,579,744.22	2,303,034.55	0.00	88.82
1,500.00	5.17	343.60	1,495.65	-7,761.35	97.47	-28.69	1,579,752.86	2,303,032.01	0.00	97.47
1,600.00	5.17	343.60	1,595.24	-7,661.76	106.11	-31.24	1,579,761.50	2,303,029.47	0.00	106.11
1,700.00	5.17	343.60	1,694.83	-7,562.17	114.75	-33.78	1,579,770.14	2,303,026.92	0.00	114.75
1,800.00	5.17	343.60	1,794.43	-7,462.57	123.39	-36.32	1,579,778.79	2,303,024.38	0.00	123.39
1,900.00	5.17	343.60	1,894.02	-7,362.98	132.03	-38.87	1,579,787.43	2,303,021.83	0.00	132.03
2,000.00	5.17	343.60	1,993.62	-7,263.38	140.68	-41.41	1,579,796.07	2,303,019.29	0.00	140.68
2,100.00	5.17	343.60	2,093.21	-7,163.79	149.32	-43.96	1,579,804.71	2,303,016.75	0.00	149.32
2,200.00	5.17	343.60	2,192.80	-7,064.20	157.96	-46.50	1,579,813.35	2,303,014.20	0.00	157.96
2,300.00	5.17	343.60	2,292.40	-6,964.60	166.60	-49.04	1,579,821.99	2,303,011.66	0.00	166.60
2,400.00	5.17	343.60	2,391.99	-6,865.01	175.24	-51.59	1,579,830.63	2,303,009.12	0.00	175.24
2,500.00	5.17	343.60	2,491.58	-6,765.42	183.88	-54.13	1,579,839.28	2,303,006.57	0.00	183.88
2,600.00	5.17	343.60	2,591.18	-6,665.82	192.53	-56.68	1,579,847.92	2,303,004.03	0.00	192.53
2,700.00	5.17	343.60	2,690.77	-6,566.23	201.17	-59.22	1,579,856.56	2,303,001.48	0.00	201.17
2,800.00	5.17	343.60	2,790.36	-6,466.64	209.81	-61.76	1,579,865.20	2,302,998.94	0.00	209.81
2,900.00	5.17	343.60	2,889.96	-6,367.04	218.45	-64.31	1,579,873.84	2,302,996.40	0.00	218.45
3,000.00	5.17	343.60	2,989.55	-6,267.45	227.09	-66.85	1,579,882.48	2,302,993.85	0.00	227.09
3,100.00	5.17	343.60	3,089.14	-6,167.86	235.74	-69.40	1,579,891.12	2,302,991.31	0.00	235.74
3,200.00	5.17	343.60	3,188.74	-6,068.26	244.38	-71.94	1,579,899.77	2,302,988.76	0.00	244.38
3,300.00	5.17	343.60	3,288.33	-5,968.67	253.02	-74.48	1,579,908.41	2,302,986.22	0.00	253.02
8 5/8" Casing Pt.										
3,400.00	5.17	343.60	3,387.92	-5,869.08	261.66	-77.03	1,579,917.05	2,302,983.68	0.00	261.66
3,500.00	5.17	343.60	3,487.52	-5,769.48	270.30	-79.57	1,579,925.69	2,302,981.13	0.00	270.30
3,600.00	5.17	343.60	3,587.11	-5,669.89	278.94	-82.11	1,579,934.33	2,302,978.59	0.00	278.94
3,700.00	5.17	343.60	3,686.70	-5,570.30	287.59	-84.66	1,579,942.97	2,302,976.05	0.00	287.59
3,800.00	5.17	343.60	3,786.30	-5,470.70	296.23	-87.20	1,579,951.61	2,302,973.50	0.00	296.23
3,900.00	5.17	343.60	3,885.89	-5,371.11	304.87	-89.75	1,579,960.25	2,302,970.96	0.00	304.87
4,000.00	5.17	343.60	3,985.48	-5,271.52	313.51	-92.29	1,579,968.90	2,302,968.41	0.00	313.51

