

Noble Energy

Garfield County, CO

Sec. 8-T8S-R95W (SGV 8D PAD)

SGV Federal 6-44C - A 7

Plan #1

Plan: Plan #1 Proposal

Sperry Drilling Services

Proposal Report

06 April, 2009

Well Coordinates: 573,838.68 N, 1,286,192.05 E (39° 22' 54.24" N, 108° 01' 32.15" W)

Ground Level: 6,342.00 ft

Local Coordinate Origin:

Centered on Well SGV Federal 6-44C - Slot A 7

Viewing Datum:

RKB 25' @ 6367.00ft (Original Well Elev)

TVDs to System:

N

North Reference:

Grid

Unit System:

API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Plan Report for SGV Federal 6-44C - Plan #1 Proposal

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	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	0.00	0.00
225.00	0.00	0.00	225.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kickoff at 225.00ft										
300.00	1.50	331.06	299.99	0.86	-0.48	0.98	2.00	2.00	0.00	331.06
400.00	3.50	331.06	399.89	4.68	-2.59	5.34	2.00	2.00	0.00	0.00
500.00	5.50	331.06	499.58	11.54	-6.38	13.18	2.00	2.00	0.00	0.00
600.00	7.50	331.06	598.93	21.45	-11.86	24.50	2.00	2.00	0.00	0.00
700.00	9.50	331.06	697.83	34.38	-19.01	39.27	2.00	2.00	0.00	0.00
800.00	11.50	331.06	796.15	50.33	-27.83	57.49	2.00	2.00	0.00	0.00
900.00	13.50	331.06	893.77	69.27	-38.30	79.12	2.00	2.00	0.00	0.00
1,000.00	15.50	331.06	990.58	91.18	-50.41	104.15	2.00	2.00	0.00	0.00
1,003.00	15.56	331.06	993.47	91.89	-50.80	104.95	2.00	2.00	0.00	0.00
Build Rate = 2.00°/100ft										
1,100.00	17.50	331.06	1,086.46	116.04	-64.16	132.54	2.00	2.00	0.00	0.00
1,200.00	19.50	331.06	1,181.29	143.80	-79.51	164.25	2.00	2.00	0.00	0.00
1,300.00	21.50	331.06	1,274.95	174.45	-96.45	199.26	2.00	2.00	0.00	0.00
1,400.00	23.50	331.06	1,367.33	207.94	-114.97	237.51	2.00	2.00	0.00	0.00
1,500.00	25.50	331.06	1,458.32	244.23	-135.03	278.96	2.00	2.00	0.00	0.00
8 5/8" Casing Pt										
1,600.00	27.50	331.06	1,547.81	283.28	-156.62	323.56	2.00	2.00	0.00	0.00
1,700.00	29.50	331.06	1,635.69	325.03	-179.71	371.25	2.00	2.00	0.00	0.00
1,781.33	31.13	331.06	1,705.90	360.95	-199.57	412.29	2.00	2.00	0.00	0.00
End Build at 1781.33ft										
1,781.62	31.13	331.06	1,706.14	361.08	-199.64	412.43	2.00	2.00	0.00	0.00
1,800.00	31.13	331.06	1,721.88	369.40	-204.24	421.93	0.00	0.00	0.00	0.00
