

Project: Wells Ranch  
Site: A Section 35  
Well: Reveille A35-750  
Wellbore: Reveille A35-750 OH  
Design: APD - Rev 2

# Northern Region - DJ Basin

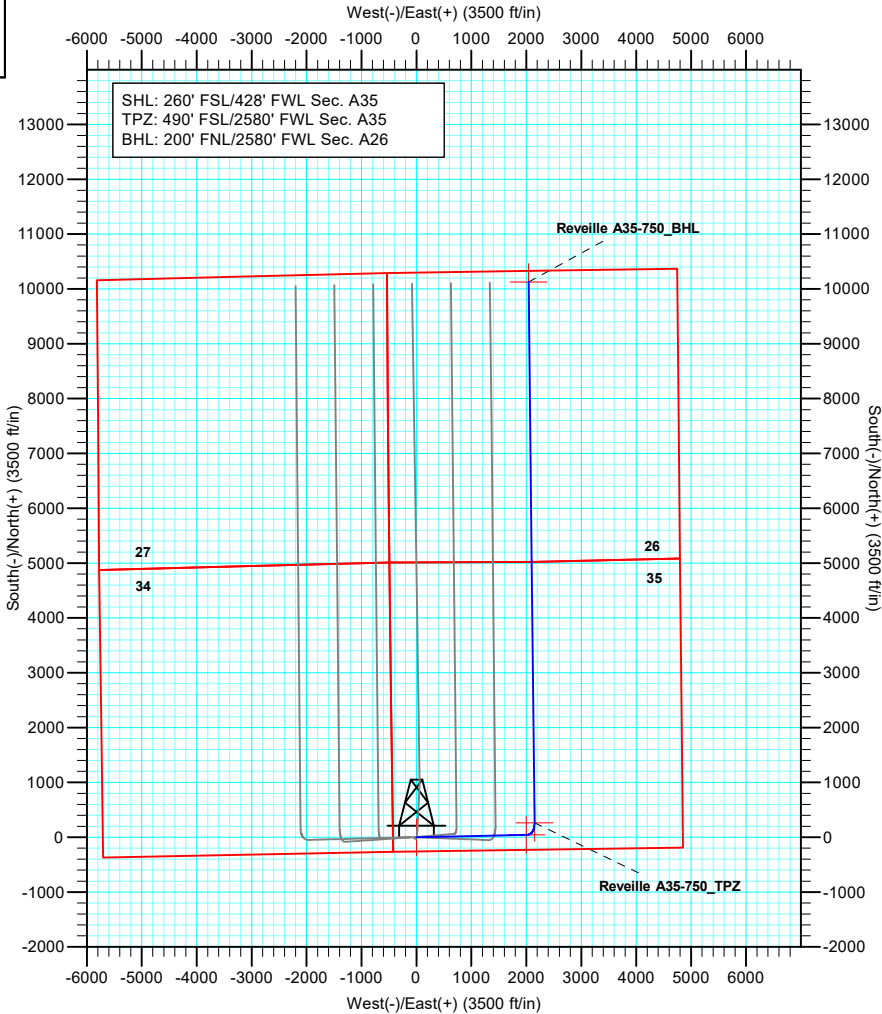
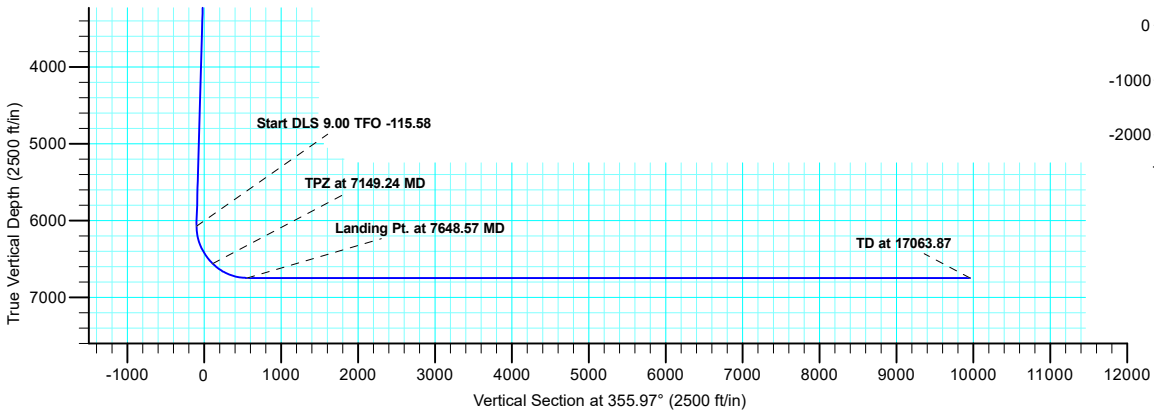
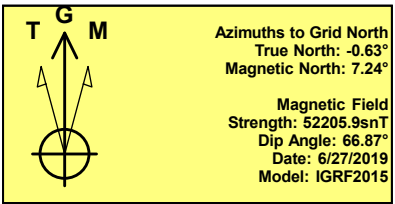
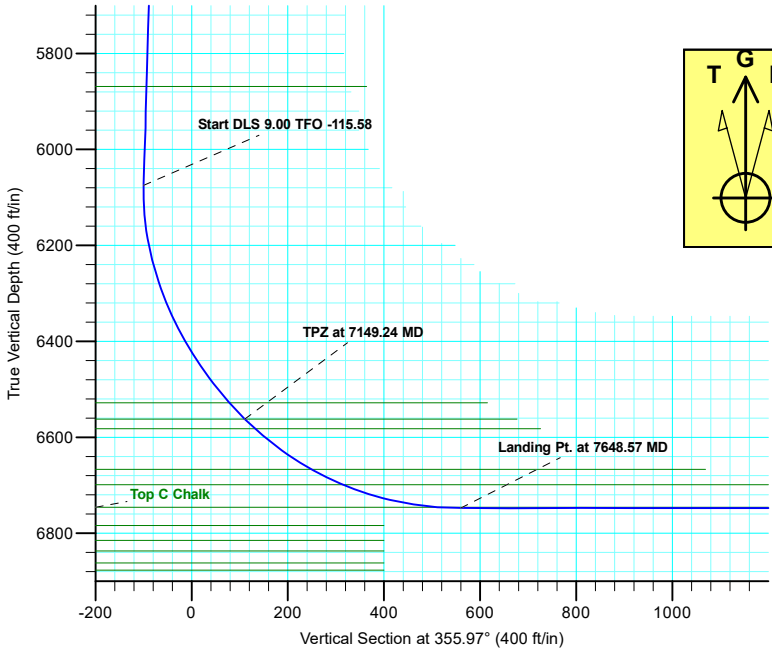
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone  
System Datum: Mean Sea Level

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
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	2973.98	29.22	88.83	2932.31	4.97	242.97	3.00	88.83	-12.11
4	6574.83	29.22	88.83	6074.98	40.88	2000.37	0.00	0.00	-99.66
5	7149.24	45.06	359.38	6562.00	262.26	2148.55	9.00	-115.58	110.76
6	7648.57	90.00	359.38	6747.99	711.92	2143.72	9.00	0.00	559.65
7	17063.87	90.00	359.38	6748.00	10126.68	2042.51	0.00	0.00	9958.28

## WELL DETAILS: Reveille A35-750

+N/-S	+E/-W	Northing	Ground Level: Easting	4647.00 Latitude	Longitude	Slot
0.00	0.00	1403286.65	3271329.81	40.4363300	-104.5252400	



# **Northern Region - DJ Basin**

**Wells Ranch**

**A Section 35**

**Reveille A35-750**

**Reveille A35-750 OH**

**Plan: APD - Rev 2**

## **Standard Planning Report**

**22 July, 2019**

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Reveille A35-750
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site:</b>	A Section 35	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A35-750	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A35-750 OH		
<b>Design:</b>	APD - Rev 2		

<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		

Site		A Section 35			
Site Position:		Northing:	1,403,359.25 usft	Latitude:	40.4364500
From:	Map	Easting:	3,273,942.97 usft	Longitude:	-104.5158500
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.64 °

Well		Reveille A35-750				
Well Position	+N/-S	-72.60 ft	Northing:	1,403,286.65 usft	Latitude:	40.4363300
	+E/-W	-2,613.17 ft	Easting:	3,271,329.81 usft	Longitude:	-104.5252400
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,647.00 ft

<b>Wellbore</b>	Reveille A35-750 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	6/27/2019	7.87	66.87	52,205.85036506

<b>Design</b>	APD - Rev 2			
<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 (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	355.97

<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	
2,973.98	29.22	88.83	2,932.31	4.97	242.97	3.00	3.00	0.00	88.83	
6,574.83	29.22	88.83	6,074.98	40.88	2,000.37	0.00	0.00	0.00	0.00	
7,149.24	45.06	359.38	6,562.00	262.26	2,148.55	9.00	2.76	-15.57	-115.58	Reveille A35-750_TP;
7,648.57	90.00	359.38	6,747.99	711.92	2,143.72	9.00	9.00	0.00	0.00	
17,063.87	90.00	359.38	6,748.00	10,126.68	2,042.51	0.00	0.00	0.00	0.00	Reveille A35-750_BH

# Noble Energy, Inc.

## Planning Report

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<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site:</b>	A Section 35	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A35-750	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A35-750 OH		
<b>Design:</b>	APD - Rev 2		

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
280.00	0.00	0.00	280.00	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
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
412.00	0.00	0.00	412.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Upper Pierre Aquifer Top</b>									
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
1,455.00	0.00	0.00	1,455.00	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 3.00</b>									
2,100.00	3.00	88.83	2,099.95	0.05	2.62	-0.13	3.00	3.00	0.00
2,200.00	6.00	88.83	2,199.63	0.21	10.46	-0.52	3.00	3.00	0.00
2,300.00	9.00	88.83	2,298.77	0.48	23.51	-1.17	3.00	3.00	0.00
2,400.00	12.00	88.83	2,397.08	0.85	41.73	-2.08	3.00	3.00	0.00
2,500.00	15.00	88.83	2,494.31	1.33	65.06	-3.24	3.00	3.00	0.00
2,600.00	18.00	88.83	2,590.18	1.91	93.46	-4.66	3.00	3.00	0.00
2,700.00	21.00	88.83	2,684.43	2.59	126.83	-6.32	3.00	3.00	0.00
2,800.00	24.00	88.83	2,776.81	3.37	165.08	-8.22	3.00	3.00	0.00
2,900.00	27.00	88.83	2,867.06	4.25	208.12	-10.37	3.00	3.00	0.00
2,973.98	29.22	88.83	2,932.31	4.97	242.97	-12.11	3.00	3.00	0.00
<b>Start 3600.85 hold at 2973.98 MD</b>									
3,000.00	29.22	88.83	2,955.02	5.23	255.66	-12.74	0.00	0.00	0.00
3,100.00	29.22	88.83	3,042.29	6.22	304.47	-15.17	0.00	0.00	0.00
3,200.00	29.22	88.83	3,129.57	7.22	353.28	-17.60	0.00	0.00	0.00
3,300.00	29.22	88.83	3,216.84	8.22	402.08	-20.03	0.00	0.00	0.00
3,400.00	29.22	88.83	3,304.12	9.22	450.89	-22.46	0.00	0.00	0.00
3,500.00	29.22	88.83	3,391.40	10.21	499.69	-24.90	0.00	0.00	0.00
3,600.00	29.22	88.83	3,478.67	11.21	548.50	-27.33	0.00	0.00	0.00
3,671.42	29.22	88.83	3,541.00	11.92	583.35	-29.06	0.00	0.00	0.00
<b>Parkman</b>									
3,700.00	29.22	88.83	3,565.95	12.21	597.30	-29.76	0.00	0.00	0.00
3,800.00	29.22	88.83	3,653.22	13.21	646.11	-32.19	0.00	0.00	0.00
3,900.00	29.22	88.83	3,740.50	14.20	694.91	-34.62	0.00	0.00	0.00
4,000.00	29.22	88.83	3,827.77	15.20	743.72	-37.05	0.00	0.00	0.00
4,100.00	29.22	88.83	3,915.05	16.20	792.52	-39.49	0.00	0.00	0.00

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## Planning Report

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<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site:</b>	A Section 35	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A35-750	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A35-750 OH		
<b>Design:</b>	APD - Rev 2		

