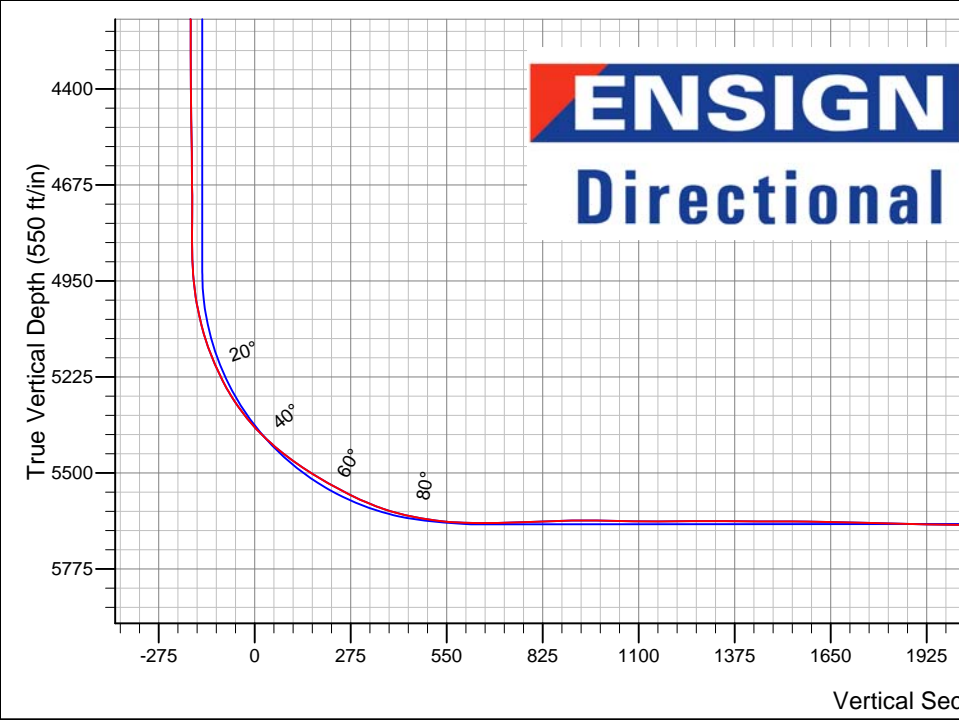
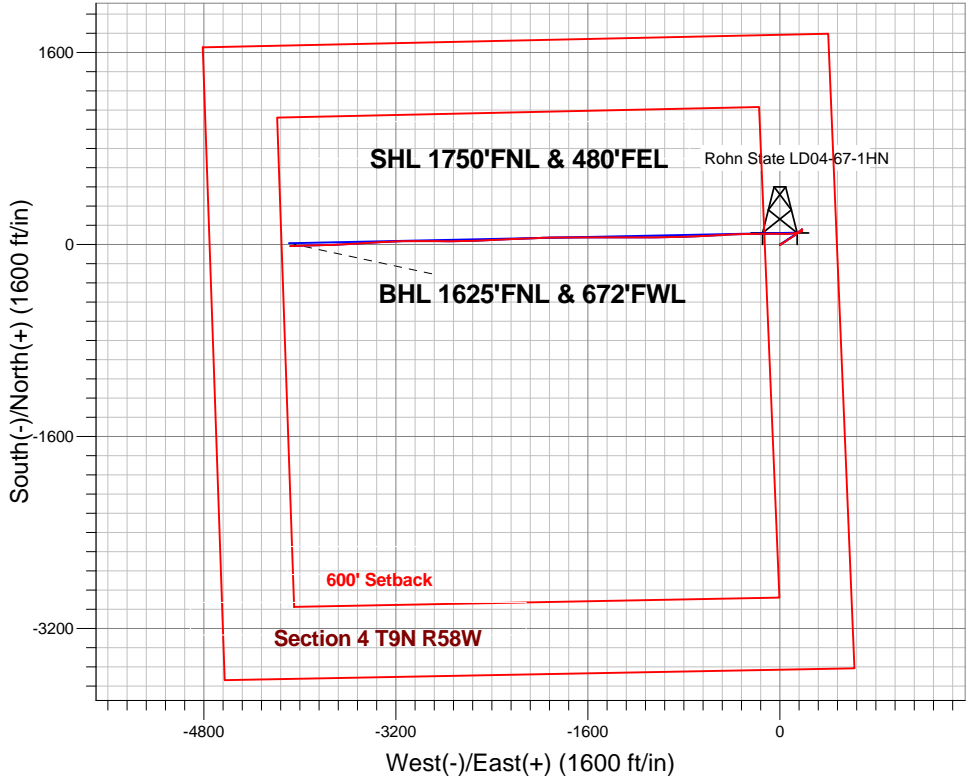


