

Project: Wells Ranch  
Site: A Section 34  
Well: Reveille A33-720  
Wellbore: Reveille A33-720 OH  
Design: APD - Rev 1

# Northern Region - DJ Basin

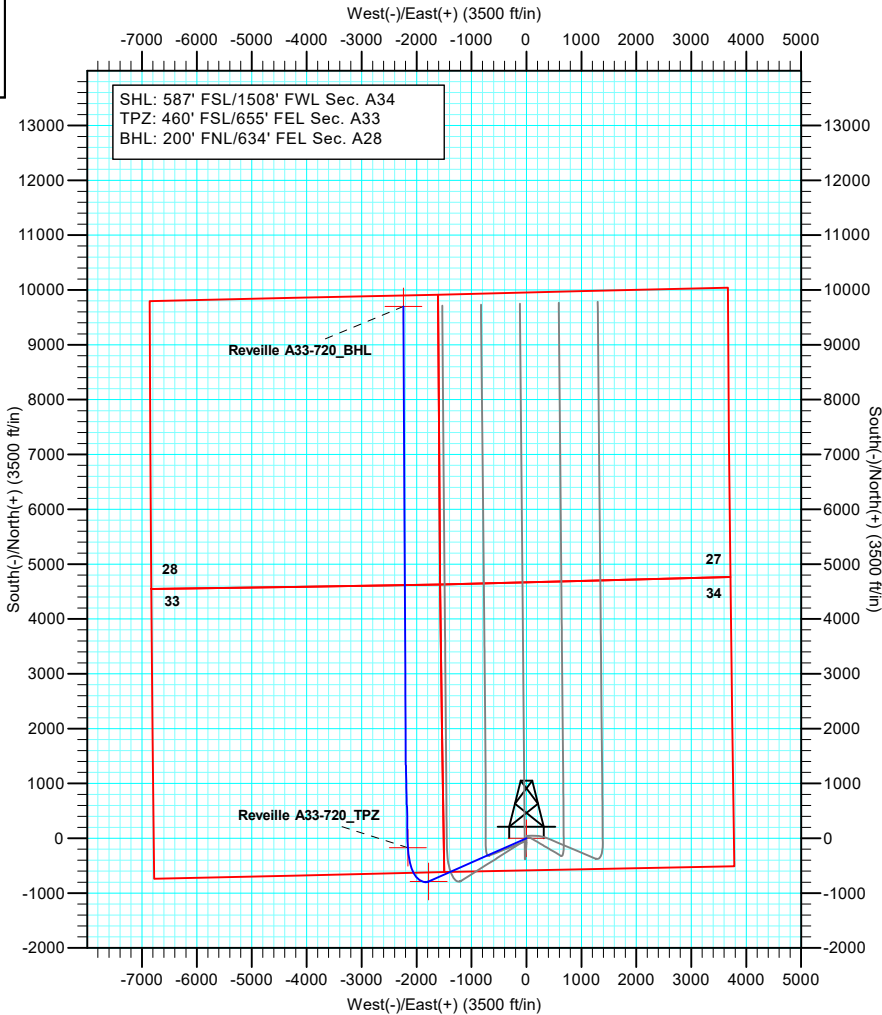
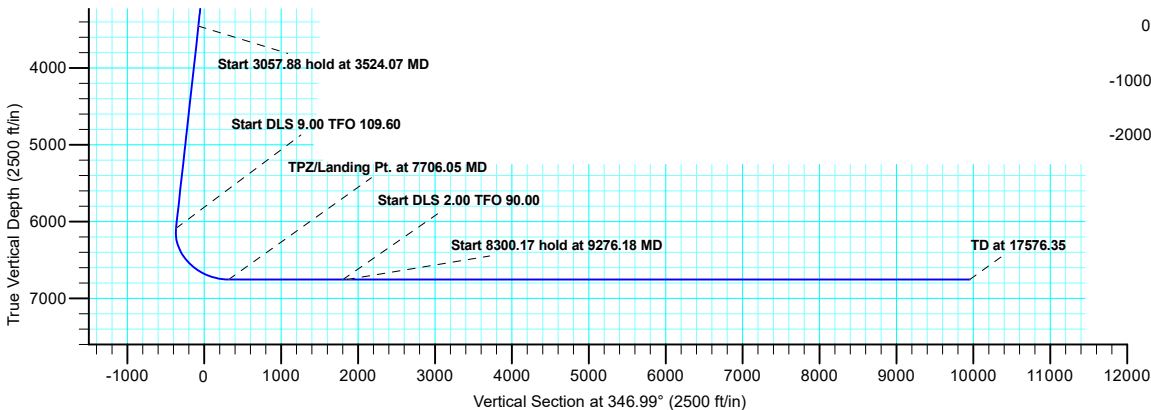
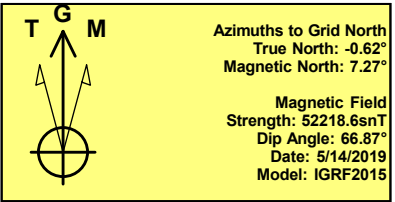
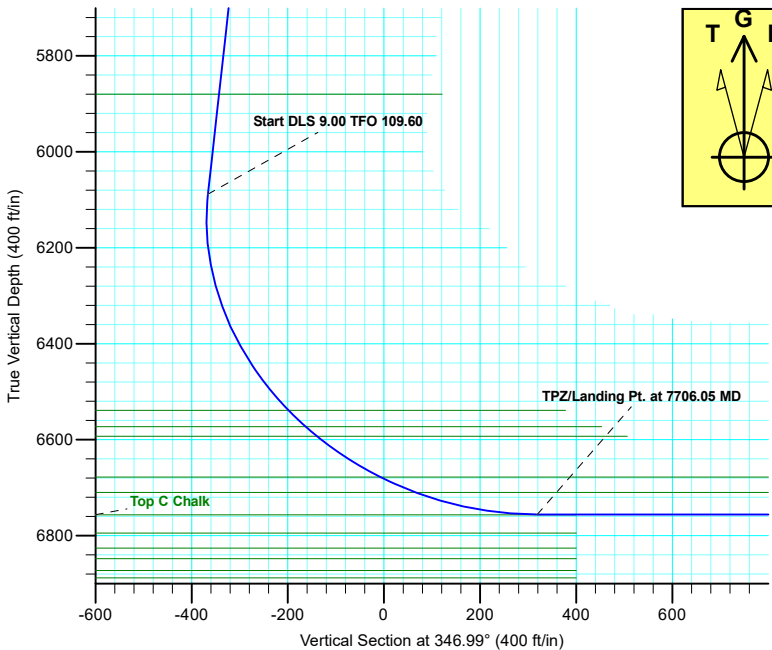
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone  
System Datum: Mean Sea Level

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	3524.07	30.48	246.15	3453.19	-160.08	-362.13	2.00	246.15	-74.43
4	6581.95	30.48	246.15	6088.45	-787.24	-1780.83	0.00	0.00	-366.01
5	7706.05	90.00	358.60	6756.00	-171.74	-2159.13	9.00	109.60	318.87
6	9221.51	90.00	358.60	6756.00	1343.27	-2196.15	0.00	0.00	1803.31
7	9276.18	90.00	359.69	6756.00	1397.93	-2196.97	2.00	90.00	1856.74
8	17576.35	90.00	359.69	6756.00	9697.98	-2241.40	0.00	0.00	9953.63

WELL DETAILS: Reveille A33-720

+N/-S	+E/-W	Northing	Ground Level: Easting	4631.00 Latitude	Longitude	Slot
0.00	0.00	1403532.23	3267123.65	40.4371300	-104.5403400	



Plan: APD - Rev 1 (Reveille A33-720/Reveille A33-720 OH)

Created By: Shelly C. Peterkin Date: 10:02, July 22 2019

# **Northern Region - DJ Basin**

**Wells Ranch**

**A Section 34**

**Reveille A33-720**

**Reveille A33-720 OH**

**Plan: APD - Rev 1**

## **Standard Planning Report**

**22 July, 2019**

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site:</b>	A Section 34	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A33-720 OH		
<b>Design:</b>	APD - Rev 1		

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

<b>Site</b>	A Section 34			
<b>Site Position:</b>		<b>Northing:</b>	1,403,375.63 usft	<b>Latitude:</b> 40.4367000
<b>From:</b> Map		<b>Easting:</b>	3,267,128.13 usft	<b>Longitude:</b> -104.5403300
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.62 °

<b>Well</b>	Reveille A33-720			
<b>Well Position</b>	<b>+N/-S</b>	156.60 ft	<b>Northing:</b>	1,403,532.23 usft
	<b>+E/-W</b>	-4.48 ft	<b>Easting:</b>	3,267,123.65 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 4,631.00 ft

<b>Wellbore</b>	Reveille A33-720 OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	5/14/2019	7.89	66.87	52,218.60919504

<b>Design</b>	APD - Rev 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	346.99

<b>Plan Sections</b>										
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	
3,524.07	30.48	246.15	3,453.19	-160.08	-362.13	2.00	2.00	0.00	246.15	
6,581.95	30.48	246.15	6,088.45	-787.24	-1,780.83	0.00	0.00	0.00	0.00	
7,706.05	90.00	358.60	6,756.00	-171.74	-2,159.13	9.00	5.29	10.00	109.60	Reveille A33-720_TP;
9,221.51	90.00	358.60	6,756.00	1,343.27	-2,196.15	0.00	0.00	0.00	0.00	
9,276.18	90.00	359.69	6,756.00	1,397.93	-2,196.97	2.00	0.00	2.00	90.00	
17,576.35	90.00	359.69	6,756.00	9,697.98	-2,241.40	0.00	0.00	0.00	0.00	Reveille A33-720_BH

# Noble Energy, Inc.

## Planning Report

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<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site:</b>	A Section 34	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A33-720 OH		
<b>Design:</b>	APD - Rev 1		

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
291.00	0.00	0.00	291.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pierre</b>									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
396.00	0.00	0.00	396.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Upper Pierre Aquifer Top</b>									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
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
1,439.00	0.00	0.00	1,439.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Upper Pierre Aquifer Base</b>									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
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
<b>Start Build 2.00</b>									
2,100.00	2.00	246.15	2,099.98	-0.71	-1.60	-0.33	2.00	2.00	0.00
2,200.00	4.00	246.15	2,199.84	-2.82	-6.38	-1.31	2.00	2.00	0.00
2,300.00	6.00	246.15	2,299.45	-6.35	-14.35	-2.95	2.00	2.00	0.00
2,400.00	8.00	246.15	2,398.70	-11.27	-25.50	-5.24	2.00	2.00	0.00
2,500.00	10.00	246.15	2,497.47	-17.60	-39.81	-8.18	2.00	2.00	0.00
2,600.00	12.00	246.15	2,595.62	-25.31	-57.26	-11.77	2.00	2.00	0.00
2,700.00	14.00	246.15	2,693.06	-34.41	-77.83	-16.00	2.00	2.00	0.00
2,800.00	16.00	246.15	2,789.64	-44.87	-101.50	-20.86	2.00	2.00	0.00
2,900.00	18.00	246.15	2,885.27	-56.69	-128.24	-26.36	2.00	2.00	0.00
3,000.00	20.00	246.15	2,979.82	-69.85	-158.02	-32.48	2.00	2.00	0.00
3,100.00	22.00	246.15	3,073.17	-84.34	-190.79	-39.21	2.00	2.00	0.00
3,200.00	24.00	246.15	3,165.21	-100.14	-226.53	-46.56	2.00	2.00	0.00
3,300.00	26.00	246.15	3,255.84	-117.23	-265.18	-54.50	2.00	2.00	0.00
3,400.00	28.00	246.15	3,344.94	-135.58	-306.70	-63.04	2.00	2.00	0.00
3,500.00	30.00	246.15	3,432.39	-155.18	-351.04	-72.15	2.00	2.00	0.00
3,524.07	30.48	246.15	3,453.19	-160.08	-362.13	-74.43	2.00	2.00	0.00
<b>Start 3057.88 hold at 3524.07 MD</b>									
3,600.00	30.48	246.15	3,518.62	-175.66	-397.35	-81.67	0.00	0.00	0.00
3,638.73	30.48	246.15	3,552.00	-183.60	-415.32	-85.36	0.00	0.00	0.00
<b>Parkman</b>									
3,700.00	30.48	246.15	3,604.80	-196.17	-443.75	-91.20	0.00	0.00	0.00
3,800.00	30.48	246.15	3,690.98	-216.68	-490.14	-100.74	0.00	0.00	0.00
3,900.00	30.48	246.15	3,777.16	-237.19	-536.54	-110.27	0.00	0.00	0.00
4,000.00	30.48	246.15	3,863.34	-257.70	-582.93	-119.81	0.00	0.00	0.00
4,100.00	30.48	246.15	3,949.52	-278.20	-629.33	-129.35	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

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<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site:</b>	A Section 34	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A33-720 OH		
<b>Design:</b>	APD - Rev 1		