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	29.22	88.83	4,002.33	17.20	841.33	-41.92	0.00	0.00	0.00
4,300.00	29.22	88.83	4,089.60	18.19	890.13	-44.35	0.00	0.00	0.00
4,400.00	29.22	88.83	4,176.88	19.19	938.94	-46.78	0.00	0.00	0.00
4,468.89	29.22	88.83	4,237.00	19.88	972.56	-48.46	0.00	0.00	0.00
<b>Sussex</b>									
4,500.00	29.22	88.83	4,264.15	20.19	987.74	-49.21	0.00	0.00	0.00
4,600.00	29.22	88.83	4,351.43	21.19	1,036.55	-51.64	0.00	0.00	0.00
4,700.00	29.22	88.83	4,438.70	22.18	1,085.36	-54.07	0.00	0.00	0.00
4,800.00	29.22	88.83	4,525.98	23.18	1,134.16	-56.51	0.00	0.00	0.00
4,900.00	29.22	88.83	4,613.25	24.18	1,182.97	-58.94	0.00	0.00	0.00
5,000.00	29.22	88.83	4,700.53	25.18	1,231.77	-61.37	0.00	0.00	0.00
5,100.00	29.22	88.83	4,787.81	26.17	1,280.58	-63.80	0.00	0.00	0.00
5,158.66	29.22	88.83	4,839.00	26.76	1,309.20	-65.23	0.00	0.00	0.00
<b>Shannon</b>									
5,200.00	29.22	88.83	4,875.08	27.17	1,329.38	-66.23	0.00	0.00	0.00
5,300.00	29.22	88.83	4,962.36	28.17	1,378.19	-68.66	0.00	0.00	0.00
5,400.00	29.22	88.83	5,049.63	29.17	1,426.99	-71.10	0.00	0.00	0.00
5,500.00	29.22	88.83	5,136.91	30.16	1,475.80	-73.53	0.00	0.00	0.00
5,600.00	29.22	88.83	5,224.18	31.16	1,524.60	-75.96	0.00	0.00	0.00
5,700.00	29.22	88.83	5,311.46	32.16	1,573.41	-78.39	0.00	0.00	0.00
5,800.00	29.22	88.83	5,398.74	33.16	1,622.21	-80.82	0.00	0.00	0.00
5,900.00	29.22	88.83	5,486.01	34.15	1,671.02	-83.25	0.00	0.00	0.00
6,000.00	29.22	88.83	5,573.29	35.15	1,719.82	-85.69	0.00	0.00	0.00
6,100.00	29.22	88.83	5,660.56	36.15	1,768.63	-88.12	0.00	0.00	0.00
6,200.00	29.22	88.83	5,747.84	37.15	1,817.44	-90.55	0.00	0.00	0.00
6,300.00	29.22	88.83	5,835.11	38.14	1,866.24	-92.98	0.00	0.00	0.00
6,338.83	29.22	88.83	5,869.00	38.53	1,885.19	-93.92	0.00	0.00	0.00
<b>Teepee Buttes</b>									
6,400.00	29.22	88.83	5,922.39	39.14	1,915.05	-95.41	0.00	0.00	0.00
6,500.00	29.22	88.83	6,009.67	40.14	1,963.85	-97.84	0.00	0.00	0.00
6,574.83	29.22	88.83	6,074.98	40.88	2,000.37	-99.66	0.00	0.00	0.00
<b>Start DLS 9.00 TFO -115.58</b>									
6,600.00	28.31	84.52	6,097.04	41.58	2,012.46	-99.82	9.00	-3.62	-17.13
6,650.00	26.94	75.26	6,141.36	45.60	2,035.22	-97.41	9.00	-2.74	-18.51
6,700.00	26.22	65.32	6,186.10	53.09	2,056.22	-91.41	9.00	-1.44	-19.88
6,750.00	26.21	55.13	6,230.98	64.02	2,075.33	-81.85	9.00	-0.02	-20.40
6,800.00	26.91	45.17	6,275.73	78.32	2,092.42	-68.79	9.00	1.40	-19.91
6,850.00	28.26	35.90	6,320.06	95.89	2,107.39	-52.31	9.00	2.71	-18.55
6,900.00	30.19	27.55	6,363.72	116.64	2,120.15	-32.51	9.00	3.85	-16.69
6,950.00	32.57	20.22	6,406.41	140.42	2,130.62	-9.52	9.00	4.78	-14.66
7,000.00	35.34	13.85	6,447.90	167.11	2,138.74	16.53	9.00	5.52	-12.74
7,050.00	38.39	8.33	6,487.91	196.52	2,144.46	45.47	9.00	6.10	-11.04
7,100.00	41.66	3.53	6,526.20	228.48	2,147.73	77.13	9.00	6.55	-9.60
7,102.41	41.83	3.31	6,528.00	230.08	2,147.83	78.72	9.00	6.75	-8.94
<b>Sharon Springs</b>									
7,149.24	45.06	359.38	6,562.00	262.26	2,148.55	110.76	9.00	6.91	-8.39
<b>TPZ at 7149.24 MD - Top A Chalk</b>									
7,178.22	47.67	359.38	6,582.00	283.23	2,148.32	131.70	9.00	9.00	0.00
<b>Top A Marl</b>									
7,200.00	49.63	359.38	6,596.39	299.58	2,148.15	148.02	9.00	9.00	0.00
7,250.00	54.13	359.38	6,627.25	338.90	2,147.73	187.27	9.00	9.00	0.00
7,300.00	58.63	359.38	6,654.92	380.53	2,147.28	228.83	9.00	9.00	0.00
7,323.94	60.78	359.38	6,667.00	401.19	2,147.06	249.46	9.00	9.00	0.00

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## 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)
<b>Top B Chalk</b>									
7,350.00	63.13	359.38	6,679.25	424.19	2,146.81	272.42	9.00	9.00	0.00
7,397.19	67.38	359.38	6,699.00	467.03	2,146.35	315.18	9.00	9.00	0.00
<b>Top B Marl</b>									
7,400.00	67.63	359.38	6,700.08	469.63	2,146.32	317.78	9.00	9.00	0.00
7,450.00	72.13	359.38	6,717.27	516.56	2,145.82	364.63	9.00	9.00	0.00
7,500.00	76.63	359.38	6,730.73	564.70	2,145.30	412.69	9.00	9.00	0.00
7,550.00	81.13	359.38	6,740.38	613.75	2,144.77	461.65	9.00	9.00	0.00
7,598.21	85.47	359.38	6,746.00	661.62	2,144.26	509.44	9.00	9.00	0.00
<b>Top C Chalk</b>									
7,600.00	85.63	359.38	6,746.14	663.40	2,144.24	511.21	9.00	9.00	0.00
7,648.57	90.00	359.38	6,747.99	711.92	2,143.72	559.65	9.00	9.00	0.00
<b>Landing Pt. at 7648.57 MD</b>									
7,700.00	90.00	359.38	6,747.99	763.35	2,143.16	610.99	0.00	0.00	0.00
7,800.00	90.00	359.38	6,747.99	863.34	2,142.09	710.81	0.00	0.00	0.00
7,900.00	90.00	359.38	6,747.99	963.33	2,141.01	810.64	0.00	0.00	0.00
8,000.00	90.00	359.38	6,747.99	1,063.33	2,139.94	910.46	0.00	0.00	0.00
8,100.00	90.00	359.38	6,747.99	1,163.32	2,138.86	1,010.28	0.00	0.00	0.00
8,200.00	90.00	359.38	6,747.99	1,263.32	2,137.79	1,110.11	0.00	0.00	0.00
8,300.00	90.00	359.38	6,747.99	1,363.31	2,136.71	1,209.93	0.00	0.00	0.00
8,400.00	90.00	359.38	6,747.99	1,463.31	2,135.64	1,309.75	0.00	0.00	0.00
8,500.00	90.00	359.38	6,747.99	1,563.30	2,134.56	1,409.57	0.00	0.00	0.00
8,600.00	90.00	359.38	6,747.99	1,663.29	2,133.49	1,509.40	0.00	0.00	0.00
8,700.00	90.00	359.38	6,747.99	1,763.29	2,132.41	1,609.22	0.00	0.00	0.00
8,800.00	90.00	359.38	6,747.99	1,863.28	2,131.34	1,709.04	0.00	0.00	0.00
8,900.00	90.00	359.38	6,747.99	1,963.28	2,130.26	1,808.87	0.00	0.00	0.00
9,000.00	90.00	359.38	6,747.99	2,063.27	2,129.19	1,908.69	0.00	0.00	0.00
9,100.00	90.00	359.38	6,747.99	2,163.27	2,128.11	2,008.51	0.00	0.00	0.00
9,200.00	90.00	359.38	6,747.99	2,263.26	2,127.04	2,108.33	0.00	0.00	0.00
9,300.00	90.00	359.38	6,747.99	2,363.25	2,125.96	2,208.16	0.00	0.00	0.00
9,400.00	90.00	359.38	6,747.99	2,463.25	2,124.89	2,307.98	0.00	0.00	0.00
9,500.00	90.00	359.38	6,747.99	2,563.24	2,123.81	2,407.80	0.00	0.00	0.00
9,600.00	90.00	359.38	6,747.99	2,663.24	2,122.74	2,507.63	0.00	0.00	0.00
9,700.00	90.00	359.38	6,747.99	2,763.23	2,121.66	2,607.45	0.00	0.00	0.00
9,800.00	90.00	359.38	6,747.99	2,863.22	2,120.59	2,707.27	0.00	0.00	0.00
9,900.00	90.00	359.38	6,747.99	2,963.22	2,119.51	2,807.09	0.00	0.00	0.00
10,000.00	90.00	359.38	6,747.99	3,063.21	2,118.44	2,906.92	0.00	0.00	0.00
10,100.00	90.00	359.38	6,747.99	3,163.21	2,117.36	3,006.74	0.00	0.00	0.00
10,200.00	90.00	359.38	6,747.99	3,263.20	2,116.29	3,106.56	0.00	0.00	0.00
10,300.00	90.00	359.38	6,747.99	3,363.20	2,115.21	3,206.39	0.00	0.00	0.00
10,400.00	90.00	359.38	6,747.99	3,463.19	2,114.14	3,306.21	0.00	0.00	0.00
10,500.00	90.00	359.38	6,747.99	3,563.18	2,113.06	3,406.03	0.00	0.00	0.00
10,600.00	90.00	359.38	6,747.99	3,663.18	2,111.99	3,505.86	0.00	0.00	0.00
10,700.00	90.00	359.38	6,747.99	3,763.17	2,110.92	3,605.68	0.00	0.00	0.00
10,800.00	90.00	359.38	6,747.99	3,863.17	2,109.84	3,705.50	0.00	0.00	0.00
10,900.00	90.00	359.38	6,747.99	3,963.16	2,108.77	3,805.32	0.00	0.00	0.00
11,000.00	90.00	359.38	6,747.99	4,063.16	2,107.69	3,905.15	0.00	0.00	0.00
11,100.00	90.00	359.38	6,747.99	4,163.15	2,106.62	4,004.97	0.00	0.00	0.00
11,200.00	90.00	359.38	6,747.99	4,263.14	2,105.54	4,104.79	0.00	0.00	0.00
11,300.00	90.00	359.38	6,747.99	4,363.14	2,104.47	4,204.62	0.00	0.00	0.00
11,400.00	90.00	359.38	6,747.99	4,463.13	2,103.39	4,304.44	0.00	0.00	0.00
11,500.00	90.00	359.38	6,747.99	4,563.13	2,102.32	4,404.26	0.00	0.00	0.00
11,600.00	90.00	359.38	6,747.99	4,663.12	2,101.24	4,504.08	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Reveille A35-750
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site:</b>	A Section 35	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A35-750	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A35-750 OH		
<b>Design:</b>	APD - Rev 2		

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)
11,700.00	90.00	359.38	6,747.99	4,763.12	2,100.17	4,603.91	0.00	0.00	0.00
11,800.00	90.00	359.38	6,747.99	4,863.11	2,099.09	4,703.73	0.00	0.00	0.00
11,900.00	90.00	359.38	6,747.99	4,963.10	2,098.02	4,803.55	0.00	0.00	0.00
12,000.00	90.00	359.38	6,748.00	5,063.10	2,096.94	4,903.38	0.00	0.00	0.00
12,100.00	90.00	359.38	6,748.00	5,163.09	2,095.87	5,003.20	0.00	0.00	0.00
12,200.00	90.00	359.38	6,748.00	5,263.09	2,094.79	5,103.02	0.00	0.00	0.00
12,300.00	90.00	359.38	6,748.00	5,363.08	2,093.72	5,202.85	0.00	0.00	0.00
12,400.00	90.00	359.38	6,748.00	5,463.07	2,092.64	5,302.67	0.00	0.00	0.00
12,500.00	90.00	359.38	6,748.00	5,563.07	2,091.57	5,402.49	0.00	0.00	0.00
12,600.00	90.00	359.38	6,748.00	5,663.06	2,090.49	5,502.31	0.00	0.00	0.00
12,700.00	90.00	359.38	6,748.00	5,763.06	2,089.42	5,602.14	0.00	0.00	0.00
12,800.00	90.00	359.38	6,748.00	5,863.05	2,088.34	5,701.96	0.00	0.00	0.00
12,900.00	90.00	359.38	6,748.00	5,963.05	2,087.27	5,801.78	0.00	0.00	0.00
13,000.00	90.00	359.38	6,748.00	6,063.04	2,086.19	5,901.61	0.00	0.00	0.00
13,100.00	90.00	359.38	6,748.00	6,163.03	2,085.12	6,001.43	0.00	0.00	0.00
13,200.00	90.00	359.38	6,748.00	6,263.03	2,084.04	6,101.25	0.00	0.00	0.00
13,300.00	90.00	359.38	6,748.00	6,363.02	2,082.97	6,201.07	0.00	0.00	0.00
13,400.00	90.00	359.38	6,748.00	6,463.02	2,081.89	6,300.90	0.00	0.00	0.00
13,500.00	90.00	359.38	6,748.00	6,563.01	2,080.82	6,400.72	0.00	0.00	0.00
13,600.00	90.00	359.38	6,748.00	6,663.01	2,079.74	6,500.54	0.00	0.00	0.00
13,700.00	90.00	359.38	6,748.00	6,763.00	2,078.67	6,600.37	0.00	0.00	0.00
13,800.00	90.00	359.38	6,748.00	6,862.99	2,077.59	6,700.19	0.00	0.00	0.00
13,900.00	90.00	359.38	6,748.00	6,962.99	2,076.52	6,800.01	0.00	0.00	0.00
14,000.00	90.00	359.38	6,748.00	7,062.98	2,075.44	6,899.84	0.00	0.00	0.00
14,100.00	90.00	359.38	6,748.00	7,162.98	2,074.37	6,999.66	0.00	0.00	0.00
14,200.00	90.00	359.38	6,748.00	7,262.97	2,073.29	7,099.48	0.00	0.00	0.00
14,300.00	90.00	359.38	6,748.00	7,362.96	2,072.22	7,199.30	0.00	0.00	0.00
14,400.00	90.00	359.38	6,748.00	7,462.96	2,071.14	7,299.13	0.00	0.00	0.00
14,500.00	90.00	359.38	6,748.00	7,562.95	2,070.07	7,398.95	0.00	0.00	0.00
14,600.00	90.00	359.38	6,748.00	7,662.95	2,068.99	7,498.77	0.00	0.00	0.00
14,700.00	90.00	359.38	6,748.00	7,762.94	2,067.92	7,598.60	0.00	0.00	0.00
14,800.00	90.00	359.38	6,748.00	7,862.94	2,066.84	7,698.42	0.00	0.00	0.00
14,900.00	90.00	359.38	6,748.00	7,962.93	2,065.77	7,798.24	0.00	0.00	0.00
15,000.00	90.00	359.38	6,748.00	8,062.92	2,064.69	7,898.06	0.00	0.00	0.00
15,100.00	90.00	359.38	6,748.00	8,162.92	2,063.62	7,997.89	0.00	0.00	0.00
15,200.00	90.00	359.38	6,748.00	8,262.91	2,062.54	8,097.71	0.00	0.00	0.00
15,300.00	90.00	359.38	6,748.00	8,362.91	2,061.47	8,197.53	0.00	0.00	0.00
15,400.00	90.00	359.38	6,748.00	8,462.90	2,060.39	8,297.36	0.00	0.00	0.00
15,500.00	90.00	359.38	6,748.00	8,562.90	2,059.32	8,397.18	0.00	0.00	0.00
15,600.00	90.00	359.38	6,748.00	8,662.89	2,058.24	8,497.00	0.00	0.00	0.00
15,700.00	90.00	359.38	6,748.00	8,762.88	2,057.17	8,596.83	0.00	0.00	0.00
15,800.00	90.00	359.38	6,748.00	8,862.88	2,056.09	8,696.65	0.00	0.00	0.00
15,900.00	90.00	359.38	6,748.00	8,962.87	2,055.02	8,796.47	0.00	0.00	0.00
16,000.00	90.00	359.38	6,748.00	9,062.87	2,053.94	8,896.29	0.00	0.00	0.00
16,100.00	90.00	359.38	6,748.00	9,162.86	2,052.87	8,996.12	0.00	0.00	0.00
16,200.00	90.00	359.38	6,748.00	9,262.86	2,051.79	9,095.94	0.00	0.00	0.00
16,300.00	90.00	359.38	6,748.00	9,362.85	2,050.72	9,195.76	0.00	0.00	0.00
16,400.00	90.00	359.38	6,748.00	9,462.84	2,049.64	9,295.59	0.00	0.00	0.00
16,500.00	90.00	359.38	6,748.00	9,562.84	2,048.57	9,395.41	0.00	0.00	0.00
16,600.00	90.00	359.38	6,748.00	9,662.83	2,047.49	9,495.23	0.00	0.00	0.00
16,700.00	90.00	359.38	6,748.00	9,762.83	2,046.42	9,595.05	0.00	0.00	0.00
16,800.00	90.00	359.38	6,748.00	9,862.82	2,045.34	9,694.88	0.00	0.00	0.00
16,900.00	90.00	359.38	6,748.00	9,962.81	2,044.27	9,794.70	0.00	0.00	0.00
17,000.00	90.00	359.38	6,748.00	10,062.81	2,043.19	9,894.52	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Reveille A35-750
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site:</b>	A Section 35	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A35-750	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A35-750 OH		
<b>Design:</b>	APD - Rev 2		

