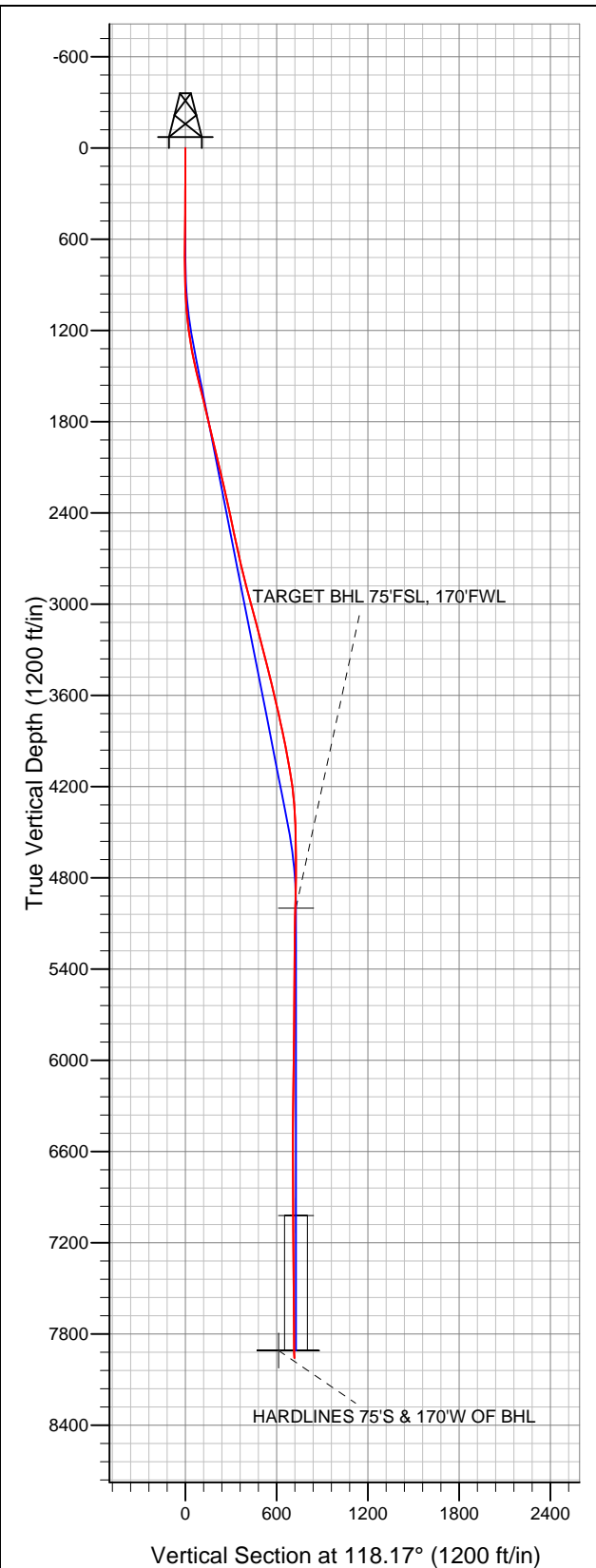


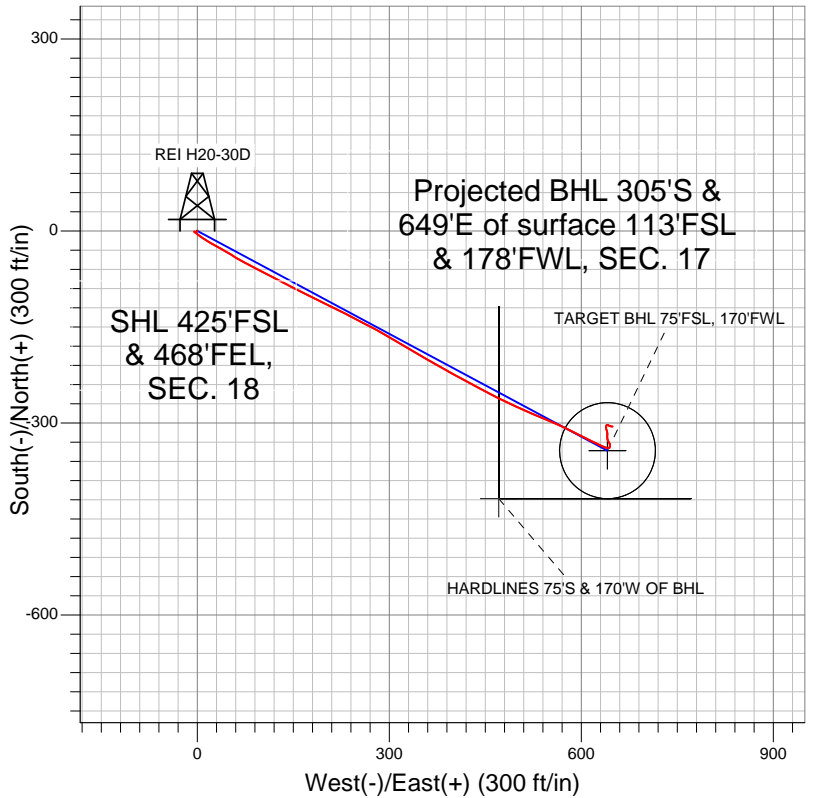
Well Name: REI H20-30D

Surface Location: REI H20-30D Pad Sec.18-T3N-R65W
 North American Datum 1983 US State Plane 1983Colorado Northern Zone
 Ground Elevation: 4924.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1323762.85	3223817.83	40.219350	-104.698500	
		Original Well Elev	WELL @ 4937.0ft (Original Well Elev)			



NOBLE ENERGY INC WELD COUNTY CO



- LEGEND
- Survey #1
 - REI H20-30D, Wellbore #1, Noble REI H20-30D Plan #3 (3-20-12) V0
 - Wellbore #1

Final Survey Plot

Projected Final Survey -
 8039'MD & 7959'TVD @ 716'VS
 0.60 deg Inc 99.90 deg AZ

Project: SEC.18-T3N-R65W
 Site: REI H20-30D Pad Sec.18-T3N-R65W
 Well: REI H20-30D
 Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.18-T3N-R65W

REI H20-30D Pad Sec.18-T3N-R65W

REI H20-30D

Wellbore #1

Survey: Survey #1

Standard Survey Report

10 April, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well REI H20-30D
Project:	SEC.18-T3N-R65W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site:	REI H20-30D Pad Sec.18-T3N-R65W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Well:	REI H20-30D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.18-T3N-R65W, Weld County, Colorado		
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	REI H20-30D Pad Sec.18-T3N-R65W				
Site Position:		Northing:	1,323,762.86ft	Latitude:	40.219350
From:	Lat/Long	Easting:	3,223,817.83ft	Longitude:	-104.698500
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.52 °

Well	REI H20-30D					
Well Position	+N/-S	0.0 ft	Northing:	1,323,762.85 ft	Latitude:	40.219350
	+E/-W	0.0 ft	Easting:	3,223,817.83 ft	Longitude:	-104.698500
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,924.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/29/2012	8.71	66.89	52,960

Design	Wellbore #1				
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 (°)	
	5,000.0	0.0	0.0	118.17	