Noble Energy Inc.- Weld County, CO (Grid North)

Well Name: Rohn State LD04-67-1HN					
Surface Location: Rohn State LD04-65HN Pad Sec.4-T9N-R58W					
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone					
Ground Elevation: 4707.0					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1532235.06	3453592.06	40.782870	-103.862020
H&P 273 RKB - 24' WELL @ 4731.0ft (H&P 273 RKB - 24')					
Slot					

FINAL SURVEY

Projected Bottom Hole Location
9583' MD 5621' TVD 12' S & 4079' W of SHL
95.0 degree Incl @ 267.7 degree AZM



Rohn State LD04-65HN Pad Sec.4-T9N-R58W Rohn State LD04-67-1HN Wellbore #1 7:58, July 12 2013	ANNOTATIONS
	No annotation data is available.
LEGEND	
△ Rohn State LD04-67-1HN, Wellbore #1, Plan A - Rev 0 V0	
□ Wellbore #1	
○ Survey #1	



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

Sec.4-T9N-R58W

Rohn State LD04-65HN Pad Sec.4-T9N-R58W

Rohn State LD04-67-1HN

Wellbore #1

Survey: Survey #1

Standard Survey Report

12 July, 2013

Survey										
	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)
Main Survey	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	340.0	0.10	188.49	340.0	-0.3	0.0	0.0	0.03	0.03	0.00
	715.0	0.40	110.49	715.0	-1.1	1.1	-1.1	0.10	0.08	-20.80
	1,090.0	0.40	177.79	1,090.0	-2.8	2.4	-2.4	0.12	0.00	17.95
	1,296.0	0.30	333.40	1,296.0	-3.1	2.2	-2.2	0.33	-0.05	75.54
	1,389.0	0.40	337.70	1,389.0	-2.6	2.0	-2.0	0.11	0.11	4.62
	1,482.0	1.10	40.40	1,482.0	-1.6	2.4	-2.4	1.06	0.75	67.42
	1,575.0	2.20	50.10	1,574.9	0.2	4.4	-4.4	1.22	1.18	10.43
	1,668.0	2.50	48.00	1,667.9	2.7	7.2	-7.3	0.34	0.32	-2.26
	1,760.0	3.20	44.20	1,759.7	5.9	10.5	-10.5	0.79	0.76	-4.13
	1,853.0	4.20	67.30	1,852.6	9.1	15.5	-15.5	1.91	1.08	24.84
	1,947.0	4.80	61.20	1,946.3	12.3	22.1	-22.1	0.82	0.64	-6.49
	2,040.0	5.20	58.10	2,039.7	15.1	28.3	-28.3	0.71	0.52	-10.49
	2,133.0	5.50	55.00	2,132.7	17.9	34.5	-34.5	0.60	0.41	-14.49
	2,226.0	5.80	51.90	2,225.7	20.7	40.7	-40.7	0.49	0.30	-18.49