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)
17,063.87	90.00	359.38	6,748.00	10,126.68	2,042.51	9,958.28	0.00	0.00	0.00
TD at 17063.87									

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 A35-750_SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,403,286.65	3,271,329.81	40.4363300	-104.5252400
Reveille A35-750_KOP - plan hits target center - Point	0.00	0.00	6,074.97	40.88	2,000.37	1,403,327.54	3,273,330.18	40.4363816	-104.5180526
Reveille A35-750_TPZ - plan hits target center - Point	0.00	0.00	6,562.00	262.26	2,148.55	1,403,548.91	3,273,478.35	40.4369847	-104.5175115
Reveille A35-750_BHL - plan hits target center - Point	0.00	0.00	6,748.00	10,126.68	2,042.51	1,413,413.31	3,273,372.31	40.4640639	-104.5174998

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
280.00	280.00	Pierre				
412.00	412.00	Upper Pierre Aquifer Top				
1,455.00	1,455.00	Upper Pierre Aquifer Base				
3,671.42	3,541.00	Parkman				
4,468.89	4,237.00	Sussex				
5,158.66	4,839.00	Shannon				
6,338.83	5,869.00	Teepee Buttes				
7,102.41	6,528.00	Sharon Springs				
7,149.24	6,562.00	Top A Chalk				
7,178.22	6,582.00	Top A Marl				
7,323.94	6,667.00	Top B Chalk				
7,397.19	6,699.00	Top B Marl				
7,598.21	6,746.00	Top C Chalk				



# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Reveille A35-750
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Project:</b>	Wells Ranch	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site:</b>	A Section 35	<b>North Reference:</b>	Grid
<b>Well:</b>	Reveille A35-750	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reveille A35-750 OH		
<b>Design:</b>	APD - Rev 2		

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 3.00	
2,973.98	2,932.31	4.97	242.97	Start 3600.85 hold at 2973.98 MD	
6,574.83	6,074.98	40.88	2,000.37	Start DLS 9.00 TFO -115.58	
7,149.24	6,562.00	262.26	2,148.55	TPZ at 7149.24 MD	
7,648.57	6,747.99	711.92	2,143.72	Landing Pt. at 7648.57 MD	
17,063.87	6,748.00	10,126.68	2,042.51	TD at 17063.87	

# **Northern Region - DJ Basin**

**Wells Ranch**

**A Section 35**

**Reveille A35-750**

**Reveille A35-750 OH**

**APD - Rev 2**

## **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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	APD - Rev 2		
<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	17,063.87	APD - Rev 2 (Reveille A35-750 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						Out of range
Culbreath 33-21 (PA) - Original Drilling - Original Drilling -						Out of range
Harper A21-618 - Harper A21-618 OH - As-Drilled	16,600.00	16,240.00	2,827.95	2,694.87	21.250	SF
Harper A21-618 - Harper A21-618 OH - As-Drilled	17,063.87	16,240.00	2,676.01	2,552.11	21.597	CC, ES
Harper A21-626 - Harper A21-626 OH - As-Drilled	17,063.87	16,140.00	2,962.05	2,822.97	21.298	CC, ES, SF
Harper A21-631 - Harper A21-631 OH - As-Drilled	17,063.87	16,120.00	3,140.45	2,992.83	21.273	CC, ES, SF
Harper A21-637 - Harper A21-637 OH - As-Drilled	17,063.87	16,223.00	3,369.62	3,214.55	21.729	CC, ES, SF
Harper A21-643 - Harper A21-643 OH - As-Drilled	17,063.87	16,273.00	3,636.68	3,479.74	23.172	CC, ES, SF
Harper A21-649 - Harper A21-649 OH - As-Drilled	17,063.87	16,403.00	3,839.04	3,678.16	23.864	CC, ES, SF
Harper A21-656 - Harper A21-656 OH - As-Drilled	17,063.87	16,378.00	4,131.95	3,968.08	25.216	CC, ES, SF
Harper A21-664 - Harper A21-664 OH - As-Drilled	17,063.87	16,571.00	4,529.30	4,363.08	27.248	CC, ES, SF
Harper A21-669 - Harper A21-669 OH - As-Drilled	17,063.87	16,585.00	4,794.13	4,626.51	28.602	CC, ES, SF
Harper A21-674 - Harper A21-674 OH - As-Drilled	17,063.87	16,788.00	5,105.31	4,936.50	30.244	CC, ES, SF
Harper A21-681 - Harper A21-681 OH - As-Drilled	17,063.87	16,642.00	5,433.71	5,266.00	32.400	CC, ES, SF
Kona A19-616 - Kona A19-616 - Kona A19-616 - As Drille						Out of range
Kona A19-624 - Kona A19-624 - Kona A19-624 - As Drille						Out of range
Kona A19-636 - Kona A19-636 - Kona A19-636 - As Drille						Out of range
Kona A19-646 - Original Drilling - Original Drilling - As Dr						Out of range
Kona A19-662 - Original Drilling - Original Drilling - As Dr						Out of range
Kona A19-670 - Kona A19-670 - Original Drilling - As Dril						Out of range
Kona A19-685 - Original Drilling - Original Drilling - As Dr						Out of range
McKee 12-21 (PA) - Original Drilling - Original Drilling - A						Out of range
McKee 21-21 (PA) - Original Drilling - Original Drilling - A						Out of range
McKee 22-21 - Original Drilling - Original Drilling - As Dril						Out of range
McKee 31-21 - Original Drilling - Original Drilling - As Dril						Out of range
McKee 32-21 - Original Drilling - Original Drilling - As Dril						Out of range
McKee 41-21 - Original Drilling - Original Drilling - As Dril	17,063.87	6,751.87	9,825.82	9,720.58	93.367	CC, ES, SF
McKee 42-21 - Original Drilling - Original Drilling - As Dril	17,063.87	6,818.47	9,066.86	8,957.68	83.052	CC, ES, SF
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	2,931.09	17,720.27	8,202.88	8,094.12	75.427	CC, ES
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	4,400.00	17,720.27	8,365.28	8,252.41	74.111	SF
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	2,889.23	17,515.21	8,812.82	8,706.69	83.038	CC, ES
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	4,800.00	17,515.21	9,098.20	8,985.74	80.899	SF
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	2,824.73	17,093.98	9,379.33	9,276.13	90.889	CC, ES
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	5,100.00	17,093.98	9,816.82	9,705.21	87.952	SF
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	2,787.71	16,956.23	9,974.28	9,873.18	98.662	CC
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	2,800.00	16,956.23	9,974.33	9,873.18	98.615	ES
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	3,000.00	16,956.23	9,988.13	9,886.19	97.978	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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>						
A Section 21						
Rampart A33-770 - Rampart A33-770 - APD-Rev 0						
Sexton 43-21 (PA) - Original Drilling - Original Drilling - As	17,063.87	6,781.00	8,845.72	8,623.28	39.767	Out of range
Wells Trust 13-21 - Original Drilling - Original Drilling - As						CC, ES, SF
Wells Trust 14-21 - Original Drilling - Original Drilling - As						Out of range
Wells Trust 24-21 - Original Drilling - Original Drilling - As						Out of range
A Section 22						
Carpio 22-01 - Original Drilling - Original Drilling - As Drill	17,063.87	6,832.53	3,369.35	3,258.70	30.451	CC, ES, SF
Carpio 22-04-19 - Original Drilling - Original Drilling - As D	17,063.87	6,760.26	4,958.23	4,846.94	44.550	CC, ES, SF
Carpio 22-41 - Original Drilling - Original Drilling - As Drill	17,063.87	6,765.17	3,642.80	3,520.51	29.788	CC, ES, SF
Carpio 22-43 - Original Drilling - Original Drilling - As Drill	17,063.87	6,897.90	4,649.24	4,537.67	41.668	CC, ES, SF
Carpio 22-45 - Original Drilling - Original Drilling - As Drill	17,063.87	6,797.22	3,833.30	3,724.16	35.124	CC, ES, SF
Eisenstat 22-11 (PA) - Original Drilling - Original Drilling -	17,063.87	6,795.00	5,872.35	5,674.53	29.686	CC, ES, SF
Eisenstat 22-13 - Original Drilling - Original Drilling - As D	17,063.87	6,779.04	5,566.59	5,463.07	53.776	CC, ES, SF
Eisenstat 22-15 - Original Drilling - Original Drilling - As D	17,063.87	6,776.22	5,744.98	5,651.76	61.628	CC, ES, SF
Eisenstat 22-21 - Original Drilling - Original Drilling - As D	17,063.87	6,851.32	7,249.79	7,149.40	72.218	CC, ES, SF
Eisenstat 22-23 - Original Drilling - Original Drilling - As D	17,063.87	6,864.86	7,914.55	7,807.44	73.890	CC, ES, SF
Gill Land Assoc. 1 (PA) - Original Drilling - Original Drilling	17,063.87	6,796.00	4,680.97	4,474.31	22.650	CC, ES, SF
Gill Land Assoc. 22-02 (PA) - Original Drilling - Original D	17,063.87	6,806.00	6,788.12	6,570.25	31.157	CC, ES, SF
Gill Land Assoc. 22-03 - Original Drilling - Original Drilling	17,063.87	6,814.95	8,558.60	8,454.94	82.567	CC, ES, SF
Gill Land Assoc. 22-04 (PA) - Original Drilling - Original D	17,063.87	6,804.00	6,566.38	6,358.76	31.626	CC, ES, SF
Gruen 22-01 - Original Drilling - Original Drilling - As Drille	17,063.87	6,871.74	7,537.48	7,426.88	68.151	CC, ES, SF
Gruen 22-02 - Original Drilling - Original Drilling - As Drille	17,063.87	6,579.51	5,991.13	5,881.37	54.584	CC, ES, SF
Gruen 22-31 - Original Drilling - Original Drilling - As Drille	17,063.87	6,800.00	6,280.88	6,171.59	57.469	CC, ES, SF
Gruen 22-33 - Original Drilling - Original Drilling - As Drille	17,063.87	6,994.88	7,249.21	7,136.98	64.590	CC, ES, SF
Gruen 22-35 - Original Drilling - Original Drilling - As Drille	16,400.00	16,400.00	6,893.80	6,755.38	49.804	SF
Gruen 22-35 - Original Drilling - Original Drilling - As Drille	17,063.87	6,728.58	6,731.96	6,621.35	60.861	CC, ES
Ottinger 22-01 - Original Drilling - Original Drilling - As Dr	17,063.87	6,831.11	5,072.25	4,964.96	47.277	CC, ES, SF
A Section 23						
Cecil 23-13 - Original Drilling - Original Drilling - As Drilled	17,063.87	6,766.86	3,671.63	3,614.71	64.498	CC, ES, SF
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	17,063.87	6,755.00	2,952.56	2,748.26	14.452	CC, ES, SF
Champlin 23-03 - Original Drilling - Original Drilling - As D	17,063.87	6,752.72	1,248.15	1,155.22	13.431	CC, ES, SF
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	17,063.87	6,730.00	1,326.23	1,116.96	6.337	CC, ES, SF
Cooper 23-1-17 - Original Drilling - Original Drilling - As Dr	17,063.87	6,707.73	5,271.08	5,212.34	89.739	CC, ES, SF
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	17,063.87	6,666.15	4,264.12	4,207.02	74.676	CC, ES, SF
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	17,063.87	6,742.25	4,793.65	4,736.62	84.057	CC, ES, SF
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	17,063.87	6,754.69	2,918.34	2,861.41	51.260	CC, ES, SF
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	17,063.87	6,600.00	4,419.10	4,358.23	72.599	CC, ES, SF
Foss 41-23D - Original Drilling - Original Drilling - As Drill	17,063.87	6,928.68	5,183.09	5,116.34	77.649	CC, ES, SF
Foss 42-23 - Original Drilling - Original Drilling - As Drilled	17,063.87	6,714.46	3,793.39	3,724.48	55.041	CC, ES, SF
J&L Farms 23-11 - Original Drilling - Original Drilling - As	17,063.87	6,734.67	5,191.55	5,115.82	68.547	CC, ES, SF
J&L Farms 23-12 - Original Drilling - Original Drilling - As	17,063.87	6,541.22	3,921.28	3,837.42	46.757	CC, ES, SF
J&L Farms 23-21 - Original Drilling - Original Drilling - As	17,063.87	6,685.92	4,909.16	4,848.67	81.155	CC, ES, SF
J&L Farms 23-22 - Original Drilling - Original Drilling - As	17,063.87	6,611.13	3,571.48	3,507.19	55.552	CC, ES, SF
McIntosh 33-23 - Original Drilling - Original Drilling - As D	17,063.87	6,971.80	2,091.68	2,030.01	33.919	CC, ES, SF
McIntosh 34-23 - Original Drilling - Original Drilling - As D	17,063.87	6,716.05	1,221.87	1,138.34	14.628	CC, ES, SF
McIntosh 43-23 - Original Drilling - Original Drilling - As D	17,063.87	6,715.92	3,170.12	3,087.03	38.149	CC, ES, SF
McIntosh 44-23 - Original Drilling - Original Drilling - As D	17,063.87	6,736.44	2,387.12	2,282.48	22.813	CC, ES, SF
Schroeder 23-31 - Original Drilling - Original Drilling - As	17,063.87	6,795.34	1,959.71	1,893.31	29.515	CC, ES, SF
Schroeder 23-33 - Original Drilling - Original Drilling - As	17,063.87	6,778.39	2,168.07	2,057.90	19.678	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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 24						
Larson A23-622 - Larson A23-622 OH - As-drilled	17,063.87	14,677.59	1,046.79	910.19	7.663	CC, ES, SF
Larson A23-627 - Larson A23-627 OH - As-drilled	17,063.87	14,851.07	1,384.46	1,243.85	9.846	CC, ES, SF
Larson A23-633 - Larson A23-633 OH - As-drilled	17,063.87	14,701.51	1,705.02	1,567.62	12.409	CC, ES, SF
Larson A23-639 - Larson A23-639 OH - As-drilled	17,063.87	14,796.81	2,108.71	1,971.04	15.317	CC, ES, SF
Larson A23-645 - Larson A23-645 OH - As-drilled	17,063.87	15,448.39	2,469.62	2,323.06	16.851	CC, ES, SF
Larson A23-651 - Larson A23-651 OH - As-drilled	17,063.87	15,359.17	2,758.22	2,614.33	19.168	CC, ES, SF
Larson A23-656 - Larson A23-656 OH - As-drilled	17,063.87	15,499.00	3,162.31	3,014.38	21.378	CC, ES, SF
Larson A23-662 - Larson A23-662 OH - As-drilled	17,063.87	15,530.71	3,554.18	3,407.50	24.231	CC, ES, SF
Larson A23-668 - Larson A23-668 OH - As-Drilled	17,063.87	15,254.43	3,916.37	3,770.11	26.778	CC, ES, SF
Larson A23-672 - Larson A23-672 OH - As-Drilled	17,063.87	15,173.86	4,188.93	4,045.22	29.149	CC, ES, SF
Larson A23-678 - Larson A23-678 OH - As-Drilled	17,063.87	14,754.90	4,573.93	4,434.05	32.700	CC, ES, SF
Larson A23-683 - Larson A23-683 OH - As-Drilled	17,063.87	14,691.73	4,843.10	4,707.18	35.631	CC, ES, SF
Larson AA19-618 - Larson AA19-618 OH - As-Drilled	17,063.87	6,140.00	7,178.62	7,074.60	69.016	CC, ES, SF
Larson AA19-624 - Larson AA19-624 OH - As-Drilled	17,063.87	6,235.00	7,303.08	7,200.48	71.177	CC, ES, SF
Larson AA19-624 - Larson AA19-624 ST01 - As-Drilled	17,063.87	6,235.00	7,303.08	7,200.48	71.177	CC, ES, SF
Larson AA19-630 - Larson AA19-630 OH - As-Drilled	17,063.87	6,047.00	7,304.19	7,202.76	72.011	CC, ES, SF
Larson AA19-635 - Larson AA19-635 OH - As-Drilled	17,063.87	6,142.00	7,401.22	7,300.48	73.472	CC, ES, SF
Larson Farms 01-24 - Original Drilling - Original Drilling -	17,063.87	3,710.00	8,731.10	8,638.60	94.388	CC, ES, SF
Larson Farms 02-24 - Original Drilling - Original Drilling -	16,000.00	16,000.00	8,655.15	8,530.19	69.267	SF
Larson Farms 02-24 - Original Drilling - Original Drilling -	17,063.87	6,975.78	8,146.38	8,039.89	76.497	CC, ES
Larson Farms 03-24 - Original Drilling - Original Drilling -	17,063.87	6,823.80	6,426.58	6,320.74	60.717	CC, ES, SF
Larson Farms 04-24 - Original Drilling - Original Drilling -	17,063.87	2,945.22	7,458.54	7,359.01	74.938	CC, ES, SF
Larson Farms 05-24 - Original Drilling - Original Drilling -	17,063.87	7,005.75	6,822.51	6,705.21	58.163	CC, ES, SF
Larson Farms 06-24 - Original Drilling - Original Drilling -	16,600.00	6,100.00	7,300.69	7,177.00	59.028	SF
Larson Farms 06-24 - Original Drilling - Original Drilling -	17,063.87	4,966.00	7,200.93	7,079.75	59.425	CC, ES
Larson Farms 07-24 - Original Drilling - Original Drilling -	17,063.87	7,011.79	6,099.32	5,974.86	49.008	CC, ES, SF
Peppler 24-32 - Original Drilling - Original Drilling - As Dri	17,063.87	6,542.14	3,988.88	3,897.47	43.637	CC, ES, SF
Roth 24-21 - Original Drilling - Original Drilling - As Drilled	17,063.87	6,804.37	6,610.27	6,527.05	79.430	CC, ES, SF