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	30.48	246.15	4,035.70	-298.71	-675.72	-138.88	0.00	0.00	0.00
4,300.00	30.48	246.15	4,121.88	-319.22	-722.12	-148.42	0.00	0.00	0.00
4,400.00	30.48	246.15	4,208.06	-339.73	-768.51	-157.95	0.00	0.00	0.00
4,446.35	30.48	246.15	4,248.00	-349.24	-790.01	-162.37	0.00	0.00	0.00
<b>Sussex</b>									
4,500.00	30.48	246.15	4,294.24	-360.24	-814.91	-167.49	0.00	0.00	0.00
4,600.00	30.48	246.15	4,380.42	-380.75	-861.30	-177.02	0.00	0.00	0.00
4,700.00	30.48	246.15	4,466.60	-401.26	-907.70	-186.56	0.00	0.00	0.00
4,800.00	30.48	246.15	4,552.78	-421.77	-954.09	-196.09	0.00	0.00	0.00
4,900.00	30.48	246.15	4,638.96	-442.28	-1,000.49	-205.63	0.00	0.00	0.00
5,000.00	30.48	246.15	4,725.14	-462.79	-1,046.88	-215.16	0.00	0.00	0.00
5,100.00	30.48	246.15	4,811.31	-483.30	-1,093.28	-224.70	0.00	0.00	0.00
5,144.89	30.48	246.15	4,850.00	-492.51	-1,114.10	-228.98	0.00	0.00	0.00
<b>Shannon</b>									
5,200.00	30.48	246.15	4,897.49	-503.81	-1,139.67	-234.24	0.00	0.00	0.00
5,300.00	30.48	246.15	4,983.67	-524.32	-1,186.07	-243.77	0.00	0.00	0.00
5,400.00	30.48	246.15	5,069.85	-544.83	-1,232.46	-253.31	0.00	0.00	0.00
5,500.00	30.48	246.15	5,156.03	-565.34	-1,278.85	-262.84	0.00	0.00	0.00
5,600.00	30.48	246.15	5,242.21	-585.85	-1,325.25	-272.38	0.00	0.00	0.00
5,700.00	30.48	246.15	5,328.39	-606.36	-1,371.64	-281.91	0.00	0.00	0.00
5,800.00	30.48	246.15	5,414.57	-626.87	-1,418.04	-291.45	0.00	0.00	0.00
5,900.00	30.48	246.15	5,500.75	-647.38	-1,464.43	-300.98	0.00	0.00	0.00
6,000.00	30.48	246.15	5,586.93	-667.89	-1,510.83	-310.52	0.00	0.00	0.00
6,100.00	30.48	246.15	5,673.11	-688.40	-1,557.22	-320.06	0.00	0.00	0.00
6,200.00	30.48	246.15	5,759.29	-708.91	-1,603.62	-329.59	0.00	0.00	0.00
6,300.00	30.48	246.15	5,845.47	-729.42	-1,650.01	-339.13	0.00	0.00	0.00
6,340.07	30.48	246.15	5,880.00	-737.64	-1,668.60	-342.95	0.00	0.00	0.00
<b>Teepee Buttes</b>									
6,400.00	30.48	246.15	5,931.65	-749.93	-1,696.41	-348.66	0.00	0.00	0.00
6,500.00	30.48	246.15	6,017.83	-770.44	-1,742.80	-358.20	0.00	0.00	0.00
6,581.95	30.48	246.15	6,088.45	-787.24	-1,780.83	-366.01	0.00	0.00	0.00
<b>Start DLS 9.00 TFO 109.60</b>									
6,600.00	29.97	249.22	6,104.05	-790.70	-1,789.23	-367.48	9.00	-2.82	16.98
6,650.00	28.95	258.13	6,147.60	-797.62	-1,812.76	-368.93	9.00	-2.04	17.84
6,700.00	28.55	267.46	6,191.46	-800.64	-1,836.55	-366.51	9.00	-0.80	18.65
6,750.00	28.80	276.83	6,235.35	-799.73	-1,860.46	-360.25	9.00	0.49	18.75
6,800.00	29.67	285.88	6,279.00	-794.91	-1,884.33	-350.18	9.00	1.75	18.09
6,850.00	31.12	294.31	6,322.15	-786.20	-1,908.02	-336.36	9.00	2.90	16.85
6,900.00	33.07	301.95	6,364.52	-773.66	-1,931.39	-318.87	9.00	3.90	15.28
6,950.00	35.44	308.75	6,405.86	-757.36	-1,954.28	-297.84	9.00	4.73	13.61
7,000.00	38.15	314.76	6,445.91	-737.40	-1,976.56	-273.37	9.00	5.41	12.02
7,050.00	41.12	320.06	6,484.42	-713.91	-1,998.09	-245.64	9.00	5.95	10.59
7,100.00	44.31	324.74	6,521.16	-687.03	-2,018.74	-214.80	9.00	6.38	9.36
7,125.29	45.99	326.90	6,539.00	-672.20	-2,028.81	-198.08	9.00	6.65	8.56
<b>Sharon Springs</b>									
7,150.00	47.67	328.90	6,555.90	-656.93	-2,038.38	-181.05	9.00	6.80	8.09
7,175.84	49.46	330.88	6,573.00	-640.18	-2,048.10	-162.54	9.00	6.93	7.65
<b>Top A Chalk</b>									
7,200.00	51.17	332.63	6,588.43	-623.79	-2,056.89	-144.59	9.00	7.05	7.26
7,207.33	51.69	333.15	6,593.00	-618.69	-2,059.50	-139.04	9.00	7.12	7.04
<b>Top A Marl</b>									
7,250.00	54.77	336.01	6,618.54	-587.82	-2,074.16	-105.66	9.00	7.22	6.71
7,300.00	58.46	339.10	6,646.05	-549.24	-2,090.07	-64.48	9.00	7.38	6.17

# Noble Energy, Inc.

## Planning Report

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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)
7,350.00	62.22	341.95	6,670.79	-508.29	-2,104.54	-21.32	9.00	7.52	5.70
7,365.78	63.42	342.80	6,678.00	-494.91	-2,108.78	-7.34	9.00	7.59	5.44
Top B Chalk									
7,400.00	66.03	344.60	6,692.61	-465.21	-2,117.46	23.56	9.00	7.64	5.26
7,446.03	69.58	346.92	6,710.00	-423.90	-2,127.93	66.16	9.00	7.71	5.02
Top B Marl									
7,450.00	69.89	347.11	6,711.37	-420.28	-2,128.77	69.88	9.00	7.74	4.89
7,500.00	73.78	349.49	6,726.96	-373.77	-2,138.39	117.36	9.00	7.78	4.77
7,550.00	77.69	351.78	6,739.28	-325.97	-2,146.26	165.71	9.00	7.83	4.58
7,600.00	81.62	354.01	6,748.26	-277.17	-2,152.34	214.62	9.00	7.87	4.45
7,650.00	85.57	356.18	6,753.83	-227.67	-2,156.58	263.80	9.00	7.89	4.36
7,700.00	89.52	358.34	6,755.97	-177.79	-2,158.97	312.94	9.00	7.90	4.31
7,706.05	90.00	358.60	6,756.00	-171.74	-2,159.13	318.87	9.00	7.91	4.30
TPZ/Landing Pt. at 7706.05 MD									
7,800.00	90.00	358.60	6,756.00	-77.82	-2,161.42	410.90	0.00	0.00	0.00
7,900.00	90.00	358.60	6,756.00	22.15	-2,163.87	508.85	0.00	0.00	0.00
8,000.00	90.00	358.60	6,756.00	122.12	-2,166.31	606.80	0.00	0.00	0.00
8,100.00	90.00	358.60	6,756.00	222.09	-2,168.75	704.75	0.00	0.00	0.00
8,200.00	90.00	358.60	6,756.00	322.06	-2,171.19	802.71	0.00	0.00	0.00
8,300.00	90.00	358.60	6,756.00	422.03	-2,173.64	900.66	0.00	0.00	0.00
8,400.00	90.00	358.60	6,756.00	522.00	-2,176.08	998.61	0.00	0.00	0.00
8,500.00	90.00	358.60	6,756.00	621.97	-2,178.52	1,096.56	0.00	0.00	0.00
8,600.00	90.00	358.60	6,756.00	721.94	-2,180.97	1,194.52	0.00	0.00	0.00
8,700.00	90.00	358.60	6,756.00	821.91	-2,183.41	1,292.47	0.00	0.00	0.00
8,800.00	90.00	358.60	6,756.00	921.88	-2,185.85	1,390.42	0.00	0.00	0.00
8,900.00	90.00	358.60	6,756.00	1,021.85	-2,188.30	1,488.38	0.00	0.00	0.00
9,000.00	90.00	358.60	6,756.00	1,121.82	-2,190.74	1,586.33	0.00	0.00	0.00
9,100.00	90.00	358.60	6,756.00	1,221.79	-2,193.18	1,684.28	0.00	0.00	0.00
9,200.00	90.00	358.60	6,756.00	1,321.76	-2,195.63	1,782.23	0.00	0.00	0.00
9,221.51	90.00	358.60	6,756.00	1,343.27	-2,196.15	1,803.31	0.00	0.00	0.00
Start DLS 2.00 TFO 90.00									
9,276.18	90.00	359.69	6,756.00	1,397.93	-2,196.97	1,856.74	2.00	0.00	2.00
Start 8300.17 hold at 9276.18 MD									
9,300.00	90.00	359.69	6,756.00	1,421.75	-2,197.09	1,879.98	0.00	0.00	0.00
9,400.00	90.00	359.69	6,756.00	1,521.75	-2,197.63	1,977.53	0.00	0.00	0.00
9,500.00	90.00	359.69	6,756.00	1,621.75	-2,198.16	2,075.08	0.00	0.00	0.00
9,600.00	90.00	359.69	6,756.00	1,721.74	-2,198.70	2,172.63	0.00	0.00	0.00
9,700.00	90.00	359.69	6,756.00	1,821.74	-2,199.24	2,270.19	0.00	0.00	0.00
9,800.00	90.00	359.69	6,756.00	1,921.74	-2,199.77	2,367.74	0.00	0.00	0.00
9,900.00	90.00	359.69	6,756.00	2,021.74	-2,200.31	2,465.29	0.00	0.00	0.00
10,000.00	90.00	359.69	6,756.00	2,121.74	-2,200.84	2,562.84	0.00	0.00	0.00
10,100.00	90.00	359.69	6,756.00	2,221.74	-2,201.38	2,660.39	0.00	0.00	0.00
10,200.00	90.00	359.69	6,756.00	2,321.74	-2,201.91	2,757.94	0.00	0.00	0.00
10,300.00	90.00	359.69	6,756.00	2,421.73	-2,202.45	2,855.49	0.00	0.00	0.00
10,400.00	90.00	359.69	6,756.00	2,521.73	-2,202.98	2,953.04	0.00	0.00	0.00
10,500.00	90.00	359.69	6,756.00	2,621.73	-2,203.52	3,050.59	0.00	0.00	0.00
10,600.00	90.00	359.69	6,756.00	2,721.73	-2,204.05	3,148.14	0.00	0.00	0.00
10,700.00	90.00	359.69	6,756.00	2,821.73	-2,204.59	3,245.69	0.00	0.00	0.00
10,800.00	90.00	359.69	6,756.00	2,921.73	-2,205.12	3,343.24	0.00	0.00	0.00
10,900.00	90.00	359.69	6,756.00	3,021.73	-2,205.66	3,440.79	0.00	0.00	0.00
11,000.00	90.00	359.69	6,756.00	3,121.72	-2,206.19	3,538.35	0.00	0.00	0.00
11,100.00	90.00	359.69	6,756.00	3,221.72	-2,206.73	3,635.90	0.00	0.00	0.00
11,200.00	90.00	359.69	6,756.00	3,321.72	-2,207.26	3,733.45	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site:</b>	A Section 34	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A33-720 OH		
<b>Design:</b>	APD - Rev 1		

