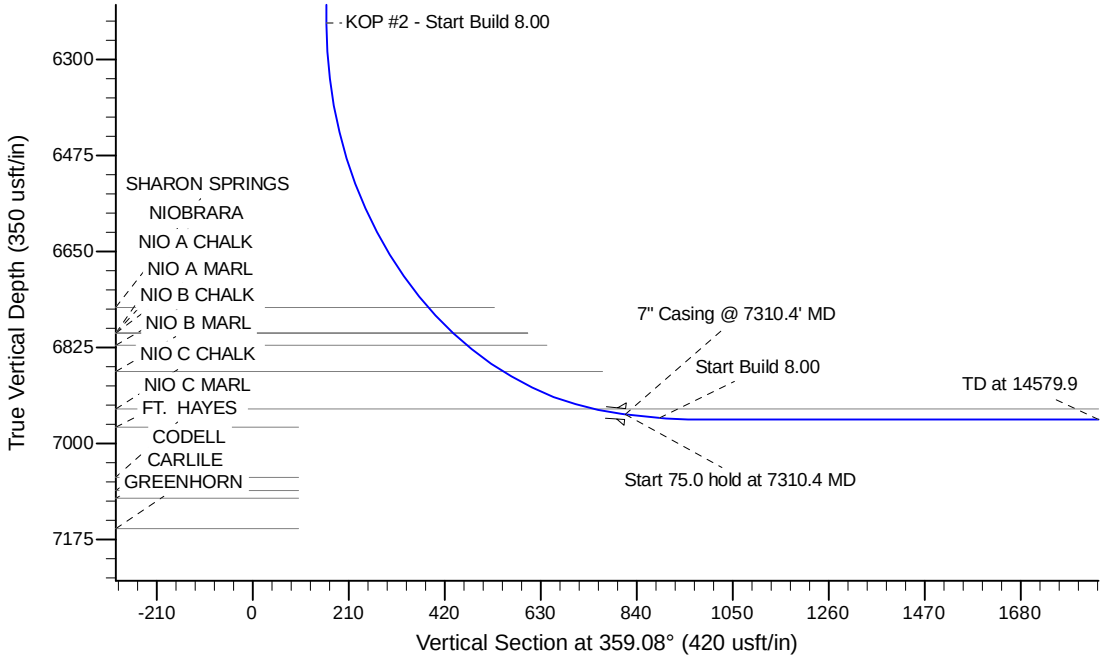
Project: Wattenberg Field
Site: Y (Sec.10-T02N-R64W) Weld County, CO
Well: Oscar Y10-76HN
Wellbore: Original Drilling
Design: APD - Rev 2

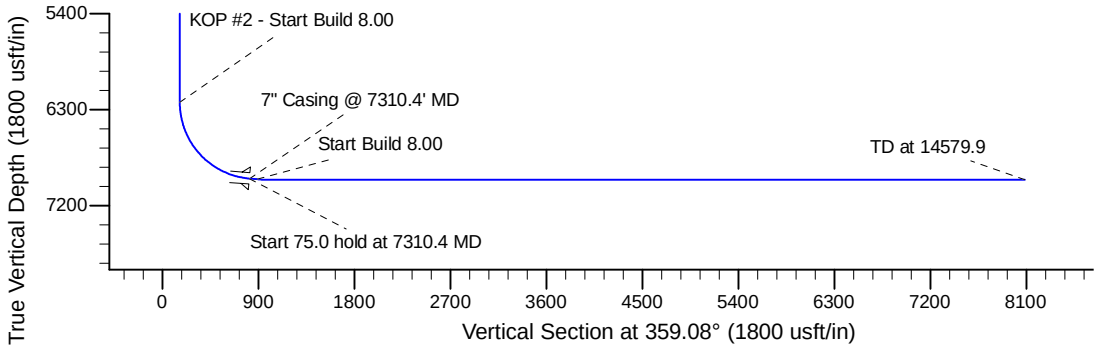
Northern Region Drilling - Working

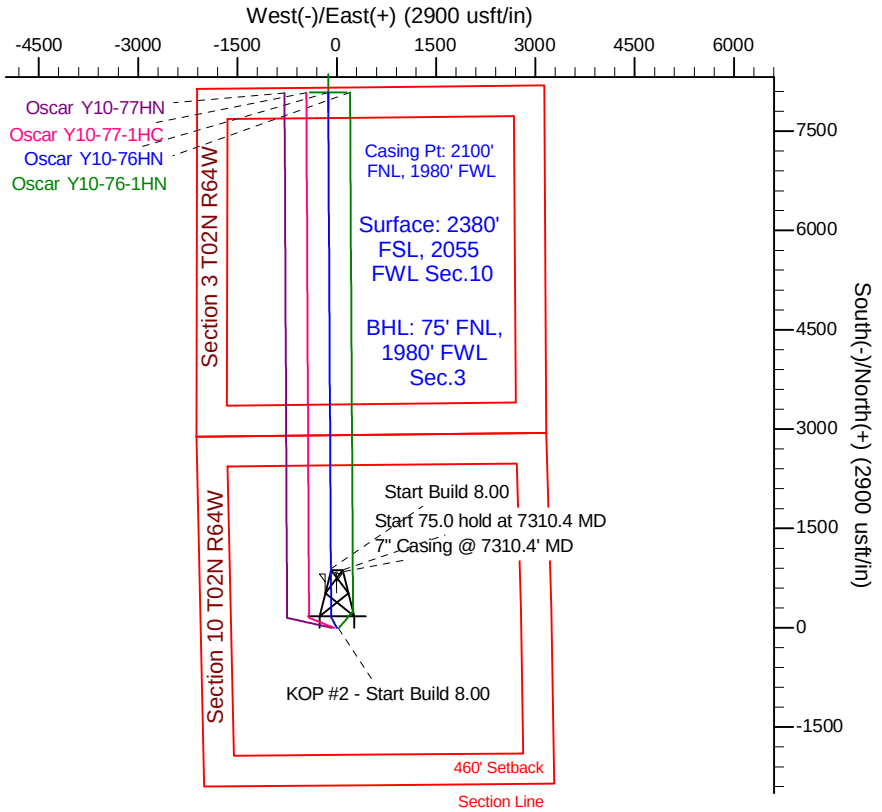
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1800.0	0.00	0.00	1800.0	0.0	0.0	0.00	0.00	0.0	
3	2401.3	12.03	332.02	2396.9	55.5	-29.5	2.00	332.02	56.0	
4	2667.4	12.03	332.02	2657.1	104.5	-55.5	0.00	0.00	105.4	
5	3268.6	0.00	0.00	3254.0	160.0	-85.0	2.00	180.00	161.3	
6	6247.9	0.00	0.00	6233.3	160.0	-85.0	0.00	0.00	161.3	
7	7310.4	85.00	359.68	6946.7	813.8	-88.7	8.00	359.68	815.1	
8	7385.4	85.00	359.68	6953.3	888.5	-89.1	0.00	0.00	889.8	
9	7447.9	90.00	359.68	6956.0	950.9	-89.4	8.00	0.00	952.2	
10	14579.9	90.00	359.68	6956.0	8082.8	-129.5	0.00	0.00	8083.9	Oscar Y10-76HN BHL 75'FNL, 1980'FWL