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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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 25						
Fairmeadows 03-25G - Original Drilling - Original Drilling	12,721.66	6,725.61	7,323.67	7,246.28	94.635	CC
Fairmeadows 03-25G - Original Drilling - Original Drilling	12,800.00	6,726.53	7,324.09	7,246.06	93.863	ES
Fairmeadows 03-25G - Original Drilling - Original Drilling	16,000.00	6,764.01	8,023.85	7,923.98	80.344	SF
Fairmeadows Land Co 1 - Original Drilling - Original Drilling	13,967.56	6,707.00	7,338.44	7,141.06	37.178	CC
Fairmeadows Land Co 1 - Original Drilling - Original Drilling	14,000.00	6,707.00	7,338.51	7,140.85	37.127	ES
Fairmeadows Land Co 1 - Original Drilling - Original Drilling	15,800.00	6,707.00	7,563.77	7,352.27	35.764	SF
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,649.70	6,728.70	3,511.84	3,375.51	25.759	CC
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,700.00	6,729.88	3,512.20	3,375.34	25.663	ES
Larsen 01-25G - Original Drilling - Original Drilling - As D	17,063.87	6,738.41	3,536.17	3,395.98	25.225	SF
Larsen A25-01 - Original Drilling - Original Drilling - As Dr	16,550.41	6,702.27	7,318.35	7,212.07	68.858	CC
Larsen A25-01 - Original Drilling - Original Drilling - As Dr	16,600.00	6,701.89	7,318.52	7,211.80	68.575	ES
Larsen A25-01 - Original Drilling - Original Drilling - As Dr	17,063.87	6,701.62	7,336.34	7,225.63	66.265	SF
Larsen A25-02 - Original Drilling - Original Drilling - As Dr	15,600.00	15,600.00	6,334.62	6,206.85	49.577	SF
Larsen A25-02 - Original Drilling - Original Drilling - As Dr	16,670.59	6,670.94	6,243.62	6,136.42	58.246	CC
Larsen A25-02 - Original Drilling - Original Drilling - As Dr	16,700.00	6,669.89	6,243.69	6,136.22	58.101	ES
Larsen A25-03 - Original Drilling - Original Drilling - As Dr	16,638.19	6,705.00	4,677.50	4,459.69	21.475	CC
Larsen A25-03 - Original Drilling - Original Drilling - As Dr	16,700.00	6,705.00	4,677.91	4,459.51	21.419	ES
Larsen A25-03 - Original Drilling - Original Drilling - As Dr	17,063.87	6,705.00	4,696.83	4,475.21	21.193	SF
Larsen A25-03X - Original Drilling - Original Drilling - As D	16,813.03	6,666.09	4,453.16	4,344.82	41.104	CC, ES
Larsen A25-03X - Original Drilling - Original Drilling - As D	17,063.87	6,664.05	4,460.22	4,349.55	40.302	SF
Larsen A25-05 - Original Drilling - Original Drilling - As Dr	15,260.60	6,727.33	3,364.01	3,267.82	34.970	CC
Larsen A25-05 - Original Drilling - Original Drilling - As Dr	15,300.00	6,726.85	3,364.24	3,267.65	34.829	ES
Larsen A25-05 - Original Drilling - Original Drilling - As Dr	16,000.00	6,718.39	3,444.30	3,342.08	33.693	SF
Larsen A25-06 - Original Drilling - Original Drilling - As Dr	15,286.78	6,705.00	4,956.47	4,749.13	23.905	CC
Larsen A25-06 - Original Drilling - Original Drilling - As Dr	15,300.00	6,705.00	4,956.49	4,749.03	23.891	ES
Larsen A25-06 - Original Drilling - Original Drilling - As Dr	16,100.00	6,705.00	5,022.75	4,808.62	23.457	SF
Larsen A25-06X - Original Drilling - Original Drilling - As D	15,224.38	6,621.49	4,599.55	4,498.95	45.720	CC
Larsen A25-06X - Original Drilling - Original Drilling - As D	15,300.00	6,620.96	4,600.17	4,498.95	45.444	ES
Larsen A25-06X - Original Drilling - Original Drilling - As D	16,300.00	6,614.14	4,723.64	4,615.81	43.808	SF
Larsen A25-07 - Original Drilling - Original Drilling - As Dr	15,346.07	6,643.18	6,021.56	5,924.67	62.146	CC
Larsen A25-07 - Original Drilling - Original Drilling - As Dr	15,400.00	6,643.09	6,021.80	5,924.42	61.839	ES
Larsen A25-07 - Original Drilling - Original Drilling - As Dr	17,063.87	6,640.20	6,261.79	6,152.05	57.057	SF
Larsen A25-08 - Original Drilling - Original Drilling - As Dr	15,357.06	6,650.48	7,298.17	7,201.21	75.273	CC
Larsen A25-08 - Original Drilling - Original Drilling - As Dr	15,400.00	6,650.40	7,298.29	7,200.96	74.982	ES
Larsen A25-08 - Original Drilling - Original Drilling - As Dr	17,063.87	6,646.81	7,495.09	7,384.87	68.000	SF
Larsen A25-10 - Original Drilling - Original Drilling - Drilled	14,032.86	6,650.11	6,000.56	5,913.62	69.017	CC
Larsen A25-10 - Original Drilling - Original Drilling - Drilled	14,100.00	6,650.29	6,000.94	5,913.40	68.557	ES
Larsen A25-10 - Original Drilling - Original Drilling - Drilled	16,100.00	6,655.95	6,346.63	6,244.74	62.290	SF
Larsen A25-11 - Original Drilling - Original Drilling - As Dr	13,995.24	6,692.00	4,802.99	4,605.70	24.345	CC
Larsen A25-11 - Original Drilling - Original Drilling - As Dr	14,000.00	6,692.00	4,802.99	4,605.66	24.339	ES
Larsen A25-11 - Original Drilling - Original Drilling - As Dr	14,800.00	6,692.00	4,869.95	4,665.97	23.876	SF
Larsen A25-12 - Original Drilling - Original Drilling - As Dr	14,065.29	6,676.51	3,224.71	3,137.51	36.983	CC
Larsen A25-12 - Original Drilling - Original Drilling - As Dr	14,100.00	6,676.65	3,224.89	3,137.36	36.840	ES
Larsen A25-12 - Original Drilling - Original Drilling - As Dr	14,800.00	6,679.45	3,307.35	3,214.15	35.486	SF
Larsen A25-13 - Original Drilling - Original Drilling - As Dr	12,852.32	6,735.90	3,324.80	3,246.57	42.500	CC
Larsen A25-13 - Original Drilling - Original Drilling - As Dr	12,900.00	6,735.50	3,325.14	3,246.46	42.261	ES
Larsen A25-13 - Original Drilling - Original Drilling - As Dr	15,900.00	15,900.00	4,510.22	4,387.85	36.856	SF
Larsen A25-14 - Original Drilling - Original Drilling - As Dr	12,601.16	6,858.29	4,606.03	4,529.60	60.257	CC, ES
Larsen A25-14 - Original Drilling - Original Drilling - As Dr	14,100.00	6,840.13	4,843.73	4,756.14	55.296	SF
Larsen A25-15 - Original Drilling - Original Drilling - As Dr	12,702.68	6,674.98	6,034.71	5,957.50	78.159	CC
Larsen A25-15 - Original Drilling - Original Drilling - As Dr	12,800.00	6,675.40	6,035.49	5,957.47	77.353	ES
Larsen A25-15 - Original Drilling - Original Drilling - As Dr	15,100.00	6,685.21	6,493.44	6,399.39	69.040	SF
Larsen A25-17 - Original Drilling - Original Drilling - As D	15,916.34	6,631.02	6,767.26	6,665.98	66.812	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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 25						
Larson A25-17 - Original Drilling - Original Drilling - As D	16,000.00	6,631.13	6,767.78	6,665.75	66.328	ES
Larson A25-17 - Original Drilling - Original Drilling - As D	17,063.87	6,632.68	6,863.87	6,753.24	62.045	SF
Larson A25-19 - Original Drilling - Original Drilling - As Dr	16,049.40	6,543.67	3,928.97	3,826.45	38.325	CC
Larson A25-19 - Original Drilling - Original Drilling - As Dr	16,100.00	6,544.09	3,929.30	3,826.28	38.145	ES
Larson A25-19 - Original Drilling - Original Drilling - As Dr	16,900.00	6,550.60	4,019.99	3,910.71	36.789	SF
Larson A25-23 - Original Drilling - Original Drilling - As Dr	13,368.16	6,709.14	6,731.95	6,649.90	82.044	CC
Larson A25-23 - Original Drilling - Original Drilling - As Dr	13,400.00	6,709.36	6,732.03	6,649.71	81.775	ES
Larson A25-23 - Original Drilling - Original Drilling - As Dr	16,000.00	6,720.12	7,228.12	7,127.49	71.829	SF
Larson A25-25 - Original Drilling - Original Drilling - As Dr	13,291.74	6,667.90	4,001.93	3,920.43	49.101	CC
Larson A25-25 - Original Drilling - Original Drilling - As Dr	13,300.00	6,667.83	4,001.94	3,920.36	49.055	ES
Larson A25-25 - Original Drilling - Original Drilling - As Dr	14,400.00	6,658.84	4,152.54	4,062.50	46.119	SF
A Section 26						
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	14,031.06	6,708.51	732.71	640.88	7.978	CC, ES, SF
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	14,016.19	6,699.21	2,050.05	1,964.50	23.965	CC, ES
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	14,100.00	6,700.10	2,051.76	1,965.95	23.911	SF
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling -	12,451.05	6,716.55	2,131.77	2,056.26	28.231	CC, ES
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling -	12,600.00	6,716.29	2,136.97	2,061.01	28.132	SF
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	12,400.00	6,686.09	445.30	370.33	5.939	SF
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	12,424.63	6,686.57	444.62	369.82	5.944	CC, ES
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,637.04	6,744.62	1,950.90	1,843.71	18.200	CC, ES
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,700.00	6,744.66	1,951.92	1,844.54	18.179	SF
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	15,107.82	6,706.88	1,841.40	1,746.33	19.369	CC, ES
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	15,200.00	6,706.36	1,843.70	1,748.43	19.351	SF
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,475.60	6,700.56	727.93	622.14	6.881	CC
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,500.00	6,700.64	728.34	622.11	6.856	ES, SF
DCD Farms 01-26 - Original Drilling - Original Drilling - As	15,261.43	6,731.77	2,020.92	1,924.81	21.027	CC
DCD Farms 01-26 - Original Drilling - Original Drilling - As	15,300.00	6,731.91	2,021.29	1,924.73	20.934	ES
DCD Farms 01-26 - Original Drilling - Original Drilling - As	15,600.00	6,733.02	2,049.08	1,949.82	20.643	SF
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling	15,231.75	6,699.59	674.60	578.56	7.024	CC, ES, SF
DCD Farms A26-07 - Original Drilling - Original Drilling - A	15,505.41	6,700.43	688.26	590.03	7.007	CC, ES
DCD Farms A26-07 - Original Drilling - Original Drilling - A	15,600.00	6,701.78	694.72	595.25	6.984	SF
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	13,951.58	6,709.70	2,028.39	1,942.12	23.513	CC, ES
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	14,300.00	6,706.35	2,058.10	1,968.55	22.984	SF
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	13,986.84	6,694.60	708.89	622.32	8.189	CC
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	14,000.00	6,694.53	709.01	622.20	8.167	ES
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	14,100.00	6,694.00	717.86	629.77	8.149	SF
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	12,599.79	6,722.05	528.43	452.65	6.973	CC
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	12,600.00	6,722.06	528.43	452.65	6.973	ES
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	12,700.00	6,723.90	537.85	460.59	6.962	SF
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,476.64	6,694.00	2,060.87	1,874.61	11.065	CC
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,500.00	6,694.00	2,061.00	1,874.50	11.051	ES
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,700.00	6,694.00	2,072.94	1,884.49	11.000	SF
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,512.11	6,688.44	2,077.34	1,970.83	19.503	CC, ES
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,800.00	6,692.45	2,097.19	1,987.94	19.196	SF
Sidwell A26-03 (PA) - Original Drilling - Original Drilling -	16,681.29	6,987.71	542.61	423.37	4.550	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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	16,569.55	6,811.00	4,538.21	4,318.81	20.685	CC
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	16,600.00	6,811.00	4,538.31	4,318.74	20.669	ES
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	17,000.00	6,811.00	4,558.58	4,336.96	20.569	SF
Howard 03-27 - Original Drilling - Original Drilling - As Dri	16,483.56	6,724.33	5,946.34	5,840.72	56.297	CC
Howard 03-27 - Original Drilling - Original Drilling - As Dri	16,500.00	6,724.29	5,946.37	5,840.64	56.242	ES
Howard 03-27 - Original Drilling - Original Drilling - As Dri	17,063.87	6,722.84	5,974.59	5,865.63	54.832	SF
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	16,592.98	6,771.00	7,188.57	6,969.79	32.858	CC
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	16,600.00	6,771.00	7,188.58	6,969.75	32.851	ES
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	17,063.87	6,771.00	7,203.98	6,982.24	32.488	SF
Howard 08-27 - Original Drilling - Original Drilling - As Dri	15,174.43	6,769.00	3,243.02	3,147.15	33.829	CC
Howard 08-27 - Original Drilling - Original Drilling - As Dri	15,200.00	6,768.88	3,243.12	3,147.12	33.785	ES
Howard 08-27 - Original Drilling - Original Drilling - As Dri	15,500.00	6,767.44	3,259.32	3,162.10	33.528	SF
Howard 10-27 - Original Drilling - Original Drilling - As Dri	13,862.68	6,757.00	4,470.45	4,384.52	52.026	CC
Howard 10-27 - Original Drilling - Original Drilling - As Dri	13,900.00	6,756.59	4,470.60	4,384.47	51.903	ES
Howard 10-27 - Original Drilling - Original Drilling - As Dri	14,700.00	6,747.48	4,548.18	4,458.44	50.681	SF
Howard 15-27 - Original Drilling - Original Drilling - As Dri	12,696.44	6,694.76	4,628.88	4,554.10	61.897	CC
Howard 15-27 - Original Drilling - Original Drilling - As Dri	12,700.00	6,694.83	4,628.88	4,554.08	61.880	ES
Howard 15-27 - Original Drilling - Original Drilling - As Dri	13,700.00	6,712.88	4,736.39	4,656.85	59.550	SF
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,552.90	3,765.00	7,799.08	7,652.58	53.235	CC
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,600.00	3,765.00	7,799.22	7,652.41	53.123	ES
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	17,063.87	3,765.00	7,815.80	7,666.00	52.175	SF
Howard A27-01 - Original Drilling - Original Drilling - As D	16,567.23	6,775.06	3,209.88	3,103.20	30.089	CC, ES
Howard A27-01 - Original Drilling - Original Drilling - As D	16,900.00	6,773.69	3,227.08	3,119.09	29.882	SF
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	15,192.24	6,822.51	7,176.78	7,080.44	74.495	CC
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	15,200.00	6,822.42	7,176.79	7,080.40	74.456	ES
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	16,300.00	16,300.00	7,261.75	7,125.70	53.373	SF
Howard A27-06 (PR) - Original Drilling - Original Drilling -	15,235.73	6,849.01	5,798.81	5,699.96	58.660	CC
Howard A27-06 (PR) - Original Drilling - Original Drilling -	15,300.00	6,849.08	5,799.17	5,699.85	58.388	ES
Howard A27-06 (PR) - Original Drilling - Original Drilling -	16,700.00	6,850.63	5,980.83	5,873.24	55.588	SF
Howard A27-07 - Original Drilling - Original Drilling - As D	15,164.13	6,836.17	4,449.12	4,353.03	46.302	CC
Howard A27-07 - Original Drilling - Original Drilling - As D	15,200.00	6,836.05	4,449.26	4,352.97	46.205	ES
Howard A27-07 - Original Drilling - Original Drilling - As D	15,900.00	6,833.66	4,509.56	4,410.05	45.320	SF
Howard A27-09 - Original Drilling - Original Drilling - As D	13,801.22	6,764.40	3,342.16	3,256.64	39.082	CC, ES
Howard A27-09 - Original Drilling - Original Drilling - As D	14,200.00	6,760.81	3,365.87	3,278.69	38.612	SF
Howard A27-16 - Original Drilling - Original Drilling - As D	12,530.48	6,738.06	3,064.93	2,988.84	40.281	CC, ES
Howard A27-16 - Original Drilling - Original Drilling - As D	12,900.00	6,740.99	3,087.12	3,009.54	39.792	SF
Howard A27-17D - Original Drilling - Original Drilling - As	15,976.10	6,867.96	3,795.01	3,689.22	35.873	CC
Howard A27-17D - Original Drilling - Original Drilling - As	16,000.00	6,867.87	3,795.08	3,689.21	35.845	ES
Howard A27-17D - Original Drilling - Original Drilling - As	16,300.00	6,866.72	3,808.81	3,702.06	35.681	SF