Survey Program	Date	4/10/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
108.0	8,039.0	Survey #1 (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)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
108.0	0.40	242.90	108.0	-0.2	-0.3	-0.2	0.37	0.37	0.00	
199.0	0.40	243.60	199.0	-0.5	-0.9	-0.6	0.01	0.00	0.77	
287.0	0.50	237.00	287.0	-0.8	-1.5	-0.9	0.13	0.11	-7.50	
404.0	0.50	262.90	404.0	-1.1	-2.4	-1.6	0.19	0.00	22.14	
531.0	0.40	264.50	531.0	-1.3	-3.4	-2.4	0.08	-0.08	1.26	
659.0	0.50	286.30	659.0	-1.1	-4.4	-3.3	0.15	0.08	17.03	
769.0	0.40	316.50	769.0	-0.7	-5.1	-4.2	0.23	-0.09	27.45	
898.0	1.90	133.90	898.0	-1.9	-3.9	-2.5	1.78	1.16	137.52	
1,026.0	4.30	127.50	1,025.8	-6.3	1.4	4.2	1.89	1.88	-5.00	
1,154.0	6.60	121.00	1,153.2	-13.0	11.5	16.3	1.86	1.80	-5.08	
1,283.0	9.40	119.50	1,280.9	-22.0	27.1	34.3	2.18	2.17	-1.16	
1,411.0	12.00	121.60	1,406.7	-34.1	47.5	58.0	2.05	2.03	1.64	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well REI H20-30D
Project:	SEC.18-T3N-R65W	TVD Reference:	WELL @ 4937.0ft (Original Well Elev)
Site:	REI H20-30D Pad Sec.18-T3N-R65W	MD Reference:	WELL @ 4937.0ft (Original Well Elev)
Well:	REI H20-30D	North Reference:	True
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)
1,540.0	13.80	119.10	1,532.4	-48.6	72.4	86.8	1.46	1.40	-1.94
1,668.0	14.10	116.60	1,656.6	-63.0	99.7	117.6	0.53	0.23	-1.95
1,796.0	12.70	117.50	1,781.2	-76.5	126.1	147.3	1.11	-1.09	0.70
1,925.0	13.50	116.80	1,906.8	-89.8	152.1	176.5	0.63	0.62	-0.54
2,053.0	13.30	115.80	2,031.3	-103.0	178.7	206.1	0.24	-0.16	-0.78
2,182.0	13.40	116.80	2,156.8	-116.2	205.4	235.9	0.20	0.08	0.78
2,310.0	12.40	116.60	2,281.6	-129.0	230.9	264.5	0.78	-0.78	-0.16
2,438.0	12.50	117.90	2,406.6	-141.7	255.5	292.1	0.23	0.08	1.02
2,567.0	12.00	117.90	2,532.6	-154.5	279.6	319.4	0.39	-0.39	0.00
2,695.0	12.20	121.00	2,657.8	-167.7	303.0	346.3	0.53	0.16	2.42
2,824.0	13.50	120.70	2,783.6	-182.4	327.6	374.9	1.01	1.01	-0.23
2,952.0	14.90	119.30	2,907.7	-198.1	354.8	406.3	1.13	1.09	-1.09
3,080.0	15.30	120.00	3,031.2	-214.6	383.8	439.6	0.34	0.31	0.55
3,209.0	14.10	118.00	3,156.0	-230.4	412.4	472.4	1.01	-0.93	-1.55
3,337.0	15.00	118.70	3,279.9	-245.7	440.7	504.5	0.72	0.70	0.55
3,466.0	13.90	115.80	3,404.8	-260.5	469.3	536.7	1.02	-0.85	-2.25
3,594.0	13.50	115.40	3,529.2	-273.6	496.6	567.0	0.32	-0.31	-0.31
3,722.0	13.50	112.90	3,653.6	-285.8	523.9	596.8	0.46	0.00	-1.95
3,851.0	12.30	112.10	3,779.4	-296.8	550.5	625.4	0.94	-0.93	-0.62
3,979.0	10.90	116.60	3,904.8	-307.4	574.0	651.1	1.30	-1.09	3.52
4,108.0	10.80	116.30	4,031.5	-318.2	595.7	675.4	0.09	-0.08	-0.23
