

# Noble Energy

Weld County, CO (NAD 83)

Sec. 28-T6N-R65W (Five M 28 North PAD)

Five M E28-67HN

Design: MWD Surveys

## Sperry Drilling Services

### Final Survey Report

14 April, 2013

Well Coordinates: 1,412,694.23 N, 3,229,004.96 E (40° 27' 47.99" N, 104° 40' 37.09" W)

Ground Level: 4,712.00 ft

Local Coordinate Origin: Centered on Well Five M E28-67HN - Slot A1

Viewing Datum: KB=24' @ 4736.00ft (H&P 322)

TVDs to System: N

North Reference: Grid

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

**HALLIBURTON**

**Design Report for Five M E28-67HN - MWD Surveys**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
785.00	0.00	0.00	785.00	0.00	0.00	0.00	0.00
Surface Casing Assumed Vertical at 785.00 ft. MD							
920.00	0.17	217.37	920.00	-0.16	-0.12	-0.09	0.13
First Sperry MWD Survey @ 920.00 ft. MD							
1,199.00	0.39	203.40	1,199.00	-1.36	-0.75	-0.50	0.08
1,478.00	0.46	229.90	1,477.99	-2.95	-1.98	-1.44	0.07
1,757.00	0.50	200.87	1,756.98	-4.81	-3.27	-2.38	0.09
2,040.00	0.36	193.46	2,039.97	-6.83	-3.92	-2.67	0.05
2,325.00	0.87	64.54	2,324.96	-6.77	-2.18	-0.96	0.40
2,515.00	0.95	159.02	2,514.95	-7.62	-0.31	1.03	0.70
2,799.00	1.44	133.21	2,798.89	-12.26	3.13	5.23	0.25
2,894.00	2.78	174.80	2,893.82	-15.37	4.21	6.84	2.06
2,989.00	4.57	189.01	2,988.63	-21.41	3.83	7.52	2.10
3,084.00	6.08	195.31	3,083.21	-30.00	1.91	7.13	1.70
3,179.00	6.98	194.90	3,177.60	-40.43	-0.90	6.18	0.95
3,274.00	7.80	197.71	3,271.81	-52.15	-4.35	4.84	0.94
3,369.00	9.67	198.64	3,365.70	-65.85	-8.86	2.79	1.97
3,464.00	9.89	197.20	3,459.32	-81.21	-13.82	0.59	0.35
3,558.00	10.27	195.68	3,551.87	-96.98	-18.48	-1.23	0.49
3,654.00	11.25	190.60	3,646.18	-114.43	-22.51	-2.15	1.42
3,749.00	12.95	191.71	3,739.07	-133.96	-26.38	-2.54	1.81
3,843.00	14.16	191.25	3,830.45	-155.55	-30.76	-3.07	1.29
3,938.00	14.80	195.07	3,922.43	-178.67	-36.18	-4.37	1.21
4,033.00	13.59	197.15	4,014.53	-201.05	-42.63	-6.80	1.38
4,128.00	11.54	197.49	4,107.25	-220.78	-48.77	-9.40	2.16
4,223.00	11.00	198.25	4,200.42	-238.45	-54.47	-11.92	0.59
4,318.00	10.32	198.63	4,293.78	-255.12	-60.02	-14.47	0.72
4,413.00	10.87	191.61	4,387.16	-271.96	-64.55	-15.98	1.48
4,508.00	11.06	198.55	4,480.43	-289.37	-69.25	-17.56	1.40
4,603.00	11.16	198.99	4,573.65	-306.71	-75.14	-20.33	0.14
4,698.00	10.89	197.99	4,666.90	-323.94	-80.90	-22.99	0.35
4,793.00	11.23	201.03	4,760.14	-341.10	-86.99	-25.99	0.71
4,887.00	11.79	197.35	4,852.25	-358.82	-93.14	-28.94	0.98
4,982.00	11.51	197.17	4,945.29	-377.13	-98.83	-31.34	0.30
5,077.00	11.96	191.08	5,038.31	-395.85	-103.52	-32.69	1.39
5,172.00	13.23	187.81	5,131.02	-416.28	-106.89	-32.43	1.53
5,267.00	12.15	189.33	5,223.70	-436.92	-109.99	-31.87	1.19
5,362.00	11.34	184.96	5,316.71	-456.09	-112.42	-30.91	1.27
5,457.00	11.16	185.01	5,409.88	-474.55	-114.03	-29.26	0.19
5,551.00	10.51	183.99	5,502.21	-492.17	-115.42	-27.55	0.72
5,646.00	11.18	187.82	5,595.51	-509.93	-117.28	-26.27	1.04
5,741.00	10.84	184.92	5,688.76	-527.96	-119.30	-25.11	0.68
5,836.00	10.86	182.88	5,782.07	-545.80	-120.51	-23.18	0.40
5,930.00	10.74	178.65	5,874.40	-563.40	-120.75	-20.34	0.85
6,025.00	11.72	172.93	5,967.59	-581.82	-119.35	-15.74	1.56
6,053.00	12.82	172.75	5,994.95	-587.73	-118.61	-13.98	3.93
6,114.00	13.59	175.50	6,054.33	-601.59	-117.20	-10.16	1.63
6,161.00	14.78	173.95	6,099.90	-613.05	-116.13	-7.11	2.66
6,209.00	16.72	178.71	6,146.10	-626.05	-115.33	-4.04	4.85