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



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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Reveille A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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	16,634.93	6,763.00	9,930.75	9,711.81	45.357	CC
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	16,700.00	6,763.00	9,930.97	9,711.57	45.265	ES
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	17,063.87	6,763.00	9,940.01	9,718.15	44.803	SF
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	14,990.04	6,835.37	8,461.91	8,368.25	90.340	CC
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	15,000.00	6,835.29	8,461.92	8,368.19	90.277	ES
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	17,063.87	6,818.81	8,712.32	8,606.79	82.562	SF
Art Rohr 1 (PA) - Wellbore #1 - No Surveys						Out of range
Danley 1 (TA) - Wellbore #1 - Gyro Surveys						Out of range
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys						Out of range
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	2,041.48	2,170.52	8,527.97	8,513.48	588.810	CC, ES
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	16,100.00	6,843.94	9,406.06	9,310.99	98.942	SF
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	13,079.65	6,731.00	9,009.31	8,817.98	47.090	CC
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	13,100.00	6,731.00	9,009.33	8,817.88	47.058	ES
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	15,200.00	6,731.00	9,255.46	9,051.69	45.423	SF
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	13,113.33	6,791.66	9,000.25	8,919.66	111.676	CC
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	13,200.00	6,793.00	9,000.67	8,919.51	110.907	ES
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	16,800.00	6,846.16	9,725.90	9,625.58	96.957	SF
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	13,608.48	7,500.00	9,553.81	9,408.48	65.742	CC
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	13,800.00	7,500.00	9,555.72	9,407.33	64.393	ES
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	16,500.00	7,500.00	9,981.79	9,796.41	53.847	SF
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,878.92	6,746.00	8,720.14	8,522.64	44.152	CC
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,900.00	6,746.00	8,720.17	8,522.52	44.121	ES
Webster 09-28 (PR) - Original Drilling - Original Drilling -	15,800.00	6,746.00	8,929.25	8,720.42	42.759	SF
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	727.98	712.99	9,656.37	9,651.68	2,057.225	CC
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	2,000.00	1,965.35	9,657.93	9,644.31	708.924	ES
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	3,300.00	3,230.21	9,998.49	9,975.90	442.614	SF
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	13,918.64	6,789.02	8,704.72	8,618.31	100.734	CC
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	14,000.00	6,789.33	8,705.10	8,618.16	100.123	ES
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	17,063.87	6,801.18	9,255.51	9,152.18	89.575	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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	100.00	26.89	9,004.23	9,004.06	10,000.000	CC
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	1,500.00	1,400.00	9,010.24	9,000.37	913.304	ES
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	4,600.00	4,522.64	9,994.98	9,962.91	311.707	SF
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	2,000.00	1,948.00	9,026.54	8,980.64	196.671	CC, ES
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	4,400.00	4,124.88	9,965.47	9,867.51	101.733	SF
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	575.90	528.91	7,713.41	7,709.90	2,199.228	CC
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	1,300.00	1,203.75	7,716.27	7,707.81	912.431	ES
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	8,900.00	6,988.00	9,991.19	9,936.66	183.192	SF
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	2,000.88	1,958.52	9,886.02	9,872.40	725.904	CC, ES
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	2,600.00	2,502.29	9,979.21	9,961.64	567.880	SF
French 09-33 (SI) - Original Drilling - Original Drilling - As	1,329.61	1,285.67	6,555.87	6,547.01	739.927	CC
French 09-33 (SI) - Original Drilling - Original Drilling - As	2,016.02	2,025.31	6,556.78	6,542.88	471.801	ES
French 09-33 (SI) - Original Drilling - Original Drilling - As	9,600.00	9,600.00	8,563.53	8,496.75	128.230	SF
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	100.00	30.13	6,311.24	6,311.06	10,000.000	CC
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	1,000.00	911.71	6,315.32	6,308.95	991.120	ES
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	12,500.00	6,400.00	9,977.98	9,912.54	152.476	SF
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	1,071.33	1,024.34	7,090.58	7,083.57	1,011.281	CC
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	1,900.00	1,800.00	7,092.64	7,079.95	558.984	ES
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	11,800.00	6,526.76	9,998.62	9,933.40	153.288	SF
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys						Out of range
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	1,760.01	1,425.66	8,733.19	8,721.89	772.749	CC
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	1,648.97	8,733.45	8,720.52	675.549	ES
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	14,100.00	6,528.01	9,983.62	9,900.43	120.000	SF
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	802.78	771.79	8,744.93	8,739.76	1,691.509	CC
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	1,200.00	1,119.41	8,745.92	8,738.11	1,120.905	ES
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	13,600.00	6,767.49	9,981.55	9,900.38	122.959	SF
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	2,014.67	2,039.40	8,297.51	8,283.48	591.507	CC, ES
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	10,600.00	7,041.91	9,999.88	9,936.38	157.484	SF
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	348.94	324.94	7,658.50	7,656.53	3,871.852	CC
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	2,012.64	2,029.92	7,664.69	7,650.79	551.368	ES
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	15,200.00	6,500.00	9,272.47	9,186.35	107.666	SF
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	100.00	41.02	7,902.12	7,901.92	10,000.000	CC
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	400.00	319.90	7,902.96	7,900.81	3,682.468	ES
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	10,600.00	6,930.00	9,997.87	9,935.36	159.946	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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 34						
Barthol A34-05X - Original Drilling - Original Drilling - As D	846.59	828.55	5,859.78	5,854.25	1,059.701	CC
Barthol A34-05X - Original Drilling - Original Drilling - As D	900.00	852.93	5,859.92	5,854.11	1,009.216	ES
Barthol A34-05X - Original Drilling - Original Drilling - As D	10,100.00	10,100.00	7,319.80	7,247.90	101.806	SF
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	11,083.49	6,788.06	3,138.92	3,072.19	47.038	CC
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	11,100.00	6,788.03	3,138.97	3,072.16	46.988	ES
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	11,600.00	6,787.24	3,181.13	3,112.46	46.320	SF
Howard A34-03 (PA) - Original Drilling - Original Drilling -	2,000.00	2,004.00	5,691.72	5,644.70	121.058	CC
Howard A34-03 (PA) - Original Drilling - Original Drilling -	2,100.00	2,103.95	5,693.43	5,644.07	115.332	ES
Howard A34-03 (PA) - Original Drilling - Original Drilling -	12,200.00	6,752.00	5,992.63	5,808.73	32.587	SF
Howard BC A34-02 - Original Drilling - Original Drilling - A	11,102.65	6,723.50	4,804.57	4,738.28	72.482	CC, ES
Howard BC A34-02 - Original Drilling - Original Drilling - A	12,900.00	12,900.00	5,129.72	5,034.61	53.931	SF
Landwehr A34-03X - Original Drilling - Original Drilling - A	2,063.75	2,200.00	5,875.59	5,860.93	400.652	CC, ES
Landwehr A34-03X - Original Drilling - Original Drilling - A	13,300.00	6,806.99	6,270.43	6,192.63	80.603	SF
Landwehr A34-04 - Original Drilling - Original Drilling - As	1,018.87	1,008.09	6,879.39	6,872.62	1,016.156	CC
Landwehr A34-04 - Original Drilling - Original Drilling - As	1,400.00	1,343.83	6,880.10	6,870.79	738.677	ES
Landwehr A34-04 - Original Drilling - Original Drilling - As	14,400.00	7,020.52	8,034.39	7,949.50	94.646	SF
Petrikon A34-05 (PA) - Original Drilling - Original Drilling -	2,000.00	1,981.00	5,864.02	5,817.46	125.955	CC
Petrikon A34-05 (PA) - Original Drilling - Original Drilling -	2,100.00	2,080.95	5,866.28	5,817.37	119.951	ES
Petrikon A34-05 (PA) - Original Drilling - Original Drilling -	11,400.00	6,728.99	7,389.57	7,211.86	41.583	SF
Petrikon A34-06 - Original Drilling - Original Drilling - As D	332.60	315.62	4,772.58	4,770.68	2,515.286	CC
Petrikon A34-06 - Original Drilling - Original Drilling - As D	2,027.99	2,065.65	4,779.59	4,765.51	339.521	ES
Petrikon A34-06 - Original Drilling - Original Drilling - As D	12,100.00	6,839.57	6,288.42	6,218.96	90.523	SF
Petrikon A34-07 (PA) - Original Drilling - Original Drilling -	2,000.00	1,966.00	3,879.56	3,833.30	83.870	CC
Petrikon A34-07 (PA) - Original Drilling - Original Drilling -	2,100.00	2,065.95	3,881.17	3,832.57	79.850	ES
Petrikon A34-07 (PA) - Original Drilling - Original Drilling -	10,500.00	6,713.99	4,601.75	4,428.93	26.627	SF
Petrikon A34-08 - Original Drilling - Original Drilling - As D	10,003.88	6,757.63	3,141.77	3,081.71	52.309	CC, ES
Petrikon A34-08 - Original Drilling - Original Drilling - As D	11,400.00	11,400.00	3,437.63	3,357.70	43.010	SF
Petrikon A34-09 - Original Drilling - Original Drilling - As D	0.00	0.00	2,040.10			
Petrikon A34-09 - Original Drilling - Original Drilling - As D	2,014.77	2,014.04	2,045.91	2,032.06	147.714	ES
Petrikon A34-09 - Original Drilling - Original Drilling - As D	9,200.00	6,671.98	3,161.66	3,107.19	58.042	SF
Petrikon A34-10 - Original Drilling - Original Drilling - As D	0.00	0.00	2,817.61			
Petrikon A34-10 - Original Drilling - Original Drilling - As D	9,900.00	6,548.91	4,544.67	4,488.46	80.845	SF
Petrikon A34-11 - Original Drilling - Original Drilling - As D	1,913.66	1,875.68	4,094.00	4,080.99	314.697	CC
Petrikon A34-11 - Original Drilling - Original Drilling - As D	2,000.00	1,953.55	4,094.11	4,080.53	301.271	ES
Petrikon A34-11 - Original Drilling - Original Drilling - As D	11,000.00	6,716.60	6,308.69	6,246.59	101.588	SF
Petrikon A34-12 (PA) - Original Drilling - Original Drilling -	2,042.05	2,121.94	5,269.66	5,255.35	368.151	CC, ES
Petrikon A34-12 (PA) - Original Drilling - Original Drilling -	12,000.00	7,006.00	7,840.74	7,772.30	114.555	SF
Petrikon A34-13 - Original Drilling - Original Drilling - As D	1,746.91	1,700.00	5,077.10	5,065.29	430.181	CC
Petrikon A34-13 - Original Drilling - Original Drilling - As D	2,000.00	1,932.74	5,077.80	5,064.28	375.550	ES
Petrikon A34-13 - Original Drilling - Original Drilling - As D	11,000.00	6,591.36	8,093.04	8,032.94	134.669	SF
Petrikon A34-14 (PA) - Original Drilling - Original Drilling -	100.00	48.78	4,036.65	4,036.44	10,000.000	CC
Petrikon A34-14 (PA) - Original Drilling - Original Drilling -	400.00	332.23	4,038.36	4,036.17	1,843.703	ES
Petrikon A34-14 (PA) - Original Drilling - Original Drilling -	10,200.00	6,716.19	7,048.94	6,990.97	121.582	SF
Petrikon A34-15 - Original Drilling - Original Drilling - As D	100.00	57.37	2,455.44	2,455.22	10,000.000	CC
Petrikon A34-15 - Original Drilling - Original Drilling - As D	2,000.16	1,969.40	2,463.29	2,449.63	180.423	ES
Petrikon A34-15 - Original Drilling - Original Drilling - As D	8,000.00	6,638.31	4,619.27	4,568.51	91.006	SF
