

Noble Energy Inc.- Weld County, CO (Grid North)

Well Name: **Eagle E14-63-1HN**

Surface Location: Eagle E14-62-1HN Pad Sec.14-T6N-R65W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

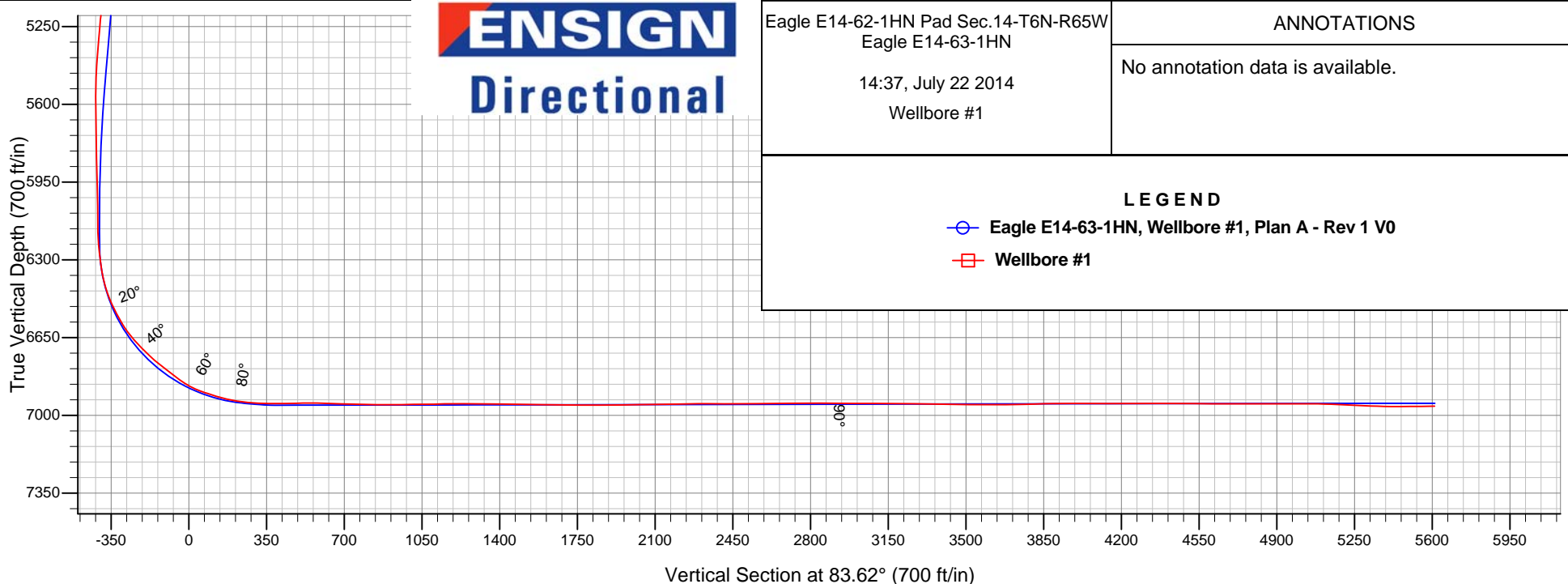
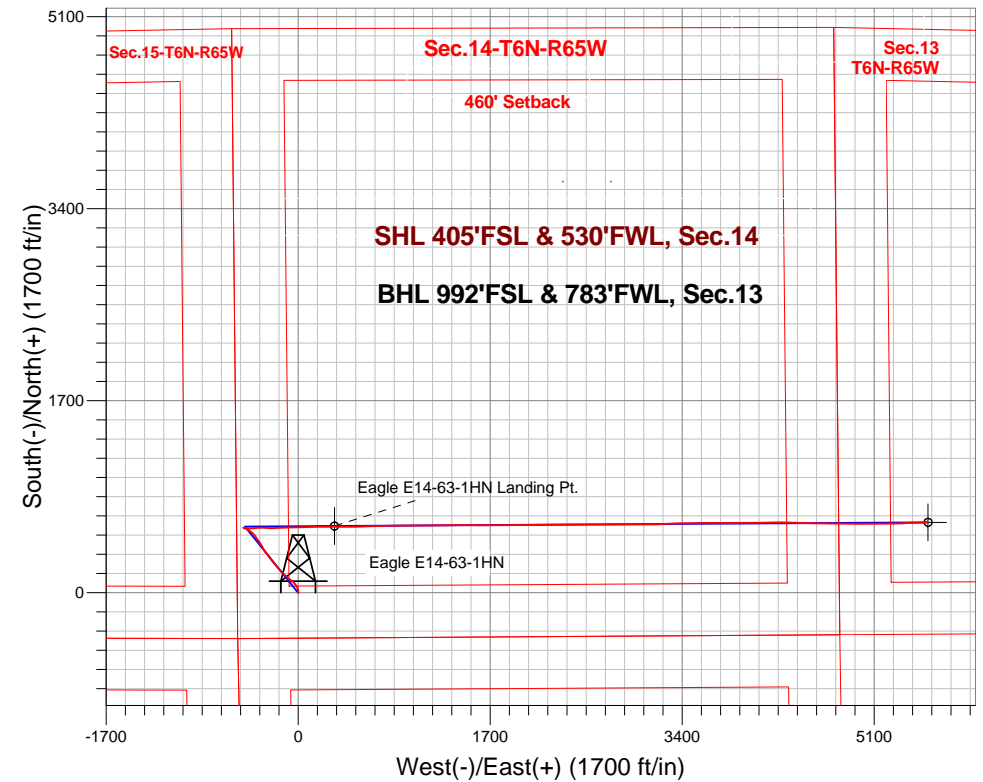
Ground Elevation: 4736.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1418836.67	3239744.66	40.479910	-104.638160	