Azimuths to Grid North
True North: -0.62°
Magnetic North: 7.81°

Magnetic Field
Strength: 52854.5snT
Dip Angle: 66.83°
Date: 4/23/2013
Model: IGRF200510

WELL DETAILS: Oscar Y10-76HN

Ground Level:4929.0

		Northing	Easting	Latittude	Longitude
0.0	0.0	1299757.76	3268420.08	40.152240	-104.539720

Plan: APD - Rev 2 (Oscar Y10-76HN/Original Drilling)

Created By: Shailey Jewell Date: 15:01, October 16 2013

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region Drilling - Working

Wattenberg Field
Y (02N-64W)
Oscar Y10-76HN

Original Drilling

Plan: APD - Rev 2

Standard Planning Report

16 October, 2013

Database:	EDM Production	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
Company:	Northern Region Drilling - Working	**TVD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Project:	Wattenberg Field	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site:	Y (02N-64W)	**North Reference:**	Grid
Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 2		

Project	Wattenberg Field, Weld County CO		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Y (02N-64W)				
Site Position:		**Northing:**	1,294,473.45 usft	**Latitude:**	40.137940
From:	Lat/Long	**Easting:**	3,261,420.12 usft	**Longitude:**	-104.564960
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.60 °

Well	Oscar Y10-76HN				
Well Position	**+N/-S**	5,284.5 usft	**Northing:**	1,299,757.76 usft	**Latitude:**	40.152240
	+E/-W	7,000.2 usft	**Easting:**	3,268,420.08 usft	**Longitude:**	-104.539720
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	4,929.0 usft

Wellbore	Original Drilling			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	4/23/2013	8.42	66.83	52,855

Design	APD - Rev 2			
Audit Notes:				
Version:	**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.0	0.0	0.0	359.08

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,401.3	12.03	332.02	2,396.9	55.5	-29.5	2.00	2.00	0.00	332.02	
2,667.4	12.03	332.02	2,657.1	104.5	-55.5	0.00	0.00	0.00	0.00	
3,268.6	0.00	0.00	3,254.0	160.0	-85.0	2.00	-2.00	0.00	180.00	
6,247.9	0.00	0.00	6,233.3	160.0	-85.0	0.00	0.00	0.00	0.00	
7,310.4	85.00	359.68	6,946.7	813.8	-88.7	8.00	8.00	0.00	359.68	
7,385.4	85.00	359.68	6,953.3	888.5	-89.1	0.00	0.00	0.00	0.00	
7,447.9	90.00	359.68	6,956.0	950.9	-89.4	8.00	8.00	0.00	0.00	
14,579.9	90.00	359.68	6,956.0	8,082.8	-129.5	0.00	0.00	0.00	0.00	Oscar Y10-76HN BHL

Database:	EDM Production	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
Company:	Northern Region Drilling - Working	**TVD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Project:	Wattenberg Field	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site:	Y (02N-64W)	**North Reference:**	Grid
Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
50.0	0.00	0.00	50.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
150.0	0.00	0.00	150.0	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
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	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
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
550.0	0.00	0.00	550.0	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
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	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
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
950.0	0.00	0.00	950.0	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
1,050.0	0.00	0.00	1,050.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,150.0	0.00	0.00	1,150.0	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
1,250.0	0.00	0.00	1,250.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,350.0	0.00	0.00	1,350.0	0.0	0.0	0.0	0.00	0.00	0.00
1,372.0	0.00	0.00	1,372.0	0.0	0.0	0.0	0.00	0.00	0.00
PIERRE									
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,450.0	0.00	0.00	1,450.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,550.0	0.00	0.00	1,550.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,650.0	0.00	0.00	1,650.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,750.0	0.00	0.00	1,750.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.00									
1,850.0	1.00	332.02	1,850.0	0.4	-0.2	0.4	2.00	2.00	0.00
1,900.0	2.00	332.02	1,900.0	1.5	-0.8	1.6	2.00	2.00	0.00
1,950.0	3.00	332.02	1,949.9	3.5	-1.8	3.5	2.00	2.00	0.00
2,000.0	4.00	332.02	1,999.8	6.2	-3.3	6.2	2.00	2.00	0.00
2,050.0	5.00	332.02	2,049.7	9.6	-5.1	9.7	2.00	2.00	0.00
2,100.0	6.00	332.02	2,099.5	13.9	-7.4	14.0	2.00	2.00	0.00
2,150.0	7.00	332.02	2,149.1	18.9	-10.0	19.0	2.00	2.00	0.00
2,200.0	8.00	332.02	2,198.7	24.6	-13.1	24.8	2.00	2.00	0.00
2,250.0	9.00	332.02	2,248.2	31.1	-16.5	31.4	2.00	2.00	0.00
2,300.0	10.00	332.02	2,297.5	38.4	-20.4	38.8	2.00	2.00	0.00
2,350.0	11.00	332.02	2,346.6	46.5	-24.7	46.9	2.00	2.00	0.00
2,400.0	12.00	332.02	2,395.6	55.3	-29.4	55.7	2.00	2.00	0.00
2,401.3	12.03	332.02	2,396.9	55.5	-29.5	56.0	2.00	2.00	0.00
2,450.0	12.03	332.02	2,444.5	64.5	-34.3	65.0	0.00	0.00	0.00