## Design Report for Five M E28-67HN - MWD Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
6,256.00	17.96	181.80	6,190.96	-640.05	-115.40	-1.67	3.29
6,304.00	20.74	181.72	6,236.25	-655.94	-115.89	0.63	5.79
6,351.00	22.39	185.30	6,279.96	-673.18	-116.97	2.58	4.49
6,399.00	26.40	181.06	6,323.66	-692.96	-118.01	5.02	9.11
6,446.00	28.19	171.99	6,365.45	-714.41	-116.66	10.10	9.62
6,494.00	28.91	158.70	6,407.65	-736.47	-110.86	19.67	13.29
6,541.00	29.21	150.58	6,448.75	-757.05	-101.09	32.89	8.41
6,588.00	27.96	141.59	6,490.04	-775.69	-88.61	48.44	9.52
6,635.00	29.20	140.11	6,531.32	-793.12	-74.41	65.47	3.04
6,683.00	32.63	134.67	6,572.50	-811.21	-57.69	85.10	9.21
6,730.00	37.64	132.16	6,610.92	-829.76	-38.03	107.70	11.09
6,778.00	41.97	124.13	6,647.82	-848.63	-13.85	134.81	13.99
6,825.00	44.53	118.06	6,682.06	-865.20	13.72	164.85	10.39
6,873.00	47.23	114.24	6,715.48	-880.36	44.65	197.95	8.02
6,920.00	49.95	111.77	6,746.57	-894.12	77.09	232.30	7.00
6,967.00	50.05	111.02	6,776.78	-907.25	110.62	267.61	1.24
7,014.00	51.72	111.08	6,806.43	-920.35	144.65	303.40	3.55
7,062.00	54.52	108.45	6,835.24	-933.32	180.78	341.24	7.30
7,109.00	59.57	106.43	6,860.80	-945.11	218.39	380.34	11.33
7,157.00	64.14	104.37	6,883.44	-956.33	259.19	422.47	10.24
7,204.00	68.72	103.74	6,902.22	-966.79	300.97	465.44	9.82
7,252.00	72.59	101.41	6,918.12	-976.63	345.16	510.67	9.27
7,299.00	78.06	99.40	6,930.03	-984.83	389.86	556.12	12.35
7,347.00	83.63	97.33	6,937.66	-991.72	436.73	603.46	12.36
7,396.00	87.49	95.02	6,941.46	-996.97	485.28	652.19	9.17
Estimated 7" Casing Point: 1656' FNL, 764' FWL (Not a Survey Station)							
7,411.00	88.67	94.32	6,941.96	-998.19	500.23	667.11	9.17
7,506.00	88.98	94.30	6,943.91	-1,005.33	594.94	761.61	0.33
7,601.00	89.82	92.20	6,944.90	-1,010.71	689.77	855.93	2.38
7,695.00	89.82	91.29	6,945.20	-1,013.57	783.73	948.94	0.97
7,790.00	89.78	91.25	6,945.53	-1,015.68	878.70	1,042.82	0.06
7,885.00	91.42	92.04	6,944.53	-1,018.41	973.66	1,136.78	1.92
7,978.00	91.76	91.97	6,941.95	-1,021.66	1,066.56	1,228.83	0.37
8,072.00	90.49	92.73	6,940.11	-1,025.51	1,160.46	1,321.95	1.57
8,165.00	88.61	92.72	6,940.84	-1,029.93	1,253.35	1,414.18	2.02
8,258.00	90.22	92.10	6,941.79	-1,033.84	1,346.26	1,506.34	1.86
8,351.00	89.07	91.09	6,942.36	-1,036.43	1,439.22	1,598.32	1.65
8,444.00	90.49	92.05	6,942.72	-1,038.98	1,532.18	1,690.29	1.84
8,537.00	90.55	92.27	6,941.88	-1,042.49	1,625.11	1,782.41	0.25
8,630.00	91.51	92.57	6,940.21	-1,046.41	1,718.01	1,874.56	1.08
8,723.00	89.04	91.15	6,939.76	-1,049.43	1,810.95	1,966.60	3.06
8,816.00	90.52	91.54	6,940.12	-1,051.61	1,903.92	2,058.52	1.65
8,909.00	90.89	91.47	6,938.97	-1,054.06	1,996.88	2,150.47	0.40
9,002.00	91.70	92.73	6,936.87	-1,057.46	2,089.79	2,242.54	1.61
9,095.00	90.46	92.41	6,935.12	-1,061.63	2,182.68	2,334.73	1.38
9,188.00	89.44	90.89	6,935.20	-1,064.31	2,275.64	2,426.72	1.97
9,281.00	90.03	92.61	6,935.63	-1,067.15	2,368.59	2,518.74	1.96
9,374.00	91.02	93.55	6,934.78	-1,072.15	2,461.45	2,611.04	1.47
9,467.00	90.22	92.69	6,933.77	-1,077.21	2,554.31	2,703.35	1.26
9,560.00	90.59	93.40	6,933.11	-1,082.15	2,647.17	2,795.65	0.86
9,653.00	90.71	93.34	6,932.06	-1,087.61	2,740.00	2,888.01	0.14

