

Project: Wells Ranch
Site: A Section 34
Well: Reveille A34-768
Wellbore: Reveille A34-768 OH
Design: APD - Rev 1

Northern Region - DJ Basin

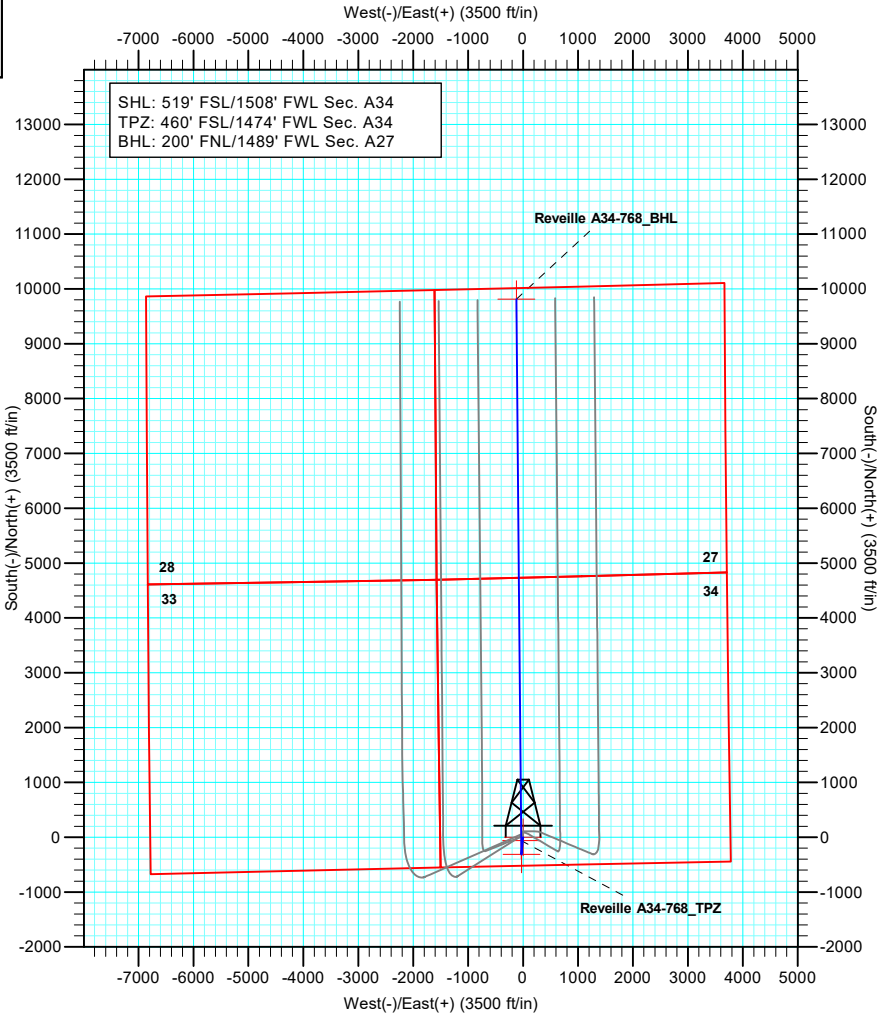
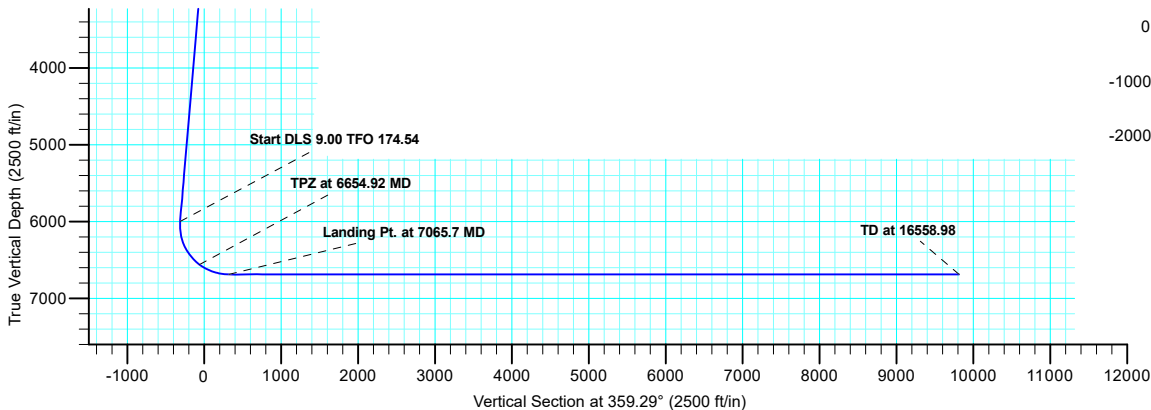
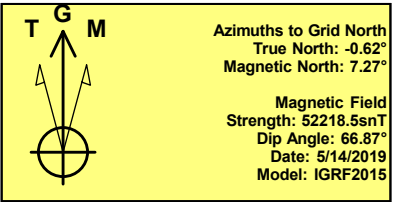
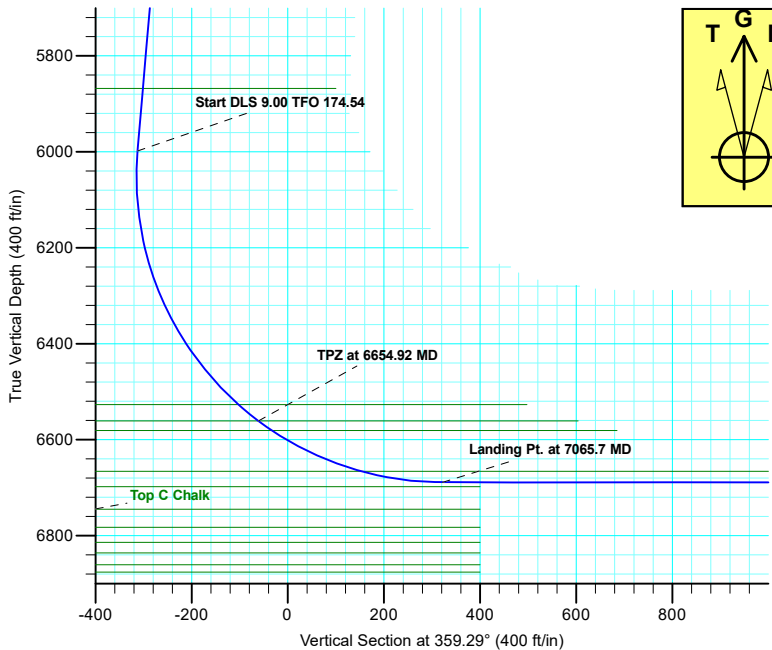
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00
3	2444.24	4.88	185.27	2443.94	-10.36	-0.96	2.00	185.27	-10.35
4	6011.69	4.88	185.27	5998.43	-312.85	-28.88	0.00	0.00	-312.47
5	6654.92	53.03	359.49	6561.00	-61.41	-34.14	9.00	174.54	-60.98
6	7065.70	90.00	359.49	6688.99	321.43	-37.56	9.00	0.00	321.88
7	16558.98	90.00	359.49	6689.00	9814.33	-122.20	0.00	0.00	9815.09

WELL DETAILS: Reveille A34-768

+N/-S	+E/-W	Ground Level: Northing	Ground Level: Easting	Ground Level: Latitude	Ground Level: Longitude	Slot
0.00	0.00	1403466.68	3267127.14	40.4369499	-104.5403300	



Plan: APD - Rev 1 (Reveille A34-768/Reveille A34-768 OH)

Created By: Shelly C. Peterkin Date: 10:50, July 22 2019

Northern Region - DJ Basin

Wells Ranch

A Section 34

Reveille A34-768

Reveille A34-768 OH

Plan: APD - Rev 1

Standard Planning Report

22 July, 2019

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A34-768
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4660.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-768 OH		
Design:	APD - Rev 1		

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

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

Well		Reveille A34-768				
Well Position	+N/-S	91.05 ft	Northing:	1,403,466.68 usft	Latitude:	40.4369500
	+E/-W	-0.99 ft	Easting:	3,267,127.14 usft	Longitude:	-104.5403300
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,630.00 ft

Wellbore	Reveille A34-768 OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/14/2019	7.89	66.87	52,218.51736482

Design	APD - Rev 1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	359.29

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,444.24	4.88	185.27	2,443.94	-10.36	-0.96	2.00	2.00	0.00	185.27	
6,011.69	4.88	185.27	5,998.43	-312.85	-28.88	0.00	0.00	0.00	0.00	
6,654.92	53.03	359.49	6,561.00	-61.41	-34.14	9.00	7.48	27.08	174.54	Reveille A34-768_TP;
7,065.70	90.00	359.49	6,688.99	321.43	-37.56	9.00	9.00	0.00	0.00	
16,558.98	90.00	359.49	6,689.00	9,814.33	-122.20	0.00	0.00	0.00	0.00	Reveille A34-768_BH

Noble Energy, Inc.

Planning Report

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Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4660.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-768 OH		
Design:	APD - Rev 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
279.00	0.00	0.00	279.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
395.00	0.00	0.00	395.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,438.00	0.00	0.00	1,438.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
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
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,300.00	2.00	185.27	2,299.98	-1.74	-0.16	-1.74	2.00	2.00	0.00
2,400.00	4.00	185.27	2,399.84	-6.95	-0.64	-6.94	2.00	2.00	0.00
2,444.24	4.88	185.27	2,443.94	-10.36	-0.96	-10.35	2.00	2.00	0.00
Start 3567.45 hold at 2444.24 MD									
2,500.00	4.88	185.27	2,499.50	-15.09	-1.39	-15.07	0.00	0.00	0.00
2,600.00	4.88	185.27	2,599.14	-23.57	-2.18	-23.54	0.00	0.00	0.00
2,700.00	4.88	185.27	2,698.78	-32.05	-2.96	-32.01	0.00	0.00	0.00
2,800.00	4.88	185.27	2,798.41	-40.53	-3.74	-40.48	0.00	0.00	0.00
2,900.00	4.88	185.27	2,898.05	-49.01	-4.52	-48.95	0.00	0.00	0.00
3,000.00	4.88	185.27	2,997.69	-57.49	-5.31	-57.41	0.00	0.00	0.00
3,100.00	4.88	185.27	3,097.32	-65.96	-6.09	-65.88	0.00	0.00	0.00
3,200.00	4.88	185.27	3,196.96	-74.44	-6.87	-74.35	0.00	0.00	0.00
3,300.00	4.88	185.27	3,296.60	-82.92	-7.65	-82.82	0.00	0.00	0.00
3,400.00	4.88	185.27	3,396.23	-91.40	-8.44	-91.29	0.00	0.00	0.00
3,500.00	4.88	185.27	3,495.87	-99.88	-9.22	-99.76	0.00	0.00	0.00
3,544.29	4.88	185.27	3,540.00	-103.64	-9.57	-103.51	0.00	0.00	0.00
Parkman									
3,600.00	4.88	185.27	3,595.51	-108.36	-10.00	-108.23	0.00	0.00	0.00
3,700.00	4.88	185.27	3,695.14	-116.84	-10.79	-116.70	0.00	0.00	0.00
3,800.00	4.88	185.27	3,794.78	-125.32	-11.57	-125.17	0.00	0.00	0.00
3,900.00	4.88	185.27	3,894.42	-133.80	-12.35	-133.63	0.00	0.00	0.00
4,000.00	4.88	185.27	3,994.05	-142.28	-13.13	-142.10	0.00	0.00	0.00
4,100.00	4.88	185.27	4,093.69	-150.76	-13.92	-150.57	0.00	0.00	0.00

