

ENSIGN

Directional

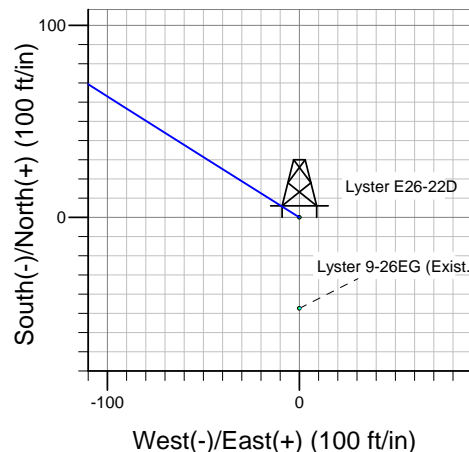
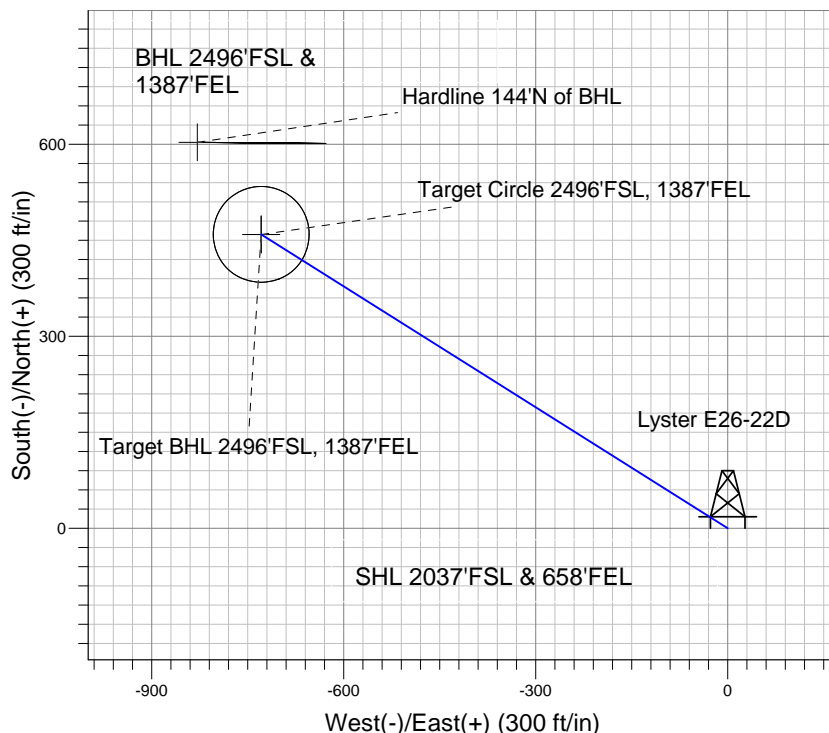
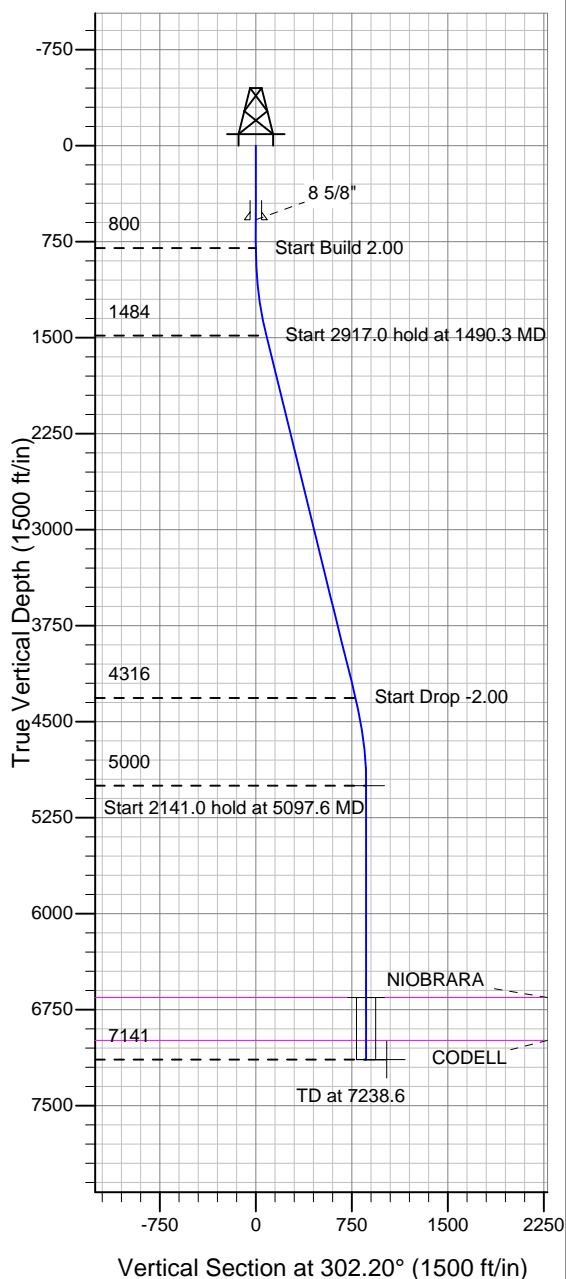
Well Name: Lyster E26-22D