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)
11,300.00	90.00	359.69	6,756.00	3,421.72	-2,207.80	3,831.00	0.00	0.00	0.00
11,400.00	90.00	359.69	6,756.00	3,521.72	-2,208.33	3,928.55	0.00	0.00	0.00
11,500.00	90.00	359.69	6,756.00	3,621.72	-2,208.87	4,026.10	0.00	0.00	0.00
11,600.00	90.00	359.69	6,756.00	3,721.72	-2,209.41	4,123.65	0.00	0.00	0.00
11,700.00	90.00	359.69	6,756.00	3,821.71	-2,209.94	4,221.20	0.00	0.00	0.00
11,800.00	90.00	359.69	6,756.00	3,921.71	-2,210.48	4,318.75	0.00	0.00	0.00
11,900.00	90.00	359.69	6,756.00	4,021.71	-2,211.01	4,416.30	0.00	0.00	0.00
12,000.00	90.00	359.69	6,756.00	4,121.71	-2,211.55	4,513.85	0.00	0.00	0.00
12,100.00	90.00	359.69	6,756.00	4,221.71	-2,212.08	4,611.40	0.00	0.00	0.00
12,200.00	90.00	359.69	6,756.00	4,321.71	-2,212.62	4,708.95	0.00	0.00	0.00
12,300.00	90.00	359.69	6,756.00	4,421.71	-2,213.15	4,806.51	0.00	0.00	0.00
12,400.00	90.00	359.69	6,756.00	4,521.70	-2,213.69	4,904.06	0.00	0.00	0.00
12,500.00	90.00	359.69	6,756.00	4,621.70	-2,214.22	5,001.61	0.00	0.00	0.00
12,600.00	90.00	359.69	6,756.00	4,721.70	-2,214.76	5,099.16	0.00	0.00	0.00
12,700.00	90.00	359.69	6,756.00	4,821.70	-2,215.29	5,196.71	0.00	0.00	0.00
12,800.00	90.00	359.69	6,756.00	4,921.70	-2,215.83	5,294.26	0.00	0.00	0.00
12,900.00	90.00	359.69	6,756.00	5,021.70	-2,216.36	5,391.81	0.00	0.00	0.00
13,000.00	90.00	359.69	6,756.00	5,121.70	-2,216.90	5,489.36	0.00	0.00	0.00
13,100.00	90.00	359.69	6,756.00	5,221.69	-2,217.43	5,586.91	0.00	0.00	0.00
13,200.00	90.00	359.69	6,756.00	5,321.69	-2,217.97	5,684.46	0.00	0.00	0.00
13,300.00	90.00	359.69	6,756.00	5,421.69	-2,218.51	5,782.01	0.00	0.00	0.00
13,400.00	90.00	359.69	6,756.00	5,521.69	-2,219.04	5,879.56	0.00	0.00	0.00
13,500.00	90.00	359.69	6,756.00	5,621.69	-2,219.58	5,977.11	0.00	0.00	0.00
13,600.00	90.00	359.69	6,756.00	5,721.69	-2,220.11	6,074.67	0.00	0.00	0.00
13,700.00	90.00	359.69	6,756.00	5,821.69	-2,220.65	6,172.22	0.00	0.00	0.00
13,800.00	90.00	359.69	6,756.00	5,921.68	-2,221.18	6,269.77	0.00	0.00	0.00
13,900.00	90.00	359.69	6,756.00	6,021.68	-2,221.72	6,367.32	0.00	0.00	0.00
14,000.00	90.00	359.69	6,756.00	6,121.68	-2,222.25	6,464.87	0.00	0.00	0.00
14,100.00	90.00	359.69	6,756.00	6,221.68	-2,222.79	6,562.42	0.00	0.00	0.00
14,200.00	90.00	359.69	6,756.00	6,321.68	-2,223.32	6,659.97	0.00	0.00	0.00
14,300.00	90.00	359.69	6,756.00	6,421.68	-2,223.86	6,757.52	0.00	0.00	0.00
14,400.00	90.00	359.69	6,756.00	6,521.68	-2,224.39	6,855.07	0.00	0.00	0.00
14,500.00	90.00	359.69	6,756.00	6,621.67	-2,224.93	6,952.62	0.00	0.00	0.00
14,600.00	90.00	359.69	6,756.00	6,721.67	-2,225.46	7,050.17	0.00	0.00	0.00
14,700.00	90.00	359.69	6,756.00	6,821.67	-2,226.00	7,147.72	0.00	0.00	0.00
14,800.00	90.00	359.69	6,756.00	6,921.67	-2,226.53	7,245.27	0.00	0.00	0.00
14,900.00	90.00	359.69	6,756.00	7,021.67	-2,227.07	7,342.83	0.00	0.00	0.00
15,000.00	90.00	359.69	6,756.00	7,121.67	-2,227.60	7,440.38	0.00	0.00	0.00
15,100.00	90.00	359.69	6,756.00	7,221.67	-2,228.14	7,537.93	0.00	0.00	0.00
15,200.00	90.00	359.69	6,756.00	7,321.66	-2,228.68	7,635.48	0.00	0.00	0.00
15,300.00	90.00	359.69	6,756.00	7,421.66	-2,229.21	7,733.03	0.00	0.00	0.00
15,400.00	90.00	359.69	6,756.00	7,521.66	-2,229.75	7,830.58	0.00	0.00	0.00
15,500.00	90.00	359.69	6,756.00	7,621.66	-2,230.28	7,928.13	0.00	0.00	0.00
15,600.00	90.00	359.69	6,756.00	7,721.66	-2,230.82	8,025.68	0.00	0.00	0.00
15,700.00	90.00	359.69	6,756.00	7,821.66	-2,231.35	8,123.23	0.00	0.00	0.00
15,800.00	90.00	359.69	6,756.00	7,921.66	-2,231.89	8,220.78	0.00	0.00	0.00
15,900.00	90.00	359.69	6,756.00	8,021.65	-2,232.42	8,318.33	0.00	0.00	0.00
16,000.00	90.00	359.69	6,756.00	8,121.65	-2,232.96	8,415.88	0.00	0.00	0.00
16,100.00	90.00	359.69	6,756.00	8,221.65	-2,233.49	8,513.43	0.00	0.00	0.00
16,200.00	90.00	359.69	6,756.00	8,321.65	-2,234.03	8,610.99	0.00	0.00	0.00
16,300.00	90.00	359.69	6,756.00	8,421.65	-2,234.56	8,708.54	0.00	0.00	0.00
16,400.00	90.00	359.69	6,756.00	8,521.65	-2,235.10	8,806.09	0.00	0.00	0.00
16,500.00	90.00	359.69	6,756.00	8,621.65	-2,235.63	8,903.64	0.00	0.00	0.00
16,600.00	90.00	359.69	6,756.00	8,721.64	-2,236.17	9,001.19	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site:</b>	A Section 34	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A33-720 OH		
<b>Design:</b>	APD - Rev 1		

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)
16,700.00	90.00	359.69	6,756.00	8,821.64	-2,236.70	9,098.74	0.00	0.00	0.00
16,800.00	90.00	359.69	6,756.00	8,921.64	-2,237.24	9,196.29	0.00	0.00	0.00
16,900.00	90.00	359.69	6,756.00	9,021.64	-2,237.77	9,293.84	0.00	0.00	0.00
17,000.00	90.00	359.69	6,756.00	9,121.64	-2,238.31	9,391.39	0.00	0.00	0.00
17,100.00	90.00	359.69	6,756.00	9,221.64	-2,238.85	9,488.94	0.00	0.00	0.00
17,200.00	90.00	359.69	6,756.00	9,321.64	-2,239.38	9,586.49	0.00	0.00	0.00
17,300.00	90.00	359.69	6,756.00	9,421.63	-2,239.92	9,684.04	0.00	0.00	0.00
17,400.00	90.00	359.69	6,756.00	9,521.63	-2,240.45	9,781.59	0.00	0.00	0.00
17,500.00	90.00	359.69	6,756.00	9,621.63	-2,240.99	9,879.15	0.00	0.00	0.00
17,576.35	90.00	359.69	6,756.00	9,697.98	-2,241.40	9,953.63	0.00	0.00	0.00
TD at 17576.35									

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
Reveille A33-720_SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,403,532.24	3,267,123.65	40.4371300	-104.5403400
Reveille A33-720_KOP - plan hits target center - Point	0.00	0.00	6,088.45	-787.24	-1,780.82	1,402,744.99	3,265,342.83	40.4350219	-104.5467676
Reveille A33-720_BHL - plan hits target center - Point	0.00	0.00	6,756.00	9,697.98	-2,241.40	1,413,230.19	3,264,882.26	40.4638155	-104.5480177
Reveille A33-720_TPZ - plan hits target center - Point	0.00	0.00	6,756.00	-171.74	-2,159.13	1,403,360.49	3,264,964.53	40.4367225	-104.5481028

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
291.00	291.00	Pierre				
396.00	396.00	Upper Pierre Aquifer Top				
1,439.00	1,439.00	Upper Pierre Aquifer Base				
3,638.73	3,552.00	Parkman				
4,446.35	4,248.00	Sussex				
5,144.89	4,850.00	Shannon				
6,340.07	5,880.00	Teepee Buttes				
7,125.29	6,539.00	Sharon Springs				
7,175.84	6,573.00	Top A Chalk				
7,207.33	6,593.00	Top A Marl				
7,365.78	6,678.00	Top B Chalk				
7,446.03	6,710.00	Top B Marl				



# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site:</b>	A Section 34	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A33-720 OH		
<b>Design:</b>	APD - Rev 1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,000.00	2,000.00	0.00	0.00	Start Build 2.00
3,524.07	3,453.19	-160.08	-362.13	Start 3057.88 hold at 3524.07 MD
6,581.95	6,088.45	-787.24	-1,780.83	Start DLS 9.00 TFO 109.60
7,706.05	6,756.00	-171.74	-2,159.13	TPZ/Landing Pt. at 7706.05 MD
9,221.51	6,756.00	1,343.27	-2,196.15	Start DLS 2.00 TFO 90.00
9,276.18	6,756.00	1,397.93	-2,196.97	Start 8300.17 hold at 9276.18 MD
17,576.35	6,756.00	9,697.98	-2,241.40	TD at 17576.35

# **Northern Region - DJ Basin**

**Wells Ranch**

**A Section 34**

**Reveille A33-720**

**Reveille A33-720 OH**

**APD - Rev 1**

## **Anticollision Summary Report**

**22 July, 2019**

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	APD - Rev 1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD + Stations Interval 100.00ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.00 ft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	7/22/2019		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	17,576.35	APD - Rev 1 (Reveille A33-720 OH)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

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						
Culbreath 23-21 - Original Drilling - Original Drilling - As D	17,576.35	6,858.86	3,277.30	3,191.92	38.384	CC, ES, SF
Culbreath 33-21 (PA) - Original Drilling - Original Drilling -	17,576.35	6,813.00	2,499.58	2,315.52	13.581	CC, ES, SF
Harper A21-618 - Harper A21-618 OH - As-Drilled	17,576.35	10,350.76	783.73	700.50	9.416	CC, ES, SF
Harper A21-626 - Harper A21-626 OH - As-Drilled	17,576.35	10,283.90	1,288.50	1,207.06	15.821	CC, ES, SF
Harper A21-631 - Harper A21-631 OH - As-Drilled	17,576.35	10,270.02	1,631.94	1,549.93	19.901	CC, ES, SF
Harper A21-637 - Harper A21-637 OH - As-Drilled	17,576.35	10,445.66	2,021.47	1,937.42	24.053	CC, ES, SF
Harper A21-643 - Harper A21-643 OH - As-Drilled	17,576.35	10,354.35	2,442.78	2,361.00	29.869	CC, ES, SF
Harper A21-649 - Harper A21-649 OH - As-Drilled	17,576.35	10,636.54	2,806.82	2,720.76	32.613	CC, ES, SF
Harper A21-656 - Harper A21-656 OH - As-Drilled	17,576.35	10,623.23	3,126.30	3,040.19	36.306	CC, ES, SF
Harper A21-664 - Harper A21-664 OH - As-Drilled	17,576.35	10,499.51	3,661.33	3,579.66	44.832	CC, ES, SF
Harper A21-669 - Harper A21-669 OH - As-Drilled	17,576.35	10,796.00	4,018.43	3,932.21	46.604	CC, ES, SF
Harper A21-674 - Harper A21-674 OH - As-Drilled	17,576.35	10,850.64	4,401.03	4,316.13	51.837	CC, ES, SF
Harper A21-681 - Harper A21-681 OH - As-Drilled	17,576.35	10,791.00	4,807.83	4,723.27	56.856	CC, ES, SF
Kona A19-616 - Kona A19-616 - Kona A19-616 - As Drille	17,576.35	6,329.00	3,333.99	3,230.71	32.282	CC, ES, SF
Kona A19-624 - Kona A19-624 - Kona A19-624 - As Drille	17,576.35	6,422.00	3,353.75	3,255.21	34.035	CC, ES, SF
Kona A19-636 - Kona A19-636 - Kona A19-636 - As Drille	17,576.35	6,421.00	3,373.97	3,280.01	35.910	CC, ES, SF
Kona A19-646 - Original Drilling - Original Drilling - As Dr	17,576.35	6,422.00	4,027.47	3,943.74	48.104	CC, ES, SF
Kona A19-662 - Original Drilling - Original Drilling - As Dr	17,576.35	6,136.00	4,746.64	4,667.61	60.063	CC, ES, SF
Kona A19-670 - Kona A19-670 - Original Drilling - As Dril	17,200.00	17,200.00	5,187.98	5,072.20	44.808	SF
Kona A19-670 - Kona A19-670 - Original Drilling - As Dril	17,576.35	6,231.00	4,895.86	4,820.54	65.006	CC, ES
Kona A19-685 - Original Drilling - Original Drilling - As Dr	17,576.35	5,422.44	4,991.34	4,912.84	63.583	CC, ES, SF
McKee 12-21 (PA) - Original Drilling - Original Drilling - A	17,576.35	6,849.00	5,137.06	4,934.83	25.401	CC, ES, SF
McKee 21-21 (PA) - Original Drilling - Original Drilling - A	17,576.35	6,865.00	5,163.53	4,982.72	28.559	CC, ES, SF
McKee 22-21 - Original Drilling - Original Drilling - As Dril	16,600.00	16,600.00	5,058.20	4,957.70	50.329	SF
McKee 22-21 - Original Drilling - Original Drilling - As Dril	17,576.35	6,897.12	4,256.40	4,179.79	55.558	CC, ES
McKee 31-21 - Original Drilling - Original Drilling - As Dril	17,576.35	7,040.53	5,115.10	5,055.91	86.428	CC, ES, SF
McKee 32-21 - Original Drilling - Original Drilling - As Dril	17,576.35	6,875.17	3,653.01	3,590.59	58.523	CC, ES, SF
McKee 41-21 - Original Drilling - Original Drilling - As Dril	17,576.35	6,705.22	4,871.79	4,815.41	86.413	CC, ES, SF
McKee 42-21 - Original Drilling - Original Drilling - As Dril	17,576.35	6,869.06	3,210.38	3,152.64	55.603	CC, ES, SF
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	7,700.00	17,715.67	661.09	542.85	5.591	SF
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	9,269.10	16,146.78	635.45	525.94	5.803	CC, ES
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	7,700.00	17,507.33	1,307.60	1,188.91	11.017	SF
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	9,255.62	15,951.82	1,289.27	1,179.71	11.768	CC, ES
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	7,700.00	17,071.20	1,979.13	1,861.37	16.807	SF
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	9,266.95	15,504.45	1,954.64	1,845.89	17.975	CC
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	9,276.18	15,504.79	1,954.65	1,845.87	17.969	ES
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	7,650.00	16,956.23	2,615.35	2,497.57	22.200	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	Offset Datum