Precision 829 RKB - 16' WELL @ 4752.0ft (Precision 829 RKB - 16')

FINAL SURVEY

Projected Bottom Hole Location
12743'MD 6959'TVD 625'N & 5576'E of SHL
90.4 degree Incl @ 86.9 degree AZM



ENSIGN
Directional

Eagle E14-62-1HN Pad Sec.14-T6N-R65W
Eagle E14-63-1HN
14:37, July 22 2014
Wellbore #1

ANNOTATIONS

No annotation data is available.

LEGEND

- Eagle E14-63-1HN, Wellbore #1, Plan A - Rev 1 V0
- Wellbore #1



Noble Energy Inc.- Weld County, CO (Grid North)

Sec.14-T6N-R65W

Eagle E14-62-1HN Pad Sec.14-T6N-R65W

Eagle E14-63-1HN

Wellbore #1

Design: Wellbore #1

Final Survey

22 July, 2014

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	Local Co-ordinate Reference:	Well Eagle E14-63-1HN
Project:	Sec.14-T6N-R65W	TVD Reference:	WELL @ 4752.0ft (Precision 829 RKB - 16')
Site:	Eagle E14-62-1HN Pad Sec.14-T6N-R65W	MD Reference:	WELL @ 4752.0ft (Precision 829 RKB - 16')
Well:	Eagle E14-63-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey							
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
1,397.0	10.50	323.90	1,392.6	58.3	-14.5	-8.0	2.49
1,491.0	10.40	325.90	1,485.1	72.2	-24.4	-16.2	0.40
1,583.0	11.50	318.40	1,575.4	86.0	-35.1	-25.3	1.95
1,676.0	11.10	311.30	1,666.6	98.8	-48.0	-36.7	1.56
1,770.0	10.30	305.70	1,759.0	109.7	-61.6	-49.0	1.39
1,864.0	10.20	304.30	1,851.5	119.3	-75.3	-61.6	0.29
1,959.0	11.10	307.70	1,944.8	129.6	-89.5	-74.5	1.16
2,051.0	11.30	311.20	2,035.1	141.0	-103.3	-87.0	0.77
2,145.0	11.40	312.90	2,127.3	153.3	-117.0	-99.3	0.37
2,238.0	11.00	315.80	2,218.5	166.0	-129.9	-110.7	0.74
2,332.0	11.80	322.20	2,310.6	180.0	-142.1	-121.2	1.59
2,426.0	11.30	317.50	2,402.7	194.4	-154.2	-131.6	1.13
2,519.0	10.70	315.80	2,494.0	207.3	-166.4	-142.3	0.73
2,595.0	10.90	318.70	2,568.7	217.7	-176.0	-150.8	0.76
2,685.0	11.00	314.90	2,657.0	230.2	-187.7	-161.0	0.81
2,775.0	11.50	321.60	2,745.3	243.3	-199.4	-171.1	1.55
2,864.0	11.60	320.20	2,832.5	257.1	-210.6	-180.8	0.33
2,954.0	10.70	316.60	2,920.8	270.1	-222.1	-190.8	1.26
3,044.0	10.90	321.60	3,009.2	282.9	-233.2	-200.3	1.06
3,133.0	10.90	328.10	3,096.6	296.6	-242.8	-208.4	1.38
3,223.0	9.80	323.00	3,185.2	309.9	-252.0	-216.0	1.59
3,312.0	11.00	327.90	3,272.7	323.2	-261.0	-223.5	1.67
3,402.0	10.20	321.20	3,361.2	336.7	-270.6	-231.5	1.63
3,492.0	9.20	317.80	3,449.9	348.2	-280.4	-240.0	1.28
3,581.0	8.10	320.00	3,537.9	358.3	-289.2	-247.6	1.29
3,671.0	8.50	325.30	3,626.9	368.6	-297.1	-254.3	0.96
3,760.0	9.80	333.40	3,714.8	380.8	-304.2	-260.0	2.05
3,850.0	10.50	333.20	3,803.4	395.0	-311.3	-265.6	0.78
3,940.0	11.50	331.00	3,891.7	410.1	-319.4	-271.9	1.20
4,029.0	11.60	328.30	3,978.9	425.5	-328.4	-279.1	0.62
4,119.0	10.70	326.30	4,067.2	440.2	-337.8	-286.8	1.09
4,208.0	9.20	323.00	4,154.9	452.7	-346.7	-294.2	1.80
4,298.0	8.40	321.00	4,243.8	463.6	-355.1	-301.4	0.95
4,388.0	8.00	322.30	4,332.9	473.6	-363.1	-308.2	0.49
4,477.0	8.50	327.60	4,421.0	484.1	-370.4	-314.3	1.02
4,567.0	10.40	332.60	4,509.8	496.9	-377.7	-320.2	2.30
4,657.0	10.00	323.00	4,598.3	510.4	-386.1	-327.1	1.94
4,746.0	9.50	309.90	4,686.1	521.3	-396.4	-336.1	2.55
4,836.0	9.50	309.20	4,774.8	530.7	-407.9	-346.4	0.13
4,925.0	10.00	306.30	4,862.5	539.9	-419.8	-357.2	0.79
5,015.0	7.80	298.30	4,951.5	547.5	-431.5	-368.0	2.80
5,105.0	9.60	307.80	5,040.4	554.9	-442.8	-378.4	2.55
5,195.0	8.20	303.30	5,129.3	563.1	-454.1	-388.7	1.74
5,284.0	6.50	297.50	5,217.6	568.9	-463.9	-397.8	2.08
5,374.0	5.40	291.60	5,307.1	572.8	-472.3	-405.8	1.40