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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 35-21A	Survey Calculation Method:	Minimum Curvature
Wellbore:	BM 35-21A		
Design:	BM 35-21A 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 -5,171.92	Vert Section
4,100.00	5.17	343.60	4,085.08	-5,171.92	322.15	-94.83	1,579,977.54	2,302,965.87	0.00	322.15
4,200.00	5.17	343.60	4,184.67	-5,072.33	330.80	-97.38	1,579,986.18	2,302,963.33	0.00	330.80
4,300.00	5.17	343.60	4,284.26	-4,972.74	339.44	-99.92	1,579,994.82	2,302,960.78	0.00	339.44
4,400.00	5.17	343.60	4,383.86	-4,873.14	348.08	-102.47	1,580,003.46	2,302,958.24	0.00	348.08
4,500.00	5.17	343.60	4,483.45	-4,773.55	356.72	-105.01	1,580,012.10	2,302,955.69	0.00	356.72
4,600.00	5.17	343.60	4,583.04	-4,673.96	365.36	-107.55	1,580,020.74	2,302,953.15	0.00	365.36
4,700.00	5.17	343.60	4,682.64	-4,574.36	374.01	-110.10	1,580,029.39	2,302,950.61	0.00	374.01
4,800.00	5.17	343.60	4,782.23	-4,474.77	382.65	-112.64	1,580,038.03	2,302,948.06	0.00	382.65
4,900.00	5.17	343.60	4,881.82	-4,375.18	391.29	-115.19	1,580,046.67	2,302,945.52	0.00	391.29
5,000.00	5.17	343.60	4,981.42	-4,275.58	399.93	-117.73	1,580,055.31	2,302,942.98	0.00	399.93
5,100.00	5.17	343.60	5,081.01	-4,175.99	408.57	-120.27	1,580,063.95	2,302,940.43	0.00	408.57
5,200.00	5.17	343.60	5,180.60	-4,076.40	417.21	-122.82	1,580,072.59	2,302,937.89	0.00	417.21
5,300.00	5.17	343.60	5,280.20	-3,976.80	425.86	-125.36	1,580,081.23	2,302,935.34	0.00	425.86
5,400.00	5.17	343.60	5,379.79	-3,877.21	434.50	-127.91	1,580,089.88	2,302,932.80	0.00	434.50
5,500.00	5.17	343.60	5,479.38	-3,777.62	443.14	-130.45	1,580,098.52	2,302,930.26	0.00	443.14
5,600.00	5.17	343.60	5,578.98	-3,678.02	451.78	-132.99	1,580,107.16	2,302,927.71	0.00	451.78
5,700.00	5.17	343.60	5,678.57	-3,578.43	460.42	-135.54	1,580,115.80	2,302,925.17	0.00	460.42
5,800.00	5.17	343.60	5,778.16	-3,478.84	469.07	-138.08	1,580,124.44	2,302,922.62	0.00	469.07
5,900.00	5.17	343.60	5,877.76	-3,379.24	477.71	-140.63	1,580,133.08	2,302,920.08	0.00	477.71
6,000.00	5.17	343.60	5,977.35	-3,279.65	486.35	-143.17	1,580,141.72	2,302,917.54	0.00	486.35
6,100.00	5.17	343.60	6,076.94	-3,180.06	494.99	-145.71	1,580,150.37	2,302,914.99	0.00	494.99
6,200.00	5.17	343.60	6,176.54	-3,080.46	503.63	-148.26	1,580,159.01	2,302,912.45	0.00	503.63
6,300.00	5.17	343.60	6,276.13	-2,980.87	512.28	-150.80	1,580,167.65	2,302,909.91	0.00	512.28
6,400.00	5.17	343.60	6,375.73	-2,881.27	520.92	-153.35	1,580,176.29	2,302,907.36	0.00	520.92
6,500.00	5.17	343.60	6,475.32	-2,781.68	529.56	-155.89	1,580,184.93	2,302,904.82	0.00	529.56
6,600.00	5.17	343.60	6,574.91	-2,682.09	538.20	-158.43	1,580,193.57	2,302,902.27	0.00	538.20
6,700.00	5.17	343.60	6,674.51	-2,582.49	546.84	-160.98	1,580,202.21	2,302,899.73	0.00	546.84
6,764.66	5.17	343.60	6,738.90	-2,518.10	552.43	-162.62	1,580,207.80	2,302,898.09	0.00	552.43
Start Drop -1.50										
6,800.00	4.64	343.60	6,774.11	-2,482.89	555.33	-163.48	1,580,210.70	2,302,897.23	1.50	555.33
6,900.00	3.14	343.60	6,873.88	-2,383.12	561.83	-165.39	1,580,217.20	2,302,895.32	1.50	561.83
7,000.00	1.64	343.60	6,973.79	-2,283.21	565.83	-166.57	1,580,221.20	2,302,894.14	1.50	565.83
7,100.00	0.14	343.60	7,073.78	-2,183.22	567.32	-167.01	1,580,222.69	2,302,893.70	1.50	567.32
7,109.22	0.00	0.00	7,083.00	-2,174.00	567.33	-167.01	1,580,222.70	2,302,893.70	1.50	567.33
Start 4100.00 hold at 7109.22 MD										
7,157.22	0.00	2.43	7,131.00	-2,126.00	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
Williams Fork										
7,200.00	0.00	2.43	7,173.78	-2,083.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
7,300.00	0.00	2.43	7,273.78	-1,983.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
7,400.00	0.00	2.43	7,373.78	-1,883.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
7,500.00	0.00	2.43	7,473.78	-1,783.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
7,600.00	0.00	2.43	7,573.78	-1,683.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
7,700.00	0.00	2.43	7,673.78	-1,583.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
7,800.00	0.00	2.43	7,773.78	-1,483.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
7,900.00	0.00	2.43	7,873.78	-1,383.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33

