

ENSIGN

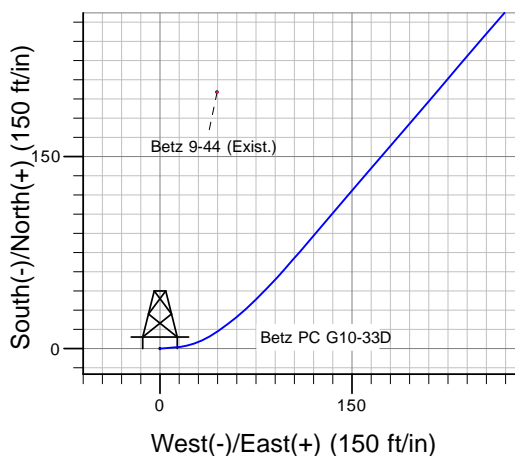
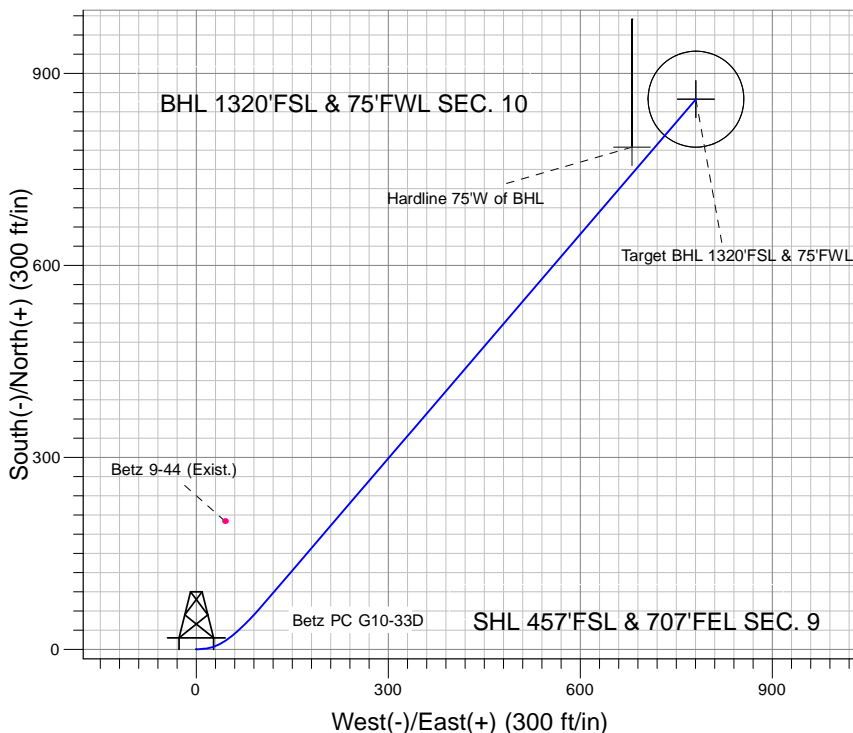
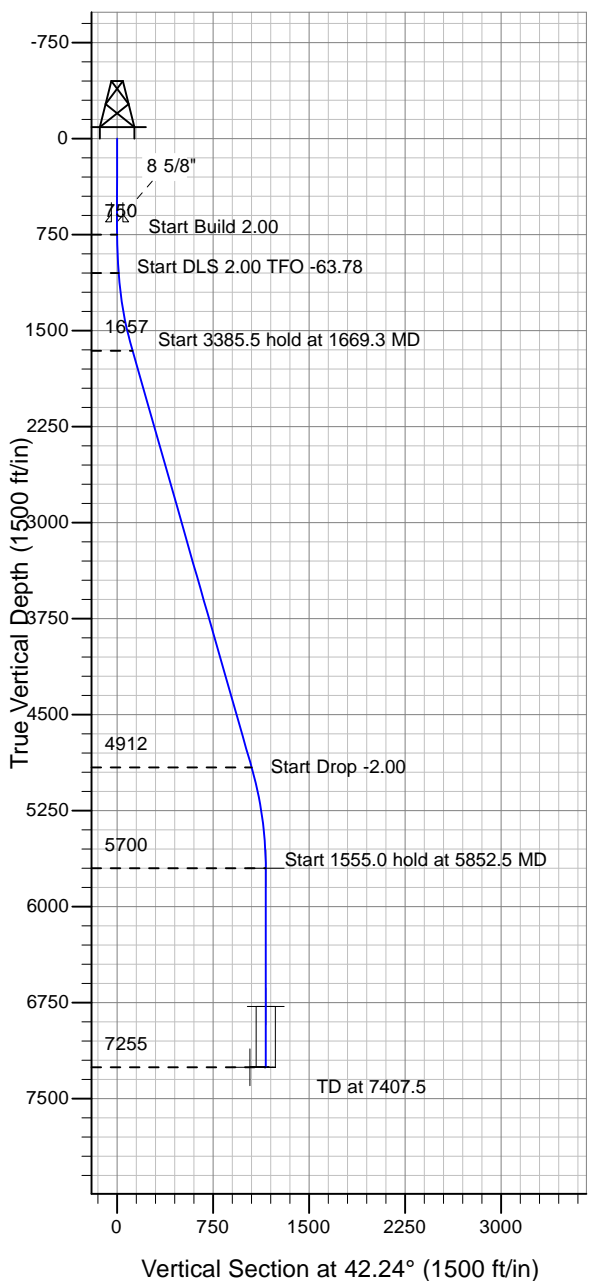
Directional

