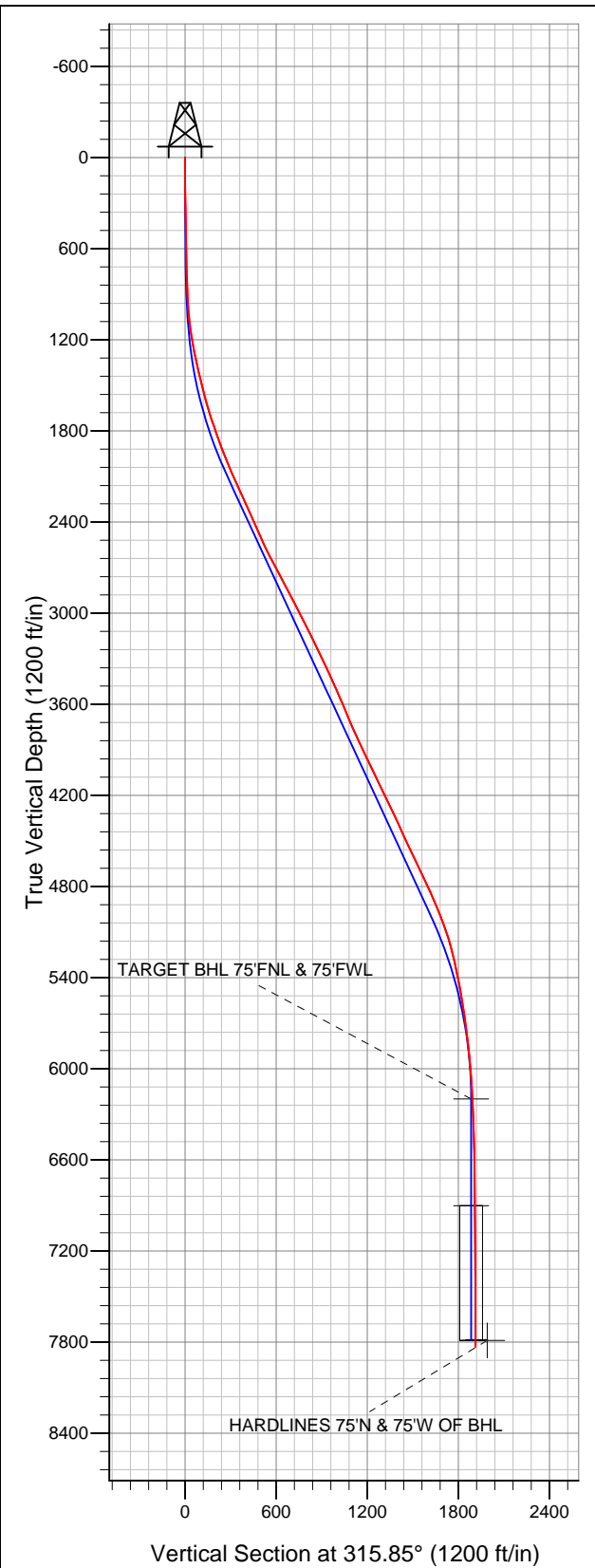


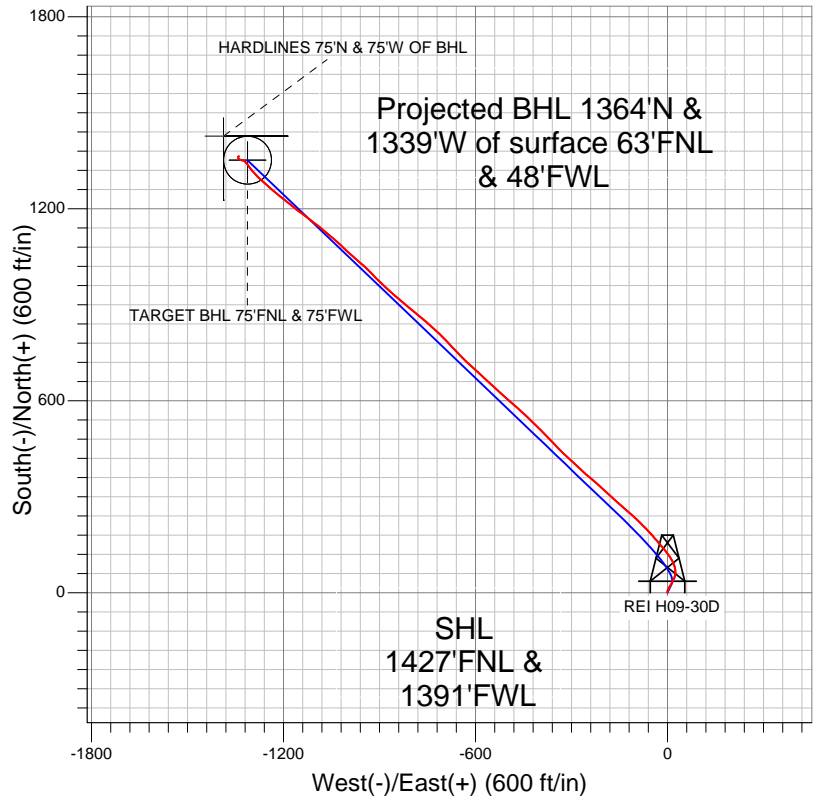
Well Name: REI H09-30D

Surface Location: REI H09-31D Pad Sec.9-T3N-R65W
North American Datum 1983 US State Plane 1983Colorado Northern Zone
Ground Elevation: 4830.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1332520.36	3230929.98	40.243210	-104.672740	
		Original Well Elev	WELL @ 4843.0ft (Original Well Elev)			



NOBLE ENERGY INC WELD COUNTY CO



- LEGEND
- Wellbore #1
 - REI H09-30D, Wellbore #1, Noble REI H09-30D Plan #3 (1-4-12) V0
 - Survey #1

Final Survey Plot

Projected Final Survey -
8212'MD & 7832'TVD @ 1911'VS
0.60 deg Inc 40.10 deg AZ

Project: SEC.9-T3N-R65W
Site: REI H09-31D Pad Sec.9-T3N-R65W
Well: REI H09-30D
Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.9-T3N-R65W

REI H09-31D Pad Sec.9-T3N-R65W

REI H09-30D

Wellbore #1

Survey: Survey #1

Standard Survey Report

17 April, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well REI H09-30D
Project:	SEC.9-T3N-R65W	TVD Reference:	WELL @ 4843.0ft (Original Well Elev)
Site:	REI H09-31D Pad Sec.9-T3N-R65W	MD Reference:	WELL @ 4843.0ft (Original Well Elev)
Well:	REI H09-30D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.9-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 H09-31D Pad Sec.9-T3N-R65W		
Site Position:		Northing:	1,332,502.33ft
From:	Lat/Long	Easting:	3,230,946.90ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.243160
		Longitude:	-104.672680
		Grid Convergence:	0.53 °

Well	REI H09-30D		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty		0.0 ft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/4/2012	8.68	66.93	53,024

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 (°)	
	6,200.0	0.0	0.0	315.85	