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Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4660.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft
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Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-768 OH		
Design:	APD - Rev 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,200.00	4.88	185.27	4,193.33	-159.24	-14.70	-159.04	0.00	0.00	0.00
4,242.83	4.88	185.27	4,236.00	-162.87	-15.03	-162.67	0.00	0.00	0.00
Sussex									
4,300.00	4.88	185.27	4,292.96	-167.72	-15.48	-167.51	0.00	0.00	0.00
4,400.00	4.88	185.27	4,392.60	-176.19	-16.26	-175.98	0.00	0.00	0.00
4,500.00	4.88	185.27	4,492.24	-184.67	-17.05	-184.45	0.00	0.00	0.00
4,600.00	4.88	185.27	4,591.87	-193.15	-17.83	-192.92	0.00	0.00	0.00
4,700.00	4.88	185.27	4,691.51	-201.63	-18.61	-201.38	0.00	0.00	0.00
4,800.00	4.88	185.27	4,791.15	-210.11	-19.40	-209.85	0.00	0.00	0.00
4,847.02	4.88	185.27	4,838.00	-214.10	-19.76	-213.84	0.00	0.00	0.00
Shannon									
4,900.00	4.88	185.27	4,890.78	-218.59	-20.18	-218.32	0.00	0.00	0.00
5,000.00	4.88	185.27	4,990.42	-227.07	-20.96	-226.79	0.00	0.00	0.00
5,100.00	4.88	185.27	5,090.06	-235.55	-21.74	-235.26	0.00	0.00	0.00
5,200.00	4.88	185.27	5,189.70	-244.03	-22.53	-243.73	0.00	0.00	0.00
5,300.00	4.88	185.27	5,289.33	-252.51	-23.31	-252.20	0.00	0.00	0.00
5,400.00	4.88	185.27	5,388.97	-260.99	-24.09	-260.67	0.00	0.00	0.00
5,500.00	4.88	185.27	5,488.61	-269.47	-24.88	-269.14	0.00	0.00	0.00
5,600.00	4.88	185.27	5,588.24	-277.95	-25.66	-277.60	0.00	0.00	0.00
5,700.00	4.88	185.27	5,687.88	-286.42	-26.44	-286.07	0.00	0.00	0.00
5,800.00	4.88	185.27	5,787.52	-294.90	-27.22	-294.54	0.00	0.00	0.00
5,880.78	4.88	185.27	5,868.00	-301.75	-27.86	-301.38	0.00	0.00	0.00
Teepee Buttes									
5,900.00	4.88	185.27	5,887.15	-303.38	-28.01	-303.01	0.00	0.00	0.00
6,000.00	4.88	185.27	5,986.79	-311.86	-28.79	-311.48	0.00	0.00	0.00
6,011.69	4.88	185.27	5,998.43	-312.85	-28.88	-312.47	0.00	0.00	0.00
Start DLS 9.00 TFO 174.54									
6,050.00	1.49	197.99	6,036.68	-314.95	-29.18	-314.56	9.00	-8.86	33.19
6,100.00	3.12	351.30	6,086.66	-314.22	-29.59	-313.83	9.00	3.26	306.62
6,150.00	7.60	356.36	6,136.43	-309.58	-30.01	-309.18	9.00	8.96	10.13
6,200.00	12.09	357.67	6,185.68	-301.04	-30.43	-300.64	9.00	8.99	2.63
6,250.00	16.59	358.28	6,234.11	-288.66	-30.86	-288.26	9.00	9.00	1.22
6,300.00	21.09	358.64	6,281.42	-272.53	-31.29	-272.12	9.00	9.00	0.71
6,350.00	25.59	358.87	6,327.32	-252.73	-31.71	-252.31	9.00	9.00	0.47
6,400.00	30.09	359.04	6,371.52	-229.39	-32.14	-228.97	9.00	9.00	0.34
6,450.00	34.59	359.17	6,413.75	-202.65	-32.55	-202.23	9.00	9.00	0.26
6,500.00	39.09	359.27	6,453.76	-172.68	-32.96	-172.26	9.00	9.00	0.20
6,550.00	43.59	359.35	6,491.29	-139.67	-33.36	-139.24	9.00	9.00	0.17
6,600.00	48.09	359.42	6,526.12	-103.81	-33.74	-103.39	9.00	9.00	0.14
6,601.32	48.21	359.42	6,527.00	-102.83	-33.75	-102.40	9.00	9.00	0.13
Sharon Springs									
6,654.92	53.03	359.49	6,561.00	-61.41	-34.14	-60.98	9.00	9.00	0.12
TPZ at 6654.92 MD - Top A Chalk									
6,689.44	56.14	359.49	6,581.00	-33.29	-34.40	-32.86	9.00	9.00	0.00
Top A Marl									
6,700.00	57.09	359.49	6,586.81	-24.47	-34.47	-24.04	9.00	9.00	0.00
6,750.00	61.59	359.49	6,612.30	18.52	-34.86	18.96	9.00	9.00	0.00
6,800.00	66.09	359.49	6,634.35	63.39	-35.26	63.82	9.00	9.00	0.00
6,850.00	70.59	359.49	6,652.80	109.84	-35.67	110.28	9.00	9.00	0.00
6,894.09	74.55	359.49	6,666.00	151.89	-36.05	152.33	9.00	9.00	0.00
Top B Chalk									
6,900.00	75.09	359.49	6,667.55	157.60	-36.10	158.04	9.00	9.00	0.00
6,950.00	79.59	359.49	6,678.51	206.37	-36.53	206.81	9.00	9.00	0.00

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Planning Report

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Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4660.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft
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Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-768 OH		
Design:	APD - Rev 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,000.00	84.09	359.49	6,685.60	255.85	-36.97	256.29	9.00	9.00	0.00
7,050.00	88.59	359.49	6,688.80	305.73	-37.42	306.18	9.00	9.00	0.00
7,065.70	90.00	359.49	6,688.99	321.43	-37.56	321.88	9.00	9.00	0.00
Landing Pt. at 7065.7 MD									
7,100.00	90.00	359.49	6,688.99	355.73	-37.86	356.17	0.00	0.00	0.00
7,200.00	90.00	359.49	6,688.99	455.73	-38.76	456.17	0.00	0.00	0.00
7,300.00	90.00	359.49	6,688.99	555.72	-39.65	556.17	0.00	0.00	0.00
7,400.00	90.00	359.49	6,688.99	655.72	-40.54	656.17	0.00	0.00	0.00
7,500.00	90.00	359.49	6,688.99	755.71	-41.43	756.17	0.00	0.00	0.00
7,600.00	90.00	359.49	6,688.99	855.71	-42.32	856.17	0.00	0.00	0.00
7,700.00	90.00	359.49	6,688.99	955.71	-43.21	956.17	0.00	0.00	0.00
7,800.00	90.00	359.49	6,688.99	1,055.70	-44.11	1,056.17	0.00	0.00	0.00
7,900.00	90.00	359.49	6,688.99	1,155.70	-45.00	1,156.17	0.00	0.00	0.00
8,000.00	90.00	359.49	6,688.99	1,255.69	-45.89	1,256.17	0.00	0.00	0.00
8,100.00	90.00	359.49	6,688.99	1,355.69	-46.78	1,356.17	0.00	0.00	0.00
8,200.00	90.00	359.49	6,688.99	1,455.69	-47.67	1,456.17	0.00	0.00	0.00
8,300.00	90.00	359.49	6,688.99	1,555.68	-48.56	1,556.17	0.00	0.00	0.00
8,400.00	90.00	359.49	6,688.99	1,655.68	-49.45	1,656.17	0.00	0.00	0.00
8,500.00	90.00	359.49	6,688.99	1,755.67	-50.35	1,756.16	0.00	0.00	0.00
8,600.00	90.00	359.49	6,688.99	1,855.67	-51.24	1,856.16	0.00	0.00	0.00
8,700.00	90.00	359.49	6,688.99	1,955.67	-52.13	1,956.16	0.00	0.00	0.00
8,800.00	90.00	359.49	6,688.99	2,055.66	-53.02	2,056.16	0.00	0.00	0.00
8,900.00	90.00	359.49	6,688.99	2,155.66	-53.91	2,156.16	0.00	0.00	0.00
9,000.00	90.00	359.49	6,688.99	2,255.65	-54.80	2,256.16	0.00	0.00	0.00
9,100.00	90.00	359.49	6,688.99	2,355.65	-55.70	2,356.16	0.00	0.00	0.00
9,200.00	90.00	359.49	6,688.99	2,455.65	-56.59	2,456.16	0.00	0.00	0.00
9,300.00	90.00	359.49	6,688.99	2,555.64	-57.48	2,556.16	0.00	0.00	0.00
9,400.00	90.00	359.49	6,688.99	2,655.64	-58.37	2,656.16	0.00	0.00	0.00
9,500.00	90.00	359.49	6,688.99	2,755.63	-59.26	2,756.16	0.00	0.00	0.00
9,600.00	90.00	359.49	6,688.99	2,855.63	-60.15	2,856.16	0.00	0.00	0.00
9,700.00	90.00	359.49	6,688.99	2,955.63	-61.05	2,956.16	0.00	0.00	0.00
9,800.00	90.00	359.49	6,688.99	3,055.62	-61.94	3,056.16	0.00	0.00	0.00
9,900.00	90.00	359.49	6,688.99	3,155.62	-62.83	3,156.16	0.00	0.00	0.00
10,000.00	90.00	359.49	6,688.99	3,255.61	-63.72	3,256.16	0.00	0.00	0.00
10,100.00	90.00	359.49	6,688.99	3,355.61	-64.61	3,356.16	0.00	0.00	0.00
10,200.00	90.00	359.49	6,688.99	3,455.61	-65.50	3,456.15	0.00	0.00	0.00
10,300.00	90.00	359.49	6,688.99	3,555.60	-66.40	3,556.15	0.00	0.00	0.00
10,400.00	90.00	359.49	6,689.00	3,655.60	-67.29	3,656.15	0.00	0.00	0.00
10,500.00	90.00	359.49	6,689.00	3,755.59	-68.18	3,756.15	0.00	0.00	0.00
10,600.00	90.00	359.49	6,689.00	3,855.59	-69.07	3,856.15	0.00	0.00	0.00
10,700.00	90.00	359.49	6,689.00	3,955.59	-69.96	3,956.15	0.00	0.00	0.00
10,800.00	90.00	359.49	6,689.00	4,055.58	-70.85	4,056.15	0.00	0.00	0.00
10,900.00	90.00	359.49	6,689.00	4,155.58	-71.75	4,156.15	0.00	0.00	0.00
11,000.00	90.00	359.49	6,689.00	4,255.57	-72.64	4,256.15	0.00	0.00	0.00
11,100.00	90.00	359.49	6,689.00	4,355.57	-73.53	4,356.15	0.00	0.00	0.00
11,200.00	90.00	359.49	6,689.00	4,455.57	-74.42	4,456.15	0.00	0.00	0.00
11,300.00	90.00	359.49	6,689.00	4,555.56	-75.31	4,556.15	0.00	0.00	0.00
11,400.00	90.00	359.49	6,689.00	4,655.56	-76.20	4,656.15	0.00	0.00	0.00
11,500.00	90.00	359.49	6,689.00	4,755.56	-77.09	4,756.15	0.00	0.00	0.00
11,600.00	90.00	359.49	6,689.00	4,855.55	-77.99	4,856.15	0.00	0.00	0.00
11,700.00	90.00	359.49	6,689.00	4,955.55	-78.88	4,956.15	0.00	0.00	0.00
11,800.00	90.00	359.49	6,689.00	5,055.54	-79.77	5,056.14	0.00	0.00	0.00
11,900.00	90.00	359.49	6,689.00	5,155.54	-80.66	5,156.14	0.00	0.00	0.00
12,000.00	90.00	359.49	6,689.00	5,255.54	-81.55	5,256.14	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A34-768
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4660.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-768 OH		
Design:	APD - Rev 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,100.00	90.00	359.49	6,689.00	5,355.53	-82.44	5,356.14	0.00	0.00	0.00
12,200.00	90.00	359.49	6,689.00	5,455.53	-83.34	5,456.14	0.00	0.00	0.00
12,300.00	90.00	359.49	6,689.00	5,555.52	-84.23	5,556.14	0.00	0.00	0.00
12,400.00	90.00	359.49	6,689.00	5,655.52	-85.12	5,656.14	0.00	0.00	0.00
12,500.00	90.00	359.49	6,689.00	5,755.52	-86.01	5,756.14	0.00	0.00	0.00
12,600.00	90.00	359.49	6,689.00	5,855.51	-86.90	5,856.14	0.00	0.00	0.00
12,700.00	90.00	359.49	6,689.00	5,955.51	-87.79	5,956.14	0.00	0.00	0.00
12,800.00	90.00	359.49	6,689.00	6,055.50	-88.69	6,056.14	0.00	0.00	0.00
12,900.00	90.00	359.49	6,689.00	6,155.50	-89.58	6,156.14	0.00	0.00	0.00
13,000.00	90.00	359.49	6,689.00	6,255.50	-90.47	6,256.14	0.00	0.00	0.00
13,100.00	90.00	359.49	6,689.00	6,355.49	-91.36	6,356.14	0.00	0.00	0.00
13,200.00	90.00	359.49	6,689.00	6,455.49	-92.25	6,456.14	0.00	0.00	0.00
13,300.00	90.00	359.49	6,689.00	6,555.48	-93.14	6,556.14	0.00	0.00	0.00
13,400.00	90.00	359.49	6,689.00	6,655.48	-94.04	6,656.13	0.00	0.00	0.00
13,500.00	90.00	359.49	6,689.00	6,755.48	-94.93	6,756.13	0.00	0.00	0.00
13,600.00	90.00	359.49	6,689.00	6,855.47	-95.82	6,856.13	0.00	0.00	0.00
13,700.00	90.00	359.49	6,689.00	6,955.47	-96.71	6,956.13	0.00	0.00	0.00
13,800.00	90.00	359.49	6,689.00	7,055.46	-97.60	7,056.13	0.00	0.00	0.00
13,900.00	90.00	359.49	6,689.00	7,155.46	-98.49	7,156.13	0.00	0.00	0.00
14,000.00	90.00	359.49	6,689.00	7,255.46	-99.38	7,256.13	0.00	0.00	0.00
14,100.00	90.00	359.49	6,689.00	7,355.45	-100.28	7,356.13	0.00	0.00	0.00
14,200.00	90.00	359.49	6,689.00	7,455.45	-101.17	7,456.13	0.00	0.00	0.00
14,300.00	90.00	359.49	6,689.00	7,555.44	-102.06	7,556.13	0.00	0.00	0.00
14,400.00	90.00	359.49	6,689.00	7,655.44	-102.95	7,656.13	0.00	0.00	0.00
14,500.00	90.00	359.49	6,689.00	7,755.44	-103.84	7,756.13	0.00	0.00	0.00
14,600.00	90.00	359.49	6,689.00	7,855.43	-104.73	7,856.13	0.00	0.00	0.00
14,700.00	90.00	359.49	6,689.00	7,955.43	-105.63	7,956.13	0.00	0.00	0.00
14,800.00	90.00	359.49	6,689.00	8,055.42	-106.52	8,056.13	0.00	0.00	0.00
14,900.00	90.00	359.49	6,689.00	8,155.42	-107.41	8,156.13	0.00	0.00	0.00
15,000.00	90.00	359.49	6,689.00	8,255.42	-108.30	8,256.12	0.00	0.00	0.00
15,100.00	90.00	359.49	6,689.00	8,355.41	-109.19	8,356.12	0.00	0.00	0.00
15,200.00	90.00	359.49	6,689.00	8,455.41	-110.08	8,456.12	0.00	0.00	0.00
15,300.00	90.00	359.49	6,689.00	8,555.40	-110.98	8,556.12	0.00	0.00	0.00
15,400.00	90.00	359.49	6,689.00	8,655.40	-111.87	8,656.12	0.00	0.00	0.00
15,500.00	90.00	359.49	6,689.00	8,755.40	-112.76	8,756.12	0.00	0.00	0.00
15,600.00	90.00	359.49	6,689.00	8,855.39	-113.65	8,856.12	0.00	0.00	0.00
15,700.00	90.00	359.49	6,689.00	8,955.39	-114.54	8,956.12	0.00	0.00	0.00
15,800.00	90.00	359.49	6,689.00	9,055.38	-115.43	9,056.12	0.00	0.00	0.00
15,900.00	90.00	359.49	6,689.00	9,155.38	-116.33	9,156.12	0.00	0.00	0.00
16,000.00	90.00	359.49	6,689.00	9,255.38	-117.22	9,256.12	0.00	0.00	0.00
16,100.00	90.00	359.49	6,689.00	9,355.37	-118.11	9,356.12	0.00	0.00	0.00
16,200.00	90.00	359.49	6,689.00	9,455.37	-119.00	9,456.12	0.00	0.00	0.00
16,300.00	90.00	359.49	6,689.00	9,555.36	-119.89	9,556.12	0.00	0.00	0.00
16,400.00	90.00	359.49	6,689.00	9,655.36	-120.78	9,656.12	0.00	0.00	0.00
16,500.00	90.00	359.49	6,689.00	9,755.36	-121.68	9,756.12	0.00	0.00	0.00
16,558.98	90.00	359.49	6,689.00	9,814.33	-122.20	9,815.09	0.00	0.00	0.00
TD at 16558.98									