Petrikon A34-16 (PA) - Original Drilling - Original Drilling -	396.18	378.20	1,146.74	1,144.40	490.097	CC
Petrikon A34-16 (PA) - Original Drilling - Original Drilling -	2,000.00	1,980.22	1,150.17	1,136.49	84.044	ES
Petrikon A34-16 (PA) - Original Drilling - Original Drilling -	7,700.00	6,850.45	3,192.37	3,140.77	61.865	SF
Petrikon A34-25 - Original Drilling - Original Drilling - As D	100.00	37.27	4,486.73	4,486.54	10,000.000	CC
Petrikon A34-25 - Original Drilling - Original Drilling - As D	1,800.00	1,724.00	4,491.58	4,479.51	372.008	ES
Petrikon A34-25 - Original Drilling - Original Drilling - As D	10,900.00	6,529.78	7,059.14	6,999.07	117.508	SF
Reveille A33-720 - Reveille A33-720 OH - APD - Rev 1	2,000.00	1,984.00	4,213.33	4,199.51	304.971	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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)	Distance Between Ellipses (ft)	Separation Factor	Warning
A Section 34						
Reveille A33-720 - Reveille A33-720 OH - APD - Rev 1	17,063.87	17,576.35	8,492.08	8,318.16	48.828	SF
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	2,675.88	4,132.23	4,014.42	3,991.24	173.177	CC
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	2,700.00	4,156.08	4,014.58	3,991.21	171.833	ES
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	17,063.87	16,817.91	4,953.68	4,781.66	28.796	SF
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,321.63	3,012.60	4,169.28	4,150.99	227.980	CC, ES
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	17,063.87	16,626.69	5,661.66	5,489.68	32.921	SF
Reveille A34-768 - Reveille A34-768 OH - APD - Rev 1	2,000.00	1,983.00	4,206.53	4,192.71	304.558	CC, ES
Reveille A34-768 - Reveille A34-768 OH - APD - Rev 1	17,063.87	16,558.98	6,368.89	6,196.16	36.872	SF
Reveille A34-778 - Reveille A34-778 OH - APD - Rev 1	2,000.00	1,983.00	4,207.76	4,193.94	304.647	CC, ES
Reveille A34-778 - Reveille A34-778 OH - APD - Rev 1	17,063.87	16,607.30	7,076.88	6,905.11	41.200	SF
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	2,000.00	1,984.00	4,211.87	4,198.06	304.866	CC, ES
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	17,063.87	17,226.69	7,784.21	7,610.33	44.768	SF
A Section 35						
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	2,388.09	2,380.72	1,882.18	1,865.72	114.303	CC
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	2,500.00	2,479.74	1,882.69	1,865.48	109.400	ES
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	8,900.00	6,724.87	2,197.83	2,143.77	40.650	SF
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	2,384.55	2,375.92	188.95	172.54	11.511	CC
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	2,400.00	2,391.08	188.97	172.45	11.438	ES
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	2,600.00	2,584.58	196.25	178.34	10.960	SF
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	5,462.52	5,035.19	401.12	361.04	10.006	CC, ES
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	5,600.00	5,156.24	406.88	365.78	9.901	SF
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	8,501.48	6,713.61	989.85	937.46	18.894	CC, ES
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	8,600.00	6,710.39	994.73	941.68	18.750	SF
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	7,551.72	6,668.42	874.73	824.29	17.344	CC, ES
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	7,600.00	6,676.66	876.00	825.48	17.338	SF
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	7,375.64	6,658.96	2,201.14	2,151.21	44.086	CC, ES
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	7,600.00	6,705.54	2,212.28	2,161.70	43.739	SF
Reveille A34-714 - Reveille A34-714 OH - APD - Rev 1	2,000.00	2,002.00	89.08	75.20	6.418	CC, ES, SF
Reveille A34-725 - Reveille A34-725 OH - APD - Rev 1	2,000.00	2,003.00	114.13	100.24	8.220	CC, ES
Reveille A34-725 - Reveille A34-725 OH - APD - Rev 1	2,100.00	2,098.89	118.52	103.96	8.140	SF
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	2,000.00	2,004.00	136.40	122.51	9.822	CC, ES
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	2,100.00	2,099.10	140.81	126.25	9.670	SF
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	2,000.00	2,000.00	22.27	8.40	1.605	CC, ES
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	2,100.00	2,100.79	23.13	8.56	1.588	SF
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	2,002.08	2,003.13	44.54	30.65	3.206	CC, ES
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	2,100.00	2,102.60	45.35	30.78	3.112	SF
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	2,000.00	2,002.00	66.81	52.93	4.813	CC, ES
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	2,100.00	2,101.95	69.42	54.84	4.759	SF
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	11,333.20	6,693.85	722.48	654.76	10.668	CC, ES
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	11,400.00	6,694.73	725.56	656.89	10.566	SF
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	9,814.85	6,678.29	814.44	755.74	13.873	CC, ES
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	9,900.00	6,679.36	818.88	759.26	13.733	SF
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	11,100.00	6,688.31	637.04	570.88	9.629	SF
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	11,109.10	6,688.25	636.97	570.85	9.633	CC, ES
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	11,428.59	6,705.87	1,929.07	1,860.64	28.189	CC, ES
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	11,600.00	6,709.63	1,936.67	1,867.75	28.102	SF
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	9,974.53	6,691.18	1,993.56	1,931.68	32.218	CC, ES
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	10,100.00	6,685.18	1,997.49	1,935.39	32.165	SF
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	10,000.00	6,678.38	614.70	555.57	10.395	ES, SF
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	10,000.46	6,678.38	614.70	555.57	10.395	CC
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	10,424.89	6,685.79	1,238.15	1,176.28	20.010	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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 36						
Devries State A36-17 (Exist.) - Wellbore #1 - Wellbore #1	10,645.84	6,707.23	6,718.29	6,623.16	70.622	CC
Devries State A36-17 (Exist.) - Wellbore #1 - Wellbore #1	10,700.00	6,704.86	6,718.51	6,623.03	70.367	ES
Devries State A36-17 (Exist.) - Wellbore #1 - Wellbore #1	13,100.00	6,599.87	7,151.70	7,041.24	64.747	SF
Devries State A36-21 - Wellbore #1 - Wellbore #1 - As Dr	9,130.97	6,782.15	5,181.76	5,126.47	93.713	CC, ES
Devries State A36-21 - Wellbore #1 - Wellbore #1 - As Dr	11,600.00	6,825.88	5,739.76	5,669.65	81.868	SF
Devries State A36-23 - Wellbore #1 - Wellbore #1 - As Dr	8,132.59	6,636.92	6,697.58	6,646.08	130.046	CC, ES
Devries State A36-23 - Wellbore #1 - Wellbore #1 - As Dr	12,200.00	6,600.00	7,835.76	7,763.14	107.896	SF
Devries State A36-25 - Wellbore #1 - Wellbore #1 - As Dr	8,028.01	6,667.65	4,005.89	3,954.56	78.029	CC, ES
Devries State A36-25 - Wellbore #1 - Wellbore #1 - As Dr	9,700.00	6,658.92	4,340.81	4,281.63	73.346	SF
Scholfield A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A	10,660.29	6,752.08	3,850.11	3,786.62	60.640	CC
Scholfield A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A	10,700.00	6,750.77	3,850.32	3,786.52	60.352	ES
Scholfield A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A	12,000.00	6,712.07	4,076.33	4,003.34	55.849	SF
Scholfield A36-20 - Wellbore #1 - Wellbore #1 - As Drilled	9,402.67	6,657.30	3,857.56	3,801.10	68.321	CC, ES
Scholfield A36-20 - Wellbore #1 - Wellbore #1 - As Drilled	10,900.00	6,650.05	4,137.96	4,072.09	62.813	SF
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	11,300.00	11,300.00	3,232.93	3,149.73	38.857	ES, SF
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	11,399.24	6,798.45	3,231.53	3,163.44	47.458	CC
Scholfield State A36-69HN - Original Drilling - Original Dr	11,901.67	6,221.22	3,310.16	3,239.75	47.014	CC, ES
Scholfield State A36-69HN - Original Drilling - Original Dr	12,800.00	6,207.01	3,429.91	3,352.78	44.470	SF
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	8,427.07	9,267.02	2,563.46	2,471.98	28.023	ES
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	10,735.83	6,954.01	2,553.63	2,484.16	36.760	CC
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	11,600.00	11,600.00	2,647.49	2,532.59	23.042	SF
Sinjin E 36-9 (SI) - Wellbore #1 - No Surveys						Out of range
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	10,023.40	6,719.27	3,348.97	3,289.22	56.055	CC, ES
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	11,100.00	6,720.11	3,517.74	3,450.53	52.339	SF
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled	9,897.05	6,674.41	4,644.18	4,585.18	78.713	CC
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled	9,900.00	6,674.35	4,644.18	4,585.16	78.688	ES
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled	11,800.00	6,635.30	5,018.78	4,947.38	70.286	SF
State A36-07 - Wellbore #1 - Wellbore #1 - As Drilled	10,227.06	6,670.59	5,997.81	5,936.94	98.526	CC
State A36-07 - Wellbore #1 - Wellbore #1 - As Drilled	10,300.00	6,670.49	5,998.26	5,936.89	97.745	ES
State A36-07 - Wellbore #1 - Wellbore #1 - As Drilled	13,100.00	6,666.65	6,650.38	6,570.93	83.701	SF
State A36-08 - Wellbore #1 - Wellbore #1 - As Drilled	9,846.83	6,468.39	7,322.93	7,265.39	127.256	CC
State A36-08 - Wellbore #1 - Wellbore #1 - As Drilled	9,900.00	6,465.55	7,323.12	7,265.26	126.555	ES
State A36-08 - Wellbore #1 - Wellbore #1 - As Drilled	14,000.00	6,375.27	8,417.87	8,334.70	101.206	SF
State A36-09 - Wellbore #1 - Wellbore #1 - As Drilled	8,651.84	6,794.55	7,319.28	7,265.87	137.048	CC
State A36-09 - Wellbore #1 - Wellbore #1 - As Drilled	8,700.00	6,794.52	7,319.44	7,265.84	136.553	ES
State A36-09 - Wellbore #1 - Wellbore #1 - As Drilled	13,100.00	6,791.30	8,564.93	8,486.47	109.167	SF
State A36-10 - Wellbore #1 - Wellbore #1 - As Drilled	8,619.67	6,783.01	6,005.25	5,952.01	112.810	CC, ES
State A36-10 - Wellbore #1 - Wellbore #1 - As Drilled	13,400.00	13,400.00	7,674.25	7,572.62	75.508	SF
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled	8,586.48	6,766.43	4,678.22	4,625.19	88.220	CC
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled	8,600.00	6,766.18	4,678.24	4,625.16	88.130	ES
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled	11,500.00	11,500.00	5,511.01	5,425.57	64.503	SF
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	8,663.77	6,717.12	3,300.70	3,247.49	62.026	CC, ES
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	9,800.00	6,715.99	3,490.79	3,431.24	58.618	SF
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,438.46	6,621.46	3,315.71	3,265.62	66.203	CC
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,450.00	6,625.83	3,315.72	3,265.60	66.158	ES
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	8,500.00	6,671.70	3,476.68	3,423.13	64.919	SF
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled	7,388.69	6,641.68	4,665.61	4,505.85	29.205	CC
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled	7,450.00	6,663.27	4,665.96	4,505.66	29.107	ES
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled	7,648.57	6,693.99	4,672.45	4,511.17	28.972	SF
State A36-15 - Wellbore #1 - Wellbore #1 - As Drilled	7,361.95	6,608.09	6,072.43	6,022.77	122.273	CC
State A36-15 - Wellbore #1 - Wellbore #1 - As Drilled	7,400.00	6,617.88	6,072.54	6,022.76	121.987	ES
State A36-15 - Wellbore #1 - Wellbore #1 - As Drilled	11,100.00	6,664.54	7,119.85	7,053.60	107.468	SF
State A36-16 - Wellbore #1 - Wellbore #1 - As Drilled	7,314.81	6,609.90	7,321.62	7,271.93	147.345	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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>						
