

Project: Wells Ranch
 Site: A Section 21
 Well: Rampart A33-750
 Wellbore: Rampart A33-750
 Design: APD-Rev 0

Northern Region - DJ Basin

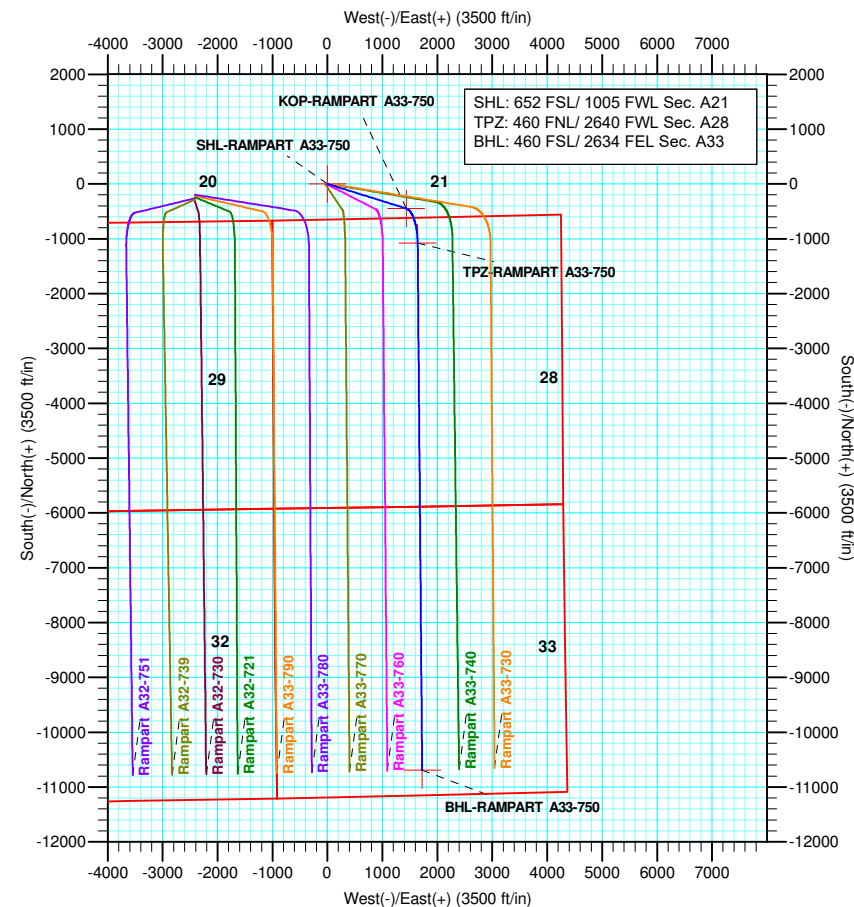
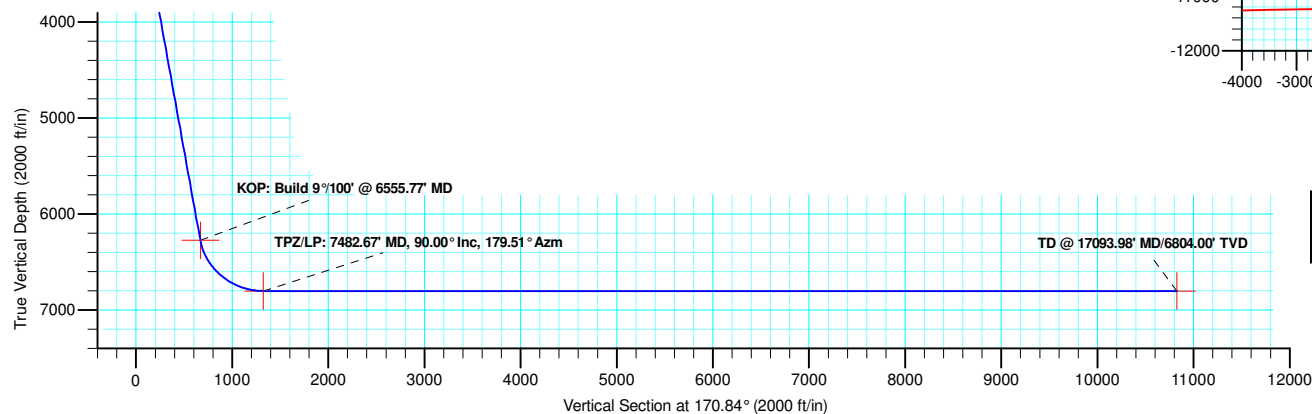
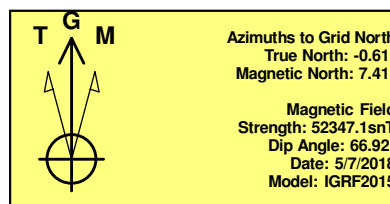
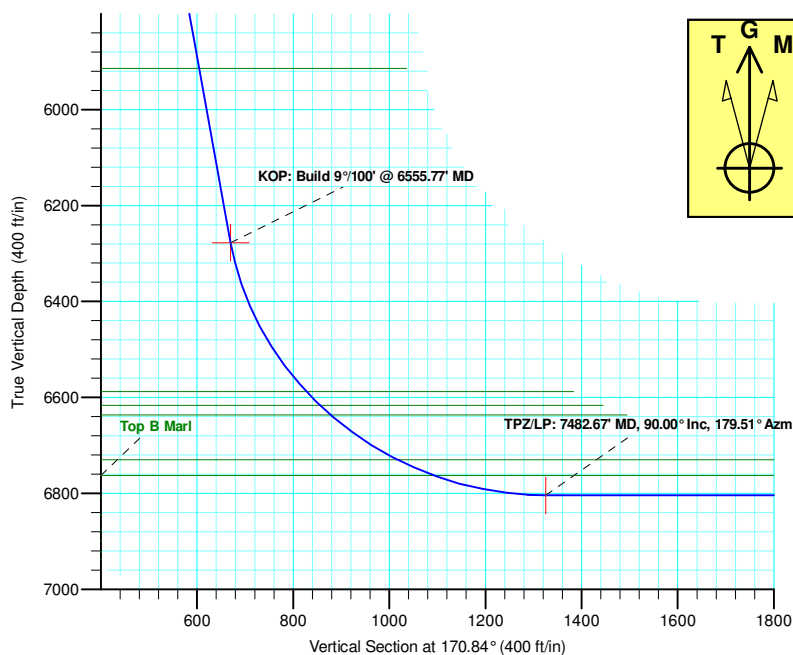
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	3098.86	21.98	107.34	3072.12	-62.03	198.72	2.00	107.34	92.88
4	6555.77	21.98	107.34	6277.82	-447.53	1433.66	0.00	0.00	670.05
5	7482.67	90.00	179.51	6804.00	-1078.20	1641.23	9.00	73.39	1325.72
6	17093.98	90.00	179.51	6804.00	-10689.16	1723.66	0.00	0.00	10827.24

WELL DETAILS: Rampart A33-750

+N/-S	+E/-W	Northing	Ground Level: Easting	4727.00 Latitude	Longitude	Slot
0.00	0.00	1414003.82	3261262.76	40.4660449	-104.5609957	



Plan: APD-Rev 0 (Rampart A33-750/Rampart A33-750)

Created By: Keith Noack Date: 9:37, November 01 2018

Northern Region - DJ Basin

Wells Ranch

A Section 21

Rampart A33-750

Rampart A33-750

Plan: APD-Rev 0

Standard Planning Report

01 November, 2018

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Rampart A33-750
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4757.00ft
Project:	Wells Ranch	MD Reference:	Well @ 4757.00ft
Site:	A Section 21	North Reference:	Grid
Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Rampart A33-750		
Design:	APD-Rev 0		

Project	Wells Ranch, Weld County Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	A Section 21				
Site Position:		Northing:	1,414,202.83 usft	Latitude:	40.4665920
From:	Lat/Long	Easting:	3,261,231.91 usft	Longitude:	-104.5610990
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.61 °

Well	Rampart A33-750					
Well Position	+N/-S	-199.00 ft	Northing:	1,414,003.83 usft	Latitude:	40.4660449
	+E/-W	30.85 ft	Easting:	3,261,262.76 usft	Longitude:	-104.5609957
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,727.00 ft

Wellbore	Rampart A33-750				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/7/2018	8.01	66.92	52,347.05125380

Design	APD-Rev 0			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	170.84

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,098.86	21.98	107.34	3,072.12	-62.03	198.72	2.00	2.00	0.00	107.34	
6,555.77	21.98	107.34	6,277.82	-447.53	1,433.66	0.00	0.00	0.00	0.00	
7,482.67	90.00	179.51	6,804.00	-1,078.20	1,641.23	9.00	7.34	7.79	73.39	TPZ-RAMPART A3
17,093.98	90.00	179.51	6,804.00	-10,689.16	1,723.66	0.00	0.00	0.00	0.00	BHL-RAMPART A3

Noble Energy, Inc.