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A34-768
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4660.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-768 OH		
Design:	APD - Rev 1		

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 A34-768_SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,403,466.69	3,267,127.14	40.4369500	-104.5403300
Reveille A34-768_KOP - plan hits target center - Point	0.00	0.00	5,998.44	-312.85	-28.88	1,403,153.83	3,267,098.26	40.4360921	-104.5404459
Reveille A34-768_TPZ - plan hits target center - Point	0.00	0.00	6,561.00	-61.41	-34.14	1,403,405.27	3,267,093.00	40.4367824	-104.5404550
Reveille A34-768_BHL - plan hits target center - Point	0.00	0.00	6,689.00	9,814.33	-122.20	1,413,281.00	3,267,004.94	40.4638921	-104.5403874

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
279.00	279.00	Pierre				
395.00	395.00	Upper Pierre Aquifer Top				
1,438.00	1,438.00	Upper Pierre Aquifer Base				
3,544.29	3,540.00	Parkman				
4,242.83	4,236.00	Sussex				
4,847.02	4,838.00	Shannon				
5,880.78	5,868.00	Teepee Buttes				
6,601.32	6,527.00	Sharon Springs				
6,654.92	6,561.00	Top A Chalk				
6,689.44	6,581.00	Top A Marl				
6,894.09	6,666.00	Top B Chalk				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,200.00	2,200.00	0.00	0.00	Start Build 2.00
2,444.24	2,443.94	-10.36	-0.96	Start 3567.45 hold at 2444.24 MD
6,011.69	5,998.43	-312.85	-28.88	Start DLS 9.00 TFO 174.54
6,654.92	6,561.00	-61.41	-34.14	TPZ at 6654.92 MD
7,065.70	6,688.99	321.43	-37.56	Landing Pt. at 7065.7 MD
16,558.98	6,689.00	9,814.33	-122.20	TD at 16558.98

Northern Region - DJ Basin

Wells Ranch

A Section 34

Reveille A34-768

Reveille A34-768 OH

APD - Rev 1

Anticollision Summary Report

22 July, 2019

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	7/22/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	16,558.98	APD - Rev 1 (Reveille A34-768 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	16,558.98	6,785.46	5,036.35	4,934.52	49.460	CC, ES, SF
Culbreath 33-21 (PA) - Original Drilling - Original Drilling -	16,558.98	6,747.00	4,049.04	3,838.95	19.273	CC, ES, SF
Harper A21-618 - Harper A21-618 OH - As-Drilled	16,558.98	12,393.85	698.83	597.21	6.877	CC, ES, SF
Harper A21-626 - Harper A21-626 OH - As-Drilled	16,558.98	12,530.36	1,237.29	1,134.32	12.015	CC, ES, SF
Harper A21-631 - Harper A21-631 OH - As-Drilled	16,558.98	12,420.08	1,619.07	1,517.36	15.918	CC, ES, SF
Harper A21-637 - Harper A21-637 OH - As-Drilled	16,558.98	12,573.00	1,985.70	1,883.36	19.402	CC, ES, SF
Harper A21-643 - Harper A21-643 OH - As-Drilled	16,558.98	12,690.00	2,464.79	2,360.64	23.667	CC, ES, SF
Harper A21-649 - Harper A21-649 OH - As-Drilled	16,558.98	12,729.30	2,817.20	2,713.34	27.125	CC, ES, SF
Harper A21-656 - Harper A21-656 OH - As-Drilled	16,558.98	12,526.37	3,149.22	3,047.07	30.829	CC, ES, SF
Harper A21-664 - Harper A21-664 OH - As-Drilled	16,558.98	16,558.98	3,680.62	3,532.20	24.799	CC, ES, SF
Harper A21-669 - Harper A21-669 OH - As-Drilled	16,558.98	12,849.28	4,000.63	3,896.74	38.507	CC, ES, SF
Harper A21-674 - Harper A21-674 OH - As-Drilled	16,500.00	16,500.00	4,424.04	4,278.38	30.372	SF
Harper A21-674 - Harper A21-674 OH - As-Drilled	16,558.98	12,997.73	4,365.11	4,261.15	41.989	CC, ES
Harper A21-681 - Harper A21-681 OH - As-Drilled	16,558.98	12,875.00	4,801.97	4,699.71	46.957	CC, ES, SF
Kona A19-616 - Kona A19-616 - Kona A19-616 - As Drille	16,558.98	6,234.00	5,406.22	5,304.25	53.014	CC, ES, SF
Kona A19-624 - Kona A19-624 - Kona A19-624 - As Drille	16,558.98	6,422.00	5,379.99	5,278.69	53.110	CC, ES, SF
Kona A19-636 - Kona A19-636 - Kona A19-636 - As Drille	16,558.98	6,327.00	5,271.69	5,170.44	52.063	CC, ES, SF
Kona A19-646 - Original Drilling - Original Drilling - As Dr	16,558.98	6,327.00	5,804.07	5,708.88	60.974	CC, ES, SF
Kona A19-662 - Original Drilling - Original Drilling - As Dr	16,558.98	6,136.00	6,375.68	6,284.12	69.640	CC, ES, SF
Kona A19-670 - Kona A19-670 - Original Drilling - As Dril	16,558.98	6,270.11	6,398.21	6,308.21	71.092	CC, ES, SF
Kona A19-685 - Original Drilling - Original Drilling - As Dr	16,558.98	6,055.00	6,394.83	6,306.44	72.343	CC, ES, SF
McKee 12-21 (PA) - Original Drilling - Original Drilling - A	16,558.98	6,783.00	6,911.08	6,698.08	32.446	CC, ES, SF
McKee 21-21 (PA) - Original Drilling - Original Drilling - A	16,558.98	6,799.00	6,423.87	6,223.89	32.123	CC, ES, SF
McKee 22-21 - Original Drilling - Original Drilling - As Dril	16,558.98	6,809.25	5,795.36	5,699.60	60.522	CC, ES, SF
McKee 31-21 - Original Drilling - Original Drilling - As Dril	16,558.98	6,925.23	6,027.89	5,948.88	76.298	CC, ES, SF
McKee 32-21 - Original Drilling - Original Drilling - As Dril	16,558.98	6,815.07	4,850.76	4,762.18	54.761	CC, ES, SF
McKee 41-21 - Original Drilling - Original Drilling - As Dril	16,558.98	6,662.84	5,324.95	5,258.29	79.885	CC, ES, SF
McKee 42-21 - Original Drilling - Original Drilling - As Dril	16,558.98	6,788.25	3,838.53	3,761.82	50.042	CC, ES, SF
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	6,600.00	17,720.27	2,795.49	2,679.95	24.193	SF
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	16,262.72	8,119.47	2,778.45	2,667.70	25.087	CC
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	16,300.00	8,100.00	2,778.69	2,667.60	25.011	ES
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	6,600.00	17,515.21	3,446.21	3,331.00	29.913	SF
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	6,900.00	17,264.15	3,438.93	3,325.60	30.346	ES
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	6,994.76	17,171.11	3,438.66	3,325.98	30.519	CC
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	6,600.00	17,081.03	4,111.24	3,997.39	36.112	SF
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	6,800.00	16,913.82	4,107.82	3,995.14	36.455	ES
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	16,240.28	7,484.16	4,104.01	3,997.13	38.400	CC

