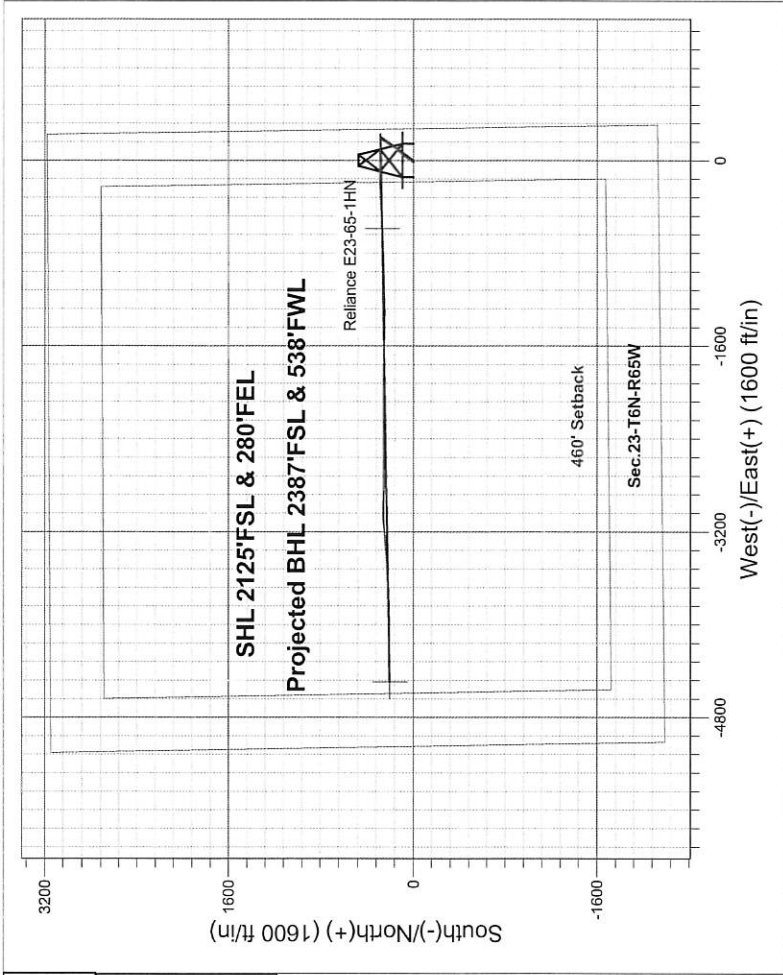


Noble Energy Inc.- Weld County, CO (Grid North)

Well Name: Reliance E23-65-1HN					
Surface Location: Reliance E23-66-1HN Pad Sec.23-T6N-R65W					
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone					
Ground Elevation: 4695.0					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1415285.68	3244317.19	40.470040	-104.621850
H&P 326 RKB - 30' WELL @ 4725.0ft (H&P 326 RKB - 30')					

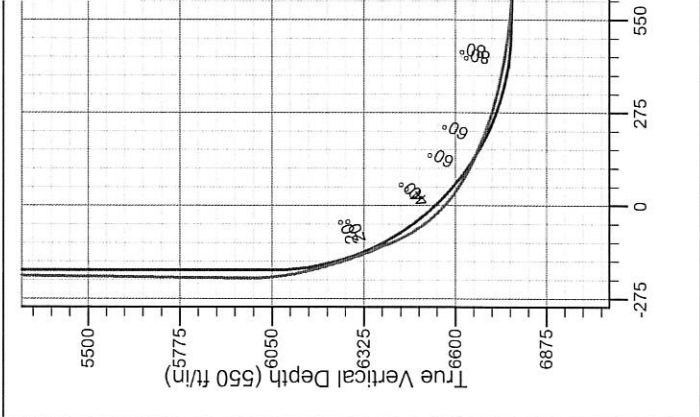
FINAL SURVEY

Projected Bottom Hole Location
11193'MD 6767'TVD 206'N & 4490'W of SHL
89.8 degree Incl @ 269.0 degree AZM
123-37604



ENSIGN

Directional



Reliance E23-66-1HN Pad Sec.23-T6N-R65W
Reliance E23-65-1HN
Wellbore #1

ANNOTATIONS
No annotation data is available.

LEGEND
○ Reliance E23-65-1HN, Wellbore #1, Plan D - Rev 0 V0
□ Wellbore #1

Vertical Section at 272.60° (550 ft/in)



ENSIGN

Directional

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

Sec.23-T6N-R65W

Reliance E23-66-1HN Pad Sec.23-T6N-R65W

Reliance E23-65-1HN

Wellbore #1

Design: Wellbore #1

Final Survey

18 March, 2015

ENSIGN

Directional

Ensign Energy Services Inc.