Planning Report

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Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4757.00ft
Project:	Wells Ranch	MD Reference:	Well @ 4757.00ft
Site:	A Section 21	North Reference:	Grid
Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Rampart A33-750		
Design:	APD-Rev 0		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
425.00	0.00	0.00	425.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
496.00	0.00	0.00	496.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,533.00	0.00	0.00	1,533.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Build: 2°/100'									
2,100.00	2.00	107.34	2,099.98	-0.52	1.67	0.78	2.00	2.00	0.00
2,200.00	4.00	107.34	2,199.84	-2.08	6.66	3.11	2.00	2.00	0.00
2,300.00	6.00	107.34	2,299.45	-4.68	14.98	7.00	2.00	2.00	0.00
2,400.00	8.00	107.34	2,398.70	-8.31	26.61	12.44	2.00	2.00	0.00
2,500.00	10.00	107.34	2,497.47	-12.97	41.55	19.42	2.00	2.00	0.00
2,600.00	12.00	107.34	2,595.62	-18.65	59.76	27.93	2.00	2.00	0.00
2,700.00	14.00	107.34	2,693.06	-25.36	81.23	37.97	2.00	2.00	0.00
2,800.00	16.00	107.34	2,789.64	-33.07	105.94	49.51	2.00	2.00	0.00
2,900.00	18.00	107.34	2,885.27	-41.78	133.84	62.55	2.00	2.00	0.00
3,000.00	20.00	107.34	2,979.82	-51.48	164.92	77.08	2.00	2.00	0.00
3,098.86	21.98	107.34	3,072.12	-62.03	198.72	92.88	2.00	2.00	0.00
Hold: 21.98° Inc, 107.34° Azm									
3,100.00	21.98	107.34	3,073.17	-62.16	199.13	93.07	0.00	0.00	0.00
3,200.00	21.98	107.34	3,165.90	-73.31	234.85	109.76	0.00	0.00	0.00
3,300.00	21.98	107.34	3,258.64	-84.46	270.57	126.46	0.00	0.00	0.00
3,400.00	21.98	107.34	3,351.37	-95.61	306.30	143.16	0.00	0.00	0.00
3,500.00	21.98	107.34	3,444.10	-106.76	342.02	159.85	0.00	0.00	0.00
3,600.00	21.98	107.34	3,536.84	-117.92	377.75	176.55	0.00	0.00	0.00
3,683.21	21.98	107.34	3,614.00	-127.20	407.47	190.44	0.00	0.00	0.00
Parkman									
3,700.00	21.98	107.34	3,629.57	-129.07	413.47	193.24	0.00	0.00	0.00
3,800.00	21.98	107.34	3,722.30	-140.22	449.19	209.94	0.00	0.00	0.00
3,900.00	21.98	107.34	3,815.03	-151.37	484.92	226.64	0.00	0.00	0.00
4,000.00	21.98	107.34	3,907.77	-162.52	520.64	243.33	0.00	0.00	0.00
4,100.00	21.98	107.34	4,000.50	-173.67	556.36	260.03	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

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Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4757.00ft
Project:	Wells Ranch	MD Reference:	Well @ 4757.00ft
Site:	A Section 21	North Reference:	Grid
Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Rampart A33-750		
Design:	APD-Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,200.00	21.98	107.34	4,093.23	-184.82	592.09	276.73	0.00	0.00	0.00
4,241.80	21.98	107.34	4,132.00	-189.49	607.02	283.71	0.00	0.00	0.00
Sussex									
4,300.00	21.98	107.34	4,185.97	-195.98	627.81	293.42	0.00	0.00	0.00
4,400.00	21.98	107.34	4,278.70	-207.13	663.54	310.12	0.00	0.00	0.00
4,500.00	21.98	107.34	4,371.43	-218.28	699.26	326.81	0.00	0.00	0.00
4,600.00	21.98	107.34	4,464.17	-229.43	734.98	343.51	0.00	0.00	0.00
4,700.00	21.98	107.34	4,556.90	-240.58	770.71	360.21	0.00	0.00	0.00
4,800.00	21.98	107.34	4,649.63	-251.73	806.43	376.90	0.00	0.00	0.00
4,900.00	21.98	107.34	4,742.37	-262.88	842.16	393.60	0.00	0.00	0.00
5,000.00	21.98	107.34	4,835.10	-274.04	877.88	410.30	0.00	0.00	0.00
5,100.00	21.98	107.34	4,927.83	-285.19	913.60	426.99	0.00	0.00	0.00
5,139.00	21.98	107.34	4,964.00	-289.54	927.54	433.50	0.00	0.00	0.00
Shannon									
5,200.00	21.98	107.34	5,020.57	-296.34	949.33	443.69	0.00	0.00	0.00
5,300.00	21.98	107.34	5,113.30	-307.49	985.05	460.39	0.00	0.00	0.00
5,400.00	21.98	107.34	5,206.03	-318.64	1,020.77	477.08	0.00	0.00	0.00
5,500.00	21.98	107.34	5,298.77	-329.79	1,056.50	493.78	0.00	0.00	0.00
5,600.00	21.98	107.34	5,391.50	-340.94	1,092.22	510.47	0.00	0.00	0.00
5,700.00	21.98	107.34	5,484.23	-352.10	1,127.95	527.17	0.00	0.00	0.00
5,800.00	21.98	107.34	5,576.97	-363.25	1,163.67	543.87	0.00	0.00	0.00
5,900.00	21.98	107.34	5,669.70	-374.40	1,199.39	560.56	0.00	0.00	0.00
6,000.00	21.98	107.34	5,762.43	-385.55	1,235.12	577.26	0.00	0.00	0.00
6,100.00	21.98	107.34	5,855.17	-396.70	1,270.84	593.96	0.00	0.00	0.00
6,163.44	21.98	107.34	5,914.00	-403.78	1,293.51	604.55	0.00	0.00	0.00
Teepee Buttes									
6,200.00	21.98	107.34	5,947.90	-407.85	1,306.57	610.65	0.00	0.00	0.00
6,300.00	21.98	107.34	6,040.63	-419.00	1,342.29	627.35	0.00	0.00	0.00
6,400.00	21.98	107.34	6,133.37	-430.16	1,378.01	644.04	0.00	0.00	0.00
6,500.00	21.98	107.34	6,226.10	-441.31	1,413.74	660.74	0.00	0.00	0.00
6,555.77	21.98	107.34	6,277.82	-447.53	1,433.66	670.05	0.00	0.00	0.00
KOP: Build 9°/100' @ 6555.77' MD									
6,600.00	23.41	116.97	6,318.64	-453.98	1,449.40	678.93	9.00	3.24	21.79
6,650.00	25.65	126.39	6,364.14	-464.91	1,466.97	692.52	9.00	4.49	18.83
6,700.00	28.40	134.24	6,408.68	-479.64	1,484.22	709.80	9.00	5.50	15.71
6,750.00	31.53	140.74	6,452.01	-498.07	1,501.02	730.67	9.00	6.25	12.99
6,800.00	34.93	146.13	6,493.83	-520.08	1,517.28	755.00	9.00	6.79	10.79
6,850.00	38.52	150.65	6,533.91	-545.55	1,532.89	782.63	9.00	7.20	9.05
6,900.00	42.27	154.51	6,571.99	-574.32	1,547.77	813.39	9.00	7.49	7.70
6,921.93	43.95	156.02	6,588.00	-587.93	1,554.04	827.83	9.00	7.66	6.91
Sharon Springs									
6,950.00	46.13	157.83	6,607.83	-606.20	1,561.81	847.11	9.00	7.76	6.45
6,963.35	47.17	158.65	6,617.00	-615.22	1,565.41	856.58	9.00	7.83	6.10
Top A Chalk									
6,993.45	49.55	160.39	6,637.00	-636.30	1,573.28	878.64	9.00	7.90	5.78
Top A Marl									
7,000.00	50.07	160.75	6,641.22	-641.01	1,574.94	883.56	9.00	7.95	5.53
7,050.00	54.08	163.35	6,671.95	-678.53	1,587.07	922.53	9.00	8.01	5.19
7,100.00	58.13	165.69	6,699.83	-718.52	1,598.12	963.77	9.00	8.12	4.69
7,150.00	62.23	167.84	6,724.69	-760.74	1,608.04	1,007.03	9.00	8.19	4.29
7,161.58	63.18	168.31	6,730.00	-770.80	1,610.16	1,017.30	9.00	8.23	4.09
Top B Chalk									
7,200.00	66.36	169.83	6,746.38	-804.92	1,616.75	1,052.04	9.00	8.26	3.95

Noble Energy, Inc.

