

# Noble Energy

Weld County, CO (NAD 83)

Sec. 1-T4N-R65W (C06-32-A / G01-08-A/ C06-33-A)

Coalview G02-66-1HN

API: 05-123-39921

Original Wellbore

Design: Actual Surveys

## Sperry Drilling Services

### Final Survey Report

25 September, 2014

Surface UWI : API: 05-123-39921

Well Coordinates: 1,368,392.73 N, 3,249,952.70 E (40° 20' 28.21" N, 104° 36' 11.88" W)

Ground Level: 4,828.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well Coalview G02-66-1HN

RKB=24' @ 4852.00usft (H&P 343)

N

Grid

API - US Survey Feet - Custom

**HALLIBURTON**

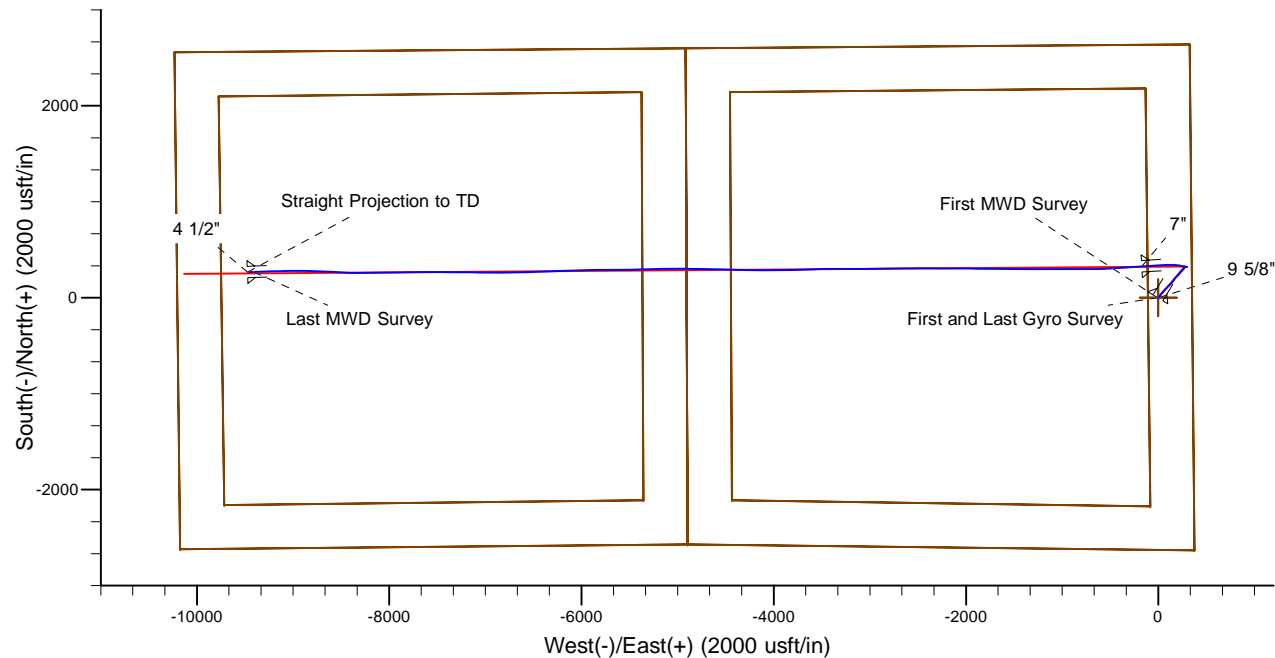
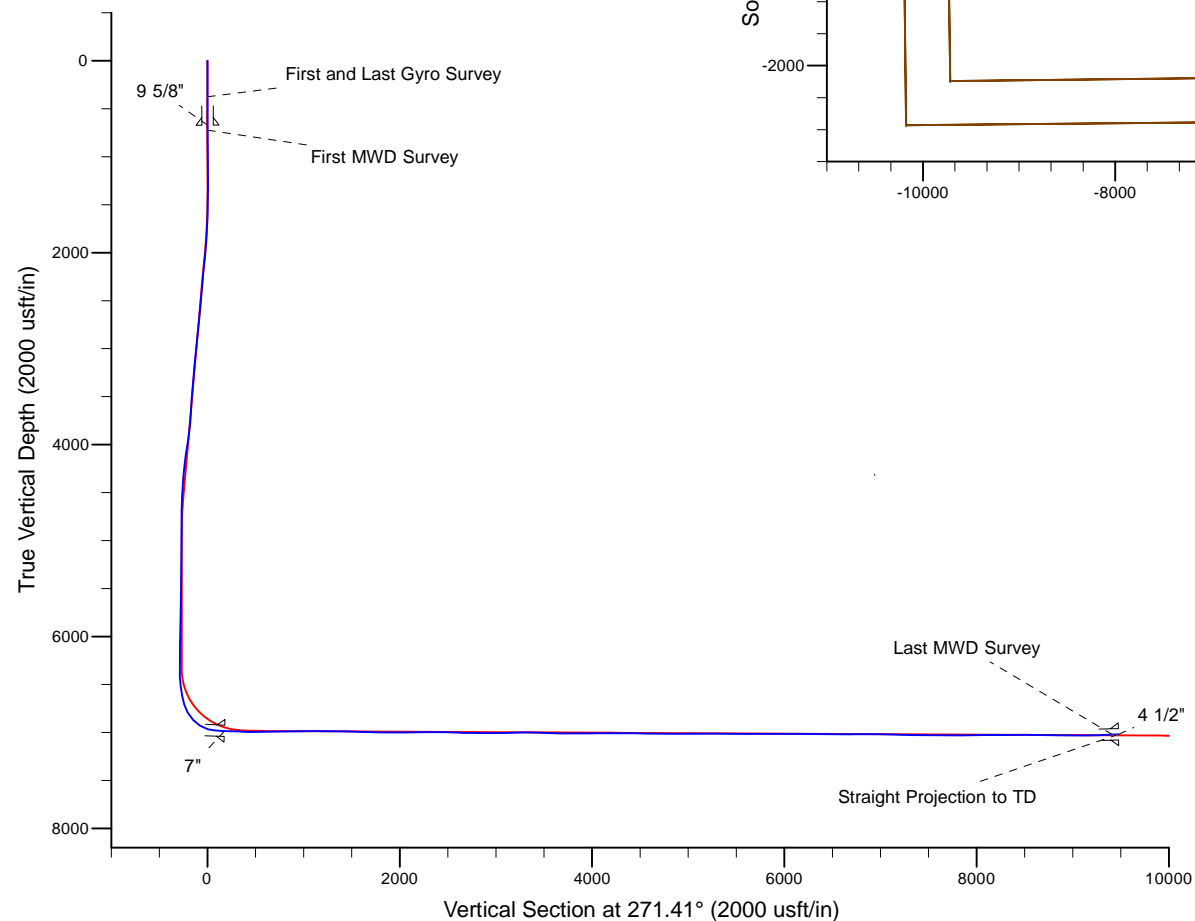
Project: Weld County, CO (NAD 83)  
 Site: Sec. 1-T4N-R65W (C06-32-A / G01-08-A/ C06-33-A)  
 Well: Coalview G02-66-1HN  
 Wellbore: Original Wellbore  
 Design: Actual Surveys

