

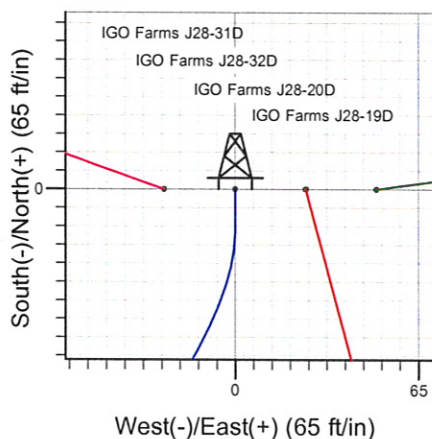
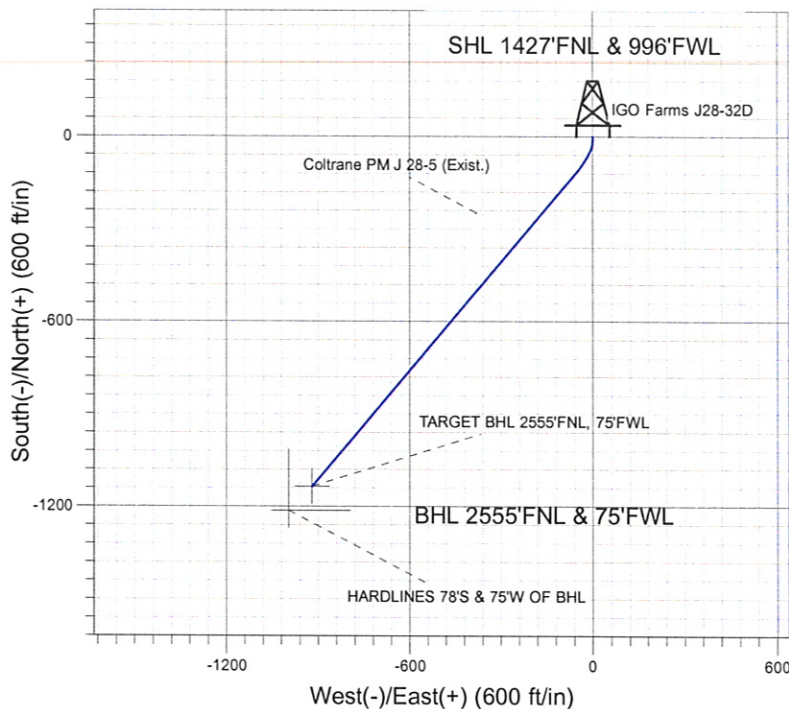
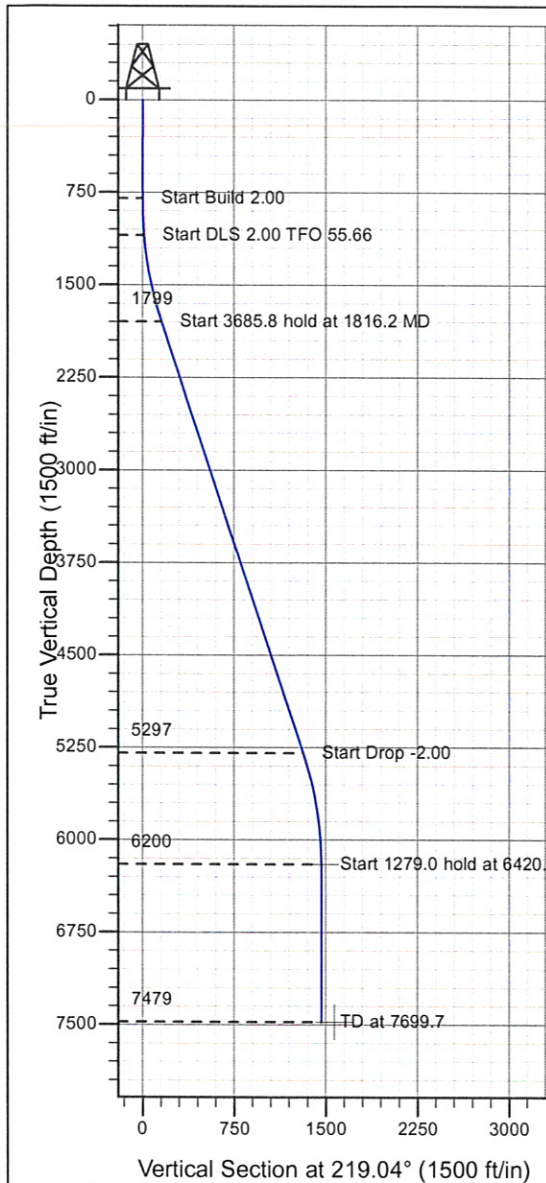
ENSIGN