A Section 36						
State A36-16 - Wellbore #1 - Wellbore #1 - As Drilled	7,350.00	6,627.44	7,321.68	7,271.86	146.959	ES
State A36-16 - Wellbore #1 - Wellbore #1 - As Drilled	12,300.00	6,682.49	8,848.23	8,775.41	121.509	SF
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1	11,284.89	6,597.66	4,707.58	4,639.95	69.607	CC
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1	11,300.00	6,597.03	4,707.61	4,639.86	69.485	ES
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1	13,000.00	6,518.84	5,009.97	4,930.27	62.859	SF
State A36-99HZ - Original Drilling - As Drilled	11,676.28	6,213.67	3,293.35	3,223.90	47.416	CC
State A36-99HZ - Original Drilling - As Drilled	11,700.00	6,213.32	3,293.51	3,223.85	47.279	ES
State A36-99HZ - Original Drilling - As Drilled	12,600.00	6,194.01	3,423.14	3,346.84	44.866	SF
AA Section 30						
Shadow A26-622 - Original Drilling - Original Drilling - As	12,640.42	17,520.00	739.96	656.62	8.879	CC, ES
Shadow A26-622 - Original Drilling - Original Drilling - As	13,100.00	17,520.00	871.06	756.19	7.583	SF
Shadow A26-627 - Original Drilling - Original Drilling - As	13,033.53	17,590.00	606.04	518.00	6.884	CC, ES
Shadow A26-627 - Original Drilling - Original Drilling - As	13,400.00	17,590.00	708.22	583.81	5.693	SF
Shadow A26-632 - Original Drilling - Original Drilling - As	13,333.59	17,781.00	618.13	533.81	7.331	CC
Shadow A26-632 - Original Drilling - Original Drilling - As	13,400.00	17,781.00	621.68	531.06	6.860	ES
Shadow A26-632 - Original Drilling - Original Drilling - As	13,700.00	17,781.00	718.56	584.20	5.348	SF
Shadow A26-637 - Original Drilling - Original Drilling - As	13,619.33	17,626.00	612.97	525.52	7.009	CC
Shadow A26-637 - Original Drilling - Original Drilling - As	13,700.00	17,626.00	618.26	522.31	6.444	ES
Shadow A26-637 - Original Drilling - Original Drilling - As	14,000.00	17,626.00	721.56	581.91	5.167	SF
Shadow A26-646 - Original Drilling - Original Drilling - As	14,298.33	17,659.00	610.55	519.01	6.670	CC
Shadow A26-646 - Original Drilling - Original Drilling - As	14,400.00	17,659.00	618.95	517.06	6.075	ES
Shadow A26-646 - Original Drilling - Original Drilling - As	14,700.00	17,659.00	730.83	586.87	5.077	SF
Shadow A26-656 - Original Drilling - Original Drilling - As	14,940.80	17,347.00	984.44	883.74	9.776	CC, ES
Shadow A26-656 - Original Drilling - Original Drilling - As	15,400.00	17,347.00	1,086.27	961.09	8.677	SF
Shadow A26-663 - Original Drilling - Original Drilling - As	15,497.78	17,466.00	843.44	735.79	7.835	CC
Shadow A26-663 - Original Drilling - Original Drilling - As	15,500.00	17,466.00	843.44	735.77	7.833	ES
Shadow A26-663 - Original Drilling - Original Drilling - As	15,900.00	17,466.00	934.44	803.03	7.111	SF
Shadow A26-672 - Original Drilling - Original Drilling - As	15,990.15	17,710.00	603.74	496.30	5.620	CC
Shadow A26-672 - Original Drilling - Original Drilling - As	16,100.00	17,710.00	613.65	494.83	5.164	ES
Shadow A26-672 - Original Drilling - Original Drilling - As	16,300.00	17,710.00	678.61	531.48	4.612	SF
Shadow A26-676 - Original Drilling - Original Drilling - As	16,276.05	17,725.00	611.43	499.53	5.464	CC
Shadow A26-676 - Original Drilling - Original Drilling - As	16,300.00	17,725.00	611.90	498.96	5.418	ES
Shadow A26-676 - Original Drilling - Original Drilling - As	16,600.00	17,725.00	691.94	551.06	4.911	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	16,500.00	17,810.00	775.29	476.14	2.592	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	16,700.00	17,810.00	674.71	444.96	2.937	ES
Shadow A26-685 - Original Drilling - Original Drilling - As	16,964.61	17,810.00	620.66	506.48	5.436	CC
Shadow A26-690 - Original Drilling - Original Drilling - As	16,900.00	17,780.00	668.35	526.70	4.718	SF
Shadow A26-690 - Original Drilling - Original Drilling - As	17,063.87	17,780.00	614.33	489.26	4.912	CC, ES
Shadow State A26-614 - Original Drilling - Original Drilling	12,104.06	17,675.00	607.78	527.67	7.587	CC, ES
Shadow State A26-614 - Original Drilling - Original Drilling	12,500.00	17,675.00	725.37	612.17	6.408	SF
Shadow State A26-618 - Original Drilling - Original Drilling	12,351.15	17,415.00	776.32	693.98	9.427	CC
Shadow State A26-618 - Original Drilling - Original Drilling	12,400.00	17,415.00	777.86	693.69	9.242	ES
Shadow State A26-618 - Original Drilling - Original Drilling	12,800.00	17,415.00	896.74	779.31	7.636	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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 01						
Lucci B01-69HNL - Original Drilling - Original Drilling - As	6,999.13	6,043.00	3,403.12	3,356.04	72.292	CC
Lucci B01-69HNL - Original Drilling - Original Drilling - As	7,000.00	6,043.00	3,403.12	3,356.04	72.286	ES
Lucci B01-69HNL - Original Drilling - Original Drilling - As	7,300.00	6,091.00	3,445.44	3,397.25	71.490	SF
Lucci B01-99HZ - Original Drilling - Original Drilling - As	6,934.81	5,950.00	3,516.32	3,470.22	76.283	CC, ES
Lucci B01-99HZ - Original Drilling - Original Drilling - As	7,149.24	5,981.00	3,547.01	3,500.00	75.448	SF
Lucci BC B 01-13 (PA) - Wellbore #1 - Gyro Surveys	6,734.59	6,024.41	5,937.53	5,888.70	121.595	CC, ES
Lucci BC B 01-13 (PA) - Wellbore #1 - Gyro Surveys	7,100.00	6,296.78	6,041.82	5,990.66	118.107	SF
Lucci BC B 1-14 (PA) - Wellbore #1 - Gyro Surveys	6,799.23	6,207.98	6,854.31	6,805.39	140.089	CC
Lucci BC B 1-14 (PA) - Wellbore #1 - Gyro Surveys	6,800.00	6,208.74	6,854.31	6,805.38	140.072	ES
Lucci BC B 1-14 (PA) - Wellbore #1 - Gyro Surveys	7,200.00	6,527.26	6,975.35	6,924.00	135.827	SF
Lucci BC B 1-15 (PA) - Wellbore #1 - Gyro Surveys	6,845.49	6,329.61	7,666.98	7,618.09	156.839	CC
Lucci BC B 1-15 (PA) - Wellbore #1 - Gyro Surveys	6,850.00	6,333.03	7,666.99	7,618.08	156.737	ES
Lucci BC B 1-15 (PA) - Wellbore #1 - Gyro Surveys	7,300.00	6,673.98	7,812.24	7,760.85	152.046	SF
Lucci BC B 1-16 (PA) - Wellbore #1 - Wellbore #1	6,872.28	6,388.62	8,866.06	8,817.24	181.575	CC, ES
Lucci BC B 1-16 (PA) - Wellbore #1 - Wellbore #1	7,500.00	6,828.41	9,092.88	9,040.84	174.738	SF
Lucci State B03-69HNL - Original Drilling - Original Drilling	7,009.34	9,664.05	377.21	282.77	3.994	CC
Lucci State B03-69HNL - Original Drilling - Original Drilling	7,050.00	9,660.84	380.42	280.59	3.811	ES
Lucci State B03-69HNL - Original Drilling - Original Drilling	7,100.00	9,658.65	392.92	287.95	3.743	SF
SLW Ranch B01-62-1HN - Original Drilling - As Drilled	6,778.15	11,286.02	6,176.43	6,049.31	48.590	CC, ES
SLW Ranch B01-62-1HN - Original Drilling - As Drilled	7,000.00	11,286.02	6,218.49	6,089.45	48.191	SF
SLW Ranch B01-63-1HN - Original Drilling - As Drilled	6,793.17	11,250.02	5,628.40	5,507.50	46.555	CC
SLW Ranch B01-63-1HN - Original Drilling - As Drilled	6,800.00	11,250.02	5,628.44	5,507.46	46.526	ES
SLW Ranch B01-63-1HN - Original Drilling - As Drilled	7,050.00	11,250.02	5,684.90	5,561.46	46.055	SF
SLW Ranch B01-64-1HN - Original Drilling - As Drilled	6,823.85	11,274.02	5,126.19	5,013.61	45.535	CC, ES
SLW Ranch B01-64-1HN - Original Drilling - As Drilled	7,100.00	11,274.02	5,191.64	5,075.99	44.894	SF
SLW Ranch B01-66-1HN - Original Drilling - Original Drill	6,887.64	11,201.02	4,212.84	4,100.83	37.610	CC
SLW Ranch B01-66-1HN - Original Drilling - Original Drill	6,900.00	11,201.02	4,212.97	4,100.76	37.544	ES
SLW Ranch B01-66-1HN - Original Drilling - Original Drill	7,250.00	11,201.02	4,319.99	4,202.63	36.810	SF
SLW Ranch B01-67-1HN - Original Drilling - As Drilled - S	6,930.22	11,165.02	3,826.30	3,730.95	40.131	CC
SLW Ranch B01-67-1HN - Original Drilling - As Drilled - S	6,950.00	11,165.02	3,826.63	3,730.91	39.975	ES
SLW Ranch B01-67-1HN - Original Drilling - As Drilled - S	7,900.00	11,165.02	4,291.60	4,178.13	37.822	SF
SLW Ranch B01-68-1HN - Original Drilling - Original Drill	6,982.43	11,204.02	3,516.43	3,457.71	59.879	CC, ES
SLW Ranch B01-68-1HN - Original Drilling - Original Drill	7,900.00	11,204.02	3,878.30	3,810.44	57.155	SF
SLW Ranch B01-69-1HN - Original Drilling - As Drilled	7,044.91	11,247.02	3,324.10	3,263.36	54.732	CC
SLW Ranch B01-69-1HN - Original Drilling - As Drilled	7,050.00	11,247.02	3,324.12	3,263.30	54.661	ES
SLW Ranch B01-69-1HN - Original Drilling - As Drilled	9,400.00	11,247.02	4,420.16	4,307.83	39.349	SF
SLW Ranch B12-69-1HN - Wellbore #1 - Wellbore #1- As	6,809.22	7,309.01	9,050.32	8,993.28	158.664	CC, ES
SLW Ranch B12-69-1HN - Wellbore #1 - Wellbore #1- As	7,100.00	7,309.01	9,116.61	9,058.43	156.704	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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 Section 02						
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	3,124.07	3,021.29	845.15	823.67	39.346	CC, ES
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	4,100.00	3,871.00	974.71	945.92	33.856	SF
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	3,041.61	2,934.59	2,346.20	2,325.39	112.747	CC
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	3,100.00	2,990.35	2,346.32	2,325.07	110.433	ES
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	6,800.00	6,209.23	3,022.53	2,972.56	60.477	SF
Bucklen 01-02 - Wellbore #1 - Wellbore #1- As Drilled	1,986.50	1,921.07	5,025.93	5,012.48	373.528	CC
Bucklen 01-02 - Wellbore #1 - Wellbore #1- As Drilled	2,800.00	2,725.06	5,027.63	5,008.49	262.704	ES
Bucklen 01-02 - Wellbore #1 - Wellbore #1- As Drilled	7,000.00	6,364.53	5,568.36	5,516.40	107.160	SF
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	1,956.38	1,904.75	3,555.87	3,542.59	267.662	CC
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	2,100.00	2,025.83	3,556.13	3,541.92	250.202	ES
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	7,050.00	6,420.23	4,258.63	4,206.63	81.894	SF
Buckmur B02-14 - Wellbore #1 - Wellbore #1- As Drilled	5,731.20	5,261.95	4,914.45	4,872.19	116.294	CC
Buckmur B02-14 - Wellbore #1 - Wellbore #1- As Drilled	5,900.00	5,416.26	4,915.03	4,871.33	112.456	ES
Buckmur B02-14 - Wellbore #1 - Wellbore #1- As Drilled	6,950.00	6,243.08	5,048.32	4,996.52	97.453	SF
Buckmur B02-25 - Wellbore #1 - Wellbore #1- As Drilled	3,606.53	3,300.01	4,197.12	4,172.55	170.820	CC
Buckmur B02-25 - Wellbore #1 - Wellbore #1- As Drilled	3,700.00	3,363.10	4,197.63	4,172.41	166.389	ES
Buckmur B02-25 - Wellbore #1 - Wellbore #1- As Drilled	6,950.00	6,433.54	4,508.40	4,456.07	86.153	SF
Cougar B02-67-1HN - Original Drilling - Original Drilling -	100.00	87.22	859.04	858.77	3,180.771	CC
Cougar B02-67-1HN - Original Drilling - Original Drilling -	500.00	480.32	860.39	857.72	322.151	ES
Cougar B02-67-1HN - Original Drilling - Original Drilling -	6,900.00	8,281.88	2,016.49	1,942.35	27.199	SF
Cougar B02-68-1HN - Original Drilling - Original Drilling -	0.00	0.00	872.84			
Cougar B02-68-1HN - Original Drilling - Original Drilling -	2,700.00	2,607.00	884.64	868.25	53.973	ES
Cougar B02-68-1HN - Original Drilling - Original Drilling -	6,950.00	8,252.20	1,381.56	1,308.28	18.853	SF
Cougar B02-69-1HN - Original Drilling - Original Drilling -	3,238.99	3,224.30	618.68	599.12	31.630	CC, ES
Cougar B02-69-1HN - Original Drilling - Original Drilling -	7,000.00	8,231.86	743.53	670.67	10.205	SF
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	7,327.04	7,101.80	1,307.30	1,254.52	24.769	CC
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	11,400.00	11,124.37	1,374.36	1,241.55	10.348	ES
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	11,500.00	11,176.02	1,376.24	1,241.61	10.222	SF
Foe B02-02 - Wellbore #1 - Wellbore #1- As Drilled	6,765.04	6,217.76	1,337.45	1,288.01	27.056	CC, ES
Foe B02-02 - Wellbore #1 - Wellbore #1- As Drilled	6,900.00	6,329.73	1,353.38	1,302.80	26.756	SF
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	6,657.14	6,038.23	2,364.79	2,315.35	47.829	CC, ES