# Noble Energy

**HALLIBURTON**  
 Sperry Drilling

## LEGEND

- Coalview G02-66-1HN, Original Wellbore, Rev B0 Proposal V0
- Actual Surveys



Platted SHL: 2629 FSL, 351 FEL  
 Platted Lat/Long: 40.34117 N, 104.6033 W  
 Location: Sec. 1-T4N-R65W

~7" Casing: 2338' FNL, 528' FEL  
 Lat/Long: 40° 20' 31.457 N 104° 36' 14.033 W  
 State Planes - CO Northern: 1368719.38N, 3249782.69E  
 Location: Sec. 1-T4N-R65W

Platted BHL: 2310' FSL, 75' FWL  
 Lat/Long: 40.34213 N, 104.63964 W  
 State Planes - CO Northern: 1368642.09 N, 3239819.95 E  
 Location: Sec. 2-T4N-R65W

WELL DETAILS: Coalview G02-66-1HN

Ground Level: 4828.00  
 RKB=24' @ 4852.00usft (H&P 343)

Created By: Gordy Roth  
 Created On: 09/25/2014

**Design Report for Coalview G02-66-1HN - Actual Surveys**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
375.00	0.20	286.46	375.00	0.19	-0.63	0.63	0.05
<b>First and Last Gyro Survey</b>							
725.00	1.07	209.64	724.98	-2.48	-2.83	2.77	0.30
<b>First MWD Survey</b>							
818.00	1.40	205.72	817.96	-4.26	-3.75	3.65	0.37
911.00	1.51	214.18	910.93	-6.30	-4.93	4.78	0.26
1,004.00	1.43	212.96	1,003.90	-8.28	-6.25	6.05	0.09
1,098.00	0.44	91.06	1,097.89	-9.28	-6.53	6.30	1.81
1,201.00	0.14	84.43	1,200.88	-9.27	-6.01	5.78	0.29
1,293.00	0.26	46.83	1,292.88	-9.12	-5.75	5.52	0.19
1,386.00	0.22	30.28	1,385.88	-8.82	-5.50	5.28	0.09
1,479.00	0.35	2.20	1,478.88	-8.38	-5.40	5.19	0.20
1,572.00	2.02	33.95	1,571.86	-6.74	-4.47	4.31	1.86
1,666.00	4.33	37.15	1,665.71	-2.53	-1.41	1.34	2.46
1,759.00	6.36	38.41	1,758.30	4.30	3.91	-3.81	2.19
1,850.00	7.93	35.59	1,848.59	13.36	10.70	-10.37	1.77
1,942.00	9.01	33.41	1,939.59	24.53	18.36	-17.75	1.22
2,035.00	8.62	32.54	2,031.49	36.49	26.12	-25.21	0.44
2,127.00	8.45	44.52	2,122.48	47.12	34.57	-33.40	1.94
2,220.00	8.21	43.10	2,214.49	56.84	43.90	-42.48	0.34
2,312.00	7.76	40.88	2,305.60	66.33	52.45	-50.80	0.59
2,405.00	7.45	38.34	2,397.78	75.81	60.30	-58.42	0.49
2,498.00	7.73	48.47	2,489.97	84.68	68.72	-66.62	1.47
2,591.00	6.86	44.29	2,582.22	92.81	77.28	-74.98	1.10
2,683.00	7.79	44.01	2,673.47	101.22	85.45	-82.93	1.01
2,776.00	8.16	43.25	2,765.57	110.56	94.35	-91.60	0.41
2,867.00	9.44	46.30	2,855.50	120.42	104.17	-101.18	1.50
2,961.00	9.65	46.17	2,948.20	131.21	115.43	-112.17	0.22
3,054.00	8.72	44.67	3,040.00	141.62	126.01	-122.49	1.03
3,149.00	8.22	43.36	3,133.97	151.68	135.73	-131.96	0.56
3,243.00	7.29	41.45	3,227.11	161.03	144.30	-140.29	1.03
3,338.00	7.01	38.17	3,321.37	170.11	151.87	-147.64	0.52
3,432.00	7.38	34.29	3,414.63	179.61	158.82	-154.35	0.65
3,527.00	6.45	30.04	3,508.94	189.27	164.92	-160.22	1.12
3,621.00	7.52	41.83	3,602.24	198.42	171.67	-166.74	1.90
3,716.00	6.41	38.54	3,696.54	207.20	179.12	-173.97	1.24
3,811.00	7.68	43.29	3,790.82	215.97	186.78	-181.41	1.47
3,906.00	11.14	42.68	3,884.53	227.34	197.35	-191.70	3.64
4,000.00	12.60	43.67	3,976.52	241.43	210.59	-204.59	1.57
4,095.00	12.61	42.52	4,069.23	256.57	224.75	-218.37	0.26
4,190.00	11.44	41.15	4,162.14	271.31	237.96	-231.22	1.27
4,284.00	8.72	40.63	4,254.68	283.74	248.74	-241.68	2.90
4,378.00	7.94	39.98	4,347.69	294.12	257.55	-250.24	0.84
4,473.00	5.36	38.90	4,442.04	302.60	264.55	-257.03	2.72
4,568.00	4.93	37.59	4,536.66	309.29	269.83	-262.14	0.47
4,662.00	4.56	34.65	4,630.34	315.57	274.42	-266.57	0.47
4,757.00	1.35	24.19	4,725.20	319.69	277.02	-269.08	3.41
4,852.00	0.80	16.81	4,820.18	321.35	277.68	-269.69	0.60
4,947.00	0.20	27.80	4,915.18	322.13	277.94	-269.94	0.64