Directional

Well Name: IGO Farms J28-32D

Surface Location: IGO Farms Pad Sec.28-T5N-R66W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4876.0
 +N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.01379821.41 3197699.53 40° 22' 25.824 N 104° 47' 25.512 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 J28-32D
 Plan #1 (07-06-09)
 13:28, 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 2555'FNL, 75'FWL	6200.0	-1135.8	-921.2	40° 22' 14.600 N	104° 47' 37.413 W	Point
HARDLINES 78'S & 75'W OF BHL	7479.0	-1213.8	-996.2	40° 22' 13.829 N	104° 47' 38.383 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	1100.0	6.00	180.00	1099.5	-15.7	0.0	2.00	180.00	12.2	
4	1816.2	18.37	220.40	1799.1	-139.7	-73.5	2.00	55.66	154.9	
5	5502.0	18.37	220.40	5296.9	-1024.6	-826.5	0.00	0.00	1316.4	
6	6420.7	0.00	0.00	6200.0	-1135.8	-921.2	2.00	180.00	1462.4	TARGET BHL 2555'FNL, 75'FWL
7	7699.7	0.00	0.00	7479.0	-1135.8	-921.2	0.00	0.00	1462.4	

ENSIGN

Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.28-T5N-R66W

IGO Farms Pad Sec.28-T5N-R66W

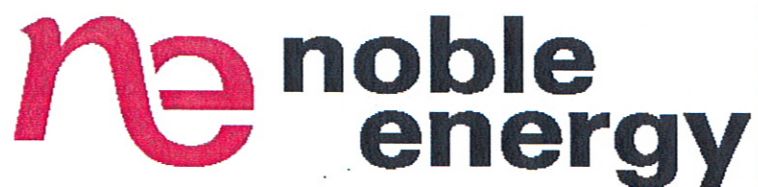
IGO Farms J28-32D

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 J28-32D
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 J28-32D	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	Latitude:	40° 22' 25.824 N
From:	Lat/Long	Easting:	3,197,699.53 ft	Longitude:	104° 47' 25.512 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.46 °

Well	IGO Farms J28-32D					
Well Position	+N/-S	0.0 ft	Northing:	1,379,821.41 ft	Latitude:	40° 22' 25.824 N
	+E/-W	0.0 ft	Easting:	3,197,699.53 ft	Longitude:	104° 47' 25.512 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,876.0 ft

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

Design	Plan #1 (07-06-09)				
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Audit Notes:					
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Version:	Phase:	PROTOTYPE	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	219.04

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	
1,100.0	6.00	180.00	1,099.5	-15.7	0.0	2.00	2.00	0.00	180.00	
1,816.2	18.37	220.40	1,799.1	-139.7	-73.5	2.00	1.73	5.64	55.66	
5,502.0	18.37	220.40	5,296.9	-1,024.6	-826.5	0.00	0.00	0.00	0.00	
6,420.7	0.00	0.00	6,200.0	-1,135.8	-921.2	2.00	-2.00	0.00	180.00	TARGET BHL 2555
7,699.7	0.00	0.00	7,479.0	-1,135.8	-921.2	0.00	0.00	0.00	0.00	