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Site:	Sec. 35-T7S-R95W (BM 35C PAD)	North Reference:	Grid
Well:	BM 35-21A	Survey Calculation Method:	Minimum Curvature
Wellbore:	BM 35-21A		
Design:	BM 35-21A 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 -1,283.22	Vert Section
8,000.00	0.00	2.43	7,973.78	-1,283.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
8,100.00	0.00	2.43	8,073.78	-1,183.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
8,139.22	0.00	2.43	8,113.00	-1,144.00	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
Top of Gas										
8,200.00	0.00	2.43	8,173.78	-1,083.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
8,300.00	0.00	2.43	8,273.78	-983.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
8,400.00	0.00	2.43	8,373.78	-883.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
8,500.00	0.00	2.43	8,473.78	-783.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
8,600.00	0.00	2.43	8,573.78	-683.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
8,700.00	0.00	2.43	8,673.78	-583.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
8,800.00	0.00	2.43	8,773.78	-483.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
8,900.00	0.00	2.43	8,873.78	-383.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
9,000.00	0.00	2.43	8,973.78	-283.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
9,100.00	0.00	2.43	9,073.78	-183.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
9,200.00	0.00	2.43	9,173.78	-83.22	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
9,300.00	0.00	2.43	9,273.78	16.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
9,400.00	0.00	2.43	9,373.78	116.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
9,500.00	0.00	2.43	9,473.78	216.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
9,600.00	0.00	2.43	9,573.78	316.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
9,700.00	0.00	2.43	9,673.78	416.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
9,700.22	0.00	2.43	9,674.00	417.00	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
Cameo										
9,800.00	0.00	2.43	9,773.78	516.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
9,900.00	0.00	2.43	9,873.78	616.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,000.00	0.00	2.43	9,973.78	716.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,073.22	0.00	2.43	10,047.00	790.00	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
Rollins										
10,100.00	0.00	2.43	10,073.78	816.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,200.00	0.00	2.43	10,173.78	916.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,300.00	0.00	2.43	10,273.78	1,016.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,400.00	0.00	2.43	10,373.78	1,116.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,421.22	0.00	2.43	10,395.00	1,138.00	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
Cozzette										
10,500.00	0.00	2.43	10,473.78	1,216.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,600.00	0.00	2.43	10,573.78	1,316.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,700.00	0.00	2.43	10,673.78	1,416.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,718.22	0.00	2.43	10,692.00	1,435.00	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
Corcoran										
10,800.00	0.00	2.43	10,773.78	1,516.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,900.00	0.00	2.43	10,873.78	1,616.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
10,959.22	0.00	2.43	10,933.00	1,676.00	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
Mancos										
11,000.00	0.00	2.43	10,973.78	1,716.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
11,100.00	0.00	2.43	11,073.78	1,816.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
11,200.00	0.00	2.43	11,173.78	1,916.78	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33

