

Project: Wells Ranch
Site: A Section 35
Well: Reveille A35-762
Wellbore: Reveille A35-762 OH
Design: APD - Rev 2

Northern Region - DJ Basin

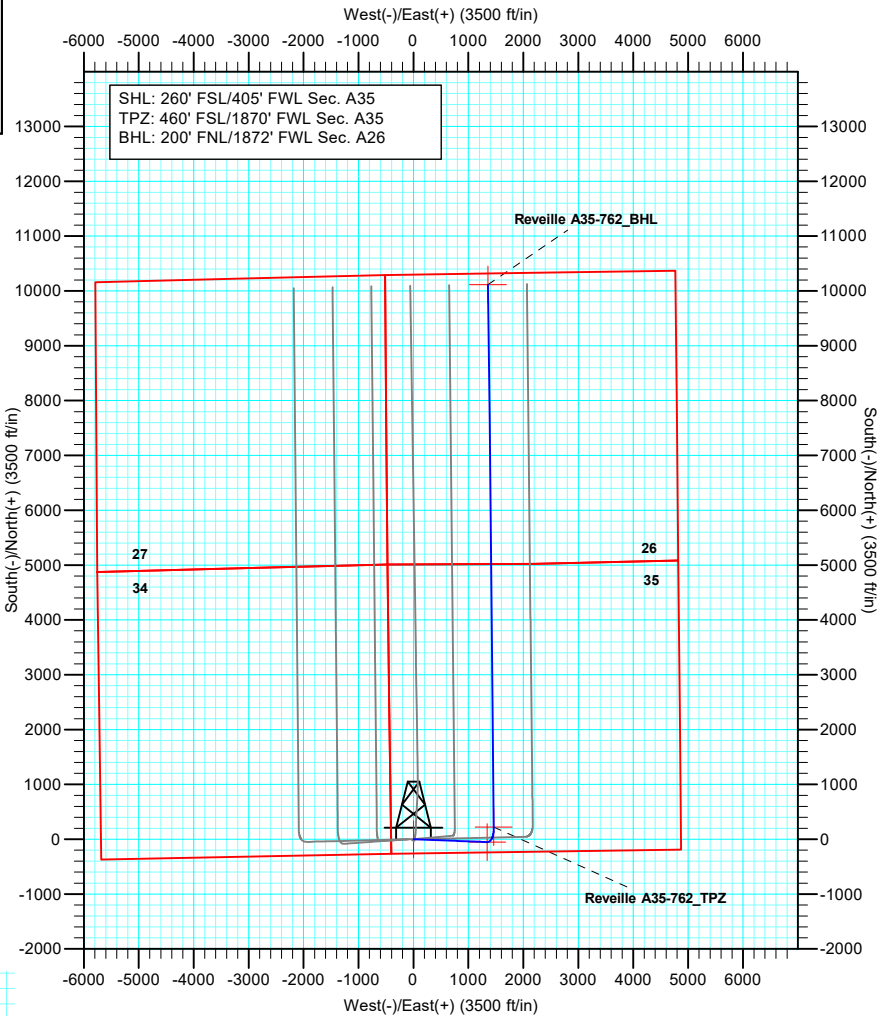
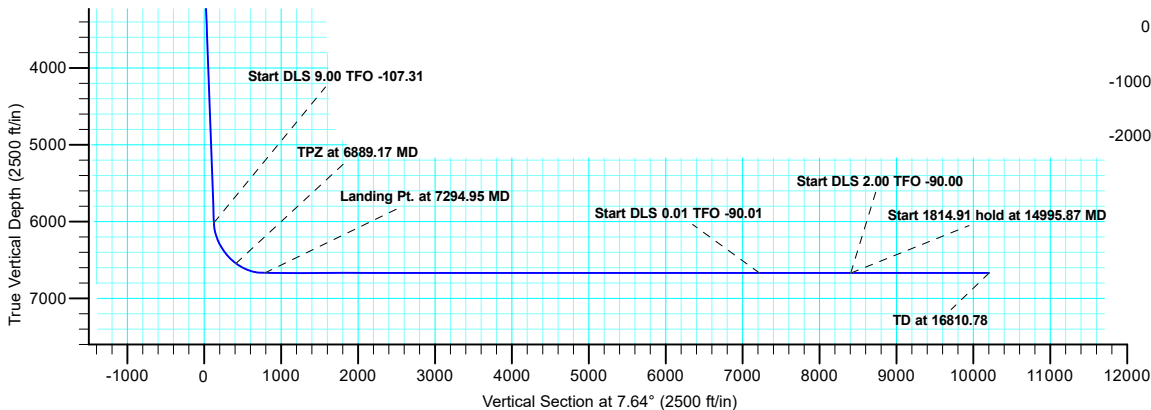
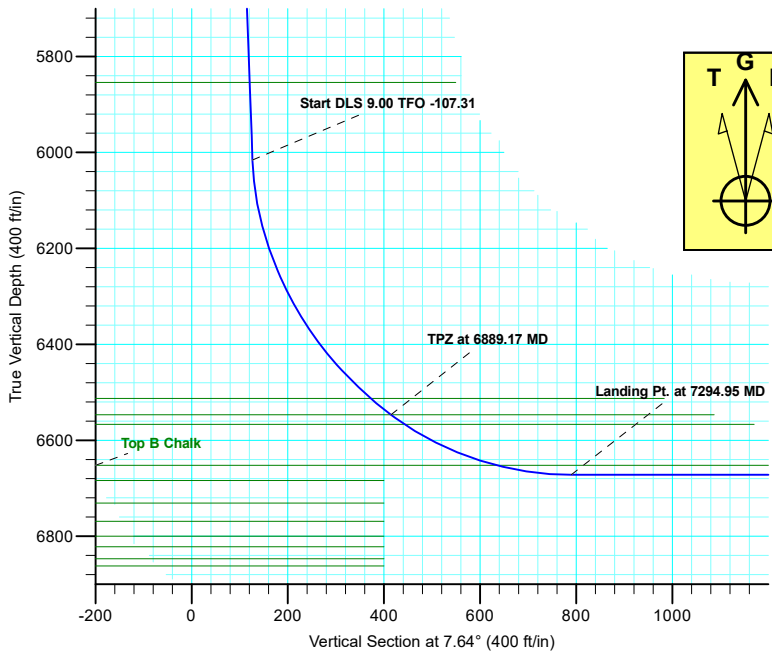
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	3052.46	21.05	92.22	3028.95	-7.40	191.02	2.00	92.22	18.06
4	6253.35	21.05	92.22	6016.25	-51.88	1339.82	0.00	0.00	126.68
5	6889.17	53.48	359.43	6547.00	222.36	1461.68	9.00	-107.31	414.69
6	7294.95	90.00	359.43	6672.00	601.20	1457.92	9.00	0.00	789.66
7	13790.67	90.00	359.43	6672.00	7096.60	1393.40	0.00	0.00	7218.84
8	14990.40	90.00	359.36	6672.00	8296.26	1380.71	0.01	-90.01	8406.18
9	14995.87	90.00	359.25	6672.00	8301.74	1380.64	2.00	-90.00	8411.59
10	16810.78	90.00	359.25	6672.00	10116.49	1356.83	0.00	0.00	10207.08