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	Local Co-ordinate Reference:	Well Eagle E14-63-1HN
Project:	Sec.14-T6N-R65W	TVD Reference:	WELL @ 4752.0ft (Precision 829 RKB - 16')
Site:	Eagle E14-62-1HN Pad Sec.14-T6N-R65W	MD Reference:	WELL @ 4752.0ft (Precision 829 RKB - 16')
Well:	Eagle E14-63-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey							
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5,463.0	4.30	274.90	5,395.8	574.6	-479.5	-412.8	2.00
5,553.0	2.00	282.50	5,485.7	575.2	-484.4	-417.5	2.59
5,643.0	0.60	166.80	5,575.7	575.1	-485.9	-419.0	2.58
5,732.0	0.90	131.40	5,664.6	574.2	-485.2	-418.5	0.60
5,822.0	1.30	129.20	5,754.6	573.1	-483.9	-417.3	0.45
5,912.0	1.60	127.70	5,844.6	571.7	-482.1	-415.6	0.34
6,001.0	2.00	75.80	5,933.6	571.3	-479.6	-413.2	1.82
6,091.0	0.30	88.20	6,023.5	571.7	-477.9	-411.4	1.90
6,180.0	1.20	109.90	6,112.5	571.4	-476.8	-410.4	1.04
6,270.0	1.90	111.10	6,202.5	570.5	-474.5	-408.2	0.78
6,315.0	6.50	94.70	6,247.4	570.1	-471.2	-405.0	10.46
6,360.0	6.90	86.10	6,292.1	570.0	-466.0	-399.8	2.40
6,404.0	9.50	93.20	6,335.6	570.0	-459.7	-393.6	6.33
6,449.0	11.40	96.60	6,379.9	569.3	-451.6	-385.6	4.44
6,494.0	16.10	90.00	6,423.6	568.8	-441.0	-375.1	10.99
6,539.0	21.70	88.60	6,466.1	569.0	-426.4	-360.6	12.48
6,584.0	25.50	85.70	6,507.3	569.9	-408.4	-342.6	8.83
6,629.0	28.00	84.60	6,547.5	571.6	-388.2	-322.3	5.66
6,674.0	30.10	84.30	6,586.9	573.7	-366.5	-300.5	4.68
6,718.0	36.60	87.10	6,623.6	575.5	-342.4	-276.3	15.18
6,763.0	42.60	93.30	6,658.3	575.3	-313.7	-247.9	15.95
6,808.0	44.10	94.10	6,691.0	573.3	-282.9	-217.5	3.55
6,853.0	45.50	91.80	6,722.9	571.7	-251.2	-186.2	4.76
6,898.0	50.30	87.10	6,753.1	572.1	-217.9	-153.0	13.18
6,943.0	52.60	87.40	6,781.1	573.7	-182.7	-117.9	5.14
6,987.0	51.60	87.80	6,808.2	575.2	-148.0	-83.3	2.38
7,032.0	53.50	87.90	6,835.5	576.5	-112.3	-47.6	4.23
7,077.0	58.90	88.70	6,860.6	577.6	-75.0	-10.4	12.09
7,122.0	66.20	88.40	6,881.3	578.7	-35.1	29.4	16.23
7,166.0	71.80	88.30	6,897.0	579.8	6.0	70.3	12.73
7,211.0	74.10	89.20	6,910.2	580.8	49.0	113.2	5.46
7,256.0	75.00	89.00	6,922.2	581.5	92.3	156.3	2.05
7,301.0	78.10	88.70	6,932.7	582.3	136.1	199.9	6.92
7,334.0	82.80	88.40	6,938.2	583.2	168.6	232.3	14.27
7,432.0	88.30	90.00	6,945.8	584.5	266.3	329.5	5.84
7,463.0	89.40	90.60	6,946.4	584.4	297.3	360.3	4.04
7,487.7	89.88	90.65	6,946.5	584.1	322.0	384.9	1.95
Eagle E14-63-1HN Landing Pt.							
7,556.0	91.20	90.80	6,945.9	583.2	390.2	452.6	1.95
7,650.0	90.20	89.00	6,944.8	583.4	484.2	546.0	2.19
7,743.0	88.20	87.90	6,946.1	585.9	577.2	638.7	2.45
7,838.0	87.80	87.70	6,949.4	589.5	672.0	733.4	0.47
7,932.0	89.10	89.60	6,951.9	591.8	766.0	827.0	2.45
8,025.0	91.00	89.70	6,951.8	592.3	859.0	919.4	2.05