Surface Location: Lyster E26-22D Pad Sec.26-T6N-R65W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4688.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1409901.67	3244014.29	40° 27' 18.972 N	104° 37' 23.268 W	
Original Well Elev WELL @ 4701.0ft (Original Well Elev)						

NOBLE ENERGY INC WELD COUNTY CO



Lyster E26-22D
Noble Lyster E26-22D Plan#1 (6-18-10)
9:01, June 21 2010



Azimuths to True North
Magnetic North: 8.95°
Magnetic Field
Strength: 53349.3snT
Dip Angle: 67.18°
Date: 12/31/2009
Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Target BHL 2496'FSL, 1387'FEL	5000.0	459.1	-729.1	40° 27' 23.508 N	104° 37' 32.700 W	Point
Target Circle 2496'FSL, 1387'FEL	6656.0	459.1	-729.1	40° 27' 23.508 N	104° 37' 32.700 W	Circle (Radius: 75.0)
Hardline 144'N of BHL	7141.0	603.1	-829.1	40° 27' 24.931 N	104° 37' 33.993 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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1490.3	13.81	302.20	1483.6	44.1	-70.0	2.00	302.20	82.8	
4	4407.3	13.81	302.20	4316.4	415.0	-659.1	0.00	0.00	778.8	
5	5097.6	0.00	0.00	5000.0	459.1	-729.1	2.00	180.00	861.6	Target BHL 2496'FSL, 1387'FEL
6	7238.6	0.00	0.00	7141.0	459.1	-729.1	0.00	0.00	861.6	



NOBLE ENERGY INC WELD COUNTY CO

SEC.26-T6N-R65W

Lyster E26-22D Pad Sec.26-T6N-R65W

Lyster E26-22D

Wellbore #1

Plan: Noble Lyster E26-22D Plan#1 (6-18-10)

Standard Planning Report

21 June, 2010

Database:	Landmark	Local Co-ordinate Reference:	Well Lyster E26-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4701.0ft (Original Well Elev)
Project:	SEC.26-T6N-R65W	MD Reference:	WELL @ 4701.0ft (Original Well Elev)
Site:	Lyster E26-22D Pad Sec.26-T6N-R65W	North Reference:	True
Well:	Lyster E26-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lyster E26-22D Plan#1 (6-18-10)		

Project	SEC.26-T6N-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						Lyster E26-22D Pad Sec.26-T6N-R65W											
Site Position:						Northing:			1,409,901.70ft			Latitude:			40° 27' 18.972 N		
From:			Lat/Long			Easting:			3,244,014.29ft			Longitude:			104° 37' 23.268 W		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.57 °		