**Summary**

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
<b>A Section 21</b>						
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	9,266.87	15,357.09	2,588.88	2,480.48	23.884	CC, ES
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	7,650.00	16,811.58	3,303.59	3,185.33	27.937	SF
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	9,267.61	15,201.11	3,276.79	3,168.02	30.127	CC
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	9,276.18	15,207.46	3,276.80	3,167.95	30.104	ES
Sexton 43-21 (PA) - Original Drilling - Original Drilling - As	17,576.35	6,805.00	2,332.29	2,162.98	13.775	CC, ES, SF
Wells Trust 13-21 - Original Drilling - Original Drilling - As	17,576.35	6,873.57	4,479.58	4,380.09	45.022	CC, ES, SF
Wells Trust 14-21 - Original Drilling - Original Drilling - As	17,576.35	6,807.43	4,233.66	4,126.14	39.377	CC, ES, SF
Wells Trust 24-21 - Original Drilling - Original Drilling - As	17,576.35	6,826.42	3,417.88	3,312.26	32.359	CC, ES, SF
<b>A Section 22</b>						
Carpio 22-01 - Original Drilling - Original Drilling - As Drill	17,576.35	6,723.42	5,335.31	5,224.91	48.327	CC, ES, SF
Carpio 22-04-19 - Original Drilling - Original Drilling - As D	17,576.35	6,804.94	4,064.03	3,953.86	36.889	CC, ES, SF
Carpio 22-41 - Original Drilling - Original Drilling - As Drill	17,576.35	6,822.87	5,760.47	5,632.33	44.957	CC, ES, SF
Carpio 22-43 - Original Drilling - Original Drilling - As Drill	17,576.35	6,762.81	4,037.23	3,927.10	36.658	CC, ES, SF
Carpio 22-45 - Original Drilling - Original Drilling - As Drill	17,576.35	6,722.12	5,088.37	4,978.80	46.439	CC, ES, SF
Eisenstat 22-11 (PA) - Original Drilling - Original Drilling -	17,576.35	6,819.00	7,249.64	7,040.29	34.630	CC, ES, SF
Eisenstat 22-13 - Original Drilling - Original Drilling - As D	17,576.35	6,851.01	4,897.72	4,797.76	48.997	CC, ES, SF
Eisenstat 22-15 - Original Drilling - Original Drilling - As D	17,576.35	6,762.99	6,316.14	6,219.68	65.478	CC, ES, SF
Eisenstat 22-21 - Original Drilling - Original Drilling - As D	17,576.35	6,929.18	5,369.45	5,285.06	63.631	CC, ES, SF
Eisenstat 22-23 - Original Drilling - Original Drilling - As D	17,576.35	6,826.67	3,858.49	3,784.54	52.177	CC, ES, SF
Gill Land Assoc. 1 (PA) - Original Drilling - Original Drilling	17,576.35	6,820.00	6,299.75	6,083.66	29.154	CC, ES, SF
Gill Land Assoc. 22-02 (PA) - Original Drilling - Original D	17,576.35	6,830.00	4,290.30	4,088.56	21.267	CC, ES, SF
Gill Land Assoc. 22-03 - Original Drilling - Original Drilling	17,576.35	6,838.26	4,883.68	4,815.20	71.314	CC, ES, SF
Gill Land Assoc. 22-04 (PA) - Original Drilling - Original D	17,576.35	6,828.00	6,128.78	5,925.20	30.104	CC, ES, SF
Gruen 22-01 - Original Drilling - Original Drilling - As Drille	17,576.35	6,849.18	2,476.93	2,394.16	29.927	CC, ES, SF
Gruen 22-02 - Original Drilling - Original Drilling - As Drille	17,576.35	6,878.78	2,690.15	2,580.09	24.441	CC, ES, SF
Gruen 22-31 - Original Drilling - Original Drilling - As Drille	17,576.35	6,855.17	3,355.86	3,256.61	33.814	CC, ES, SF
Gruen 22-33 - Original Drilling - Original Drilling - As Drille	17,576.35	6,809.72	1,560.62	1,458.06	15.217	CC, ES, SF
Gruen 22-35 - Original Drilling - Original Drilling - As Drille	17,576.35	6,717.42	2,366.36	2,265.74	23.517	CC, ES, SF
Ottinger 22-01 - Original Drilling - Original Drilling - As Dr	17,576.35	6,832.89	4,531.79	4,426.63	43.094	CC, ES, SF
<b>A Section 23</b>						
Cecil 23-13 - Original Drilling - Original Drilling - As Drilled	17,576.35	6,680.77	9,677.11	9,569.37	89.823	CC, ES, SF
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	17,576.35	6,779.00	6,913.61	6,692.27	31.236	CC, ES, SF
Champlin 23-03 - Original Drilling - Original Drilling - As D	17,576.35	6,700.00	7,722.67	7,612.12	69.855	CC, ES, SF
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	17,576.35	6,754.00	7,552.80	7,330.26	33.939	CC, ES, SF
Cooper 23-1-17 - Original Drilling - Original Drilling - As Dr						Out of range
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	17,576.35	6,587.64	9,740.41	9,634.67	92.120	CC, ES, SF
Cooper 23-12 - Original Drilling - Original Drilling - As Dri						Out of range
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	17,576.35	6,706.28	9,230.98	9,121.93	84.650	CC, ES, SF
Cooper 23-15 - Original Drilling - Original Drilling - As Dri						Out of range
Foss 41-23D - Original Drilling - Original Drilling - As Drill						Out of range
Foss 42-23 - Original Drilling - Original Drilling - As Drilled						Out of range
J&L Farms 23-11 - Original Drilling - Original Drilling - As	17,576.35	6,803.57	8,068.77	7,967.63	79.777	CC, ES, SF
J&L Farms 23-12 - Original Drilling - Original Drilling - As	17,576.35	6,763.03	7,177.00	7,071.11	67.777	CC, ES, SF
J&L Farms 23-21 - Original Drilling - Original Drilling - As	17,576.35	6,614.77	9,472.50	9,369.21	91.708	CC, ES, SF
J&L Farms 23-22 - Original Drilling - Original Drilling - As	17,576.35	6,772.05	8,608.23	8,500.79	80.122	CC, ES, SF
McIntosh 33-23 - Original Drilling - Original Drilling - As D	17,576.35	7,019.00	9,427.53	9,315.51	84.162	CC, ES, SF
McIntosh 34-23 - Original Drilling - Original Drilling - As D	17,576.35	6,814.22	9,404.54	9,293.25	84.509	CC, ES, SF
McIntosh 43-23 - Original Drilling - Original Drilling - As D						Out of range
McIntosh 44-23 - Original Drilling - Original Drilling - As D						Out of range
Schroeder 23-31 - Original Drilling - Original Drilling - As	17,576.35	6,793.30	8,313.85	8,203.32	75.216	CC, ES, SF
Schroeder 23-33 - Original Drilling - Original Drilling - As	17,576.35	6,724.13	6,448.34	6,337.72	58.292	CC, ES, SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	Offset Datum

**Summary**

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
A Section 24						
Larson A23-622 - Larson A23-622 OH - As-drilled	16,600.00	17,299.00	6,279.03	6,151.94	49.408	SF
Larson A23-622 - Larson A23-622 OH - As-drilled	17,576.35	17,299.00	6,019.31	5,899.03	50.044	CC, ES
Larson A23-627 - Larson A23-627 OH - As-drilled	17,000.00	17,330.00	6,256.89	6,126.12	47.847	SF
Larson A23-627 - Larson A23-627 OH - As-drilled	17,576.35	17,330.00	6,091.16	5,964.34	48.030	CC, ES
Larson A23-633 - Larson A23-633 OH - As-drilled	17,400.00	17,260.00	6,242.28	6,109.77	47.107	SF
Larson A23-633 - Larson A23-633 OH - As-drilled	17,576.35	17,260.00	6,188.16	6,056.88	47.137	CC, ES
Larson A23-639 - Larson A23-639 OH - As-drilled	17,576.35	17,355.00	6,316.31	6,177.56	45.522	CC, ES, SF
Larson A23-645 - Larson A23-645 OH - As-drilled	17,576.35	18,040.00	6,459.59	6,314.85	44.627	CC, ES, SF
Larson A23-651 - Larson A23-651 OH - As-drilled	17,576.35	18,045.00	6,593.64	6,444.07	44.084	CC, ES, SF
Larson A23-656 - Larson A23-656 OH - As-drilled	17,576.35	18,030.00	6,729.19	6,575.98	43.923	CC, ES, SF
Larson A23-662 - Larson A23-662 OH - As-drilled	17,576.35	18,100.00	6,936.11	6,778.09	43.896	CC, ES, SF
Larson A23-668 - Larson A23-668 OH - As-Drilled	17,576.35	17,400.00	7,153.98	6,998.91	46.134	CC, ES, SF
Larson A23-672 - Larson A23-672 OH - As-Drilled	17,576.35	17,415.00	7,307.63	7,150.08	46.384	CC, ES, SF
Larson A23-678 - Larson A23-678 OH - As-Drilled	17,576.35	17,106.00	7,540.86	7,380.84	47.124	CC, ES, SF
Larson A23-683 - Larson A23-683 OH - As-Drilled	17,576.35	17,368.00	7,731.91	7,568.49	47.312	CC, ES, SF
Larson AA19-618 - Larson AA19-618 OH - As-Drilled						Out of range
Larson AA19-624 - Larson AA19-624 OH - As-Drilled						Out of range
Larson AA19-624 - Larson AA19-624 ST01 - As-Drilled						Out of range
Larson AA19-630 - Larson AA19-630 OH - As-Drilled						Out of range
Larson AA19-635 - Larson AA19-635 OH - As-Drilled						Out of range
Larson Farms 01-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 02-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 03-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 04-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 05-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 06-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 07-24 - Original Drilling - Original Drilling -						Out of range
Peppler 24-32 - Original Drilling - Original Drilling - As Dri						Out of range
Roth 24-21 - Original Drilling - Original Drilling - As Drilled						Out of range
A Section 25						
Fairmeadows 03-25G - Original Drilling - Original Drilling						Out of range
Fairmeadows Land Co 1 - Original Drilling - Original Drilling						Out of range
Larsen 01-25G - Original Drilling - Original Drilling - As D						Out of range
Larson A25-01 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-02 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-03 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-03X - Original Drilling - Original Drilling - As D						Out of range
Larson A25-05 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-06 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-06X - Original Drilling - Original Drilling - As D						Out of range
Larson A25-07 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-08 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-10 - Original Drilling - Original Drilling - Drilled						Out of range
Larson A25-11 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-12 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-13 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-14 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-15 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-17 - Original Drilling - Original Drilling - As D						Out of range
Larson A25-19 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-23 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-25 - Original Drilling - Original Drilling - As Dr						Out of range