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Site:	Eagle E14-62-1HN Pad Sec.14-T6N-R65W	MD Reference:	WELL @ 4752.0ft (Precision 829 RKB - 16')
Well:	Eagle E14-63-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey							
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
8,118.0	90.40	89.50	6,950.7	593.0	952.0	1,011.9	0.68
8,211.0	91.30	89.30	6,949.3	593.9	1,045.0	1,104.4	0.99
8,305.0	89.80	88.30	6,948.4	595.9	1,138.9	1,198.1	1.92
8,398.0	90.00	89.80	6,948.6	597.5	1,231.9	1,290.6	1.63
8,492.0	89.60	89.30	6,948.9	598.2	1,325.9	1,384.1	0.68
8,586.0	89.10	89.80	6,950.0	598.9	1,419.9	1,477.6	0.75
8,678.0	89.50	90.80	6,951.1	598.5	1,511.9	1,569.0	1.17
8,772.0	88.50	90.80	6,952.7	597.1	1,605.9	1,662.2	1.06
8,866.0	90.00	90.10	6,954.0	596.4	1,699.8	1,755.6	1.76
8,961.0	90.10	89.90	6,953.9	596.4	1,794.8	1,850.0	0.24
9,055.0	90.70	89.50	6,953.2	596.9	1,888.8	1,943.4	0.77
9,148.0	91.30	88.80	6,951.6	598.3	1,981.8	2,036.0	0.99
9,241.0	90.40	88.70	6,950.2	600.3	2,074.8	2,128.6	0.97
9,318.0	91.10	89.20	6,949.2	601.7	2,151.8	2,205.3	1.12
9,408.0	90.80	89.90	6,947.7	602.4	2,241.7	2,294.8	0.85
9,497.0	89.70	89.40	6,947.3	603.0	2,330.7	2,383.3	1.36
9,587.0	89.70	90.20	6,947.8	603.3	2,420.7	2,472.8	0.89
9,676.0	90.60	89.80	6,947.6	603.3	2,509.7	2,561.2	1.11
9,766.0	90.40	90.70	6,946.8	602.9	2,599.7	2,650.6	1.02
9,855.0	91.50	89.40	6,945.3	602.8	2,688.7	2,739.0	1.91
9,945.0	89.60	88.90	6,944.4	604.1	2,778.7	2,828.6	2.18
10,035.0	89.30	89.50	6,945.3	605.4	2,868.7	2,918.2	0.75
10,124.0	89.80	90.20	6,946.0	605.6	2,957.7	3,006.6	0.97
10,214.0	90.40	89.90	6,945.8	605.6	3,047.7	3,096.1	0.75
10,303.0	89.50	89.90	6,945.9	605.7	3,136.7	3,184.5	1.01
10,393.0	88.80	88.50	6,947.3	607.0	3,226.7	3,274.1	1.74
10,483.0	88.20	87.40	6,949.6	610.2	3,316.6	3,363.8	1.39
10,572.0	89.60	87.50	6,951.3	614.1	3,405.5	3,452.6	1.58
10,662.0	90.20	88.70	6,951.5	617.1	3,495.4	3,542.3	1.49
10,751.0	89.90	90.10	6,951.4	618.1	3,584.4	3,630.9	1.61
10,841.0	90.50	90.50	6,951.1	617.6	3,674.4	3,720.3	0.80
10,931.0	92.00	90.80	6,949.1	616.6	3,764.4	3,809.6	1.70
11,020.0	90.90	89.60	6,946.9	616.3	3,853.3	3,897.9	1.83
11,110.0	90.10	88.60	6,946.1	617.7	3,943.3	3,987.5	1.42
11,200.0	89.30	89.40	6,946.6	619.2	4,033.3	4,077.1	1.26
11,289.0	90.50	88.90	6,946.7	620.6	4,122.3	4,165.7	1.46
11,379.0	89.90	89.30	6,946.4	622.0	4,212.3	4,255.3	0.80
11,468.0	90.50	90.90	6,946.1	621.8	4,301.3	4,343.7	1.92
11,558.0	89.10	91.20	6,946.4	620.2	4,391.3	4,433.0	1.59
11,648.0	89.50	91.70	6,947.5	617.9	4,481.2	4,522.1	0.71
11,738.0	89.90	91.40	6,948.0	615.5	4,571.2	4,611.3	0.56
11,827.0	89.90	91.40	6,948.1	613.3	4,660.2	4,699.4	0.00
11,917.0	90.10	91.20	6,948.1	611.2	4,750.1	4,788.6	0.31
12,006.0	90.10	90.80	6,948.0	609.7	4,839.1	4,876.9	0.45

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Well:	Eagle E14-63-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey							
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
12,096.0	89.80	89.80	6,948.1	609.2	4,929.1	4,966.3	1.16
12,186.0	89.90	88.80	6,948.3	610.3	5,019.1	5,055.8	1.12
12,275.0	88.00	90.00	6,949.9	611.2	5,108.1	5,144.4	2.52
12,365.0	87.20	89.50	6,953.7	611.6	5,198.0	5,233.8	1.05
12,455.0	87.60	89.00	6,957.8	612.8	5,287.9	5,323.3	0.71
12,544.0	89.70	87.90	6,959.9	615.2	5,376.8	5,411.9	2.66
12,634.0	90.70	87.20	6,959.6	619.1	5,466.8	5,501.7	1.36
12,681.0	90.40	86.90	6,959.1	621.5	5,513.7	5,548.6	0.90
12,743.0	90.40	86.90	6,958.7	624.8	5,575.6	5,610.5	0.00
Eagle E14-63-1HN BHL 990'FSL & 785'FWL							

Checked By: _____ Approved By: _____ Date: _____