WELL DETAILS: Reveille A35-762

+N/-S	+E/-W	Northing	Ground Level: Easting	4647.00 Latitude	Longitude	Slot
0.00	0.00	1403286.40	3271307.54	40.4363299	-104.5253200	



Plan: APD - Rev 2 (Reveille A35-762/Reveille A35-762 OH)

Created By: Shelly C. Peterkin Date: 12:42, July 22 2019

Northern Region - DJ Basin

Wells Ranch

A Section 35

Reveille A35-762

Reveille A35-762 OH

Plan: APD - Rev 2

Standard Planning Report

22 July, 2019

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A35-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4677.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4677.00ft
Site:	A Section 35	North Reference:	Grid
Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A35-762 OH		
Design:	APD - Rev 2		

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

Well		Reveille A35-762				
Well Position	+N/-S	-72.85 ft	Northing:	1,403,286.41 usft	Latitude:	40.4363300
	+E/-W	-2,635.44 ft	Easting:	3,271,307.54 usft	Longitude:	-104.5253200
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,647.00 ft

Wellbore	Reveille A35-762 OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/17/2019	7.86	66.87	52,199.58462197

Design	APD - Rev 2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	7.64

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,052.46	21.05	92.22	3,028.95	-7.40	191.02	2.00	2.00	0.00	92.22	
6,253.35	21.05	92.22	6,016.25	-51.88	1,339.82	0.00	0.00	0.00	0.00	
6,889.17	53.48	359.43	6,547.00	222.36	1,461.68	9.00	5.10	-14.59	-107.31	Reveille A35-762_TP1
7,294.95	90.00	359.43	6,672.00	601.20	1,457.92	9.00	9.00	0.00	0.00	
13,790.67	90.00	359.43	6,672.00	7,096.60	1,393.40	0.00	0.00	0.00	0.00	Reveille A35-762_IP1
14,990.40	90.00	359.36	6,672.00	8,296.27	1,380.71	0.01	0.00	-0.01	-90.01	Reveille A35-762_IP2
14,995.87	90.00	359.25	6,672.00	8,301.74	1,380.64	2.00	0.00	-2.00	-90.00	
16,810.78	90.00	359.25	6,672.00	10,116.49	1,356.83	0.00	0.00	0.00	0.00	Reveille A35-762_BH1

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Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4677.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4677.00ft
Site:	A Section 35	North Reference:	Grid
Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A35-762 OH		
Design:	APD - Rev 2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
265.00	0.00	0.00	265.00	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
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
412.00	0.00	0.00	412.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,455.00	0.00	0.00	1,455.00	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
Start Build 2.00									
2,100.00	2.00	92.22	2,099.98	-0.07	1.74	0.16	2.00	2.00	0.00
2,200.00	4.00	92.22	2,199.84	-0.27	6.97	0.66	2.00	2.00	0.00
2,300.00	6.00	92.22	2,299.45	-0.61	15.68	1.48	2.00	2.00	0.00
2,400.00	8.00	92.22	2,398.70	-1.08	27.86	2.63	2.00	2.00	0.00
2,500.00	10.00	92.22	2,497.47	-1.68	43.49	4.11	2.00	2.00	0.00
2,600.00	12.00	92.22	2,595.62	-2.42	62.56	5.91	2.00	2.00	0.00
2,700.00	14.00	92.22	2,693.06	-3.29	85.03	8.04	2.00	2.00	0.00
2,800.00	16.00	92.22	2,789.64	-4.29	110.89	10.49	2.00	2.00	0.00
2,900.00	18.00	92.22	2,885.27	-5.43	140.11	13.25	2.00	2.00	0.00
3,000.00	20.00	92.22	2,979.82	-6.68	172.64	16.32	2.00	2.00	0.00
3,052.46	21.05	92.22	3,028.95	-7.40	191.02	18.06	2.00	2.00	0.00
Start 3200.89 hold at 3052.46 MD									
3,100.00	21.05	92.22	3,073.31	-8.06	208.08	19.67	0.00	0.00	0.00
3,200.00	21.05	92.22	3,166.64	-9.45	243.97	23.07	0.00	0.00	0.00
3,300.00	21.05	92.22	3,259.97	-10.84	279.86	26.46	0.00	0.00	0.00
3,400.00	21.05	92.22	3,353.29	-12.23	315.75	29.85	0.00	0.00	0.00
3,500.00	21.05	92.22	3,446.62	-13.62	351.64	33.25	0.00	0.00	0.00
3,585.05	21.05	92.22	3,526.00	-14.80	382.17	36.13	0.00	0.00	0.00
Parkman									
3,600.00	21.05	92.22	3,539.95	-15.01	387.53	36.64	0.00	0.00	0.00
3,700.00	21.05	92.22	3,633.28	-16.40	423.42	40.04	0.00	0.00	0.00
3,800.00	21.05	92.22	3,726.60	-17.79	459.31	43.43	0.00	0.00	0.00
3,900.00	21.05	92.22	3,819.93	-19.17	495.20	46.82	0.00	0.00	0.00
4,000.00	21.05	92.22	3,913.26	-20.56	531.09	50.22	0.00	0.00	0.00
4,100.00	21.05	92.22	4,006.58	-21.95	566.98	53.61	0.00	0.00	0.00