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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 26						
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	14,677.16	6,605.31	7,774.00	7,683.74	86.132	CC
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	14,700.00	6,605.34	7,774.03	7,683.63	85.995	ES
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	17,200.00	6,608.65	8,173.11	8,069.88	79.173	SF
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	14,656.37	6,798.42	6,456.81	6,370.16	74.511	CC
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	14,700.00	6,798.88	6,456.96	6,370.04	74.287	ES
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	16,400.00	6,816.85	6,688.07	6,592.84	70.231	SF
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	13,089.75	6,722.00	6,384.11	6,307.86	83.722	CC
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	13,100.00	6,721.98	6,384.12	6,307.81	83.658	ES
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	15,000.00	6,718.67	6,663.78	6,578.36	78.009	SF
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	100.00	46.46	7,890.02	7,889.81	10,000.000	CC
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	2,001.54	1,969.65	7,899.66	7,886.01	578.737	ES
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	16,100.00	7,002.00	8,613.22	8,520.28	92.679	SF
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	17,276.64	6,715.50	6,542.34	6,434.67	60.764	CC
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	17,300.00	6,715.53	6,542.38	6,434.57	60.681	ES
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	17,576.35	6,715.86	6,549.20	6,439.72	59.817	SF
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	15,747.78	6,755.56	6,660.01	6,563.88	69.284	CC
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	15,800.00	6,755.26	6,660.21	6,563.76	69.056	ES
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	17,400.00	6,746.24	6,861.88	6,757.53	65.755	SF
DCD Farm A26-02 - Original Drilling - Original Drilling - A	17,129.56	6,661.30	9,221.98	9,115.66	86.740	CC
DCD Farm A26-02 - Original Drilling - Original Drilling - A	17,200.00	6,661.58	9,222.25	9,115.46	86.358	ES
DCD Farm A26-02 - Original Drilling - Original Drilling - A	17,576.35	6,663.03	9,232.80	9,123.54	84.506	SF
DCD Farms 01-26 - Original Drilling - Original Drilling - As						Out of range
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	15,880.25	6,836.08	7,825.16	7,727.35	80.009	CC
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	15,900.00	6,836.37	7,825.18	7,727.25	79.904	ES
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	17,576.35	6,860.52	8,006.82	7,899.52	74.616	SF
DCD Farms A26-07 - Original Drilling - Original Drilling - A	16,159.04	6,711.17	9,187.61	9,088.59	92.783	CC
DCD Farms A26-07 - Original Drilling - Original Drilling - A	16,200.00	6,710.21	9,187.70	9,088.41	92.531	ES
DCD Farms A26-07 - Original Drilling - Original Drilling - A	17,576.35	6,721.94	9,296.23	9,188.46	86.263	SF
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril						Out of range
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	14,640.66	6,732.81	9,216.36	9,128.70	105.140	CC
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	14,700.00	6,732.50	9,216.55	9,128.51	104.686	ES
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	17,576.35	6,717.68	9,672.61	9,568.96	93.324	SF
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	2,044.03	2,138.17	8,787.50	8,773.09	609.869	CC, ES
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	16,900.00	7,026.00	9,739.70	9,641.85	99.543	SF
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	2,000.00	1,962.00	9,906.12	9,859.95	214.527	CC
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	2,100.00	2,061.98	9,907.85	9,859.33	204.193	ES
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	2,700.00	2,655.06	9,990.27	9,927.86	160.063	SF
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D						Out of range
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	17,328.50	6,971.84	7,950.40	7,830.50	66.310	CC
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	17,400.00	6,971.91	7,950.72	7,830.35	66.053	ES
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	17,576.35	6,972.08	7,954.26	7,832.76	65.468	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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 27						
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	17,195.21	6,835.00	3,955.45	3,734.90	17.935	CC
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	17,200.00	6,835.00	3,955.45	3,734.88	17.933	ES
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	17,500.00	6,835.00	3,967.18	3,745.22	17.874	SF
Howard 03-27 - Original Drilling - Original Drilling - As Dri	17,101.30	6,852.80	2,546.83	2,439.77	23.788	CC, ES
Howard 03-27 - Original Drilling - Original Drilling - As Dri	17,200.00	6,853.25	2,548.74	2,441.34	23.732	SF
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	17,204.34	6,795.00	1,305.00	1,085.18	5.937	CC, ES, SF
Howard 08-27 - Original Drilling - Original Drilling - As Dri	15,807.05	6,780.87	5,258.18	5,161.58	54.434	CC, ES
Howard 08-27 - Original Drilling - Original Drilling - As Dri	16,600.00	6,824.05	5,317.63	5,216.96	52.824	SF
Howard 10-27 - Original Drilling - Original Drilling - As Dri	14,488.59	6,772.05	4,037.84	3,951.20	46.604	CC
Howard 10-27 - Original Drilling - Original Drilling - As Dri	14,500.00	6,771.93	4,037.86	3,951.16	46.573	ES
Howard 10-27 - Original Drilling - Original Drilling - As Dri	15,100.00	6,765.45	4,083.86	3,994.67	45.789	SF
Howard 15-27 - Original Drilling - Original Drilling - As Dri	13,324.18	6,833.93	3,884.57	3,808.35	50.965	CC, ES
Howard 15-27 - Original Drilling - Original Drilling - As Dri	14,000.00	6,846.08	3,942.90	3,863.91	49.913	SF
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	17,164.22	3,765.00	3,294.95	3,183.86	29.661	CC
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	17,200.00	3,765.00	3,295.15	3,183.76	29.583	ES
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	17,576.35	3,765.00	3,320.63	3,205.54	28.853	SF
Howard A27-01 - Original Drilling - Original Drilling - As D	17,200.04	6,782.79	5,283.80	5,176.43	49.211	CC, ES
Howard A27-01 - Original Drilling - Original Drilling - As D	17,576.35	6,781.24	5,297.19	5,187.77	48.414	SF
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	15,804.19	6,775.71	1,324.26	1,227.76	13.722	CC, ES, SF
Howard A27-06 (PR) - Original Drilling - Original Drilling -	15,854.66	6,902.45	2,701.92	2,602.18	27.091	CC, ES
Howard A27-06 (PR) - Original Drilling - Original Drilling -	15,900.00	6,902.49	2,702.30	2,602.48	27.074	SF
Howard A27-07 - Original Drilling - Original Drilling - As D	15,790.39	6,809.45	4,052.12	3,955.63	41.996	CC
Howard A27-07 - Original Drilling - Original Drilling - As D	15,800.00	6,809.41	4,052.13	3,955.59	41.974	ES
Howard A27-07 - Original Drilling - Original Drilling - As D	16,300.00	6,807.72	4,084.04	3,985.33	41.377	SF
Howard A27-09 - Original Drilling - Original Drilling - As D	14,433.41	6,760.20	5,166.45	5,080.32	59.979	CC, ES
Howard A27-09 - Original Drilling - Original Drilling - As D	15,500.00	6,753.78	5,275.40	5,184.34	57.935	SF
Howard A27-16 - Original Drilling - Original Drilling - As D	13,164.55	6,779.77	5,450.44	5,373.38	70.726	CC
Howard A27-16 - Original Drilling - Original Drilling - As D	13,200.00	6,780.11	5,450.56	5,373.29	70.547	ES
Howard A27-16 - Original Drilling - Original Drilling - As D	14,500.00	6,792.57	5,611.65	5,528.30	67.327	SF
Howard A27-17D - Original Drilling - Original Drilling - As	16,605.68	6,895.07	4,701.83	4,595.21	44.097	CC, ES
Howard A27-17D - Original Drilling - Original Drilling - As	17,500.00	6,891.64	4,786.13	4,674.45	42.856	SF



**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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	17,231.49	6,787.00	1,437.37	1,217.50	6.537	CC, ES
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	17,300.00	6,787.00	1,439.00	1,218.22	6.518	SF
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	15,595.03	6,775.12	40.15	-53.70	0.428	Level 1, CC, ES, SF
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	14,414.25	6,782.00	2,684.40	2,486.16	13.541	CC, ES
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	14,700.00	6,782.00	2,699.57	2,498.51	13.427	SF
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	17,289.10	6,848.60	3,730.00	3,621.86	34.491	CC
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	17,300.00	6,848.51	3,730.02	3,621.76	34.455	ES
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	17,576.35	6,846.06	3,741.04	3,630.13	33.728	SF
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	15,700.48	6,832.61	3,886.41	3,790.56	40.549	CC, ES
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	16,600.00	6,794.80	3,988.96	3,885.72	38.637	SF
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	14,379.74	6,858.49	3,917.85	3,832.27	45.775	CC
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	14,400.00	6,858.20	3,917.91	3,832.12	45.671	ES
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	15,400.00	6,843.63	4,048.49	3,954.64	43.136	SF
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	13,031.12	6,814.04	3,929.84	3,853.88	51.734	CC
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	13,100.00	6,812.32	3,930.45	3,853.86	51.317	ES
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	14,200.00	6,782.06	4,099.86	4,014.78	48.185	SF
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	16,943.55	6,895.07	2,640.79	2,535.85	25.164	CC
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	17,000.00	6,894.01	2,641.39	2,535.82	25.019	ES
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	17,400.00	6,886.54	2,679.93	2,570.80	24.558	SF
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	15,813.97	6,940.59	2,584.20	2,487.91	26.839	CC, ES
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	16,300.00	6,905.65	2,629.28	2,528.49	26.087	SF
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	13,014.16	6,762.11	2,634.44	2,558.75	34.803	CC, ES
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	13,600.00	6,763.95	2,698.79	2,618.00	33.405	SF
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	13,891.77	6,888.03	3,125.71	3,043.89	38.203	CC
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	13,900.00	6,887.89	3,125.72	3,043.82	38.164	ES
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	14,700.00	6,874.18	3,228.49	3,139.94	36.459	SF
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	13,071.44	6,762.05	161.07	84.90	2.115	CC, ES, SF
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	13,681.24	6,755.00	496.75	304.42	2.583	CC
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	13,700.00	6,755.00	497.10	304.34	2.579	ES, SF
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	13,714.53	6,759.16	487.89	407.10	6.039	CC, ES
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	13,800.00	6,760.25	495.32	413.06	6.022	SF
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	14,207.15	7,500.00	1,071.34	932.51	7.717	CC
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	14,300.00	7,500.00	1,075.35	927.64	7.280	ES
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	14,600.00	7,500.00	1,141.10	971.96	6.747	SF
Webster 09-28 (PR) - Original Drilling - Original Drilling -	14,482.05	6,770.00	211.90	13.39	1.067	Level 2, CC, ES
Webster 09-28 (PR) - Original Drilling - Original Drilling -	14,500.00	6,770.00	212.66	13.42	1.067	Level 2, SF
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	13,138.68	6,768.82	1,498.47	1,421.86	19.559	CC, ES
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	13,400.00	6,768.01	1,521.08	1,441.70	19.162	SF
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	14,521.79	6,771.45	196.68	109.92	2.267	CC, ES, SF