1,900.00	31.13	331.06	1,807.48	414.65	-229.26	473.61	0.00	0.00	0.00	0.00
2,000.00	31.13	331.06	1,893.07	459.89	-254.27	525.30	0.00	0.00	0.00	0.00
2,100.00	31.13	331.06	1,978.67	505.14	-279.29	576.98	0.00	0.00	0.00	0.00
2,200.00	31.13	331.06	2,064.27	550.39	-304.31	628.66	0.00	0.00	0.00	0.00
2,300.00	31.13	331.06	2,149.87	595.63	-329.32	680.34	0.00	0.00	0.00	0.00
2,400.00	31.13	331.06	2,235.46	640.88	-354.34	732.02	0.00	0.00	0.00	0.00
2,500.00	31.13	331.06	2,321.06	686.13	-379.36	783.70	0.00	0.00	0.00	0.00
2,600.00	31.13	331.06	2,406.66	731.37	-404.37	835.38	0.00	0.00	0.00	0.00
2,700.00	31.13	331.06	2,492.26	776.62	-429.39	887.06	0.00	0.00	0.00	0.00
2,749.00	31.13	331.06	2,534.20	798.79	-441.65	912.38	0.00	0.00	0.00	0.00
31.13 Inclination										
2,800.00	31.13	331.06	2,577.85	821.87	-454.41	938.74	0.00	0.00	0.00	0.00
2,900.00	31.13	331.06	2,663.45	867.11	-479.42	990.42	0.00	0.00	0.00	0.00
3,000.00	31.13	331.06	2,749.05	912.36	-504.44	1,042.10	0.00	0.00	0.00	0.00
3,100.00	31.13	331.06	2,834.65	957.60	-529.45	1,093.78	0.00	0.00	0.00	0.00
3,200.00	31.13	331.06	2,920.24	1,002.85	-554.47	1,145.46	0.00	0.00	0.00	0.00
3,300.00	31.13	331.06	3,005.84	1,048.10	-579.49	1,197.15	0.00	0.00	0.00	0.00
3,400.00	31.13	331.06	3,091.44	1,093.34	-604.50	1,248.83	0.00	0.00	0.00	0.00
3,500.00	31.13	331.06	3,177.04	1,138.59	-629.52	1,300.51	0.00	0.00	0.00	0.00
3,600.00	31.13	331.06	3,262.63	1,183.84	-654.54	1,352.19	0.00	0.00	0.00	0.00
3,700.00	31.13	331.06	3,348.23	1,229.08	-679.55	1,403.87	0.00	0.00	0.00	0.00
3,717.42	31.13	331.06	3,363.14	1,236.96	-683.91	1,412.87	0.00	0.00	0.00	0.00
3,717.68	31.13	331.06	3,363.37	1,237.08	-683.98	1,413.01	1.50	-1.50	0.00	180.00
Begin Drop at 3717.68ft										
3,800.00	29.89	331.06	3,434.29	1,273.66	-704.20	1,454.78	1.50	-1.50	0.00	-180.00
3,900.00	28.39	331.06	3,521.62	1,316.28	-727.76	1,503.46	1.50	-1.50	0.00	180.00
4,000.00	26.89	331.06	3,610.21	1,356.88	-750.21	1,549.84	1.50	-1.50	0.00	180.00
4,100.00	25.39	331.06	3,699.97	1,395.44	-771.53	1,593.88	1.50	-1.50	0.00	180.00
4,200.00	23.89	331.06	3,790.86	1,431.93	-791.71	1,635.56	1.50	-1.50	0.00	180.00
4,300.00	22.39	331.06	3,882.81	1,466.32	-810.72	1,674.85	1.50	-1.50	0.00	180.00
4,400.00	20.89	331.06	3,975.76	1,498.60	-828.57	1,711.71	1.50	-1.50	0.00	180.00