Well Name: Betz PC G10-33D

Surface Location: Betz PC G10-33D Pad Sec.9-T4N-R65W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4717.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1360876.58 3233900.06 40° 19' 15.492 N 104° 39' 40.104 W
 Original Well Elev WELL @ 4730.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Betz PC G10-33D Pad Sec.9-T4N-R65W
 Betz PC G10-33D
 Noble Betz PC G10-33D Plan#1 (8-4-10)
 17:41, August 09 2010



Azimuths to True North
 Magnetic North: 8.92°

Magnetic Field
 Strength: 53191.8snT
 Dip Angle: 67.03°
 Date: 8/9/2010
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Target BHL 1320'FSL & 75'FWL	5700.0	859.8	780.7	40° 19' 23.988 N	104° 39' 30.024 W	Point
Target Circle 1320'FSL, 75'FWL	6780.0	859.8	780.7	40° 19' 23.988 N	104° 39' 30.025 W	Circle (Radius: 75.0)
Hardline 75'W of BHL	7255.0	784.8	680.7	40° 19' 23.247 N	104° 39' 31.316 W	Polygon

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.0	
3	1050.0	6.00	85.00	1049.5	1.4	15.6	2.00	85.00	11.5	
4	1669.3	15.96	40.58	1657.5	69.1	103.6	2.00	-63.78	120.8	
5	5054.7	15.96	40.58	4912.5	776.0	709.0	0.00	0.00	1051.1	
6	5852.5	0.00	0.00	5700.0	859.8	780.7	2.00	180.00	1161.4	Target BHL 1320'FSL & 75'FWL
7	7407.5	0.00	0.00	7255.0	859.8	780.7	0.00	0.00	1161.4	



NOBLE ENERGY INC WELD COUNTY CO

SEC.9-T4N-R65W

Betz PC G10-33D Pad Sec.9-T4N-R65W

Betz PC G10-33D

Wellbore #1

Plan: Noble Betz PC G10-33D Plan#1 (8-4-10)

Standard Planning Report

09 August, 2010



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Betz PC G10-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4730.0ft (Original Well Elev)
Project:	SEC.9-T4N-R65W	MD Reference:	WELL @ 4730.0ft (Original Well Elev)
Site:	Betz PC G10-33D Pad Sec.9-T4N-R65W	North Reference:	True
Well:	Betz PC G10-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Betz PC G10-33D Plan#1 (8-4-10)		

Project	SEC.9-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						Betz PC G10-33D Pad Sec.9-T4N-R65W											
Site Position:			Northing:			1,360,876.60ft			Latitude:			40° 19' 15.492 N					
From:			Easting:			3,233,900.06ft			Longitude:			104° 39' 40.104 W					
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.54 °		

Well	Betz PC G10-33D					
Well Position	+N/-S	0.0 ft	Northing:	1,360,876.58 ft	Latitude:	40° 19' 15.492 N
	+E/-W	0.0 ft	Easting:	3,233,900.06 ft	Longitude:	104° 39' 40.104 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,717.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/9/2010	8.92	67.03	53,192