**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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	9,275.05	6,768.09	2,404.01	2,350.09	44.592	CC
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	9,276.18	6,768.06	2,404.01	2,350.09	44.587	ES
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	9,900.00	6,753.04	2,484.10	2,426.49	43.120	SF
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	7,710.80	6,720.00	2,661.92	2,500.30	16.471	CC, ES, SF
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	7,894.48	6,780.06	1,345.02	1,294.84	26.803	CC, ES, SF
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	8,503.04	6,733.27	3,439.08	3,387.45	66.609	CC, ES
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	9,700.00	6,726.90	3,649.53	3,592.62	64.131	SF
French 09-33 (SI) - Original Drilling - Original Drilling - As	9,198.86	6,729.66	30.29	-23.69	0.561	Level 1, CC, ES, SF
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	7,782.95	6,728.33	67.48	16.67	1.328	Level 3, CC, ES, SF
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	8,519.58	6,713.00	684.76	632.93	13.212	CC, ES
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	8,600.00	6,714.00	689.47	637.27	13.207	SF
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	11,929.98	6,758.06	4,056.77	3,988.34	59.277	CC, ES
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	13,300.00	6,749.05	4,281.86	4,203.25	54.472	SF
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	10,199.92	6,764.84	3,859.25	3,801.23	66.511	CC
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	10,200.00	6,764.84	3,859.25	3,801.23	66.510	ES
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	11,700.00	6,766.63	4,140.54	4,072.68	61.021	SF
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	11,960.92	6,760.00	2,631.11	2,450.90	14.600	CC
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	12,000.00	6,760.00	2,631.40	2,450.83	14.572	ES
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	12,300.00	6,760.00	2,652.87	2,469.63	14.477	SF
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	11,996.99	6,445.94	1,089.92	1,022.06	16.061	CC
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	12,000.00	6,446.02	1,089.92	1,022.02	16.051	ES
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	12,200.00	6,451.74	1,108.65	1,038.56	15.817	SF
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	11,957.47	6,747.71	1,205.04	1,136.52	17.585	CC, ES
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	12,200.00	6,747.86	1,229.21	1,158.08	17.281	SF
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	10,184.67	6,788.67	1,420.95	1,363.36	24.673	CC
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	10,200.00	6,788.36	1,421.04	1,363.31	24.615	ES
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	10,500.00	6,782.29	1,455.51	1,395.20	24.134	SF
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	9,193.04	6,750.60	3,992.41	3,938.81	74.489	CC
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	9,221.51	6,750.63	3,992.51	3,938.79	74.316	ES
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	10,800.00	6,752.51	4,331.05	4,268.55	69.303	SF
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	7,688.56	6,721.46	4,012.98	3,962.48	79.462	CC, ES
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	9,200.00	6,723.33	4,306.59	4,251.81	78.606	SF
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	11,961.92	6,753.02	75.70	6.12	1.088	Level 2, CC, ES, SF
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	9,242.43	6,760.62	1,268.51	1,215.19	23.788	CC, ES
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	9,400.00	6,762.54	1,279.90	1,225.56	23.553	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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 34						
Barthol A34-05X - Original Drilling - Original Drilling - As D	10,656.74	6,760.64	1,209.23	1,148.50	19.912	CC, ES, SF
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	2,004.68	2,019.01	4,981.94	4,968.11	360.105	CC, ES
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	13,200.00	6,701.12	5,584.37	5,511.03	76.138	SF
Howard A34-03 (PA) - Original Drilling - Original Drilling -	11,848.85	6,776.00	2,608.80	2,428.76	14.490	CC, ES
Howard A34-03 (PA) - Original Drilling - Original Drilling -	12,000.00	6,776.00	2,613.18	2,432.63	14.473	SF
Howard BC A34-02 - Original Drilling - Original Drilling - A	11,725.99	6,794.36	3,718.25	3,650.84	55.161	CC, ES
Howard BC A34-02 - Original Drilling - Original Drilling - A	12,400.00	6,784.87	3,778.83	3,708.91	54.043	SF
Landwehr A34-03X - Original Drilling - Original Drilling - A	12,014.07	6,758.24	2,547.17	2,478.29	36.980	CC, ES
Landwehr A34-03X - Original Drilling - Original Drilling - A	12,300.00	6,755.39	2,563.17	2,493.46	36.768	SF
Landwehr A34-04 - Original Drilling - Original Drilling - As	12,019.82	6,738.85	1,059.28	990.62	15.428	CC, ES, SF
Petrikin A34-05 (PA) - Original Drilling - Original Drilling -	10,497.40	6,753.00	1,296.92	1,125.51	7.566	CC, ES
Petrikin A34-05 (PA) - Original Drilling - Original Drilling -	10,500.00	6,753.00	1,296.93	1,125.51	7.566	SF
Petrikin A34-06 - Original Drilling - Original Drilling - As D	10,538.32	6,705.68	2,630.04	2,570.55	44.210	CC, ES
Petrikin A34-06 - Original Drilling - Original Drilling - As D	10,900.00	6,707.63	2,654.79	2,594.23	43.837	SF
Petrikin A34-07 (PA) - Original Drilling - Original Drilling -	2,000.00	1,982.00	3,267.79	3,221.21	70.159	CC
Petrikin A34-07 (PA) - Original Drilling - Original Drilling -	2,100.00	2,081.98	3,269.24	3,220.32	66.825	ES
Petrikin A34-07 (PA) - Original Drilling - Original Drilling -	11,000.00	6,738.00	3,974.35	3,801.08	22.937	SF
Petrikin A34-08 - Original Drilling - Original Drilling - As D	0.00	0.00	4,149.34			
Petrikin A34-08 - Original Drilling - Original Drilling - As D	12,300.00	6,643.57	5,636.68	5,569.88	84.382	SF
Petrikin A34-09 - Original Drilling - Original Drilling - As D	1,791.43	1,799.47	3,588.28	3,575.98	291.705	CC
Petrikin A34-09 - Original Drilling - Original Drilling - As D	2,000.00	1,982.85	3,589.07	3,575.38	262.233	ES
Petrikin A34-09 - Original Drilling - Original Drilling - As D	17,300.00	17,300.00	9,624.22	9,516.33	89.208	SF
Petrikin A34-10 - Original Drilling - Original Drilling - As D	2,008.06	2,021.85	2,416.64	2,402.78	174.366	CC, ES
Petrikin A34-10 - Original Drilling - Original Drilling - As D	10,200.00	6,901.07	4,229.43	4,171.47	72.968	SF
Petrikin A34-11 - Original Drilling - Original Drilling - As D	0.00	0.00	1,462.17			
Petrikin A34-11 - Original Drilling - Original Drilling - As D	2,011.11	1,992.92	1,463.02	1,449.27	106.336	ES
Petrikin A34-11 - Original Drilling - Original Drilling - As D	9,600.00	6,728.06	2,689.42	2,634.69	49.135	SF
Petrikin A34-12 (PA) - Original Drilling - Original Drilling -	9,300.02	6,701.28	1,421.93	1,368.44	26.584	CC, ES
Petrikin A34-12 (PA) - Original Drilling - Original Drilling -	9,400.00	6,703.21	1,425.44	1,371.79	26.568	SF
Petrikin A34-13 - Original Drilling - Original Drilling - As D	4,286.43	4,083.96	337.61	307.46	11.197	CC
Petrikin A34-13 - Original Drilling - Original Drilling - As D	4,300.00	4,095.40	337.69	307.43	11.161	ES
Petrikin A34-13 - Original Drilling - Original Drilling - As D	4,400.00	4,179.58	342.98	311.99	11.068	SF
Petrikin A34-14 (PA) - Original Drilling - Original Drilling -	2,283.56	2,267.83	140.48	124.82	8.972	CC
Petrikin A34-14 (PA) - Original Drilling - Original Drilling -	2,300.00	2,284.35	140.51	124.74	8.910	ES
Petrikin A34-14 (PA) - Original Drilling - Original Drilling -	2,500.00	2,484.66	146.51	129.36	8.544	SF
Petrikin A34-15 - Original Drilling - Original Drilling - As D	2,011.54	2,003.37	1,779.91	1,766.10	128.892	CC, ES
Petrikin A34-15 - Original Drilling - Original Drilling - As D	8,200.00	6,767.39	3,954.71	3,903.47	77.170	SF
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	0.00	0.00	3,136.90			
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	2,000.00	1,983.64	3,144.21	3,130.51	229.513	ES
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	9,600.00	6,484.04	5,577.11	5,524.67	106.347	SF
Petrikin A34-25 - Original Drilling - Original Drilling - As D	1,895.69	1,865.82	848.70	835.78	65.685	CC
Petrikin A34-25 - Original Drilling - Original Drilling - As D	2,000.00	1,968.98	848.84	835.19	62.169	ES
Petrikin A34-25 - Original Drilling - Original Drilling - As D	8,800.00	6,738.86	2,056.66	2,004.28	39.263	SF
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	2,000.00	2,000.00	43.72	29.85	3.151	CC, ES
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	2,100.00	2,099.90	44.52	29.95	3.056	SF
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,000.00	2,000.00	21.86	7.99	1.576	CC
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,100.00	2,100.03	22.48	7.91	1.543	ES, SF
Reveille A34-768 - Reveille A34-768 OH - APD - Rev 1	2,254.54	2,252.11	62.99	47.36	4.029	CC, ES
Reveille A34-768 - Reveille A34-768 OH - APD - Rev 1	2,300.00	2,296.48	63.37	47.44	3.978	SF
Reveille A34-778 - Reveille A34-778 OH - APD - Rev 1	2,290.16	2,288.67	41.27	25.37	2.596	CC
Reveille A34-778 - Reveille A34-778 OH - APD - Rev 1	2,300.00	2,301.55	41.28	25.30	2.584	ES, SF
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	2,000.00	2,000.00	21.86	7.99	1.576	CC
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	2,100.00	2,099.60	22.09	7.52	1.517	ES

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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 34						
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	2,200.00	2,199.20	22.77	7.55	1.496	Level 3, SF

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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 35						
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	2,103.57	2,272.66	4,501.81	4,486.72	298.450	CC, ES
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	12,000.00	12,000.00	6,856.84	6,774.36	83.137	SF
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	0.00	9.58	4,231.96			
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	1,700.00	1,686.68	4,234.66	4,223.08	365.669	ES
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	12,100.00	12,100.00	7,759.85	7,679.81	96.952	SF
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	1,002.59	961.60	5,724.56	5,718.01	874.062	CC
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	2,000.00	1,958.64	5,726.18	5,712.58	421.014	ES
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	12,300.00	6,514.22	8,959.34	8,896.46	142.483	SF
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	100.00	47.22	7,410.37	7,410.17	10,000.000	CC
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	800.00	702.87	7,412.59	7,407.67	1,507.571	ES
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	12,200.00	6,867.65	9,999.56	9,932.26	148.586	SF
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	100.00	28.15	7,257.13	7,256.95	10,000.000	CC, ES
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	11,500.00	6,763.84	9,975.27	9,912.88	159.881	SF
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	2,026.45	2,059.83	8,572.03	8,557.99	610.372	CC, ES
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	5,700.00	5,331.27	9,968.33	9,928.93	252.984	SF
Reveille A34-714 - Reveille A34-714 OH - APD - Rev 1	2,454.56	3,052.92	4,077.46	4,058.52	215.267	CC
Reveille A34-714 - Reveille A34-714 OH - APD - Rev 1	2,500.00	3,101.73	4,077.78	4,058.51	211.620	ES
Reveille A34-714 - Reveille A34-714 OH - APD - Rev 1	17,576.35	16,535.05	5,660.51	5,488.17	32.844	SF
Reveille A34-725 - Reveille A34-725 OH - APD - Rev 1	3,006.14	4,289.69	3,876.50	3,851.44	154.710	CC, ES
Reveille A34-725 - Reveille A34-725 OH - APD - Rev 1	17,576.35	16,703.47	4,953.83	4,781.29	28.711	SF
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	4,567.74	6,493.37	3,533.66	3,492.81	86.492	CC
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	4,600.00	6,513.95	3,533.68	3,492.56	85.931	ES
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	17,576.35	16,960.56	4,246.32	4,073.31	24.543	SF
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	1,910.32	1,926.32	4,213.33	4,200.04	317.096	CC
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	2,000.00	2,000.00	4,213.36	4,199.49	303.714	ES
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	17,576.35	16,972.03	8,491.58	8,318.38	49.028	SF
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	1,910.32	1,926.32	4,191.11	4,177.83	315.424	CC
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	2,000.00	2,000.00	4,191.14	4,177.27	302.113	ES
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	17,576.35	16,740.24	7,784.36	7,611.29	44.978	SF
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	1,909.84	1,926.84	4,168.90	4,155.61	313.749	CC
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	2,000.00	2,000.00	4,168.93	4,155.06	300.512	ES
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	17,576.35	16,502.62	7,076.52	6,904.20	41.068	SF
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	2,000.00	2,018.00	4,146.68	4,132.75	297.523	CC, ES
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	17,576.35	16,477.76	6,369.61	6,197.70	37.053	SF
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	1,720.34	1,679.38	8,150.23	8,138.60	700.993	CC
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	1,800.00	1,728.72	8,150.36	8,138.28	674.467	ES
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	15,800.00	6,776.98	9,999.38	9,910.72	112.788	SF
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	100.00	24.16	7,616.52	7,616.35	10,000.000	CC
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	2,017.42	2,018.72	7,622.47	7,608.60	549.439	ES
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	14,000.00	6,634.55	9,989.10	9,912.54	130.477	SF
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	237.95	198.95	6,927.08	6,925.94	6,071.934	CC
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	2,031.17	2,066.29	6,928.41	6,914.33	491.958	ES
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	15,000.00	6,771.58	8,526.97	8,443.75	102.461	SF
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	2,047.49	2,111.54	6,037.21	6,022.91	422.120	CC, ES
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	14,300.00	6,767.52	6,959.53	6,879.49	86.952	SF
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	100.00	64.08	5,138.00	5,137.77	10,000.000	CC
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	400.00	337.92	5,138.56	5,136.35	2,327.269	ES
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	12,800.00	6,645.07	6,891.48	6,819.74	96.065	SF
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	2,042.60	2,098.40	6,378.61	6,364.38	448.106	CC, ES
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	14,200.00	6,928.15	8,671.80	8,593.91	111.332	SF
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	836.27	799.27	6,002.20	5,996.82	1,115.027	CC
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	1,900.00	1,834.82	6,005.78	5,992.98	468.869	ES
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	14,100.00	6,850.40	7,892.33	7,814.77	101.757	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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 36						
Devries State A36-17 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Devries State A36-21 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Devries State A36-23 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Devries State A36-25 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Scholfeld A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A						Out of range
Scholfeld A36-20 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Scholfeld State A36-4X - Wellbore #1 - Wellbore #1 - As						Out of range
Scholfeld State A36-69HN - Original Drilling - Original Dr						Out of range
Scholfeld State A36-79HN - Wellbore #1 - Original Drillin	3,109.78	9,836.02	9,826.23	9,748.43	126.310	CC, ES
Scholfeld State A36-79HN - Wellbore #1 - Original Drillin	4,100.00	9,888.12	9,981.64	9,897.39	118.477	SF
Sinjin E 36-9 (SI) - Wellbore #1 - No Surveys						Out of range
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-07 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-08 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-09 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-10 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	1,017.68	966.71	9,822.96	9,816.36	1,488.858	CC
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	2,028.02	2,069.93	9,826.10	9,812.04	699.038	ES
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	3,000.00	3,135.72	9,977.22	9,956.12	473.055	SF
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	100.00	27.76	9,732.67	9,732.50	10,000.000	CC, ES
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	3,300.00	3,334.73	9,987.41	9,964.54	436.678	SF
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-15 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-16 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
State A36-99HZ - Original Drilling - As Drilled						Out of range