Database:	.Sperry EDM .16 PRD	Local Co-ordinate Reference:	Well BM 35-21A
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 35-21A	Survey Calculation Method:	Minimum Curvature
Wellbore:	BM 35-21A		
Design:	BM 35-21A 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 1,926.00	Vert Section
11,209.22	0.00	2.43	11,183.00	1,926.00	567.33	-167.01	1,580,222.70	2,302,893.70	0.00	567.33
TD at 11209.22 - BM 35-21A										

Targets								
Target Name		Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)
- hit/miss target								
- Shape								
BM 35-21A		0.00	2.43	11,183.00	567.33	-167.01	1,580,222.70	2,302,893.70
- plan hits target center								
- Polygon								
Point 1				11,183.00	1,195.74	-507.62	1,580,851.08	2,302,553.11
Point 2				11,183.00	1,178.75	-107.98	1,580,834.09	2,302,952.73

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
3,300.00	3,288.33	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 (°)	
10,073.22	10,047.00		Rollins				
9,700.22	9,674.00		Cameo				
10,959.22	10,933.00		Mancos				
10,421.22	10,395.00		Cozzette				
7,157.22	7,131.00		Williams Fork				
8,139.22	8,113.00		Top of Gas				
10,718.22	10,692.00		Corcoran				

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 1.50
544.57	544.10	14.90	-4.39	Start 6220.09 hold at 544.57 MD
6,764.66	6,738.90	552.43	-162.62	Start Drop -1.50
7,109.22	7,083.00	567.33	-167.01	Start 4100.00 hold at 7109.22 MD
11,209.22	11,183.00	567.33	-167.01	TD at 11209.22

Sperry Drilling

Anticollision Summary Report

Company:	Noble Energy (Rockies)	Local Co-ordinate Reference:	Well BM 35-21A
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 35-21A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BM 35-21A	Database:	.Sperry EDM .16 PRD
Reference Design:	BM 35-21A Proposal 2.0	Offset TVD Reference:	Offset Datum