Database:	EDM Production	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
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Project:	Wattenberg Field	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site:	Y (02N-64W)	**North Reference:**	Grid
Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,500.0	12.03	332.02	2,493.4	73.7	-39.1	74.3	0.00	0.00	0.00
2,550.0	12.03	332.02	2,542.3	82.9	-44.0	83.6	0.00	0.00	0.00
2,600.0	12.03	332.02	2,591.2	92.1	-48.9	92.9	0.00	0.00	0.00
2,650.0	12.03	332.02	2,640.1	101.3	-53.8	102.1	0.00	0.00	0.00
2,667.4	12.03	332.02	2,657.2	104.5	-55.5	105.4	0.00	0.00	0.00
Start Drop -2.00									
2,700.0	11.37	332.02	2,689.1	110.3	-58.6	111.2	2.00	-2.00	0.00
2,750.0	10.37	332.02	2,738.2	118.7	-63.0	119.6	2.00	-2.00	0.00
2,800.0	9.37	332.02	2,787.4	126.2	-67.1	127.3	2.00	-2.00	0.00
2,850.0	8.37	332.02	2,836.8	133.0	-70.7	134.1	2.00	-2.00	0.00
2,900.0	7.37	332.02	2,886.4	139.1	-73.9	140.2	2.00	-2.00	0.00
2,950.0	6.37	332.02	2,936.0	144.4	-76.7	145.6	2.00	-2.00	0.00
3,000.0	5.37	332.02	2,985.7	148.9	-79.1	150.1	2.00	-2.00	0.00
3,050.0	4.37	332.02	3,035.6	152.6	-81.1	153.9	2.00	-2.00	0.00
3,100.0	3.37	332.02	3,085.4	155.6	-82.7	156.9	2.00	-2.00	0.00
3,150.0	2.37	332.02	3,135.4	157.8	-83.8	159.2	2.00	-2.00	0.00
3,200.0	1.37	332.02	3,185.4	159.3	-84.6	160.6	2.00	-2.00	0.00
3,250.0	0.37	332.02	3,235.4	159.9	-85.0	161.3	2.00	-2.00	0.00
3,268.6	0.00	0.00	3,254.0	160.0	-85.0	161.3	2.00	-2.00	0.00
3,300.0	0.00	0.00	3,285.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,350.0	0.00	0.00	3,335.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,400.0	0.00	0.00	3,385.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,450.0	0.00	0.00	3,435.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,500.0	0.00	0.00	3,485.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,550.0	0.00	0.00	3,535.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,600.0	0.00	0.00	3,585.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,650.0	0.00	0.00	3,635.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,700.0	0.00	0.00	3,685.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,750.0	0.00	0.00	3,735.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,800.0	0.00	0.00	3,785.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,850.0	0.00	0.00	3,835.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,900.0	0.00	0.00	3,885.4	160.0	-85.0	161.3	0.00	0.00	0.00
3,934.6	0.00	0.00	3,920.0	160.0	-85.0	161.3	0.00	0.00	0.00
PARKMAN									
3,950.0	0.00	0.00	3,935.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,000.0	0.00	0.00	3,985.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,050.0	0.00	0.00	4,035.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,100.0	0.00	0.00	4,085.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,150.0	0.00	0.00	4,135.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,200.0	0.00	0.00	4,185.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,250.0	0.00	0.00	4,235.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,270.6	0.00	0.00	4,256.0	160.0	-85.0	161.3	0.00	0.00	0.00
SUSSEX									
4,300.0	0.00	0.00	4,285.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,350.0	0.00	0.00	4,335.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,400.0	0.00	0.00	4,385.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,450.0	0.00	0.00	4,435.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,500.0	0.00	0.00	4,485.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,550.0	0.00	0.00	4,535.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,600.0	0.00	0.00	4,585.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,650.0	0.00	0.00	4,635.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,700.0	0.00	0.00	4,685.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,750.0	0.00	0.00	4,735.4	160.0	-85.0	161.3	0.00	0.00	0.00