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	Offset Datum

**Summary**

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
AA Section 30						
Shadow A26-622 - Original Drilling - Original Drilling - As	13,294.63	17,520.00	9,254.78	9,170.59	109.927	CC
Shadow A26-622 - Original Drilling - Original Drilling - As	13,400.00	17,520.00	9,255.38	9,170.48	109.024	ES
Shadow A26-622 - Original Drilling - Original Drilling - As	17,000.00	17,520.00	9,968.99	9,847.58	82.112	SF
Shadow A26-627 - Original Drilling - Original Drilling - As	13,687.00	17,590.00	9,116.84	9,029.88	104.832	CC
Shadow A26-627 - Original Drilling - Original Drilling - As	13,700.00	17,590.00	9,116.85	9,029.80	104.733	ES
Shadow A26-627 - Original Drilling - Original Drilling - As	17,576.35	17,590.00	9,911.80	9,780.48	75.478	SF
Shadow A26-632 - Original Drilling - Original Drilling - As	13,987.09	17,781.00	9,121.71	9,036.29	106.794	CC
Shadow A26-632 - Original Drilling - Original Drilling - As	14,100.00	17,781.00	9,122.41	9,035.90	105.452	ES
Shadow A26-632 - Original Drilling - Original Drilling - As	17,576.35	17,781.00	9,802.46	9,664.44	71.022	SF
Shadow A26-637 - Original Drilling - Original Drilling - As	14,272.81	17,626.00	9,118.22	9,034.17	108.478	CC
Shadow A26-637 - Original Drilling - Original Drilling - As	14,400.00	17,626.00	9,119.11	9,033.84	106.943	ES
Shadow A26-637 - Original Drilling - Original Drilling - As	17,576.35	17,626.00	9,698.21	9,564.79	72.684	SF
Shadow A26-646 - Original Drilling - Original Drilling - As	14,951.81	17,659.00	9,115.84	9,024.90	100.249	CC
Shadow A26-646 - Original Drilling - Original Drilling - As	15,000.00	17,659.00	9,115.96	9,024.66	99.840	ES
Shadow A26-646 - Original Drilling - Original Drilling - As	17,576.35	17,659.00	9,486.13	9,359.01	74.621	SF
Shadow A26-656 - Original Drilling - Original Drilling - As	15,596.30	17,347.00	9,486.73	9,385.61	93.816	CC
Shadow A26-656 - Original Drilling - Original Drilling - As	15,700.00	17,347.00	9,487.30	9,385.39	93.097	ES
Shadow A26-656 - Original Drilling - Original Drilling - As	17,576.35	17,347.00	9,691.16	9,570.73	80.467	SF
Shadow A26-663 - Original Drilling - Original Drilling - As	16,152.49	17,466.00	9,339.60	9,234.19	88.602	CC
Shadow A26-663 - Original Drilling - Original Drilling - As	16,200.00	17,466.00	9,339.72	9,233.99	88.338	ES
Shadow A26-663 - Original Drilling - Original Drilling - As	17,576.35	17,466.00	9,447.51	9,329.37	79.969	SF
Shadow A26-672 - Original Drilling - Original Drilling - As	16,643.56	17,710.00	9,098.22	8,994.59	87.791	CC
Shadow A26-672 - Original Drilling - Original Drilling - As	16,700.00	17,710.00	9,098.40	8,994.29	87.393	ES
Shadow A26-672 - Original Drilling - Original Drilling - As	17,576.35	17,710.00	9,145.91	9,031.60	80.005	SF
Shadow A26-676 - Original Drilling - Original Drilling - As	16,929.51	17,725.00	9,106.37	8,994.55	81.439	CC
Shadow A26-676 - Original Drilling - Original Drilling - As	17,000.00	17,725.00	9,106.64	8,994.27	81.038	ES
Shadow A26-676 - Original Drilling - Original Drilling - As	17,576.35	17,725.00	9,129.31	9,011.70	77.620	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	13,500.00	17,810.00	9,996.21	9,778.20	45.852	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	17,576.35	17,810.00	9,108.64	8,991.98	78.080	CC, ES
Shadow A26-690 - Original Drilling - Original Drilling - As	17,576.35	17,780.00	9,091.94	8,980.47	81.563	CC, ES, SF
Shadow State A26-614 - Original Drilling - Original Drilling	12,757.57	17,675.00	9,125.49	9,044.55	112.746	CC
Shadow State A26-614 - Original Drilling - Original Drilling	12,800.00	17,675.00	9,125.59	9,044.34	112.306	ES
Shadow State A26-614 - Original Drilling - Original Drilling	16,800.00	17,675.00	9,980.78	9,858.18	81.413	SF
Shadow State A26-618 - Original Drilling - Original Drilling	13,005.54	17,415.00	9,291.11	9,209.36	113.653	CC
Shadow State A26-618 - Original Drilling - Original Drilling	13,100.00	17,415.00	9,291.59	9,209.16	112.722	ES
Shadow State A26-618 - Original Drilling - Original Drilling	16,700.00	17,415.00	9,998.68	9,875.62	81.248	SF



**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	Offset Datum

**Summary**

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
B Section 01						
Lucci B01-69HNL - Original Drilling - Original Drilling - As	1,867.73	1,847.94	9,733.46	9,721.87	839.457	CC
Lucci B01-69HNL - Original Drilling - Original Drilling - As	2,000.00	1,943.57	9,733.80	9,721.40	784.494	ES
Lucci B01-69HNL - Original Drilling - Original Drilling - As	3,300.00	3,413.24	9,979.64	9,957.39	448.576	SF
Lucci B01-99HZ - Original Drilling - Original Drilling - As	100.00	66.99	9,788.35	9,788.10	10,000.000	CC
Lucci B01-99HZ - Original Drilling - Original Drilling - As	500.00	424.20	9,789.55	9,787.25	4,264.160	ES
Lucci B01-99HZ - Original Drilling - Original Drilling - As	3,100.00	3,106.72	9,994.84	9,974.46	490.581	SF
Lucci BC B 01-13 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-14 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-15 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-16 (PA) - Wellbore #1 - Wellbore #1						Out of range
Lucci State B03-69HNL - Original Drilling - Original Drilling	6,700.00	17,000.00	1,032.71	928.36	9.896	ES
Lucci State B03-69HNL - Original Drilling - Original Drilling	6,735.53	17,000.00	1,032.31	928.69	9.963	CC
Lucci State B03-69HNL - Original Drilling - Original Drilling	8,400.00	17,000.00	1,623.55	1,407.89	7.528	SF
SLW Ranch B01-62-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B01-63-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B01-64-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B01-66-1HN - Original Drilling - Original Drill						Out of range
SLW Ranch B01-67-1HN - Original Drilling - As Drilled - S						Out of range
SLW Ranch B01-68-1HN - Original Drilling - Original Drill						Out of range
SLW Ranch B01-69-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B12-69-1HN - Wellbore #1 - Wellbore #1- As						Out of range

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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						
B Section 02						
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	199.85	176.86	4,674.78	4,673.85	5,020.747	CC
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	2,000.00	1,972.11	4,676.88	4,663.23	342.619	ES
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	7,400.00	6,728.23	6,697.57	6,646.79	131.899	SF
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	1,770.94	1,749.04	5,234.74	5,222.68	434.107	CC
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	1,900.00	1,852.65	5,235.00	5,222.12	406.382	ES
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	7,200.00	6,576.82	6,913.33	6,862.56	136.159	SF
Bucklen 01-02 - Wellbore #1 - Wellbore #1- As Drilled	2,030.50	2,000.92	6,843.02	6,829.12	492.319	CC
Bucklen 01-02 - Wellbore #1 - Wellbore #1- As Drilled	2,100.00	2,061.23	6,843.30	6,828.95	476.907	ES
Bucklen 01-02 - Wellbore #1 - Wellbore #1- As Drilled	7,100.00	6,535.33	7,820.47	7,768.60	150.797	SF
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	100.00	53.26	5,844.40	5,844.18	10,000.000	CC
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	2,100.00	2,100.00	5,850.94	5,836.48	404.505	ES
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	7,000.00	6,307.11	7,116.39	7,066.34	142.181	SF
Buckmur B02-14 - Wellbore #1 - Wellbore #1- As Drilled	1,609.04	1,564.09	7,823.99	7,813.15	721.684	CC
Buckmur B02-14 - Wellbore #1 - Wellbore #1- As Drilled	1,800.00	1,717.94	7,824.52	7,812.46	648.845	ES
Buckmur B02-14 - Wellbore #1 - Wellbore #1- As Drilled	7,100.00	6,206.21	9,119.82	9,069.80	182.310	SF
Buckmur B02-25 - Wellbore #1 - Wellbore #1- As Drilled	2,154.26	2,267.31	6,737.92	6,722.71	443.097	CC
Buckmur B02-25 - Wellbore #1 - Wellbore #1- As Drilled	2,200.00	2,310.83	6,738.08	6,722.57	434.379	ES
Buckmur B02-25 - Wellbore #1 - Wellbore #1- As Drilled	7,100.00	6,391.28	8,021.65	7,970.96	158.254	SF
Cougar B02-67-1HN - Original Drilling - Original Drilling -	927.96	932.20	4,583.94	4,578.10	784.927	CC
Cougar B02-67-1HN - Original Drilling - Original Drilling -	1,300.00	1,276.65	4,584.95	4,576.53	544.338	ES
Cougar B02-67-1HN - Original Drilling - Original Drilling -	10,500.00	10,500.00	8,178.09	8,108.28	117.150	SF
Cougar B02-68-1HN - Original Drilling - Original Drilling -	0.00	2.95	4,629.04			
Cougar B02-68-1HN - Original Drilling - Original Drilling -	2,020.24	2,056.88	4,635.41	4,621.68	337.600	ES
Cougar B02-68-1HN - Original Drilling - Original Drilling -	6,650.00	6,011.00	6,374.60	6,331.78	148.850	SF
Cougar B02-69-1HN - Original Drilling - Original Drilling -	2,058.63	2,140.38	4,592.46	4,578.66	332.868	CC, ES
Cougar B02-69-1HN - Original Drilling - Original Drilling -	6,600.00	5,948.00	6,271.27	6,230.62	154.268	SF
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	1,655.18	1,602.46	7,525.85	7,516.96	846.473	CC, ES
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	13,500.00	11,176.02	9,993.42	9,851.84	70.586	SF
Foe B02-02 - Wellbore #1 - Wellbore #1- As Drilled	1,038.54	988.56	7,169.93	7,163.16	1,059.211	CC
Foe B02-02 - Wellbore #1 - Wellbore #1- As Drilled	1,600.00	1,500.00	7,171.44	7,160.88	678.789	ES
Foe B02-02 - Wellbore #1 - Wellbore #1- As Drilled	10,400.00	6,700.01	9,997.38	9,941.11	177.660	SF
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	2,051.81	2,099.93	7,403.64	7,389.36	518.459	CC
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	2,100.00	2,173.92	7,403.85	7,389.15	503.525	ES
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	6,950.00	6,950.00	9,094.28	9,043.08	177.639	SF
Foemeyer B02-17 - Original Drilling - Original Drilling - As	453.93	407.82	7,744.65	7,742.00	2,929.113	CC
Foemeyer B02-17 - Original Drilling - Original Drilling - As	2,033.31	2,058.11	7,745.32	7,731.26	550.792	ES
Foemeyer B02-17 - Original Drilling - Original Drilling - As	7,050.00	7,050.00	9,526.02	9,474.62	185.316	SF
Fritzler B02-03 - Wellbore #1 - Original Drilling	2,000.00	1,951.00	6,006.93	5,960.97	130.709	CC
Fritzler B02-03 - Wellbore #1 - Original Drilling	2,100.00	2,050.98	6,008.36	5,960.06	124.392	ES
Fritzler B02-03 - Wellbore #1 - Original Drilling	7,550.00	6,690.28	8,084.47	7,923.23	50.137	SF
Fritzler B02-06 - Original Drilling - Original Drilling	2,000.00	1,956.00	6,065.24	6,019.19	131.691	CC
Fritzler B02-06 - Original Drilling - Original Drilling	2,100.00	2,055.98	6,066.41	6,018.01	125.334	ES
Fritzler B02-06 - Original Drilling - Original Drilling	7,350.00	6,626.79	7,891.15	7,730.72	49.186	SF
Fritzler B2-19 - Original Drilling - Original Drilling	2,000.00	1,968.00	5,212.32	5,166.02	112.585	CC
Fritzler B2-19 - Original Drilling - Original Drilling	2,100.00	2,067.98	5,213.61	5,164.96	107.184	ES
Fritzler B2-19 - Original Drilling - Original Drilling	7,400.00	6,660.61	7,159.66	6,998.84	44.519	SF
Lonewolf B02-65HC - Original Drilling - As Drilled	2,795.62	3,490.11	5,381.84	5,361.16	260.216	CC
Lonewolf B02-65HC - Original Drilling - As Drilled	2,800.00	3,492.24	5,381.85	5,361.14	259.885	ES
Lonewolf B02-65HC - Original Drilling - As Drilled	6,700.00	6,106.01	6,382.96	6,334.93	132.882	SF
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	2,795.45	3,489.91	5,381.52	5,360.38	254.610	CC
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	2,800.00	3,492.12	5,381.52	5,360.36	254.280	ES
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	6,700.00	6,106.01	6,382.87	6,334.34	131.523	SF
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	2,795.62	3,490.11	5,381.84	5,361.16	260.211	CC