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 21						
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	6,550.00	16,956.23	4,748.96	4,635.44	41.834	SF
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	6,850.00	16,719.99	4,742.86	4,630.75	42.305	ES
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	16,236.74	7,348.52	4,739.33	4,633.91	44.956	CC
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	6,550.00	16,811.58	5,433.72	5,320.13	47.837	SF
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	6,800.00	16,610.65	5,430.04	5,317.54	48.267	ES
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	16,225.14	7,196.26	5,424.32	5,320.15	52.069	CC
Sexton 43-21 (PA) - Original Drilling - Original Drilling - As	16,558.98	6,739.00	3,177.68	2,980.45	16.111	CC, ES, SF
Wells Trust 13-21 - Original Drilling - Original Drilling - As	16,558.98	6,827.52	6,455.30	6,349.08	60.769	CC, ES, SF
Wells Trust 14-21 - Original Drilling - Original Drilling - As	16,558.98	6,735.72	6,329.68	6,220.97	58.227	CC, ES, SF
Wells Trust 24-21 - Original Drilling - Original Drilling - As	16,558.98	6,820.13	5,494.05	5,385.40	50.565	CC, ES, SF
A Section 22						
Carpio 22-01 - Original Drilling - Original Drilling - As Drill	16,558.98	6,691.03	3,263.82	3,158.20	30.903	CC, ES, SF
Carpio 22-04-19 - Original Drilling - Original Drilling - As D	16,558.98	6,733.92	2,234.18	2,143.86	24.736	CC, ES, SF
Carpio 22-41 - Original Drilling - Original Drilling - As Drill	16,558.98	6,748.42	3,829.47	3,713.16	32.925	CC, ES, SF
Carpio 22-43 - Original Drilling - Original Drilling - As Drill	16,558.98	6,734.87	2,023.93	1,923.31	20.115	CC, ES, SF
Carpio 22-45 - Original Drilling - Original Drilling - As Drill	16,558.98	6,681.01	3,090.21	2,989.28	30.616	CC, ES, SF
Eisenstat 22-11 (PA) - Original Drilling - Original Drilling -	16,558.98	6,753.00	5,870.80	5,684.51	31.515	CC, ES, SF
Eisenstat 22-13 - Original Drilling - Original Drilling - As D	16,558.98	6,767.33	3,490.75	3,419.67	49.109	CC, ES, SF
Eisenstat 22-15 - Original Drilling - Original Drilling - As D	16,558.98	6,717.26	4,959.72	4,887.51	68.691	CC, ES, SF
Eisenstat 22-21 - Original Drilling - Original Drilling - As D	16,558.98	6,849.65	4,604.86	4,551.30	85.983	CC, ES, SF
Eisenstat 22-23 - Original Drilling - Original Drilling - As D	16,558.98	6,771.60	3,642.82	3,587.54	65.899	CC, ES, SF
Gill Land Assoc. 1 (PA) - Original Drilling - Original Drilling	16,558.98	6,754.00	4,656.76	4,460.57	23.736	CC, ES, SF
Gill Land Assoc. 22-02 (PA) - Original Drilling - Original D	16,558.98	6,764.00	3,430.56	3,265.99	20.845	CC, ES, SF
Gill Land Assoc. 22-03 - Original Drilling - Original Drilling	16,558.98	6,766.92	4,757.26	4,702.95	87.594	CC, ES, SF
Gill Land Assoc. 22-04 (PA) - Original Drilling - Original D	16,558.98	6,762.00	5,037.96	4,863.57	28.890	CC, ES, SF
Gruen 22-01 - Original Drilling - Original Drilling - As Drille	16,558.98	6,791.49	2,295.11	2,229.85	35.169	CC, ES, SF
Gruen 22-02 - Original Drilling - Original Drilling - As Drille	16,558.98	6,788.63	941.74	872.41	13.583	CC, ES, SF
Gruen 22-31 - Original Drilling - Original Drilling - As Drille	16,558.98	6,786.87	2,183.46	2,128.13	39.464	CC, ES, SF
Gruen 22-33 - Original Drilling - Original Drilling - As Drille	16,558.98	6,794.50	1,202.85	1,116.05	13.859	CC, ES, SF
Gruen 22-35 - Original Drilling - Original Drilling - As Drille	16,558.98	6,652.93	1,410.91	1,357.53	26.431	CC, ES, SF
Ottinger 22-01 - Original Drilling - Original Drilling - As Dr	16,558.98	6,771.55	2,879.45	2,798.48	35.563	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 23						
Cecil 23-13 - Original Drilling - Original Drilling - As Drilled	16,558.98	6,650.93	7,748.49	7,648.96	77.852	CC, ES, SF
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	16,558.98	6,713.00	4,947.89	4,736.30	23.384	CC, ES, SF
Champlin 23-03 - Original Drilling - Original Drilling - As D	16,558.98	6,657.69	5,619.59	5,511.86	52.167	CC, ES, SF
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	16,558.98	6,688.00	5,448.85	5,230.37	24.939	CC, ES, SF
Cooper 23-1-17 - Original Drilling - Original Drilling - As Dr	16,558.98	6,656.80	9,286.89	9,190.81	96.664	CC, ES, SF
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	16,558.98	6,542.22	7,881.56	7,785.60	82.138	CC, ES, SF
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	16,558.98	6,638.37	8,588.12	8,492.32	89.646	CC, ES, SF
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	16,558.98	6,668.14	7,244.47	7,142.29	70.899	CC, ES, SF
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	16,558.98	6,543.56	8,863.04	8,763.90	89.397	CC, ES, SF
Foss 41-23D - Original Drilling - Original Drilling - As Drill	16,558.98	6,836.46	9,704.30	9,597.26	90.664	CC, ES, SF
Foss 42-23 - Original Drilling - Original Drilling - As Drilled	16,558.98	6,668.70	8,881.97	8,778.79	86.085	CC, ES, SF
J&L Farms 23-11 - Original Drilling - Original Drilling - As	16,558.98	6,717.24	6,480.47	6,396.54	77.215	CC, ES, SF
J&L Farms 23-12 - Original Drilling - Original Drilling - As	16,558.98	6,700.00	5,378.77	5,286.23	58.128	CC, ES, SF
J&L Farms 23-21 - Original Drilling - Original Drilling - As	16,558.98	6,576.77	7,728.70	7,637.79	85.019	CC, ES, SF
J&L Farms 23-22 - Original Drilling - Original Drilling - As	16,558.98	6,700.00	6,723.82	6,626.44	69.049	CC, ES, SF
McIntosh 33-23 - Original Drilling - Original Drilling - As D	16,558.98	7,019.00	7,365.16	7,257.84	68.626	CC, ES, SF
McIntosh 34-23 - Original Drilling - Original Drilling - As D	16,558.98	6,725.44	7,292.65	7,184.02	67.131	CC, ES, SF
McIntosh 43-23 - Original Drilling - Original Drilling - As D	16,558.98	6,653.79	8,897.91	8,791.68	83.760	CC, ES, SF
McIntosh 44-23 - Original Drilling - Original Drilling - As D	16,558.98	6,724.85	8,687.65	8,578.74	79.769	CC, ES, SF
Schroeder 23-31 - Original Drilling - Original Drilling - As	16,558.98	6,728.67	6,265.76	6,160.51	59.535	CC, ES, SF
Schroeder 23-33 - Original Drilling - Original Drilling - As	16,558.98	6,680.05	4,339.10	4,231.02	40.147	CC, ES, SF
A Section 24						
Larson A23-622 - Larson A23-622 OH - As-drilled	16,200.00	17,299.00	4,058.43	3,928.82	31.312	SF
Larson A23-622 - Larson A23-622 OH - As-drilled	16,558.98	17,299.00	3,944.12	3,818.95	31.509	CC, ES
Larson A23-627 - Larson A23-627 OH - As-drilled	16,558.98	17,330.00	4,051.54	3,918.31	30.410	CC, ES, SF
Larson A23-633 - Larson A23-633 OH - As-drilled	16,558.98	17,260.00	4,188.34	4,049.25	30.113	CC, ES, SF
Larson A23-639 - Larson A23-639 OH - As-drilled	16,558.98	17,355.00	4,373.21	4,226.38	29.785	CC, ES, SF
Larson A23-645 - Larson A23-645 OH - As-drilled	16,558.98	18,040.00	4,578.44	4,423.94	29.634	CC, ES, SF
Larson A23-651 - Larson A23-651 OH - As-drilled	16,558.98	18,045.00	4,762.66	4,604.19	30.053	CC, ES, SF
Larson A23-656 - Larson A23-656 OH - As-drilled	16,558.98	18,030.00	4,946.95	4,785.29	30.600	CC, ES, SF
Larson A23-662 - Larson A23-662 OH - As-drilled	16,558.98	18,100.00	5,222.64	5,057.83	31.689	CC, ES, SF
Larson A23-668 - Larson A23-668 OH - As-Drilled	16,558.98	17,400.00	5,505.36	5,345.88	34.522	CC, ES, SF
Larson A23-672 - Larson A23-672 OH - As-Drilled	16,558.98	17,415.00	5,706.07	5,545.60	35.558	CC, ES, SF
Larson A23-678 - Larson A23-678 OH - As-Drilled	16,558.98	17,106.00	5,998.32	5,836.83	37.145	CC, ES, SF
Larson A23-683 - Larson A23-683 OH - As-Drilled	16,558.98	17,368.00	6,235.51	6,071.70	38.065	CC, ES, SF
Larson AA19-618 - Larson AA19-618 OH - As-Drilled						Out of range
Larson AA19-624 - Larson AA19-624 OH - As-Drilled						Out of range
Larson AA19-624 - Larson AA19-624 ST01 - As-Drilled						Out of range
Larson AA19-630 - Larson AA19-630 OH - As-Drilled						Out of range
Larson AA19-635 - Larson AA19-635 OH - As-Drilled						Out of range
Larson Farms 01-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 02-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 03-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 04-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 05-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 06-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 07-24 - Original Drilling - Original Drilling -						Out of range
Peppler 24-32 - Original Drilling - Original Drilling - As Dri	16,558.98	6,355.14	9,878.07	9,772.58	93.635	CC, ES, SF
Roth 24-21 - Original Drilling - Original Drilling - As Drilled						Out of range