Reference	BM 35-21A 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 1,320.96ft	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	11,209.22	BM 35-21A Proposal 2.0 (BM 35-21A)	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) GET INFO ONLY HAS PLAN -	200.00	203.00	24.55	23.92	39.145 CC, ES	
BM 35-12 (Existing Well) GET INFO ONLY HAS PLAN -	10,000.00	9,976.78	614.21	569.49	13.737 SF	
BM 35-21B - BM 35-21B - BM 35-21B Proposal 2.0	200.00	200.00	15.04	14.42	24.239 CC, ES	
BM 35-21B - BM 35-21B - BM 35-21B Proposal 2.0	11,209.64	11,185.75	304.25	253.83	6.035 SF	
BM 35-21C - BM 35-21C - BM 35-21C Proposal 2.0	200.00	200.00	30.07	29.45	48.478 CC, ES	
BM 35-21C - BM 35-21C - BM 35-21C Proposal 2.0	11,209.64	11,166.39	702.85	653.62	14.276 SF	
BM 35-21D (Existing Well) - BM 35-21D - BM 35-21D	109.56	112.57	45.13	44.87	171.613 CC, ES	
BM 35-21D (Existing Well) - BM 35-21D - BM 35-21D	10,300.00	10,245.00	1,032.54	987.28	22.811 SF	
BM 35-22A - BM 35-22A - BM 35-22A Proposal 2.0	200.00	200.00	68.20	67.58	109.943 CC, ES	
BM 35-22A - BM 35-22A - BM 35-22A Proposal 2.0	11,209.64	11,178.85	1,298.71	1,249.47	26.374 SF	
BM 35-22B - BM 35-22B - BM 35-22B Proposal 2.0	200.00	200.00	60.77	60.15	97.953 CC, ES	
BM 35-22B - BM 35-22B - BM 35-22B Proposal 2.0	600.00	590.38	100.43	98.01	41.534 SF	
BM 35-22C - BM 35-22C - BM 35-22C Proposal 2.0	200.00	200.00	53.45	52.82	86.153 CC, ES	
BM 35-22C - BM 35-22C - BM 35-22C Proposal 2.0	600.00	592.97	85.31	82.90	35.400 SF	
BM 35-31A - BM 35-31A - BM 35-31A Proposal 2.0	273.58	273.48	7.25	6.30	7.631 CC	
BM 35-31A - BM 35-31A - BM 35-31A Proposal 2.0	300.00	299.85	7.31	6.24	6.843 ES	
BM 35-31A - BM 35-31A - BM 35-31A Proposal 2.0	400.00	399.57	9.00	7.48	5.931 SF	
BM 35-31B - BM 35-31B - BM 35-31B Proposal 2.0	200.00	200.00	7.52	5.97	4.864 CC	
BM 35-31B - BM 35-31B - BM 35-31B Proposal 2.0	300.00	300.09	7.81	5.15	2.942 ES, SF	
BM 35-31C - BM 35-31C - BM 35-31C Proposal 2.0	200.00	200.00	12.07	11.45	19.453 CC	
BM 35-31C - BM 35-31C - BM 35-31C Proposal 2.0	214.76	214.76	12.07	11.38	17.580 ES	
BM 35-31C - BM 35-31C - BM 35-31C Proposal 2.0	400.00	399.31	16.61	15.10	11.032 SF	
BM 35-31D - BM 35-31D - BM 35-31D Proposal 2.0	200.00	200.00	9.49	8.87	15.298 CC, ES	
BM 35-31D - BM 35-31D - BM 35-31D Proposal 2.0	300.00	299.71	11.71	10.65	11.047 SF	
BM 35-32A (Existing Well) - BM 35-32A - BM 35-32A	128.31	131.31	11.31	11.00	36.100 CC, ES	
BM 35-32A (Existing Well) - BM 35-32A - BM 35-32A	300.00	302.30	16.86	15.78	15.581 SF	
BM 35-32B - BM 35-32B - BM 35-32B Proposal 2.0	200.00	200.00	31.50	30.88	50.774 CC, ES	
BM 35-32B - BM 35-32B - BM 35-32B Proposal 2.0	500.00	499.69	42.29	40.30	21.263 SF	
BM 35-32C - BM 35-32C - BM 35-32C Proposal 2.0	200.00	200.00	38.74	38.12	62.442 CC, ES	
BM 35-32C - BM 35-32C - BM 35-32C Proposal 2.0	500.00	495.73	58.77	56.79	29.745 SF	

