



Weld County, CO (NAD 83)

Sec 10, T02N-R64W (Oscar Y10 Pad)

Oscar Y10-79HN

ST01 Plan #1

HP 330



WELL DETAILS: Oscar Y10-79HN

Ground Level: 4943.0					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1299745.13	3266913.47	40° 9' 8.100 N	104° 32' 42.396 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
7439.0	86.60	359.80	6950.0	907.9	-503.5	0.00	0.00	938.8	
7499.0	88.75	0.62	6952.4	967.8	-503.3	3.83	20.88	998.6	
7701.3	86.00	353.00	6961.7	1169.5	-514.5	4.00	-110.01	1200.6	
8150.6	91.50	0.11	6971.5	1617.4	-541.5	2.00	52.39	1649.3	
8450.6	91.50	0.11	6963.7	1917.2	-540.9	0.00	0.00	1948.5	
8540.5	89.70	0.12	6962.7	2007.2	-540.7	2.00	179.82	2038.2	
14608.0	89.70	0.12	6994.4	8074.5	-528.5	0.00	0.00	8091.8	PBHL Pln #2 Oscar Y10-79HN

CASING DETAILS

TVD	MD	Name	Size
6944.1	7352.0	Actual 7"	7

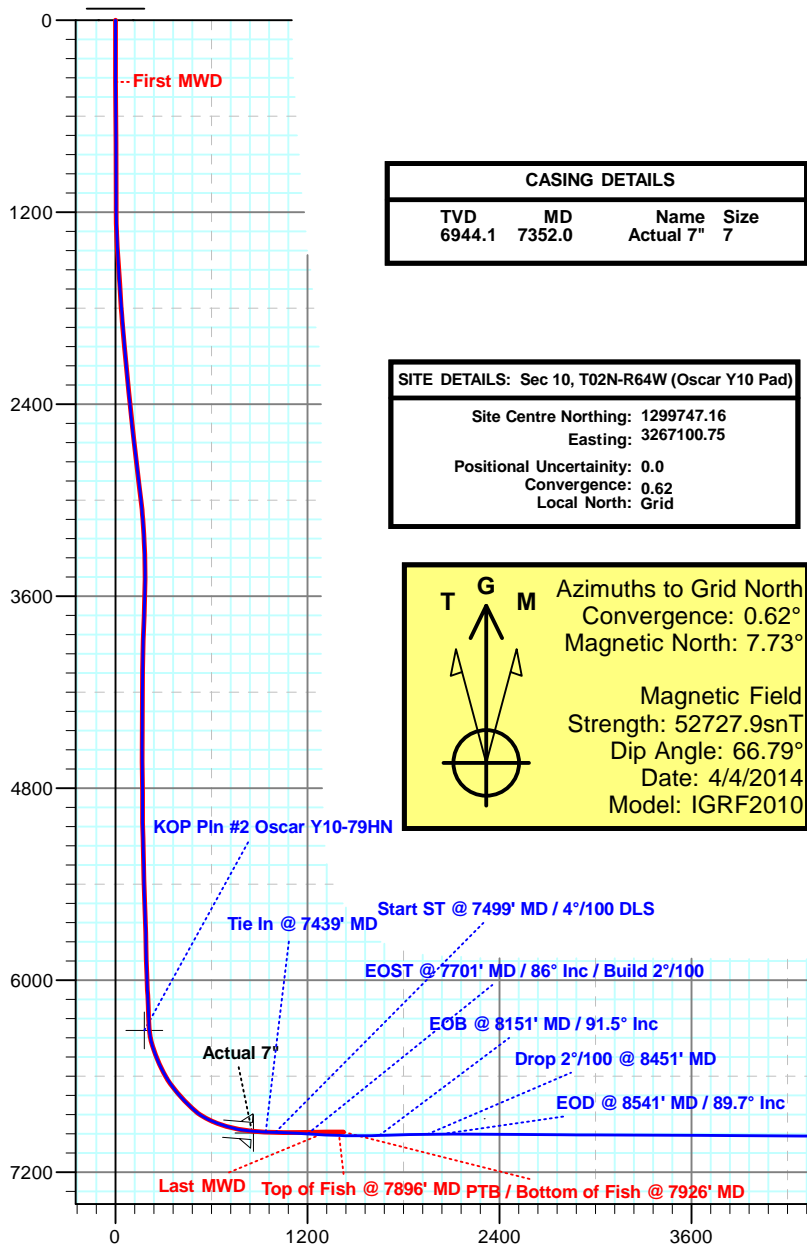
SITE DETAILS: Sec 10, T02N-R64W (Oscar Y10 Pad)

Site Centre Northing: 1299747.16
Easting: 3267100.75
Positional Uncertainty: 0.0
Convergence: 0.62
Local North: Grid

