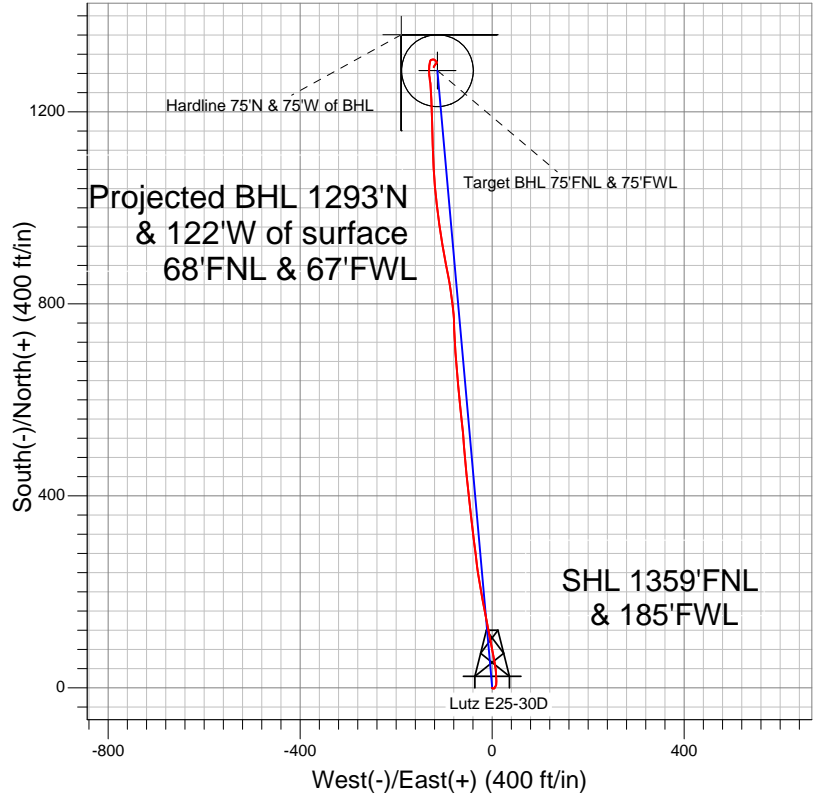


# Well Name: Lutz E25-30D

Surface Location: Lutz E25-30D Pad Sec.25-T6N-R65W  
 North American Datum 1983 US State Plane 1983Colorado Northern Zone  
 Ground Elevation: 4687.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1411807.89	3244833.05	40.460480	-104.620120	
		Original Well Elev	WELL @ 4700.0ft (Original Well Elev)			