## Design Report for Coalview G02-66-1HN - Actual Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
5,042.00	0.22	335.56	5,010.18	322.44	277.95	-269.93	0.20
5,137.00	0.31	108.44	5,105.18	322.53	278.11	-270.10	0.51
5,231.00	0.44	121.12	5,199.17	322.26	278.66	-270.65	0.16
5,325.00	0.54	115.71	5,293.17	321.88	279.37	-271.37	0.12
5,515.00	0.82	82.00	5,483.16	321.68	281.53	-273.53	0.25
5,609.00	0.95	97.49	5,577.15	321.68	282.96	-274.97	0.29
5,703.00	1.22	94.17	5,671.13	321.50	284.74	-276.74	0.29
5,798.00	1.30	93.06	5,766.11	321.37	286.82	-278.83	0.09
5,893.00	0.38	95.48	5,861.10	321.28	288.21	-280.22	0.97
5,988.00	0.67	83.82	5,956.09	321.31	289.08	-281.08	0.32
6,082.00	0.73	78.72	6,050.08	321.49	290.21	-282.21	0.09
6,177.00	1.39	85.81	6,145.07	321.69	291.95	-283.95	0.71
6,271.00	1.75	76.52	6,239.03	322.11	294.48	-286.47	0.47
6,366.00	1.58	96.49	6,333.99	322.30	297.20	-289.18	0.63
6,460.00	3.58	276.74	6,427.95	322.50	295.57	-287.55	5.49
6,555.00	8.04	276.44	6,522.43	323.59	286.02	-277.97	4.69
6,649.00	10.76	276.26	6,615.16	325.29	270.76	-262.67	2.89
6,743.00	16.55	282.29	6,706.47	329.10	248.94	-240.76	6.33
6,838.00	29.12	282.07	6,793.85	336.84	212.97	-204.62	13.23
6,933.00	42.58	272.60	6,870.74	343.17	157.96	-149.47	15.29
7,027.00	57.41	267.06	6,931.02	342.57	86.21	-77.76	16.40
7,122.00	76.31	265.92	6,968.19	337.19	-0.58	8.88	19.92
7,216.00	86.76	266.67	6,982.01	331.20	-93.23	101.35	11.14
7,252.00	87.47	266.65	6,983.82	329.10	-129.13	137.18	1.97
7,404.00	87.84	266.15	6,990.04	319.57	-280.70	288.48	0.41
7,498.00	88.09	266.03	6,993.38	313.16	-374.42	382.01	0.29
7,593.00	90.31	266.13	6,994.70	306.67	-469.18	476.59	2.34
7,687.00	91.32	267.92	6,993.36	301.79	-563.04	570.30	2.19
7,781.00	90.59	269.19	6,991.80	299.42	-657.00	664.16	1.56
7,876.00	89.75	270.41	6,991.52	299.09	-751.99	759.12	1.56
7,970.00	90.74	269.74	6,991.11	299.21	-845.99	853.10	1.27
8,064.00	90.12	270.22	6,990.41	299.18	-939.99	947.06	0.83
8,159.00	91.26	269.80	6,989.26	299.19	-1,034.98	1,042.03	1.28
8,254.00	90.34	270.02	6,987.94	299.05	-1,129.97	1,136.98	1.00
8,349.00	90.62	269.52	6,987.14	298.66	-1,224.96	1,231.94	0.60
8,444.00	89.60	270.31	6,986.96	298.52	-1,319.96	1,326.91	1.36
8,539.00	87.91	270.84	6,989.02	299.48	-1,414.93	1,421.87	1.86
8,634.00	88.15	269.81	6,992.29	300.01	-1,509.87	1,516.80	1.11
8,728.00	88.52	269.34	6,995.02	299.32	-1,603.83	1,610.71	0.64
8,823.00	88.21	270.77	6,997.73	299.41	-1,698.79	1,705.64	1.54
8,918.00	88.03	270.93	7,000.85	300.82	-1,793.73	1,800.58	0.25
9,013.00	90.12	271.40	7,002.38	302.75	-1,888.69	1,895.56	2.25
9,108.00	91.32	270.86	7,001.19	304.62	-1,983.66	1,990.55	1.39
9,202.00	90.34	269.96	6,999.83	305.29	-2,077.65	2,084.53	1.42
9,297.00	90.49	269.41	6,999.14	304.77	-2,172.64	2,179.48	0.60
9,392.00	90.34	270.54	6,998.45	304.73	-2,267.64	2,274.45	1.20
9,487.00	90.74	270.88	6,997.55	305.91	-2,362.63	2,369.44	0.55
9,581.00	88.31	270.02	6,998.33	306.65	-2,456.61	2,463.41	2.74
9,676.00	87.69	268.89	7,001.65	305.74	-2,551.55	2,558.30	1.36
9,771.00	89.35	270.36	7,004.10	305.12	-2,646.51	2,653.21	2.33
9,866.00	89.26	269.45	7,005.26	304.96	-2,741.50	2,748.17	0.96