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7,244.81	70.08	171.51	6,763.00	-845.98	1,623.49	1,093.64	9.00	8.30	3.75
Top B Marl									
7,250.00	70.51	171.69	6,764.75	-850.81	1,624.20	1,098.53	9.00	8.32	3.64
7,300.00	74.68	173.47	6,779.70	-898.11	1,630.35	1,146.20	9.00	8.34	3.55
7,350.00	78.86	175.17	6,791.14	-946.53	1,635.16	1,194.77	9.00	8.37	3.41
7,400.00	83.06	176.83	6,799.00	-995.78	1,638.60	1,243.94	9.00	8.39	3.31
7,450.00	87.26	178.45	6,803.22	-1,045.55	1,640.65	1,293.40	9.00	8.40	3.25
7,482.67	90.00	179.51	6,804.00	-1,078.20	1,641.23	1,325.72	9.00	8.40	3.23
TPZ/LP: 7482.67' MD, 90.00° Inc, 179.51° Azm									
7,500.00	90.00	179.51	6,804.00	-1,095.53	1,641.38	1,342.86	0.00	0.00	0.00
7,600.00	90.00	179.51	6,804.00	-1,195.52	1,642.24	1,441.71	0.00	0.00	0.00
7,700.00	90.00	179.51	6,804.00	-1,295.52	1,643.09	1,540.57	0.00	0.00	0.00
7,800.00	90.00	179.51	6,804.00	-1,395.52	1,643.95	1,639.43	0.00	0.00	0.00
7,900.00	90.00	179.51	6,804.00	-1,495.51	1,644.81	1,738.29	0.00	0.00	0.00
8,000.00	90.00	179.51	6,804.00	-1,595.51	1,645.67	1,837.14	0.00	0.00	0.00
8,100.00	90.00	179.51	6,804.00	-1,695.50	1,646.52	1,936.00	0.00	0.00	0.00
8,200.00	90.00	179.51	6,804.00	-1,795.50	1,647.38	2,034.86	0.00	0.00	0.00
8,300.00	90.00	179.51	6,804.00	-1,895.50	1,648.24	2,133.72	0.00	0.00	0.00
8,400.00	90.00	179.51	6,804.00	-1,995.49	1,649.10	2,232.58	0.00	0.00	0.00
8,500.00	90.00	179.51	6,804.00	-2,095.49	1,649.95	2,331.43	0.00	0.00	0.00
8,600.00	90.00	179.51	6,804.00	-2,195.49	1,650.81	2,430.29	0.00	0.00	0.00
8,700.00	90.00	179.51	6,804.00	-2,295.48	1,651.67	2,529.15	0.00	0.00	0.00
8,800.00	90.00	179.51	6,804.00	-2,395.48	1,652.53	2,628.01	0.00	0.00	0.00
8,900.00	90.00	179.51	6,804.00	-2,495.48	1,653.38	2,726.86	0.00	0.00	0.00
9,000.00	90.00	179.51	6,804.00	-2,595.47	1,654.24	2,825.72	0.00	0.00	0.00
9,100.00	90.00	179.51	6,804.00	-2,695.47	1,655.10	2,924.58	0.00	0.00	0.00
9,200.00	90.00	179.51	6,804.00	-2,795.46	1,655.96	3,023.44	0.00	0.00	0.00
9,300.00	90.00	179.51	6,804.00	-2,895.46	1,656.81	3,122.29	0.00	0.00	0.00
9,400.00	90.00	179.51	6,804.00	-2,995.46	1,657.67	3,221.15	0.00	0.00	0.00
9,500.00	90.00	179.51	6,804.00	-3,095.45	1,658.53	3,320.01	0.00	0.00	0.00
9,600.00	90.00	179.51	6,804.00	-3,195.45	1,659.39	3,418.87	0.00	0.00	0.00
9,700.00	90.00	179.51	6,804.00	-3,295.45	1,660.24	3,517.72	0.00	0.00	0.00
9,800.00	90.00	179.51	6,804.00	-3,395.44	1,661.10	3,616.58	0.00	0.00	0.00
9,900.00	90.00	179.51	6,804.00	-3,495.44	1,661.96	3,715.44	0.00	0.00	0.00
10,000.00	90.00	179.51	6,804.00	-3,595.43	1,662.82	3,814.30	0.00	0.00	0.00
10,100.00	90.00	179.51	6,804.00	-3,695.43	1,663.68	3,913.15	0.00	0.00	0.00
10,200.00	90.00	179.51	6,804.00	-3,795.43	1,664.53	4,012.01	0.00	0.00	0.00
10,300.00	90.00	179.51	6,804.00	-3,895.42	1,665.39	4,110.87	0.00	0.00	0.00
10,400.00	90.00	179.51	6,804.00	-3,995.42	1,666.25	4,209.73	0.00	0.00	0.00
10,500.00	90.00	179.51	6,804.00	-4,095.42	1,667.11	4,308.58	0.00	0.00	0.00
10,600.00	90.00	179.51	6,804.00	-4,195.41	1,667.96	4,407.44	0.00	0.00	0.00
10,700.00	90.00	179.51	6,804.00	-4,295.41	1,668.82	4,506.30	0.00	0.00	0.00
10,800.00	90.00	179.51	6,804.00	-4,395.41	1,669.68	4,605.16	0.00	0.00	0.00
10,900.00	90.00	179.51	6,804.00	-4,495.40	1,670.54	4,704.01	0.00	0.00	0.00
11,000.00	90.00	179.51	6,804.00	-4,595.40	1,671.39	4,802.87	0.00	0.00	0.00
11,100.00	90.00	179.51	6,804.00	-4,695.39	1,672.25	4,901.73	0.00	0.00	0.00
11,200.00	90.00	179.51	6,804.00	-4,795.39	1,673.11	5,000.59	0.00	0.00	0.00
11,300.00	90.00	179.51	6,804.00	-4,895.39	1,673.97	5,099.45	0.00	0.00	0.00
11,400.00	90.00	179.51	6,804.00	-4,995.38	1,674.82	5,198.30	0.00	0.00	0.00
11,500.00	90.00	179.51	6,804.00	-5,095.38	1,675.68	5,297.16	0.00	0.00	0.00
11,600.00	90.00	179.51	6,804.00	-5,195.38	1,676.54	5,396.02	0.00	0.00	0.00
11,700.00	90.00	179.51	6,804.00	-5,295.37	1,677.40	5,494.88	0.00	0.00	0.00
11,800.00	90.00	179.51	6,804.00	-5,395.37	1,678.25	5,593.73	0.00	0.00	0.00
11,900.00	90.00	179.51	6,804.00	-5,495.37	1,679.11	5,692.59	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Rampart A33-750
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4757.00ft
Project:	Wells Ranch	MD Reference:	Well @ 4757.00ft
Site:	A Section 21	North Reference:	Grid
Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Rampart A33-750		
Design:	APD-Rev 0		

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)
12,000.00	90.00	179.51	6,804.00	-5,595.36	1,679.97	5,791.45	0.00	0.00	0.00
12,100.00	90.00	179.51	6,804.00	-5,695.36	1,680.83	5,890.31	0.00	0.00	0.00
12,200.00	90.00	179.51	6,804.00	-5,795.35	1,681.68	5,989.16	0.00	0.00	0.00
12,300.00	90.00	179.51	6,804.00	-5,895.35	1,682.54	6,088.02	0.00	0.00	0.00
12,400.00	90.00	179.51	6,804.00	-5,995.35	1,683.40	6,186.88	0.00	0.00	0.00
12,500.00	90.00	179.51	6,804.00	-6,095.34	1,684.26	6,285.74	0.00	0.00	0.00
12,600.00	90.00	179.51	6,804.00	-6,195.34	1,685.12	6,384.59	0.00	0.00	0.00
12,700.00	90.00	179.51	6,804.00	-6,295.34	1,685.97	6,483.45	0.00	0.00	0.00
12,800.00	90.00	179.51	6,804.00	-6,395.33	1,686.83	6,582.31	0.00	0.00	0.00
12,900.00	90.00	179.51	6,804.00	-6,495.33	1,687.69	6,681.17	0.00	0.00	0.00
13,000.00	90.00	179.51	6,804.00	-6,595.32	1,688.55	6,780.02	0.00	0.00	0.00
13,100.00	90.00	179.51	6,804.00	-6,695.32	1,689.40	6,878.88	0.00	0.00	0.00
13,200.00	90.00	179.51	6,804.00	-6,795.32	1,690.26	6,977.74	0.00	0.00	0.00
13,300.00	90.00	179.51	6,804.00	-6,895.31	1,691.12	7,076.60	0.00	0.00	0.00
13,400.00	90.00	179.51	6,804.00	-6,995.31	1,691.98	7,175.45	0.00	0.00	0.00
13,500.00	90.00	179.51	6,804.00	-7,095.31	1,692.83	7,274.31	0.00	0.00	0.00
13,600.00	90.00	179.51	6,804.00	-7,195.30	1,693.69	7,373.17	0.00	0.00	0.00
13,700.00	90.00	179.51	6,804.00	-7,295.30	1,694.55	7,472.03	0.00	0.00	0.00
13,800.00	90.00	179.51	6,804.00	-7,395.30	1,695.41	7,570.89	0.00	0.00	0.00
13,900.00	90.00	179.51	6,804.00	-7,495.29	1,696.26	7,669.74	0.00	0.00	0.00
14,000.00	90.00	179.51	6,804.00	-7,595.29	1,697.12	7,768.60	0.00	0.00	0.00
14,100.00	90.00	179.51	6,804.00	-7,695.28	1,697.98	7,867.46	0.00	0.00	0.00
14,200.00	90.00	179.51	6,804.00	-7,795.28	1,698.84	7,966.32	0.00	0.00	0.00
14,300.00	90.00	179.51	6,804.00	-7,895.28	1,699.69	8,065.17	0.00	0.00	0.00
14,400.00	90.00	179.51	6,804.00	-7,995.27	1,700.55	8,164.03	0.00	0.00	0.00
14,500.00	90.00	179.51	6,804.00	-8,095.27	1,701.41	8,262.89	0.00	0.00	0.00
14,600.00	90.00	179.51	6,804.00	-8,195.27	1,702.27	8,361.75	0.00	0.00	0.00
14,700.00	90.00	179.51	6,804.00	-8,295.26	1,703.12	8,460.60	0.00	0.00	0.00
14,800.00	90.00	179.51	6,804.00	-8,395.26	1,703.98	8,559.46	0.00	0.00	0.00
14,900.00	90.00	179.51	6,804.00	-8,495.25	1,704.84	8,658.32	0.00	0.00	0.00
15,000.00	90.00	179.51	6,804.00	-8,595.25	1,705.70	8,757.18	0.00	0.00	0.00
15,100.00	90.00	179.51	6,804.00	-8,695.25	1,706.56	8,856.03	0.00	0.00	0.00
15,200.00	90.00	179.51	6,804.00	-8,795.24	1,707.41	8,954.89	0.00	0.00	0.00
15,300.00	90.00	179.51	6,804.00	-8,895.24	1,708.27	9,053.75	0.00	0.00	0.00
15,400.00	90.00	179.51	6,804.00	-8,995.24	1,709.13	9,152.61	0.00	0.00	0.00
15,500.00	90.00	179.51	6,804.00	-9,095.23	1,709.99	9,251.46	0.00	0.00	0.00
15,600.00	90.00	179.51	6,804.00	-9,195.23	1,710.84	9,350.32	0.00	0.00	0.00
15,700.00	90.00	179.51	6,804.00	-9,295.23	1,711.70	9,449.18	0.00	0.00	0.00
15,800.00	90.00	179.51	6,804.00	-9,395.22	1,712.56	9,548.04	0.00	0.00	0.00
15,900.00	90.00	179.51	6,804.00	-9,495.22	1,713.42	9,646.89	0.00	0.00	0.00
16,000.00	90.00	179.51	6,804.00	-9,595.21	1,714.27	9,745.75	0.00	0.00	0.00
16,100.00	90.00	179.51	6,804.00	-9,695.21	1,715.13	9,844.61	0.00	0.00	0.00
16,200.00	90.00	179.51	6,804.00	-9,795.21	1,715.99	9,943.47	0.00	0.00	0.00
16,300.00	90.00	179.51	6,804.00	-9,895.20	1,716.85	10,042.32	0.00	0.00	0.00
16,400.00	90.00	179.51	6,804.00	-9,995.20	1,717.70	10,141.18	0.00	0.00	0.00
16,500.00	90.00	179.51	6,804.00	-10,095.20	1,718.56	10,240.04	0.00	0.00	0.00
16,600.00	90.00	179.51	6,804.00	-10,195.19	1,719.42	10,338.90	0.00	0.00	0.00
16,700.00	90.00	179.51	6,804.00	-10,295.19	1,720.28	10,437.76	0.00	0.00	0.00
16,800.00	90.00	179.51	6,804.00	-10,395.19	1,721.13	10,536.61	0.00	0.00	0.00
16,900.00	90.00	179.51	6,804.00	-10,495.18	1,721.99	10,635.47	0.00	0.00	0.00
17,000.00	90.00	179.51	6,804.00	-10,595.18	1,722.85	10,734.33	0.00	0.00	0.00
17,093.98	90.00	179.51	6,804.00	-10,689.16	1,723.66	10,827.24	0.00	0.00	0.00
TD @ 17093.98' MD/6804.00' TVD									