## NOBLE ENERGY INC WELD COUNTY CO



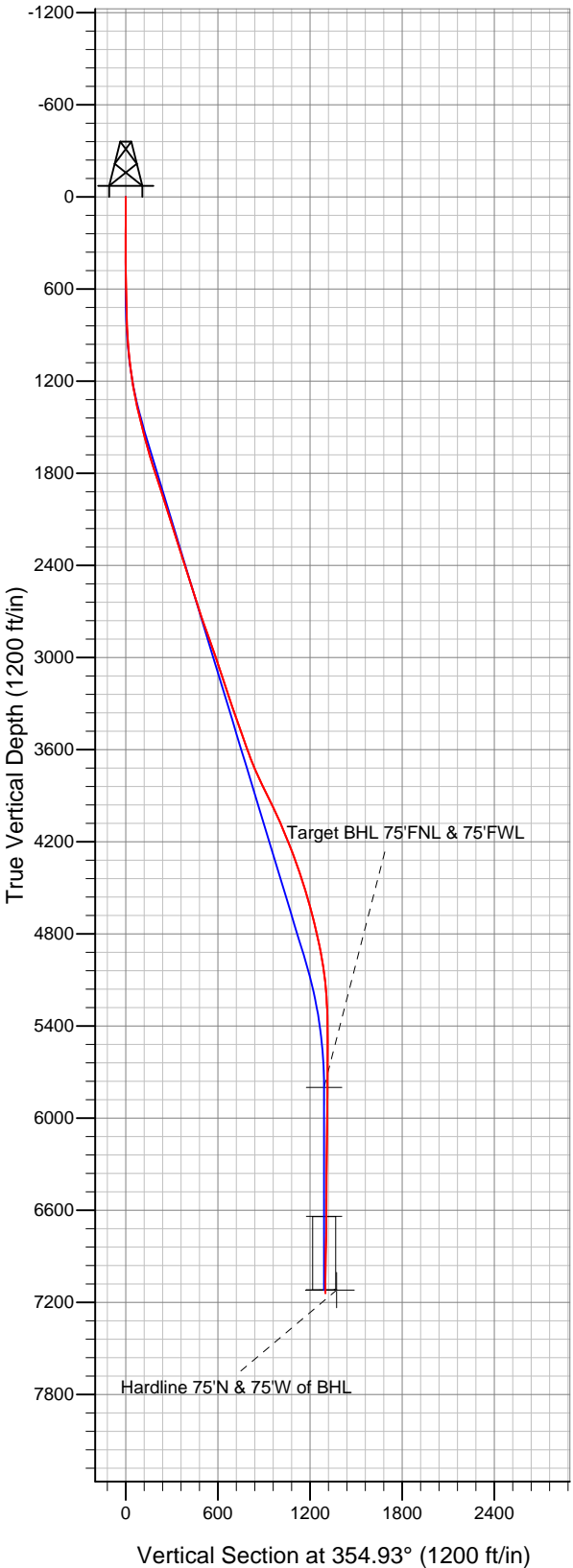
### LEGEND

- Survey #1
- Lutz E25-30D, Wellbore #1, Noble Lutz E25-30D Plan #1 (8-10-10) V0
- Wellbore #1

## Final Survey Plot

Projected Final Survey -  
 7350'MD & 7140'TVD @ 1299'VS  
 0.60 deg Inc 198.70 deg AZ

Project: SEC.25-T6N-R65W  
 Site: Lutz E25-30D Pad Sec.25-T6N-R65W  
 Well: Lutz E25-30D  
 Plan: Wellbore #1





# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.25-T6N-R65W**

**Lutz E25-30D Pad Sec.25-T6N-R65W**

**Lutz E25-30D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**16 January, 2012**



<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Site Lutz E25-30D Pad Sec.25-T6N-R65W
<b>Project:</b>	SEC.25-T6N-R65W	<b>TVD Reference:</b>	WELL @ 4700.0ft (Original Well Elev)
<b>Site:</b>	Lutz E25-30D Pad Sec.25-T6N-R65W	<b>MD Reference:</b>	WELL @ 4700.0ft (Original Well Elev)
<b>Well:</b>	Lutz E25-30D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.25-T6N-R65W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	Lutz E25-30D Pad Sec.25-T6N-R65W		
<b>Site Position:</b>		<b>Northing:</b>	1,411,807.91 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,244,833.05 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.460480
		<b>Longitude:</b>	-104.620120
		<b>Grid Convergence:</b>	0.57 °

<b>Well</b>	Lutz E25-30D		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b> 1,411,807.89 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b> 3,244,833.05 ft
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40.460480
		<b>Longitude:</b>	-104.620120
		<b>Ground Level:</b>	4,687.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	12/19/2011	8.72	67.11	53,126