## Design Report for Five M E28-67HN - MWD Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
9,748.00	90.96	92.31	6,930.67	-1,092.30	2,834.88	2,982.23	1.12
9,843.00	90.80	93.36	6,929.21	-1,096.99	2,929.75	3,076.46	1.12
9,938.00	91.05	92.77	6,927.68	-1,102.07	3,024.60	3,170.74	0.67
10,033.00	89.91	93.79	6,926.88	-1,107.51	3,119.44	3,265.07	1.61
10,128.00	89.81	92.97	6,927.12	-1,113.11	3,214.27	3,359.42	0.87
10,222.00	89.85	93.03	6,927.40	-1,118.03	3,308.14	3,452.70	0.08
10,317.00	89.38	93.45	6,928.03	-1,123.40	3,402.99	3,547.03	0.66
10,412.00	89.78	91.79	6,928.73	-1,127.74	3,497.88	3,641.22	1.80
10,507.00	90.59	91.33	6,928.42	-1,130.33	3,592.85	3,735.17	0.98
10,602.00	91.82	93.92	6,926.43	-1,134.67	3,687.72	3,829.34	3.02
10,697.00	91.45	94.19	6,923.71	-1,141.39	3,782.44	3,923.77	0.48
10,792.00	90.22	93.41	6,922.33	-1,147.68	3,877.22	4,018.19	1.53
10,887.00	91.70	93.69	6,920.74	-1,153.57	3,972.02	4,112.56	1.59
10,982.00	90.34	91.98	6,919.05	-1,158.26	4,066.88	4,206.78	2.30
11,077.00	89.17	91.37	6,919.45	-1,161.04	4,161.84	4,300.76	1.39
11,172.00	88.83	90.52	6,921.11	-1,162.61	4,256.81	4,394.54	0.96
11,267.00	88.64	90.82	6,923.21	-1,163.72	4,351.78	4,488.24	0.37
11,362.00	89.14	92.52	6,925.05	-1,166.49	4,446.72	4,582.20	1.86
11,457.00	90.12	92.11	6,925.66	-1,170.32	4,541.64	4,676.33	1.12
11,552.00	88.89	90.97	6,926.48	-1,172.88	4,636.60	4,770.27	1.77
11,646.00	89.54	91.52	6,927.77	-1,174.92	4,730.56	4,863.15	0.91
11,742.00	90.55	92.65	6,927.70	-1,178.41	4,826.50	4,958.21	1.58
11,836.00	92.68	93.63	6,925.05	-1,183.56	4,920.31	5,051.48	2.49
11,931.00	90.40	92.26	6,922.49	-1,188.43	5,015.14	5,145.70	2.80
12,026.00	90.03	91.55	6,922.14	-1,191.59	5,110.09	5,239.74	0.84
12,121.00	90.40	90.58	6,921.78	-1,193.36	5,205.07	5,333.57	1.09
12,215.00	90.25	92.03	6,921.25	-1,195.50	5,299.04	5,426.46	1.55
12,310.00	91.94	91.18	6,919.43	-1,198.16	5,393.99	5,520.41	1.99
12,405.00	90.43	93.61	6,917.47	-1,202.13	5,488.87	5,614.52	3.01
12,500.00	90.59	93.37	6,916.62	-1,207.91	5,583.69	5,708.89	0.30
12,595.00	92.10	92.87	6,914.39	-1,213.08	5,678.52	5,803.17	1.67
12,690.00	90.28	93.15	6,912.42	-1,218.07	5,773.37	5,897.42	1.94
12,785.00	90.03	93.41	6,912.16	-1,223.50	5,868.21	5,991.75	0.38
12,880.00	89.78	93.56	6,912.32	-1,229.28	5,963.03	6,086.13	0.31
12,975.00	90.77	92.28	6,911.86	-1,234.12	6,057.91	6,180.38	1.70
13,070.00	90.37	90.85	6,910.92	-1,236.71	6,152.86	6,274.33	1.56
13,165.00	90.46	90.54	6,910.23	-1,237.86	6,247.85	6,368.06	0.34
13,260.00	89.44	89.57	6,910.31	-1,237.95	6,342.85	6,461.60	1.48
13,355.00	89.85	92.41	6,910.90	-1,239.60	6,437.83	6,555.40	3.02
13,450.00	90.34	92.06	6,910.74	-1,243.30	6,532.75	6,649.51	0.63
13,545.00	90.93	90.56	6,909.69	-1,245.47	6,627.72	6,743.40	1.70
13,640.00	89.29	91.27	6,909.51	-1,246.99	6,722.70	6,837.18	1.88
13,735.00	88.86	89.45	6,911.04	-1,247.59	6,817.68	6,930.80	1.97
13,830.00	90.25	92.57	6,911.78	-1,249.26	6,912.65	7,024.60	3.60
13,924.00	90.46	92.49	6,911.20	-1,253.41	7,006.56	7,117.78	0.24
13,998.00	91.76	95.05	6,909.76	-1,258.27	7,080.38	7,191.31	3.88
Final Sperry MWD Survey @ 13998.00 ft. MD							
14,063.00	91.76	95.05	6,907.77	-1,263.99	7,145.09	7,256.03	0.00
Estimated BHL: 1694' FNL, 2099' FWL :: Straight Line Projection to TD @ 14063.00 ft. MD							