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 25						
Fairmeadows 03-25G - Original Drilling - Original Drilling						Out of range
Fairmeadows Land Co 1 - Original Drilling - Original Drilling						Out of range
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,227.30	6,750.76	9,881.00	9,744.69	72.490	CC
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,300.00	6,752.46	9,881.27	9,744.36	72.174	ES
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,558.98	6,758.53	9,886.56	9,747.55	71.119	SF
Larson A25-01 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-02 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-03 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-03X - Original Drilling - Original Drilling - As D						Out of range
Larson A25-05 - Original Drilling - Original Drilling - As Dr	14,837.10	6,753.05	9,735.71	9,639.97	101.688	CC
Larson A25-05 - Original Drilling - Original Drilling - As Dr	14,900.00	6,752.29	9,735.91	9,639.68	101.176	ES
Larson A25-05 - Original Drilling - Original Drilling - As Dr	16,558.98	6,732.22	9,886.78	9,778.73	91.504	SF
Larson A25-06 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-06X - Original Drilling - Original Drilling - As D						Out of range
Larson A25-07 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-08 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-10 - Original Drilling - Original Drilling - Drilled						Out of range
Larson A25-11 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-12 - Original Drilling - Original Drilling - As Dr	13,641.64	6,621.15	9,598.31	9,512.29	111.584	CC
Larson A25-12 - Original Drilling - Original Drilling - As Dr	13,700.00	6,621.28	9,598.48	9,512.02	111.009	ES
Larson A25-12 - Original Drilling - Original Drilling - As Dr	16,400.00	6,627.79	9,986.79	9,882.13	95.423	SF
Larson A25-13 - Original Drilling - Original Drilling - As Dr	12,428.92	6,747.54	9,700.93	9,623.64	125.519	CC
Larson A25-13 - Original Drilling - Original Drilling - As Dr	12,500.00	6,747.14	9,701.19	9,623.37	124.673	ES
Larson A25-13 - Original Drilling - Original Drilling - As Dr	14,800.00	6,735.03	9,986.47	9,892.89	106.713	SF
Larson A25-14 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-15 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-17 - Original Drilling - Original Drilling - As D						Out of range
Larson A25-19 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-23 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-25 - Original Drilling - Original Drilling - As Dr						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 26						
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	13,600.19	6,571.19	5,639.81	5,551.78	64.062	CC, ES
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	15,200.00	6,573.22	5,862.33	5,764.33	59.823	SF
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	13,583.23	6,713.36	4,323.97	4,239.28	51.052	CC
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	13,600.00	6,713.54	4,324.01	4,239.18	50.975	ES
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	14,600.00	6,724.14	4,441.90	4,350.98	48.856	SF
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	12,017.87	6,659.20	4,244.88	4,170.95	57.413	CC, ES
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	13,100.00	6,658.85	4,380.65	4,300.14	54.413	SF
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	11,998.04	6,858.58	5,930.44	5,855.93	79.596	CC
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	12,000.00	6,858.62	5,930.44	5,855.92	79.580	ES
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	14,100.00	6,903.35	6,291.77	6,204.51	72.108	SF
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,204.01	6,663.23	4,417.81	4,311.63	41.608	CC, ES
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,558.98	6,663.85	4,432.05	4,323.30	40.757	SF
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	14,675.22	6,683.14	4,530.59	4,436.37	48.086	CC
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	14,700.00	6,683.00	4,530.66	4,436.25	47.989	ES
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	15,700.00	6,677.27	4,645.04	4,544.55	46.222	SF
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,047.27	6,605.29	7,096.82	6,992.08	67.758	CC
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,100.00	6,605.48	7,097.02	6,991.86	67.492	ES
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,558.98	6,607.15	7,115.25	7,006.65	65.519	SF
DCD Farms 01-26 - Original Drilling - Original Drilling - As	14,836.02	6,796.51	8,392.34	8,296.46	87.536	CC
DCD Farms 01-26 - Original Drilling - Original Drilling - As	14,900.00	6,796.74	8,392.58	8,296.21	87.086	ES
DCD Farms 01-26 - Original Drilling - Original Drilling - As	16,558.98	6,802.82	8,567.37	8,459.49	79.415	SF
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	14,801.77	6,741.60	5,697.06	5,601.44	59.577	CC, ES
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	16,300.00	6,763.25	5,890.73	5,785.72	56.094	SF
DCD Farms A26-07 - Original Drilling - Original Drilling - A	15,076.50	6,663.97	7,059.35	6,962.05	72.553	CC
DCD Farms A26-07 - Original Drilling - Original Drilling - A	15,100.00	6,664.25	7,059.39	6,961.91	72.416	ES
DCD Farms A26-07 - Original Drilling - Original Drilling - A	16,558.98	6,681.73	7,213.29	7,105.89	67.159	SF
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	13,525.95	6,709.89	8,402.54	8,317.11	98.357	CC
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	13,600.00	6,709.18	8,402.87	8,316.87	97.718	ES
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	16,558.98	6,719.33	8,933.15	8,828.56	85.415	SF
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	13,559.04	6,642.93	7,082.84	6,997.39	82.885	CC
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	13,600.00	6,642.62	7,082.96	6,997.20	82.586	ES
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	16,000.00	6,624.77	7,491.64	7,391.19	74.576	SF
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	12,176.30	6,987.93	6,899.52	6,823.24	90.451	CC
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	12,200.00	6,988.36	6,899.56	6,823.10	90.244	ES
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	14,800.00	7,036.15	7,381.38	7,289.08	79.970	SF
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,051.07	6,652.00	8,437.58	8,253.44	45.822	CC
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,100.00	6,652.00	8,437.72	8,253.23	45.734	ES
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	14,300.00	6,652.00	8,732.15	8,532.95	43.836	SF
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,085.28	6,596.55	8,446.13	8,340.88	80.253	CC
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,200.00	6,598.15	8,446.91	8,340.75	79.572	ES
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,558.98	6,603.14	8,459.40	8,350.48	77.670	SF
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	16,250.90	6,921.02	5,826.15	5,707.74	49.202	CC
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	16,300.00	6,921.00	5,826.36	5,707.56	49.043	ES
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	16,558.98	6,920.90	5,834.29	5,713.54	48.318	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 27						
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	16,131.87	6,769.00	1,831.01	1,613.13	8.404	CC, ES
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	16,200.00	6,769.00	1,832.28	1,613.91	8.391	SF
Howard 03-27 - Original Drilling - Original Drilling - As Dri	16,043.22	6,754.66	423.09	317.88	4.021	CC, ES, SF
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	16,150.45	6,729.00	819.39	602.16	3.772	CC, ES, SF
Howard 08-27 - Original Drilling - Original Drilling - As Dri	14,739.31	6,716.88	3,128.68	3,033.85	32.990	CC, ES
Howard 08-27 - Original Drilling - Original Drilling - As Dri	15,200.00	6,716.08	3,162.42	3,064.69	32.359	SF
Howard 10-27 - Original Drilling - Original Drilling - As Dri	13,425.72	6,708.28	1,903.69	1,819.00	22.479	CC, ES
Howard 10-27 - Original Drilling - Original Drilling - As Dri	13,600.00	6,706.02	1,911.64	1,825.86	22.283	SF
Howard 15-27 - Original Drilling - Original Drilling - As Dri	12,259.40	6,738.79	1,747.42	1,673.64	23.682	CC, ES
Howard 15-27 - Original Drilling - Original Drilling - As Dri	12,500.00	6,743.12	1,763.90	1,688.75	23.470	SF
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,110.36	3,765.00	3,076.43	2,979.25	31.659	CC, ES
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,558.98	3,765.00	3,108.96	3,006.31	30.287	SF
Howard A27-01 - Original Drilling - Original Drilling - As D	16,132.20	6,723.69	3,159.26	3,053.45	29.856	CC, ES
Howard A27-01 - Original Drilling - Original Drilling - As D	16,558.98	6,722.35	3,187.96	3,079.47	29.384	SF
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	14,750.70	6,720.47	805.40	710.42	8.480	CC, ES
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	14,800.00	6,720.10	806.90	711.66	8.472	SF
Howard A27-06 (PR) - Original Drilling - Original Drilling -	14,795.71	6,825.93	572.95	474.98	5.848	CC, ES, SF
Howard A27-07 - Original Drilling - Original Drilling - As D	14,726.90	6,759.28	1,922.35	1,827.47	20.261	CC, ES
Howard A27-07 - Original Drilling - Original Drilling - As D	14,900.00	6,758.55	1,930.13	1,834.16	20.112	SF
Howard A27-09 - Original Drilling - Original Drilling - As D	13,366.18	6,709.00	3,032.04	2,947.82	36.002	CC
Howard A27-09 - Original Drilling - Original Drilling - As D	13,400.00	6,708.76	3,032.23	2,947.76	35.896	ES
Howard A27-09 - Original Drilling - Original Drilling - As D	13,900.00	6,705.18	3,078.67	2,991.22	35.205	SF
Howard A27-16 - Original Drilling - Original Drilling - As D	12,095.32	6,705.94	3,311.76	3,237.08	44.349	CC
Howard A27-16 - Original Drilling - Original Drilling - As D	12,100.00	6,705.96	3,311.76	3,237.05	44.329	ES
Howard A27-16 - Original Drilling - Original Drilling - As D	12,800.00	6,709.12	3,385.90	3,306.98	42.903	SF
Howard A27-17D - Original Drilling - Original Drilling - As	15,539.93	6,825.13	2,575.30	2,470.35	24.538	CC, ES
Howard A27-17D - Original Drilling - Original Drilling - As	15,900.00	6,824.20	2,600.35	2,492.32	24.072	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 28						
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	16,187.37	6,721.00	3,561.64	3,344.28	16.386	CC
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	16,200.00	6,721.00	3,561.67	3,344.20	16.378	ES
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	16,500.00	6,721.00	3,575.34	3,355.79	16.285	SF
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	14,546.01	6,730.26	2,090.52	1,997.98	22.589	CC, ES
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	14,800.00	6,728.24	2,105.89	2,011.83	22.388	SF
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	13,374.59	6,716.00	4,818.71	4,623.37	24.668	CC
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	13,400.00	6,716.00	4,818.78	4,623.24	24.644	ES
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	14,100.00	6,716.00	4,873.01	4,672.73	24.331	SF
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	16,253.50	6,816.38	5,854.71	5,747.61	54.664	CC
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	16,300.00	6,815.95	5,854.90	5,747.43	54.480	ES
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	16,558.98	6,813.53	5,862.68	5,753.26	53.584	SF
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	14,667.00	6,787.47	6,016.66	5,922.12	63.646	CC
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	14,700.00	6,786.31	6,016.75	5,921.96	63.477	ES
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	16,300.00	6,732.90	6,234.03	6,129.45	59.609	SF
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	13,344.81	6,834.98	6,053.17	5,968.81	71.757	CC
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	13,400.00	6,834.17	6,053.42	5,968.65	71.405	ES
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	15,200.00	6,808.35	6,331.02	6,235.15	66.037	SF
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	11,996.84	6,783.31	6,069.81	5,995.60	81.791	CC
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	12,000.00	6,783.22	6,069.81	5,995.57	81.766	ES
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	14,100.00	6,721.87	6,423.54	6,336.75	74.018	SF
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	15,903.46	6,908.45	4,767.06	4,662.71	45.683	CC, ES
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	16,558.98	6,896.11	4,811.91	4,703.10	44.223	SF
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	14,769.66	6,999.82	4,713.70	4,617.65	49.073	CC
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	14,800.00	6,997.64	4,713.80	4,617.52	48.957	ES