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Rampart A33-750
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4757.00ft
Project:	Wells Ranch	MD Reference:	Well @ 4757.00ft
Site:	A Section 21	North Reference:	Grid
Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Rampart A33-750		
Design:	APD-Rev 0		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL-RAMPART A33- - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,414,003.83	3,261,262.76	40.4660449	-104.5609957
KOP-RAMPART A33- - plan hits target center - Point	0.00	0.00	6,277.82	-447.53	1,433.66	1,413,556.30	3,262,696.42	40.4647747	-104.5558605
BHL-RAMPART A33- - plan hits target center - Point	0.00	0.00	6,804.00	-10,689.16	1,723.66	1,403,314.69	3,262,986.41	40.4366548	-104.5552105
TPZ-RAMPART A33- - plan hits target center - Point	0.00	0.00	6,804.00	-1,078.20	1,641.23	1,412,925.63	3,262,903.99	40.4630376	-104.5551387

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
425.00	425.00	Pierre				
496.00	496.00	Upper Pierre Aquifer Top				
1,533.00	1,533.00	Upper Pierre Aquifer Base				
3,683.21	3,614.00	Parkman				
4,241.80	4,132.00	Sussex				
5,139.00	4,964.00	Shannon				
6,163.44	5,914.00	Teepee Buttes				
6,921.93	6,588.00	Sharon Springs				
6,963.35	6,617.00	Top A Chalk				
6,993.45	6,637.00	Top A Marl				
7,161.58	6,730.00	Top B Chalk				
7,244.81	6,763.00	Top B Marl				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,000.00	2,000.00	0.00	0.00	Build: 2°/100'	
3,098.86	3,072.12	-62.03	198.72	Hold: 21.98° Inc, 107.34° Azm	
6,555.77	6,277.82	-447.53	1,433.66	KOP: Build 9°/100' @ 6555.77' MD	
7,482.67	6,804.00	-1,078.20	1,641.23	TPZ/LP: 7482.67' MD, 90.00° Inc, 179.51° Azm	
17,093.98	6,804.00	-10,689.16	1,723.66	TD @ 17093.98' MD/6804.00' TVD	

Northern Region - DJ Basin

Wells Ranch

A Section 21

Rampart A33-750

Rampart A33-750

APD-Rev 0

Anticollision Summary Report

01 November, 2018

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Rampart A33-750
Project:	Wells Ranch	TVD Reference:	Well @ 4757.00ft
Reference Site:	A Section 21	MD Reference:	Well @ 4757.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Rampart A33-750	Database:	EDMP
Reference Design:	APD-Rev 0	Offset TVD Reference:	Offset Datum