## Design Report for Five M E28-67HN - MWD Surveys

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
785.00	785.00	0.00	0.00	Surface Casing Assumed Vertical at 785.00 ft. MD
920.00	920.00	-0.16	-0.12	First Sperry MWD Survey @ 920.00 ft. MD
7,396.00	6,941.46	-996.97	485.28	Estimated 7" Casing Point: 1656' FNL, 764' FWL (Not a Survey Station)
13,998.00	6,909.76	-1,258.27	7,080.38	Final Sperry MWD Survey @ 13998.00 ft. MD
14,063.00	6,907.77	-1,263.99	7,145.09	Estimated BHL: 1694' FNL, 2099' FWL :: Straight Line Projection to TD @ 14063.00 ft. MD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
Target	Five M E28-67HN_PlanC - Rev0_BHL	100.07	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
785.00	7,369.00	Sperry MWD Surveys	MWD
7,396.00	14,063.00	Sperry MWD Surveys	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,396.00	6,941.46	7" Casing PT	7	8-3/4

## Design Report for Five M E28-67HN - MWD Surveys

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Five M	0.00	0.00	8.00	262.22	3,495.42	1,412,956.44	3,232,500.25	40.463960	-104.664400
- actual wellpath misses target center by 3505.24ft at 8.00ft MD (8.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				2,373.42	572.22	1,413,266.43	3,231,378.29		
Point 2				5,015.42	451.22	1,413,145.44	3,234,020.19		
Point 3				5,057.42	-2,203.78	1,410,490.53	3,234,062.19		
Point 4				5,102.42	-4,859.78	1,407,834.63	3,234,107.19		
Point 5				2,443.42	-4,764.78	1,407,929.63	3,231,448.29		
Point 6				-215.58	-4,665.78	1,408,028.62	3,228,789.38		
Point 7				-271.58	-1,965.78	1,410,728.52	3,228,733.38		
Point 8				-287.58	697.22	1,413,391.43	3,228,717.38		
Point 9				2,373.42	572.22	1,413,266.43	3,231,378.29		
Five M	0.00	0.00	8.00	262.22	3,495.42	1,412,956.44	3,232,500.25	40.463960	-104.664400
- actual wellpath misses target center by 3505.24ft at 8.00ft MD (8.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				5,475.42	-8.78	1,412,685.45	3,234,480.18		
Point 2				7,659.42	-34.78	1,412,659.45	3,236,664.10		
Point 3				7,701.42	-2,225.78	1,410,468.53	3,236,706.09		
Point 4				7,743.42	-4,410.78	1,408,283.61	3,236,748.09		
Point 5				5,562.42	-4,399.78	1,408,294.61	3,234,567.17		
Point 6				5,517.42	-2,203.78	1,410,490.53	3,234,522.17		
Point 7				5,475.42	-8.78	1,412,685.45	3,234,480.18		
Five M	0.00	0.00	8.00	262.22	3,495.42	1,412,956.44	3,232,500.25	40.463960	-104.664400
- actual wellpath misses target center by 3505.24ft at 8.00ft MD (8.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				2,373.42	112.22	1,412,806.45	3,231,378.29		
Point 2				4,555.42	-8.78	1,412,685.45	3,233,560.21		
Point 3				4,597.42	-2,203.78	1,410,490.53	3,233,602.21		
Point 4				4,642.42	-4,399.78	1,408,294.61	3,233,647.21		
Point 5				2,443.42	-4,304.78	1,408,389.61	3,231,448.29		
Point 6				244.42	-4,205.78	1,408,488.61	3,229,249.37		
Point 7				188.42	-1,965.78	1,410,728.52	3,229,193.37		
Point 8				172.42	237.22	1,412,931.44	3,229,177.37		
Point 9				2,373.42	112.22	1,412,806.45	3,231,378.29		
Five M	0.00	0.00	6,900.68	-1,269.73	7,147.07	1,411,424.55	3,236,151.77	40.459660	-104.651330
- actual wellpath misses target center by 9.33ft at 14063.00ft MD (6907.77 TVD, -1263.99 N, 7145.09 E)									
- Point									
Five M	0.00	0.00	8.00	262.22	3,495.42	1,412,956.44	3,232,500.25	40.463960	-104.664400
- actual wellpath misses target center by 3505.24ft at 8.00ft MD (8.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				5,015.42	451.22	1,413,145.44	3,234,020.19		
Point 2				7,659.42	425.22	1,413,119.44	3,236,664.10		
Point 3				7,701.42	-2,225.78	1,410,468.53	3,236,706.09		
Point 4				7,743.42	-4,870.78	1,407,823.63	3,236,748.09		
Point 5				5,102.42	-4,859.78	1,407,834.63	3,234,107.19		
Point 6				5,058.42	-2,203.78	1,410,490.53	3,234,063.19		
Point 7				5,015.42	451.22	1,413,145.44	3,234,020.19		

**North Reference Sheet for Sec. 28-T6N-R65W (Five M 28 North PAD) - Five M E28-67HN**

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

Vertical Depths are relative to KB=24' @ 4736.00ft (H&P 322). Northing and Easting are relative to Five M E28-67HN - Slot A1

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 -105.500000°, Longitude Origin:0.000000°, Latitude Origin:40.783333°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99996371