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	354.93	

<b>Survey Program</b>	<b>Date</b>	1/15/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
142.0	7,350.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
142.0	0.50	148.90	142.0	-0.5	0.3	-0.6	0.35	0.35	0.00	
237.0	1.10	101.50	237.0	-1.1	1.4	-1.2	0.89	0.63	-49.89	
332.0	0.80	80.50	332.0	-1.2	3.0	-1.4	0.48	-0.32	-22.11	
427.0	0.70	72.00	427.0	-0.9	4.2	-1.2	0.16	-0.11	-8.95	
522.0	1.30	29.00	522.0	0.3	5.3	-0.2	0.97	0.63	-45.26	
617.0	1.60	23.90	616.9	2.4	6.3	1.9	0.34	0.32	-5.37	
721.0	1.40	36.50	720.9	4.8	7.7	4.1	0.37	-0.19	12.12	
803.0	2.10	7.30	802.9	7.1	8.4	6.3	1.36	0.85	-35.61	
885.0	2.90	2.00	884.8	10.6	8.7	9.8	1.01	0.98	-6.46	
967.0	4.40	358.50	966.6	15.8	8.7	15.0	1.85	1.83	-4.27	
1,048.0	6.20	356.90	1,047.3	23.3	8.4	22.5	2.23	2.22	-1.98	
1,130.0	7.60	355.50	1,128.7	33.1	7.7	32.3	1.72	1.71	-1.71	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Site Lutz E25-30D Pad Sec.25-T6N-R65W
<b>Project:</b>	SEC.25-T6N-R65W	<b>TVD Reference:</b>	WELL @ 4700.0ft (Original Well Elev)
<b>Site:</b>	Lutz E25-30D Pad Sec.25-T6N-R65W	<b>MD Reference:</b>	WELL @ 4700.0ft (Original Well Elev)
<b>Well:</b>	Lutz E25-30D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
1,212.0	9.20	351.30	1,209.8	45.0	6.3	44.3	2.09	1.95	-5.12	
1,294.0	10.80	349.10	1,290.5	59.0	3.9	58.5	2.01	1.95	-2.68	
1,375.0	12.40	348.40	1,369.9	75.0	0.7	74.7	1.98	1.98	-0.86	
1,457.0	13.80	349.70	1,449.7	93.3	-2.8	93.2	1.74	1.71	1.59	
1,539.0	14.70	349.50	1,529.2	113.1	-6.5	113.3	1.10	1.10	-0.24	
1,621.0	15.60	348.60	1,608.4	134.2	-10.6	134.6	1.13	1.10	-1.10	
1,703.0	16.60	348.90	1,687.1	156.5	-15.0	157.2	1.22	1.22	0.37	
1,784.0	17.80	349.60	1,764.5	180.0	-19.5	181.0	1.50	1.48	0.86	
1,866.0	18.30	349.80	1,842.5	205.0	-24.0	206.3	0.61	0.61	0.24	
1,948.0	17.80	350.90	1,920.4	230.0	-28.3	231.7	0.74	-0.61	1.34	
2,030.0	17.70	354.20	1,998.5	254.8	-31.5	256.6	1.23	-0.12	4.02	
2,111.0	17.40	351.40	2,075.8	279.0	-34.6	281.0	1.11	-0.37	-3.46	
2,193.0	18.00	353.30	2,153.9	303.7	-37.9	305.9	1.02	0.73	2.32	
2,275.0	17.80	354.60	2,231.9	328.8	-40.5	331.1	0.54	-0.24	1.59	
2,357.0	17.60	351.80	2,310.0	353.6	-43.5	356.0	1.07	-0.24	-3.41	
2,438.0	17.70	353.90	2,387.2	377.9	-46.5	380.6	0.80	0.12	2.59	
2,520.0	18.00	354.00	2,465.3	402.9	-49.2	405.7	0.37	0.37	0.12	
2,602.0	17.40	354.30	2,543.4	427.7	-51.7	430.6	0.74	-0.73	0.37	
2,684.0	17.90	354.70	2,621.5	452.5	-54.1	455.5	0.63	0.61	0.49	
2,765.0	17.80	354.40	2,698.6	477.2	-56.5	480.3	0.17	-0.12	-0.37	
2,847.0	19.60	355.80	2,776.3	503.4	-58.7	506.6	2.26	2.20	1.71	
2,929.0	20.10	354.90	2,853.4	531.1	-61.0	534.5	0.71	0.61	-1.10	
3,011.0	18.60	354.30	2,930.8	558.2	-63.5	561.6	1.85	-1.83	-0.73	
3,092.0	18.70	353.30	3,007.6	583.9	-66.3	587.5	0.41	0.12	-1.23	
3,174.0	19.40	354.70	3,085.1	610.5	-69.1	614.3	1.02	0.85	1.71	
3,256.0	18.20	356.10	3,162.7	636.9	-71.2	640.7	1.56	-1.46	1.71	
3,338.0	18.30	354.40	3,240.6	662.5	-73.4	666.4	0.66	0.12	-2.07	
3,420.0	18.20	354.80	3,318.4	688.0	-75.8	692.1	0.20	-0.12	0.49	
3,501.0	19.90	356.40	3,395.0	714.4	-77.8	718.5	2.20	2.10	1.98	
3,583.0	19.70	359.10	3,472.2	742.1	-78.9	746.2	1.14	-0.24	3.29	
3,665.0	18.90	357.20	3,549.5	769.2	-79.7	773.3	1.24	-0.98	-2.32	
3,747.0	20.70	352.10	3,626.7	796.8	-82.4	801.0	3.04	2.20	-6.22	
3,829.0	22.80	352.00	3,702.9	826.9	-86.6	831.4	2.56	2.56	-0.12	
3,910.0	24.40	349.70	3,777.1	858.9	-91.8	863.7	2.28	1.98	-2.84	
3,992.0	25.70	349.30	3,851.4	893.1	-98.1	898.3	1.60	1.59	-0.49	
4,074.0	26.60	350.10	3,925.0	928.6	-104.6	934.3	1.18	1.10	0.98	
4,156.0	25.50	352.00	3,998.6	964.2	-110.2	970.2	1.68	-1.34	2.32	
4,237.0	23.40	354.70	4,072.4	997.5	-114.1	1,003.7	2.94	-2.59	3.33	
4,319.0	22.60	352.80	4,147.9	1,029.3	-117.6	1,035.7	1.33	-0.98	-2.32	
4,401.0	21.90	355.80	4,223.8	1,060.2	-120.7	1,066.8	1.63	-0.85	3.66	
4,483.0	20.00	357.20	4,300.3	1,089.5	-122.5	1,096.1	2.40	-2.32	1.71	
4,564.0	18.90	358.60	4,376.7	1,116.4	-123.5	1,123.0	1.47	-1.36	1.73	
4,646.0	18.10	358.30	4,454.5	1,142.4	-124.2	1,149.0	0.98	-0.98	-0.37	
4,728.0	17.10	357.80	4,532.6	1,167.2	-125.0	1,173.7	1.23	-1.22	-0.61	
4,810.0	15.60	357.90	4,611.3	1,190.3	-125.9	1,196.8	1.83	-1.83	0.12	
4,892.0	14.30	358.60	4,690.5	1,211.4	-126.5	1,217.9	1.60	-1.59	0.85	
4,974.0	13.20	358.20	4,770.2	1,230.9	-127.1	1,237.3	1.35	-1.34	-0.49	
5,055.0	12.40	355.90	4,849.2	1,248.8	-128.0	1,255.3	1.17	-0.99	-2.84	
5,137.0	10.40	351.80	4,929.6	1,264.9	-129.7	1,271.5	2.63	-2.44	-5.00	
5,219.0	8.70	355.70	5,010.4	1,278.5	-131.2	1,285.1	2.22	-2.07	4.76	
5,301.0	6.50	3.70	5,091.7	1,289.3	-131.3	1,295.8	2.97	-2.68	9.76	
5,382.0	4.90	3.80	5,172.3	1,297.3	-130.8	1,303.8	1.98	-1.98	0.12	
5,464.0	3.40	12.70	5,254.1	1,303.2	-130.1	1,309.6	1.99	-1.83	10.85	
5,546.0	1.90	33.00	5,336.0	1,306.7	-128.8	1,313.0	2.13	-1.83	24.76	