Reference	APD-Rev 0		
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 10,000.00 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	10/31/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	2,000.00	APD-Rev 0 (Rampart A33-750)	2_Gyro-NS-CT_OWSG	A021Ga: Continuous gyro in casing
2,000.00	17,093.98	APD-Rev 0 (Rampart A33-750)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
A Section 20						
Foe 16-20 - Original Drilling - Original Drilling - As Drilled	646.34	599.38	1,679.19	1,675.23	424.404	CC
Foe 16-20 - Original Drilling - Original Drilling - As Drilled	800.00	740.28	1,679.63	1,674.64	336.960	ES
Foe 16-20 - Original Drilling - Original Drilling - As Drilled	7,000.00	6,611.63	3,309.96	3,265.63	74.665	SF
Foe 33-20 - Original Drilling - Original Drilling - As Drilled	529.76	492.76	3,116.81	3,113.64	982.955	CC
Foe 33-20 - Original Drilling - Original Drilling - As Drilled	2,000.00	1,956.31	3,122.84	3,109.41	232.613	ES
Foe 33-20 - Original Drilling - Original Drilling - As Drilled	7,100.00	6,728.89	4,868.45	4,823.57	108.486	SF
Foe 34-20 (PA) - Original Drilling - Original Drilling - As D	2,000.00	1,943.00	2,998.16	2,952.54	65.728	CC
Foe 34-20 (PA) - Original Drilling - Original Drilling - As D	2,100.00	2,042.98	2,999.78	2,951.99	62.768	ES
Foe 34-20 (PA) - Original Drilling - Original Drilling - As D	7,250.00	6,707.75	4,657.38	4,500.89	29.762	SF
Foe 43-20 - Original Drilling - Original Drilling - As Drilled	337.07	309.19	2,116.38	2,114.53	1,139.159	CC
Foe 43-20 - Original Drilling - Original Drilling - As Drilled	1,700.00	1,662.69	2,118.05	2,106.69	186.566	ES
Foe 43-20 - Original Drilling - Original Drilling - As Drilled	6,800.00	6,483.18	3,614.62	3,571.67	84.160	SF
Linda Rae 1 - Original Drilling - Original Drilling - As Drille	360.75	304.75	7,199.56	7,197.64	3,744.942	CC
Linda Rae 1 - Original Drilling - Original Drilling - As Drille	2,000.00	1,931.97	7,201.15	7,187.83	540.372	ES
Linda Rae 1 - Original Drilling - Original Drilling - As Drille	10,900.00	6,845.48	9,961.79	9,895.64	150.594	SF
Rampart A32-721 - Rampart A32-721 - APD-Rev 1	2,463.16	2,803.30	2,406.64	2,392.20	166.638	CC, ES
Rampart A32-721 - Rampart A32-721 - APD-Rev 1	17,093.98	16,852.86	3,360.58	3,180.91	18.704	SF
Rampart A32-730 - Rampart A32-730 - APD-Rev 0	2,000.00	1,979.00	2,436.12	2,422.69	181.306	CC, ES
Rampart A32-730 - Rampart A32-730 - APD-Rev 0	17,093.98	16,755.62	3,931.88	3,753.13	21.996	SF
Rampart A32-739 - Rampart A32-739 - APD-Rev 1	2,000.00	1,979.00	2,433.56	2,420.12	181.117	CC, ES
Rampart A32-739 - Rampart A32-739 - APD-Rev 1	17,093.98	16,867.90	4,555.31	4,375.67	25.357	SF
Rampart A32-751 - Rampart A32-751 - APD-Rev 0	2,000.00	1,979.00	2,431.16	2,417.72	180.940	CC, ES
Rampart A32-751 - Rampart A32-751 - APD-Rev 0	17,093.98	16,915.37	5,270.10	5,090.83	29.397	SF
Rampart A33-780 - Rampart A33-780 - APD-Rev 0	6,301.08	7,170.19	1,907.25	1,863.23	43.329	CC
Rampart A33-780 - Rampart A33-780 - APD-Rev 0	17,093.98	17,281.15	2,010.84	1,829.43	11.085	ES, SF
Rampart A33-790 - Rampart A33-790 - APD-Rev 0	2,952.70	3,666.16	2,315.40	2,298.67	138.430	CC, ES
Rampart A33-790 - Rampart A33-790 - APD-Rev 0	17,093.98	16,967.77	2,645.15	2,465.21	14.700	SF
Simmons 42-20D - Original Drilling - Original Drilling - As	1,703.80	1,707.50	3,100.34	3,089.06	274.838	CC
Simmons 42-20D - Original Drilling - Original Drilling - As	2,000.00	1,981.43	3,101.58	3,088.28	233.242	ES
Simmons 42-20D - Original Drilling - Original Drilling - As	6,850.00	6,590.65	4,538.58	4,494.26	102.418	SF
Snider 1-20EG - Original Drilling - Original Drilling - As D	1,304.87	1,249.90	4,332.35	4,323.83	508.143	CC
Snider 1-20EG - Original Drilling - Original Drilling - As D	2,021.83	1,998.27	4,332.70	4,319.10	318.639	ES
Snider 1-20EG - Original Drilling - Original Drilling - As D	8,800.00	6,649.86	6,407.50	6,358.52	130.814	SF
Stump A20-11 - Original Drilling - Original Drilling - As Dr	201.95	154.96	4,660.84	4,659.99	5,490.774	CC
Stump A20-11 - Original Drilling - Original Drilling - As Dr	2,038.36	2,053.76	4,663.83	4,650.01	337.403	ES
Stump A20-11 - Original Drilling - Original Drilling - As Dr	7,350.00	7,010.12	6,430.19	6,383.42	137.483	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Rampart A33-750
Project:	Wells Ranch	TVD Reference:	Well @ 4757.00ft
Reference Site:	A Section 21	MD Reference:	Well @ 4757.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Rampart A33-750	Database:	EDMP
Reference Design:	APD-Rev 0	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 20						
Stump A20-12 - Original Drilling - Original Drilling - As Dr	2,009.48	1,980.34	5,694.10	5,680.59	421.241	CC, ES
Stump A20-12 - Original Drilling - Original Drilling - As Dr	7,350.00	6,987.67	7,519.07	7,472.48	161.384	SF
Stump A20-13 - Original Drilling - Original Drilling - As Dr	2,040.02	2,060.07	5,614.29	5,600.44	405.562	CC, ES
Stump A20-13 - Original Drilling - Original Drilling - As Dr	10,600.00	6,815.44	8,327.19	8,270.53	146.970	SF
Winter 20-19 - Original Drilling - Original Drilling - As Dril	352.99	300.00	7,251.37	7,249.49	3,850.494	CC
Winter 20-19 - Original Drilling - Original Drilling - As Dril	400.00	324.79	7,251.44	7,249.30	3,386.737	ES
Winter 20-19 - Original Drilling - Original Drilling - As Dril	9,800.00	6,786.55	9,983.01	9,927.65	180.339	SF
Winter 24-19 - Original Drilling - Original Drilling - As Dril	100.00	41.09	7,236.35	7,236.15	10,000.000	CC
Winter 24-19 - Original Drilling - Original Drilling - As Dril	500.00	388.45	7,237.68	7,234.83	2,542.402	ES
Winter 24-19 - Original Drilling - Original Drilling - As Dril	7,300.00	7,003.08	9,354.58	9,295.12	157.328	SF
Winter 39-19 - Original Drilling - Original Drilling - As Dril	2,569.14	3,900.00	6,555.47	6,529.03	247.954	CC, ES
Winter 39-19 - Original Drilling - Original Drilling - As Dril	11,500.00	6,860.91	9,681.82	9,611.54	137.753	SF
Winter 40-19 - Original Drilling - Original Drilling - As Dril	2,601.59	4,200.00	6,792.96	6,749.12	154.950	CC, ES
Winter 40-19 - Original Drilling - Original Drilling - As Dril	7,300.00	7,067.72	8,206.95	8,130.72	107.664	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Rampart A33-750
Project:	Wells Ranch	TVD Reference:	Well @ 4757.00ft
Reference Site:	A Section 21	MD Reference:	Well @ 4757.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Rampart A33-750	Database:	EDMP
Reference Design:	APD-Rev 0	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
A Section 21						
Culbreath 23-21 - Original Drilling - Original Drilling - As Drilled	4,229.15	4,048.97	1,685.33	1,659.71	65.800	CC
Culbreath 23-21 - Original Drilling - Original Drilling - As Drilled	4,300.00	4,116.84	1,685.49	1,659.38	64.539	ES
Culbreath 23-21 - Original Drilling - Original Drilling - As Drilled	6,650.00	6,337.42	1,907.94	1,864.70	44.118	SF
Culbreath 33-21 (PA) - Original Drilling - Original Drilling	6,587.21	6,267.88	1,935.11	1,788.15	13.168	CC
Culbreath 33-21 (PA) - Original Drilling - Original Drilling	6,600.00	6,279.64	1,935.24	1,787.98	13.142	ES
Culbreath 33-21 (PA) - Original Drilling - Original Drilling	6,750.00	6,413.01	1,955.42	1,804.82	12.984	SF
Harper A21-618 - Original Drilling - APD - Rev 1	2,170.25	2,180.99	228.52	214.02	15.769	CC, ES
Harper A21-618 - Original Drilling - APD - Rev 1	6,900.00	8,221.27	566.24	514.73	10.993	SF
Harper A21-626 - Original Drilling - APD - Rev 1	2,000.00	2,000.00	248.99	235.27	18.155	CC, ES
Harper A21-626 - Original Drilling - APD - Rev 1	2,300.00	2,300.55	260.33	245.31	17.325	SF
Harper A21-631 - Original Drilling - APD - Rev 1	2,000.00	2,000.00	268.74	255.02	19.594	CC, ES
Harper A21-631 - Original Drilling - APD - Rev 1	2,200.00	2,199.84	273.54	258.91	18.699	SF
Harper A21-637 - Original Drilling - APD - Rev 1	2,000.00	2,000.00	289.74	276.02	21.123	CC, ES
Harper A21-637 - Original Drilling - APD - Rev 1	2,100.00	2,091.27	292.38	278.16	20.566	SF
Harper A21-643 - Original Drilling - APD - Rev 1	1,911.24	1,925.24	1,602.38	1,589.24	121.928	CC
Harper A21-643 - Original Drilling - APD - Rev 1	2,000.00	2,013.42	1,602.38	1,588.61	116.383	ES
Harper A21-643 - Original Drilling - APD - Rev 1	6,800.00	8,404.84	2,180.70	2,126.57	40.286	SF
Harper A21-649 - Original Drilling - APD - Rev 1	2,000.00	2,015.00	1,624.36	1,610.59	117.922	CC, ES
Harper A21-649 - Original Drilling - APD - Rev 1	6,850.00	8,518.22	2,570.19	2,515.54	47.031	SF
Harper A21-656 - Original Drilling - APD - Rev 1	2,000.00	2,015.00	1,649.01	1,635.23	119.710	CC, ES
Harper A21-656 - Original Drilling - APD - Rev 1	6,800.00	8,470.79	2,880.52	2,826.13	52.960	SF
Harper A21-664 - Original Drilling - APD - Rev 2	2,000.00	2,015.00	1,671.00	1,657.23	121.307	CC, ES
Harper A21-664 - Original Drilling - APD - Rev 2	6,850.00	8,685.21	3,426.16	3,370.72	61.803	SF
Harper A21-669 - Original Drilling - APD - Rev 1	2,000.00	2,016.00	1,692.31	1,678.54	122.822	CC, ES
Harper A21-669 - Original Drilling - APD - Rev 1	6,900.00	8,726.11	3,800.65	3,744.45	67.630	SF
Harper A21-674 - Original Drilling - APD - Rev 1	2,000.00	2,016.00	1,714.30	1,700.53	124.418	CC, ES
Harper A21-674 - Original Drilling - APD - Rev 1	3,400.00	2,900.00	1,991.15	1,972.64	107.594	SF
Harper A21-681 - Original Drilling - APD - Rev 1	1,909.84	1,926.84	1,738.97	1,725.83	132.314	CC
Harper A21-681 - Original Drilling - APD - Rev 1	2,000.00	2,000.00	1,739.06	1,725.34	126.747	ES
Harper A21-681 - Original Drilling - APD - Rev 1	3,300.00	2,758.27	2,021.94	2,004.24	114.191	SF
Kona A19-616 - Kona A19-616 - Kona A19-616 - As Drilled	2,752.01	2,761.12	167.85	154.21	12.302	CC, ES
Kona A19-616 - Kona A19-616 - Kona A19-616 - As Drilled	2,900.00	2,905.59	171.80	157.67	12.153	SF
Kona A19-624 - Kona A19-624 - Kona A19-624 - As Drilled	100.00	95.78	225.17	224.91	852.910	CC
Kona A19-624 - Kona A19-624 - Kona A19-624 - As Drilled	2,000.00	1,994.08	234.76	222.18	18.665	ES
Kona A19-624 - Kona A19-624 - Kona A19-624 - As Drilled	2,400.00	2,394.81	242.17	229.09	18.519	SF
Kona A19-636 - Kona A19-636 - Kona A19-636 - As Drilled	0.00	0.00	271.76			
Kona A19-636 - Kona A19-636 - Kona A19-636 - As Drilled	2,300.00	2,278.75	299.47	286.86	23.759	SF
Kona A19-646 - Original Drilling - Original Drilling - As Drilled	2,039.13	2,059.73	1,615.38	1,601.88	119.640	CC, ES
Kona A19-646 - Original Drilling - Original Drilling - As Drilled	6,500.00	6,233.00	2,332.65	2,295.94	63.549	SF
Kona A19-662 - Original Drilling - Original Drilling - As Drilled	2,082.84	2,112.54	1,712.97	1,699.35	125.840	CC
Kona A19-662 - Original Drilling - Original Drilling - As Drilled	2,100.00	2,130.03	1,712.98	1,699.33	125.511	ES
Kona A19-662 - Original Drilling - Original Drilling - As Drilled	6,600.00	5,852.00	3,181.10	3,145.21	88.626	SF
Kona A19-670 - Kona A19-670 - Original Drilling - As Drilled	1,986.61	2,003.68	1,735.74	1,722.36	129.721	CC