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well IGO Farms J28-32D
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 J28-32D	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	0.80	180.00	840.0	-0.3	0.0	0.2	2.00	2.00	0.00
880.0	1.60	180.00	880.0	-1.1	0.0	0.9	2.00	2.00	0.00
920.0	2.40	180.00	920.0	-2.5	0.0	2.0	2.00	2.00	0.00
960.0	3.20	180.00	959.9	-4.5	0.0	3.5	2.00	2.00	0.00
1,000.0	4.00	180.00	999.8	-7.0	0.0	5.4	2.00	2.00	0.00
1,040.0	4.80	180.00	1,039.7	-10.0	0.0	7.8	2.00	2.00	0.00
1,080.0	5.60	180.00	1,079.6	-13.7	0.0	10.6	2.00	2.00	0.00
1,100.0	6.00	180.00	1,099.5	-15.7	0.0	12.2	2.00	2.00	0.00
1,120.0	6.23	183.04	1,119.3	-17.8	-0.1	13.9	2.00	1.17	15.21
1,160.0	6.75	188.46	1,159.1	-22.3	-0.5	17.7	2.00	1.29	13.54
1,200.0	7.32	193.08	1,198.8	-27.1	-1.4	22.0	2.00	1.42	11.55
1,240.0	7.92	197.02	1,238.4	-32.2	-2.8	26.8	2.00	1.52	9.84
1,280.0	8.56	200.38	1,278.0	-37.7	-4.7	32.2	2.00	1.60	8.42
1,320.0	9.22	203.28	1,317.5	-43.4	-7.0	38.1	2.00	1.66	7.24
1,360.0	9.91	205.78	1,357.0	-49.4	-9.7	44.5	2.00	1.71	6.26
1,400.0	10.61	207.96	1,396.3	-55.8	-13.0	51.5	2.00	1.75	5.45
1,440.0	11.32	209.87	1,435.6	-62.5	-16.6	59.0	2.00	1.78	4.78
1,480.0	12.04	211.56	1,474.8	-69.4	-20.8	67.0	2.00	1.81	4.22
1,520.0	12.78	213.06	1,513.8	-76.7	-25.4	75.5	2.00	1.83	3.74
1,560.0	13.52	214.39	1,552.8	-84.2	-30.4	84.6	2.00	1.85	3.34
1,600.0	14.26	215.59	1,591.6	-92.1	-35.9	94.2	2.00	1.87	3.00
1,640.0	15.01	216.67	1,630.3	-100.3	-41.9	104.3	2.00	1.88	2.70
1,680.0	15.77	217.65	1,668.9	-108.7	-48.3	114.9	2.00	1.89	2.45
1,720.0	16.53	218.55	1,707.3	-117.5	-55.2	126.0	2.00	1.90	2.23
1,760.0	17.30	219.36	1,745.6	-126.5	-62.5	137.6	2.00	1.91	2.04
1,800.0	18.06	220.11	1,783.7	-135.9	-70.3	149.8	2.00	1.92	1.87
1,816.2	18.37	220.40	1,799.1	-139.7	-73.5	154.9	2.00	1.92	1.77
1,840.0	18.37	220.40	1,821.7	-145.5	-78.4	162.4	0.00	0.00	0.00
1,880.0	18.37	220.40	1,859.6	-155.1	-86.6	175.0	0.00	0.00	0.00
1,920.0	18.37	220.40	1,897.6	-164.7	-94.7	187.6	0.00	0.00	0.00