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	15,800.00	6,925.54	4,824.43	4,722.14	47.167	SF
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	11,974.13	6,698.27	4,773.80	4,700.16	64.827	CC
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	12,000.00	6,698.35	4,773.87	4,700.04	64.662	ES
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	13,400.00	6,702.72	4,982.20	4,899.98	60.602	SF
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	12,853.52	6,897.17	5,262.88	5,182.17	65.206	CC
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	12,900.00	6,896.37	5,263.08	5,182.02	64.929	ES
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	14,400.00	6,870.48	5,485.32	5,395.19	60.856	SF
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	12,022.23	6,709.89	2,300.60	2,226.46	31.029	CC, ES
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	12,400.00	6,714.82	2,331.41	2,255.02	30.520	SF
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	12,633.79	6,689.00	2,633.68	2,444.48	13.920	CC, ES
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	12,900.00	6,689.00	2,647.10	2,456.13	13.862	SF
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	12,666.44	6,705.35	2,625.07	2,546.16	33.270	CC
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	12,700.00	6,705.69	2,625.28	2,546.13	33.168	ES
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	13,100.00	6,709.87	2,660.63	2,579.08	32.629	SF
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	13,161.62	7,500.00	3,191.43	3,048.36	22.306	CC
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	13,300.00	7,500.00	3,194.43	3,046.46	21.588	ES
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	14,400.00	7,500.00	3,423.28	3,246.50	19.365	SF
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,433.58	6,704.00	2,345.98	2,150.43	11.997	CC, ES
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,600.00	6,704.00	2,351.88	2,155.18	11.957	SF
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	12,094.89	6,724.88	3,637.79	3,563.05	48.676	CC
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,724.88	3,637.79	3,563.02	48.652	ES
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	12,900.00	6,725.28	3,725.81	3,646.18	46.787	SF
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	13,473.06	6,717.41	2,330.92	2,245.87	27.406	CC
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	13,500.00	6,717.50	2,331.08	2,245.83	27.343	ES
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	13,800.00	6,718.57	2,353.74	2,266.70	27.043	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 33						
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	8,234.42	6,719.17	4,557.31	4,506.81	90.240	CC, ES
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	10,000.00	6,688.06	4,887.27	4,828.66	83.382	SF
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	6,583.09	6,479.66	4,790.51	4,638.23	31.458	CC
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	6,654.92	6,526.00	4,790.87	4,637.48	31.235	ES
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	7,050.00	6,653.80	4,809.68	4,652.98	30.694	SF
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	6,866.50	6,768.66	3,479.03	3,432.43	74.654	CC, ES
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	7,400.00	6,797.91	3,524.80	3,477.19	74.044	SF
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	7,400.90	6,665.72	5,579.91	5,532.46	117.599	CC, ES
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	10,200.00	6,653.16	6,242.61	6,183.85	106.232	SF
French 09-33 (SI) - Original Drilling - Original Drilling - As	8,148.62	6,632.36	2,120.29	2,070.51	42.593	CC, ES
French 09-33 (SI) - Original Drilling - Original Drilling - As	8,500.00	6,637.85	2,149.20	2,097.98	41.957	SF
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	6,673.03	6,484.12	2,057.63	2,012.27	45.366	CC, ES
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	6,950.00	6,599.18	2,071.31	2,025.00	44.726	SF
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	7,458.60	6,588.45	2,824.08	2,776.78	59.712	CC, ES
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	8,000.00	6,592.69	2,875.50	2,826.57	58.766	SF
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	10,895.52	6,676.39	6,199.87	6,133.90	93.976	CC
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	10,900.00	6,676.38	6,199.87	6,133.87	93.932	ES
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	13,400.00	6,673.73	6,686.62	6,605.95	82.893	SF
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	9,164.41	6,709.78	6,008.88	5,953.81	109.108	CC
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	9,200.00	6,709.82	6,008.98	5,953.71	108.717	ES
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	11,900.00	6,712.99	6,602.28	6,532.44	94.545	SF
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	10,921.09	6,694.00	4,774.16	4,597.52	27.027	CC, ES
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	11,700.00	6,694.00	4,837.28	4,655.59	26.623	SF
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	10,949.75	6,388.52	3,233.15	3,167.69	49.394	CC, ES
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	11,700.00	6,415.82	3,318.94	3,249.02	47.469	SF
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	10,912.43	6,692.03	3,348.43	3,282.30	50.632	CC, ES
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	11,700.00	6,695.03	3,439.80	3,369.04	48.610	SF
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	9,140.34	6,797.80	3,571.33	3,516.20	64.776	CC, ES
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	10,200.00	6,776.20	3,725.16	3,664.56	61.466	SF
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	8,081.83	6,704.54	6,144.10	6,094.31	123.404	CC
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	8,100.00	6,704.52	6,144.13	6,094.27	123.230	ES
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	11,200.00	6,700.87	6,890.06	6,825.32	106.420	SF
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	6,396.30	6,301.80	6,140.06	6,096.03	139.449	CC
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	6,500.00	6,403.67	6,140.27	6,095.59	137.440	ES
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	10,000.00	6,663.28	7,055.12	6,997.94	123.378	SF
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	10,910.65	6,593.99	2,061.18	1,995.40	31.337	CC, ES
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	11,200.00	6,597.18	2,081.38	2,013.87	30.831	SF
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	8,182.73	6,754.00	3,422.03	3,371.91	68.273	CC
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	8,200.00	6,754.21	3,422.07	3,371.88	68.177	ES
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	9,200.00	6,766.30	3,570.01	3,515.42	65.405	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 34						
Barthol A34-05X - Original Drilling - Original Drilling - As D	9,604.07	6,689.69	938.33	880.72	16.286	CC, ES
Barthol A34-05X - Original Drilling - Original Drilling - As D	9,700.00	6,688.87	943.22	885.11	16.231	SF
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	10,648.81	6,661.83	3,239.31	3,175.04	50.408	CC, ES
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	11,400.00	6,659.16	3,325.26	3,256.63	48.452	SF
Howard A34-03 (PA) - Original Drilling - Original Drilling -	10,790.34	6,710.00	465.32	289.02	2.639	CC, ES
Howard A34-03 (PA) - Original Drilling - Original Drilling -	10,800.00	6,710.00	465.42	289.06	2.639	SF
Howard BC A34-02 - Original Drilling - Original Drilling - A	10,664.76	6,700.00	1,574.76	1,510.29	24.427	CC, ES
Howard BC A34-02 - Original Drilling - Original Drilling - A	10,800.00	6,700.00	1,580.55	1,515.27	24.210	SF
Landwehr A34-03X - Original Drilling - Original Drilling - A	10,956.30	6,713.16	403.76	337.23	6.069	CC, ES, SF
Landwehr A34-04 - Original Drilling - Original Drilling - As	10,966.10	6,719.26	1,084.51	1,017.88	16.276	CC, ES
Landwehr A34-04 - Original Drilling - Original Drilling - As	11,100.00	6,724.51	1,092.73	1,025.39	16.227	SF
Petrikin A34-05 (PA) - Original Drilling - Original Drilling -	9,443.57	6,686.99	851.37	684.21	5.093	CC, ES, SF
Petrikin A34-06 - Original Drilling - Original Drilling - As D	9,479.65	6,680.11	481.01	424.25	8.474	CC, ES
Petrikin A34-06 - Original Drilling - Original Drilling - As D	9,500.00	6,680.15	481.44	424.58	8.466	SF
Petrikin A34-07 (PA) - Original Drilling - Original Drilling -	9,552.52	6,671.99	1,807.85	1,640.35	10.793	CC, ES
Petrikin A34-07 (PA) - Original Drilling - Original Drilling -	9,700.00	6,671.99	1,813.86	1,645.52	10.775	SF
Petrikin A34-08 - Original Drilling - Original Drilling - As D	9,572.80	6,658.73	3,238.62	3,181.29	56.484	CC
Petrikin A34-08 - Original Drilling - Original Drilling - As D	9,600.00	6,657.90	3,238.74	3,181.24	56.329	ES
Petrikin A34-08 - Original Drilling - Original Drilling - As D	10,400.00	6,632.50	3,342.45	3,280.73	54.151	SF
Petrikin A34-09 - Original Drilling - Original Drilling - As D	8,268.75	6,760.22	3,260.34	3,209.60	64.250	CC, ES
Petrikin A34-09 - Original Drilling - Original Drilling - As D	9,100.00	6,723.11	3,364.47	3,310.16	61.952	SF
Petrikin A34-10 - Original Drilling - Original Drilling - As D	8,274.30	6,778.45	1,991.65	1,940.84	39.197	CC, ES
Petrikin A34-10 - Original Drilling - Original Drilling - As D	8,600.00	6,767.62	2,018.07	1,965.93	38.699	SF
Petrikin A34-11 - Original Drilling - Original Drilling - As D	8,234.57	6,667.47	519.14	468.87	10.326	CC, ES, SF
Petrikin A34-12 (PA) - Original Drilling - Original Drilling -	8,245.74	6,700.45	731.64	681.20	14.507	CC, ES
Petrikin A34-12 (PA) - Original Drilling - Original Drilling -	8,300.00	6,701.84	733.64	683.00	14.487	SF
Petrikin A34-13 - Original Drilling - Original Drilling - As D	6,801.79	6,595.13	788.19	742.13	17.111	CC, ES
Petrikin A34-13 - Original Drilling - Original Drilling - As D	6,850.00	6,613.57	789.44	743.22	17.080	SF
Petrikin A34-14 (PA) - Original Drilling - Original Drilling -	6,886.53	6,650.69	51.94	5.33	1.114	Level 2, CC, ES, SF
Petrikin A34-15 - Original Drilling - Original Drilling - As D	2,221.46	2,210.56	1,782.56	1,767.27	116.638	CC
Petrikin A34-15 - Original Drilling - Original Drilling - As D	6,921.44	6,677.27	1,812.02	1,765.46	38.914	ES
Petrikin A34-15 - Original Drilling - Original Drilling - As D	7,050.00	6,686.60	1,816.67	1,769.86	38.808	SF
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	0.00	0.00	3,137.47			
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	2,200.00	2,178.54	3,146.09	3,130.99	208.373	ES
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	7,500.00	6,541.55	3,241.18	3,194.02	68.720	SF
Petrikin A34-25 - Original Drilling - Original Drilling - As D	7,646.87	6,661.33	91.35	43.25	1.899	CC, ES, SF
Reveille A33-720 - Reveille A33-720 OH - APD - Rev 1	2,252.11	2,254.54	62.99	47.36	4.029	CC, ES
Reveille A33-720 - Reveille A33-720 OH - APD - Rev 1	2,300.00	2,302.41	63.43	47.47	3.975	SF
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	2,149.70	2,150.77	109.27	94.33	7.317	CC
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	2,200.00	2,200.95	109.31	94.02	7.151	ES
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	2,300.00	2,300.28	111.65	95.68	6.991	SF
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,226.00	2,228.02	86.11	70.65	5.569	CC, ES
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	16,558.98	16,615.57	708.93	538.60	4.162	SF
Reveille A34-778 - Reveille A34-778 OH - APD - Rev 1	2,200.00	2,200.00	21.87	6.56	1.429	Level 3, CC, ES, SF
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	2,264.08	2,266.28	40.17	24.47	2.558	CC, ES
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	2,300.00	2,302.15	40.44	24.49	2.536	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	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 35						
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	8,321.82	6,712.80	4,190.67	4,139.79	82.372	CC, ES
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	9,900.00	9,900.00	4,476.71	4,407.21	64.418	SF
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	0.00	10.57	4,228.33			
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	1,700.00	1,687.97	4,230.84	4,219.25	365.200	ES
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	7,900.00	6,734.30	4,448.27	4,399.29	90.810	SF
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	6,926.27	6,574.73	5,712.10	5,665.87	123.575	CC
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	6,950.00	6,577.91	5,712.14	5,665.86	123.433	ES
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	9,900.00	6,510.19	6,432.81	6,376.37	113.970	SF