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	Local Co-ordinate Reference:	Well Rohn State LD04-67-1HN
Project:	Sec.4-T9N-R58W	TVD Reference:	WELL @ 4731.0ft (H&P 273 RKB - 24')
Site:	Rohn State LD04-65HN Pad Sec.4-T9N-R58W	MD Reference:	WELL @ 4731.0ft (H&P 273 RKB - 24')
Well:	Rohn State LD04-67-1HN	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)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,040.0	6.20	62.70	2,038.8	16.5	30.0	-30.0	1.51	1.51	1.61
2,133.0	6.90	58.00	2,131.2	21.8	39.2	-39.2	0.95	0.75	-5.05
2,226.0	6.80	55.70	2,223.6	27.8	48.5	-48.5	0.31	-0.11	-2.47
2,319.0	6.70	53.40	2,315.9	34.2	57.4	-57.5	0.31	-0.11	-2.47
2,412.0	6.50	51.70	2,408.3	40.7	65.8	-66.0	0.30	-0.22	-1.83
2,507.0	6.90	60.10	2,502.7	46.8	75.0	-75.2	1.11	0.42	8.84
2,602.0	7.00	58.50	2,597.0	52.7	84.9	-85.1	0.23	0.11	-1.68
2,696.0	7.00	58.70	2,690.3	58.7	94.7	-94.9	0.03	0.00	0.21
2,791.0	6.80	57.50	2,784.6	64.7	104.4	-104.6	0.26	-0.21	-1.26
2,886.0	6.70	56.20	2,878.9	70.8	113.7	-113.9	0.19	-0.11	-1.37
2,981.0	5.90	51.70	2,973.3	76.9	122.2	-122.4	0.99	-0.84	-4.74
3,076.0	7.00	53.80	3,067.7	83.4	130.7	-130.9	1.18	1.16	2.21
3,171.0	7.70	51.70	3,162.0	90.7	140.3	-140.6	0.79	0.74	-2.21
3,265.0	7.40	47.40	3,255.1	98.7	149.7	-150.0	0.68	-0.32	-4.57
3,360.0	7.00	45.70	3,349.4	106.9	158.4	-158.7	0.48	-0.42	-1.79
3,455.0	6.50	52.20	3,443.7	114.3	166.8	-167.1	0.96	-0.53	6.84
3,550.0	4.90	55.30	3,538.3	119.9	174.3	-174.7	1.71	-1.68	3.26
3,645.0	4.10	57.10	3,633.0	124.0	180.5	-180.9	0.86	-0.84	1.89
3,739.0	1.70	62.60	3,726.8	126.5	184.6	-185.0	2.57	-2.55	5.85
3,834.0	0.40	241.20	3,821.8	127.0	185.6	-185.9	2.21	-1.37	188.00
3,929.0	0.60	245.40	3,916.8	126.6	184.8	-185.2	0.21	0.21	4.42
4,024.0	0.60	205.50	4,011.8	126.0	184.1	-184.5	0.43	0.00	-42.00
4,118.0	2.00	186.10	4,105.8	123.9	183.8	-184.1	1.54	1.49	-20.64
4,213.0	2.00	184.50	4,200.7	120.6	183.4	-183.8	0.06	0.00	-1.68
4,308.0	1.60	185.60	4,295.7	117.6	183.2	-183.5	0.42	-0.42	1.16
4,403.0	1.90	197.00	4,390.6	114.8	182.6	-182.9	0.48	0.32	12.00
4,498.0	1.20	227.60	4,485.6	112.6	181.4	-181.7	1.12	-0.74	32.21
4,593.0	0.90	221.10	4,580.6	111.4	180.2	-180.5	0.34	-0.32	-6.84
4,688.0	0.50	235.30	4,675.6	110.6	179.3	-179.7	0.46	-0.42	14.95
4,782.0	0.40	210.20	4,769.6	110.1	178.8	-179.2	0.23	-0.11	-26.70
4,877.0	0.20	200.90	4,864.6	109.6	178.6	-179.0	0.22	-0.21	-9.79
4,972.0	6.60	248.00	4,959.4	107.4	173.5	-173.8	6.81	6.74	49.58
5,067.0	12.80	259.10	5,053.0	103.4	158.1	-158.4	6.79	6.53	11.68
5,162.0	20.30	257.80	5,144.0	97.9	131.6	-131.9	7.90	7.89	-1.37
5,257.0	26.90	263.50	5,231.0	92.0	94.1	-94.4	7.34	6.95	6.00
5,352.0	35.10	269.60	5,312.4	89.3	45.3	-45.6	9.23	8.63	6.42
5,446.0	44.60	271.70	5,384.5	90.1	-14.8	14.5	10.21	10.11	2.23
5,541.0	52.40	269.50	5,447.4	90.8	-85.9	85.6	8.39	8.21	-2.32
5,636.0	58.00	268.70	5,501.6	89.5	-163.9	163.6	5.94	5.89	-0.84
5,731.0	62.20	269.60	5,548.9	88.3	-246.2	245.9	4.50	4.42	0.95
5,826.0	67.50	269.60	5,589.3	87.7	-332.2	331.9	5.58	5.58	0.00
5,950.0	79.00	265.20	5,625.0	82.2	-450.5	450.3	9.87	9.27	-3.55
6,002.0	81.30	268.20	5,633.9	79.3	-501.7	501.4	7.20	4.42	5.77
6,095.0	87.90	266.10	5,642.6	74.7	-594.1	593.9	7.44	7.10	-2.26
6,141.8	89.46	266.70	5,643.7	71.7	-640.8	640.5	3.57	3.33	1.29
Rohn State LD04-67-1HN Landing Pt.									
6,188.0	91.00	267.30	5,643.5	69.3	-686.9	686.7	3.57	3.33	1.29
6,281.0	92.30	267.90	5,640.8	65.4	-779.8	779.6	1.54	1.40	0.65
6,374.0	91.70	268.90	5,637.6	62.8	-872.7	872.5	1.25	-0.65	1.08
6,469.0	89.50	269.60	5,636.6	61.6	-967.7	967.5	2.43	-2.32	0.74
6,564.0	88.60	269.10	5,638.2	60.5	-1,062.7	1,062.5	1.08	-0.95	-0.53
6,659.0	90.60	270.90	5,638.8	60.5	-1,157.6	1,157.5	2.83	2.11	1.89
6,753.0	90.70	269.60	5,637.8	60.9	-1,251.6	1,251.4	1.39	0.11	-1.38