Grid Coordinates of Well: 1,412,694.23 ft N, 3,229,004.96 ft E

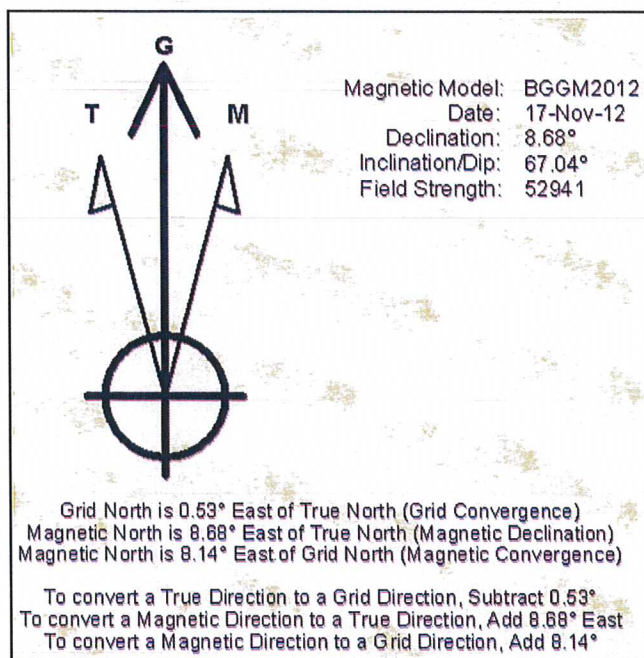
Geographical Coordinates of Well: 40° 27' 47.99" N, 104° 40' 37.09" W

Grid Convergence at Surface is: 0.53°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,063.00ft

the Bottom Hole Displacement is 7,256.04ft in the Direction of 100.03° (Grid).

Magnetic Convergence at surface is: -8.14° (17 November 2012, , BGGM2012)

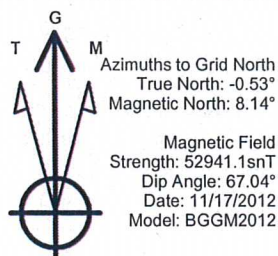


Project: Weld County, CO (NAD 83)  
 Site: Sec. 28-T6N-R65W (Five M 28 North PAD)  
 Well: Five M E28-67HN

