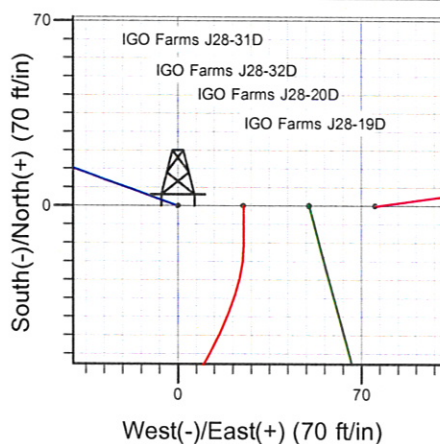
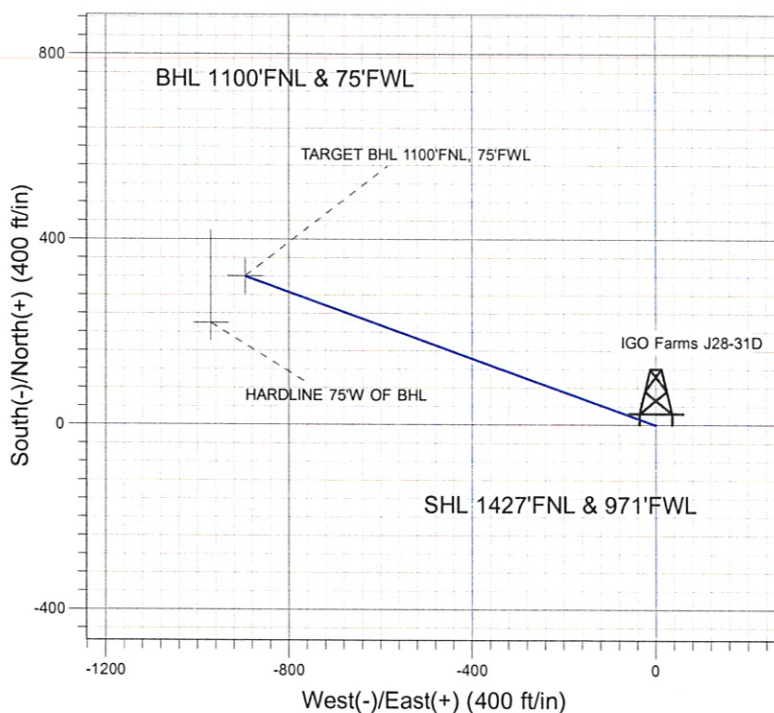
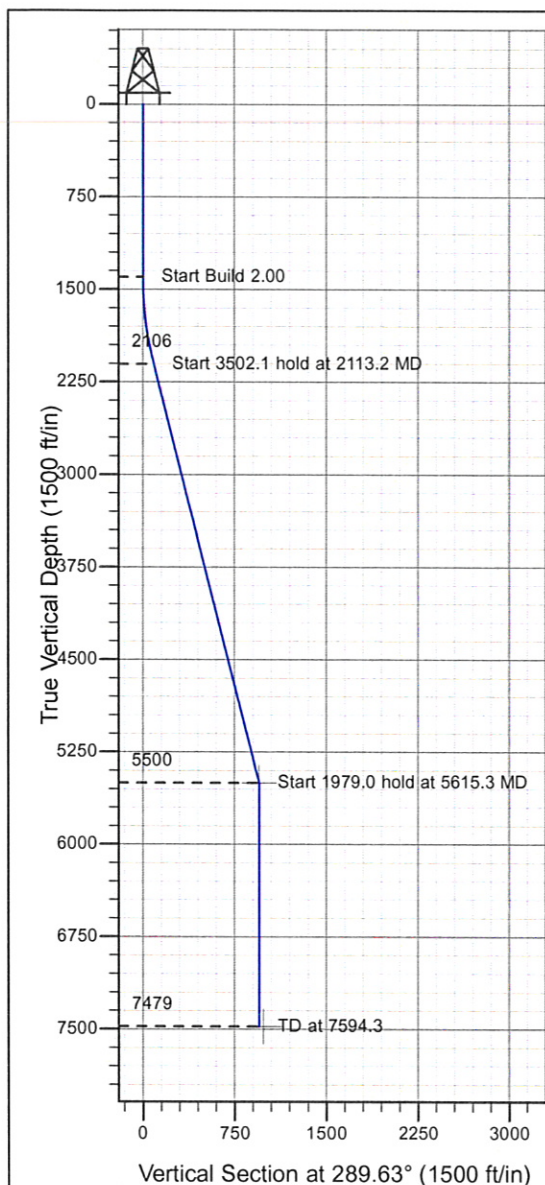