Final Survey

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	Local Co-ordinate Reference:	Well Reliance E23-65-1HN
Project:	Sec.23-T6N-R65W	TVD Reference:	WELL @ 4725.0ft (H&P 326 RKB - 30')
Site:	Reliance E23-66-1HN Pad Sec.23-T6N-R65W	MD Reference:	WELL @ 4725.0ft (H&P 326 RKB - 30')
Well:	Reliance E23-65-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	landmark

Project	Sec.23-T6N-R65W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Reliance E23-66-1HN Pad Sec.23-T6N-R65W				
Site Position:		Northing:	1,415,220.13ft	Latitude:	40.469860
From:	Lat/Long	Easting:	3,244,317.84ft	Longitude:	-104.621850
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.57 °

Well	Reliance E23-65-1HN					
Well Position	+N/-S	0.0 ft	Northing:	1,415,285.68 ft	Latitude:	40.470040
	+E/-W	0.0 ft	Easting:	3,244,317.19 ft	Longitude:	-104.621850
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,695.0 ft

Wellbore	Wellbore #1				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/10/2015	8.29	67.00	52,790

Design	Wellbore #1				
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	272.60	

Survey Program		Date	3/18/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
274.0	645.0	Survey #1 (Wellbore #1)	Flexi-Shot	VES Flexi-Shot Tool	
921.0	7,198.0	Survey #2 (Wellbore #1)	MWD	MWD - Standard	
7,290.0	11,193.0	Survey #3 (Wellbore #1)	MWD	MWD - Standard	

Survey							
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
274.0	0.20	219.13	274.0	-0.4	-0.3	0.3	0.07
645.0	0.20	307.73	645.0	-0.5	-1.2	1.2	0.08
921.0	0.30	256.50	921.0	-0.4	-2.3	2.3	0.08
1,014.0	0.40	261.60	1,014.0	-0.5	-2.9	2.8	0.11
1,106.0	0.40	262.10	1,106.0	-0.5	-3.5	3.5	0.00
1,198.0	0.60	256.00	1,198.0	-0.7	-4.3	4.2	0.22
1,292.0	0.70	264.80	1,292.0	-0.9	-5.3	5.3	0.15
1,385.0	1.00	251.20	1,385.0	-1.2	-6.7	6.6	0.39
1,479.0	1.10	253.80	1,479.0	-1.7	-8.3	8.2	0.12

ENSIGN

Directional

Ensign Energy Services Inc.