<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>Local Co-ordinate Reference:</b>	Site Lutz E25-30D Pad Sec.25-T6N-R65W
<b>Project:</b>	SEC.25-T6N-R65W	<b>TVD Reference:</b>	WELL @ 4700.0ft (Original Well Elev)
<b>Site:</b>	Lutz E25-30D Pad Sec.25-T6N-R65W	<b>MD Reference:</b>	WELL @ 4700.0ft (Original Well Elev)
<b>Well:</b>	Lutz E25-30D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
5,627.0	1.30	70.70	5,417.0	1,308.1	-127.2	1,314.2	1.46	-0.74	46.54	
5,709.0	1.40	62.80	5,498.9	1,308.9	-125.4	1,314.8	0.26	0.12	-9.63	
5,791.0	1.40	80.60	5,580.9	1,309.5	-123.5	1,315.3	0.53	0.00	21.71	
5,954.0	1.40	131.90	5,743.9	1,308.5	-120.1	1,314.0	0.74	0.00	31.47	
6,010.6	1.30	133.27	5,800.4	1,307.6	-119.1	1,313.0	0.19	-0.18	2.43	
Target BHL 75°FNL & 75°FWL										
6,118.0	1.10	136.60	5,907.8	1,306.0	-117.5	1,311.3	0.19	-0.18	3.09	
6,282.0	0.50	142.10	6,071.8	1,304.3	-116.0	1,309.5	0.37	-0.37	3.35	
6,445.0	0.20	148.10	6,234.8	1,303.5	-115.4	1,308.6	0.19	-0.18	3.68	
6,609.0	0.30	201.20	6,398.8	1,302.9	-115.4	1,308.0	0.15	0.06	32.38	
6,772.0	0.50	209.90	6,561.8	1,301.8	-115.9	1,307.0	0.13	0.12	5.34	
6,850.4	0.98	217.63	6,640.2	1,301.0	-116.5	1,306.2	0.62	0.61	9.86	
Target Circle 75°FNL & 75°FWL										
6,935.0	1.50	220.40	6,724.8	1,299.6	-117.7	1,304.9	0.62	0.62	3.28	
7,099.0	1.20	216.80	6,888.7	1,296.6	-120.1	1,302.1	0.19	-0.18	-2.20	
7,263.0	0.70	201.50	7,052.7	1,294.3	-121.5	1,300.0	0.34	-0.30	-9.33	
7,304.0	0.60	198.70	7,093.7	1,293.8	-121.6	1,299.5	0.26	-0.24	-6.83	
7,329.9	0.60	198.70	7,119.6	1,293.6	-121.7	1,299.3	0.00	0.00	0.00	
Hardline 75°N & 75°W of BHL										
7,350.0	0.60	198.70	7,139.7	1,293.4	-121.8	1,299.1	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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