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	8,068.89	6,852.84	7,372.47	7,322.25	146.791	CC
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	8,100.00	6,851.71	7,372.54	7,322.20	146.449	ES
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	12,300.00	6,699.21	8,498.94	8,428.24	120.209	SF
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	7,116.49	6,400.00	7,256.82	7,210.94	158.168	CC, ES
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	10,300.00	10,300.00	7,923.86	7,851.24	109.120	SF
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	2,341.05	2,357.24	8,567.88	8,551.70	529.471	CC
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	6,957.54	6,700.16	8,586.93	8,540.17	183.650	ES
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	12,000.00	6,700.01	9,962.57	9,893.93	145.152	SF
Reveille A34-714 - Reveille A34-714 OH - APD - Rev 1	16,558.98	16,564.62	3,537.45	3,365.69	20.595	CC, ES, SF
Reveille A34-725 - Reveille A34-725 OH - APD - Rev 1	16,558.98	16,726.65	2,830.27	2,658.17	16.446	CC, ES, SF
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	16,558.98	16,991.24	2,123.84	1,951.11	12.296	CC, ES, SF
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	1,909.84	1,926.84	4,206.53	4,193.24	316.580	CC
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	2,000.00	2,000.00	4,206.56	4,192.69	303.224	ES
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	16,558.98	17,000.02	6,368.57	6,196.25	36.957	SF
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	1,909.84	1,926.84	4,184.29	4,171.00	314.907	CC
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	2,000.00	2,000.00	4,184.32	4,170.45	301.622	ES
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	16,558.98	16,763.19	5,660.65	5,488.28	32.840	SF
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	1,909.35	1,927.35	4,162.05	4,148.77	313.232	CC
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	2,000.00	2,000.00	4,162.09	4,148.22	300.019	ES
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	16,558.98	16,526.25	4,953.54	4,782.04	28.884	SF
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	2,200.00	2,219.00	4,139.82	4,124.44	269.259	CC
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	16,558.98	16,496.02	4,245.73	4,074.47	24.791	ES, SF
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	10,904.76	6,665.49	7,101.36	7,035.36	107.602	CC
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	11,000.00	6,666.73	7,101.99	7,035.33	106.540	ES
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	14,000.00	6,700.00	7,746.49	7,662.09	91.780	SF
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	9,381.60	6,467.76	7,194.10	7,138.66	129.768	CC
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	9,400.00	6,468.33	7,194.12	7,138.57	129.513	ES
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	13,100.00	6,604.84	8,097.16	8,020.69	105.888	SF
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	10,678.44	6,708.57	5,742.36	5,677.75	88.879	CC
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	10,700.00	6,708.41	5,742.40	5,677.65	88.679	ES
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	12,900.00	6,692.87	6,157.09	6,079.59	79.444	SF
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	10,995.17	6,676.39	4,449.63	4,382.96	66.745	CC
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	11,000.00	6,676.45	4,449.63	4,382.93	66.711	ES
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	12,300.00	6,714.96	4,636.95	4,562.43	62.223	SF
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	9,542.26	6,675.92	4,387.87	4,328.34	73.705	CC, ES
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	10,900.00	6,610.95	4,592.67	4,526.30	69.199	SF
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	9,570.65	6,789.61	5,765.73	5,708.02	99.914	CC
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	9,600.00	6,789.79	5,765.80	5,707.92	99.610	ES
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	12,000.00	6,804.27	6,256.61	6,185.37	87.832	SF
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	9,993.46	6,693.37	5,142.46	5,082.46	85.713	CC
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	10,000.00	6,693.52	5,142.46	5,082.43	85.653	ES
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	11,900.00	6,739.85	5,484.31	5,413.35	77.292	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 36						
Devries State A36-17 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Devries State A36-21 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Devries State A36-23 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Devries State A36-25 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Scholfield A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A						Out of range
Scholfield A36-20 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	10,966.54	6,925.57	9,609.11	9,541.78	142.721	CC
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	11,000.00	6,923.13	9,609.17	9,541.62	142.250	ES
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	12,300.00	12,300.00	9,700.65	9,605.19	101.623	SF
Scholfield State A36-69HN - Original Drilling - Original Dr	11,478.47	6,017.01	9,644.65	9,578.68	146.203	CC
Scholfield State A36-69HN - Original Drilling - Original Dr	11,500.00	6,017.01	9,644.68	9,578.55	145.862	ES
Scholfield State A36-69HN - Original Drilling - Original Dr	14,100.00	6,017.01	9,994.58	9,910.95	119.510	SF
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	6,250.00	10,358.02	9,034.80	8,933.18	88.901	SF
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	8,002.42	9,267.02	8,945.84	8,857.78	101.595	ES
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	10,328.08	6,936.65	8,931.70	8,864.68	133.258	CC
Sinjin E 36-9 (SI) - Wellbore #1 - No Surveys						Out of range
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	9,600.28	6,702.13	9,730.27	9,672.71	169.047	CC
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	9,700.00	6,701.08	9,730.79	9,672.62	167.297	ES
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	11,900.00	6,679.10	9,998.33	9,926.25	138.701	SF
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-07 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-08 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-09 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-10 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	8,240.45	6,741.08	9,684.49	9,633.96	191.642	CC
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	8,300.00	6,741.00	9,684.68	9,633.89	190.684	ES
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	10,700.00	6,737.58	9,991.94	9,927.98	156.227	SF
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	5,024.26	5,100.00	9,695.10	9,660.07	276.704	CC
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,050.00	6,538.19	9,701.08	9,654.78	209.545	ES
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	9,400.00	6,562.11	9,986.11	9,930.69	180.183	SF
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-15 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-16 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
State A36-99HZ - Original Drilling - As Drilled	11,247.03	6,131.01	9,638.87	9,573.53	147.520	CC
State A36-99HZ - Original Drilling - As Drilled	11,300.00	6,131.01	9,639.02	9,573.30	146.680	ES
State A36-99HZ - Original Drilling - As Drilled	13,900.00	6,131.01	9,997.31	9,914.16	120.239	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
B Section 01						
Lucci B01-69HNL - Original Drilling - Original Drilling - As	4,734.76	4,813.00	9,711.18	9,678.74	299.344	CC
Lucci B01-69HNL - Original Drilling - Original Drilling - As	4,800.00	4,843.64	9,711.27	9,678.48	296.229	ES
Lucci B01-69HNL - Original Drilling - Original Drilling - As	8,500.00	6,043.00	9,989.80	9,941.46	206.670	SF
Lucci B01-99HZ - Original Drilling - Original Drilling - As	5,133.73	5,133.83	9,770.67	9,736.27	284.052	CC
Lucci B01-99HZ - Original Drilling - Original Drilling - As	5,200.00	5,163.00	9,770.80	9,736.07	281.295	ES
Lucci B01-99HZ - Original Drilling - Original Drilling - As	7,800.00	5,918.00	9,985.72	9,941.07	223.627	SF
Lucci BC B 01-13 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-14 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-15 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-16 (PA) - Wellbore #1 - Wellbore #1						Out of range
Lucci State B03-69HNL - Original Drilling - Original Drilling	6,495.07	16,049.69	359.01	139.69	1.637	CC
Lucci State B03-69HNL - Original Drilling - Original Drilling	6,550.00	16,047.77	365.51	125.50	1.523	ES
Lucci State B03-69HNL - Original Drilling - Original Drilling	6,600.00	16,045.92	382.16	128.36	1.506	SF
SLW Ranch B01-62-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B01-63-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B01-64-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B01-66-1HN - Original Drilling - Original Drill	6,187.87	11,201.02	9,927.40	9,857.27	141.562	CC
SLW Ranch B01-66-1HN - Original Drilling - Original Drill	6,200.00	11,201.02	9,927.44	9,857.24	141.435	ES
SLW Ranch B01-66-1HN - Original Drilling - Original Drill	6,750.00	11,201.02	9,999.90	9,925.49	134.387	SF
SLW Ranch B01-67-1HN - Original Drilling - As Drilled - S	6,217.43	11,165.02	9,787.34	9,729.05	167.891	CC, ES
SLW Ranch B01-67-1HN - Original Drilling - As Drilled - S	7,400.00	11,165.02	9,996.41	9,927.70	145.488	SF
SLW Ranch B01-68-1HN - Original Drilling - Original Drill	6,262.05	11,204.02	9,688.58	9,639.35	196.797	CC, ES
SLW Ranch B01-68-1HN - Original Drilling - Original Drill	8,000.00	11,204.02	9,979.52	9,923.67	178.703	SF
SLW Ranch B01-69-1HN - Original Drilling - As Drilled	6,347.33	11,247.02	9,636.62	9,584.02	183.214	CC
SLW Ranch B01-69-1HN - Original Drilling - As Drilled	6,350.00	11,247.02	9,636.62	9,584.02	183.189	ES
SLW Ranch B01-69-1HN - Original Drilling - As Drilled	8,600.00	11,247.02	9,973.73	9,907.83	151.334	SF
SLW Ranch B12-69-1HN - Wellbore #1 - Wellbore #1- As						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	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	5,395.21	5,332.36	4,633.76	4,596.59	124.675	CC
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	5,500.00	5,400.01	4,634.20	4,596.42	122.674	ES
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	6,900.00	6,696.09	4,737.42	4,690.87	101.773	SF
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	6,048.77	5,991.80	5,106.64	5,064.82	122.110	CC
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	6,050.00	5,993.03	5,106.64	5,064.81	122.085	ES
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	6,750.00	6,590.58	5,269.48	5,223.65	114.980	SF
Bucklen 01-02 - Wellbore #1 - Wellbore #1-As Drilled	6,072.62	6,100.01	6,543.15	6,500.89	154.827	CC, ES
Bucklen 01-02 - Wellbore #1 - Wellbore #1-As Drilled	6,654.92	6,558.60	6,733.92	6,688.48	148.208	SF
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	6,047.17	5,934.90	5,633.93	5,592.32	135.382	CC
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	6,050.00	5,936.70	5,633.94	5,592.31	135.329	ES
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	6,500.00	6,320.11	5,732.60	5,688.28	129.339	SF
Buckmur B02-14 - Wellbore #1 - Wellbore #1- As Drilled	6,036.51	5,808.85	7,618.70	7,577.58	185.298	CC, ES
Buckmur B02-14 - Wellbore #1 - Wellbore #1- As Drilled	6,700.00	6,287.50	7,822.54	7,777.96	175.435	SF
Buckmur B02-25 - Wellbore #1 - Wellbore #1- As Drilled	6,071.84	6,100.01	6,512.95	6,470.70	154.171	CC, ES
Buckmur B02-25 - Wellbore #1 - Wellbore #1- As Drilled	6,700.00	6,495.12	6,703.36	6,658.03	147.894	SF
Cougar B02-67-1HN - Original Drilling - Original Drilling -	930.75	935.98	4,565.52	4,559.66	778.621	CC
Cougar B02-67-1HN - Original Drilling - Original Drilling -	1,300.00	1,278.88	4,566.39	4,557.96	541.615	ES
Cougar B02-67-1HN - Original Drilling - Original Drilling -	9,400.00	9,400.00	6,498.72	6,436.83	104.990	SF
Cougar B02-68-1HN - Original Drilling - Original Drilling -	0.00	3.94	4,610.98			
Cougar B02-68-1HN - Original Drilling - Original Drilling -	2,559.58	2,512.00	4,613.15	4,597.36	292.212	ES
Cougar B02-68-1HN - Original Drilling - Original Drilling -	6,550.00	6,149.00	4,754.16	4,713.99	118.380	SF
Cougar B02-69-1HN - Original Drilling - Original Drilling -	5,415.44	5,417.20	4,518.99	4,485.95	136.756	CC
Cougar B02-69-1HN - Original Drilling - Original Drilling -	5,500.00	5,472.82	4,519.27	4,485.76	134.891	ES
Cougar B02-69-1HN - Original Drilling - Original Drilling -	6,800.00	6,101.00	4,637.39	4,598.22	118.384	SF
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	1,654.06	1,602.54	7,516.23	7,507.34	845.748	CC, ES