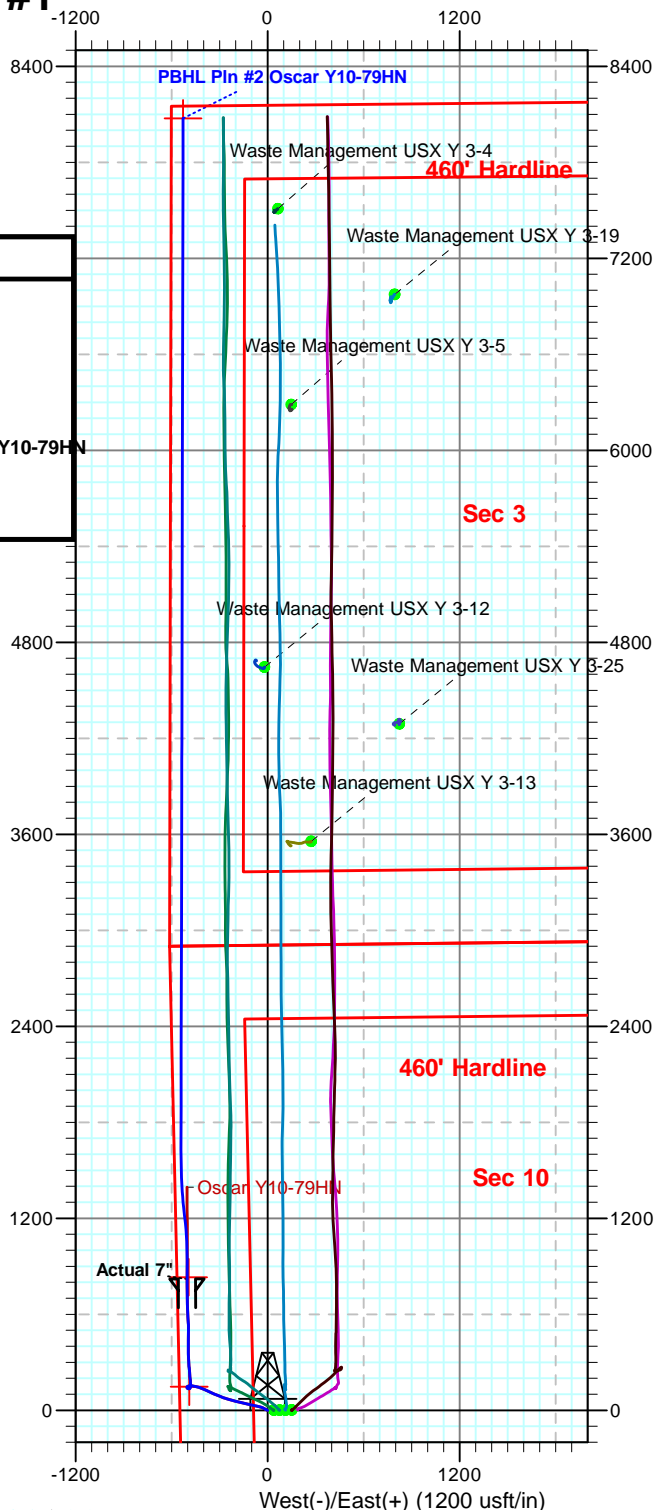


Azimuths to Grid North
Convergence: 0.62°
Magnetic North: 7.73°

Magnetic Field
Strength: 52727.9snT
Dip Angle: 66.79°
Date: 4/4/2014
Model: IGRF2010

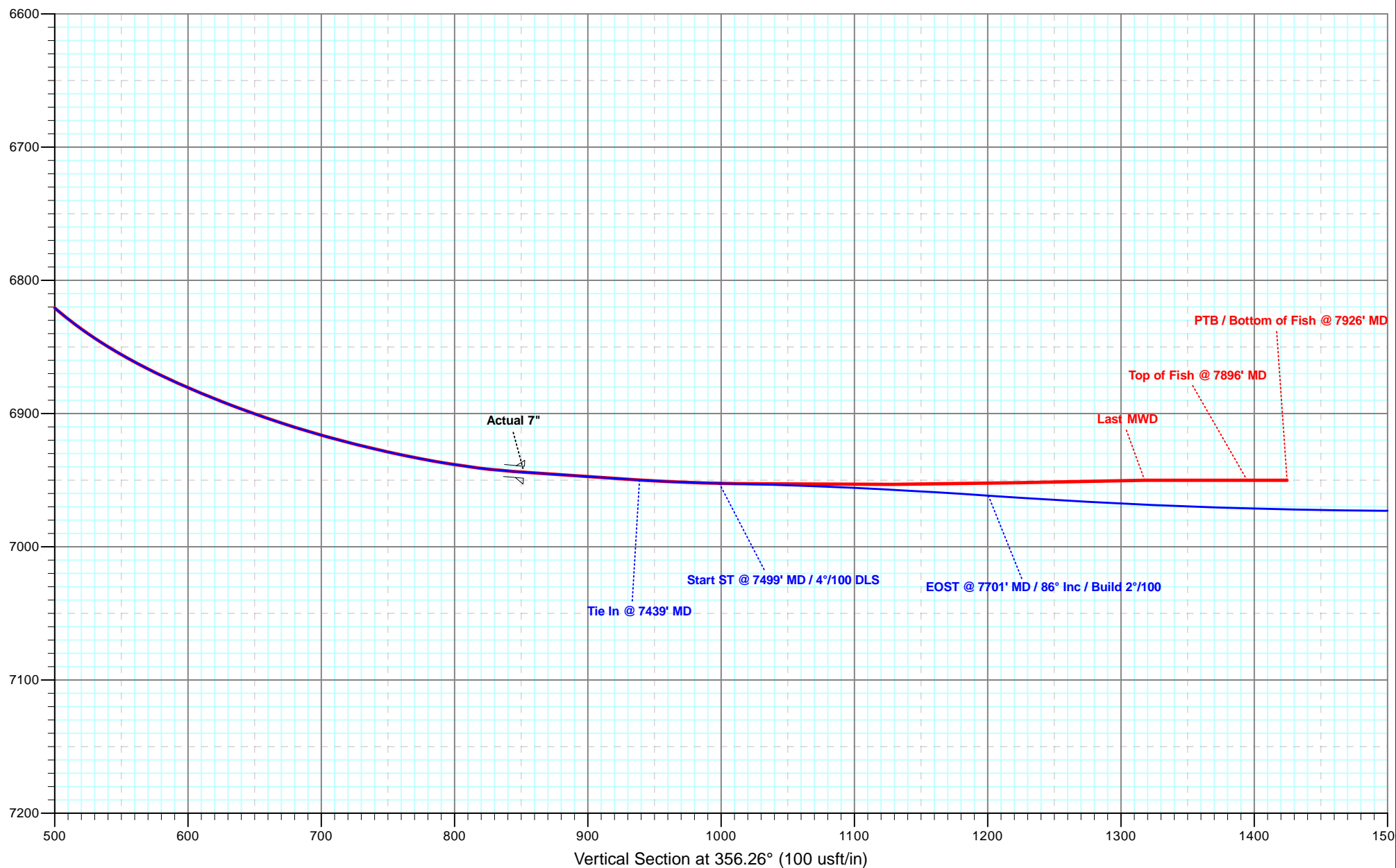


Vertical Section at 356.26° (1200 usft/in)