Well	Lyster E26-22D					
Well Position	+N-S	0.0 ft	Northing:	1,409,901.67 ft	Latitude:	40° 27' 18.972 N
	+E-W	0.0 ft	Easting:	3,244,014.29 ft	Longitude:	104° 37' 23.268 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,688.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.95	67.18	53,349

Design	Noble Lyster E26-22D Plan#1 (6-18-10)			
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	302.20

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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,490.3	13.81	302.20	1,483.6	44.1	-70.0	2.00	2.00	0.00	302.20	
4,407.3	13.81	302.20	4,316.4	415.0	-659.1	0.00	0.00	0.00	0.00	
5,097.6	0.00	0.00	5,000.0	459.1	-729.1	2.00	-2.00	0.00	180.00	Target BHL 2496'F!
7,238.6	0.00	0.00	7,141.0	459.1	-729.1	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Lyster E26-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4701.0ft (Original Well Elev)
Project:	SEC.26-T6N-R65W	MD Reference:	WELL @ 4701.0ft (Original Well Elev)
Site:	Lyster E26-22D Pad Sec.26-T6N-R65W	North Reference:	True
Well:	Lyster E26-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lyster E26-22D Plan#1 (6-18-10)		

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
580.0	0.00	0.00	580.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
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
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.80	302.20	840.0	0.1	-0.2	0.3	2.00	2.00	0.00
880.0	1.60	302.20	880.0	0.6	-0.9	1.1	2.00	2.00	0.00
920.0	2.40	302.20	920.0	1.3	-2.1	2.5	2.00	2.00	0.00
960.0	3.20	302.20	959.9	2.4	-3.8	4.5	2.00	2.00	0.00
1,000.0	4.00	302.20	999.8	3.7	-5.9	7.0	2.00	2.00	0.00
1,040.0	4.80	302.20	1,039.7	5.4	-8.5	10.0	2.00	2.00	0.00
1,080.0	5.60	302.20	1,079.6	7.3	-11.6	13.7	2.00	2.00	0.00
1,120.0	6.40	302.20	1,119.3	9.5	-15.1	17.9	2.00	2.00	0.00
1,160.0	7.20	302.20	1,159.1	12.0	-19.1	22.6	2.00	2.00	0.00
1,200.0	8.00	302.20	1,198.7	14.9	-23.6	27.9	2.00	2.00	0.00
1,240.0	8.80	302.20	1,238.3	18.0	-28.5	33.7	2.00	2.00	0.00
1,280.0	9.60	302.20	1,277.8	21.4	-33.9	40.1	2.00	2.00	0.00
1,320.0	10.40	302.20	1,317.1	25.1	-39.8	47.1	2.00	2.00	0.00
1,360.0	11.20	302.20	1,356.4	29.1	-46.2	54.6	2.00	2.00	0.00
1,400.0	12.00	302.20	1,395.6	33.4	-53.0	62.6	2.00	2.00	0.00
1,440.0	12.80	302.20	1,434.7	37.9	-60.2	71.2	2.00	2.00	0.00
1,480.0	13.60	302.20	1,473.6	42.8	-68.0	80.3	2.00	2.00	0.00
1,490.3	13.81	302.20	1,483.6	44.1	-70.0	82.8	2.00	2.00	0.00
1,520.0	13.81	302.20	1,512.5	47.9	-76.0	89.9	0.00	0.00	0.00
1,560.0	13.81	302.20	1,551.3	53.0	-84.1	99.4	0.00	0.00	0.00
1,600.0	13.81	302.20	1,590.2	58.0	-92.2	108.9	0.00	0.00	0.00
1,640.0	13.81	302.20	1,629.0	63.1	-100.3	118.5	0.00	0.00	0.00
1,680.0	13.81	302.20	1,667.9	68.2	-108.3	128.0	0.00	0.00	0.00
1,720.0	13.81	302.20	1,706.7	73.3	-116.4	137.6	0.00	0.00	0.00
1,760.0	13.81	302.20	1,745.5	78.4	-124.5	147.1	0.00	0.00	0.00
1,800.0	13.81	302.20	1,784.4	83.5	-132.6	156.7	0.00	0.00	0.00
1,840.0	13.81	302.20	1,823.2	88.6	-140.7	166.2	0.00	0.00	0.00
1,880.0	13.81	302.20	1,862.1	93.6	-148.7	175.8	0.00	0.00	0.00
1,920.0	13.81	302.20	1,900.9	98.7	-156.8	185.3	0.00	0.00	0.00
1,960.0	13.81	302.20	1,939.8	103.8	-164.9	194.8	0.00	0.00	0.00
2,000.0	13.81	302.20	1,978.6	108.9	-173.0	204.4	0.00	0.00	0.00