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



**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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						
B Section 02						
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	2,800.00	3,492.24	5,381.85	5,361.14	259.879	ES
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	6,700.00	6,106.01	6,382.96	6,334.93	132.880	SF
M&M 02-23 - Wellbore #1 - Wellbore #1- As Drilled	2,641.19	3,802.66	9,182.15	9,157.10	366.589	CC, ES
M&M 02-23 - Wellbore #1 - Wellbore #1- As Drilled	6,000.00	5,700.01	9,982.91	9,934.83	207.623	SF
Meyer B02-01 - Original Drilling - Original Drilling - As Drill	856.33	803.49	8,471.84	8,466.37	1,549.152	CC
Meyer B02-01 - Original Drilling - Original Drilling - As Drill	2,000.00	1,924.31	8,473.56	8,460.08	628.605	ES
Meyer B02-01 - Original Drilling - Original Drilling - As Drill	6,100.00	5,530.93	9,954.58	9,912.56	236.886	SF
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	428.12	374.13	8,744.03	8,741.59	3,591.800	CC
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	2,000.00	1,939.05	8,749.74	8,736.20	646.535	ES
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	5,800.00	5,254.28	9,965.85	9,925.75	248.531	SF
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	2,072.28	2,169.72	9,182.02	9,167.41	628.593	CC
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	2,100.00	2,196.88	9,182.11	9,167.31	620.486	ES
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	5,000.00	4,645.04	9,970.38	9,935.67	287.319	SF
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	100.00	20.77	9,797.92	9,797.75	10,000.000	CC
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	2,013.86	1,980.22	9,805.02	9,791.28	713.984	ES
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	3,400.00	3,283.11	9,990.71	9,967.54	431.236	SF
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	2,092.24	2,180.82	6,933.32	6,918.63	471.732	CC
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	2,100.00	2,189.43	6,933.33	6,918.57	469.911	ES
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	7,100.00	6,421.93	8,376.32	8,325.93	166.242	SF
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	1,587.57	1,540.27	7,925.48	7,914.65	731.526	CC
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	1,700.00	1,600.00	7,925.80	7,914.34	691.533	ES
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	6,650.00	6,650.00	9,398.54	9,349.10	190.100	SF
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	1,759.07	1,708.24	8,606.52	8,594.65	725.295	CC
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	2,000.00	1,916.33	8,606.98	8,593.52	639.696	ES
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	6,950.00	6,916.01	9,893.50	9,841.19	189.115	SF
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	316.67	286.67	5,913.07	5,911.68	4,255.623	CC
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	700.00	651.89	5,913.28	5,909.35	1,504.180	ES
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	10,500.00	10,500.00	9,943.66	9,874.33	143.428	SF
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	1,443.11	1,413.24	5,895.32	5,887.15	721.783	CC
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	1,500.00	1,449.99	5,895.40	5,886.91	695.002	ES
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	6,800.00	5,955.00	7,015.35	6,967.05	145.259	SF
Wolfpack B02-64-1HN - Original Drilling - Original Drilling	2,716.91	3,185.95	5,734.46	5,714.83	292.060	CC, ES
Wolfpack B02-64-1HN - Original Drilling - Original Drilling	6,750.00	5,910.01	6,640.61	6,593.51	140.993	SF
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	2,032.62	2,044.47	5,437.52	5,425.31	445.302	CC
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	2,100.00	2,127.58	5,437.73	5,425.00	427.389	ES
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	6,700.00	5,952.01	6,524.95	6,479.43	143.343	SF
Wolfpack B02-65HN - Original Drilling - Original Drilling -	2,490.09	2,901.37	5,363.04	5,346.26	319.652	CC
Wolfpack B02-65HN - Original Drilling - Original Drilling -	2,500.00	2,905.89	5,363.08	5,346.25	318.675	ES
Wolfpack B02-65HN - Original Drilling - Original Drilling -	6,800.00	6,035.65	6,538.97	6,492.76	141.530	SF
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	3,014.88	3,974.38	5,156.16	5,131.83	211.944	CC, ES
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	6,750.00	6,108.01	6,091.79	6,042.02	122.414	SF
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	6,252.75	8,537.81	3,687.69	3,532.70	23.794	CC
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	6,300.00	8,553.73	3,687.94	3,532.66	23.750	ES
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	6,400.00	8,588.12	3,690.15	3,534.29	23.676	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	Offset Datum

**Summary**

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
B Section 03						
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	407.28	359.29	5,146.77	5,144.46	2,229.989	CC
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	2,000.00	1,946.27	5,148.79	5,135.23	379.598	ES
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	7,000.00	6,477.84	6,158.40	6,107.15	120.181	SF
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	2,046.50	2,043.85	2,015.85	2,001.78	143.327	CC
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	2,100.00	2,097.72	2,016.09	2,001.65	139.636	ES
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	6,900.00	6,314.98	3,584.01	3,535.49	73.869	SF
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	1,507.19	1,480.20	4,098.00	4,087.83	403.237	CC
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	2,000.00	1,952.53	4,099.91	4,086.34	301.935	ES
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	6,950.00	6,418.31	5,405.78	5,355.61	107.759	SF
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	100.00	29.91	5,854.29	5,854.11	10,000.000	CC, ES
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	7,000.00	6,177.97	6,683.01	6,632.53	132.393	SF
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	3,572.87	3,438.99	5,466.48	5,441.92	222.596	CC
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	3,700.00	3,534.08	5,467.04	5,441.59	214.827	ES
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	7,000.00	6,519.77	5,835.12	5,782.86	111.650	SF
B Section 04						
Bauer 1 (PA) - Wellbore #1 - No Surveys	7,439.15	6,674.57	4,120.44	3,960.18	25.712	CC
Bauer 1 (PA) - Wellbore #1 - No Surveys	7,450.00	6,678.37	4,120.50	3,960.15	25.698	ES
Bauer 1 (PA) - Wellbore #1 - No Surveys	7,550.00	6,706.28	4,126.72	3,965.70	25.629	SF
Bauer 2 (PA) - Wellbore #1 - No Surveys	7,213.53	6,560.82	1,606.39	1,522.79	19.215	CC, ES
Bauer 2 (PA) - Wellbore #1 - No Surveys	7,300.00	6,610.05	1,611.50	1,527.22	19.121	SF
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	7,375.51	6,646.62	2,835.70	2,786.58	57.728	CC, ES
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	7,450.00	6,675.34	2,838.84	2,789.62	57.678	SF

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	Offset Datum

**Summary**

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
B Section 05						
Ehrlich 1 (TA) - Wellbore #1 - Gyro Surveys	7,557.44	6,758.76	9,239.29	9,188.87	183.238	CC, ES
Ehrlich 1 (TA) - Wellbore #1 - Gyro Surveys	10,400.00	6,707.19	9,982.59	9,922.09	165.015	SF
Ehrlich 5E-323 (PR) - Wellbore #1 - Permitted-PDC	7,639.19	6,500.00	9,386.32	9,335.55	184.878	CC, ES
Ehrlich 5E-323 (PR) - Wellbore #1 - Permitted-PDC	10,600.00	6,300.00	9,983.60	9,921.02	159.531	SF
Ehrlich 5E-423 (DG) - Wellbore #1 - Permitted-PDC	7,643.44	6,577.12	9,664.10	9,612.68	187.938	CC, ES
Ehrlich 5E-423 (DG) - Wellbore #1 - Permitted-PDC	9,800.00	6,400.00	9,996.77	9,937.87	169.727	SF
Ehrlich 5J-203 (PR) - Wellbore #1 - Permitted-PDC	7,628.15	6,435.34	8,528.06	8,477.79	169.654	CC, ES
Ehrlich 5J-203 (PR) - Wellbore #1 - Permitted-PDC	12,300.00	6,150.00	9,958.03	9,887.92	142.032	SF
Ehrlich 5J-223 (PR) - Wellbore #1 - Permitted-PDC	7,623.02	6,477.16	8,078.56	8,027.99	159.730	CC, ES
Ehrlich 5J-223 (PR) - Wellbore #1 - Permitted-PDC	13,000.00	6,200.00	9,973.13	9,899.48	135.410	SF
Ehrlich 5J-243 (PR) - Wellbore #1 - Permitted-PDC	7,633.03	6,433.14	9,025.95	8,975.60	179.271	CC, ES
Ehrlich 5J-243 (PR) - Wellbore #1 - Permitted-PDC	11,400.00	6,174.42	9,966.89	9,900.71	150.592	SF
Ehrlich 5J-303 (PR) - Wellbore #1 - Permitted-PDC	7,633.61	6,468.43	8,780.50	8,730.03	173.988	CC, ES
Ehrlich 5J-303 (PR) - Wellbore #1 - Permitted-PDC	11,900.00	6,223.24	9,974.42	9,905.83	145.435	SF
Ehrlich 5J-323 (PR) - Wellbore #1 - Permitted-PDC	7,628.28	6,500.00	8,288.57	8,238.05	164.067	CC, ES
Ehrlich 5J-323 (PR) - Wellbore #1 - Permitted-PDC	12,700.00	6,250.00	9,970.83	9,898.67	138.171	SF
Ehrlich 5M-243 (PR) - Wellbore #1 - Permitted-PDC	7,617.08	6,660.96	7,576.00	7,524.95	148.404	CC, ES
Ehrlich 5M-243 (PR) - Wellbore #1 - Permitted-PDC	13,100.00	6,350.00	9,631.39	9,555.92	127.625	SF
Ehrlich 5M-343 (PR) - Wellbore #1 - Permitted-PDC	7,623.66	6,588.51	7,827.60	7,776.57	153.406	CC, ES
Ehrlich 5M-343 (PR) - Wellbore #1 - Permitted-PDC	12,900.00	6,322.50	9,707.99	9,634.19	131.538	SF
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	7,481.91	6,704.98	5,356.53	5,306.75	107.598	CC, ES
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	7,600.00	6,730.66	5,363.27	5,313.38	107.507	SF
Noffsinger 21-5 (TA) - Wellbore #1 - Gyro Surveys	7,554.25	6,710.84	7,956.03	7,905.80	158.381	CC, ES
Noffsinger 21-5 (TA) - Wellbore #1 - Gyro Surveys	12,600.00	6,696.50	9,943.08	9,871.95	139.783	SF
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys	7,551.83	6,754.12	6,644.09	6,594.50	133.985	CC, ES
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys	11,200.00	6,762.53	7,974.29	7,910.78	125.555	SF
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	6,815.25	15,790.10	2,388.36	2,138.84	9.572	CC, ES
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	6,850.00	15,773.45	2,389.50	2,139.65	9.564	SF
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	7,189.09	14,234.78	360.46	195.01	2.179	CC
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	7,250.00	14,213.80	367.65	181.71	1.977	ES
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	7,300.00	14,201.88	383.90	184.52	1.925	SF
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	7,027.93	14,244.50	532.47	333.57	2.677	CC
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	7,100.00	14,214.33	540.37	329.97	2.568	ES
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	7,150.00	14,205.33	554.92	338.12	2.560	SF
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	6,950.97	14,849.54	673.71	447.94	2.984	CC
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	7,000.00	14,827.62	676.98	446.00	2.931	ES
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	7,050.00	14,806.05	686.99	451.66	2.919	SF
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	6,934.45	15,302.48	919.25	683.79	3.904	CC
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	6,950.00	15,309.60	919.54	682.51	3.879	ES
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	7,050.00	15,246.29	935.22	692.10	3.847	SF
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	6,881.26	15,006.11	1,122.15	885.58	4.744	CC
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	6,900.00	14,985.13	1,122.55	885.44	4.734	ES
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	6,950.00	14,962.12	1,127.47	888.30	4.714	SF
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	6,874.43	15,472.49	1,408.65	1,164.44	5.768	CC
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	6,900.00	15,460.48	1,409.34	1,164.24	5.750	ES
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	6,950.00	15,437.40	1,414.67	1,168.01	5.735	SF
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	6,835.10	15,171.56	1,609.88	1,368.33	6.665	CC
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	6,850.00	15,164.46	1,610.11	1,368.25	6.657	ES
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	6,900.00	15,140.88	1,614.18	1,371.39	6.648	SF
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	6,840.65	15,616.95	1,835.56	1,587.94	7.413	CC
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	6,850.00	15,612.48	1,835.65	1,587.84	7.408	ES
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	6,900.00	15,588.86	1,839.05	1,590.36	7.395	SF
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	6,813.45	15,301.88	2,082.31	1,839.17	8.564	CC, ES

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A33-720
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Reference Site:</b>	A Section 34	<b>MD Reference:</b>	KB @ 4661.00ft (Original Well Elev)
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A33-720	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Reveille A33-720 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 1	<b>Offset TVD Reference:</b>	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						
B Section 05						
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	6,850.00	15,280.61	2,083.61	1,840.18	8.559	SF