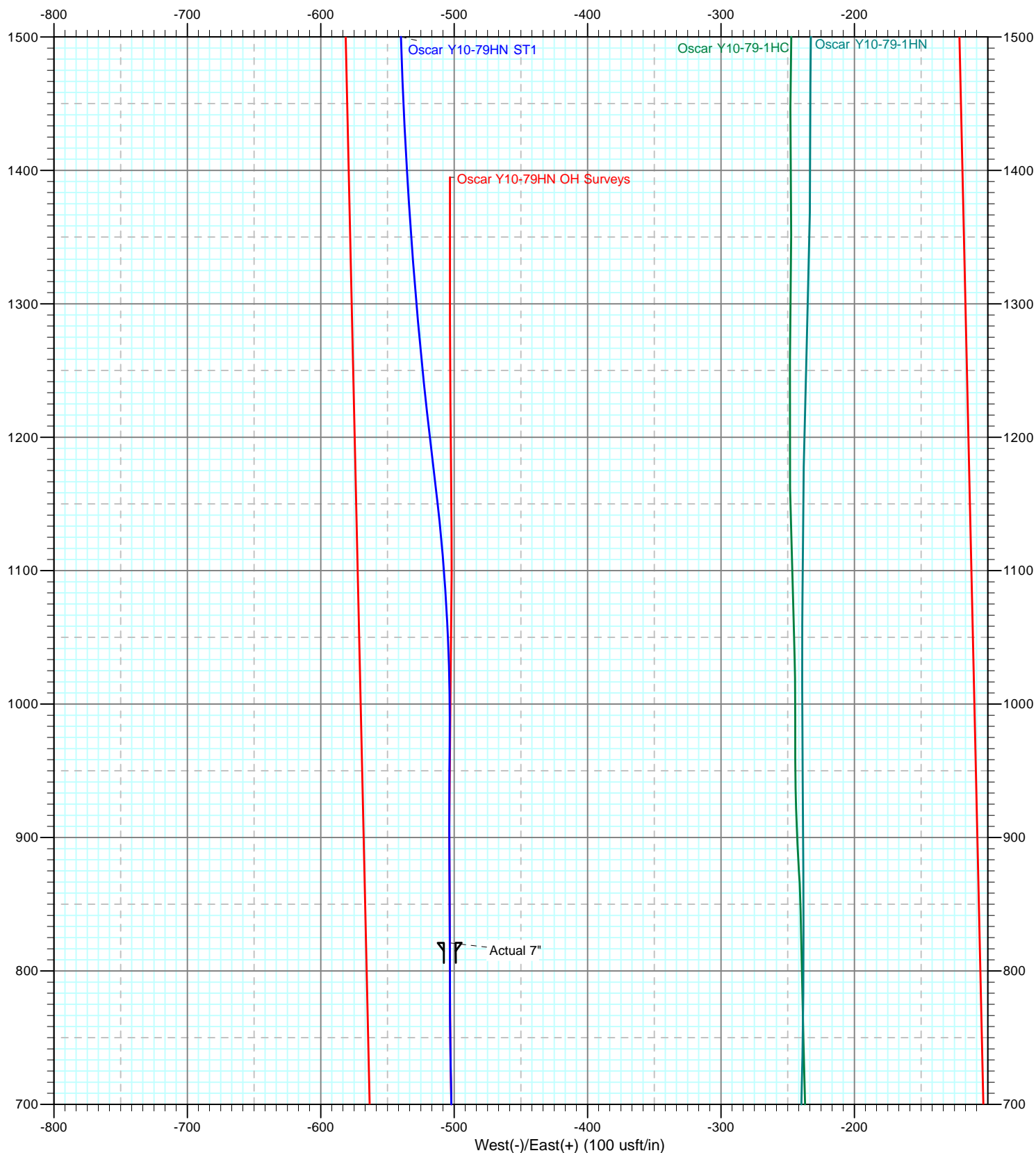


Weld County, CO (NAD 83)
Sec 10, T02N-R64W (Oscar Y10 Pad)
Oscar Y10-79HN
ST01 Plan #1
HP 330





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Noble Energy, Inc

**Weld County, CO (NAD 83)
Sec 10, T02N-R64W (Oscar Y10 Pad)
Oscar Y10-79HN**

ST01

Plan: Plan #1

Standard Planning Report

04 April, 2014





IDS Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Oscar Y10-79HN
Company:	Noble Energy, Inc	TVD Reference:	Well @ 4973.0usft (HP 330)
Project:	Weld County, CO (NAD 83)	MD Reference:	Well @ 4973.0usft (HP 330)
Site:	Sec 10, T02N-R64W (Oscar Y10 Pad)	North Reference:	Grid
Well:	Oscar Y10-79HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	Plan #1		

Project	Weld County, CO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site						Sec 10, T02N-R64W (Oscar Y10 Pad)											
Site Position:						Northing:			1,299,747.15 usft			Latitude:			40° 9' 8.100 N		
From:			Lat/Long			Easting:			3,267,100.75 usft			Longitude:			104° 32' 39.984 W		
Position Uncertainty:			0.0 usft			Slot Radius:			13-3/16 "			Grid Convergence:			0.62		

Well	Oscar Y10-79HN					
Well Position	+N/-S	-2.0 usft	Northing:	1,299,745.13 usft	Latitude:	40° 9' 8.100 N
	+E/-W	-187.3 usft	Easting:	3,266,913.48 usft	Longitude:	104° 32' 42.396 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	4,943.0 usft

Wellbore	ST01				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/4/2014	8.35	66.79	52,728

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	7,439.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	356.26	

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
7,439.0	86.60	359.80	6,950.0	907.9	-503.5	0.00	0.00	0.00	0.00	
7,499.0	88.75	0.62	6,952.4	967.8	-503.3	3.83	3.58	1.37	20.88	
7,701.3	86.00	353.00	6,961.7	1,169.5	-514.5	4.00	-1.36	-3.77	-110.01	
8,150.6	91.50	0.11	6,971.5	1,617.4	-541.5	2.00	1.22	1.58	52.39	
8,450.6	91.50	0.11	6,963.7	1,917.2	-540.9	0.00	0.00	0.00	0.00	
8,540.5	89.70	0.12	6,962.7	2,007.2	-540.7	2.00	-2.00	0.01	179.82	
14,608.0	89.70	0.12	6,994.4	8,074.5	-528.5	0.00	0.00	0.00	0.00	PBHL Pln #2 Oscar



IDS Planning Report



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Company:	Noble Energy, Inc	TVD Reference:	Well @ 4973.0usft (HP 330)
Project:	Weld County, CO (NAD 83)	MD Reference:	Well @ 4973.0usft (HP 330)
Site:	Sec 10, T02N-R64W (Oscar Y10 Pad)	North Reference:	Grid
Well:	Oscar Y10-79HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	Plan #1		