1,960.0	18.37	220.40	1,935.5	-174.3	-102.9	200.2	0.00	0.00	0.00
2,000.0	18.37	220.40	1,973.5	-183.9	-111.1	212.8	0.00	0.00	0.00
2,040.0	18.37	220.40	2,011.5	-193.5	-119.3	225.4	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well IGO Farms J28-32D
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 J28-32D	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)
2,080.0	18.37	220.40	2,049.4	-203.1	-127.4	238.0	0.00	0.00	0.00
2,120.0	18.37	220.40	2,087.4	-212.7	-135.6	250.6	0.00	0.00	0.00
2,160.0	18.37	220.40	2,125.4	-222.3	-143.8	263.2	0.00	0.00	0.00
2,200.0	18.37	220.40	2,163.3	-231.9	-151.9	275.8	0.00	0.00	0.00
2,240.0	18.37	220.40	2,201.3	-241.5	-160.1	288.4	0.00	0.00	0.00
2,280.0	18.37	220.40	2,239.2	-251.1	-168.3	301.0	0.00	0.00	0.00
2,320.0	18.37	220.40	2,277.2	-260.7	-176.5	313.6	0.00	0.00	0.00
2,360.0	18.37	220.40	2,315.2	-270.3	-184.6	326.2	0.00	0.00	0.00
2,400.0	18.37	220.40	2,353.1	-279.9	-192.8	338.8	0.00	0.00	0.00
2,440.0	18.37	220.40	2,391.1	-289.5	-201.0	351.4	0.00	0.00	0.00
2,480.0	18.37	220.40	2,429.0	-299.1	-209.2	364.0	0.00	0.00	0.00
2,520.0	18.37	220.40	2,467.0	-308.7	-217.3	376.6	0.00	0.00	0.00
2,560.0	18.37	220.40	2,505.0	-318.3	-225.5	389.3	0.00	0.00	0.00
2,600.0	18.37	220.40	2,542.9	-327.9	-233.7	401.9	0.00	0.00	0.00
2,640.0	18.37	220.40	2,580.9	-337.5	-241.8	414.5	0.00	0.00	0.00
2,680.0	18.37	220.40	2,618.8	-347.1	-250.0	427.1	0.00	0.00	0.00
2,720.0	18.37	220.40	2,656.8	-356.7	-258.2	439.7	0.00	0.00	0.00
2,760.0	18.37	220.40	2,694.8	-366.3	-266.4	452.3	0.00	0.00	0.00
2,800.0	18.37	220.40	2,732.7	-375.9	-274.5	464.9	0.00	0.00	0.00
2,840.0	18.37	220.40	2,770.7	-385.5	-282.7	477.5	0.00	0.00	0.00
2,880.0	18.37	220.40	2,808.6	-395.1	-290.9	490.1	0.00	0.00	0.00
2,920.0	18.37	220.40	2,846.6	-404.7	-299.0	502.7	0.00	0.00	0.00
2,960.0	18.37	220.40	2,884.6	-414.3	-307.2	515.3	0.00	0.00	0.00
3,000.0	18.37	220.40	2,922.5	-423.9	-315.4	527.9	0.00	0.00	0.00
3,040.0	18.37	220.40	2,960.5	-433.5	-323.6	540.5	0.00	0.00	0.00
3,080.0	18.37	220.40	2,998.4	-443.1	-331.7	553.1	0.00	0.00	0.00