Design	Noble Betz PC G10-33D Plan#1 (8-4-10)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	42.24

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,050.0	6.00	85.00	1,049.5	1.4	15.6	2.00	2.00	0.00	85.00	
1,669.3	15.96	40.58	1,657.5	69.1	103.6	2.00	1.61	-7.17	-63.78	
5,054.7	15.96	40.58	4,912.5	776.0	709.0	0.00	0.00	0.00	0.00	
5,852.5	0.00	0.00	5,700.0	859.8	780.7	2.00	-2.00	0.00	180.00	Target BHL 1320'F
7,407.5	0.00	0.00	7,255.0	859.8	780.7	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Betz PC G10-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4730.0ft (Original Well Elev)
Project:	SEC.9-T4N-R65W	MD Reference:	WELL @ 4730.0ft (Original Well Elev)
Site:	Betz PC G10-33D Pad Sec.9-T4N-R65W	North Reference:	True
Well:	Betz PC G10-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Betz PC G10-33D Plan#1 (8-4-10)		

Planned 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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
750.0	0.00	0.00	750.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.20	85.00	760.0	0.0	0.0	0.0	2.00	2.00	0.00
800.0	1.00	85.00	800.0	0.0	0.4	0.3	2.00	2.00	0.00
840.0	1.80	85.00	840.0	0.1	1.4	1.0	2.00	2.00	0.00
880.0	2.60	85.00	880.0	0.3	2.9	2.2	2.00	2.00	0.00
920.0	3.40	85.00	919.9	0.4	5.0	3.7	2.00	2.00	0.00
960.0	4.20	85.00	959.8	0.7	7.7	5.6	2.00	2.00	0.00
1,000.0	5.00	85.00	999.7	1.0	10.9	8.0	2.00	2.00	0.00
1,040.0	5.80	85.00	1,039.5	1.3	14.6	10.8	2.00	2.00	0.00
1,050.0	6.00	85.00	1,049.5	1.4	15.6	11.5	2.00	2.00	0.00
1,080.0	6.29	80.08	1,079.3	1.8	18.8	14.0	2.00	0.96	-16.40
1,120.0	6.74	74.23	1,119.0	2.8	23.2	17.7	2.00	1.12	-14.62
1,160.0	7.24	69.15	1,158.7	4.3	27.8	21.9	2.00	1.27	-12.69
1,200.0	7.80	64.77	1,198.4	6.4	32.7	26.7	2.00	1.39	-10.97
1,240.0	8.40	60.98	1,238.0	9.0	37.7	32.0	2.00	1.49	-9.46
1,280.0	9.03	57.71	1,277.5	12.1	42.9	37.8	2.00	1.57	-8.19
1,320.0	9.68	54.86	1,317.0	15.7	48.3	44.1	2.00	1.63	-7.11
1,360.0	10.35	52.38	1,356.4	19.8	53.9	50.9	2.00	1.68	-6.21
1,400.0	11.04	50.20	1,395.7	24.4	59.7	58.2	2.00	1.73	-5.45
1,440.0	11.75	48.27	1,434.9	29.6	65.6	66.1	2.00	1.76	-4.81
1,480.0	12.46	46.57	1,474.0	35.3	71.8	74.4	2.00	1.79	-4.27
1,520.0	13.19	45.04	1,513.0	41.5	78.2	83.3	2.00	1.81	-3.81
1,560.0	13.92	43.68	1,551.9	48.2	84.7	92.6	2.00	1.83	-3.42
1,600.0	14.66	42.44	1,590.7	55.4	91.5	102.5	2.00	1.85	-3.08
1,640.0	15.41	41.33	1,629.3	63.1	98.4	112.9	2.00	1.86	-2.79
1,669.3	15.96	40.58	1,657.5	69.1	103.6	120.8	2.00	1.88	-2.57
1,680.0	15.96	40.58	1,667.8	71.3	105.5	123.7	0.00	0.00	0.00
1,720.0	15.96	40.58	1,706.2	79.7	112.7	134.7	0.00	0.00	0.00
1,760.0	15.96	40.58	1,744.7	88.0	119.8	145.7	0.00	0.00	0.00
1,800.0	15.96	40.58	1,783.2	96.4	127.0	156.7	0.00	0.00	0.00
1,840.0	15.96	40.58	1,821.6	104.8	134.1	167.7	0.00	0.00	0.00
1,880.0	15.96	40.58	1,860.1	113.1	141.3	178.7	0.00	0.00	0.00
1,920.0	15.96	40.58	1,898.5	121.5	148.4	189.7	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Betz PC G10-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4730.0ft (Original Well Elev)
Project:	SEC.9-T4N-R65W	MD Reference:	WELL @ 4730.0ft (Original Well Elev)
Site:	Betz PC G10-33D Pad Sec.9-T4N-R65W	North Reference:	True
Well:	Betz PC G10-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Betz PC G10-33D Plan#1 (8-4-10)		