Well Name: IGO Farms J28-31D

Surface Location: IGO Farms Pad Sec.28-T5N-R66W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4876.0
+S+E/-W Northing Easting Latitude Longitude S
0.01379821.21 3197674.45 40° 22' 25.824 N 104° 47' 25.836 W
Original Well Elev WELL @ 4889.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



IGO Farms Pad Sec.28-T5N-R66W
IGO Farms J28-31D
Plan #1 (07-06-09)
10:37, July 07 2009



Azimuths to True North
Magnetic North: 9.10°

Magnetic Field
Strength: 53337.6snT
Dip Angle: 67.10°
Date: 7/6/2009
Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1100'FNL, 75'FWL	5500.0	319.6	-895.9	40° 22' 28.982 N	104° 47' 37.411 W	Point
HARDLINE 75'W OF BHL	7479.0	219.6	-970.9	40° 22' 27.994 N	104° 47' 38.380 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	1400.0	0.00	0.00	1400.0	0.0	0.0	0.00	0.00	0.0	
3	2113.2	14.26	289.63	2105.8	29.7	-83.2	2.00	289.63	88.3	
4	5615.3	14.26	289.63	5500.0	319.6	-895.9	0.00	0.00	951.2	
5	5615.3	0.00	0.00	5500.0	319.6	-895.9	0.00	180.00	951.2	TARGET BHL 1100'FNL, 75'FWL
6	7594.3	0.00	0.00	7479.0	319.6	-895.9	0.00	0.00	951.2	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.28-T5N-R66W

IGO Farms Pad Sec.28-T5N-R66W

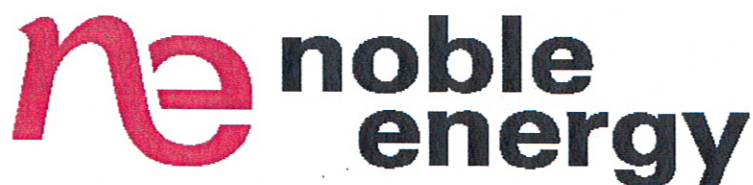
IGO Farms J28-31D

Wellbore #1

Plan: Plan #1 (07-06-09)

Standard Planning Report

07 July, 2009



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well IGO Farms J28-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4889.0ft (Original Well Elev)
Project:	SEC.28-T5N-R66W	MD Reference:	WELL @ 4889.0ft (Original Well Elev)
Site:	IGO Farms Pad Sec.28-T5N-R66W	North Reference:	True
Well:	IGO Farms J28-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (07-06-09)		

Project	SEC.28-T5N-R66W, 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	IGO Farms Pad Sec.28-T5N-R66W		
Site Position:		Northing:	1,379,821.42 ft
From:	Lat/Long	Easting:	3,197,699.53 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 22' 25.824 N
		Longitude:	104° 47' 25.512 W
		Grid Convergence:	0.46 °

Well	IGO Farms J28-31D		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	-25.1 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 22' 25.824 N
		Longitude:	104° 47' 25.836 W
		Ground Level:	4,876.0 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF200510	7/6/2009	9.10
			Dip Angle (°)
			67.10
			Field Strength (nT)
			53,338

Design	Plan #1 (07-06-09)		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction (°)
			289.63

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	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,113.2	14.26	289.63	2,105.8	29.7	-83.2	2.00	2.00	0.00	289.63	
5,615.3	14.26	289.63	5,500.0	319.6	-895.9	0.00	0.00	0.00	0.00	
5,615.3	0.00	0.00	5,500.0	319.6	-895.9	0.00	0.00	0.00	180.00	TARGET BHL 110C
7,594.3	0.00	0.00	7,479.0	319.6	-895.9	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well IGO Farms J28-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4889.0ft (Original Well Elev)
Project:	SEC.28-T5N-R66W	MD Reference:	WELL @ 4889.0ft (Original Well Elev)
Site:	IGO Farms Pad Sec.28-T5N-R66W	North Reference:	True
Well:	IGO Farms J28-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (07-06-09)		