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Project:	SEC.26-T6N-R65W	MD Reference:	WELL @ 4701.0ft (Original Well Elev)
Site:	Lyster E26-22D Pad Sec.26-T6N-R65W	North Reference:	True
Well:	Lyster E26-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lyster E26-22D Plan#1 (6-18-10)		

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)	
2,040.0	13.81	302.20	2,017.5	114.0	-181.0	213.9	0.00	0.00	0.00	
2,080.0	13.81	302.20	2,056.3	119.1	-189.1	223.5	0.00	0.00	0.00	
2,120.0	13.81	302.20	2,095.1	124.2	-197.2	233.0	0.00	0.00	0.00	
2,160.0	13.81	302.20	2,134.0	129.2	-205.3	242.6	0.00	0.00	0.00	
2,200.0	13.81	302.20	2,172.8	134.3	-213.4	252.1	0.00	0.00	0.00	
2,240.0	13.81	302.20	2,211.7	139.4	-221.4	261.7	0.00	0.00	0.00	
2,280.0	13.81	302.20	2,250.5	144.5	-229.5	271.2	0.00	0.00	0.00	
2,320.0	13.81	302.20	2,289.4	149.6	-237.6	280.8	0.00	0.00	0.00	
2,360.0	13.81	302.20	2,328.2	154.7	-245.7	290.3	0.00	0.00	0.00	
2,400.0	13.81	302.20	2,367.1	159.8	-253.7	299.8	0.00	0.00	0.00	
2,440.0	13.81	302.20	2,405.9	164.8	-261.8	309.4	0.00	0.00	0.00	
2,480.0	13.81	302.20	2,444.7	169.9	-269.9	318.9	0.00	0.00	0.00	
2,520.0	13.81	302.20	2,483.6	175.0	-278.0	328.5	0.00	0.00	0.00	
2,560.0	13.81	302.20	2,522.4	180.1	-286.0	338.0	0.00	0.00	0.00	
2,600.0	13.81	302.20	2,561.3	185.2	-294.1	347.6	0.00	0.00	0.00	
2,640.0	13.81	302.20	2,600.1	190.3	-302.2	357.1	0.00	0.00	0.00	
2,680.0	13.81	302.20	2,639.0	195.4	-310.3	366.7	0.00	0.00	0.00	
2,720.0	13.81	302.20	2,677.8	200.4	-318.4	376.2	0.00	0.00	0.00	
2,760.0	13.81	302.20	2,716.7	205.5	-326.4	385.7	0.00	0.00	0.00	
2,800.0	13.81	302.20	2,755.5	210.6	-334.5	395.3	0.00	0.00	0.00	
2,840.0	13.81	302.20	2,794.3	215.7	-342.6	404.8	0.00	0.00	0.00	
2,880.0	13.81	302.20	2,833.2	220.8	-350.7	414.4	0.00	0.00	0.00	
2,920.0	13.81	302.20	2,872.0	225.9	-358.7	423.9	0.00	0.00	0.00	
2,960.0	13.81	302.20	2,910.9	231.0	-366.8	433.5	0.00	0.00	0.00	
3,000.0	13.81	302.20	2,949.7	236.0	-374.9	443.0	0.00	0.00	0.00	
3,040.0	13.81	302.20	2,988.6	241.1	-383.0	452.6	0.00	0.00	0.00	
3,080.0	13.81	302.20	3,027.4	246.2	-391.1	462.1	0.00	0.00	0.00	