3,120.0	18.37	220.40	3,036.4	-452.7	-339.9	565.7	0.00	0.00	0.00
3,160.0	18.37	220.40	3,074.4	-462.3	-348.1	578.3	0.00	0.00	0.00
3,200.0	18.37	220.40	3,112.3	-471.9	-356.2	590.9	0.00	0.00	0.00
3,240.0	18.37	220.40	3,150.3	-481.5	-364.4	603.5	0.00	0.00	0.00
3,280.0	18.37	220.40	3,188.3	-491.1	-372.6	616.2	0.00	0.00	0.00
3,320.0	18.37	220.40	3,226.2	-500.7	-380.8	628.8	0.00	0.00	0.00
3,360.0	18.37	220.40	3,264.2	-510.3	-388.9	641.4	0.00	0.00	0.00
3,400.0	18.37	220.40	3,302.1	-519.9	-397.1	654.0	0.00	0.00	0.00
3,440.0	18.37	220.40	3,340.1	-529.6	-405.3	666.6	0.00	0.00	0.00
3,480.0	18.37	220.40	3,378.1	-539.2	-413.4	679.2	0.00	0.00	0.00
3,520.0	18.37	220.40	3,416.0	-548.8	-421.6	691.8	0.00	0.00	0.00
3,560.0	18.37	220.40	3,454.0	-558.4	-429.8	704.4	0.00	0.00	0.00
3,600.0	18.37	220.40	3,491.9	-568.0	-438.0	717.0	0.00	0.00	0.00
3,640.0	18.37	220.40	3,529.9	-577.6	-446.1	729.6	0.00	0.00	0.00
3,680.0	18.37	220.40	3,567.9	-587.2	-454.3	742.2	0.00	0.00	0.00
3,720.0	18.37	220.40	3,605.8	-596.8	-462.5	754.8	0.00	0.00	0.00
3,760.0	18.37	220.40	3,643.8	-606.4	-470.6	767.4	0.00	0.00	0.00
3,800.0	18.37	220.40	3,681.7	-616.0	-478.8	780.0	0.00	0.00	0.00
3,840.0	18.37	220.40	3,719.7	-625.6	-487.0	792.6	0.00	0.00	0.00
3,880.0	18.37	220.40	3,757.7	-635.2	-495.2	805.2	0.00	0.00	0.00
3,920.0	18.37	220.40	3,795.6	-644.8	-503.3	817.8	0.00	0.00	0.00
3,960.0	18.37	220.40	3,833.6	-654.4	-511.5	830.4	0.00	0.00	0.00
4,000.0	18.37	220.40	3,871.5	-664.0	-519.7	843.0	0.00	0.00	0.00
4,040.0	18.37	220.40	3,909.5	-673.6	-527.8	855.7	0.00	0.00	0.00
4,080.0	18.37	220.40	3,947.5	-683.2	-536.0	868.3	0.00	0.00	0.00
4,120.0	18.37	220.40	3,985.4	-692.8	-544.2	880.9	0.00	0.00	0.00
4,160.0	18.37	220.40	4,023.4	-702.4	-552.4	893.5	0.00	0.00	0.00
4,200.0	18.37	220.40	4,061.3	-712.0	-560.5	906.1	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.28-T5N-R66W
 Site: IGO Farms Pad Sec.28-T5N-R66W
 Well: IGO Farms J28-32D
 Wellbore: Wellbore #1
 Design: Plan #1 (07-06-09)