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
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	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,440.0	0.80	289.63	1,440.0	0.1	-0.3	0.3	2.00	2.00	0.00
1,480.0	1.60	289.63	1,480.0	0.4	-1.1	1.1	2.00	2.00	0.00
1,520.0	2.40	289.63	1,520.0	0.8	-2.4	2.5	2.00	2.00	0.00
1,560.0	3.20	289.63	1,559.9	1.5	-4.2	4.5	2.00	2.00	0.00
1,600.0	4.00	289.63	1,599.8	2.3	-6.6	7.0	2.00	2.00	0.00
1,640.0	4.80	289.63	1,639.7	3.4	-9.5	10.0	2.00	2.00	0.00
1,680.0	5.60	289.63	1,679.6	4.6	-12.9	13.7	2.00	2.00	0.00
1,720.0	6.40	289.63	1,719.3	6.0	-16.8	17.9	2.00	2.00	0.00
1,760.0	7.20	289.63	1,759.1	7.6	-21.3	22.6	2.00	2.00	0.00
1,800.0	8.00	289.63	1,798.7	9.4	-26.3	27.9	2.00	2.00	0.00
1,840.0	8.80	289.63	1,838.3	11.3	-31.8	33.7	2.00	2.00	0.00
1,880.0	9.60	289.63	1,877.8	13.5	-37.8	40.1	2.00	2.00	0.00
1,920.0	10.40	289.63	1,917.1	15.8	-44.3	47.1	2.00	2.00	0.00
1,960.0	11.20	289.63	1,956.4	18.3	-51.4	54.6	2.00	2.00	0.00
2,000.0	12.00	289.63	1,995.6	21.0	-59.0	62.6	2.00	2.00	0.00
2,040.0	12.80	289.63	2,034.7	23.9	-67.1	71.2	2.00	2.00	0.00
2,080.0	13.60	289.63	2,073.6	27.0	-75.7	80.3	2.00	2.00	0.00
2,113.2	14.26	289.63	2,105.8	29.7	-83.2	88.3	2.00	2.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well IGO Farms J28-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4889.0ft (Original Well Elev)
Project:	SEC.28-T5N-R66W	MD Reference:	WELL @ 4889.0ft (Original Well Elev)
Site:	IGO Farms Pad Sec.28-T5N-R66W	North Reference:	True
Well:	IGO Farms J28-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (07-06-09)		