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Planning Report

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Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4677.00ft
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Site:	A Section 35	North Reference:	Grid
Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A35-762 OH		
Design:	APD - Rev 2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,200.00	21.05	92.22	4,099.91	-23.34	602.87	57.00	0.00	0.00	0.00
4,300.00	21.05	92.22	4,193.24	-24.73	638.76	60.40	0.00	0.00	0.00
4,330.82	21.05	92.22	4,222.00	-25.16	649.82	61.44	0.00	0.00	0.00
Sussex									
4,400.00	21.05	92.22	4,286.57	-26.12	674.65	63.79	0.00	0.00	0.00
4,500.00	21.05	92.22	4,379.89	-27.51	710.54	67.18	0.00	0.00	0.00
4,600.00	21.05	92.22	4,473.22	-28.90	746.43	70.58	0.00	0.00	0.00
4,700.00	21.05	92.22	4,566.55	-30.29	782.32	73.97	0.00	0.00	0.00
4,800.00	21.05	92.22	4,659.88	-31.68	818.21	77.36	0.00	0.00	0.00
4,900.00	21.05	92.22	4,753.20	-33.07	854.10	80.76	0.00	0.00	0.00
4,975.86	21.05	92.22	4,824.00	-34.13	881.33	83.33	0.00	0.00	0.00
Shannon									
5,000.00	21.05	92.22	4,846.53	-34.46	889.99	84.15	0.00	0.00	0.00
5,100.00	21.05	92.22	4,939.86	-35.85	925.88	87.54	0.00	0.00	0.00
5,200.00	21.05	92.22	5,033.18	-37.24	961.77	90.94	0.00	0.00	0.00
5,300.00	21.05	92.22	5,126.51	-38.63	997.66	94.33	0.00	0.00	0.00
5,400.00	21.05	92.22	5,219.84	-40.02	1,033.55	97.72	0.00	0.00	0.00
5,500.00	21.05	92.22	5,313.17	-41.41	1,069.44	101.12	0.00	0.00	0.00
5,600.00	21.05	92.22	5,406.49	-42.80	1,105.33	104.51	0.00	0.00	0.00
5,700.00	21.05	92.22	5,499.82	-44.19	1,141.22	107.91	0.00	0.00	0.00
5,800.00	21.05	92.22	5,593.15	-45.58	1,177.11	111.30	0.00	0.00	0.00
5,900.00	21.05	92.22	5,686.47	-46.97	1,213.00	114.69	0.00	0.00	0.00
6,000.00	21.05	92.22	5,779.80	-48.36	1,248.89	118.09	0.00	0.00	0.00
6,079.50	21.05	92.22	5,854.00	-49.46	1,277.43	120.78	0.00	0.00	0.00
Teepee Buttes									
6,100.00	21.05	92.22	5,873.13	-49.75	1,284.78	121.48	0.00	0.00	0.00
6,200.00	21.05	92.22	5,966.46	-51.14	1,320.67	124.87	0.00	0.00	0.00
6,253.35	21.05	92.22	6,016.25	-51.88	1,339.82	126.68	0.00	0.00	0.00
Start DLS 9.00 TFO -107.31									
6,300.00	20.18	80.53	6,059.93	-50.88	1,356.14	129.84	9.00	-1.86	-25.05
6,350.00	20.17	67.46	6,106.88	-46.15	1,372.61	136.72	9.00	-0.04	-26.15
6,400.00	21.09	54.93	6,153.70	-37.68	1,387.94	147.16	9.00	1.85	-25.05
6,450.00	22.84	43.82	6,200.09	-25.50	1,402.03	161.10	9.00	3.50	-22.21
6,500.00	25.25	34.47	6,245.77	-9.70	1,414.79	178.45	9.00	4.81	-18.70
6,550.00	28.14	26.79	6,290.45	9.63	1,426.15	199.12	9.00	5.79	-15.37
6,600.00	31.39	20.50	6,333.85	32.36	1,436.03	222.96	9.00	6.49	-12.58
6,650.00	34.89	15.32	6,375.72	58.36	1,444.37	249.84	9.00	7.00	-10.36
6,700.00	38.57	10.99	6,415.80	87.47	1,451.12	279.59	9.00	7.37	-8.65
6,750.00	42.39	7.32	6,453.83	119.50	1,456.24	312.02	9.00	7.64	-7.34
6,800.00	46.31	4.16	6,489.58	154.27	1,459.70	346.94	9.00	7.84	-6.33
6,834.80	49.09	2.19	6,513.00	179.96	1,461.11	372.59	9.00	7.97	-5.65
Sharon Springs									
6,850.00	50.31	1.38	6,522.83	191.55	1,461.47	384.12	9.00	8.04	-5.31
6,889.17	53.48	359.43	6,547.00	222.36	1,461.68	414.69	9.00	8.10	-4.99
TPZ at 6889.17 MD - Top A Chalk									
6,900.00	54.45	359.43	6,553.37	231.12	1,461.59	423.36	9.00	9.00	0.00
6,924.09	56.62	359.43	6,567.00	250.98	1,461.40	443.01	9.00	9.00	0.00
Top A Marl									
6,950.00	58.95	359.43	6,580.81	272.90	1,461.18	464.71	9.00	9.00	0.00
7,000.00	63.45	359.43	6,604.89	316.70	1,460.74	508.07	9.00	9.00	0.00
7,050.00	67.95	359.43	6,625.46	362.26	1,460.29	553.16	9.00	9.00	0.00
7,100.00	72.45	359.43	6,642.39	409.29	1,459.82	599.72	9.00	9.00	0.00
7,134.94	75.60	359.43	6,652.00	442.88	1,459.49	632.96	9.00	9.00	0.00