Local Co-ordinate Reference: Well IGO Farms J28-32D
 TVD Reference: WELL @ 4889.0ft (Original Well Elev)
 MD Reference: WELL @ 4889.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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)
4,240.0	18.37	220.40	4,099.3	-721.6	-568.7	918.7	0.00	0.00	0.00
4,280.0	18.37	220.40	4,137.3	-731.2	-576.9	931.3	0.00	0.00	0.00
4,320.0	18.37	220.40	4,175.2	-740.8	-585.1	943.9	0.00	0.00	0.00
4,360.0	18.37	220.40	4,213.2	-750.4	-593.2	956.5	0.00	0.00	0.00
4,400.0	18.37	220.40	4,251.2	-760.0	-601.4	969.1	0.00	0.00	0.00
4,440.0	18.37	220.40	4,289.1	-769.6	-609.6	981.7	0.00	0.00	0.00
4,480.0	18.37	220.40	4,327.1	-779.2	-617.7	994.3	0.00	0.00	0.00
4,520.0	18.37	220.40	4,365.0	-788.8	-625.9	1,006.9	0.00	0.00	0.00
4,560.0	18.37	220.40	4,403.0	-798.4	-634.1	1,019.5	0.00	0.00	0.00
4,600.0	18.37	220.40	4,441.0	-808.0	-642.3	1,032.1	0.00	0.00	0.00
4,640.0	18.37	220.40	4,478.9	-817.6	-650.4	1,044.7	0.00	0.00	0.00
4,680.0	18.37	220.40	4,516.9	-827.2	-658.6	1,057.3	0.00	0.00	0.00
4,720.0	18.37	220.40	4,554.8	-836.8	-666.8	1,069.9	0.00	0.00	0.00
4,760.0	18.37	220.40	4,592.8	-846.4	-674.9	1,082.6	0.00	0.00	0.00
4,800.0	18.37	220.40	4,630.8	-856.0	-683.1	1,095.2	0.00	0.00	0.00
4,840.0	18.37	220.40	4,668.7	-865.6	-691.3	1,107.8	0.00	0.00	0.00
4,880.0	18.37	220.40	4,706.7	-875.2	-699.5	1,120.4	0.00	0.00	0.00
4,920.0	18.37	220.40	4,744.6	-884.8	-707.6	1,133.0	0.00	0.00	0.00
4,960.0	18.37	220.40	4,782.6	-894.4	-715.8	1,145.6	0.00	0.00	0.00
5,000.0	18.37	220.40	4,820.6	-904.1	-724.0	1,158.2	0.00	0.00	0.00
5,040.0	18.37	220.40	4,858.5	-913.7	-732.1	1,170.8	0.00	0.00	0.00
5,080.0	18.37	220.40	4,896.5	-923.3	-740.3	1,183.4	0.00	0.00	0.00
5,120.0	18.37	220.40	4,934.4	-932.9	-748.5	1,196.0	0.00	0.00	0.00
5,160.0	18.37	220.40	4,972.4	-942.5	-756.7	1,208.6	0.00	0.00	0.00
5,200.0	18.37	220.40	5,010.4	-952.1	-764.8	1,221.2	0.00	0.00	0.00
5,240.0	18.37	220.40	5,048.3	-961.7	-773.0	1,233.8	0.00	0.00	0.00
5,280.0	18.37	220.40	5,086.3	-971.3	-781.2	1,246.4	0.00	0.00	0.00
5,320.0	18.37	220.40	5,124.2	-980.9	-789.3	1,259.0	0.00	0.00	0.00
5,360.0	18.37	220.40	5,162.2	-990.5	-797.5	1,271.6	0.00	0.00	0.00
5,400.0	18.37	220.40	5,200.2	-1,000.1	-805.7	1,284.2	0.00	0.00	0.00
5,440.0	18.37	220.40	5,238.1	-1,009.7	-813.9	1,296.8	0.00	0.00	0.00
5,480.0	18.37	220.40	5,276.1	-1,019.3	-822.0	1,309.4	0.00	0.00	0.00
5,520.0	18.37	220.40	5,296.9	-1,024.6	-826.5	1,316.4	0.00	0.00	0.00
5,520.0	18.01	220.40	5,314.1	-1,028.8	-830.2	1,322.0	2.00	-2.00	0.00
5,560.0	17.21	220.40	5,352.2	-1,038.1	-838.0	1,334.1	2.00	-2.00	0.00
5,600.0	16.41	220.40	5,390.5	-1,046.9	-845.5	1,345.7	2.00	-2.00	0.00
5,640.0	15.61	220.40	5,428.9	-1,055.3	-852.7	1,356.7	2.00	-2.00	0.00
5,680.0	14.81	220.40	5,467.5	-1,063.3	-859.5	1,367.2	2.00	-2.00	0.00
5,720.0	14.01	220.40	5,506.3	-1,070.9	-865.9	1,377.1	2.00	-2.00	0.00
5,760.0	13.21	220.40	5,545.1	-1,078.0	-872.0	1,386.6	2.00	-2.00	0.00
5,800.0	12.41	220.40	5,584.1	-1,084.8	-877.8	1,395.4	2.00	-2.00	0.00
5,840.0	11.61	220.40	5,623.3	-1,091.1	-883.2	1,403.8	2.00	-2.00	0.00
5,880.0	10.81	220.40	5,662.5	-1,097.0	-888.2	1,411.5	2.00	-2.00	0.00
5,920.0	10.01	220.40	5,701.8	-1,102.5	-892.9	1,418.8	2.00	-2.00	0.00
5,960.0	9.21	220.40	5,741.3	-1,107.6	-897.2	1,425.4	2.00	-2.00	0.00
6,000.0	8.41	220.40	5,780.8	-1,112.3	-901.2	1,431.6	2.00	-2.00	0.00
6,040.0	7.61	220.40	5,820.4	-1,116.6	-904.8	1,437.1	2.00	-2.00	0.00
6,080.0	6.81	220.40	5,860.1	-1,120.4	-908.1	1,442.2	2.00	-2.00	0.00
6,120.0	6.01	220.40	5,899.9	-1,123.8	-911.0	1,446.6	2.00	-2.00	0.00
6,160.0	5.21	220.40	5,939.7	-1,126.8	-913.5	1,450.5	2.00	-2.00	0.00
6,200.0	4.41	220.40	5,979.5	-1,129.3	-915.7	1,453.9	2.00	-2.00	0.00
6,240.0	3.61	220.40	6,019.4	-1,131.4	-917.5	1,456.7	2.00	-2.00	0.00
6,280.0	2.81	220.40	6,059.4	-1,133.2	-918.9	1,458.9	2.00	-2.00	0.00
6,320.0	2.01	220.40	6,099.3	-1,134.4	-920.0	1,460.6	2.00	-2.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well IGO Farms J28-32D