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)
2,120.0	14.26	289.63	2,112.4	30.2	-84.8	90.0	0.00	0.00	0.00
2,160.0	14.26	289.63	2,151.2	33.6	-94.0	99.9	0.00	0.00	0.00
2,200.0	14.26	289.63	2,190.0	36.9	-103.3	109.7	0.00	0.00	0.00
2,240.0	14.26	289.63	2,228.7	40.2	-112.6	119.6	0.00	0.00	0.00
2,280.0	14.26	289.63	2,267.5	43.5	-121.9	129.4	0.00	0.00	0.00
2,320.0	14.26	289.63	2,306.3	46.8	-131.2	139.3	0.00	0.00	0.00
2,360.0	14.26	289.63	2,345.0	50.1	-140.5	149.1	0.00	0.00	0.00
2,400.0	14.26	289.63	2,383.8	53.4	-149.7	159.0	0.00	0.00	0.00
2,440.0	14.26	289.63	2,422.6	56.7	-159.0	168.8	0.00	0.00	0.00
2,480.0	14.26	289.63	2,461.3	60.0	-168.3	178.7	0.00	0.00	0.00
2,520.0	14.26	289.63	2,500.1	63.4	-177.6	188.5	0.00	0.00	0.00
2,560.0	14.26	289.63	2,538.9	66.7	-186.9	198.4	0.00	0.00	0.00
2,600.0	14.26	289.63	2,577.6	70.0	-196.2	208.3	0.00	0.00	0.00
2,640.0	14.26	289.63	2,616.4	73.3	-205.4	218.1	0.00	0.00	0.00
2,680.0	14.26	289.63	2,655.2	76.6	-214.7	228.0	0.00	0.00	0.00
2,720.0	14.26	289.63	2,693.9	79.9	-224.0	237.8	0.00	0.00	0.00
2,760.0	14.26	289.63	2,732.7	83.2	-233.3	247.7	0.00	0.00	0.00
2,800.0	14.26	289.63	2,771.5	86.5	-242.6	257.5	0.00	0.00	0.00
2,840.0	14.26	289.63	2,810.2	89.8	-251.8	267.4	0.00	0.00	0.00
2,880.0	14.26	289.63	2,849.0	93.2	-261.1	277.2	0.00	0.00	0.00
2,920.0	14.26	289.63	2,887.8	96.5	-270.4	287.1	0.00	0.00	0.00
2,960.0	14.26	289.63	2,926.6	99.8	-279.7	297.0	0.00	0.00	0.00
3,000.0	14.26	289.63	2,965.3	103.1	-289.0	306.8	0.00	0.00	0.00
3,040.0	14.26	289.63	3,004.1	106.4	-298.3	316.7	0.00	0.00	0.00
3,080.0	14.26	289.63	3,042.9	109.7	-307.5	326.5	0.00	0.00	0.00
3,120.0	14.26	289.63	3,081.6	113.0	-316.8	336.4	0.00	0.00	0.00
3,160.0	14.26	289.63	3,120.4	116.3	-326.1	346.2	0.00	0.00	0.00
3,200.0	14.26	289.63	3,159.2	119.6	-335.4	356.1	0.00	0.00	0.00
3,240.0	14.26	289.63	3,197.9	123.0	-344.7	365.9	0.00	0.00	0.00
3,280.0	14.26	289.63	3,236.7	126.3	-354.0	375.8	0.00	0.00	0.00
3,320.0	14.26	289.63	3,275.5	129.6	-363.2	385.7	0.00	0.00	0.00
3,360.0	14.26	289.63	3,314.2	132.9	-372.5	395.5	0.00	0.00	0.00
3,400.0	14.26	289.63	3,353.0	136.2	-381.8	405.4	0.00	0.00	0.00
3,440.0	14.26	289.63	3,391.8	139.5	-391.1	415.2	0.00	0.00	0.00
3,480.0	14.26	289.63	3,430.5	142.8	-400.4	425.1	0.00	0.00	0.00
3,520.0	14.26	289.63	3,469.3	146.1	-409.6	434.9	0.00	0.00	0.00
3,560.0	14.26	289.63	3,508.1	149.5	-418.9	444.8	0.00	0.00	0.00
3,600.0	14.26	289.63	3,546.8	152.8	-428.2	454.6	0.00	0.00	0.00
3,640.0	14.26	289.63	3,585.6	156.1	-437.5	464.5	0.00	0.00	0.00
3,680.0	14.26	289.63	3,624.4	159.4	-446.8	474.4	0.00	0.00	0.00
3,720.0	14.26	289.63	3,663.1	162.7	-456.1	484.2	0.00	0.00	0.00
3,760.0	14.26	289.63	3,701.9	166.0	-465.3	494.1	0.00	0.00	0.00
3,800.0	14.26	289.63	3,740.7	169.3	-474.6	503.9	0.00	0.00	0.00
3,840.0	14.26	289.63	3,779.4	172.6	-483.9	513.8	0.00	0.00	0.00
3,880.0	14.26	289.63	3,818.2	175.9	-493.2	523.6	0.00	0.00	0.00
3,920.0	14.26	289.63	3,857.0	179.3	-502.5	533.5	0.00	0.00	0.00
3,960.0	14.26	289.63	3,895.7	182.6	-511.8	543.3	0.00	0.00	0.00
4,000.0	14.26	289.63	3,934.5	185.9	-521.0	553.2	0.00	0.00	0.00
4,040.0	14.26	289.63	3,973.3	189.2	-530.3	563.1	0.00	0.00	0.00
4,080.0	14.26	289.63	4,012.0	192.5	-539.6	572.9	0.00	0.00	0.00
4,120.0	14.26	289.63	4,050.8	195.8	-548.9	582.8	0.00	0.00	0.00
4,160.0	14.26	289.63	4,089.6	199.1	-558.2	592.6	0.00	0.00	0.00
4,200.0	14.26	289.63	4,128.3	202.4	-567.5	602.5	0.00	0.00	0.00
4,240.0	14.26	289.63	4,167.1	205.7	-576.7	612.3	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well IGO Farms J28-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4889.0ft (Original Well Elev)
Project:	SEC.28-T5N-R66W	MD Reference:	WELL @ 4889.0ft (Original Well Elev)
Site:	IGO Farms Pad Sec.28-T5N-R66W	North Reference:	True
Well:	IGO Farms J28-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (07-06-09)		