Noble Energy, Inc.

Planning Report

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Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4677.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4677.00ft
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Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A35-762 OH		
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Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Top B Chalk									
7,150.00	76.95	359.43	6,655.57	457.51	1,459.35	647.44	9.00	9.00	0.00
7,200.00	81.45	359.43	6,664.93	506.61	1,458.86	696.04	9.00	9.00	0.00
7,250.00	85.95	359.43	6,670.42	556.29	1,458.36	745.22	9.00	9.00	0.00
7,294.95	90.00	359.43	6,672.00	601.20	1,457.92	789.66	9.00	9.00	0.00
Landing Pt. at 7294.95 MD									
7,300.00	90.00	359.43	6,672.00	606.25	1,457.87	794.67	0.00	0.00	0.00
7,400.00	90.00	359.43	6,672.00	706.25	1,456.88	893.64	0.00	0.00	0.00
7,500.00	90.00	359.43	6,672.00	806.24	1,455.88	992.62	0.00	0.00	0.00
7,600.00	90.00	359.43	6,672.00	906.24	1,454.89	1,091.59	0.00	0.00	0.00
7,700.00	90.00	359.43	6,672.00	1,006.23	1,453.90	1,190.57	0.00	0.00	0.00
7,800.00	90.00	359.43	6,672.00	1,106.23	1,452.90	1,289.54	0.00	0.00	0.00
7,900.00	90.00	359.43	6,672.00	1,206.22	1,451.91	1,388.52	0.00	0.00	0.00
8,000.00	90.00	359.43	6,672.00	1,306.22	1,450.92	1,487.50	0.00	0.00	0.00
8,100.00	90.00	359.43	6,672.00	1,406.21	1,449.92	1,586.47	0.00	0.00	0.00
8,200.00	90.00	359.43	6,672.00	1,506.21	1,448.93	1,685.45	0.00	0.00	0.00
8,300.00	90.00	359.43	6,672.00	1,606.20	1,447.94	1,784.42	0.00	0.00	0.00
8,400.00	90.00	359.43	6,672.00	1,706.20	1,446.94	1,883.40	0.00	0.00	0.00
8,500.00	90.00	359.43	6,672.00	1,806.19	1,445.95	1,982.37	0.00	0.00	0.00
8,600.00	90.00	359.43	6,672.00	1,906.19	1,444.96	2,081.35	0.00	0.00	0.00
8,700.00	90.00	359.43	6,672.00	2,006.18	1,443.96	2,180.32	0.00	0.00	0.00
8,800.00	90.00	359.43	6,672.00	2,106.18	1,442.97	2,279.30	0.00	0.00	0.00
8,900.00	90.00	359.43	6,672.00	2,206.17	1,441.98	2,378.28	0.00	0.00	0.00
9,000.00	90.00	359.43	6,672.00	2,306.17	1,440.98	2,477.25	0.00	0.00	0.00
9,100.00	90.00	359.43	6,672.00	2,406.16	1,439.99	2,576.23	0.00	0.00	0.00