Kona A19-670 - Kona A19-670 - Original Drilling - As Drilled	2,000.00	2,010.14	1,735.77	1,722.34	129.262	ES
Kona A19-670 - Kona A19-670 - Original Drilling - As Drilled	5,400.00	5,400.00	2,921.09	2,890.66	96.010	SF
Kona A19-685 - Original Drilling - Original Drilling - As Drilled	2,005.27	2,022.17	1,688.18	1,674.69	125.151	CC, ES
Kona A19-685 - Original Drilling - Original Drilling - As Drilled	6,200.00	6,200.00	3,322.82	3,287.16	93.181	SF
McKee 12-21 (PA) - Original Drilling - Original Drilling - As Drilled	2,000.00	1,997.00	2,426.92	2,380.19	51.941	CC
McKee 12-21 (PA) - Original Drilling - Original Drilling - As Drilled	2,100.00	2,096.98	2,427.72	2,378.82	49.645	ES
McKee 12-21 (PA) - Original Drilling - Original Drilling - As Drilled	6,700.00	6,405.68	3,447.78	3,299.08	23.185	SF
McKee 21-21 (PA) - Original Drilling - Original Drilling - As Drilled	2,000.00	2,013.00	3,919.22	3,872.18	83.313	CC
McKee 21-21 (PA) - Original Drilling - Original Drilling - As Drilled	3,098.86	3,085.12	3,926.67	3,856.90	56.277	ES
McKee 21-21 (PA) - Original Drilling - Original Drilling - As Drilled	6,850.00	6,546.91	4,315.95	4,162.82	28.185	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Rampart A33-750
Project:	Wells Ranch	TVD Reference:	Well @ 4757.00ft
Reference Site:	A Section 21	MD Reference:	Well @ 4757.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Rampart A33-750	Database:	EDMP
Reference Design:	APD-Rev 0	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 21						
McKee 22-21 - Original Drilling - Original Drilling - As Dril	0.00	0.00	2,645.55			
McKee 22-21 - Original Drilling - Original Drilling - As Dril	1,600.00	1,572.75	2,654.23	2,643.51	247.655	ES
McKee 22-21 - Original Drilling - Original Drilling - As Dril	6,750.00	6,472.47	3,096.71	3,052.59	70.177	SF
McKee 31-21 - Original Drilling - Original Drilling - As Dril	4,087.76	3,847.20	4,623.53	4,599.16	189.699	CC
McKee 31-21 - Original Drilling - Original Drilling - As Dril	4,200.00	3,927.04	4,624.07	4,599.01	184.528	ES
McKee 31-21 - Original Drilling - Original Drilling - As Dril	6,950.00	6,835.13	4,788.76	4,742.06	102.530	SF
McKee 32-21 - Original Drilling - Original Drilling - As Dril	5,658.93	5,358.15	3,120.32	3,084.21	86.421	CC
McKee 32-21 - Original Drilling - Original Drilling - As Dril	5,700.00	5,396.74	3,120.35	3,083.94	85.684	ES
McKee 32-21 - Original Drilling - Original Drilling - As Dril	6,850.00	6,526.60	3,211.89	3,166.55	70.835	SF
McKee 41-21 - Original Drilling - Original Drilling - As Dril	6,571.28	6,158.57	4,965.82	4,922.92	115.759	CC, ES
McKee 41-21 - Original Drilling - Original Drilling - As Dril	7,000.00	6,508.95	5,097.71	5,051.70	110.796	SF
McKee 42-21 - Original Drilling - Original Drilling - As Dril	6,651.62	6,359.49	3,584.20	3,540.30	81.651	CC, ES
McKee 42-21 - Original Drilling - Original Drilling - As Dril	7,050.00	6,686.93	3,690.89	3,644.01	78.724	SF
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	2,052.85	2,051.05	45.09	31.40	3.294	CC
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	2,100.00	2,097.49	45.10	31.25	3.256	ES, SF
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	2,000.00	2,000.00	22.46	8.95	1.662	CC
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	2,100.00	2,099.23	22.50	8.64	1.624	ES, SF
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	2,000.00	1,999.00	22.45	8.95	1.663	CC
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	2,100.00	2,099.69	22.59	8.73	1.630	ES, SF
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	2,000.00	2,000.00	44.99	31.48	3.330	CC, ES
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	2,100.00	2,100.86	45.69	31.83	3.296	SF
Sexton 43-21 (PA) - Original Drilling - Original Drilling - A	6,705.76	6,366.75	2,885.52	2,736.23	19.329	CC, ES
Sexton 43-21 (PA) - Original Drilling - Original Drilling - A	7,000.00	6,594.22	2,940.57	2,785.29	18.937	SF
Wells Trust 13-21 - Original Drilling - Original Drilling - As	2,033.60	2,017.48	1,219.71	1,205.99	88.930	CC, ES
Wells Trust 13-21 - Original Drilling - Original Drilling - As	6,650.00	6,364.46	2,477.97	2,435.90	58.901	SF
Wells Trust 14-21 - Original Drilling - Original Drilling - As	2,023.00	1,984.19	560.55	547.00	41.368	CC, ES
Wells Trust 14-21 - Original Drilling - Original Drilling - As	2,500.00	2,453.65	599.76	584.24	38.633	SF
Wells Trust 24-21 - Original Drilling - Original Drilling - As	3,316.67	3,221.58	107.76	88.07	5.473	CC, ES, SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Rampart A33-750
Project:	Wells Ranch	TVD Reference:	Well @ 4757.00ft
Reference Site:	A Section 21	MD Reference:	Well @ 4757.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Rampart A33-750	Database:	EDMP
Reference Design:	APD-Rev 0	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 28						
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	9,313.67	6,739.00	1,990.32	1,823.21	11.910	CC, ES
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	9,500.00	6,739.00	1,999.02	1,830.10	11.834	SF
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	9,175.98	6,707.53	2,014.00	1,959.92	37.238	CC
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	9,200.00	6,707.72	2,014.14	1,959.83	37.083	ES
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	9,700.00	6,711.70	2,081.05	2,022.35	35.450	SF
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	10,348.52	6,734.00	713.77	540.02	4.108	CC, ES, SF
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	3,118.96	3,039.73	1,102.48	1,083.92	59.396	CC, ES
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	7,500.00	6,783.19	1,751.16	1,704.06	37.182	SF
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	9,055.65	6,766.32	1,912.18	1,857.82	35.177	CC, ES
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	9,200.00	6,771.90	1,917.61	1,862.96	35.086	SF
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	10,377.77	6,769.52	1,948.67	1,885.73	30.964	CC, ES
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	10,500.00	6,771.25	1,952.49	1,889.31	30.901	SF
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	11,725.38	6,741.34	1,964.59	1,892.15	27.117	CC, ES
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	11,800.00	6,743.62	1,966.01	1,893.38	27.069	SF
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	7,800.00	6,771.84	665.38	616.96	13.741	SF
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	7,817.10	6,772.12	665.16	616.78	13.748	CC, ES
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	8,900.00	6,771.80	616.43	562.20	11.367	SF
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	8,937.21	6,774.38	615.31	561.21	11.373	CC, ES
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	11,700.00	6,712.32	670.15	597.68	9.247	SF
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	11,748.92	6,712.17	668.36	596.13	9.253	CC, ES
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	10,867.52	6,769.56	1,159.66	1,093.14	17.433	CC, ES, SF
Wardlaw 16-28 - Original Drilling - Original Drilling - As D	11,740.37	6,712.00	1,784.05	1,600.79	9.735	CC, ES
Wardlaw 16-28 - Original Drilling - Original Drilling - As D	11,900.00	6,712.00	1,791.18	1,606.03	9.674	SF
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	11,700.13	6,701.35	1,804.83	1,732.81	25.060	CC, ES
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,696.32	1,848.59	1,772.47	24.284	SF
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	11,088.57	6,707.00	1,471.52	1,293.11	8.248	CC
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	11,100.00	6,707.00	1,471.56	1,293.00	8.241	ES
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	11,200.00	6,707.00	1,475.73	1,295.91	8.207	SF
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	11,055.97	6,699.59	1,480.15	1,412.84	21.990	CC, ES
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	11,300.00	6,697.24	1,500.13	1,429.98	21.385	SF
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	10,057.15	6,538.17	409.24	348.15	6.698	CC, ES
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	10,200.00	6,586.15	429.79	363.28	6.461	SF
Webster 09-28 - Original Drilling - Original Drilling - As D	10,288.68	6,722.00	1,758.94	1,585.85	10.162	CC
Webster 09-28 - Original Drilling - Original Drilling - As D	10,300.00	6,722.00	1,758.98	1,585.75	10.154	ES
Webster 09-28 - Original Drilling - Original Drilling - As D	10,500.00	6,722.00	1,771.59	1,596.17	10.099	SF
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	11,627.85	6,704.79	467.57	396.02	6.535	CC, ES
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	11,700.00	6,704.51	473.11	400.01	6.472	SF
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	10,249.22	6,712.48	1,774.02	1,712.32	28.748	CC, ES
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	10,700.00	6,710.76	1,830.40	1,764.25	27.670	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Rampart A33-750
Project:	Wells Ranch	TVD Reference:	Well @ 4757.00ft
Reference Site:	A Section 21	MD Reference:	Well @ 4757.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Rampart A33-750	Database:	EDMP
Reference Design:	APD-Rev 0	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 29						
Amos 1 (DA) - Wellbore #1 - No Surveys	2,000.00	1,913.00	6,654.15	6,609.12	147.785	CC
Amos 1 (DA) - Wellbore #1 - No Surveys	2,100.00	2,012.98	6,655.15	6,607.95	140.991	ES
Amos 1 (DA) - Wellbore #1 - No Surveys	12,900.00	3,800.00	7,933.91	7,816.34	67.483	SF
Anderson 3-29 (SI) - Wellbore #1 - Gyro Surveys	212.13	149.13	4,485.12	4,484.26	5,219.481	CC
Anderson 3-29 (SI) - Wellbore #1 - Gyro Surveys	900.00	811.58	4,488.20	4,482.62	804.563	ES
Anderson 3-29 (SI) - Wellbore #1 - Gyro Surveys	10,200.00	6,703.54	6,546.40	6,491.43	119.087	SF
Andy 29-1 (PA) - Wellbore #1 - No Surveys	2,000.00	1,927.00	5,067.61	5,022.30	111.859	CC
Andy 29-1 (PA) - Wellbore #1 - No Surveys	2,100.00	2,026.98	5,068.72	5,021.24	106.754	ES
Andy 29-1 (PA) - Wellbore #1 - No Surveys	10,000.00	6,731.00	5,977.06	5,807.25	35.199	SF
Andy 29-2 (PA) - Wellbore #1 - Gyro Surveys	227.69	157.69	6,129.30	6,128.35	6,465.622	CC
Andy 29-2 (PA) - Wellbore #1 - Gyro Surveys	2,000.00	1,909.23	6,132.38	6,119.13	462.576	ES
Andy 29-2 (PA) - Wellbore #1 - Gyro Surveys	12,200.00	6,743.95	7,899.53	7,831.68	116.434	SF
Capehart 1 (SI) - Wellbore #1 - Gyro Surveys	999.42	917.42	4,090.26	4,083.96	649.567	CC
Capehart 1 (SI) - Wellbore #1 - Gyro Surveys	2,000.18	1,918.33	4,090.81	4,077.52	307.803	ES
Capehart 1 (SI) - Wellbore #1 - Gyro Surveys	10,400.00	6,742.09	4,903.09	4,843.65	82.487	SF
Capehart 31-29 (TA) - Wellbore #1 - Gyro Surveys	1,792.08	1,726.15	3,088.58	3,076.68	259.631	CC
Capehart 31-29 (TA) - Wellbore #1 - Gyro Surveys	2,000.00	1,913.64	3,089.28	3,076.01	232.733	ES
Capehart 31-29 (TA) - Wellbore #1 - Gyro Surveys	8,900.00	6,754.43	4,568.69	4,517.56	89.364	SF
Capehart 41-29 (TA) - Wellbore #1 - Gyro Surveys	2,031.13	1,978.88	2,043.71	2,030.14	150.639	CC, ES