Survey Program	Date	4/17/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
74.0	8,212.0	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	
74.0	0.40	35.70	74.0	0.2	0.2	0.0	0.54	0.54	0.00	
163.0	0.50	1.60	163.0	0.9	0.3	0.4	0.32	0.11	-38.31	
253.0	0.70	350.70	253.0	1.8	0.3	1.1	0.25	0.22	-12.11	
343.0	1.00	349.50	343.0	3.1	0.0	2.2	0.33	0.33	-1.33	
471.0	2.40	20.10	470.9	6.7	0.8	4.3	1.27	1.09	23.91	
599.0	4.70	29.70	598.7	13.8	4.3	6.9	1.85	1.80	7.50	
669.0	5.30	29.40	668.4	19.1	7.3	8.6	0.86	0.86	-0.43	
723.0	5.30	32.20	722.2	23.4	9.8	9.9	0.48	0.00	5.19	
851.0	6.20	28.70	849.5	34.4	16.3	13.4	0.75	0.70	-2.73	
980.0	7.80	18.00	977.6	48.9	22.4	19.5	1.60	1.24	-8.29	
1,108.0	9.30	358.60	1,104.2	67.5	24.8	31.2	2.52	1.17	-15.16	
1,237.0	11.30	338.10	1,231.1	89.6	19.8	50.5	3.21	1.55	-15.89	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well REI H09-30D
Project:	SEC.9-T3N-R65W	TVD Reference:	WELL @ 4843.0ft (Original Well Elev)
Site:	REI H09-31D Pad Sec.9-T3N-R65W	MD Reference:	WELL @ 4843.0ft (Original Well Elev)
Well:	REI H09-30D	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)
1,365.0	12.90	324.40	1,356.3	112.9	6.8	76.3	2.56	1.25	-10.70
1,493.0	13.90	320.80	1,480.8	136.4	-11.2	105.7	1.02	0.78	-2.81
1,622.0	15.50	319.30	1,605.6	161.5	-32.3	138.4	1.27	1.24	-1.16
1,750.0	18.10	317.70	1,728.1	189.2	-56.8	175.3	2.06	2.03	-1.25
1,879.0	19.80	314.00	1,850.1	219.2	-86.0	217.2	1.61	1.32	-2.87
2,007.0	21.90	311.30	1,969.7	250.0	-119.5	262.7	1.80	1.64	-2.11
2,135.0	23.40	312.20	2,087.9	282.8	-156.3	311.8	1.20	1.17	0.70
2,264.0	25.00	312.60	2,205.5	318.5	-195.3	364.6	1.25	1.24	0.31
2,392.0	24.00	309.80	2,322.0	353.5	-235.3	417.5	1.20	-0.78	-2.19
2,521.0	24.30	312.90	2,439.7	388.3	-274.9	470.1	1.01	0.23	2.40
2,649.0	24.70	312.80	2,556.2	424.4	-313.8	523.1	0.31	0.31	-0.08
2,777.0	28.10	317.00	2,670.8	464.7	-354.0	580.0	3.03	2.66	3.28
2,906.0	28.10	314.90	2,784.6	508.3	-396.2	640.7	0.77	0.00	-1.63
3,034.0	28.40	313.30	2,897.4	550.5	-439.7	701.3	0.64	0.23	-1.25
3,163.0	25.80	311.20	3,012.2	590.0	-483.2	759.9	2.15	-2.02	-1.63
3,291.0	26.90	312.20	3,126.9	627.8	-525.6	816.6	0.93	0.86	0.78
3,419.0	26.20	312.90	3,241.4	666.5	-567.7	873.7	0.60	-0.55	0.55
3,548.0	24.30	312.00	3,358.1	703.7	-608.3	928.6	1.50	-1.47	-0.70
3,676.0	25.10	315.40	3,474.4	740.6	-647.0	982.0	1.27	0.63	2.66
3,805.0	22.20	317.50	3,592.5	778.1	-682.6	1,033.8	2.34	-2.25	1.63
3,933.0	23.00	313.60	3,710.7	813.2	-717.1	1,082.9	1.33	0.63	-3.05
4,061.0	25.10	309.80	3,827.6	847.8	-756.1	1,134.9	2.04	1.64	-2.97
4,190.0	26.50	309.90	3,943.7	883.8	-799.2	1,190.8	1.09	1.09	0.08
4,318.0	26.30	310.30	4,058.4	920.4	-842.7	1,247.4	0.21	-0.16	0.31
4,447.0	24.10	313.50	4,175.1	957.0	-883.6	1,302.2	2.01	-1.71	2.48