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 J28-32D	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)
6,360.0	1.21	220.40	6,139.3	-1,135.3	-920.8	1,461.7	2.00	-2.00	0.00
6,400.0	0.41	220.40	6,179.3	-1,135.7	-921.1	1,462.3	2.00	-2.00	0.00
6,420.7	0.00	0.00	6,200.0	-1,135.8	-921.2	1,462.4	2.00	-2.00	0.00
TARGET BHL 2555'FNL, 75'FWL									
6,440.0	0.00	0.00	6,219.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,480.0	0.00	0.00	6,259.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,520.0	0.00	0.00	6,299.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,560.0	0.00	0.00	6,339.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,379.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,640.0	0.00	0.00	6,419.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,680.0	0.00	0.00	6,459.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,720.0	0.00	0.00	6,499.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,760.0	0.00	0.00	6,539.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,800.0	0.00	0.00	6,579.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,840.0	0.00	0.00	6,619.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,880.0	0.00	0.00	6,659.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,920.0	0.00	0.00	6,699.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
6,960.0	0.00	0.00	6,739.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,779.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,040.0	0.00	0.00	6,819.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,080.0	0.00	0.00	6,859.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,120.0	0.00	0.00	6,899.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,160.0	0.00	0.00	6,939.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,200.0	0.00	0.00	6,979.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,209.7	0.00	0.00	6,989.0	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
NIOBRARA									
7,240.0	0.00	0.00	7,019.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,280.0	0.00	0.00	7,059.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,320.0	0.00	0.00	7,099.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,360.0	0.00	0.00	7,139.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,400.0	0.00	0.00	7,179.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,440.0	0.00	0.00	7,219.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,480.0	0.00	0.00	7,259.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,520.0	0.00	0.00	7,299.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,549.7	0.00	0.00	7,329.0	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
CODELL									
7,560.0	0.00	0.00	7,339.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,600.0	0.00	0.00	7,379.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,640.0	0.00	0.00	7,419.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,680.0	0.00	0.00	7,459.3	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
7,699.7	0.00	0.00	7,479.0	-1,135.8	-921.2	1,462.4	0.00	0.00	0.00
HARDLINES 78'S & 75'W OF BHL									

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well IGO Farms J28-32D
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 J28-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (07-06-09)		

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 BHL 2555'F	0.00	0.00	6,200.0	-1,135.8	-921.2	1,378,678.34	3,196,787.51	40° 22' 14.600 N	104° 47' 37.413 W
- plan hits target center									
- Point									
HARDLINES 78'S & 7	0.00	0.00	7,479.0	-1,213.8	-996.2	1,378,599.73	3,196,713.12	40° 22' 13.829 N	104° 47' 38.383 W
- plan misses target center by 108.2ft at 7699.7ft MD (7479.0 TVD, -1135.8 N, -921.2 E)									
- Polygon									
Point 1			7,479.0	0.0	0.0	1,378,599.73	3,196,713.12		
Point 2			7,479.0	0.0	200.0	1,378,601.33	3,196,913.10		
Point 3			7,479.0	0.0	0.0	1,378,599.73	3,196,713.12		
Point 4			7,479.0	200.0	0.0	1,378,799.71	3,196,711.52		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,209.7	6,989.0	NIOBRARA		0.00	
7,549.7	7,329.0	CODELL		0.00	