

Well Name: **Erickson PC G15-27D**

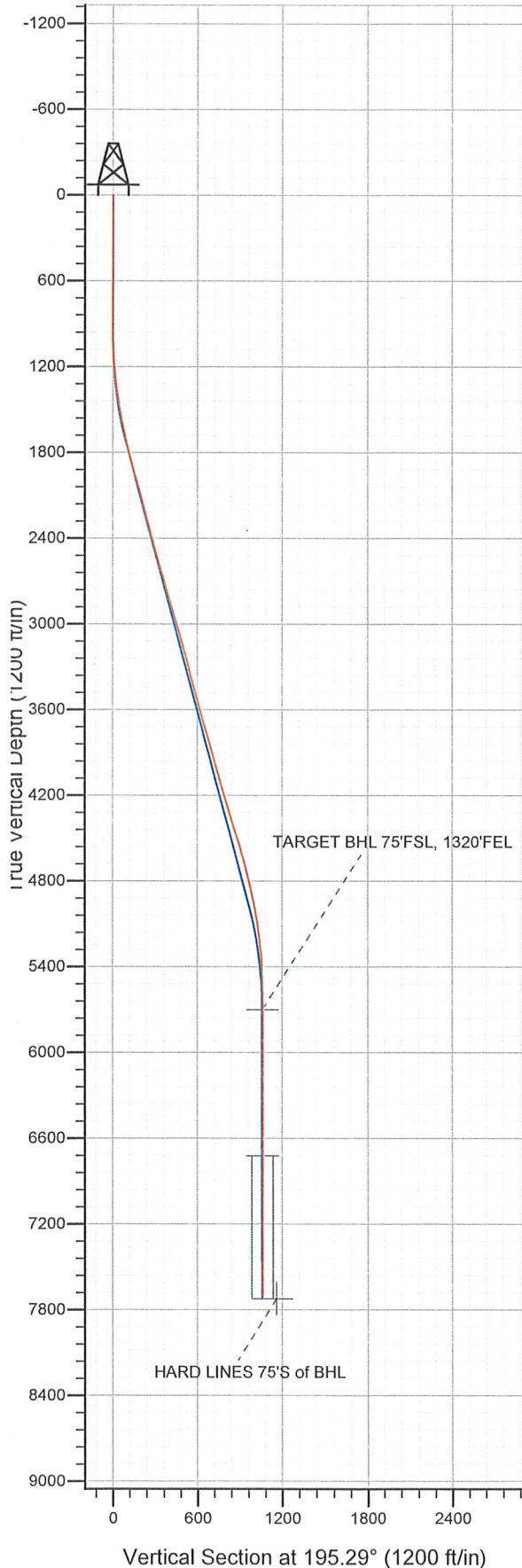
Surface Location: Erickson PC G15-27D Pad Sec.10-T4N-R65W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4680.0

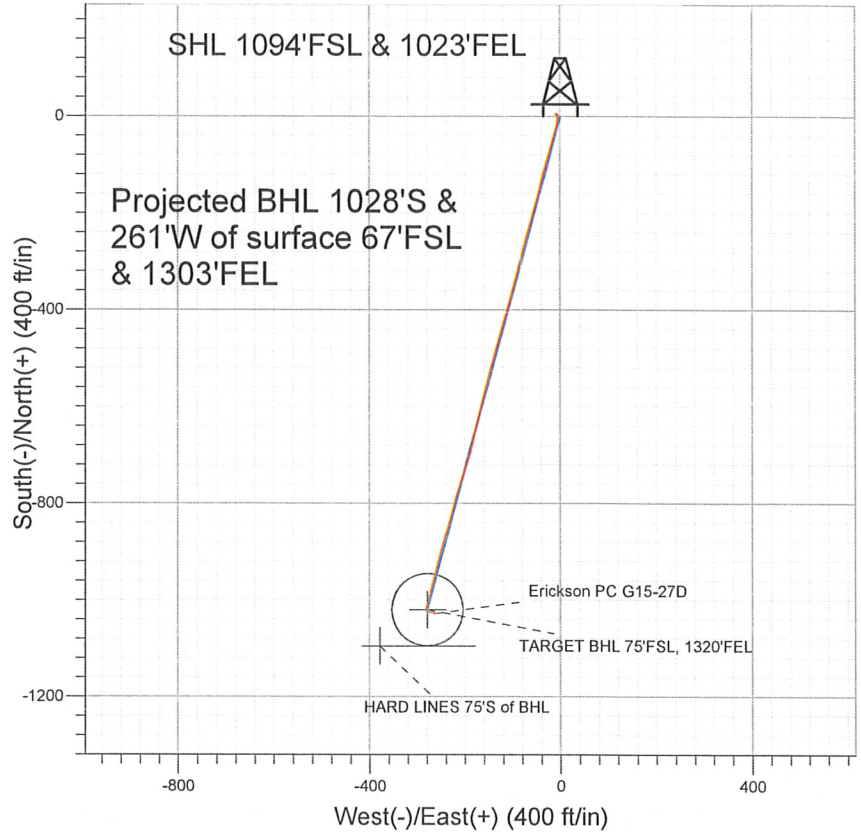
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1361572.50	3238862.41	40.322750	-104.643320