4,575.0	26.50	315.70	4,290.8	995.5	-922.5	1,356.8	2.01	1.88	1.72
4,703.0	24.50	310.60	4,406.4	1,033.2	-962.6	1,411.8	2.32	-1.56	-3.98
4,832.0	24.80	312.90	4,523.6	1,069.0	-1,002.7	1,465.5	0.78	0.23	1.78
4,960.0	26.60	311.30	4,639.0	1,106.2	-1,043.9	1,520.9	1.51	1.41	-1.25
5,089.0	25.30	308.70	4,755.0	1,142.5	-1,087.2	1,577.0	1.34	-1.01	-2.02
5,217.0	23.70	306.60	4,871.4	1,174.9	-1,129.2	1,629.5	1.42	-1.25	-1.64
5,345.0	21.80	308.50	4,989.5	1,205.1	-1,168.4	1,678.5	1.59	-1.48	1.48
5,474.0	18.90	308.70	5,110.4	1,233.1	-1,203.5	1,723.0	2.25	-2.25	0.16
5,602.0	14.10	310.80	5,233.1	1,256.2	-1,231.5	1,759.1	3.78	-3.75	1.64
5,731.0	12.20	311.30	5,358.7	1,275.5	-1,253.6	1,788.4	1.48	-1.47	0.39
5,859.0	9.50	311.90	5,484.4	1,291.5	-1,271.6	1,812.4	2.11	-2.11	0.47
5,987.0	8.30	315.90	5,610.9	1,305.2	-1,285.9	1,832.2	1.05	-0.94	3.13
6,116.0	8.20	322.90	5,738.5	1,319.2	-1,298.0	1,850.6	0.78	-0.08	5.43
6,244.0	6.20	322.80	5,865.5	1,332.0	-1,307.6	1,866.5	1.56	-1.56	-0.08
6,373.0	4.80	321.20	5,993.9	1,341.7	-1,315.2	1,878.8	1.09	-1.09	-1.24
6,501.0	3.80	305.20	6,121.6	1,348.3	-1,322.1	1,888.3	1.21	-0.78	-12.50
6,578.9	2.97	289.77	6,199.3	1,350.5	-1,326.1	1,892.7	1.58	-1.07	-19.80
TARGET BHL 75'FNL & 75'FWL									
6,629.0	2.60	275.30	6,249.4	1,351.1	-1,328.4	1,894.7	1.58	-0.73	-28.89
6,758.0	2.20	292.70	6,378.3	1,352.3	-1,333.6	1,899.2	0.64	-0.31	13.49
6,886.0	1.30	300.80	6,506.2	1,354.0	-1,337.1	1,902.9	0.73	-0.70	6.33
7,015.0	0.90	305.40	6,635.2	1,355.3	-1,339.2	1,905.3	0.32	-0.31	3.57
7,143.0	0.80	340.90	6,763.2	1,356.7	-1,340.3	1,907.1	0.41	-0.08	27.73
7,271.0	0.50	328.20	6,891.1	1,358.1	-1,340.9	1,908.4	0.26	-0.23	-9.92
7,282.7	0.50	329.41	6,902.8	1,358.1	-1,341.0	1,908.5	0.09	-0.01	10.32
TARGET CIRCLE 75'FNL & 75'FWL									
7,400.0	0.50	341.60	7,020.1	1,359.1	-1,341.4	1,909.5	0.09	0.00	10.39
7,528.0	0.40	335.60	7,148.1	1,360.0	-1,341.7	1,910.4	0.09	-0.08	-4.69
7,657.0	0.40	19.00	7,277.1	1,360.8	-1,341.8	1,911.0	0.23	0.00	33.64

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well REI H09-30D
Project:	SEC.9-T3N-R65W	TVD Reference:	WELL @ 4843.0ft (Original Well Elev)
Site:	REI H09-31D Pad Sec.9-T3N-R65W	MD Reference:	WELL @ 4843.0ft (Original Well Elev)
Well:	REI H09-30D	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)	
7,785.0	0.40	65.40	7,405.1	1,361.5	-1,341.2	1,911.1	0.25	0.00	36.25	
7,913.0	0.40	13.40	7,533.1	1,362.1	-1,340.7	1,911.2	0.27	0.00	-40.63	
8,042.0	0.40	63.10	7,662.1	1,362.7	-1,340.2	1,911.3	0.26	0.00	38.53	
8,162.0	0.60	40.10	7,782.1	1,363.4	-1,339.4	1,911.2	0.23	0.17	-19.17	
HARDLINES 75°N & 75°W OF BHL										
8,212.0	0.60	40.10	7,832.1	1,363.8	-1,339.1	1,911.3	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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