Database:	EDM Production	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
Company:	Northern Region Drilling - Working	**TVD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Project:	Wattenberg Field	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site:	Y (02N-64W)	**North Reference:**	Grid
Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.0	0.00	0.00	4,785.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,850.0	0.00	0.00	4,835.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,900.0	0.00	0.00	4,885.4	160.0	-85.0	161.3	0.00	0.00	0.00
4,950.0	0.00	0.00	4,935.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,000.0	0.00	0.00	4,985.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,050.0	0.00	0.00	5,035.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,068.6	0.00	0.00	5,054.0	160.0	-85.0	161.3	0.00	0.00	0.00
SHANNON									
5,100.0	0.00	0.00	5,085.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,150.0	0.00	0.00	5,135.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,200.0	0.00	0.00	5,185.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,250.0	0.00	0.00	5,235.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,300.0	0.00	0.00	5,285.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,350.0	0.00	0.00	5,335.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,400.0	0.00	0.00	5,385.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,450.0	0.00	0.00	5,435.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,500.0	0.00	0.00	5,485.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,550.0	0.00	0.00	5,535.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,585.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,650.0	0.00	0.00	5,635.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,700.0	0.00	0.00	5,685.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,750.0	0.00	0.00	5,735.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,785.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,850.0	0.00	0.00	5,835.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,900.0	0.00	0.00	5,885.4	160.0	-85.0	161.3	0.00	0.00	0.00
5,950.0	0.00	0.00	5,935.4	160.0	-85.0	161.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,985.4	160.0	-85.0	161.3	0.00	0.00	0.00
6,050.0	0.00	0.00	6,035.4	160.0	-85.0	161.3	0.00	0.00	0.00
6,076.6	0.00	0.00	6,062.0	160.0	-85.0	161.3	0.00	0.00	0.00
TEEPEE BUTTES									
6,100.0	0.00	0.00	6,085.4	160.0	-85.0	161.3	0.00	0.00	0.00
6,150.0	0.00	0.00	6,135.4	160.0	-85.0	161.3	0.00	0.00	0.00
6,200.0	0.00	0.00	6,185.4	160.0	-85.0	161.3	0.00	0.00	0.00
6,247.9	0.00	0.00	6,233.3	160.0	-85.0	161.3	0.00	0.00	0.00
KOP #2 - Start Build 8.00									
6,250.0	0.17	359.68	6,235.4	160.0	-85.0	161.3	7.94	7.94	0.00
6,300.0	4.17	359.68	6,285.3	161.9	-85.0	163.2	8.00	8.00	0.00
6,350.0	8.17	359.68	6,335.0	167.3	-85.0	168.6	8.00	8.00	0.00
6,400.0	12.17	359.68	6,384.2	176.1	-85.1	177.4	8.00	8.00	0.00
6,450.0	16.17	359.68	6,432.7	188.3	-85.2	189.7	8.00	8.00	0.00
6,500.0	20.17	359.68	6,480.2	203.9	-85.2	205.2	8.00	8.00	0.00
6,550.0	24.17	359.68	6,526.5	222.8	-85.4	224.1	8.00	8.00	0.00
6,600.0	28.17	359.68	6,571.3	244.8	-85.5	246.2	8.00	8.00	0.00
6,650.0	32.17	359.68	6,614.6	269.9	-85.6	271.3	8.00	8.00	0.00
6,700.0	36.17	359.68	6,655.9	298.0	-85.8	299.3	8.00	8.00	0.00
6,750.0	40.17	359.68	6,695.2	328.9	-85.9	330.2	8.00	8.00	0.00
6,800.0	44.17	359.68	6,732.3	362.5	-86.1	363.8	8.00	8.00	0.00
6,828.0	46.41	359.68	6,752.0	382.4	-86.2	383.7	8.00	8.00	0.00
SHARON SPRINGS									
6,850.0	48.17	359.68	6,766.9	398.5	-86.3	399.8	8.00	8.00	0.00
6,900.0	52.17	359.68	6,798.9	436.9	-86.6	438.2	8.00	8.00	0.00
6,900.1	52.17	359.68	6,799.0	437.0	-86.6	438.3	0.00	0.00	0.00
NIOBRARA - NIO A CHALK - NIO A MARL									

Database:	EDM Production	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
Company:	Northern Region Drilling - Working	**TVD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Project:	Wattenberg Field	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site:	Y (02N-64W)	**North Reference:**	Grid
Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,937.3	55.15	359.68	6,821.0	466.9	-86.7	468.2	8.03	8.03	0.00
NIO B CHALK									
6,950.0	56.17	359.68	6,828.2	477.4	-86.8	478.8	8.00	8.00	0.00
7,000.0	60.17	359.68	6,854.6	519.9	-87.0	521.2	8.00	8.00	0.00
7,030.2	62.58	359.68	6,869.0	546.4	-87.2	547.7	8.00	8.00	0.00
NIO B MARL									
7,050.0	64.17	359.68	6,877.9	564.1	-87.3	565.4	8.00	8.00	0.00
7,100.0	68.17	359.68	6,898.1	609.8	-87.5	611.2	8.00	8.00	0.00
7,150.0	72.17	359.68	6,915.1	656.9	-87.8	658.2	8.00	8.00	0.00
7,200.0	76.17	359.68	6,928.7	704.9	-88.1	706.3	8.00	8.00	0.00
7,239.1	79.30	359.68	6,937.0	743.2	-88.3	744.5	8.00	8.00	0.00
NIO C CHALK									
7,250.0	80.17	359.68	6,938.9	753.9	-88.3	755.2	8.00	8.00	0.00
7,300.0	84.17	359.68	6,945.8	803.4	-88.6	804.7	8.00	8.00	0.00
7,310.4	85.00	359.68	6,946.7	813.8	-88.7	815.1	8.00	8.00	0.00
Start 75.0 hold at 7310.4 MD - 7" Casing @ 7310.4' MD									
7,350.0	85.00	359.68	6,950.2	853.2	-88.9	854.5	0.00	0.00	0.00
7,385.4	85.00	359.68	6,953.3	888.5	-89.1	889.8	0.00	0.00	0.00
Start Build 8.00									
7,400.0	86.17	359.68	6,954.4	903.0	-89.2	904.3	7.99	7.99	0.00
7,447.9	90.00	359.68	6,956.0	950.9	-89.4	952.2	8.00	8.00	0.00
7,450.0	90.00	359.68	6,956.0	953.0	-89.4	954.3	0.00	0.00	0.00
7,500.0	90.00	359.68	6,956.0	1,003.0	-89.7	1,004.3	0.00	0.00	0.00
7,550.0	90.00	359.68	6,956.0	1,053.0	-90.0	1,054.3	0.00	0.00	0.00
7,600.0	90.00	359.68	6,956.0	1,103.0	-90.3	1,104.3	0.00	0.00	0.00
7,650.0	90.00	359.68	6,956.0	1,153.0	-90.6	1,154.3	0.00	0.00	0.00
7,700.0	90.00	359.68	6,956.0	1,203.0	-90.9	1,204.3	0.00	0.00	0.00
7,750.0	90.00	359.68	6,956.0	1,253.0	-91.1	1,254.3	0.00	0.00	0.00
7,800.0	90.00	359.68	6,956.0	1,303.0	-91.4	1,304.3	0.00	0.00	0.00
7,850.0	90.00	359.68	6,956.0	1,353.0	-91.7	1,354.3	0.00	0.00	0.00
7,900.0	90.00	359.68	6,956.0	1,403.0	-92.0	1,404.3	0.00	0.00	0.00
7,950.0	90.00	359.68	6,956.0	1,453.0	-92.3	1,454.3	0.00	0.00	0.00
8,000.0	90.00	359.68	6,956.0	1,503.0	-92.5	1,504.3	0.00	0.00	0.00
8,050.0	90.00	359.68	6,956.0	1,553.0	-92.8	1,554.3	0.00	0.00	0.00
8,100.0	90.00	359.68	6,956.0	1,603.0	-93.1	1,604.3	0.00	0.00	0.00
8,150.0	90.00	359.68	6,956.0	1,653.0	-93.4	1,654.3	0.00	0.00	0.00
8,200.0	90.00	359.68	6,956.0	1,703.0	-93.7	1,704.3	0.00	0.00	0.00
8,250.0	90.00	359.68	6,956.0	1,753.0	-93.9	1,754.3	0.00	0.00	0.00
8,300.0	90.00	359.68	6,956.0	1,803.0	-94.2	1,804.2	0.00	0.00	0.00
8,350.0	90.00	359.68	6,956.0	1,853.0	-94.5	1,854.2	0.00	0.00	0.00
8,400.0	90.00	359.68	6,956.0	1,903.0	-94.8	1,904.2	0.00	0.00	0.00
8,450.0	90.00	359.68	6,956.0	1,953.0	-95.1	1,954.2	0.00	0.00	0.00
8,500.0	90.00	359.68	6,956.0	2,003.0	-95.3	2,004.2	0.00	0.00	0.00
8,550.0	90.00	359.68	6,956.0	2,053.0	-95.6	2,054.2	0.00	0.00	0.00
8,600.0	90.00	359.68	6,956.0	2,103.0	-95.9	2,104.2	0.00	0.00	0.00
8,650.0	90.00	359.68	6,956.0	2,153.0	-96.2	2,154.2	0.00	0.00	0.00
8,700.0	90.00	359.68	6,956.0	2,203.0	-96.5	2,204.2	0.00	0.00	0.00
8,750.0	90.00	359.68	6,956.0	2,253.0	-96.7	2,254.2	0.00	0.00	0.00
8,800.0	90.00	359.68	6,956.0	2,303.0	-97.0	2,304.2	0.00	0.00	0.00
8,850.0	90.00	359.68	6,956.0	2,353.0	-97.3	2,354.2	0.00	0.00	0.00
8,900.0	90.00	359.68	6,956.0	2,403.0	-97.6	2,404.2	0.00	0.00	0.00
8,950.0	90.00	359.68	6,956.0	2,453.0	-97.9	2,454.2	0.00	0.00	0.00
9,000.0	90.00	359.68	6,956.0	2,503.0	-98.1	2,504.2	0.00	0.00	0.00
9,050.0	90.00	359.68	6,956.0	2,553.0	-98.4	2,554.2	0.00	0.00	0.00