Plan Report for SGV Federal 6-44C - Plan #1 Proposal

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
4,500.00	19.39	331.06	4,069.64	1,528.74	-845.23	1,746.14	1.50	-1.50	0.00	180.00
4,600.00	17.89	331.06	4,164.39	1,556.71	-860.70	1,778.09	1.50	-1.50	0.00	180.00
4,700.00	16.39	331.06	4,259.94	1,582.51	-874.96	1,807.56	1.50	-1.50	0.00	180.00
4,755.00	15.57	331.06	4,312.82	1,595.76	-882.29	1,822.69	1.50	-1.50	0.00	-180.00
Drop Rate = 1.50°/100ft										
4,763.49	15.44	331.06	4,321.00	1,597.75	-883.39	1,824.96	1.50	-1.50	0.00	180.00
Williams Fork										
4,800.00	14.89	331.06	4,356.24	1,606.11	-888.01	1,834.51	1.50	-1.50	0.00	-180.00
4,900.00	13.39	331.06	4,453.20	1,627.49	-899.83	1,858.93	1.50	-1.50	0.00	180.00
5,000.00	11.89	331.06	4,550.77	1,646.65	-910.42	1,880.81	1.50	-1.50	0.00	180.00
5,100.00	10.39	331.06	4,648.89	1,663.56	-919.77	1,900.13	1.50	-1.50	0.00	180.00
5,200.00	8.89	331.06	4,747.47	1,678.22	-927.88	1,916.88	1.50	-1.50	0.00	180.00
5,300.00	7.39	331.06	4,846.46	1,690.62	-934.73	1,931.04	1.50	-1.50	0.00	180.00
5,400.00	5.89	331.06	4,945.78	1,700.74	-940.33	1,942.60	1.50	-1.50	0.00	180.00
5,500.00	4.39	331.06	5,045.38	1,708.59	-944.67	1,951.56	1.50	-1.50	0.00	180.00
5,600.00	2.89	331.06	5,145.17	1,714.15	-947.74	1,957.91	1.50	-1.50	0.00	180.00
5,700.00	1.39	331.06	5,245.10	1,717.42	-949.55	1,961.65	1.50	-1.50	0.00	180.00
5,792.79	0.00	331.06	5,337.88	1,718.41	-950.10	1,962.78	1.50	-1.50	0.00	180.00
End Drop at 5792.79ft										
5,792.91	0.00	0.00	5,338.00	1,718.41	-950.10	1,962.78	1.50	-1.50	0.00	180.00
Top of gas - SGV Federal 6-44C Plan #1 Driller's Tgt										
5,800.00	0.01	243.43	5,345.09	1,718.41	-950.10	1,962.78	0.19	0.19	0.00	243.43
5,900.00	0.20	243.43	5,445.09	1,718.32	-950.27	1,962.80	0.19	0.19	0.00	0.00
6,000.00	0.39	243.43	5,545.09	1,718.09	-950.74	1,962.83	0.19	0.19	0.00	0.00
6,100.00	0.58	243.43	5,645.09	1,717.71	-951.50	1,962.89	0.19	0.19	0.00	0.00
6,200.00	0.77	243.43	5,745.08	1,717.18	-952.56	1,962.97	0.19	0.19	0.00	0.00
6,300.00	0.96	243.43	5,845.07	1,716.50	-953.91	1,963.08	0.19	0.19	0.00	0.00
6,400.00	1.15	243.43	5,945.05	1,715.68	-955.57	1,963.21	0.19	0.19	0.00	0.00
6,500.00	1.34	243.43	6,045.03	1,714.70	-957.51	1,963.36	0.19	0.19	0.00	0.00
6,600.00	1.53	243.43	6,145.00	1,713.58	-959.76	1,963.54	0.19	0.19	0.00	0.00
6,700.00	1.72	243.43	6,244.96	1,712.31	-962.30	1,963.73	0.19	0.19	0.00	0.00
6,800.00	1.91	243.43	6,344.91	1,710.89	-965.14	1,963.95	0.19	0.19	0.00	0.00
6,900.00	2.10	243.43	6,444.84	1,709.32	-968.27	1,964.20	0.19	0.19	0.00	0.00
7,000.00	2.29	243.43	6,544.77	1,707.61	-971.71	1,964.47	0.19	0.19	0.00	0.00
7,089.50	2.46	243.43	6,634.20	1,705.95	-975.03	1,964.73	0.19	0.19	0.00	0.00
7,100.00	2.44	243.43	6,644.68	1,705.74	-975.43	1,964.76	0.19	-0.19	0.00	180.00
7,183.39	2.29	243.43	6,728.00	1,704.21	-978.51	1,965.00	0.19	-0.19	0.00	180.00
Cameo										
7,200.00	2.25	243.43	6,744.60	1,703.91	-979.10	1,965.04	0.19	-0.19	0.00	-180.00
7,300.00	2.07	243.43	6,844.53	1,702.23	-982.47	1,965.31	0.19	-0.19	0.00	180.00
7,400.00	1.88	243.43	6,944.47	1,700.69	-985.54	1,965.55	0.19	-0.19	0.00	180.00
7,500.00	1.69	243.43	7,044.42	1,699.30	-988.33	1,965.76	0.19	-0.19	0.00	180.00
7,522.59	1.65	243.43	7,067.00	1,699.00	-988.91	1,965.81	0.19	-0.19	0.00	180.00
Rollins										
7,600.00	1.50	243.43	7,144.38	1,698.05	-990.81	1,965.96	0.19	-0.19	0.00	-180.00
7,700.00	1.31	243.43	7,244.35	1,696.96	-993.01	1,966.13	0.19	-0.19	0.00	180.00
7,791.67	1.14	243.43	7,336.00	1,696.08	-994.76	1,966.26	0.19	-0.19	0.00	-180.00
Cozzette										
7,800.00	1.12	243.43	7,344.33	1,696.01	-994.91	1,966.28	0.19	-0.19	0.00	180.00
7,900.00	0.93	243.43	7,444.31	1,695.21	-996.51	1,966.40	0.19	-0.19	0.00	180.00
8,000.00	0.74	243.43	7,544.30	1,694.55	-997.82	1,966.50	0.19	-0.19	0.00	180.00
8,029.70	0.69	243.43	7,574.00	1,694.39	-998.15	1,966.53	0.19	-0.19	0.00	-180.00
Corcoran										
8,100.00	0.55	243.43	7,644.30	1,694.04	-998.83	1,966.58	0.19	-0.19	0.00	180.00
8,143.71	0.47	243.43	7,688.00	1,693.87	-999.18	1,966.61	0.19	-0.19	0.00	180.00
Mancos										
8,200.00	0.37	243.43	7,744.29	1,693.68	-999.55	1,966.64	0.19	-0.19	0.00	-180.00
8,300.00	0.18	243.43	7,844.29	1,693.47	-999.97	1,966.67	0.19	-0.19	0.00	180.00