3,120.0	13.81	302.20	3,066.3	251.3	-399.1	471.7	0.00	0.00	0.00	
3,160.0	13.81	302.20	3,105.1	256.4	-407.2	481.2	0.00	0.00	0.00	
3,200.0	13.81	302.20	3,143.9	261.5	-415.3	490.7	0.00	0.00	0.00	
3,240.0	13.81	302.20	3,182.8	266.6	-423.4	500.3	0.00	0.00	0.00	
3,280.0	13.81	302.20	3,221.6	271.6	-431.4	509.8	0.00	0.00	0.00	
3,320.0	13.81	302.20	3,260.5	276.7	-439.5	519.4	0.00	0.00	0.00	
3,360.0	13.81	302.20	3,299.3	281.8	-447.6	528.9	0.00	0.00	0.00	
3,400.0	13.81	302.20	3,338.2	286.9	-455.7	538.5	0.00	0.00	0.00	
3,440.0	13.81	302.20	3,377.0	292.0	-463.7	548.0	0.00	0.00	0.00	
3,480.0	13.81	302.20	3,415.9	297.1	-471.8	557.6	0.00	0.00	0.00	
3,520.0	13.81	302.20	3,454.7	302.2	-479.9	567.1	0.00	0.00	0.00	
3,560.0	13.81	302.20	3,493.5	307.2	-488.0	576.6	0.00	0.00	0.00	
3,600.0	13.81	302.20	3,532.4	312.3	-496.1	586.2	0.00	0.00	0.00	
3,640.0	13.81	302.20	3,571.2	317.4	-504.1	595.7	0.00	0.00	0.00	
3,680.0	13.81	302.20	3,610.1	322.5	-512.2	605.3	0.00	0.00	0.00	
3,720.0	13.81	302.20	3,648.9	327.6	-520.3	614.8	0.00	0.00	0.00	
3,760.0	13.81	302.20	3,687.8	332.7	-528.4	624.4	0.00	0.00	0.00	
3,800.0	13.81	302.20	3,726.6	337.8	-536.4	633.9	0.00	0.00	0.00	
3,840.0	13.81	302.20	3,765.5	342.8	-544.5	643.5	0.00	0.00	0.00	
3,880.0	13.81	302.20	3,804.3	347.9	-552.6	653.0	0.00	0.00	0.00	
3,920.0	13.81	302.20	3,843.1	353.0	-560.7	662.6	0.00	0.00	0.00	
3,960.0	13.81	302.20	3,882.0	358.1	-568.8	672.1	0.00	0.00	0.00	
4,000.0	13.81	302.20	3,920.8	363.2	-576.8	681.6	0.00	0.00	0.00	
4,040.0	13.81	302.20	3,959.7	368.3	-584.9	691.2	0.00	0.00	0.00	
4,080.0	13.81	302.20	3,998.5	373.4	-593.0	700.7	0.00	0.00	0.00	
4,120.0	13.81	302.20	4,037.4	378.4	-601.1	710.3	0.00	0.00	0.00	
4,160.0	13.81	302.20	4,076.2	383.5	-609.1	719.8	0.00	0.00	0.00	

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Project:	SEC.26-T6N-R65W	MD Reference:	WELL @ 4701.0ft (Original Well Elev)
Site:	Lyster E26-22D Pad Sec.26-T6N-R65W	North Reference:	True
Well:	Lyster E26-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lyster E26-22D Plan#1 (6-18-10)		