Planned 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)
1,960.0	15.96	40.58	1,937.0	129.8	155.6	200.7	0.00	0.00	0.00
2,000.0	15.96	40.58	1,975.5	138.2	162.7	211.7	0.00	0.00	0.00
2,040.0	15.96	40.58	2,013.9	146.5	169.9	222.7	0.00	0.00	0.00
2,080.0	15.96	40.58	2,052.4	154.9	177.0	233.7	0.00	0.00	0.00
2,120.0	15.96	40.58	2,090.8	163.2	184.2	244.6	0.00	0.00	0.00
2,160.0	15.96	40.58	2,129.3	171.6	191.3	255.6	0.00	0.00	0.00
2,200.0	15.96	40.58	2,167.7	179.9	198.5	266.6	0.00	0.00	0.00
2,240.0	15.96	40.58	2,206.2	188.3	205.6	277.6	0.00	0.00	0.00
2,280.0	15.96	40.58	2,244.7	196.6	212.8	288.6	0.00	0.00	0.00
2,320.0	15.96	40.58	2,283.1	205.0	219.9	299.6	0.00	0.00	0.00
2,360.0	15.96	40.58	2,321.6	213.3	227.1	310.6	0.00	0.00	0.00
2,400.0	15.96	40.58	2,360.0	221.7	234.3	321.6	0.00	0.00	0.00
2,440.0	15.96	40.58	2,398.5	230.0	241.4	332.6	0.00	0.00	0.00
2,480.0	15.96	40.58	2,437.0	238.4	248.6	343.6	0.00	0.00	0.00
2,520.0	15.96	40.58	2,475.4	246.7	255.7	354.6	0.00	0.00	0.00
2,560.0	15.96	40.58	2,513.9	255.1	262.9	365.6	0.00	0.00	0.00
2,600.0	15.96	40.58	2,552.3	263.4	270.0	376.5	0.00	0.00	0.00
2,640.0	15.96	40.58	2,590.8	271.8	277.2	387.5	0.00	0.00	0.00
2,680.0	15.96	40.58	2,629.3	280.1	284.3	398.5	0.00	0.00	0.00
2,720.0	15.96	40.58	2,667.7	288.5	291.5	409.5	0.00	0.00	0.00
2,760.0	15.96	40.58	2,706.2	296.8	298.6	420.5	0.00	0.00	0.00
2,800.0	15.96	40.58	2,744.6	305.2	305.8	431.5	0.00	0.00	0.00
2,840.0	15.96	40.58	2,783.1	313.5	312.9	442.5	0.00	0.00	0.00
2,880.0	15.96	40.58	2,821.5	321.9	320.1	453.5	0.00	0.00	0.00
2,920.0	15.96	40.58	2,860.0	330.2	327.2	464.5	0.00	0.00	0.00
2,960.0	15.96	40.58	2,898.5	338.6	334.4	475.5	0.00	0.00	0.00
3,000.0	15.96	40.58	2,936.9	347.0	341.5	486.5	0.00	0.00	0.00
3,040.0	15.96	40.58	2,975.4	355.3	348.7	497.4	0.00	0.00	0.00
3,080.0	15.96	40.58	3,013.8	363.7	355.8	508.4	0.00	0.00	0.00
3,120.0	15.96	40.58	3,052.3	372.0	363.0	519.4	0.00	0.00	0.00
3,160.0	15.96	40.58	3,090.8	380.4	370.2	530.4	0.00	0.00	0.00
3,200.0	15.96	40.58	3,129.2	388.7	377.3	541.4	0.00	0.00	0.00
3,240.0	15.96	40.58	3,167.7	397.1	384.5	552.4	0.00	0.00	0.00
3,280.0	15.96	40.58	3,206.1	405.4	391.6	563.4	0.00	0.00	0.00
3,320.0	15.96	40.58	3,244.6	413.8	398.8	574.4	0.00	0.00	0.00
3,360.0	15.96	40.58	3,283.1	422.1	405.9	585.4	0.00	0.00	0.00
3,400.0	15.96	40.58	3,321.5	430.5	413.1	596.4	0.00	0.00	0.00
3,440.0	15.96	40.58	3,360.0	438.8	420.2	607.4	0.00	0.00	0.00
3,480.0	15.96	40.58	3,398.4	447.2	427.4	618.4	0.00	0.00	0.00
3,520.0	15.96	40.58	3,436.9	455.5	434.5	629.3	0.00	0.00	0.00
3,560.0	15.96	40.58	3,475.4	463.9	441.7	640.3	0.00	0.00	0.00
3,600.0	15.96	40.58	3,513.8	472.2	448.8	651.3	0.00	0.00	0.00
3,640.0	15.96	40.58	3,552.3	480.6	456.0	662.3	0.00	0.00	0.00
3,680.0	15.96	40.58	3,590.7	488.9	463.1	673.3	0.00	0.00	0.00
3,720.0	15.96	40.58	3,629.2	497.3	470.3	684.3	0.00	0.00	0.00
3,760.0	15.96	40.58	3,667.6	505.6	477.4	695.3	0.00	0.00	0.00
3,800.0	15.96	40.58	3,706.1	514.0	484.6	706.3	0.00	0.00	0.00
3,840.0	15.96	40.58	3,744.6	522.3	491.7	717.3	0.00	0.00	0.00
3,880.0	15.96	40.58	3,783.0	530.7	498.9	728.3	0.00	0.00	0.00
3,920.0	15.96	40.58	3,821.5	539.0	506.1	739.3	0.00	0.00	0.00
3,960.0	15.96	40.58	3,859.9	547.4	513.2	750.3	0.00	0.00	0.00
4,000.0	15.96	40.58	3,898.4	555.7	520.4	761.2	0.00	0.00	0.00
4,040.0	15.96	40.58	3,936.9	564.1	527.5	772.2	0.00	0.00	0.00
4,080.0	15.96	40.58	3,975.3	572.5	534.7	783.2	0.00	0.00	0.00