Database:	EDM Production	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
Company:	Northern Region Drilling - Working	**TVD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Project:	Wattenberg Field	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site:	Y (02N-64W)	**North Reference:**	Grid
Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,100.0	90.00	359.68	6,956.0	2,603.0	-98.7	2,604.2	0.00	0.00	0.00
9,150.0	90.00	359.68	6,956.0	2,653.0	-99.0	2,654.2	0.00	0.00	0.00
9,200.0	90.00	359.68	6,956.0	2,703.0	-99.3	2,704.2	0.00	0.00	0.00
9,250.0	90.00	359.68	6,956.0	2,753.0	-99.5	2,754.2	0.00	0.00	0.00
9,300.0	90.00	359.68	6,956.0	2,803.0	-99.8	2,804.2	0.00	0.00	0.00
9,350.0	90.00	359.68	6,956.0	2,853.0	-100.1	2,854.2	0.00	0.00	0.00
9,400.0	90.00	359.68	6,956.0	2,903.0	-100.4	2,904.2	0.00	0.00	0.00
9,450.0	90.00	359.68	6,956.0	2,953.0	-100.7	2,954.2	0.00	0.00	0.00
9,500.0	90.00	359.68	6,956.0	3,003.0	-101.0	3,004.2	0.00	0.00	0.00
9,550.0	90.00	359.68	6,956.0	3,053.0	-101.2	3,054.2	0.00	0.00	0.00
9,600.0	90.00	359.68	6,956.0	3,103.0	-101.5	3,104.2	0.00	0.00	0.00
9,650.0	90.00	359.68	6,956.0	3,152.9	-101.8	3,154.2	0.00	0.00	0.00
9,700.0	90.00	359.68	6,956.0	3,202.9	-102.1	3,204.2	0.00	0.00	0.00
9,750.0	90.00	359.68	6,956.0	3,252.9	-102.4	3,254.2	0.00	0.00	0.00
9,800.0	90.00	359.68	6,956.0	3,302.9	-102.6	3,304.2	0.00	0.00	0.00
9,850.0	90.00	359.68	6,956.0	3,352.9	-102.9	3,354.2	0.00	0.00	0.00
9,900.0	90.00	359.68	6,956.0	3,402.9	-103.2	3,404.2	0.00	0.00	0.00
9,950.0	90.00	359.68	6,956.0	3,452.9	-103.5	3,454.2	0.00	0.00	0.00
10,000.0	90.00	359.68	6,956.0	3,502.9	-103.8	3,504.2	0.00	0.00	0.00
10,050.0	90.00	359.68	6,956.0	3,552.9	-104.0	3,554.2	0.00	0.00	0.00
10,100.0	90.00	359.68	6,956.0	3,602.9	-104.3	3,604.2	0.00	0.00	0.00
10,150.0	90.00	359.68	6,956.0	3,652.9	-104.6	3,654.1	0.00	0.00	0.00
10,200.0	90.00	359.68	6,956.0	3,702.9	-104.9	3,704.1	0.00	0.00	0.00
10,250.0	90.00	359.68	6,956.0	3,752.9	-105.2	3,754.1	0.00	0.00	0.00
10,300.0	90.00	359.68	6,956.0	3,802.9	-105.4	3,804.1	0.00	0.00	0.00
10,350.0	90.00	359.68	6,956.0	3,852.9	-105.7	3,854.1	0.00	0.00	0.00
10,400.0	90.00	359.68	6,956.0	3,902.9	-106.0	3,904.1	0.00	0.00	0.00
10,450.0	90.00	359.68	6,956.0	3,952.9	-106.3	3,954.1	0.00	0.00	0.00
10,500.0	90.00	359.68	6,956.0	4,002.9	-106.6	4,004.1	0.00	0.00	0.00
10,550.0	90.00	359.68	6,956.0	4,052.9	-106.8	4,054.1	0.00	0.00	0.00
10,600.0	90.00	359.68	6,956.0	4,102.9	-107.1	4,104.1	0.00	0.00	0.00
10,650.0	90.00	359.68	6,956.0	4,152.9	-107.4	4,154.1	0.00	0.00	0.00
10,700.0	90.00	359.68	6,956.0	4,202.9	-107.7	4,204.1	0.00	0.00	0.00
10,750.0	90.00	359.68	6,956.0	4,252.9	-108.0	4,254.1	0.00	0.00	0.00
10,800.0	90.00	359.68	6,956.0	4,302.9	-108.2	4,304.1	0.00	0.00	0.00
10,850.0	90.00	359.68	6,956.0	4,352.9	-108.5	4,354.1	0.00	0.00	0.00
10,900.0	90.00	359.68	6,956.0	4,402.9	-108.8	4,404.1	0.00	0.00	0.00
10,950.0	90.00	359.68	6,956.0	4,452.9	-109.1	4,454.1	0.00	0.00	0.00
11,000.0	90.00	359.68	6,956.0	4,502.9	-109.4	4,504.1	0.00	0.00	0.00
11,050.0	90.00	359.68	6,956.0	4,552.9	-109.6	4,554.1	0.00	0.00	0.00
11,100.0	90.00	359.68	6,956.0	4,602.9	-109.9	4,604.1	0.00	0.00	0.00
11,150.0	90.00	359.68	6,956.0	4,652.9	-110.2	4,654.1	0.00	0.00	0.00
11,200.0	90.00	359.68	6,956.0	4,702.9	-110.5	4,704.1	0.00	0.00	0.00
11,250.0	90.00	359.68	6,956.0	4,752.9	-110.8	4,754.1	0.00	0.00	0.00
11,300.0	90.00	359.68	6,956.0	4,802.9	-111.1	4,804.1	0.00	0.00	0.00
11,350.0	90.00	359.68	6,956.0	4,852.9	-111.3	4,854.1	0.00	0.00	0.00
11,400.0	90.00	359.68	6,956.0	4,902.9	-111.6	4,904.1	0.00	0.00	0.00
11,450.0	90.00	359.68	6,956.0	4,952.9	-111.9	4,954.1	0.00	0.00	0.00
11,500.0	90.00	359.68	6,956.0	5,002.9	-112.2	5,004.1	0.00	0.00	0.00
11,550.0	90.00	359.68	6,956.0	5,052.9	-112.5	5,054.1	0.00	0.00	0.00
11,600.0	90.00	359.68	6,956.0	5,102.9	-112.7	5,104.1	0.00	0.00	0.00
11,650.0	90.00	359.68	6,956.0	5,152.9	-113.0	5,154.1	0.00	0.00	0.00
11,700.0	90.00	359.68	6,956.0	5,202.9	-113.3	5,204.1	0.00	0.00	0.00
11,750.0	90.00	359.68	6,956.0	5,252.9	-113.6	5,254.1	0.00	0.00	0.00