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	12,800.00	11,176.02	7,954.91	7,812.94	56.035	SF
Foe B02-02 - Wellbore #1 - Wellbore #1- As Drilled	6,146.05	6,262.14	7,136.80	7,093.63	165.314	CC
Foe B02-02 - Wellbore #1 - Wellbore #1- As Drilled	6,150.00	6,264.77	7,136.80	7,093.61	165.228	ES
Foe B02-02 - Wellbore #1 - Wellbore #1- As Drilled	10,400.00	6,647.10	8,613.75	8,555.63	148.199	SF
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	6,060.83	6,039.67	7,307.65	7,265.62	173.869	CC, ES
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	6,950.00	6,594.25	7,478.90	7,432.65	161.707	SF
Foemeyer B02-17 - Original Drilling - Original Drilling - As	6,054.51	6,031.80	7,619.91	7,577.89	181.366	CC, ES
Foemeyer B02-17 - Original Drilling - Original Drilling - As	10,600.00	6,473.13	9,371.80	9,313.82	161.655	SF
Fritzler B02-03 - Wellbore #1 - Original Drilling	6,026.85	5,965.56	5,971.45	5,831.14	42.560	CC
Fritzler B02-03 - Wellbore #1 - Original Drilling	6,150.00	6,088.43	5,973.01	5,829.82	41.715	ES
Fritzler B02-03 - Wellbore #1 - Original Drilling	6,950.00	6,630.51	6,067.68	5,911.63	38.882	SF
Fritzler B02-06 - Original Drilling - Original Drilling	6,052.13	5,995.82	5,944.32	5,803.33	42.159	CC
Fritzler B02-06 - Original Drilling - Original Drilling	6,100.00	6,043.66	5,944.96	5,802.84	41.831	ES
Fritzler B02-06 - Original Drilling - Original Drilling	6,800.00	6,591.35	6,093.38	5,938.45	39.328	SF
Fritzler B2-19 - Original Drilling - Original Drilling	6,045.86	6,001.55	5,129.17	4,988.08	36.353	CC
Fritzler B2-19 - Original Drilling - Original Drilling	6,100.00	6,055.66	5,129.75	4,987.39	36.033	ES
Fritzler B2-19 - Original Drilling - Original Drilling	6,850.00	6,621.80	5,256.99	5,101.32	33.770	SF
Lonewolf B02-65HC - Original Drilling - As Drilled	6,060.76	6,106.01	4,977.99	4,935.88	118.204	CC, ES
Lonewolf B02-65HC - Original Drilling - As Drilled	6,450.00	6,251.01	5,055.02	5,011.25	115.495	SF
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	6,060.76	6,106.01	4,977.73	4,935.11	116.809	CC, ES
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	6,450.00	6,251.01	5,054.75	5,010.47	114.179	SF
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	6,060.76	6,106.01	4,977.99	4,935.88	118.202	CC, ES
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	6,450.00	6,251.01	5,055.02	5,011.25	115.493	SF
M&M 02-23 - Wellbore #1 - Wellbore #1- As Drilled	6,063.29	6,157.85	8,755.27	8,708.55	187.399	CC, ES
M&M 02-23 - Wellbore #1 - Wellbore #1- As Drilled	6,750.00	6,439.99	8,925.08	8,875.79	181.084	SF
Meyer B02-01 - Original Driling - Original Driling - As Drill	5,425.23	5,362.50	8,443.84	8,406.45	225.870	CC
Meyer B02-01 - Original Driling - Original Driling - As Drill	5,600.00	5,476.62	8,444.53	8,406.12	219.863	ES
Meyer B02-01 - Original Driling - Original Driling - As Drill	11,000.00	6,417.53	9,997.63	9,936.57	163.721	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
B Section 02						
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	6,080.51	6,131.29	8,656.54	8,614.13	204.125	CC
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	6,100.00	6,143.37	8,656.62	8,614.10	203.598	ES
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	9,700.00	6,500.01	9,983.46	9,928.97	183.233	SF
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	6,055.02	5,995.95	9,037.16	8,995.30	215.871	CC, ES
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	6,950.00	6,462.46	9,256.76	9,211.02	202.369	SF
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	6,046.44	5,900.00	9,622.41	9,580.92	231.944	CC
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	6,050.00	5,900.00	9,622.41	9,580.91	231.873	ES
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	6,850.00	6,422.44	9,848.23	9,802.83	216.946	SF
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	6,060.43	6,032.67	6,706.88	6,664.85	159.577	CC, ES
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	6,750.00	6,483.15	6,887.30	6,841.84	151.513	SF
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	6,022.27	5,811.05	7,856.70	7,815.48	190.626	CC, ES
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	6,850.00	6,321.38	8,054.37	8,009.18	178.254	SF
Trebor B02-15 - Wellbore #1 - Wellbore #1 - As Drilled	6,129.14	6,583.62	8,413.05	8,369.00	190.988	CC
Trebor B02-15 - Wellbore #1 - Wellbore #1 - As Drilled	6,150.00	6,706.34	8,413.17	8,368.66	189.001	ES
Trebor B02-15 - Wellbore #1 - Wellbore #1 - As Drilled	6,654.92	6,916.01	8,525.87	8,479.18	182.603	SF
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	314.53	285.53	5,862.01	5,860.63	4,248.198	CC
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	700.00	652.47	5,862.22	5,858.29	1,490.790	ES
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	6,300.00	6,300.00	6,242.41	6,197.42	138.768	SF
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	1,443.70	1,414.83	5,844.27	5,836.10	714.926	CC
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	1,500.00	1,449.99	5,844.35	5,835.87	688.984	ES
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	6,350.00	6,000.00	5,961.13	5,919.04	141.617	SF
Wolfpack B02-64-1HN - Original Drilling - Original Drilling	6,042.78	5,910.01	5,423.74	5,383.14	133.584	CC, ES
Wolfpack B02-64-1HN - Original Drilling - Original Drilling	6,300.00	5,955.01	5,464.87	5,423.33	131.550	SF
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	6,038.09	5,940.37	5,168.90	5,129.28	130.478	CC
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	6,050.00	5,952.01	5,168.97	5,129.28	130.209	ES
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	6,450.00	6,062.01	5,259.18	5,217.94	127.514	SF
Wolfpack B02-65HN - Original Drilling - Original Drilling -	6,042.82	6,014.01	5,073.43	5,033.35	126.598	CC, ES
Wolfpack B02-65HN - Original Drilling - Original Drilling -	6,350.00	6,062.01	5,121.74	5,080.57	124.391	SF
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	6,037.68	6,027.89	4,614.43	4,571.39	107.214	CC, ES
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	6,300.00	6,108.01	4,648.66	4,604.64	105.591	SF
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	5,276.93	7,072.01	3,985.03	3,872.90	35.537	CC, ES
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	5,400.00	7,072.01	3,986.93	3,874.66	35.510	SF
B Section 03						
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	6,058.55	5,983.43	4,903.98	4,862.18	117.324	CC, ES
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	6,450.00	6,481.95	4,986.95	4,942.26	111.576	SF
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	6,024.71	5,951.86	1,853.82	1,812.22	44.563	CC, ES
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	6,400.00	6,328.43	1,904.69	1,860.58	43.182	SF
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	6,060.03	6,026.70	3,901.85	3,859.84	92.881	CC, ES
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	6,500.00	6,436.32	3,992.66	3,947.91	89.215	SF
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	6,047.35	5,873.06	5,617.30	5,575.88	135.632	CC
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	6,050.00	5,875.91	5,617.30	5,575.87	135.569	ES
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	6,500.00	6,200.01	5,748.79	5,704.90	130.996	SF
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	6,061.48	5,981.29	5,138.59	5,096.83	123.026	CC, ES
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	6,500.00	6,512.71	5,271.93	5,227.07	117.528	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
B Section 04						
Bauer 1 (PA) - Wellbore #1 - No Surveys	6,097.52	6,052.19	6,190.67	6,048.39	43.511	CC
Bauer 1 (PA) - Wellbore #1 - No Surveys	6,200.00	6,153.68	6,192.00	6,047.36	42.808	ES
Bauer 1 (PA) - Wellbore #1 - No Surveys	6,950.00	6,646.51	6,289.60	6,133.25	40.227	SF
Bauer 2 (PA) - Wellbore #1 - No Surveys	6,084.80	6,036.47	3,601.52	3,527.65	48.759	CC
Bauer 2 (PA) - Wellbore #1 - No Surveys	6,100.00	6,051.66	3,601.56	3,527.51	48.638	ES
Bauer 2 (PA) - Wellbore #1 - No Surveys	6,750.00	6,577.30	3,698.27	3,617.86	45.990	SF
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	6,095.67	6,055.93	4,889.02	4,846.77	115.734	CC
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	6,100.00	6,059.78	4,889.02	4,846.75	115.656	ES
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	6,700.00	6,549.70	4,947.08	4,901.60	108.797	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-768
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-768	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-768 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
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	6,132.03	6,350.00	9,676.76	9,632.15	216.929	CC
Ehrlich 5M-243 (PR) - Wellbore #1 - Permitted-PDC	6,150.00	6,358.91	9,676.78	9,632.09	216.557	ES
Ehrlich 5M-243 (PR) - Wellbore #1 - Permitted-PDC	8,500.00	6,450.00	9,982.85	9,932.19	197.053	SF
Ehrlich 5M-343 (PR) - Wellbore #1 - Permitted-PDC	6,160.82	6,280.41	9,932.50	9,887.97	223.073	CC
Ehrlich 5M-343 (PR) - Wellbore #1 - Permitted-PDC	6,200.00	6,300.00	9,932.58	9,887.88	222.183	ES
Ehrlich 5M-343 (PR) - Wellbore #1 - Permitted-PDC	7,200.00	6,450.00	9,998.03	9,951.03	212.753	SF
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	6,149.74	6,187.32	7,439.54	7,396.71	173.673	CC
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	6,150.00	6,187.58	7,439.54	7,396.71	173.666	ES
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,650.09	9,118.75	9,058.93	152.442	SF
Noffsinger 21-5 (TA) - Wellbore #1 - Gyro Surveys						Out of range
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys	6,143.34	6,143.34	8,747.70	8,705.03	204.989	CC
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys	6,200.00	6,218.33	8,747.81	8,704.69	202.875	ES
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys	10,500.00	6,716.29	9,981.35	9,921.83	167.686	SF
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	6,194.10	16,156.48	3,184.22	2,956.57	13.987	CC
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	6,200.00	16,156.48	3,184.25	2,956.49	13.980	ES
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	6,350.00	16,156.48	3,204.78	2,974.09	13.892	SF
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	6,460.04	14,787.56	1,642.69	1,539.06	15.851	CC
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	6,500.00	14,787.56	1,643.74	1,537.08	15.410	ES
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	7,300.00	14,787.56	2,002.01	1,832.37	11.802	SF
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	6,358.22	14,729.08	1,748.87	1,620.20	13.592	CC
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	6,400.00	14,729.08	1,750.11	1,619.03	13.351	ES
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	7,000.00	14,729.08	1,999.71	1,829.36	11.739	SF
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	6,305.79	15,299.73	1,837.46	1,686.81	12.197	CC
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	6,350.00	15,299.73	1,838.92	1,686.01	12.027	ES
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	6,850.00	15,299.73	2,033.94	1,851.44	11.145	SF
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	6,296.34	15,736.33	1,995.69	1,824.21	11.638	CC
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	6,350.00	15,736.33	1,997.94	1,823.93	11.482	ES
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	6,700.00	15,736.33	2,115.29	1,923.06	11.004	SF
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	6,254.54	15,406.96	2,141.58	1,959.63	11.770	CC, ES
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	6,550.00	15,406.96	2,209.46	2,015.96	11.418	SF
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	6,249.15	15,878.12	2,358.51	2,159.62	11.858	CC
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	6,250.00	15,878.12	2,358.51	2,159.59	11.856	ES
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	6,500.00	15,878.12	2,409.26	2,201.67	11.606	SF
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	6,214.45	15,556.58	2,519.89	2,316.22	12.372	CC, ES
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	6,400.00	15,556.58	2,548.29	2,339.66	12.214	SF
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	6,218.92	16,001.51	2,706.37	2,492.21	12.637	CC, ES
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	6,400.00	16,001.51	2,733.70	2,514.85	12.491	SF
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	6,191.83	15,681.01	2,917.89	2,700.13	13.400	CC
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	6,200.00	15,681.01	2,917.94	2,700.03	13.390	ES
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	6,350.00	15,681.01	2,938.94	2,717.97	13.300	SF

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