Final Survey

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	Local Co-ordinate Reference:	Well Reliance E23-65-1HN
Project:	Sec.23-T6N-R65W	TVD Reference:	WELL @ 4725.0ft (H&P 326 RKB - 30')
Site:	Reliance E23-66-1HN Pad Sec.23-T6N-R65W	MD Reference:	WELL @ 4725.0ft (H&P 326 RKB - 30')
Well:	Reliance E23-65-1HN	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)
1,571.0	1.30	270.80	1,570.9	-1.9	-10.2	10.1	0.44
1,663.0	1.50	286.30	1,662.9	-1.6	-12.4	12.3	0.46
1,755.0	1.50	312.60	1,754.9	-0.4	-14.4	14.4	0.74
1,847.0	1.40	8.20	1,846.9	1.5	-15.2	15.2	1.47
1,939.0	2.70	25.50	1,938.8	4.6	-14.1	14.3	1.55
2,033.0	3.90	29.70	2,032.6	9.3	-11.5	12.0	1.30
2,125.0	4.70	40.50	2,124.4	14.9	-7.5	8.2	1.23
2,219.0	5.50	54.30	2,218.0	20.5	-1.4	2.3	1.55
2,311.0	5.30	43.30	2,309.6	26.1	5.1	-3.9	1.14
2,405.0	6.50	29.20	2,403.1	33.9	10.7	-9.1	1.99
2,500.0	7.60	29.00	2,497.4	44.1	16.4	-14.3	1.16
2,594.0	7.50	29.80	2,590.6	54.9	22.4	-19.9	0.15
2,689.0	6.60	25.70	2,684.9	65.2	27.9	-24.9	1.08
2,783.0	7.30	36.80	2,778.2	74.8	33.8	-30.4	1.61
2,878.0	8.30	40.40	2,872.3	84.9	41.8	-38.0	1.17
2,972.0	8.10	44.10	2,965.3	94.8	50.9	-46.5	0.60
3,067.0	8.00	40.50	3,059.4	104.7	59.8	-55.0	0.54
3,161.0	6.20	39.90	3,152.7	113.5	67.3	-62.1	1.92
3,256.0	6.40	40.30	3,247.1	121.5	74.0	-68.4	0.22
3,350.0	5.30	44.60	3,340.6	128.6	80.5	-74.6	1.26
3,445.0	6.20	53.30	3,435.1	134.8	87.7	-81.5	1.32
3,539.0	6.70	39.50	3,528.5	142.0	95.2	-88.7	1.73
3,633.0	7.50	33.00	3,621.8	151.4	102.0	-95.1	1.20
3,728.0	9.10	33.80	3,715.8	162.9	109.6	-102.1	1.69
3,822.0	10.90	32.60	3,808.4	176.5	118.5	-110.4	1.93
3,917.0	12.70	31.60	3,901.4	193.0	128.8	-120.0	1.91
4,012.0	13.50	31.00	3,993.9	211.4	140.0	-130.3	0.85
4,106.0	10.20	32.70	4,085.9	227.8	150.2	-139.7	3.53
4,201.0	8.50	38.70	4,179.6	240.4	159.1	-148.1	2.06
4,295.0	7.80	32.30	4,272.7	251.2	166.9	-155.3	1.22
4,390.0	6.00	34.40	4,367.0	260.7	173.1	-161.1	1.91
4,485.0	5.70	37.30	4,461.5	268.6	178.8	-166.4	0.44
4,579.0	6.00	43.10	4,555.0	275.9	185.0	-172.3	0.70
4,674.0	4.40	37.30	4,649.6	282.4	190.6	-177.6	1.77
4,768.0	3.60	60.10	4,743.4	286.7	195.3	-182.1	1.88
4,863.0	2.90	93.90	4,838.2	288.1	200.3	-187.0	2.11
4,957.0	2.60	92.90	4,932.1	287.8	204.8	-191.5	0.32
5,052.0	2.70	82.30	5,027.0	288.0	209.2	-195.9	0.53
5,147.0	2.70	82.30	5,121.9	288.6	213.6	-200.3	0.00
5,242.0	2.30	83.40	5,216.8	289.1	217.7	-204.4	0.42
5,336.0	1.20	123.80	5,310.8	288.8	220.4	-207.1	1.69
5,430.0	1.60	143.80	5,404.8	287.2	222.0	-208.8	0.67
5,525.0	0.20	151.10	5,499.7	285.9	222.8	-209.7	1.48
5,620.0	1.30	106.60	5,594.7	285.5	224.0	-210.8	1.23
5,714.0	0.70	113.90	5,688.7	285.0	225.5	-212.4	0.65