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)
7,439.0	86.60	359.80	6,950.0	907.9	-503.5	938.8	0.00	0.00	0.00
Tie In @ 7439' MD									
7,450.0	86.99	359.95	6,950.6	918.9	-503.6	949.8	3.83	3.58	1.37
7,499.0	88.75	0.62	6,952.4	967.8	-503.3	998.6	3.83	3.58	1.37
Start ST @ 7499' MD / 4°/100 DLS									
7,500.0	88.74	0.58	6,952.5	968.8	-503.3	999.6	4.00	-1.37	-3.76
7,550.0	88.05	358.70	6,953.9	1,018.8	-503.6	1,049.5	4.00	-1.37	-3.76
7,600.0	87.37	356.82	6,955.9	1,068.7	-505.6	1,099.5	4.00	-1.36	-3.76
7,650.0	86.69	354.94	6,958.4	1,118.5	-509.2	1,149.4	4.00	-1.36	-3.77
7,700.0	86.02	353.05	6,961.6	1,168.1	-514.4	1,199.2	4.00	-1.35	-3.77
7,701.3	86.00	353.00	6,961.7	1,169.5	-514.5	1,200.6	4.00	-1.35	-3.78
EOST @ 7701' MD / 86° Inc / Build 2°/100									
7,750.0	86.59	353.77	6,964.9	1,217.7	-520.1	1,249.1	2.00	1.22	1.59
7,800.0	87.21	354.57	6,967.6	1,267.4	-525.2	1,299.0	2.00	1.22	1.59
7,850.0	87.82	355.36	6,969.7	1,317.1	-529.6	1,348.9	2.00	1.22	1.58
7,900.0	88.43	356.15	6,971.4	1,367.0	-533.3	1,398.9	2.00	1.22	1.58
7,950.0	89.04	356.94	6,972.5	1,416.9	-536.3	1,448.9	2.00	1.22	1.58
8,000.0	89.65	357.73	6,973.0	1,466.8	-538.6	1,498.9	2.00	1.23	1.58
8,050.0	90.27	358.52	6,973.1	1,516.8	-540.3	1,548.8	2.00	1.23	1.58
8,100.0	90.88	359.31	6,972.6	1,566.8	-541.2	1,598.8	2.00	1.23	1.58
8,150.0	91.49	0.10	6,971.5	1,616.8	-541.5	1,648.7	2.00	1.23	1.58
8,150.6	91.50	0.11	6,971.5	1,617.4	-541.5	1,649.3	2.00	1.22	1.58
EOB @ 8151' MD / 91.5° Inc									
8,200.0	91.50	0.11	6,970.2	1,666.7	-541.4	1,698.5	0.00	0.00	0.00
8,250.0	91.50	0.11	6,968.9	1,716.7	-541.3	1,748.4	0.00	0.00	0.00
8,300.0	91.50	0.11	6,967.6	1,766.7	-541.2	1,798.3	0.00	0.00	0.00
8,350.0	91.50	0.11	6,966.3	1,816.7	-541.1	1,848.1	0.00	0.00	0.00
8,400.0	91.50	0.11	6,965.0	1,866.7	-541.0	1,898.0	0.00	0.00	0.00
8,450.0	91.50	0.11	6,963.7	1,916.7	-540.9	1,947.9	0.00	0.00	0.00
8,450.6	91.50	0.11	6,963.7	1,917.2	-540.9	1,948.5	0.00	0.00	0.00
Drop 2°/100 @ 8451' MD									
8,500.0	90.51	0.11	6,962.8	1,966.6	-540.8	1,997.8	2.00	-2.00	0.01
8,540.5	89.70	0.12	6,962.7	2,007.2	-540.7	2,038.2	2.00	-2.00	0.01
EOD @ 8541' MD / 89.7° Inc									
8,550.0	89.70	0.12	6,962.8	2,016.6	-540.7	2,047.7	0.00	0.00	0.00
8,600.0	89.70	0.12	6,963.0	2,066.6	-540.6	2,097.5	0.00	0.00	0.00
8,650.0	89.70	0.12	6,963.3	2,116.6	-540.5	2,147.4	0.00	0.00	0.00
8,700.0	89.70	0.12	6,963.6	2,166.6	-540.4	2,197.3	0.00	0.00	0.00
8,750.0	89.70	0.12	6,963.8	2,216.6	-540.3	2,247.2	0.00	0.00	0.00
8,800.0	89.70	0.12	6,964.1	2,266.6	-540.2	2,297.1	0.00	0.00	0.00
8,850.0	89.70	0.12	6,964.3	2,316.6	-540.1	2,347.0	0.00	0.00	0.00
8,900.0	89.70	0.12	6,964.6	2,366.6	-540.0	2,396.9	0.00	0.00	0.00
8,950.0	89.70	0.12	6,964.9	2,416.6	-539.9	2,446.7	0.00	0.00	0.00
9,000.0	89.70	0.12	6,965.1	2,466.6	-539.8	2,496.6	0.00	0.00	0.00
9,050.0	89.70	0.12	6,965.4	2,516.6	-539.7	2,546.5	0.00	0.00	0.00
9,100.0	89.70	0.12	6,965.6	2,566.6	-539.6	2,596.4	0.00	0.00	0.00
9,150.0	89.70	0.12	6,965.9	2,616.6	-539.5	2,646.3	0.00	0.00	0.00
9,200.0	89.70	0.12	6,966.2	2,666.6	-539.4	2,696.2	0.00	0.00	0.00
9,250.0	89.70	0.12	6,966.4	2,716.6	-539.3	2,746.1	0.00	0.00	0.00
9,300.0	89.70	0.12	6,966.7	2,766.6	-539.2	2,795.9	0.00	0.00	0.00
9,350.0	89.70	0.12	6,966.9	2,816.6	-539.1	2,845.8	0.00	0.00	0.00
9,400.0	89.70	0.12	6,967.2	2,866.6	-539.0	2,895.7	0.00	0.00	0.00
9,450.0	89.70	0.12	6,967.5	2,916.6	-538.9	2,945.6	0.00	0.00	0.00



IDS Planning Report



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Company:	Noble Energy, Inc	TVD Reference:	Well @ 4973.0usft (HP 330)
Project:	Weld County, CO (NAD 83)	MD Reference:	Well @ 4973.0usft (HP 330)
Site:	Sec 10, T02N-R64W (Oscar Y10 Pad)	North Reference:	Grid
Well:	Oscar Y10-79HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	Plan #1		