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

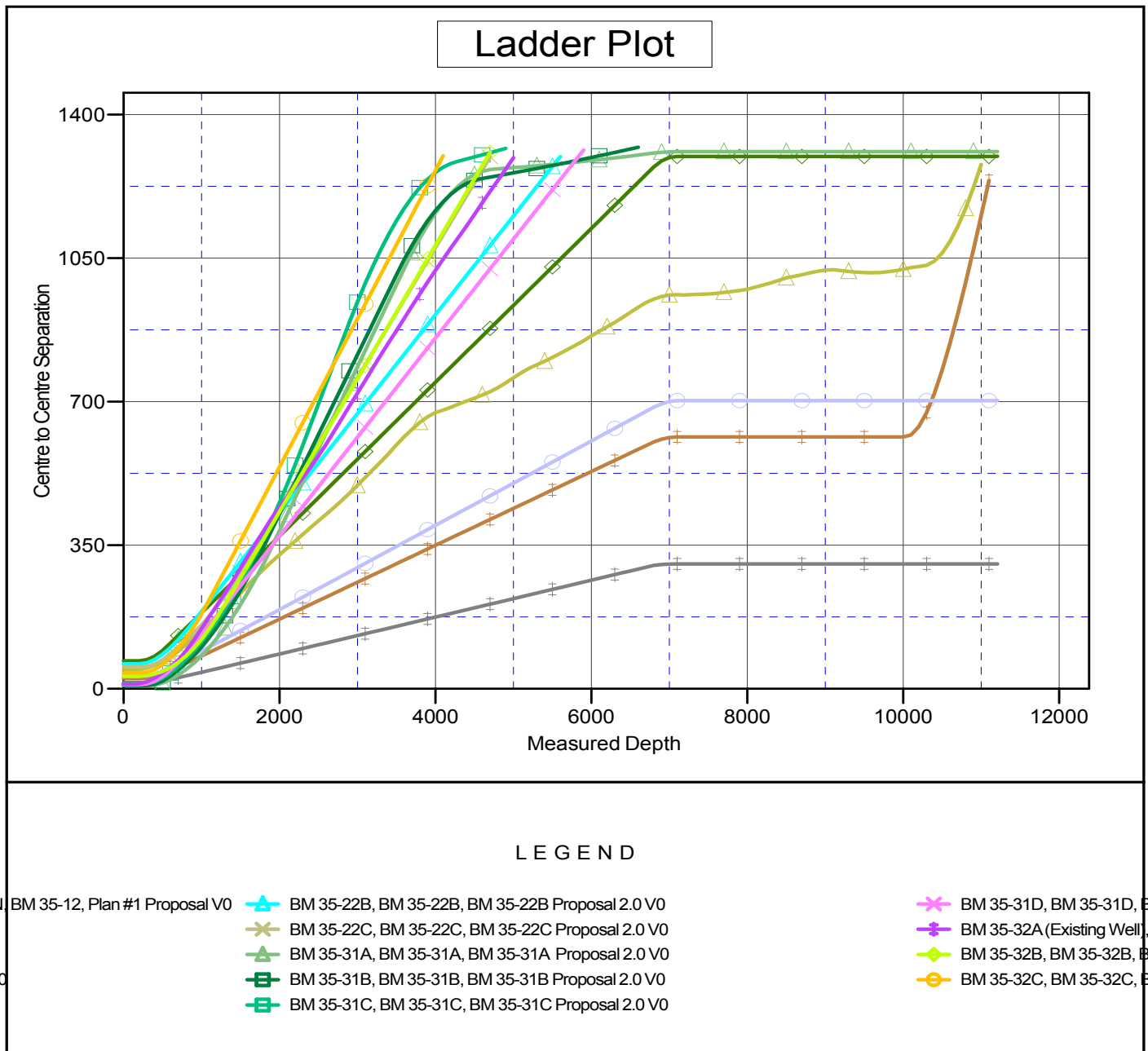
Sperry Drilling

Anticollision Summary Report

Company:	Noble Energy (Rockies)	Local Co-ordinate Reference:	Well BM 35-21A
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 35-21A	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BM 35-21A	Database:	.Sperry EDM .16 PRD
Reference Design:	BM 35-21A Proposal 2.0	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 35-21A
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

South(-)/North(+) (25 ft/in)