Capehart 41-29 (TA) - Wellbore #1 - Gyro Surveys	8,200.00	6,768.89	3,157.47	3,108.41	64.369	SF
Capehart 42-29 (SI) - Wellbore #1 - Gyro Surveys	270.74	195.75	5,343.13	5,341.88	4,290.598	CC
Capehart 42-29 (SI) - Wellbore #1 - Gyro Surveys	2,000.00	1,924.69	5,348.24	5,334.92	401.604	ES
Capehart 42-29 (SI) - Wellbore #1 - Gyro Surveys	11,600.00	6,713.54	6,657.09	6,591.85	102.030	SF
Miller 15-29 (PR) - Wellbore #1 - Gyro Surveys	11,439.61	7,167.50	4,567.04	4,494.28	62.771	CC, ES
Miller 15-29 (PR) - Wellbore #1 - Gyro Surveys	12,300.00	7,087.43	4,653.07	4,576.79	61.002	SF
Miller 16-29 (SI) - Wellbore #1 - Gyro Surveys	11,680.70	6,678.91	3,064.13	2,992.52	42.790	CC
Miller 16-29 (SI) - Wellbore #1 - Gyro Surveys	11,700.00	6,679.31	3,064.19	2,992.50	42.741	ES
Miller 16-29 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,700.00	3,092.71	3,019.53	42.263	SF
Miller 33-29 (SI) - Wellbore #1 - Gyro Surveys	10,455.79	6,743.03	4,636.07	4,572.81	73.288	CC
Miller 33-29 (SI) - Wellbore #1 - Gyro Surveys	10,500.00	6,742.60	4,636.28	4,572.81	73.041	ES
Miller 33-29 (SI) - Wellbore #1 - Gyro Surveys	11,600.00	6,731.77	4,775.17	4,707.14	70.192	SF
Miller 43-29 (SI) - Wellbore #1 - Gyro Surveys	10,529.37	6,815.50	3,253.07	3,188.92	50.711	CC, ES
Miller 43-29 (SI) - Wellbore #1 - Gyro Surveys	11,000.00	6,821.27	3,286.93	3,221.11	49.937	SF
Rhine 15-29 (PR) - Wellbore #1 - Gyro Surveys	11,482.22	6,558.97	4,654.43	4,584.90	66.941	CC
Rhine 15-29 (PR) - Wellbore #1 - Gyro Surveys	11,500.00	6,558.09	4,654.46	4,584.85	66.858	ES
Rhine 15-29 (PR) - Wellbore #1 - Gyro Surveys	12,500.00	6,512.19	4,764.11	4,690.45	64.678	SF
Uhrich 1 (SI) - Wellbore #1 - Gyro Surveys	11,635.12	6,716.46	7,283.57	7,212.06	101.858	CC
Uhrich 1 (SI) - Wellbore #1 - Gyro Surveys	11,700.00	6,715.82	7,283.86	7,211.97	101.313	ES
Uhrich 1 (SI) - Wellbore #1 - Gyro Surveys	14,300.00	6,700.00	7,755.73	7,671.10	91.633	SF
Uhrich 13-29 (PR) - Wellbore #1 - Gyro Surveys	223.97	144.97	6,952.64	6,951.75	7,790.341	CC
Uhrich 13-29 (PR) - Wellbore #1 - Gyro Surveys	400.00	305.44	6,952.91	6,950.84	3,359.204	ES
Uhrich 13-29 (PR) - Wellbore #1 - Gyro Surveys	13,400.00	6,749.84	7,955.56	7,878.21	102.847	SF
Uhrich 14-29 (SI) - Wellbore #1 - Gyro Surveys	11,813.29	6,529.74	5,784.07	5,712.27	80.557	CC, ES
Uhrich 14-29 (SI) - Wellbore #1 - Gyro Surveys	13,400.00	6,472.05	5,997.43	5,918.49	75.981	SF
Uhrich 19-29 (SI) - Wellbore #1 - Gyro Surveys	11,156.55	6,722.24	6,426.26	6,358.18	94.405	CC
Uhrich 19-29 (SI) - Wellbore #1 - Gyro Surveys	11,200.00	6,721.67	6,426.40	6,358.09	94.067	ES
Uhrich 19-29 (SI) - Wellbore #1 - Gyro Surveys	12,300.00	12,300.00	6,527.15	6,433.72	69.859	SF
Uhrich 23-29 (SI) - Wellbore #1 - Gyro Surveys	10,702.50	6,710.92	5,738.34	5,673.54	88.557	CC, ES
Uhrich 23-29 (SI) - Wellbore #1 - Gyro Surveys	12,500.00	6,705.51	6,013.28	5,940.28	82.383	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Rampart A33-750
Project:	Wells Ranch	TVD Reference:	Well @ 4757.00ft
Reference Site:	A Section 21	MD Reference:	Well @ 4757.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Rampart A33-750	Database:	EDMP
Reference Design:	APD-Rev 0	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 32						
Ehrlich 13-32 (PR) - Wellbore #1 - Gyro Surveys	15,546.57	6,909.94	7,295.86	7,193.18	71.057	CC
Ehrlich 13-32 (PR) - Wellbore #1 - Gyro Surveys	15,600.00	6,913.02	7,296.05	7,193.02	70.814	ES
Ehrlich 13-32 (PR) - Wellbore #1 - Gyro Surveys	17,093.98	6,999.13	7,457.62	7,346.32	67.003	SF
Ehrlich 14-32 (TA) - Wellbore #1 - Gyro Surveys	16,923.88	6,880.84	7,186.24	7,072.77	63.333	CC
Ehrlich 14-32 (TA) - Wellbore #1 - Gyro Surveys	17,000.00	6,879.22	7,186.64	7,072.69	63.066	ES
Ehrlich 14-32 (TA) - Wellbore #1 - Gyro Surveys	17,093.98	6,877.23	7,188.25	7,073.71	62.756	SF
Farmland 10-32 (SI) - Wellbore #1 - Gyro Surveys	15,000.00	15,000.00	4,685.16	4,558.13	36.882	SF
Farmland 10-32 (SI) - Wellbore #1 - Gyro Surveys	15,741.23	6,753.43	4,626.16	4,522.62	44.679	CC, ES
Farmland 16-32 (SI) - Wellbore #1 - Gyro Surveys	16,964.85	6,689.41	3,252.38	3,139.43	28.795	CC, ES
Farmland 16-32 (SI) - Wellbore #1 - Gyro Surveys	17,093.98	6,689.85	3,254.94	3,141.44	28.677	SF
Hoffner 1 (PR) - Wellbore #1 - Gyro Surveys	13,001.64	6,658.21	4,613.23	4,531.73	56.604	CC, ES
Hoffner 1 (PR) - Wellbore #1 - Gyro Surveys	13,900.00	6,645.82	4,699.87	4,614.51	55.058	SF
Hoffner 32-32 (SI) - Wellbore #1 - Gyro Surveys	14,336.19	6,700.00	4,622.91	4,530.77	50.174	CC, ES
Hoffner 32-32 (SI) - Wellbore #1 - Gyro Surveys	15,100.00	6,686.69	4,685.55	4,590.07	49.071	SF
Johnson 5-32 (PR) - Wellbore #1 - Gyro Surveys	14,638.54	6,840.54	6,993.77	6,898.73	73.589	CC
Johnson 5-32 (PR) - Wellbore #1 - Gyro Surveys	14,700.00	6,842.12	6,994.04	6,898.61	73.289	ES
Johnson 5-32 (PR) - Wellbore #1 - Gyro Surveys	16,500.00	6,888.47	7,237.09	7,132.51	69.202	SF
Johnson A 32-06 (PR) - Wellbore #1 - Gyro Surveys	14,502.26	6,770.31	5,752.20	5,658.43	61.343	CC, ES
Johnson A 32-06 (PR) - Wellbore #1 - Gyro Surveys	15,700.00	6,774.25	5,875.57	5,775.94	58.973	SF
Larsen 1 (PR) - Wellbore #1 - Gyro Surveys	13,040.24	6,695.41	3,317.96	3,235.94	40.453	CC, ES
Larsen 1 (PR) - Wellbore #1 - Gyro Surveys	13,400.00	6,694.95	3,337.40	3,254.02	40.022	SF
Larsen 2 (PR) - Wellbore #1 - Gyro Surveys	14,261.60	6,679.45	3,326.23	3,234.81	36.385	CC, ES
Larsen 2 (PR) - Wellbore #1 - Gyro Surveys	14,600.00	6,678.71	3,343.40	3,250.70	36.067	SF
Larson A32-17 (PR) - Wellbore #1 - MWD Surveys	13,571.14	6,694.94	3,735.59	3,649.74	43.509	CC
Larson A32-17 (PR) - Wellbore #1 - MWD Surveys	13,600.00	6,694.16	3,735.71	3,649.71	43.441	ES
Larson A32-17 (PR) - Wellbore #1 - MWD Surveys	14,000.00	6,683.64	3,760.11	3,672.54	42.939	SF
QC USX A32-19 (PR) - Wellbore #1 - MWD Surveys	13,608.54	6,685.09	6,314.86	6,228.48	73.109	CC, ES
QC USX A32-19 (PR) - Wellbore #1 - MWD Surveys	15,300.00	6,708.86	6,537.42	6,442.64	68.976	SF
Rubix A 32-03 (PR) - Wellbore #1 - Gyro Surveys	12,787.88	6,239.53	5,831.00	5,753.49	75.226	CC
Rubix A 32-03 (PR) - Wellbore #1 - Gyro Surveys	12,800.00	6,239.65	5,831.02	5,753.43	75.157	ES
Rubix A 32-03 (PR) - Wellbore #1 - Gyro Surveys	14,300.00	6,671.15	6,022.36	5,935.11	69.024	SF
Rubix A 32-04 (SI) - Wellbore #1 - No Surveys	12,821.77	6,712.00	7,169.72	6,978.33	37.461	CC
Rubix A 32-04 (SI) - Wellbore #1 - No Surveys	12,900.00	6,712.00	7,170.15	6,978.27	37.369	ES
Rubix A 32-04 (SI) - Wellbore #1 - No Surveys	14,100.00	6,712.00	7,282.77	7,084.21	36.677	SF
Webster 11-32 (PR) - Wellbore #1 - Gyro Surveys	15,525.04	6,740.31	5,697.04	5,595.33	56.012	CC, ES
Webster 11-32 (PR) - Wellbore #1 - Gyro Surveys	16,600.00	6,747.37	5,797.56	5,690.56	54.184	SF
Webster 14-32 (TA) - Wellbore #1 - Gyro Surveys	17,093.98	6,642.09	5,917.11	5,804.97	52.767	CC, ES, SF
Webster 15-32 (PR) - Wellbore #1 - Gyro Surveys	16,907.89	6,669.89	4,510.74	4,398.39	40.148	CC, ES
Webster 15-32 (PR) - Wellbore #1 - Gyro Surveys	17,093.98	6,670.42	4,514.58	4,401.24	39.833	SF
Webster 9-32 (SI) - Wellbore #1 - Gyro Surveys	15,563.74	6,622.59	3,297.27	3,195.98	32.553	CC, ES
Webster 9-32 (SI) - Wellbore #1 - Gyro Surveys	15,900.00	6,626.59	3,314.37	3,211.83	32.323	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Rampart A33-750
Project:	Wells Ranch	TVD Reference:	Well @ 4757.00ft
Reference Site:	A Section 21	MD Reference:	Well @ 4757.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Rampart A33-750	Database:	EDMP
Reference Design:	APD-Rev 0	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 33						
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	15,488.14	6,689.00	450.66	349.35	4.448	CC, ES, SF
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	17,093.98	6,672.00	683.27	458.96	3.046	CC, ES, SF
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	16,897.62	6,651.26	627.03	514.34	5.565	CC
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	16,900.00	6,651.27	627.03	514.29	5.562	ES, SF
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	16,322.53	6,680.96	1,472.92	1,365.15	13.667	CC, ES, SF
French 09-33 - Original Drilling - Original Drilling - As Dril	15,572.24	6,716.10	1,985.59	1,883.91	19.528	CC
French 09-33 - Original Drilling - Original Drilling - As Dril	15,600.00	6,715.69	1,985.79	1,883.74	19.460	ES
French 09-33 - Original Drilling - Original Drilling - As Dril	15,900.00	6,712.66	2,012.45	1,907.41	19.158	SF
Hammerbeck 16-33 - Original Drilling - Original Drilling -	16,987.17	6,725.82	2,045.27	1,932.35	18.113	CC
Hammerbeck 16-33 - Original Drilling - Original Drilling -	17,000.00	6,725.90	2,045.31	1,932.23	18.087	ES
Hammerbeck 16-33 - Original Drilling - Original Drilling -	17,093.98	6,726.49	2,048.06	1,933.84	17.932	SF
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	16,262.70	6,703.12	1,281.42	1,174.33	11.965	CC
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	16,300.00	6,702.67	1,281.96	1,174.29	11.906	ES
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	16,400.00	6,701.45	1,288.76	1,179.86	11.835	SF
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	12,828.10	6,694.85	2,094.11	2,013.74	26.053	CC, ES
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	12,900.00	6,695.05	2,095.35	2,014.79	26.011	SF
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	14,559.10	6,706.90	1,902.46	1,808.52	20.251	CC, ES
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	14,600.00	6,706.85	1,902.90	1,808.87	20.237	SF
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	12,800.00	6,712.00	668.38	477.38	3.499	ES, SF
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	12,802.00	6,712.00	668.38	477.39	3.500	CC
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	12,772.80	6,388.77	872.66	793.58	11.036	CC
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	12,800.00	6,387.82	873.08	793.50	10.971	ES
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	12,900.00	6,384.27	881.87	800.86	10.886	SF
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	14,579.58	6,669.68	533.00	438.63	5.648	CC
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	14,600.00	6,670.17	533.39	438.52	5.622	ES, SF
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	15,641.72	6,707.41	2,037.32	1,934.83	19.878	CC, ES
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	15,700.00	6,707.48	2,038.15	1,935.53	19.860	SF
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	17,093.98	6,676.77	2,035.17	1,920.84	17.799	CC, ES, SF
Sughrue 41-33 - Original Drilling - Original Drilling - As I	12,807.36	6,813.02	2,038.08	1,958.08	25.479	CC, ES
Sughrue 41-33 - Original Drilling - Original Drilling - As I	13,200.00	6,805.58	2,075.47	1,991.33	24.667	SF
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	15,541.05	6,658.52	683.61	582.01	6.728	CC, ES
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	15,600.00	6,657.81	686.15	583.44	6.681	SF