Original Well Elev WELL @ 4693.0ft (Original Well Elev)

Slot



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Erickson PC G15-27D, Wellbore #1, Noble Erickson PC G15-27D Plan #1 (10-28-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7829'MD & 7692'TVD @ 1061'VS
1.1 deg Inc 125.7 deg AZ

Project: SEC.10-T4N-R65W
Site: Erickson PC G15-27D Pad Sec.10-T4N-R65W
Well: Erickson PC G15-27D
Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.10-T4N-R65W

Erickson PC G15-27D Pad Sec.10-T4N-R65W

Erickson PC G15-27D

Wellbore #1

Survey: Survey #1

Standard Survey Report

01 September, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.10-T4N-R65W
Site: Erickson PC G15-27D Pad Sec.10-T4N-R65W
Well: Erickson PC G15-27D
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Erickson PC G15-27D
TVD Reference: WELL @ 4693.0ft (Original Well Elev)
MD Reference: WELL @ 4693.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Landmark

Project	SEC.10-T4N-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 Erickson PC G15-27D Pad Sec.10-T4N-R65W

Site Position:		Northing:	1,361,572.51 ft	Latitude:	40.322750
From:	Lat/Long	Easting:	3,238,862.41 ft	Longitude:	-104.643320
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.55 °

Well	Erickson PC G15-27D				
Well Position	+N/-S	0.0 ft	Northing:	1,361,572.50 ft	Latitude:
	+E/-W	0.0 ft	Easting:	3,238,862.41 ft	Longitude:
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:
					4,680.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/3/2010	8.88	67.03	53,170

Design Wellbore #1

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
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Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	195.29

Survey Program Date 9/1/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
221.0	7,829.0	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
221.0	0.60	268.70	221.0	0.0	-1.2	0.3	0.27	0.27	0.00
349.0	0.50	302.20	349.0	0.3	-2.3	0.4	0.26	-0.08	26.17
477.0	0.80	312.70	477.0	1.2	-3.4	-0.2	0.25	0.23	8.20
605.0	1.00	313.30	605.0	2.5	-4.9	-1.2	0.16	0.16	0.47
694.0	1.20	306.10	693.9	3.6	-6.2	-1.8	0.27	0.22	-8.09
733.0	1.30	316.70	732.9	4.2	-6.8	-2.2	0.64	0.26	27.18
819.0	0.10	23.00	818.9	5.0	-7.5	-2.8	1.47	-1.40	77.09
904.0	0.50	127.70	903.9	4.8	-7.2	-2.7	0.63	0.47	123.18
990.0	1.40	137.50	989.9	3.8	-6.2	-2.0	1.06	1.05	11.40
1,075.0	3.30	168.80	1,074.8	0.6	-5.0	0.7	2.62	2.24	36.82
1,161.0	4.60	178.00	1,160.6	-5.2	-4.4	6.2	1.68	1.51	10.70
1,246.0	5.90	188.50	1,245.3	-13.0	-4.9	13.8	1.90	1.53	12.35