Plan Report for SGV Federal 6-44C - Plan #1 Proposal

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
8,393.59	0.00	243.43	7,937.88	1,693.41	-1,000.10	1,966.68	0.19	-0.19	0.00	-180.00
Total Depth = 8393.59ft										
8,393.71	0.00	1.60	7,938.00	1,693.41	-1,000.10	1,966.68	0.19	-0.19	0.00	180.00
SGV Federal 6-44C Plan #1 BH Tgt										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
225.00	225.00	0.00	0.00	Kickoff at 225.00ft
1,003.00	993.47	91.89	-50.80	Build Rate = 2.00°/100ft
1,781.33	1,705.90	360.95	-199.57	End Build at 1781.33ft
2,749.00	2,534.20	798.79	-441.65	31.13 Inclination
3,717.68	3,363.37	1,237.08	-683.98	Begin Drop at 3717.68ft
4,755.00	4,312.82	1,595.76	-882.29	Drop Rate = 1.50°/100ft
5,792.79	5,337.88	1,718.41	-950.10	End Drop at 5792.79ft
8,393.59	7,937.88	1,693.41	-1,000.10	Total Depth = 8393.59ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/_S (ft)	+E/-W (ft)	
Target	SGV Federal 6-44C Plan #1 BH Tgt	329.43	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	8,393.59	Plan #1 Proposal	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,500.00	1,458.32	8 5/8" Casing Pt	8-5/8	12-1/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,763.49	4,321.00	Williams Fork		0.00	
5,792.91	5,338.00	Top of gas		0.00	
7,183.39	6,728.00	Cameo		0.00	
7,522.59	7,067.00	Rollins		0.00	
7,791.67	7,336.00	Cozzette		0.00	
8,029.70	7,574.00	Corcoran		0.00	
8,143.71	7,688.00	Mancos		0.00	

Plan Report for SGV Federal 6-44C - Plan #1 Proposal

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
SGV Federal 6-44C Plan #1 BH Tgt	7,938.00	1,693.41	-1,000.10	Point
SGV Federal 6-44C Plan #1 Zone Tgt	5,338.00	1,693.41	-1,000.10	Rectangle
SGV Federal 6-44C Plan #1 Driller's Tgt	5,338.00	1,718.41	-950.10	Rectangle

North Reference Sheet for Sec. 8-T8S-R95W (SGV 8D PAD) - SGV Federal 6-44C - Plan #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to RKB 25' @ 6367.00ft (Original Well Elev). Northing and Easting are relative to SGV Federal 6-44C - Slot A 7

Coordinate System is US State Plane 1927 (Exact solution), Colorado Central 502 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.50°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:39° 45' 0.000 N°

False Easting: 2,000,000.00ft, False Northing: 0.00ft, Scale Reduction: 0.99994788