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	Local Co-ordinate Reference:	Well Reliance E23-65-1HN
Project:	Sec.23-T6N-R65W	TVD Reference:	WELL @ 4725.0ft (H&P 326 RKB - 30')
Site:	Reliance E23-66-1HN Pad Sec.23-T6N-R65W	MD Reference:	WELL @ 4725.0ft (H&P 326 RKB - 30')
Well:	Reliance E23-65-1HN	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)
5,809.0	0.30	94.80	5,783.7	284.7	226.3	-213.2	0.45
5,903.0	0.40	58.40	5,877.7	284.9	226.8	-213.7	0.25
5,995.0	0.70	54.00	5,969.7	285.4	227.5	-214.4	0.33
6,090.0	6.10	282.50	6,064.5	286.8	223.1	-209.9	6.93
6,184.0	14.00	268.20	6,157.0	287.5	206.8	-193.6	8.75
6,279.0	16.40	267.40	6,248.7	286.5	181.9	-168.8	2.54
6,373.0	21.00	268.90	6,337.7	285.6	151.8	-138.7	4.92
6,468.0	24.70	272.90	6,425.3	286.3	115.0	-101.9	4.22
6,562.0	36.00	275.00	6,506.3	289.7	67.7	-54.5	12.07
6,656.0	49.50	270.30	6,575.1	292.3	4.1	9.2	14.75
6,751.0	60.40	268.10	6,629.6	291.1	-73.5	86.7	11.63
6,846.0	67.10	268.70	6,671.6	288.8	-158.7	171.6	7.08
6,940.0	72.10	267.40	6,704.4	285.8	-246.7	259.4	5.47
7,035.0	76.10	267.40	6,730.4	281.6	-337.9	350.3	4.21
7,130.0	81.50	266.80	6,748.8	276.9	-431.0	443.1	5.72
7,198.0	81.90	266.90	6,758.6	273.2	-498.2	510.0	0.61
7,290.0	86.90	267.60	6,767.6	268.8	-589.6	601.2	5.49
7,385.0	88.40	268.60	6,771.5	265.7	-684.5	695.8	1.90
7,480.0	89.20	267.60	6,773.5	262.5	-779.4	790.5	1.35
7,574.0	89.10	268.90	6,774.9	259.6	-873.3	884.2	1.39
7,668.0	89.90	268.80	6,775.7	257.8	-967.3	978.0	0.86
7,763.0	90.50	268.50	6,775.4	255.5	-1,062.3	1,072.8	0.71
7,857.0	90.60	267.70	6,774.5	252.4	-1,156.2	1,166.5	0.86
7,950.0	91.50	268.80	6,772.8	249.6	-1,249.2	1,259.2	1.53
8,045.0	91.50	271.60	6,770.3	249.9	-1,344.1	1,354.1	2.95
8,139.0	89.80	271.30	6,769.2	252.3	-1,438.1	1,448.0	1.84
8,234.0	89.80	271.10	6,769.6	254.3	-1,533.1	1,543.0	0.21
8,329.0	89.80	270.80	6,769.9	255.8	-1,628.0	1,638.0	0.32
8,423.0	90.20	270.60	6,769.9	257.0	-1,722.0	1,731.9	0.48
8,518.0	90.30	270.50	6,769.5	257.9	-1,817.0	1,826.8	0.15
8,613.0	90.90	270.80	6,768.5	259.0	-1,912.0	1,921.8	0.71
8,707.0	89.90	269.90	6,767.8	259.5	-2,006.0	2,015.7	1.43
8,802.0	89.80	269.60	6,768.1	259.1	-2,101.0	2,110.6	0.33
8,896.0	90.40	269.90	6,767.9	258.7	-2,195.0	2,204.5	0.71
8,991.0	90.50	269.80	6,767.2	258.5	-2,290.0	2,299.4	0.15
9,085.0	89.60	269.90	6,767.1	258.2	-2,384.0	2,393.2	0.96
9,179.0	90.20	270.20	6,767.2	258.3	-2,478.0	2,487.2	0.71
9,274.0	90.00	269.90	6,767.1	258.4	-2,573.0	2,582.1	0.38
9,369.0	88.90	268.00	6,768.0	256.7	-2,668.0	2,676.9	2.31
9,463.0	89.60	269.50	6,769.2	254.6	-2,761.9	2,770.6	1.76
9,558.0	91.30	273.00	6,768.5	256.7	-2,856.9	2,865.6	4.10
9,652.0	90.90	270.70	6,766.7	259.7	-2,950.8	2,959.6	2.48
9,747.0	89.50	268.30	6,766.3	258.9	-3,045.8	3,054.4	2.92
9,841.0	90.50	266.00	6,766.3	254.2	-3,139.7	3,148.0	2.67

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	Local Co-ordinate Reference:	Well Reliance E23-65-1HN
Project:	Sec.23-T6N-R65W	TVD Reference:	WELL @ 4725.0ft (H&P 326 RKB - 30')
Site:	Reliance E23-66-1HN Pad Sec.23-T6N-R65W	MD Reference:	WELL @ 4725.0ft (H&P 326 RKB - 30')
Well:	Reliance E23-65-1HN	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)
9,936.0	90.30	265.40	6,765.7	247.1	-3,234.4	3,242.3	0.67
10,030.0	90.10	265.20	6,765.4	239.4	-3,328.1	3,335.5	0.30
10,125.0	90.10	265.30	6,765.2	231.5	-3,422.8	3,429.7	0.11
10,220.0	89.70	266.80	6,765.4	225.0	-3,517.5	3,524.1	1.63
10,314.0	89.20	267.20	6,766.3	220.0	-3,611.4	3,617.7	0.68
10,408.0	89.10	267.10	6,767.6	215.4	-3,705.3	3,711.2	0.15
10,503.0	89.20	269.30	6,769.1	212.4	-3,800.2	3,805.9	2.32
10,597.0	89.20	269.90	6,770.4	211.7	-3,894.2	3,899.8	0.64
10,691.0	90.80	269.90	6,770.4	211.6	-3,988.2	3,993.7	1.70
10,786.0	90.70	269.60	6,769.1	211.2	-4,083.2	4,088.6	0.33
10,881.0	90.40	269.20	6,768.2	210.2	-4,178.2	4,183.4	0.53
10,975.0	90.30	269.20	6,767.6	208.8	-4,272.2	4,277.2	0.11
11,070.0	90.20	269.30	6,767.2	207.6	-4,367.2	4,372.1	0.15
11,131.0	89.80	269.00	6,767.2	206.7	-4,428.2	4,433.0	0.82
11,193.0	89.80	269.00	6,767.4	205.6	-4,490.1	4,494.9	0.00

PTB Reliance E23-65-1HN BHL 2387'FSL & 538'FWL

Checked By: _____ Approved By: _____ Date: _____