Database:	EDM Production	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
Company:	Northern Region Drilling - Working	**TVD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Project:	Wattenberg Field	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site:	Y (02N-64W)	**North Reference:**	Grid
Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,800.0	90.00	359.68	6,956.0	5,302.9	-113.9	5,304.1	0.00	0.00	0.00
11,850.0	90.00	359.68	6,956.0	5,352.9	-114.1	5,354.1	0.00	0.00	0.00
11,900.0	90.00	359.68	6,956.0	5,402.9	-114.4	5,404.1	0.00	0.00	0.00
11,950.0	90.00	359.68	6,956.0	5,452.9	-114.7	5,454.1	0.00	0.00	0.00
12,000.0	90.00	359.68	6,956.0	5,502.9	-115.0	5,504.0	0.00	0.00	0.00
12,050.0	90.00	359.68	6,956.0	5,552.9	-115.3	5,554.0	0.00	0.00	0.00
12,100.0	90.00	359.68	6,956.0	5,602.9	-115.5	5,604.0	0.00	0.00	0.00
12,150.0	90.00	359.68	6,956.0	5,652.9	-115.8	5,654.0	0.00	0.00	0.00
12,200.0	90.00	359.68	6,956.0	5,702.9	-116.1	5,704.0	0.00	0.00	0.00
12,250.0	90.00	359.68	6,956.0	5,752.9	-116.4	5,754.0	0.00	0.00	0.00
12,300.0	90.00	359.68	6,956.0	5,802.9	-116.7	5,804.0	0.00	0.00	0.00
12,350.0	90.00	359.68	6,956.0	5,852.9	-116.9	5,854.0	0.00	0.00	0.00
12,400.0	90.00	359.68	6,956.0	5,902.9	-117.2	5,904.0	0.00	0.00	0.00
12,450.0	90.00	359.68	6,956.0	5,952.9	-117.5	5,954.0	0.00	0.00	0.00
12,500.0	90.00	359.68	6,956.0	6,002.9	-117.8	6,004.0	0.00	0.00	0.00
12,550.0	90.00	359.68	6,956.0	6,052.9	-118.1	6,054.0	0.00	0.00	0.00
12,600.0	90.00	359.68	6,956.0	6,102.9	-118.3	6,104.0	0.00	0.00	0.00
12,650.0	90.00	359.68	6,956.0	6,152.9	-118.6	6,154.0	0.00	0.00	0.00
12,700.0	90.00	359.68	6,956.0	6,202.9	-118.9	6,204.0	0.00	0.00	0.00
12,750.0	90.00	359.68	6,956.0	6,252.9	-119.2	6,254.0	0.00	0.00	0.00
12,800.0	90.00	359.68	6,956.0	6,302.9	-119.5	6,304.0	0.00	0.00	0.00
12,850.0	90.00	359.68	6,956.0	6,352.9	-119.7	6,354.0	0.00	0.00	0.00
12,900.0	90.00	359.68	6,956.0	6,402.9	-120.0	6,404.0	0.00	0.00	0.00
12,950.0	90.00	359.68	6,956.0	6,452.9	-120.3	6,454.0	0.00	0.00	0.00
13,000.0	90.00	359.68	6,956.0	6,502.9	-120.6	6,504.0	0.00	0.00	0.00
13,050.0	90.00	359.68	6,956.0	6,552.9	-120.9	6,554.0	0.00	0.00	0.00
13,100.0	90.00	359.68	6,956.0	6,602.9	-121.2	6,604.0	0.00	0.00	0.00
13,150.0	90.00	359.68	6,956.0	6,652.9	-121.4	6,654.0	0.00	0.00	0.00
13,200.0	90.00	359.68	6,956.0	6,702.9	-121.7	6,704.0	0.00	0.00	0.00
13,250.0	90.00	359.68	6,956.0	6,752.9	-122.0	6,754.0	0.00	0.00	0.00
13,300.0	90.00	359.68	6,956.0	6,802.9	-122.3	6,804.0	0.00	0.00	0.00
13,350.0	90.00	359.68	6,956.0	6,852.9	-122.6	6,854.0	0.00	0.00	0.00
13,400.0	90.00	359.68	6,956.0	6,902.9	-122.8	6,904.0	0.00	0.00	0.00
13,450.0	90.00	359.68	6,956.0	6,952.9	-123.1	6,954.0	0.00	0.00	0.00
13,500.0	90.00	359.68	6,956.0	7,002.9	-123.4	7,004.0	0.00	0.00	0.00
13,550.0	90.00	359.68	6,956.0	7,052.9	-123.7	7,054.0	0.00	0.00	0.00
13,600.0	90.00	359.68	6,956.0	7,102.9	-124.0	7,104.0	0.00	0.00	0.00
13,650.0	90.00	359.68	6,956.0	7,152.9	-124.2	7,154.0	0.00	0.00	0.00
13,700.0	90.00	359.68	6,956.0	7,202.9	-124.5	7,204.0	0.00	0.00	0.00
13,750.0	90.00	359.68	6,956.0	7,252.9	-124.8	7,254.0	0.00	0.00	0.00
13,800.0	90.00	359.68	6,956.0	7,302.9	-125.1	7,304.0	0.00	0.00	0.00
13,850.0	90.00	359.68	6,956.0	7,352.9	-125.4	7,353.9	0.00	0.00	0.00
13,900.0	90.00	359.68	6,956.0	7,402.9	-125.6	7,403.9	0.00	0.00	0.00
13,950.0	90.00	359.68	6,956.0	7,452.9	-125.9	7,453.9	0.00	0.00	0.00
14,000.0	90.00	359.68	6,956.0	7,502.9	-126.2	7,503.9	0.00	0.00	0.00
14,050.0	90.00	359.68	6,956.0	7,552.9	-126.5	7,553.9	0.00	0.00	0.00
14,100.0	90.00	359.68	6,956.0	7,602.9	-126.8	7,603.9	0.00	0.00	0.00
14,150.0	90.00	359.68	6,956.0	7,652.9	-127.0	7,653.9	0.00	0.00	0.00
14,200.0	90.00	359.68	6,956.0	7,702.9	-127.3	7,703.9	0.00	0.00	0.00
14,250.0	90.00	359.68	6,956.0	7,752.9	-127.6	7,753.9	0.00	0.00	0.00
14,300.0	90.00	359.68	6,956.0	7,802.9	-127.9	7,803.9	0.00	0.00	0.00
14,350.0	90.00	359.68	6,956.0	7,852.9	-128.2	7,853.9	0.00	0.00	0.00
14,400.0	90.00	359.68	6,956.0	7,902.9	-128.4	7,903.9	0.00	0.00	0.00
14,450.0	90.00	359.68	6,956.0	7,952.9	-128.7	7,953.9	0.00	0.00	0.00