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)
9,500.0	89.70	0.12	6,967.7	2,966.6	-538.8	2,995.5	0.00	0.00	0.00
9,550.0	89.70	0.12	6,968.0	3,016.6	-538.7	3,045.4	0.00	0.00	0.00
9,600.0	89.70	0.12	6,968.2	3,066.6	-538.6	3,095.3	0.00	0.00	0.00
9,650.0	89.70	0.12	6,968.5	3,116.6	-538.5	3,145.1	0.00	0.00	0.00
9,700.0	89.70	0.12	6,968.8	3,166.6	-538.4	3,195.0	0.00	0.00	0.00
9,750.0	89.70	0.12	6,969.0	3,216.6	-538.3	3,244.9	0.00	0.00	0.00
9,800.0	89.70	0.12	6,969.3	3,266.6	-538.2	3,294.8	0.00	0.00	0.00
9,850.0	89.70	0.12	6,969.6	3,316.6	-538.1	3,344.7	0.00	0.00	0.00
9,900.0	89.70	0.12	6,969.8	3,366.6	-538.0	3,394.6	0.00	0.00	0.00
9,950.0	89.70	0.12	6,970.1	3,416.6	-537.9	3,444.5	0.00	0.00	0.00
10,000.0	89.70	0.12	6,970.3	3,466.6	-537.8	3,494.3	0.00	0.00	0.00
10,050.0	89.70	0.12	6,970.6	3,516.6	-537.7	3,544.2	0.00	0.00	0.00
10,100.0	89.70	0.12	6,970.9	3,566.6	-537.6	3,594.1	0.00	0.00	0.00
10,150.0	89.70	0.12	6,971.1	3,616.6	-537.5	3,644.0	0.00	0.00	0.00
10,200.0	89.70	0.12	6,971.4	3,666.6	-537.4	3,693.9	0.00	0.00	0.00
10,250.0	89.70	0.12	6,971.6	3,716.6	-537.3	3,743.8	0.00	0.00	0.00
10,255.8	89.70	0.12	6,971.7	3,722.4	-537.3	3,749.6	0.00	0.00	0.00
Top C Marl									
10,300.0	89.70	0.12	6,971.9	3,766.6	-537.2	3,793.7	0.00	0.00	0.00
10,350.0	89.70	0.12	6,972.2	3,816.6	-537.1	3,843.5	0.00	0.00	0.00
10,400.0	89.70	0.12	6,972.4	3,866.6	-537.0	3,893.4	0.00	0.00	0.00
10,450.0	89.70	0.12	6,972.7	3,916.6	-536.9	3,943.3	0.00	0.00	0.00
10,500.0	89.70	0.12	6,972.9	3,966.6	-536.8	3,993.2	0.00	0.00	0.00
10,550.0	89.70	0.12	6,973.2	4,016.6	-536.7	4,043.1	0.00	0.00	0.00
10,600.0	89.70	0.12	6,973.5	4,066.6	-536.6	4,093.0	0.00	0.00	0.00
10,650.0	89.70	0.12	6,973.7	4,116.6	-536.5	4,142.9	0.00	0.00	0.00
10,700.0	89.70	0.12	6,974.0	4,166.6	-536.4	4,192.7	0.00	0.00	0.00
10,750.0	89.70	0.12	6,974.2	4,216.6	-536.3	4,242.6	0.00	0.00	0.00
10,800.0	89.70	0.12	6,974.5	4,266.6	-536.2	4,292.5	0.00	0.00	0.00
10,850.0	89.70	0.12	6,974.8	4,316.6	-536.1	4,342.4	0.00	0.00	0.00
10,900.0	89.70	0.12	6,975.0	4,366.6	-536.0	4,392.3	0.00	0.00	0.00
10,950.0	89.70	0.12	6,975.3	4,416.6	-535.9	4,442.2	0.00	0.00	0.00
11,000.0	89.70	0.12	6,975.6	4,466.6	-535.8	4,492.1	0.00	0.00	0.00
11,050.0	89.70	0.12	6,975.8	4,516.6	-535.7	4,541.9	0.00	0.00	0.00
11,100.0	89.70	0.12	6,976.1	4,566.6	-535.6	4,591.8	0.00	0.00	0.00
11,150.0	89.70	0.12	6,976.3	4,616.6	-535.5	4,641.7	0.00	0.00	0.00
11,200.0	89.70	0.12	6,976.6	4,666.6	-535.4	4,691.6	0.00	0.00	0.00
11,250.0	89.70	0.12	6,976.9	4,716.6	-535.3	4,741.5	0.00	0.00	0.00
11,300.0	89.70	0.12	6,977.1	4,766.6	-535.2	4,791.4	0.00	0.00	0.00
11,350.0	89.70	0.12	6,977.4	4,816.6	-535.1	4,841.3	0.00	0.00	0.00
11,400.0	89.70	0.12	6,977.6	4,866.6	-535.0	4,891.1	0.00	0.00	0.00
11,450.0	89.70	0.12	6,977.9	4,916.6	-534.9	4,941.0	0.00	0.00	0.00
11,500.0	89.70	0.12	6,978.2	4,966.6	-534.8	4,990.9	0.00	0.00	0.00
11,550.0	89.70	0.12	6,978.4	5,016.6	-534.7	5,040.8	0.00	0.00	0.00
11,600.0	89.70	0.12	6,978.7	5,066.6	-534.6	5,090.7	0.00	0.00	0.00
11,650.0	89.70	0.12	6,978.9	5,116.6	-534.5	5,140.6	0.00	0.00	0.00
11,700.0	89.70	0.12	6,979.2	5,166.6	-534.4	5,190.5	0.00	0.00	0.00
11,750.0	89.70	0.12	6,979.5	5,216.6	-534.3	5,240.3	0.00	0.00	0.00
11,800.0	89.70	0.12	6,979.7	5,266.6	-534.2	5,290.2	0.00	0.00	0.00
11,850.0	89.70	0.12	6,980.0	5,316.6	-534.0	5,340.1	0.00	0.00	0.00
11,900.0	89.70	0.12	6,980.2	5,366.6	-533.9	5,390.0	0.00	0.00	0.00
11,950.0	89.70	0.12	6,980.5	5,416.6	-533.8	5,439.9	0.00	0.00	0.00
12,000.0	89.70	0.12	6,980.8	5,466.6	-533.7	5,489.8	0.00	0.00	0.00
12,050.0	89.70	0.12	6,981.0	5,516.6	-533.6	5,539.7	0.00	0.00	0.00



IDS Planning Report



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Well:	Oscar Y10-79HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	Plan #1		