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	Local Co-ordinate Reference:	Well Rohn State LD04-67-1HN
Project:	Sec.4-T9N-R58W	TVD Reference:	WELL @ 4731.0ft (H&P 273 RKB - 24')
Site:	Rohn State LD04-65HN Pad Sec.4-T9N-R58W	MD Reference:	WELL @ 4731.0ft (H&P 273 RKB - 24')
Well:	Rohn State LD04-67-1HN	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)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,848.0	89.30	268.60	5,637.8	59.4	-1,346.6	1,346.4	1.81	-1.47	-1.05
6,943.0	89.40	270.90	5,638.8	59.0	-1,441.6	1,441.4	2.42	0.11	2.42
7,038.0	90.10	270.30	5,639.2	60.0	-1,536.6	1,536.4	0.97	0.74	-0.63
7,133.0	88.70	269.60	5,640.2	59.9	-1,631.6	1,631.4	1.65	-1.47	-0.74
7,227.0	88.70	269.60	5,642.4	59.3	-1,725.6	1,725.4	0.00	0.00	0.00
7,322.0	88.10	269.50	5,645.0	58.5	-1,820.5	1,820.3	0.64	-0.63	-0.11
7,417.0	89.30	269.50	5,647.2	57.7	-1,915.5	1,915.3	1.26	1.26	0.00
7,512.0	89.30	267.30	5,648.3	55.0	-2,010.4	2,010.3	2.32	0.00	-2.32
7,607.0	89.90	268.20	5,649.0	51.3	-2,105.4	2,105.2	1.14	0.63	0.95
7,702.0	89.50	267.90	5,649.5	48.1	-2,200.3	2,200.2	0.53	-0.42	-0.32
7,796.0	90.00	266.60	5,649.9	43.6	-2,294.2	2,294.1	1.48	0.53	-1.38
7,891.0	90.90	266.60	5,649.2	37.9	-2,389.0	2,388.9	0.95	0.95	0.00
7,986.0	91.80	268.60	5,646.9	34.0	-2,483.9	2,483.8	2.31	0.95	2.11
8,081.0	90.40	268.90	5,645.1	31.9	-2,578.9	2,578.8	1.51	-1.47	0.32
8,176.0	89.10	269.50	5,645.5	30.6	-2,673.9	2,673.8	1.51	-1.37	0.63
8,270.0	91.50	269.60	5,645.0	29.8	-2,767.8	2,767.7	2.56	2.55	0.11
8,365.0	89.90	270.00	5,643.9	29.5	-2,862.8	2,862.7	1.74	-1.68	0.42
8,460.0	89.30	270.30	5,644.5	29.7	-2,957.8	2,957.7	0.71	-0.63	0.32
8,555.0	89.60	269.80	5,645.4	29.8	-3,052.8	3,052.7	0.61	0.32	-0.53
8,650.0	89.30	268.40	5,646.4	28.3	-3,147.8	3,147.7	1.51	-0.32	-1.47
8,745.0	90.60	267.20	5,646.4	24.7	-3,242.7	3,242.6	1.86	1.37	-1.26
8,840.0	89.90	267.30	5,646.0	20.1	-3,337.6	3,337.6	0.74	-0.74	0.11
8,934.0	90.80	266.50	5,645.4	15.0	-3,431.5	3,431.4	1.28	0.96	-0.85
9,029.0	91.00	266.10	5,644.0	8.9	-3,526.3	3,526.2	0.47	0.21	-0.42
9,124.0	92.20	266.60	5,641.3	2.9	-3,621.0	3,621.0	1.37	1.26	0.53
9,219.0	91.00	268.40	5,638.6	-1.3	-3,715.9	3,715.9	2.28	-1.26	1.89
9,314.0	91.50	268.40	5,636.6	-3.9	-3,810.9	3,810.8	0.53	0.53	0.00
9,409.0	92.10	268.60	5,633.6	-6.4	-3,905.8	3,905.8	0.67	0.63	0.21
9,503.0	94.40	267.90	5,628.3	-9.3	-3,999.6	3,999.6	2.56	2.45	-0.74
9,533.0	95.00	267.70	5,625.8	-10.4	-4,029.4	4,029.5	2.11	2.00	-0.67
9,583.0	95.00	267.70	5,621.4	-12.4	-4,079.2	4,079.2	0.00	0.00	0.00
Rohn State LD04-67-1HN BHL 1650'FNL, 660'FWL									

Checked By: _____ Approved By: _____ Date: _____