9,200.00	90.00	359.43	6,672.00	2,506.16	1,439.00	2,675.20	0.00	0.00	0.00
9,300.00	90.00	359.43	6,672.00	2,606.15	1,438.00	2,774.18	0.00	0.00	0.00
9,400.00	90.00	359.43	6,672.00	2,706.15	1,437.01	2,873.15	0.00	0.00	0.00
9,500.00	90.00	359.43	6,672.00	2,806.14	1,436.02	2,972.13	0.00	0.00	0.00
9,600.00	90.00	359.43	6,672.00	2,906.14	1,435.02	3,071.11	0.00	0.00	0.00
9,700.00	90.00	359.43	6,672.00	3,006.13	1,434.03	3,170.08	0.00	0.00	0.00
9,800.00	90.00	359.43	6,672.00	3,106.13	1,433.04	3,269.06	0.00	0.00	0.00
9,900.00	90.00	359.43	6,672.00	3,206.12	1,432.04	3,368.03	0.00	0.00	0.00
10,000.00	90.00	359.43	6,672.00	3,306.12	1,431.05	3,467.01	0.00	0.00	0.00
10,100.00	90.00	359.43	6,672.00	3,406.11	1,430.06	3,565.98	0.00	0.00	0.00
10,200.00	90.00	359.43	6,672.00	3,506.11	1,429.06	3,664.96	0.00	0.00	0.00
10,300.00	90.00	359.43	6,672.00	3,606.10	1,428.07	3,763.93	0.00	0.00	0.00
10,400.00	90.00	359.43	6,672.00	3,706.10	1,427.08	3,862.91	0.00	0.00	0.00
10,500.00	90.00	359.43	6,672.00	3,806.09	1,426.08	3,961.89	0.00	0.00	0.00
10,600.00	90.00	359.43	6,672.00	3,906.09	1,425.09	4,060.86	0.00	0.00	0.00
10,700.00	90.00	359.43	6,672.00	4,006.08	1,424.10	4,159.84	0.00	0.00	0.00
10,800.00	90.00	359.43	6,672.00	4,106.08	1,423.10	4,258.81	0.00	0.00	0.00
10,900.00	90.00	359.43	6,672.00	4,206.07	1,422.11	4,357.79	0.00	0.00	0.00
11,000.00	90.00	359.43	6,672.00	4,306.07	1,421.12	4,456.76	0.00	0.00	0.00
11,100.00	90.00	359.43	6,672.00	4,406.06	1,420.12	4,555.74	0.00	0.00	0.00
11,200.00	90.00	359.43	6,672.00	4,506.06	1,419.13	4,654.71	0.00	0.00	0.00
11,300.00	90.00	359.43	6,672.00	4,606.05	1,418.14	4,753.69	0.00	0.00	0.00
11,400.00	90.00	359.43	6,672.00	4,706.05	1,417.14	4,852.67	0.00	0.00	0.00
11,500.00	90.00	359.43	6,672.00	4,806.04	1,416.15	4,951.64	0.00	0.00	0.00
11,600.00	90.00	359.43	6,672.00	4,906.04	1,415.16	5,050.62	0.00	0.00	0.00
11,700.00	90.00	359.43	6,672.00	5,006.03	1,414.16	5,149.59	0.00	0.00	0.00
11,800.00	90.00	359.43	6,672.00	5,106.03	1,413.17	5,248.57	0.00	0.00	0.00
11,900.00	90.00	359.43	6,672.00	5,206.02	1,412.18	5,347.54	0.00	0.00	0.00
12,000.00	90.00	359.43	6,672.00	5,306.02	1,411.18	5,446.52	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A35-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4677.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4677.00ft