Database:	EDM Production	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
Company:	Northern Region Drilling - Working	**TVD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Project:	Wattenberg Field	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site:	Y (02N-64W)	**North Reference:**	Grid
Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,500.0	90.00	359.68	6,956.0	8,002.9	-129.0	8,003.9	0.00	0.00	0.00
14,550.0	90.00	359.68	6,956.0	8,052.9	-129.3	8,053.9	0.00	0.00	0.00
14,579.9	90.00	359.68	6,956.0	8,082.8	-129.5	8,083.8	0.00	0.00	0.00
TD at 14579.9 - Oscar Y10-76HN BHL 75'FNL, 1980'FWL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Oscar Y10-76HN BHL 7 - plan hits target center - Point	0.00	0.00	6,956.0	8,082.8	-129.5	1,307,840.24	3,268,290.64	40.174430	-104.539870

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
7,310.4	6,946.7	7" Casing @ 7310.4' MD	7	8-3/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,372.0	1,372.0	PIERRE		0.00	
3,934.6	3,920.0	PARKMAN		0.00	
4,270.6	4,256.0	SUSSEX		0.00	
5,068.6	5,054.0	SHANNON		0.00	
6,076.6	6,062.0	TEEPEE BUTTES		0.00	
6,828.0	6,752.0	SHARON SPRINGS		0.00	
6,900.1	6,799.0	NIOBRARA		0.00	
6,900.1	6,799.0	NIO A CHALK		0.00	
6,900.1	6,799.0	NIO A MARL		0.00	
6,937.3	6,821.0	NIO B CHALK		0.00	
7,030.2	6,869.0	NIO B MARL		0.00	
7,239.1	6,937.0	NIO C CHALK		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,800.0	1,800.0	0.0	0.0	KOP - Start Build 2.00
2,667.4	2,657.1	55.5	-29.5	Start Drop -2.00
6,247.9	6,233.3	104.5	-55.5	KOP #2 - Start Build 8.00
7,310.4	6,946.7	160.0	-85.0	Start 75.0 hold at 7310.4 MD
7,385.4	6,953.3	160.0	-85.0	Start Build 8.00
14,579.9	6,956.0	813.8	-88.7	TD at 14579.9