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Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4730.0ft (Original Well Elev)
Project:	SEC.9-T4N-R65W	MD Reference:	WELL @ 4730.0ft (Original Well Elev)
Site:	Betz PC G10-33D Pad Sec.9-T4N-R65W	North Reference:	True
Well:	Betz PC G10-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Betz PC G10-33D Plan#1 (8-4-10)		

Planned 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)
4,120.0	15.96	40.58	4,013.8	580.8	541.8	794.2	0.00	0.00	0.00
4,160.0	15.96	40.58	4,052.2	589.2	549.0	805.2	0.00	0.00	0.00
4,200.0	15.96	40.58	4,090.7	597.5	556.1	816.2	0.00	0.00	0.00
4,240.0	15.96	40.58	4,129.2	605.9	563.3	827.2	0.00	0.00	0.00
4,280.0	15.96	40.58	4,167.6	614.2	570.4	838.2	0.00	0.00	0.00
4,320.0	15.96	40.58	4,206.1	622.6	577.6	849.2	0.00	0.00	0.00
4,360.0	15.96	40.58	4,244.5	630.9	584.7	860.2	0.00	0.00	0.00
4,400.0	15.96	40.58	4,283.0	639.3	591.9	871.2	0.00	0.00	0.00
4,440.0	15.96	40.58	4,321.4	647.6	599.0	882.1	0.00	0.00	0.00
4,480.0	15.96	40.58	4,359.9	656.0	606.2	893.1	0.00	0.00	0.00
4,520.0	15.96	40.58	4,398.4	664.3	613.3	904.1	0.00	0.00	0.00
4,560.0	15.96	40.58	4,436.8	672.7	620.5	915.1	0.00	0.00	0.00
4,600.0	15.96	40.58	4,475.3	681.0	627.6	926.1	0.00	0.00	0.00
4,640.0	15.96	40.58	4,513.7	689.4	634.8	937.1	0.00	0.00	0.00
4,680.0	15.96	40.58	4,552.2	697.7	641.9	948.1	0.00	0.00	0.00
4,720.0	15.96	40.58	4,590.7	706.1	649.1	959.1	0.00	0.00	0.00
4,760.0	15.96	40.58	4,629.1	714.4	656.3	970.1	0.00	0.00	0.00
4,800.0	15.96	40.58	4,667.6	722.8	663.4	981.1	0.00	0.00	0.00
4,840.0	15.96	40.58	4,706.0	731.1	670.6	992.1	0.00	0.00	0.00
4,880.0	15.96	40.58	4,744.5	739.5	677.7	1,003.1	0.00	0.00	0.00
4,920.0	15.96	40.58	4,783.0	747.8	684.9	1,014.0	0.00	0.00	0.00
4,960.0	15.96	40.58	4,821.4	756.2	692.0	1,025.0	0.00	0.00	0.00
5,000.0	15.96	40.58	4,859.9	764.5	699.2	1,036.0	0.00	0.00	0.00
5,040.0	15.96	40.58	4,898.3	772.9	706.3	1,047.0	0.00	0.00	0.00
5,054.7	15.96	40.58	4,912.5	776.0	709.0	1,051.1	0.00	0.00	0.00
5,080.0	15.45	40.58	4,936.8	781.2	713.4	1,057.9	2.00	-2.00	0.00
5,120.0	14.65	40.58	4,975.4	789.1	720.2	1,068.3	2.00	-2.00	0.00