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)
4,280.0	14.26	289.63	4,205.9	209.1	-586.0	622.2	0.00	0.00	0.00
4,320.0	14.26	289.63	4,244.6	212.4	-595.3	632.0	0.00	0.00	0.00
4,360.0	14.26	289.63	4,283.4	215.7	-604.6	641.9	0.00	0.00	0.00
4,400.0	14.26	289.63	4,322.2	219.0	-613.9	651.8	0.00	0.00	0.00
4,440.0	14.26	289.63	4,360.9	222.3	-623.1	661.6	0.00	0.00	0.00
4,480.0	14.26	289.63	4,399.7	225.6	-632.4	671.5	0.00	0.00	0.00
4,520.0	14.26	289.63	4,438.5	228.9	-641.7	681.3	0.00	0.00	0.00
4,560.0	14.26	289.63	4,477.2	232.2	-651.0	691.2	0.00	0.00	0.00
4,600.0	14.26	289.63	4,516.0	235.5	-660.3	701.0	0.00	0.00	0.00
4,640.0	14.26	289.63	4,554.8	238.9	-669.6	710.9	0.00	0.00	0.00
4,680.0	14.26	289.63	4,593.5	242.2	-678.8	720.7	0.00	0.00	0.00
4,720.0	14.26	289.63	4,632.3	245.5	-688.1	730.6	0.00	0.00	0.00
4,760.0	14.26	289.63	4,671.1	248.8	-697.4	740.5	0.00	0.00	0.00
4,800.0	14.26	289.63	4,709.8	252.1	-706.7	750.3	0.00	0.00	0.00
4,840.0	14.26	289.63	4,748.6	255.4	-716.0	760.2	0.00	0.00	0.00
4,880.0	14.26	289.63	4,787.4	258.7	-725.3	770.0	0.00	0.00	0.00
4,920.0	14.26	289.63	4,826.1	262.0	-734.5	779.9	0.00	0.00	0.00
4,960.0	14.26	289.63	4,864.9	265.4	-743.8	789.7	0.00	0.00	0.00
5,000.0	14.26	289.63	4,903.7	268.7	-753.1	799.6	0.00	0.00	0.00
5,040.0	14.26	289.63	4,942.4	272.0	-762.4	809.4	0.00	0.00	0.00
5,080.0	14.26	289.63	4,981.2	275.3	-771.7	819.3	0.00	0.00	0.00
5,120.0	14.26	289.63	5,020.0	278.6	-780.9	829.2	0.00	0.00	0.00
5,160.0	14.26	289.63	5,058.7	281.9	-790.2	839.0	0.00	0.00	0.00
5,200.0	14.26	289.63	5,097.5	285.2	-799.5	848.9	0.00	0.00	0.00
5,240.0	14.26	289.63	5,136.3	288.5	-808.8	858.7	0.00	0.00	0.00
5,280.0	14.26	289.63	5,175.0	291.8	-818.1	868.6	0.00	0.00	0.00
5,320.0	14.26	289.63	5,213.8	295.2	-827.4	878.4	0.00	0.00	0.00
5,360.0	14.26	289.63	5,252.6	298.5	-836.6	888.3	0.00	0.00	0.00
5,400.0	14.26	289.63	5,291.3	301.8	-845.9	898.1	0.00	0.00	0.00
5,440.0	14.26	289.63	5,330.1	305.1	-855.2	908.0	0.00	0.00	0.00
5,480.0	14.26	289.63	5,368.9	308.4	-864.5	917.9	0.00	0.00	0.00
5,520.0	14.26	289.63	5,407.6	311.7	-873.8	927.7	0.00	0.00	0.00
5,560.0	14.26	289.63	5,446.4	315.0	-883.1	937.6	0.00	0.00	0.00
5,600.0	14.26	289.63	5,485.2	318.3	-892.3	947.4	0.00	0.00	0.00
5,615.3	0.00	0.00	5,500.3	319.0	-894.1	949.3	93.17	-93.17	0.00
TARGET BHL 1100'FNL, 75'FWL									
5,640.0	0.00	0.00	5,524.7	319.6	-895.9	951.2	0.00	0.00	0.00
5,680.0	0.00	0.00	5,564.7	319.6	-895.9	951.2	0.00	0.00	0.00
5,720.0	0.00	0.00	5,604.7	319.6	-895.9	951.2	0.00	0.00	0.00
5,760.0	0.00	0.00	5,644.7	319.6	-895.9	951.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,684.7	319.6	-895.9	951.2	0.00	0.00	0.00
5,840.0	0.00	0.00	5,724.7	319.6	-895.9	951.2	0.00	0.00	0.00
5,880.0	0.00	0.00	5,764.7	319.6	-895.9	951.2	0.00	0.00	0.00
5,920.0	0.00	0.00	5,804.7	319.6	-895.9	951.2	0.00	0.00	0.00
5,960.0	0.00	0.00	5,844.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,884.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,040.0	0.00	0.00	5,924.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,080.0	0.00	0.00	5,964.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,120.0	0.00	0.00	6,004.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,160.0	0.00	0.00	6,044.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,084.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,240.0	0.00	0.00	6,124.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,280.0	0.00	0.00	6,164.7	319.6	-895.9	951.2	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well IGO Farms J28-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4889.0ft (Original Well Elev)
Project:	SEC.28-T5N-R66W	MD Reference:	WELL @ 4889.0ft (Original Well Elev)
Site:	IGO Farms Pad Sec.28-T5N-R66W	North Reference:	True
Well:	IGO Farms J28-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (07-06-09)		