## Design Report for Coalview G02-66-1HN - Actual Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
9,960.00	89.51	269.47	7,006.26	304.08	-2,835.49	2,842.11	0.27
10,055.00	90.22	268.76	7,006.49	302.61	-2,930.48	2,937.03	1.06
10,150.00	90.12	268.19	7,006.21	300.08	-3,025.44	3,031.91	0.61
10,244.00	91.32	270.43	7,005.03	298.95	-3,119.42	3,125.83	2.70
10,339.00	91.70	270.12	7,002.52	299.41	-3,214.39	3,220.78	0.52
10,433.00	89.17	270.96	7,001.81	300.29	-3,308.37	3,314.76	2.84
10,528.00	88.67	270.15	7,003.60	301.21	-3,403.35	3,409.73	1.00
10,623.00	88.83	269.11	7,005.67	300.60	-3,498.32	3,504.66	1.11
10,718.00	88.24	267.18	7,008.10	297.53	-3,593.24	3,599.47	2.12
10,810.00	89.20	267.12	7,010.16	292.95	-3,685.10	3,691.19	1.05
10,902.00	89.75	268.74	7,011.00	289.63	-3,777.03	3,783.01	1.86
10,995.00	89.94	269.08	7,011.25	287.86	-3,870.01	3,875.92	0.42
11,088.00	90.65	269.70	7,010.77	286.87	-3,963.01	3,968.86	1.01
11,181.00	91.54	270.12	7,008.99	286.72	-4,055.99	4,061.81	1.06
11,275.00	89.29	270.48	7,008.31	287.22	-4,149.98	4,155.79	2.42
11,368.00	89.29	270.15	7,009.47	287.73	-4,242.97	4,248.76	0.35
11,459.00	91.39	272.33	7,008.93	289.70	-4,333.94	4,339.75	3.33
11,552.00	88.58	271.48	7,008.95	292.79	-4,426.87	4,432.74	3.16
11,645.00	89.29	271.90	7,010.68	295.53	-4,519.82	4,525.72	0.89
11,737.00	89.01	271.09	7,012.04	297.93	-4,611.78	4,617.71	0.93
11,829.00	89.45	270.87	7,013.28	299.50	-4,703.75	4,709.70	0.53
11,921.00	89.17	270.27	7,014.39	300.42	-4,795.74	4,801.68	0.72
12,015.00	90.28	271.31	7,014.84	301.72	-4,889.73	4,895.67	1.62
12,108.00	90.12	269.90	7,014.51	302.70	-4,982.72	4,988.66	1.53
12,200.00	90.03	269.24	7,014.39	302.01	-5,074.72	5,080.61	0.72
12,293.00	90.31	269.14	7,014.12	300.69	-5,167.71	5,173.54	0.32
12,386.00	90.80	269.52	7,013.22	299.60	-5,260.70	5,266.47	0.67
12,477.00	89.35	266.77	7,013.10	296.66	-5,351.64	5,357.32	3.42
12,572.00	89.82	269.88	7,013.79	293.88	-5,446.58	5,452.16	3.31
12,667.00	88.98	268.80	7,014.78	292.79	-5,541.57	5,547.09	1.44
12,762.00	90.12	269.99	7,015.53	291.79	-5,636.56	5,642.03	1.73
12,857.00	90.09	269.91	7,015.35	291.70	-5,731.56	5,737.00	0.09
12,951.00	89.78	269.25	7,015.46	291.01	-5,825.55	5,830.95	0.78
13,046.00	90.00	268.59	7,015.64	289.22	-5,920.54	5,925.86	0.73
13,141.00	90.15	268.60	7,015.52	286.89	-6,015.51	6,020.74	0.16
13,236.00	89.88	267.96	7,015.49	284.04	-6,110.46	6,115.60	0.73
13,331.00	89.75	266.97	7,015.80	279.84	-6,205.37	6,210.38	1.05
13,425.00	88.71	267.38	7,017.06	275.21	-6,299.25	6,304.11	1.19
13,520.00	88.67	266.79	7,019.23	270.38	-6,394.10	6,398.81	0.62
13,614.00	89.35	269.01	7,020.86	266.93	-6,488.01	6,492.62	2.47
13,709.00	90.40	269.18	7,021.07	265.43	-6,583.00	6,587.54	1.12
13,803.00	90.71	269.20	7,020.16	264.11	-6,676.99	6,681.46	0.33
13,897.00	90.89	268.75	7,018.84	262.42	-6,770.96	6,775.37	0.52
13,992.00	89.32	271.54	7,018.67	262.66	-6,865.95	6,870.33	3.37
14,087.00	89.48	269.40	7,019.66	263.44	-6,960.93	6,965.31	2.26
14,182.00	88.95	270.82	7,020.97	263.63	-7,055.92	7,060.27	1.60
14,277.00	88.74	270.61	7,022.88	264.81	-7,150.90	7,155.25	0.31
14,371.00	88.86	270.00	7,024.85	265.31	-7,244.87	7,249.21	0.66
14,465.00	88.55	269.27	7,026.97	264.71	-7,338.85	7,343.14	0.84
14,560.00	88.55	270.82	7,029.38	264.79	-7,433.81	7,438.08	1.63
14,654.00	88.61	270.35	7,031.71	265.75	-7,527.78	7,532.04	0.50