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)
4,200.0	13.81	302.20	4,115.1	388.6	-617.2	729.4	0.00	0.00	0.00
4,240.0	13.81	302.20	4,153.9	393.7	-625.3	738.9	0.00	0.00	0.00
4,280.0	13.81	302.20	4,192.7	398.8	-633.4	748.5	0.00	0.00	0.00
4,320.0	13.81	302.20	4,231.6	403.9	-641.5	758.0	0.00	0.00	0.00
4,360.0	13.81	302.20	4,270.4	409.0	-649.5	767.6	0.00	0.00	0.00
4,400.0	13.81	302.20	4,309.3	414.0	-657.6	777.1	0.00	0.00	0.00
4,407.3	13.81	302.20	4,316.4	415.0	-659.1	778.8	0.00	0.00	0.00
4,440.0	13.15	302.20	4,348.2	419.0	-665.5	786.5	2.00	-2.00	0.00
4,480.0	12.35	302.20	4,387.2	423.7	-673.0	795.3	2.00	-2.00	0.00
4,520.0	11.55	302.20	4,426.3	428.2	-680.0	803.6	2.00	-2.00	0.00
4,560.0	10.75	302.20	4,465.6	432.3	-686.6	811.3	2.00	-2.00	0.00
4,600.0	9.95	302.20	4,504.9	436.1	-692.6	818.5	2.00	-2.00	0.00
4,640.0	9.15	302.20	4,544.4	439.6	-698.3	825.1	2.00	-2.00	0.00
4,680.0	8.35	302.20	4,583.9	442.9	-703.4	831.2	2.00	-2.00	0.00
4,720.0	7.55	302.20	4,623.5	445.8	-708.1	836.8	2.00	-2.00	0.00
4,760.0	6.75	302.20	4,663.2	448.5	-712.3	841.7	2.00	-2.00	0.00
4,800.0	5.95	302.20	4,702.9	450.8	-716.0	846.2	2.00	-2.00	0.00
4,840.0	5.15	302.20	4,742.8	452.9	-719.3	850.0	2.00	-2.00	0.00
4,880.0	4.35	302.20	4,782.6	454.7	-722.1	853.3	2.00	-2.00	0.00
4,920.0	3.55	302.20	4,822.5	456.1	-724.5	856.1	2.00	-2.00	0.00
4,960.0	2.75	302.20	4,862.5	457.3	-726.3	858.3	2.00	-2.00	0.00
5,000.0	1.95	302.20	4,902.4	458.2	-727.7	859.9	2.00	-2.00	0.00
5,040.0	1.15	302.20	4,942.4	458.8	-728.6	861.0	2.00	-2.00	0.00
5,080.0	0.35	302.20	4,982.4	459.0	-729.1	861.5	2.00	-2.00	0.00
5,097.6	0.00	0.00	5,000.0	459.1	-729.1	861.6	2.00	-2.00	0.00
Target BHL 2496'FSL, 1387'FEL									
5,120.0	0.00	0.00	5,022.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,160.0	0.00	0.00	5,062.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,102.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,240.0	0.00	0.00	5,142.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,280.0	0.00	0.00	5,182.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,320.0	0.00	0.00	5,222.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,360.0	0.00	0.00	5,262.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,302.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,440.0	0.00	0.00	5,342.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,480.0	0.00	0.00	5,382.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,520.0	0.00	0.00	5,422.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,560.0	0.00	0.00	5,462.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,502.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,640.0	0.00	0.00	5,542.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,680.0	0.00	0.00	5,582.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,720.0	0.00	0.00	5,622.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,760.0	0.00	0.00	5,662.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,702.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,840.0	0.00	0.00	5,742.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,880.0	0.00	0.00	5,782.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,920.0	0.00	0.00	5,822.4	459.1	-729.1	861.6	0.00	0.00	0.00
5,960.0	0.00	0.00	5,862.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,902.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,040.0	0.00	0.00	5,942.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,080.0	0.00	0.00	5,982.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,120.0	0.00	0.00	6,022.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,160.0	0.00	0.00	6,062.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,102.4	459.1	-729.1	861.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Lyster E26-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4701.0ft (Original Well Elev)
Project:	SEC.26-T6N-R65W	MD Reference:	WELL @ 4701.0ft (Original Well Elev)
Site:	Lyster E26-22D Pad Sec.26-T6N-R65W	North Reference:	True
Well:	Lyster E26-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lyster E26-22D Plan#1 (6-18-10)		