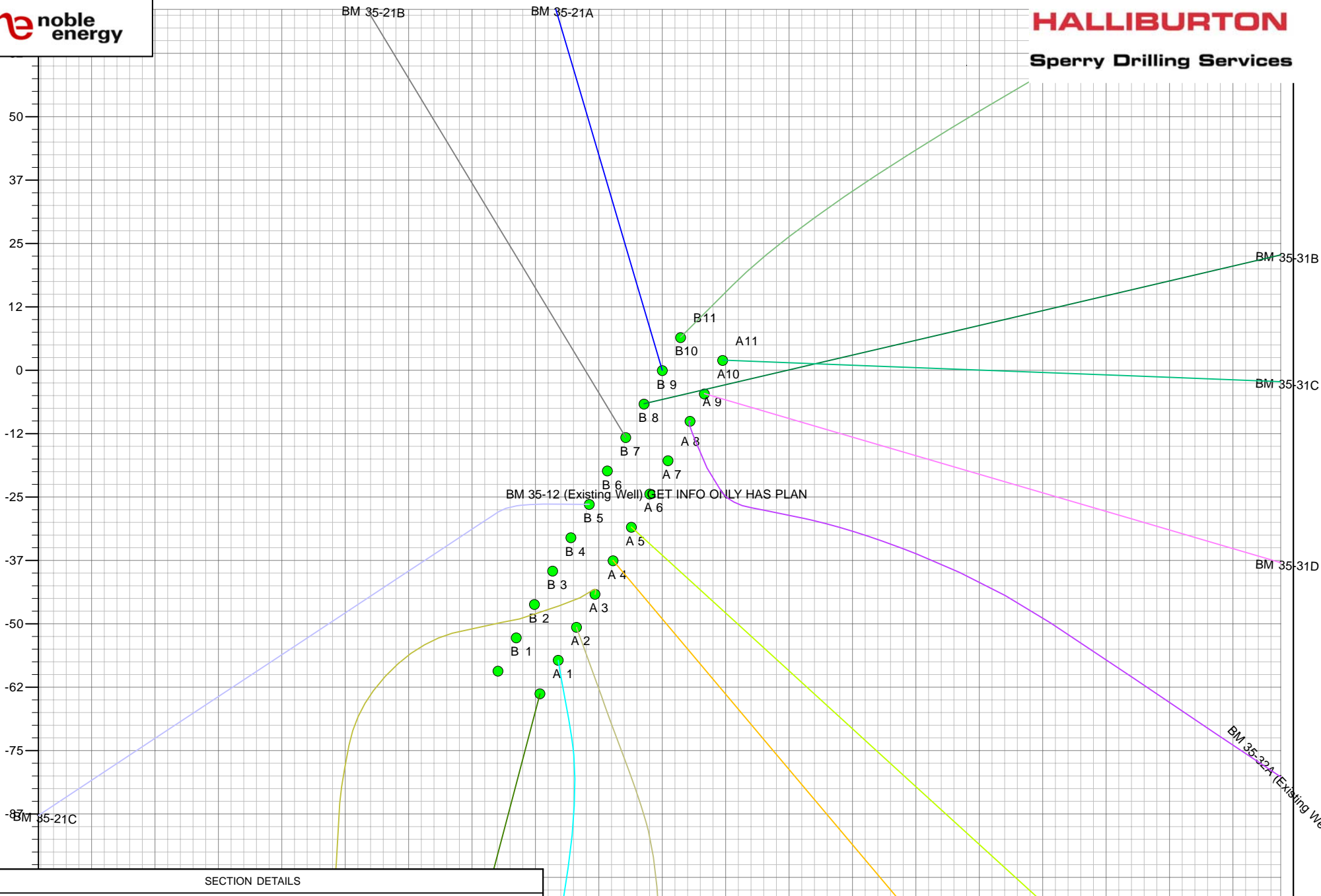
West(-)/East(+) (25 ft/in)