4,236.0	8.80	115.80	4,157.6	-327.8	615.3	697.1	1.56	-1.56	-0.39
4,364.0	5.10	116.80	4,284.6	-334.6	629.2	712.6	2.89	-2.89	0.78
4,493.0	2.60	105.20	4,413.3	-338.0	637.1	721.2	2.02	-1.94	-8.99
4,621.0	1.20	103.30	4,541.3	-339.0	641.2	725.3	1.09	-1.09	-1.48
4,750.0	0.90	58.50	4,670.2	-338.8	643.4	727.1	0.66	-0.23	-34.73
4,878.0	1.80	7.00	4,798.2	-336.3	644.5	726.9	1.11	0.70	-40.23
5,006.0	2.00	337.80	4,926.1	-332.2	643.9	724.5	0.76	0.16	-22.81
5,079.6	1.66	334.91	4,999.7	-330.1	643.0	722.6	0.48	-0.47	-3.93
TARGET BHL 75'FSL, 170'FWL									
5,135.0	1.40	331.80	5,055.1	-328.7	642.3	721.4	0.48	-0.46	-5.61
5,263.0	1.20	340.60	5,183.0	-326.1	641.1	719.1	0.22	-0.16	6.88
5,392.0	1.00	352.00	5,312.0	-323.7	640.5	717.5	0.23	-0.16	8.84
5,520.0	0.70	4.80	5,440.0	-321.8	640.4	716.5	0.28	-0.23	10.00
5,648.0	0.70	356.90	5,568.0	-320.3	640.4	715.8	0.08	0.00	-6.17
5,777.0	0.80	3.30	5,697.0	-318.6	640.5	715.0	0.10	0.08	4.96
5,905.0	1.10	8.90	5,825.0	-316.5	640.7	714.2	0.25	0.23	4.38
6,034.0	1.20	341.10	5,953.9	-314.0	640.5	712.8	0.43	0.08	-21.55
6,162.0	1.20	333.00	6,081.9	-311.5	639.4	710.7	0.13	0.00	-6.33
6,290.0	1.20	350.80	6,209.9	-309.0	638.6	708.8	0.29	0.00	13.91
6,419.0	1.10	4.10	6,338.9	-306.4	638.5	707.5	0.22	-0.08	10.31
6,547.0	0.60	11.50	6,466.8	-304.5	638.7	706.8	0.40	-0.39	5.78
6,676.0	0.40	36.00	6,595.8	-303.5	639.1	706.7	0.22	-0.16	18.99
6,804.0	0.30	54.30	6,723.8	-303.0	639.6	706.9	0.12	-0.08	14.30
6,932.0	0.20	112.40	6,851.8	-302.9	640.1	707.3	0.20	-0.08	45.39
7,061.0	0.40	101.50	6,980.8	-303.0	640.7	707.9	0.16	0.16	-8.45
7,102.3	0.40	106.48	7,022.1	-303.1	641.0	708.2	0.08	-0.01	12.07
TARGET CIRCLE 75'FSL, 170'FWL									
7,189.0	0.40	117.00	7,108.8	-303.3	641.6	708.8	0.08	0.00	12.13
7,318.0	0.40	106.60	7,237.8	-303.7	642.4	709.7	0.06	0.00	-8.06
7,446.0	0.50	108.00	7,365.8	-304.0	643.4	710.7	0.08	0.08	1.09
7,574.0	0.40	112.90	7,493.8	-304.3	644.3	711.7	0.08	-0.08	3.83
7,703.0	0.40	118.70	7,622.8	-304.7	645.1	712.6	0.03	0.00	4.50
7,831.0	0.70	97.00	7,750.8	-305.0	646.3	713.7	0.28	0.23	-16.95

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well REI H20-30D
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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)	
7,988.4	0.60	98.85	7,908.2	-305.2	648.1	715.4	0.06	-0.06	1.18	
HARDLINES 75'S & 170'W OF BHL										
7,992.0	0.60	98.90	7,911.8	-305.3	648.1	715.4	0.06	-0.06	1.37	
8,006.0	0.60	99.90	7,925.8	-305.3	648.2	715.6	0.07	0.00	7.14	
8,039.0	0.60	99.90	7,958.8	-305.3	648.6	715.9	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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