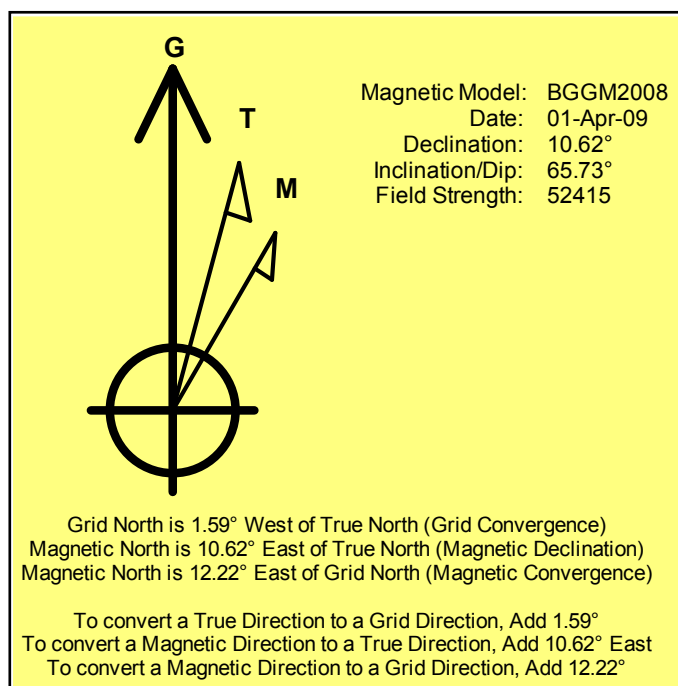
Grid Coordinates of Well: 573,838.68 ft N, 1,286,192.05 ft E

Geographical Coordinates of Well: 39° 22' 54.24" N, 108° 01' 32.15" W

Grid Convergence at Surface is: -1.59°

Based upon Minimum Curvature type calculations, at a Measured Depth of 8,393.71ft
the Bottom Hole Displacement is 1,966.68ft in the Direction of 329.43° (Grid).

Magnetic Convergence at surface is: -12.22° (1 April 2009, , BGGM2008)



Project: Garfield County, CO
Site: Sec. 8-T8S-R95W (SGV 8D PAD)
Well: SGV Federal 6-44C
Wellbore: Plan #1
Plan: Plan #1 Proposal

Noble Energy

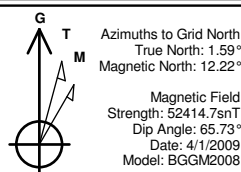
HALLIBURTON

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	
225.00	0.00	0.00	225.00	0.00	0.00	0.00	0.00	0.00	
1781.62	31.13	331.06	1706.14	361.08	-199.64	2.00	331.06	412.43	
3717.42	31.13	331.06	3363.14	1236.96	-683.91	0.00	0.00	1412.87	
5792.91	0.00	0.00	5338.00	1718.41	-950.10	1.50	180.00	1962.78	SGV Federal 6-44C Plan #1 Driller's Tgt
7069.50	2.46	243.43	6634.20	1705.95	-975.03	0.19	243.43	1964.73	
8393.71	0.00	1.60	7938.00	1693.41	-1000.10	0.19	180.00	1966.68	SGV Federal 6-44C Plan #1 BH Tgt

WELL DETAILS: SGV Federal 6-44C

Ground Level: 6342.00
Northing 573838.68 Easting 1286192.05 Latitude 39° 22' 54.243 N Longitude 108° 1' 32.146 W A 7



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4321.00	4763.49	Williams Fork
5338.00	5792.91	Top of gas
6728.00	7183.39	Cameo
7067.00	7522.59	Rollins
7336.00	7791.57	Cozzette
7574.00	8029.70	Corcoran
7688.00	8143.71	Mancos

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SGV Federal 6-44C Plan #1 Driller's Tgt	5338.00	1718.41	-950.10	Rectangle (Sides: L25.00 W25.00)
SGV Federal 6-44C Plan #1 Zone Tgt	5338.00	1693.41	-1000.10	Rectangle (Sides: L100.00 W200.00)
SGV Federal 6-44C Plan #1 BH Tgt	7938.00	1693.41	-1000.10	Point