Company: NOBLE ENERGY INC WELD COUNTY CO
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Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Erickson PC G15-27D
TVD Reference: WELL @ 4693.0ft (Original Well Elev)
MD Reference: WELL @ 4693.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
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)
1,332.0	7.60	194.60	1,330.7	-22.9	-7.0	23.9	2.14	1.98	7.09
1,417.0	8.50	196.20	1,414.8	-34.3	-10.2	35.8	1.09	1.06	1.88
1,503.0	9.50	195.90	1,499.8	-47.3	-13.9	49.2	1.16	1.16	-0.35
1,588.0	10.40	196.30	1,583.5	-61.4	-18.0	63.9	1.06	1.06	0.47
1,674.0	12.80	195.70	1,667.7	-78.0	-22.7	81.2	2.79	2.79	-0.70
1,759.0	14.20	195.50	1,750.4	-97.1	-28.1	101.1	1.65	1.65	-0.24
1,845.0	15.30	196.20	1,833.6	-118.2	-34.0	123.0	1.30	1.28	0.81
1,930.0	15.60	193.20	1,915.5	-140.1	-39.8	145.6	1.00	0.35	-3.53
2,016.0	15.70	193.40	1,998.3	-162.6	-45.1	168.8	0.13	0.12	0.23
2,102.0	15.90	197.80	2,081.1	-185.2	-51.4	192.2	1.41	0.23	5.12
2,187.0	15.50	196.60	2,162.9	-207.1	-58.2	215.2	0.61	-0.47	-1.41
2,273.0	14.50	194.70	2,246.0	-228.6	-64.2	237.4	1.30	-1.16	-2.21
2,358.0	14.20	194.60	2,328.3	-248.9	-69.6	258.5	0.35	-0.35	-0.12
2,444.0	14.50	195.60	2,411.6	-269.5	-75.1	279.8	0.45	0.35	1.16
2,529.0	15.10	195.20	2,493.8	-290.5	-80.9	301.5	0.72	0.71	-0.47
2,615.0	16.80	195.60	2,576.5	-313.2	-87.2	325.1	1.98	1.98	0.47
2,700.0	17.40	194.00	2,657.7	-337.4	-93.5	350.1	0.90	0.71	-1.88
2,786.0	16.80	194.50	2,739.9	-361.9	-99.8	375.4	0.72	-0.70	0.58
2,871.0	16.40	193.70	2,821.4	-385.5	-105.7	399.7	0.54	-0.47	-0.94
2,957.0	15.90	196.50	2,904.0	-408.6	-111.9	423.6	1.08	-0.58	3.26
3,042.0	17.50	195.90	2,985.4	-432.0	-118.7	448.0	1.89	1.88	-0.71
3,128.0	16.30	196.80	3,067.7	-456.0	-125.7	473.0	1.43	-1.40	1.05
3,213.0	15.60	197.30	3,149.4	-478.3	-132.6	496.4	0.84	-0.82	0.59
3,299.0	14.40	193.40	3,232.5	-499.8	-138.5	518.6	1.82	-1.40	-4.53
3,384.0	14.50	197.10	3,314.8	-520.2	-144.1	539.8	1.09	0.12	4.35
3,470.0	15.00	193.30	3,398.0	-541.4	-149.8	561.7	1.27	0.58	-4.42
3,555.0	15.30	194.40	3,480.0	-562.9	-155.1	583.9	0.49	0.35	1.29
3,641.0	15.50	194.10	3,562.9	-585.1	-160.7	606.7	0.25	0.23	-0.35
3,726.0	15.70	196.40	3,644.8	-607.1	-166.8	629.6	0.76	0.24	2.71
3,812.0	16.20	194.20	3,727.5	-629.9	-173.0	653.2	0.91	0.58	-2.56
3,897.0	16.00	193.00	3,809.1	-652.8	-178.5	676.8	0.46	-0.24	-1.41
3,983.0	15.70	192.70	3,891.9	-675.7	-183.8	700.2	0.36	-0.35	-0.35
4,068.0	15.50	193.40	3,973.7	-698.0	-188.9	723.1	0.32	-0.24	0.82
4,154.0	15.60	199.90	4,056.6	-720.0	-195.5	746.1	2.03	0.12	7.56
4,240.0	16.40	198.90	4,139.3	-742.4	-203.4	769.7	0.98	0.93	-1.16
4,325.0	16.70	196.80	4,220.8	-765.4	-210.8	793.9	0.79	0.35	-2.47
4,411.0	16.70	195.80	4,303.1	-789.1	-217.7	818.6	0.33	0.00	-1.16
4,496.0	17.50	194.90	4,384.4	-813.3	-224.3	843.6	0.99	0.94	-1.06
4,582.0	18.00	193.90	4,466.3	-838.6	-230.9	869.8	0.68	0.58	-1.16
4,667.0	17.50	197.80	4,547.2	-863.6	-237.9	895.7	1.52	-0.59	4.59
4,753.0	15.20	197.00	4,629.7	-886.7	-245.2	919.9	2.69	-2.67	-0.93
4,838.0	14.70	195.50	4,711.9	-907.7	-251.3	941.9	0.74	-0.59	-1.76
4,924.0	13.30	194.40	4,795.3	-927.8	-256.7	962.7	1.66	-1.63	-1.28
5,009.0	12.70	195.70	4,878.1	-946.3	-261.7	981.8	0.79	-0.71	1.53
5,095.0	11.10	193.40	4,962.3	-963.4	-266.1	999.5	1.94	-1.86	-2.67
5,180.0	9.50	192.70	5,045.9	-978.2	-269.6	1,014.7	1.89	-1.88	-0.82
5,266.0	8.30	194.50	5,130.9	-991.2	-272.7	1,028.0	1.43	-1.40	2.09
5,351.0	6.90	198.10	5,215.1	-1,002.0	-275.8	1,039.2	1.74	-1.65	4.24
5,437.0	5.20	194.10	5,300.6	-1,010.6	-278.4	1,048.3	2.04	-1.98	-4.65
5,522.0	3.30	188.70	5,385.4	-1,016.8	-279.7	1,054.6	2.28	-2.24	-6.35
5,608.0	2.40	173.60	5,471.3	-1,021.0	-279.8	1,058.7	1.35	-1.05	-17.56
5,693.0	0.70	129.50	5,556.3	-1,023.1	-279.2	1,060.6	2.30	-2.00	-51.88
5,779.0	0.70	82.00	5,642.3	-1,023.4	-278.3	1,060.6	0.66	0.00	-55.23
5,836.7	0.82	101.83	5,700.0	-1,023.4	-277.6	1,060.4	0.50	0.20	34.36