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	6,850.00	6,200.47	2,394.92	2,343.96	46.993	SF
Foemeyer B02-17 - Original Drilling - Original Drilling - As	6,750.21	6,140.29	1,985.87	1,936.75	40.431	CC, ES
Foemeyer B02-17 - Original Drilling - Original Drilling - As	6,900.00	6,262.58	2,004.86	1,954.56	39.856	SF
Fritzler B02-03 - Wellbore #1 - Original Drilling	5,900.25	5,421.23	935.64	802.25	7.014	CC
Fritzler B02-03 - Wellbore #1 - Original Drilling	6,000.00	5,508.29	936.91	801.22	6.905	ES
Fritzler B02-03 - Wellbore #1 - Original Drilling	6,500.00	5,944.67	980.38	833.46	6.673	SF
Fritzler B02-06 - Original Drilling - Original Drilling	5,110.71	4,737.16	2,254.49	2,138.96	19.514	CC
Fritzler B02-06 - Original Drilling - Original Drilling	5,300.00	4,902.36	2,256.38	2,136.54	18.828	ES
Fritzler B02-06 - Original Drilling - Original Drilling	6,750.00	6,170.98	2,409.33	2,256.70	15.785	SF
Fritzler B2-19 - Original Drilling - Original Drilling	3,925.66	3,714.89	1,423.86	1,334.80	15.987	CC
Fritzler B2-19 - Original Drilling - Original Drilling	4,100.00	3,867.05	1,426.40	1,333.43	15.343	ES
Fritzler B2-19 - Original Drilling - Original Drilling	6,000.00	5,525.29	1,747.21	1,612.06	12.928	SF
Lonewolf B02-65HC - Original Drilling - As Drilled	6,709.51	8,830.05	3,038.70	2,952.49	35.248	CC, ES
Lonewolf B02-65HC - Original Drilling - As Drilled	6,900.00	8,876.34	3,068.46	2,979.67	34.559	SF
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	6,730.44	9,051.02	2,949.82	2,865.42	34.950	CC, ES
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	6,950.00	9,112.16	2,990.46	2,903.21	34.273	SF
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	6,646.76	8,085.00	3,110.34	3,042.50	45.845	CC
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	6,650.00	8,085.00	3,110.35	3,042.48	45.830	ES
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	6,800.00	8,085.00	3,127.50	3,058.76	45.498	SF
M&M 02-23 - Wellbore #1 - Wellbore #1- As Drilled	6,674.43	6,218.65	4,492.91	4,441.30	87.064	CC, ES
M&M 02-23 - Wellbore #1 - Wellbore #1- As Drilled	6,950.00	6,378.23	4,554.11	4,500.91	85.617	SF
Meyer B02-01 - Original Drilling - Original Drilling - As Drill	6,901.93	6,263.36	2,293.60	2,245.37	47.563	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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 Section 02						
Meyer B02-01 - Original Drilling - Original Drilling - As Drill	7,100.00	6,412.02	2,322.87	2,273.32	46.882	SF
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	6,795.53	6,243.35	3,084.77	3,035.67	62.821	CC
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	6,800.00	6,246.06	3,084.79	3,035.65	62.779	ES
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	7,000.00	6,372.86	3,119.67	3,069.17	61.771	SF
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	6,723.72	6,100.01	4,124.67	4,075.41	83.740	CC, ES
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	7,000.00	6,322.38	4,185.80	4,134.61	81.758	SF
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	6,695.67	6,109.89	5,299.77	5,250.21	106.934	CC
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	6,700.00	6,112.92	5,299.78	5,250.19	106.863	ES
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	7,000.00	6,319.65	5,373.54	5,321.97	104.212	SF
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	5,539.10	5,106.03	3,512.18	3,471.48	86.287	CC
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	5,700.00	5,241.49	3,513.14	3,471.10	83.569	ES
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	6,850.00	6,220.91	3,623.69	3,572.31	70.538	SF
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	6,645.90	6,010.95	3,423.90	3,374.45	69.246	CC
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	6,650.00	6,015.31	3,423.91	3,374.43	69.194	ES
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	6,900.00	6,182.32	3,476.15	3,424.95	67.897	SF
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	6,622.14	6,049.47	4,839.26	4,789.65	97.534	CC
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	6,650.00	6,650.00	4,839.64	4,787.79	93.351	ES
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	7,050.00	6,706.22	4,957.81	4,904.27	92.595	SF
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	806.14	760.16	4,171.63	4,167.19	940.466	CC
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	900.00	827.06	4,172.02	4,167.19	862.269	ES
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	6,900.00	9,001.02	5,335.62	5,243.93	58.191	SF
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	666.02	620.02	4,149.20	4,145.46	1,108.237	CC
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	700.00	646.08	4,149.23	4,145.32	1,060.763	ES
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	6,900.00	8,867.01	4,655.26	4,565.13	51.652	SF
Wolfpack B02-64-1HN - Original Drilling - Original Drilling	6,658.12	8,818.02	3,949.35	3,860.18	44.290	CC, ES
Wolfpack B02-64-1HN - Original Drilling - Original Drilling	6,900.00	8,874.19	3,995.54	3,903.58	43.446	SF
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	6,678.37	8,645.02	3,251.84	3,191.26	53.686	CC, ES
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	6,850.00	8,645.02	3,276.42	3,214.85	53.212	SF
Wolfpack B02-65HN - Original Drilling - Original Drilling -	6,674.75	8,462.16	3,027.27	2,967.95	51.032	CC, ES
Wolfpack B02-65HN - Original Drilling - Original Drilling -	6,850.00	8,574.08	3,051.33	2,990.10	49.831	SF
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	6,688.70	8,852.98	2,684.87	2,597.20	30.625	CC, ES
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	6,900.00	8,914.39	2,721.73	2,631.00	29.999	SF
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	100.00	53.06	4,128.19	4,127.98	10,000.000	CC
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	1,400.00	1,291.57	4,137.52	4,118.75	220.484	ES
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	4,400.00	3,019.03	4,750.43	4,700.87	95.848	SF
B Section 03						
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	311.70	247.70	3,891.68	3,890.10	2,467.139	CC
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	500.00	413.83	3,892.33	3,889.50	1,374.690	ES
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	6,950.00	6,522.59	5,044.72	4,993.15	97.814	SF
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	1,741.18	1,706.33	2,747.96	2,736.16	232.946	CC
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	2,000.00	1,951.68	2,748.27	2,734.69	202.393	ES
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	7,400.00	6,710.79	4,952.35	4,901.64	97.667	SF
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	1,563.22	1,520.23	2,647.74	2,637.23	252.021	CC
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	1,800.00	1,738.64	2,648.96	2,636.84	218.644	ES
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	7,100.00	6,439.60	4,280.14	4,229.60	84.688	SF
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	100.00	23.11	4,841.64	4,841.47	10,000.000	CC
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	200.00	100.00	4,842.01	4,841.35	7,324.924	ES
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	7,100.00	6,414.80	5,953.07	5,901.32	115.027	SF
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	228.21	161.21	5,476.97	5,476.00	5,620.091	CC
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	2,026.98	1,995.49	5,485.02	5,471.20	396.663	ES
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	6,650.00	6,650.00	6,665.82	6,615.33	132.041	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 A35-750
<b>Project:</b>	Wells Ranch	<b>TVD Reference:</b>	KB @ 4677.00ft
<b>Reference Site:</b>	A Section 35	<b>MD Reference:</b>	KB @ 4677.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Reveille A35-750	<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 A35-750 OH	<b>Database:</b>	EDMP
<b>Reference Design:</b>	APD - Rev 2	<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 04						
Bauer 1 (PA) - Wellbore #1 - No Surveys						Out of range
Bauer 2 (PA) - Wellbore #1 - No Surveys	2,000.00	1,948.00	7,782.25	7,758.31	325.126	CC, ES
Bauer 2 (PA) - Wellbore #1 - No Surveys	7,550.00	6,688.38	9,996.37	9,910.67	116.642	SF
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	1,696.86	1,647.07	9,052.96	9,041.51	790.809	CC
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	1,900.00	1,789.57	9,053.70	9,041.03	714.440	ES
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	4,400.00	4,040.86	9,999.59	9,970.16	339.771	SF
B Section 05						
Ehrlich 1 (TA) - Wellbore #1 - Gyro Surveys						Out of range
Ehrlich 5E-323 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5E-423 (DG) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5J-203 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5J-223 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5J-243 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5J-303 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5J-323 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5M-243 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5M-343 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Noffsinger 21-5 (TA) - Wellbore #1 - Gyro Surveys						Out of range
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys						Out of range
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	3,373.30	16,156.48	7,628.57	7,516.85	68.281	CC
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	3,400.00	16,156.48	7,628.62	7,516.79	68.216	ES
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	10,200.00	16,156.48	9,953.03	9,768.18	53.844	SF
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	3,492.39	14,787.56	7,133.57	7,084.29	144.752	CC, ES
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	12,500.00	14,787.56	9,952.71	9,776.85	56.594	SF
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	3,404.66	14,729.08	7,120.36	7,065.92	130.807	CC, ES
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	12,200.00	14,729.08	9,955.27	9,780.14	56.845	SF
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	3,347.43	15,299.73	7,118.26	7,059.09	120.310	CC, ES
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	12,000.00	15,299.73	9,954.25	9,771.63	54.508	SF
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	3,400.10	15,736.33	7,190.97	7,124.85	108.742	CC, ES
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	11,800.00	15,736.33	9,980.91	9,794.24	53.467	SF
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	3,342.49	15,406.96	7,210.41	7,138.06	99.662	CC, ES
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	11,500.00	15,406.96	9,946.07	9,764.83	54.878	SF
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	3,394.90	15,878.12	7,308.60	7,227.44	90.051	CC
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	3,400.00	15,878.12	7,308.60	7,227.43	90.038	ES
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	11,300.00	15,878.12	9,997.86	9,812.28	53.873	SF
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	3,318.78	15,556.58	7,332.72	7,245.50	84.070	CC, ES
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	11,000.00	15,556.58	9,957.95	9,777.22	55.096	SF
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	3,379.49	16,001.51	7,431.44	7,337.17	78.830	CC
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	3,400.00	16,001.51	7,431.47	7,337.13	78.778	ES
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	10,800.00	16,001.51	9,968.78	9,784.84	54.197	SF
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	3,313.86	15,681.01	7,487.47	7,385.03	73.091	CC, ES
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	10,500.00	15,681.01	9,952.91	9,771.07	54.733	SF

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