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

Noble Energy, Inc.

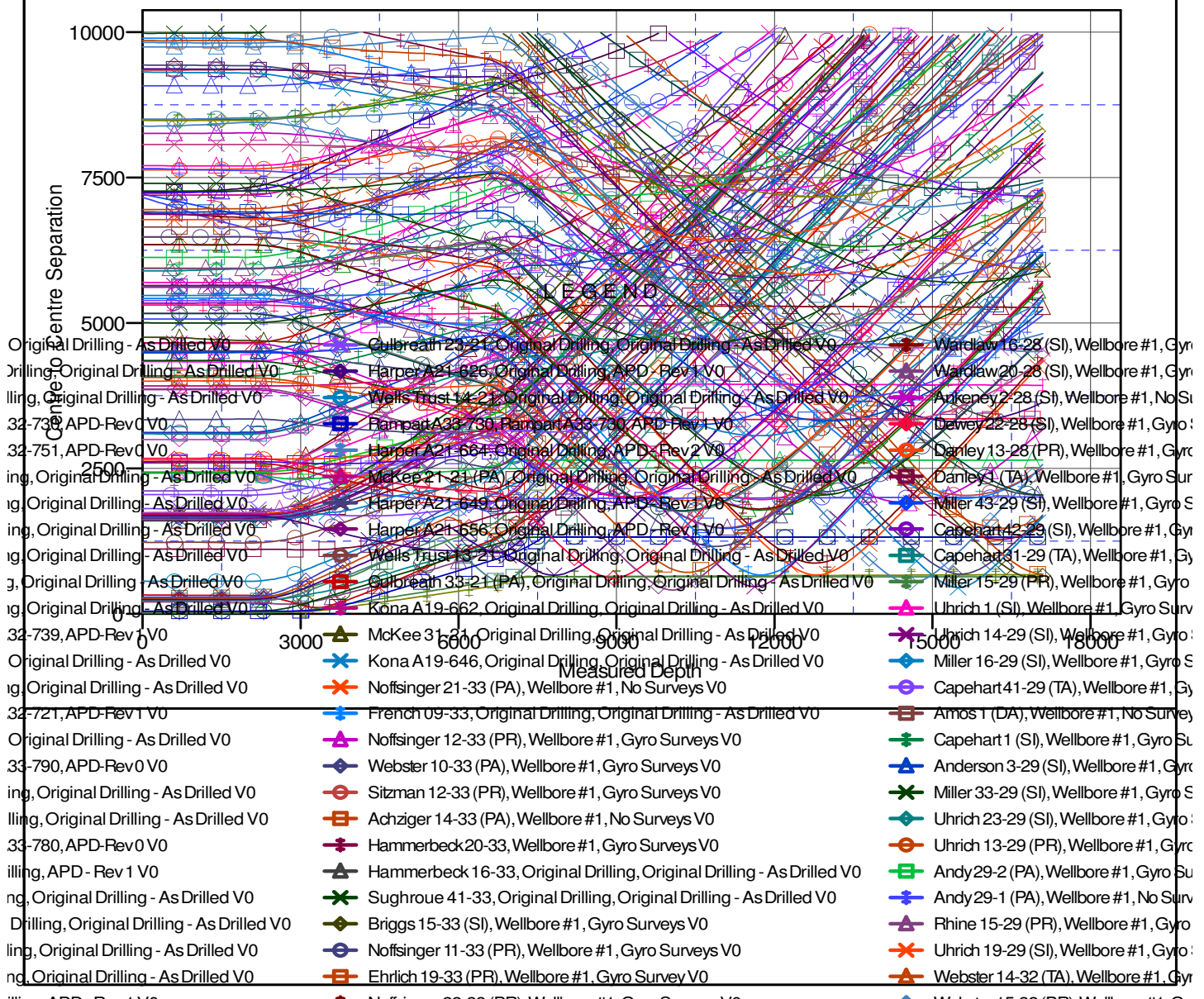
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Rampart A33-750
Project:	Wells Ranch	TVD Reference:	Well @ 4757.00ft
Reference Site:	A Section 21	MD Reference:	Well @ 4757.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Rampart A33-750	Database:	EDMP
Reference Design:	APD-Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4757.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Rampart A33-750
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.61°

Ladder Plot



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

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Rampart A33-750
Project:	Wells Ranch	TVD Reference:	Well @ 4757.00ft
Reference Site:	A Section 21	MD Reference:	Well @ 4757.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Rampart A33-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Rampart A33-750	Database:	EDMP
Reference Design:	APD-Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4757.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Rampart A33-750
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.61°