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)
12,100.0	89.70	0.12	6,981.3	5,566.6	-533.5	5,589.6	0.00	0.00	0.00
12,150.0	89.70	0.12	6,981.5	5,616.6	-533.4	5,639.4	0.00	0.00	0.00
12,200.0	89.70	0.12	6,981.8	5,666.6	-533.3	5,689.3	0.00	0.00	0.00
12,250.0	89.70	0.12	6,982.1	5,716.6	-533.2	5,739.2	0.00	0.00	0.00
12,300.0	89.70	0.12	6,982.3	5,766.6	-533.1	5,789.1	0.00	0.00	0.00
12,350.0	89.70	0.12	6,982.6	5,816.6	-533.0	5,839.0	0.00	0.00	0.00
12,400.0	89.70	0.12	6,982.9	5,866.6	-532.9	5,888.9	0.00	0.00	0.00
12,450.0	89.70	0.12	6,983.1	5,916.6	-532.8	5,938.8	0.00	0.00	0.00
12,500.0	89.70	0.12	6,983.4	5,966.6	-532.7	5,988.6	0.00	0.00	0.00
12,550.0	89.70	0.12	6,983.6	6,016.6	-532.6	6,038.5	0.00	0.00	0.00
12,600.0	89.70	0.12	6,983.9	6,066.6	-532.5	6,088.4	0.00	0.00	0.00
12,650.0	89.70	0.12	6,984.2	6,116.6	-532.4	6,138.3	0.00	0.00	0.00
12,700.0	89.70	0.12	6,984.4	6,166.6	-532.3	6,188.2	0.00	0.00	0.00
12,750.0	89.70	0.12	6,984.7	6,216.6	-532.2	6,238.1	0.00	0.00	0.00
12,800.0	89.70	0.12	6,984.9	6,266.6	-532.1	6,288.0	0.00	0.00	0.00
12,850.0	89.70	0.12	6,985.2	6,316.6	-532.0	6,337.8	0.00	0.00	0.00
12,900.0	89.70	0.12	6,985.5	6,366.6	-531.9	6,387.7	0.00	0.00	0.00
12,950.0	89.70	0.12	6,985.7	6,416.6	-531.8	6,437.6	0.00	0.00	0.00
13,000.0	89.70	0.12	6,986.0	6,466.6	-531.7	6,487.5	0.00	0.00	0.00
13,050.0	89.70	0.12	6,986.2	6,516.6	-531.6	6,537.4	0.00	0.00	0.00
13,100.0	89.70	0.12	6,986.5	6,566.6	-531.5	6,587.3	0.00	0.00	0.00
13,150.0	89.70	0.12	6,986.8	6,616.6	-531.4	6,637.2	0.00	0.00	0.00
13,200.0	89.70	0.12	6,987.0	6,666.6	-531.3	6,687.0	0.00	0.00	0.00
13,250.0	89.70	0.12	6,987.3	6,716.6	-531.2	6,736.9	0.00	0.00	0.00
13,300.0	89.70	0.12	6,987.5	6,766.6	-531.1	6,786.8	0.00	0.00	0.00
13,350.0	89.70	0.12	6,987.8	6,816.6	-531.0	6,836.7	0.00	0.00	0.00
13,400.0	89.70	0.12	6,988.1	6,866.6	-530.9	6,886.6	0.00	0.00	0.00
13,450.0	89.70	0.12	6,988.3	6,916.6	-530.8	6,936.5	0.00	0.00	0.00
13,500.0	89.70	0.12	6,988.6	6,966.6	-530.7	6,986.4	0.00	0.00	0.00
13,550.0	89.70	0.12	6,988.9	7,016.6	-530.6	7,036.2	0.00	0.00	0.00
13,600.0	89.70	0.12	6,989.1	7,066.6	-530.5	7,086.1	0.00	0.00	0.00
13,650.0	89.70	0.12	6,989.4	7,116.6	-530.4	7,136.0	0.00	0.00	0.00
13,700.0	89.70	0.12	6,989.6	7,166.6	-530.3	7,185.9	0.00	0.00	0.00
13,750.0	89.70	0.12	6,989.9	7,216.6	-530.2	7,235.8	0.00	0.00	0.00
13,800.0	89.70	0.12	6,990.2	7,266.6	-530.1	7,285.7	0.00	0.00	0.00
13,850.0	89.70	0.12	6,990.4	7,316.6	-530.0	7,335.6	0.00	0.00	0.00
13,900.0	89.70	0.12	6,990.7	7,366.6	-529.9	7,385.4	0.00	0.00	0.00
13,950.0	89.70	0.12	6,990.9	7,416.6	-529.8	7,435.3	0.00	0.00	0.00
14,000.0	89.70	0.12	6,991.2	7,466.6	-529.7	7,485.2	0.00	0.00	0.00
14,050.0	89.70	0.12	6,991.5	7,516.6	-529.6	7,535.1	0.00	0.00	0.00
14,100.0	89.70	0.12	6,991.7	7,566.6	-529.5	7,585.0	0.00	0.00	0.00
14,150.0	89.70	0.12	6,992.0	7,616.6	-529.4	7,634.9	0.00	0.00	0.00
14,200.0	89.70	0.12	6,992.2	7,666.6	-529.3	7,684.8	0.00	0.00	0.00
14,250.0	89.70	0.12	6,992.5	7,716.6	-529.2	7,734.6	0.00	0.00	0.00
14,300.0	89.70	0.12	6,992.8	7,766.6	-529.1	7,784.5	0.00	0.00	0.00
14,350.0	89.70	0.12	6,993.0	7,816.6	-529.0	7,834.4	0.00	0.00	0.00
14,400.0	89.70	0.12	6,993.3	7,866.6	-528.9	7,884.3	0.00	0.00	0.00
14,450.0	89.70	0.12	6,993.5	7,916.6	-528.8	7,934.2	0.00	0.00	0.00
14,500.0	89.70	0.12	6,993.8	7,966.6	-528.7	7,984.1	0.00	0.00	0.00
14,550.0	89.70	0.12	6,994.1	8,016.6	-528.6	8,034.0	0.00	0.00	0.00
14,600.0	89.70	0.12	6,994.3	8,066.6	-528.5	8,083.8	0.00	0.00	0.00
14,608.0	89.70	0.12	6,994.4	8,074.5	-528.5	8,091.8	0.00	0.00	0.00
TD at 14608' MD / 6994' TVD									



IDS Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Oscar Y10-79HN
Company:	Noble Energy, Inc	TVD Reference:	Well @ 4973.0usft (HP 330)
Project:	Weld County, CO (NAD 83)	MD Reference:	Well @ 4973.0usft (HP 330)
Site:	Sec 10, T02N-R64W (Oscar Y10 Pad)	North Reference:	Grid
Well:	Oscar Y10-79HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	Plan #1		

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
KOP Pln #2 Oscar Y1 - plan misses target center by 990.4usft at 7439.0usft MD (6950.0 TVD, 907.9 N, -503.5 E) - Point	0.00	0.00	6,315.0	148.0	-490.0	1,299,893.13	3,266,423.48	40° 9' 9.614 N	104° 32' 48.686 W
LP Pln #2 Oscar Y10- - plan misses target center by 77.7usft at 7439.0usft MD (6950.0 TVD, 907.9 N, -503.5 E) - Point	0.00	0.00	6,956.0	831.0	-493.3	1,300,576.18	3,266,420.14	40° 9' 16.365 N	104° 32' 48.634 W
PBHL Pln #2 Oscar Y - plan hits target center - Point	0.00	0.00	6,994.4	8,074.5	-528.5	1,307,819.67	3,266,384.99	40° 10' 27.948 N	104° 32' 48.084 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
7,352.0	6,944.1	Actual 7"	7	8-3/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,362.0	1,361.8	Pierre		0.00	
4,005.7	3,943.9	Parkman		0.00	
4,337.7	4,275.8	Sussex		0.00	
5,135.7	5,073.6	Shannon		0.00	
6,145.7	6,083.2	Teepee Buttes		0.00	
6,855.4	6,737.2	Sharon Springs		0.00	
6,906.9	6,774.5	Top Niobrara		0.00	
6,906.9	6,774.5	Top Niobrara		0.00	
6,922.1	6,785.5	Top A Chalk		0.00	
6,922.1	6,785.5	Top A Marl		0.00	
6,955.3	6,808.8	Top B Chalk		0.00	
7,047.8	6,862.2	Top B Marl		0.00	
7,246.8	6,928.5	Top C Chalk		0.00	
10,255.8	6,971.7	Top C Marl		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
7,439.0	6,950.0	907.9	-503.5	Tie In @ 7439' MD
7,499.0	6,952.4	967.8	-503.3	Start ST @ 7499' MD / 4°/100 DLS
7,701.3	6,961.7	1,169.5	-514.5	EOST @ 7701' MD / 86° Inc / Build 2°/100
8,150.6	6,971.5	1,617.4	-541.5	EOB @ 8151' MD / 91.5° Inc
8,450.6	6,963.7	1,917.2	-540.9	Drop 2°/100 @ 8451' MD
8,540.5	6,962.7	2,007.2	-540.7	EOD @ 8541' MD / 89.7° Inc
14,608.0	6,994.4	8,074.5	-528.5	TD at 14608' MD / 6994' TVD



Noble Energy, Inc

Weld County, CO (NAD 83)

Sec 10, T02N-R64W (Oscar Y10 Pad)

Oscar Y10-79HN

ST01

Plan #1

Anticollision Summary Report

04 April, 2014





IDS

Anticollision Summary Report



Company:	Noble Energy, Inc	Local Co-ordinate Reference:	Well Oscar Y10-79HN
Project:	Weld County, CO (NAD 83)	TVD Reference:	Well @ 4973.0usft (HP 330)
Reference Site:	Sec 10, T02N-R64W (Oscar Y10 Pad)	MD Reference:	Well @ 4973.0usft (HP 330)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Oscar Y10-79HN	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ST01	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 us	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	4/4/2014	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
387.0	7,439.0	Survey #1 (Wellbore #1)	Sperry - MWD+IFR1+MS_ Fixed:v2:Rockies, crustal dec + 3-axis correction	
7,439.0	14,607.9	Plan #1 (ST01)	Sperry - MWD+IFR1+MS_ Fixed:v2:Rockies, crustal dec + 3-axis correction	