# Noble Energy

**HALLIBURTON**

Sperry Drilling

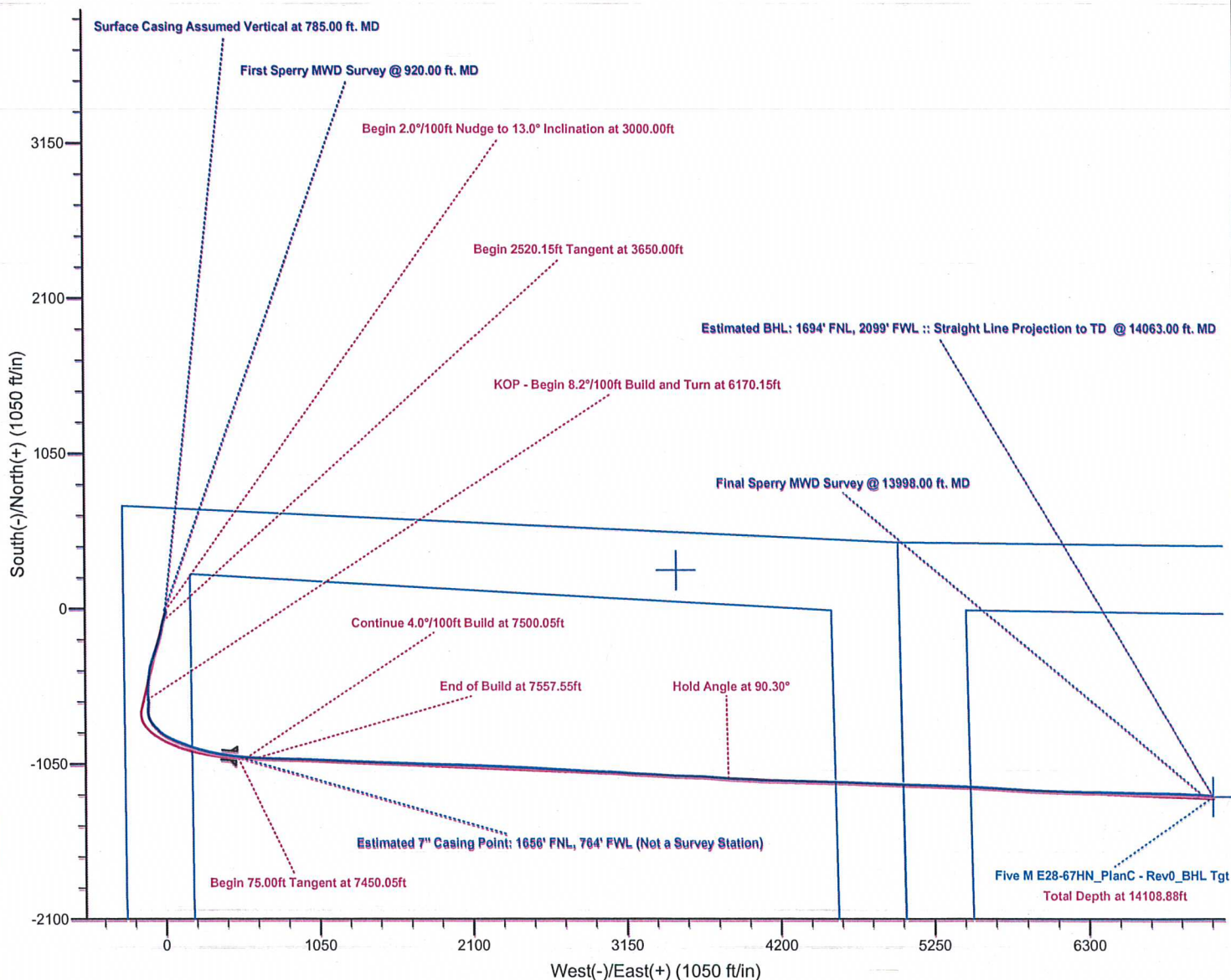


## LEGEND

- Five M E28-67HN, Plan C, Plan C - Rev 0 Proposal V0
- MWD Surveys

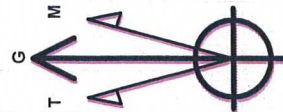
Permitted BHL: 1700' FNL, 2105' FWL

Halliburton Energy Services, Inc. ("Halliburton") recently completed directional drilling and MWD operations at the Five M E28-67HN well located at Weld County, CO. At the conclusion of the job Halliburton performed a final survey on the well. Noble Energy has requested that Halliburton provide them the distances from BHL to section lines from that final survey to allow Noble Energy to meet its requirements under Colorado law. These distances are generated by a mathematical algorithm based on rough data collected after the well is drilled. Halliburton considers it to be a rough estimate only and it is not to be relied upon in any application where accurate data is required. In consideration for Halliburton releasing this data to Noble Energy, Noble Energy agrees to release Halliburton from any consequences of it or anyone else relying on such data.



Project: Weld County, CO (NAD 83)  
 Site: Sec. 28-T6N-R65W (Five M 28 North PAD)  
 Well: Five M E28-67HN

# Noble Energy



Azimuths to Grid North  
 True North: -0.53°  
 Magnetic North: 8.14°  
 Magnetic Field  
 Strength: 52941.1nT  
 Dip Angle: 67.04°  
 Date: 11/17/2012  
 Model: BGGM2012

## LEGEND

- Five M E28-67HN, Plan C, Plan C - Rev 0 Proposal V0
- MWD Surveys

Halliburton Energy Services, Inc. ("Halliburton") recently completed directional drilling and MWD operations at the Five M E28-67HN well located at Weld County, CO. At the conclusion of the job Halliburton performed a final survey on the well. Noble Energy has requested that Halliburton provide them the distances from BHL to section lines from that final survey to allow Noble Energy to meet its requirements under Colorado law. These distances are generated by a mathematical algorithm based on rough data collected after the well is drilled. Halliburton considers it to be a rough estimate only and it is not to be relied upon in any application where accurate data is required. In consideration for Halliburton releasing this data to Noble Energy, Noble Energy agrees to release Halliburton from any consequences of it or anyone else relying on such data.