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TARGET BHL 75°FSL, 1320°FEL									
5,864.0	0.90	109.00	5,727.3	-1,023.5	-277.2	1,060.4	0.50	0.30	26.27
5,950.0	0.60	101.20	5,813.2	-1,023.9	-276.1	1,060.4	0.37	-0.35	-9.07
6,035.0	0.60	132.80	5,898.2	-1,024.2	-275.3	1,060.6	0.38	0.00	37.18
6,121.0	0.40	154.80	5,984.2	-1,024.8	-274.9	1,061.0	0.32	-0.23	25.58
6,206.0	0.40	111.40	6,069.2	-1,025.2	-274.5	1,061.3	0.35	0.00	-51.06
6,292.0	0.40	78.60	6,155.2	-1,025.2	-273.9	1,061.2	0.26	0.00	-38.14
6,378.0	0.10	37.20	6,241.2	-1,025.1	-273.6	1,061.0	0.39	-0.35	-48.14
6,463.0	0.10	85.30	6,326.2	-1,025.1	-273.4	1,060.9	0.10	0.00	56.59
6,549.0	0.20	42.60	6,412.2	-1,024.9	-273.3	1,060.7	0.17	0.12	-49.65
6,634.0	0.20	49.70	6,497.2	-1,024.7	-273.0	1,060.5	0.03	0.00	8.35
6,720.0	0.30	123.80	6,583.2	-1,024.8	-272.7	1,060.4	0.36	0.12	86.16
6,805.0	0.40	127.60	6,668.2	-1,025.1	-272.3	1,060.6	0.12	0.12	4.47
6,859.7	0.46	111.70	6,722.9	-1,025.3	-272.0	1,060.7	0.24	0.10	-29.06
TARGET CIRCLE 75°FSL, 1320°FEL									
6,891.0	0.50	104.50	6,754.2	-1,025.3	-271.7	1,060.7	0.24	0.14	-23.01
6,976.0	0.50	113.00	6,839.2	-1,025.6	-271.0	1,060.8	0.09	0.00	10.00
7,062.0	0.40	105.10	6,925.2	-1,025.8	-270.4	1,060.8	0.14	-0.12	-9.19
7,147.0	0.40	114.90	7,010.2	-1,026.0	-269.8	1,060.9	0.08	0.00	11.53
7,233.0	0.40	88.40	7,096.2	-1,026.1	-269.3	1,060.8	0.21	0.00	-30.81
7,318.0	0.60	84.60	7,181.2	-1,026.1	-268.5	1,060.6	0.24	0.24	-4.47
7,404.0	0.70	88.80	7,267.2	-1,026.0	-267.5	1,060.3	0.13	0.12	4.88
7,489.0	0.80	79.90	7,352.2	-1,025.9	-266.4	1,059.9	0.18	0.12	-10.47
7,575.0	0.80	106.60	7,438.2	-1,026.0	-265.3	1,059.6	0.43	0.00	31.05
7,660.0	1.00	119.50	7,523.2	-1,026.5	-264.1	1,059.8	0.33	0.24	15.18
7,786.0	1.10	125.70	7,649.2	-1,027.8	-262.1	1,060.5	0.12	0.08	4.92
7,829.0	1.10	125.70	7,692.2	-1,028.2	-261.5	1,060.8	0.00	0.00	0.00
HARD LINES 75'S of BHL									

Checked By: _____	Approved By: _____	Date: _____
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