## Design Report for Coalview G02-66-1HN - Actual Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
14,749.00	90.65	270.74	7,032.32	266.65	-7,622.77	7,627.02	2.19
14,843.00	90.43	269.63	7,031.43	266.95	-7,716.76	7,720.99	1.20
14,938.00	90.77	269.62	7,030.44	266.33	-7,811.75	7,815.94	0.36
15,033.00	90.46	267.83	7,029.42	264.22	-7,906.72	7,910.83	1.91
15,127.00	90.77	269.65	7,028.41	262.15	-8,000.69	8,004.72	1.96
15,221.00	90.52	269.08	7,027.35	261.11	-8,094.68	8,098.65	0.66
15,315.00	90.52	268.78	7,026.50	259.35	-8,188.66	8,192.56	0.32
15,410.00	89.35	269.83	7,026.61	258.20	-8,283.65	8,287.49	1.65
15,505.00	89.69	270.97	7,027.40	258.87	-8,378.64	8,382.47	1.25
15,599.00	90.34	273.04	7,027.38	262.15	-8,472.58	8,476.46	2.31
15,694.00	90.43	273.53	7,026.74	267.60	-8,567.42	8,571.41	0.52
15,788.00	90.28	273.51	7,026.16	273.37	-8,661.24	8,665.34	0.16
15,883.00	87.87	271.55	7,027.69	277.56	-8,756.12	8,760.30	3.27
15,978.00	88.18	270.61	7,030.97	279.35	-8,851.05	8,855.24	1.04
16,072.00	89.38	270.33	7,032.97	280.12	-8,945.02	8,949.21	1.31
16,167.00	89.97	269.34	7,033.51	279.85	-9,040.02	9,044.17	1.21
16,261.00	90.77	268.39	7,032.90	277.99	-9,134.00	9,138.07	1.32
16,356.00	92.13	268.82	7,030.49	275.67	-9,228.93	9,232.92	1.50
16,451.00	93.06	267.94	7,026.19	272.99	-9,323.80	9,327.69	1.35
16,536.00	91.32	267.90	7,022.95	269.91	-9,408.68	9,412.47	2.05
Last MWD Survey							
16,600.00	91.32	267.90	7,021.47	267.56	-9,472.62	9,476.33	0.00
Straight Projection to TD							

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
375.00	375.00	0.19	-0.63	First and Last Gyro Survey
725.00	724.98	-2.48	-2.83	First MWD Survey
16,536.00	7,022.95	269.91	-9,408.68	Last MWD Survey
16,600.00	7,021.47	267.56	-9,472.62	Straight Projection to TD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
Target	Coalview G02-66-1HN BHL	271.41	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
375.00	375.00	Surface Surveys	Flexi-Shot
725.00	7,252.00	Intermediate Surveys	MWD+IFR1
7,404.00	16,600.00	Production Surveys	MWD+IFR1