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)
6,320.0	0.00	0.00	6,204.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,360.0	0.00	0.00	6,244.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,284.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,440.0	0.00	0.00	6,324.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,480.0	0.00	0.00	6,364.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,404.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,444.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,484.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,524.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,564.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,604.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,644.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,684.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,724.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,764.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,804.7	319.6	-895.9	951.2	0.00	0.00	0.00
6,960.0	0.00	0.00	6,844.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,884.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,040.0	0.00	0.00	6,924.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,080.0	0.00	0.00	6,964.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,104.3	0.00	0.00	6,989.0	319.6	-895.9	951.2	0.00	0.00	0.00
NIOBRARA									
7,120.0	0.00	0.00	7,004.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,160.0	0.00	0.00	7,044.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,084.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,240.0	0.00	0.00	7,124.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,280.0	0.00	0.00	7,164.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,320.0	0.00	0.00	7,204.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,360.0	0.00	0.00	7,244.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,284.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,440.0	0.00	0.00	7,324.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,444.3	0.00	0.00	7,329.0	319.6	-895.9	951.2	0.00	0.00	0.00
CODELL									
7,480.0	0.00	0.00	7,364.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,520.0	0.00	0.00	7,404.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,560.0	0.00	0.00	7,444.7	319.6	-895.9	951.2	0.00	0.00	0.00
7,594.3	0.00	0.00	7,479.0	319.6	-895.9	951.2	0.00	0.00	0.00
HARDLINE 75°W 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									
HARDLINE 75°W OF I	0.00	0.00	7,479.0	219.6	-970.9	1,380,033.02	3,196,701.87	40° 22' 27.994 N	104° 47' 38.380 W
- plan misses target center by 125.0ft at 7594.3ft MD (7479.0 TVD, 319.6 N, -895.9 E)									
- Polygon									
Point 1			7,479.0	0.0	0.0	1,380,033.02	3,196,701.87		
Point 2			7,479.0	200.0	0.0	1,380,233.01	3,196,700.27		
TARGET BHL 1100°F	0.00	0.00	5,500.0	319.6	-895.9	1,380,133.62	3,196,776.08	40° 22' 28.982 N	104° 47' 37.411 W
- plan misses target center by 1.9ft at 5615.2ft MD (5500.2 TVD, 319.0 N, -894.1 E)									
- Point									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well IGO Farms J28-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4889.0ft (Original Well Elev)
Project:	SEC.28-T5N-R66W	MD Reference:	WELL @ 4889.0ft (Original Well Elev)
Site:	IGO Farms Pad Sec.28-T5N-R66W	North Reference:	True
Well:	IGO Farms J28-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (07-06-09)		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,104.3	6,989.0	NIOBRARA		0.00	
7,444.3	7,329.0	CODELL		0.00	