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
Sec 10, T02N-R64W (Oscar Y10 Pad)						
Oscar Y10-78-1HC - Wellbore #1 - OH	483.3	484.5	185.9	184.7	152.111	CC
Oscar Y10-78-1HC - Wellbore #1 - OH	550.0	550.6	186.1	184.6	123.313	ES
Oscar Y10-78-1HC - Wellbore #1 - OH	14,608.0	14,759.0	912.0	695.1	4.204	SF
Oscar Y10-78-1HN - Wellbore #1 - OH	0.0	0.0	150.9			
Oscar Y10-78-1HN - Wellbore #1 - OH	50.0	49.8	151.0	150.9	2,047.543	ES
Oscar Y10-78-1HN - Wellbore #1 - OH	14,608.0	14,469.0	906.6	689.1	4.168	SF
Oscar Y10-78HN - Wellbore #1 - OH	573.2	574.0	109.0	107.4	67.656	CC
Oscar Y10-78HN - Wellbore #1 - OH	650.0	650.5	109.2	107.2	56.281	ES
Oscar Y10-78HN - Wellbore #1 - OH	13,950.0	13,936.0	574.5	438.7	4.231	SF
Oscar Y10-79-1HC - Wellbore #1 - OH	0.0	0.0	39.1			
Oscar Y10-79-1HC - Wellbore #1 - OH	250.0	250.0	39.4	38.9	78.005	ES
Oscar Y10-79-1HC - Wellbore #1 - OH	14,608.0	14,740.0	282.2	140.7	1.994	SF
Oscar Y10-79-1HN - Wellbore #1 - OH	582.7	583.3	73.4	71.8	44.665	CC
Oscar Y10-79-1HN - Wellbore #1 - OH	14,608.0	14,432.5	275.4	69.9	1.340	Level 3, ES, SF
Oscar Y10-79HN - Wellbore #1 - OH	7,450.0	7,450.0	0.0	-0.1	0.000	Level 1, CC, SF
Oscar Y10-79HN - Wellbore #1 - OH	7,500.0	7,500.0	0.0	-1.0	0.002	Level 1, ES
Waste Management USX Y 3-12 - Wellbore #1 - OH	11,218.0	6,878.2	465.1	421.6	10.687	CC, ES
Waste Management USX Y 3-12 - Wellbore #1 - OH	11,250.0	6,878.3	466.2	422.4	10.643	SF
Waste Management USX Y 3-13 - Wellbore #1 - OH	10,063.1	6,872.3	679.8	645.8	20.017	CC, ES
Waste Management USX Y 3-13 - Wellbore #1 - OH	10,200.0	6,871.9	693.4	658.3	19.759	SF
Waste Management USX Y 3-19 - Wellbore #1 - OH	13,495.1	6,896.3	1,301.3	1,237.1	20.249	CC
Waste Management USX Y 3-19 - Wellbore #1 - OH	13,500.0	6,896.4	1,301.3	1,237.0	20.234	ES
Waste Management USX Y 3-19 - Wellbore #1 - OH	13,750.0	6,899.7	1,326.1	1,259.4	19.891	SF
Waste Management USX Y 3-25 - Wellbore #1 - OH	10,819.4	6,873.9	1,327.5	1,287.6	33.269	CC, ES
Waste Management USX Y 3-25 - Wellbore #1 - OH	11,200.0	6,874.5	1,381.0	1,337.8	31.927	SF
Waste Management USX Y 3-4 - Wellbore #1 - OH	14,033.5	6,873.5	571.5	501.9	8.215	CC, ES
Waste Management USX Y 3-4 - Wellbore #1 - OH	14,100.0	6,874.3	575.3	505.1	8.197	SF
Waste Management USX Y 3-5 - Wellbore #1 - OH	12,788.3	6,881.4	676.1	618.5	11.719	CC
Waste Management USX Y 3-5 - Wellbore #1 - OH	12,800.0	6,881.4	676.2	618.4	11.699	ES
Waste Management USX Y 3-5 - Wellbore #1 - OH	12,850.0	6,881.5	679.0	620.7	11.652	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



IDS

Anticollision Summary Report



Company:	Noble Energy, Inc	Local Co-ordinate Reference:	Well Oscar Y10-79HN
Project:	Weld County, CO (NAD 83)	TVD Reference:	Well @ 4973.0usft (HP 330)
Reference Site:	Sec 10, T02N-R64W (Oscar Y10 Pad)	MD Reference:	Well @ 4973.0usft (HP 330)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Oscar Y10-79HN	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ST01	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4973.0usft (HP 330)

Offset Depths are relative to Offset Datum

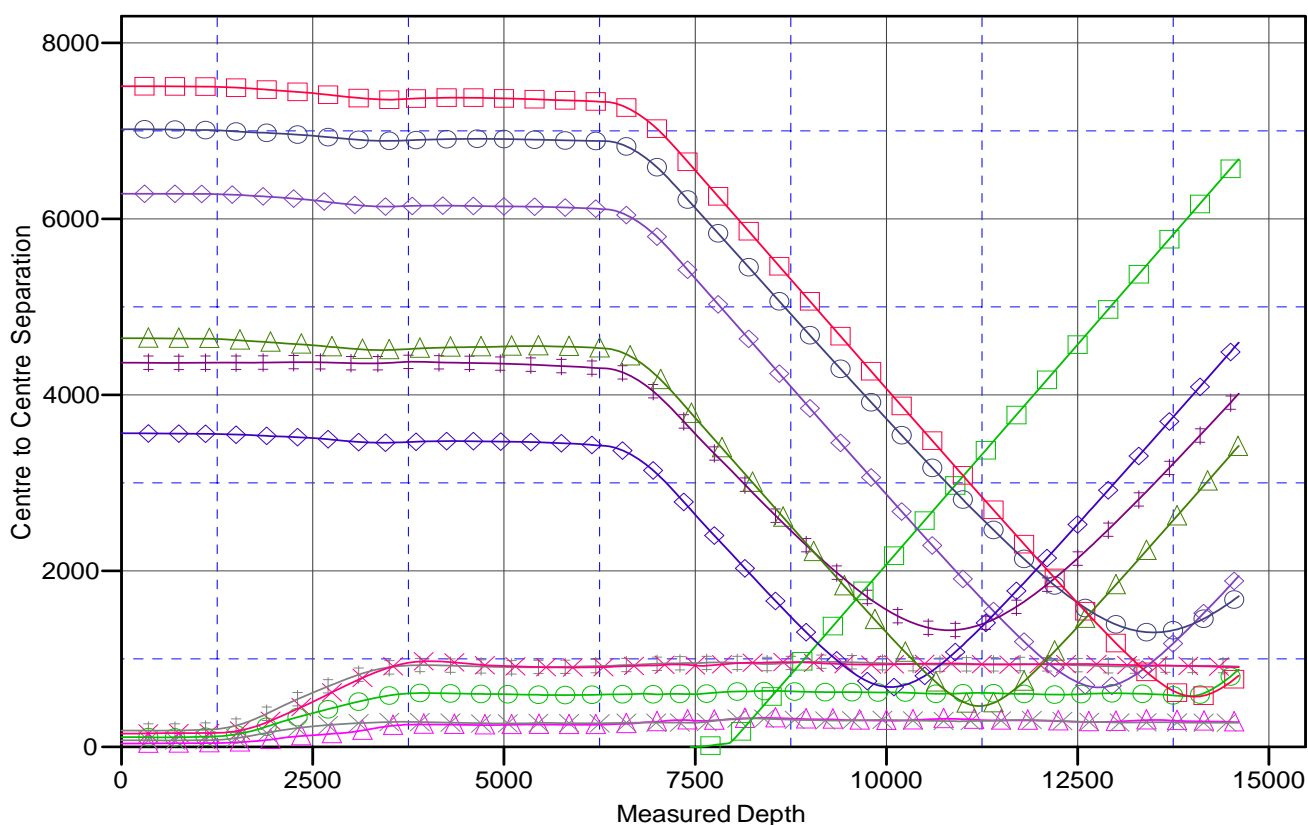
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Oscar Y10-79HN