## Design Report for Coalview G02-66-1HN - Actual Surveys

**Casing Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
674.00	673.99	9 5/8"	9-5/8	13-3/4
7,293.00	6,985.59	7"	7	8-3/4
16,600.00	7,021.47	4 1/2"	4-1/2	4-1/2

**Wellbore Targets**

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Coalview G02-66-1HN	0.00	0.00	0.00	0.01	0.00	1,368,392.74	3,249,952.70	40° 20' 28.212 N	104° 36' 11.880 W
- actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	2,641.04	327.31	1,371,033.67	3,250,279.99	
Point 2				0.00	2,558.21	-10,233.63	1,370,950.84	3,239,719.50	
Point 3				0.00	-2,621.93	-10,175.01	1,365,770.92	3,239,778.11	
Point 4				0.00	-2,570.15	-4,894.94	1,365,822.70	3,245,057.96	
Point 5				0.00	2,603.07	-4,915.56	1,370,995.70	3,245,037.34	
Point 6				0.00	-2,570.15	-4,894.94	1,365,822.70	3,245,057.96	
Point 7				0.00	-2,633.90	377.93	1,365,758.95	3,250,330.61	
Point 8				0.00	2,641.04	327.31	1,371,033.67	3,250,279.99	
Coalview G02-66-1HN	0.00	0.00	0.00	0.01	0.00	1,368,392.74	3,249,952.70	40° 20' 28.212 N	104° 36' 11.880 W
- actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	2,181.02	-132.71	1,370,573.67	3,249,819.99	
Point 2				0.00	-2,173.88	-82.09	1,366,218.95	3,249,870.61	
Point 3				0.00	-2,110.13	-4,434.92	1,366,282.70	3,245,517.96	
Point 4				0.00	2,143.05	-4,455.54	1,370,535.70	3,245,497.34	
Coalview G02-66-1HN	0.00	0.00	0.00	0.01	0.00	1,368,392.74	3,249,952.70	40° 20' 28.212 N	104° 36' 11.880 W
- actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	2,143.05	-5,375.58	1,370,535.70	3,244,577.34	
Point 2				0.00	-2,110.13	-5,354.96	1,366,282.70	3,244,597.96	
Point 3				0.00	-2,161.91	-9,714.99	1,366,230.92	3,240,238.11	
Point 4				0.00	2,098.19	-9,773.61	1,370,490.84	3,240,179.50	
Coalview G02-66-1HN	0.00	0.00	7,030.00	249.36	-10,133.17	1,368,642.09	3,239,819.95	40° 20' 31.668 N	104° 38' 22.704 W
- actual wellpath misses target center by 660.86usft at 16600.00usft MD (7021.47 TVD, 267.56 N, -9472.62 E)									
- Point									
Coalview G02-66-1HN	0.00	0.00	7,035.10	249.36	-10,133.17	1,368,642.09	3,239,819.95	40° 20' 31.668 N	104° 38' 22.704 W
- actual wellpath misses target center by 660.95usft at 16600.00usft MD (7021.47 TVD, 267.56 N, -9472.62 E)									
- Point									

**Directional Difficulty Index**

Average Dogleg over Survey:	1.60 °/100usft	Maximum Dogleg over Survey:	19.92 °/100usft at 7,122.00 usft
Net Tortousity applicable to Plans:	0.96 °/100usft	Directional Difficulty Index:	6.808

**Audit Info**

North Reference Sheet for Sec. 1-T4N-R65W (C06-32-A / G01-08-A/ C06-33-A) - Coalview G02-66-1HN - Original Wellbore

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

Vertical Depths are relative to RKB=24' @ 4852.00usft (H&P 343). Northing and Easting are relative to Coalview G02-66-1HN

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is 105° 30' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:40° 47' 0.000 N°

False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99995809

Grid Coordinates of Well: 1,368,392.73 usft N, 3,249,952.70 usft E

Geographical Coordinates of Well: 40° 20' 28.21" N, 104° 36' 11.88" W

Grid Convergence at Surface is: 0.58°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,600.00usft the Bottom Hole Displacement is 9,476.39usft in the Direction of 271.62° (Grid).

Magnetic Convergence at surface is: -7.85° (13 September 2014, , BGGM2014)