Northern Region Drilling - Working

Wattenberg Field
Y (02N-64W)
Oscar Y10-76HN

Original Drilling
APD - Rev 2

Anticollision Summary Report

16 October, 2013

Noble Energy Inc

Anticollision Summary Report

Company:	Northern Region Drilling - Working	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
Project:	Wattenberg Field	**TVD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Reference Site:	Y (02N-64W)	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Drilling	**Database:**	EDM Production
Reference Design:	APD - Rev 2	**Offset TVD Reference:**	Offset Datum

Reference	APD - Rev 2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 10/16/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	14,579.9	APD - Rev 2 (Original Drilling)	MWD	MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Y (02N-64W)						
Oscar Y10-76-1HN - Original Drilling - APD - Rev 2	1,500.0	1,499.0	36.3	29.9	5.608	CC, ES
Oscar Y10-76-1HN - Original Drilling - APD - Rev 2	14,579.9	14,420.8	340.5	39.4	1.131	Level 2, SF
Oscar Y10-77-1HC - Original Drilling - APD - Rev 2	1,200.0	1,197.0	39.1	34.0	7.628	CC, ES
Oscar Y10-77-1HC - Original Drilling - APD - Rev 2	14,579.9	14,757.3	360.2	73.4	1.256	Level 2, SF
Oscar Y10-77HN - Original Drilling - APD - Rev 2	1,000.0	998.0	75.5	71.3	17.914	CC, ES
Oscar Y10-77HN - Original Drilling - APD - Rev 2	14,579.9	14,677.7	659.9	350.5	2.133	SF

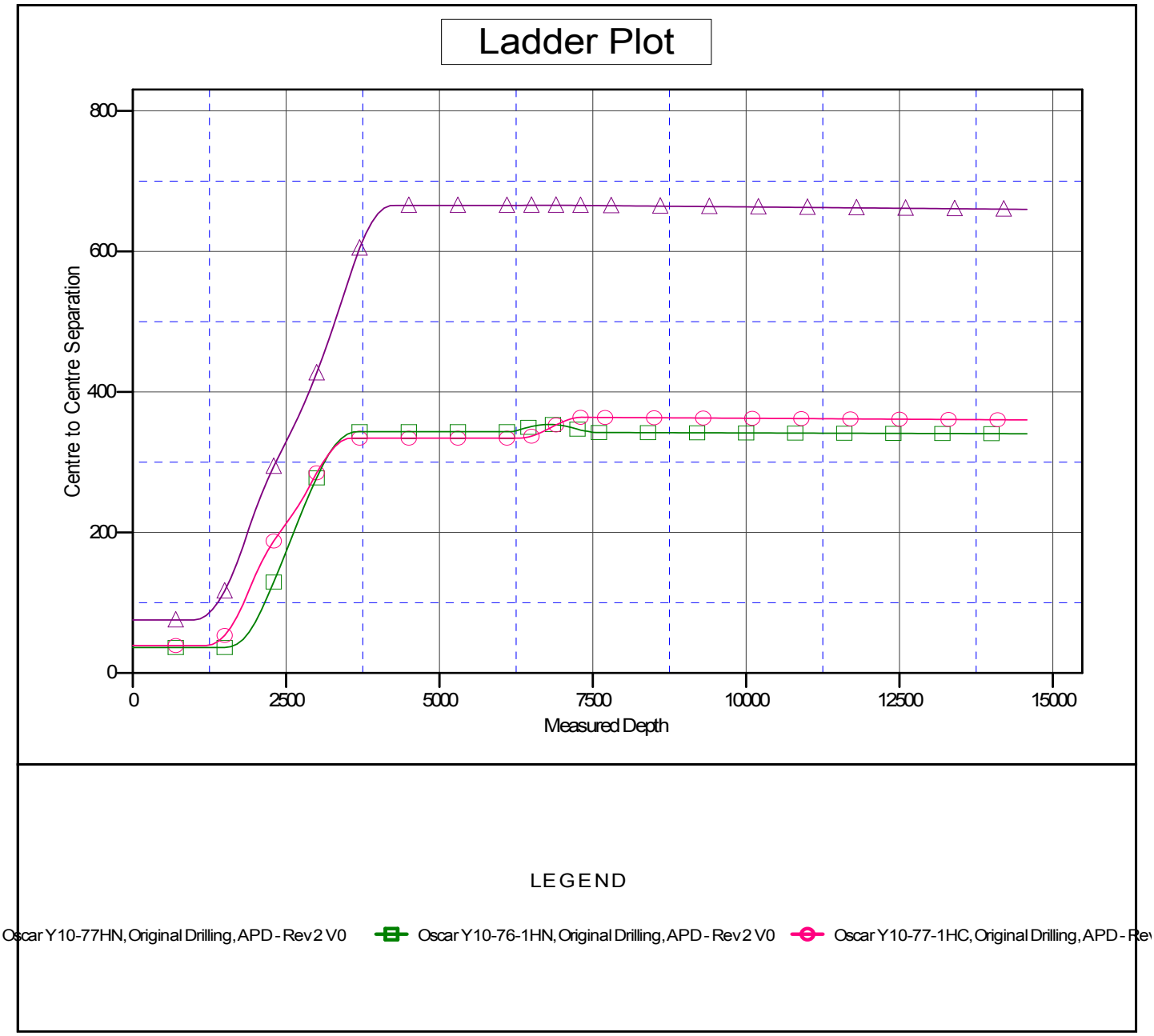
Noble Energy Inc

Anticollision Summary Report

Company:	Northern Region Drilling - Working	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
Project:	Wattenberg Field	**TVD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Reference Site:	Y (02N-64W)	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Drilling	**Database:**	EDM Production
Reference Design:	APD - Rev 2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4945.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Oscar Y10-76HN
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.62°



Noble Energy Inc

Anticollision Summary Report

Company:	Northern Region Drilling - Working	**Local Co-ordinate Reference:**	Well Oscar Y10-76HN
Project:	Wattenberg Field	**TVD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Reference Site:	Y (02N-64W)	**MD Reference:**	WELL @ 4945.0usft (Original Well Elev.)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Oscar Y10-76HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Original Drilling	**Database:**	EDM Production
Reference Design:	APD - Rev 2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4945.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Oscar Y10-76HN
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.62°