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.62°

Ladder Plot



LEGEND

Y10-78-1HC, Wellbore #1, OH V0	Oscar Y10-79-1HN, Wellbore #1, OH V0	Waste Management USX Y 3-19, Wellbore #
Y10-78-1HN, Wellbore #1, OH V0	Oscar Y10-79HN, Wellbore #1, OH V0	Waste Management USX Y 3-13, Wellbore #
Y10-78HN, Wellbore #1, OH V0	Waste Management USX Y 3-5, Wellbore #1, OH V0	Waste Management USX Y 3-12, Wellbore #
Y10-79-1HC, Wellbore #1, OH V0	Waste Management USX Y 3-25, Wellbore #1, OH V0	Waste Management USX Y 3-4, Wellbore #1

Company:	Noble Energy, Inc	Local Co-ordinate Reference:	Well Oscar Y10-79HN
Project:	Weld County, CO (NAD 83)	TVD Reference:	Well @ 4973.0usft (HP 330)
Reference Site:	Sec 10, T02N-R64W (Oscar Y10 Pad)	MD Reference:	Well @ 4973.0usft (HP 330)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Oscar Y10-79HN	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ST01	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4973.0usft (HP 330)

Offset Depths are relative to Offset Datum

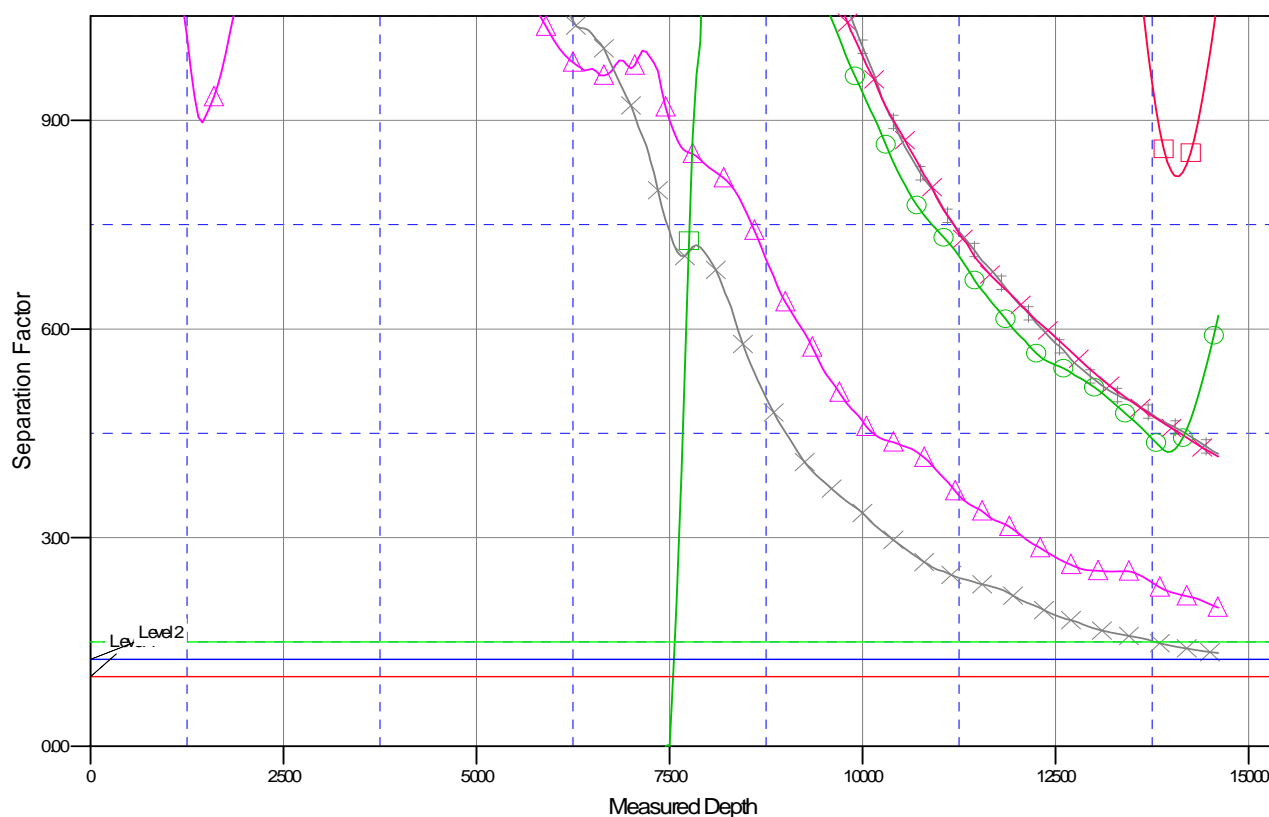
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Oscar Y10-79HN

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.62°

Separation Factor Plot



LEGEND

zal Y10-78-1HC, Wellbore #1, OH V0	✕ Oscar Y10-79-1HN, Wellbore #1, OH V0	⊖ Waste Management USX Y 3-19, Wellbore #
zal Y10-78-1HN, Wellbore #1, OH V0	▢ Oscar Y10-79HN, Wellbore #1, OH V0	◆ Waste Management USX Y 3-13, Wellbore #
zal Y10-78HN, Wellbore #1, OH V0	◇ Waste Management USX Y 3-5, Wellbore #1, OH V0	▲ Waste Management USX Y 3-12, Wellbore #
zal Y10-79-1HC, Wellbore #1, OH V0	✦ Waste Management USX Y 3-25, Wellbore #1, OH V0	▣ Waste Management USX Y 3-4, Wellbore #1