5,160.0	13.85	40.58	5,014.2	796.5	726.6	1,078.1	2.00	-2.00	0.00
5,200.0	13.05	40.58	5,053.1	803.6	732.6	1,087.4	2.00	-2.00	0.00
5,240.0	12.25	40.58	5,092.1	810.3	738.3	1,096.2	2.00	-2.00	0.00
5,280.0	11.45	40.58	5,131.3	816.5	743.7	1,104.4	2.00	-2.00	0.00
5,320.0	10.65	40.58	5,170.6	822.3	748.6	1,112.1	2.00	-2.00	0.00
5,360.0	9.85	40.58	5,209.9	827.7	753.3	1,119.2	2.00	-2.00	0.00
5,400.0	9.05	40.58	5,249.4	832.7	757.5	1,125.7	2.00	-2.00	0.00
5,440.0	8.25	40.58	5,288.9	837.3	761.5	1,131.7	2.00	-2.00	0.00
5,480.0	7.45	40.58	5,328.5	841.4	765.0	1,137.2	2.00	-2.00	0.00
5,520.0	6.65	40.58	5,368.2	845.2	768.2	1,142.1	2.00	-2.00	0.00
5,560.0	5.85	40.58	5,408.0	848.5	771.0	1,146.5	2.00	-2.00	0.00
5,600.0	5.05	40.58	5,447.8	851.3	773.5	1,150.3	2.00	-2.00	0.00
5,640.0	4.25	40.58	5,487.7	853.8	775.6	1,153.5	2.00	-2.00	0.00
5,680.0	3.45	40.58	5,527.6	855.9	777.4	1,156.2	2.00	-2.00	0.00
5,720.0	2.65	40.58	5,567.5	857.5	778.8	1,158.3	2.00	-2.00	0.00
5,760.0	1.85	40.58	5,607.5	858.7	779.8	1,159.9	2.00	-2.00	0.00
5,800.0	1.05	40.58	5,647.5	859.4	780.4	1,160.9	2.00	-2.00	0.00
5,840.0	0.25	40.58	5,687.5	859.8	780.7	1,161.4	2.00	-2.00	0.00
5,852.5	0.00	0.00	5,700.0	859.8	780.7	1,161.4	2.00	-2.00	0.00
Target BHL 1320'FSL & 75'FWL									
5,880.0	0.00	0.00	5,727.5	859.8	780.7	1,161.4	0.00	0.00	0.00
5,920.0	0.00	0.00	5,767.5	859.8	780.7	1,161.4	0.00	0.00	0.00
5,960.0	0.00	0.00	5,807.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,000.0	0.00	0.00	5,847.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,040.0	0.00	0.00	5,887.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,080.0	0.00	0.00	5,927.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,120.0	0.00	0.00	5,967.5	859.8	780.7	1,161.4	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Betz PC G10-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4730.0ft (Original Well Elev)
Project:	SEC.9-T4N-R65W	MD Reference:	WELL @ 4730.0ft (Original Well Elev)
Site:	Betz PC G10-33D Pad Sec.9-T4N-R65W	North Reference:	True
Well:	Betz PC G10-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Betz PC G10-33D Plan#1 (8-4-10)		