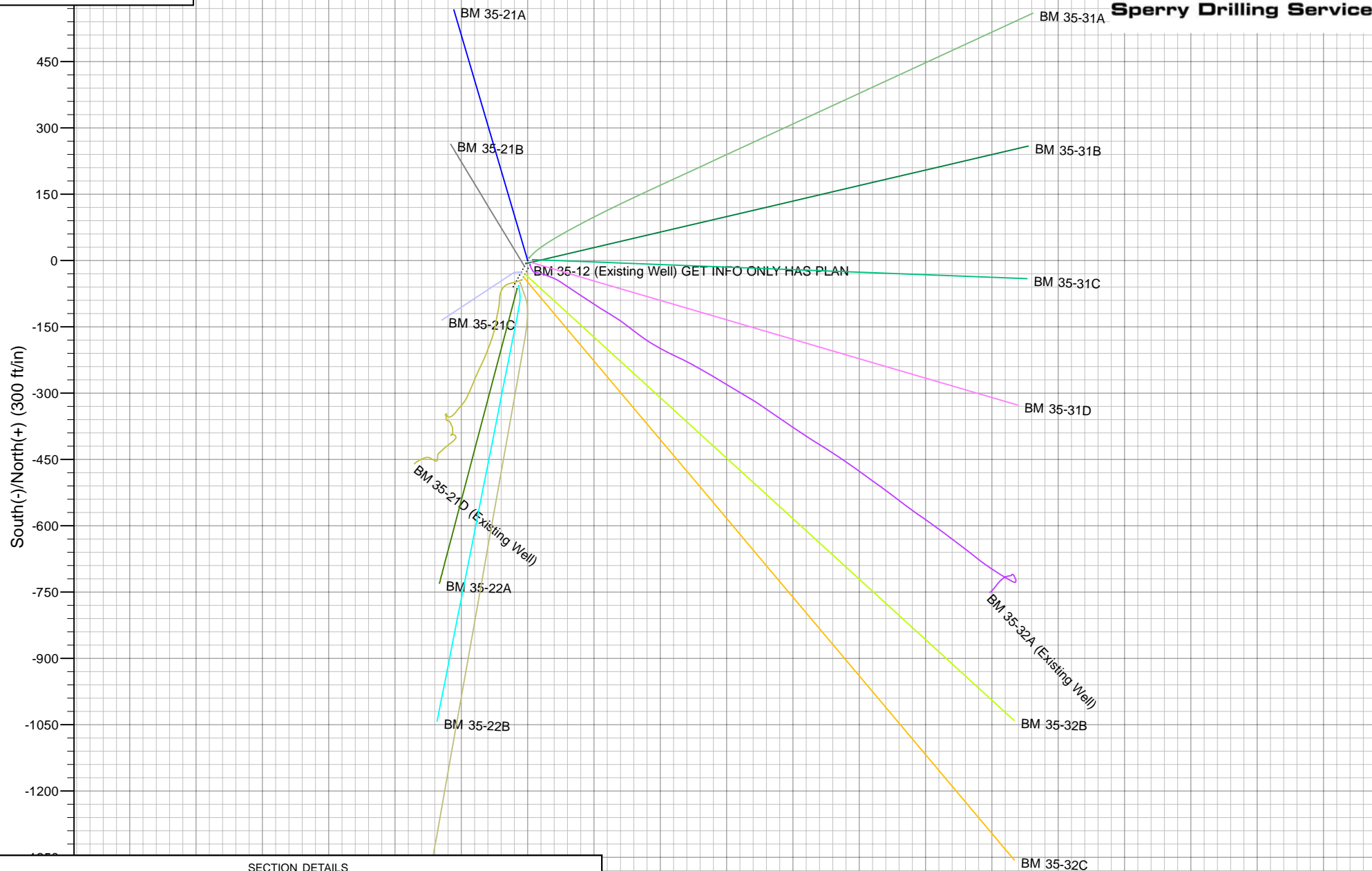
SECTION DETAILS

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	544.57	5.17	343.60	544.10	14.90	-4.39	1.50	343.60	14.90	
4	6764.66	5.17	343.60	6738.90	552.43	-162.62	0.00	0.00	552.43	
5	7109.22	0.00	2.43	7083.00	567.33	-167.01	1.50	180.00	567.33	
6	11209.22	0.00	2.43	11183.00	567.33	-167.01	0.00	0.00	567.33	BM 35-21A

BM 35-22B BM 35-22C

Project: Garfield County, CO (NAD 83)
Site: Sec. 35-T7S-R95W (BM 35C PAD)
Well: BM 35-21A
Wellbore: BM 35-21A
Plan: BM 35-21A Proposal 2.0 (BM 35-21A/BM 35-21A)





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	544.57	5.17	343.60	544.10	14.90	-4.39	1.50	343.60	14.90	
4	6764.66	5.17	343.60	6738.90	552.43	-162.62	0.00	0.00	552.43	
5	7109.22	0.00	2.43	7083.00	567.33	-167.01	1.50	180.00	567.33	
6	11209.22	0.00	2.43	11183.00	567.33	-167.01	0.00	0.00	567.33	BM 35-21A

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

Project: Garfield County, CO (NAD 83)
Site: Sec. 35-T7S-R95W (BM 35C PAD)
Well: BM 35-21A
Wellbore: BM 35-21A
Plan: BM 35-21A Proposal 2.0 (BM 35-21A/BM 35-21A)