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)
6,240.0	0.00	0.00	6,142.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,280.0	0.00	0.00	6,182.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,320.0	0.00	0.00	6,222.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,360.0	0.00	0.00	6,262.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,302.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,440.0	0.00	0.00	6,342.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,480.0	0.00	0.00	6,382.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,520.0	0.00	0.00	6,422.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,560.0	0.00	0.00	6,462.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,502.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,640.0	0.00	0.00	6,542.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,680.0	0.00	0.00	6,582.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,720.0	0.00	0.00	6,622.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,753.6	0.00	0.00	6,656.0	459.1	-729.1	861.6	0.00	0.00	0.00
NIOBRARA - Target Circle 2496'FSL, 1387'FEL									
6,760.0	0.00	0.00	6,662.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,702.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,840.0	0.00	0.00	6,742.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,880.0	0.00	0.00	6,782.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,920.0	0.00	0.00	6,822.4	459.1	-729.1	861.6	0.00	0.00	0.00
6,960.0	0.00	0.00	6,862.4	459.1	-729.1	861.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,902.4	459.1	-729.1	861.6	0.00	0.00	0.00
7,040.0	0.00	0.00	6,942.4	459.1	-729.1	861.6	0.00	0.00	0.00
7,080.0	0.00	0.00	6,982.4	459.1	-729.1	861.6	0.00	0.00	0.00
7,088.6	0.00	0.00	6,991.0	459.1	-729.1	861.6	0.00	0.00	0.00
CODELL									
7,120.0	0.00	0.00	7,022.4	459.1	-729.1	861.6	0.00	0.00	0.00
7,160.0	0.00	0.00	7,062.4	459.1	-729.1	861.6	0.00	0.00	0.00
7,200.0	0.00	0.00	7,102.4	459.1	-729.1	861.6	0.00	0.00	0.00
7,238.6	0.00	0.00	7,141.0	459.1	-729.1	861.6	0.00	0.00	0.00
Hardline 144'N of BHL									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Target Circle 2496'FS	0.00	0.00	6,656.0	459.1	-729.1	1,410,353.53	3,243,280.72	40° 27' 23.508 N	104° 37' 32.700 W
- plan hits target									
- Circle (radius 75.0)									
Hardline 144'N of BHL	0.00	0.56	7,141.0	603.1	-829.1	1,410,496.52	3,243,179.30	40° 27' 24.931 N	104° 37' 33.993 W
- plan misses by 175.3ft at 7238.6ft MD (7141.0 TVD, 459.1 N, -729.1 E)									
- Polygon									
Point 1			7,141.0	0.0	0.0	1,410,496.52	3,243,179.30		
Point 2			7,141.0	0.0	200.0	1,410,496.53	3,243,379.30		
Target BHL 2496'FSL	0.00	0.56	5,000.0	459.1	-729.1	1,410,353.49	3,243,280.70	40° 27' 23.508 N	104° 37' 32.700 W
- plan hits target									
- Point									

Database:	Landmark	Local Co-ordinate Reference:	Well Lyster E26-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4701.0ft (Original Well Elev)
Project:	SEC.26-T6N-R65W	MD Reference:	WELL @ 4701.0ft (Original Well Elev)
Site:	Lyster E26-22D Pad Sec.26-T6N-R65W	North Reference:	True
Well:	Lyster E26-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Lyster E26-22D Plan#1 (6-18-10)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
580.0	580.0	8 5/8"	8-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,753.6	6,656.0	NIOBRARA		0.00	
7,088.6	6,991.0	CODELL		0.00	