Planned 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)
6,160.0	0.00	0.00	6,007.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,200.0	0.00	0.00	6,047.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,240.0	0.00	0.00	6,087.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,280.0	0.00	0.00	6,127.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,320.0	0.00	0.00	6,167.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,360.0	0.00	0.00	6,207.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,247.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,440.0	0.00	0.00	6,287.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,480.0	0.00	0.00	6,327.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,520.0	0.00	0.00	6,367.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,560.0	0.00	0.00	6,407.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,447.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,640.0	0.00	0.00	6,487.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,680.0	0.00	0.00	6,527.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,720.0	0.00	0.00	6,567.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,760.0	0.00	0.00	6,607.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,800.0	0.00	0.00	6,647.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,840.0	0.00	0.00	6,687.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,880.0	0.00	0.00	6,727.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,920.0	0.00	0.00	6,767.5	859.8	780.7	1,161.4	0.00	0.00	0.00
6,932.5	0.00	0.00	6,780.0	859.8	780.7	1,161.4	0.00	0.00	0.00
NIORARA - Target Circle 1320'FSL, 75'FWL									
6,960.0	0.00	0.00	6,807.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,847.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,040.0	0.00	0.00	6,887.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,080.0	0.00	0.00	6,927.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,120.0	0.00	0.00	6,967.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,160.0	0.00	0.00	7,007.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,200.0	0.00	0.00	7,047.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,240.0	0.00	0.00	7,087.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,257.5	0.00	0.00	7,105.0	859.8	780.7	1,161.4	0.00	0.00	0.00
CODELL									
7,280.0	0.00	0.00	7,127.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,320.0	0.00	0.00	7,167.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,360.0	0.00	0.00	7,207.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,400.0	0.00	0.00	7,247.5	859.8	780.7	1,161.4	0.00	0.00	0.00
7,407.5	0.00	0.00	7,255.0	859.8	780.7	1,161.4	0.00	0.00	0.00
Hardline 75'W of BHL									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Betz PC G10-33D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4730.0ft (Original Well Elev)
Project:	SEC.9-T4N-R65W	MD Reference:	WELL @ 4730.0ft (Original Well Elev)
Site:	Betz PC G10-33D Pad Sec.9-T4N-R65W	North Reference:	True
Well:	Betz PC G10-33D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Betz PC G10-33D Plan#1 (8-4-10)		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Hardline 75'W of BHL	0.00	0.00	7,255.0	784.8	680.7	1,361,667.75	3,234,573.28	40° 19' 23.247 N	104° 39' 31.316 W
- plan misses target center by 125.0ft at 7407.5ft MD (7255.0 TVD, 859.8 N, 780.7 E)									
- Polygon									
Point 1			7,255.0	0.0	0.0	1,361,667.75	3,234,573.28		
Point 2			7,255.0	200.0	0.0	1,361,867.73	3,234,571.39		
Target BHL 1320'FSL	0.00	0.00	5,700.0	859.8	780.7	1,361,743.68	3,234,672.61	40° 19' 23.988 N	104° 39' 30.024 W
- plan hits target center									
- Point									
Target Circle 1320'FS	0.00	0.00	6,780.0	859.8	780.7	1,361,743.69	3,234,672.56	40° 19' 23.988 N	104° 39' 30.025 W
- plan hits target center									
- Circle (radius 75.0)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(ft)	(ft)	Name	(")	(")
	650.0	650.0	8 5/8"	8-5/8	12-1/4

Formations					
	Measured Depth	Vertical Depth		Dip	Dip Direction
	(ft)	(ft)	Name	(°)	(°)
	6,932.5	6,780.0	NIOBRARA	0.00	
	7,257.5	7,105.0	CODELL	0.00	