Site:	A Section 35	North Reference:	Grid
Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A35-762 OH		
Design:	APD - Rev 2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,100.00	90.00	359.43	6,672.00	5,406.01	1,410.19	5,545.50	0.00	0.00	0.00
12,200.00	90.00	359.43	6,672.00	5,506.01	1,409.20	5,644.47	0.00	0.00	0.00
12,300.00	90.00	359.43	6,672.00	5,606.01	1,408.20	5,743.45	0.00	0.00	0.00
12,400.00	90.00	359.43	6,672.00	5,706.00	1,407.21	5,842.42	0.00	0.00	0.00
12,500.00	90.00	359.43	6,672.00	5,806.00	1,406.22	5,941.40	0.00	0.00	0.00
12,600.00	90.00	359.43	6,672.00	5,905.99	1,405.22	6,040.37	0.00	0.00	0.00
12,700.00	90.00	359.43	6,672.00	6,005.99	1,404.23	6,139.35	0.00	0.00	0.00
12,800.00	90.00	359.43	6,672.00	6,105.98	1,403.24	6,238.32	0.00	0.00	0.00
12,900.00	90.00	359.43	6,672.00	6,205.98	1,402.24	6,337.30	0.00	0.00	0.00
13,000.00	90.00	359.43	6,672.00	6,305.97	1,401.25	6,436.28	0.00	0.00	0.00
13,100.00	90.00	359.43	6,672.00	6,405.97	1,400.26	6,535.25	0.00	0.00	0.00
13,200.00	90.00	359.43	6,672.00	6,505.96	1,399.26	6,634.23	0.00	0.00	0.00
13,300.00	90.00	359.43	6,672.00	6,605.96	1,398.27	6,733.20	0.00	0.00	0.00
13,400.00	90.00	359.43	6,672.00	6,705.95	1,397.28	6,832.18	0.00	0.00	0.00
13,500.00	90.00	359.43	6,672.00	6,805.95	1,396.28	6,931.15	0.00	0.00	0.00
13,600.00	90.00	359.43	6,672.00	6,905.94	1,395.29	7,030.13	0.00	0.00	0.00
13,700.00	90.00	359.43	6,672.00	7,005.94	1,394.30	7,129.11	0.00	0.00	0.00
13,790.67	90.00	359.43	6,672.00	7,096.60	1,393.40	7,218.84	0.00	0.00	0.00
Start DLS 0.01 TFO -90.01									
13,800.00	90.00	359.43	6,672.00	7,105.93	1,393.30	7,228.08	0.01	0.00	-0.01
13,900.00	90.00	359.42	6,672.00	7,205.93	1,392.30	7,327.06	0.01	0.00	-0.01
14,000.00	90.00	359.42	6,672.00	7,305.92	1,391.29	7,426.03	0.01	0.00	-0.01
14,100.00	90.00	359.41	6,672.00	7,405.92	1,390.27	7,525.00	0.01	0.00	-0.01
14,200.00	90.00	359.41	6,672.00	7,505.91	1,389.24	7,623.97	0.01	0.00	-0.01
14,300.00	90.00	359.40	6,672.00	7,605.90	1,388.20	7,722.94	0.01	0.00	-0.01
14,400.00	90.00	359.39	6,672.00	7,705.90	1,387.15	7,821.91	0.01	0.00	-0.01
14,500.00	90.00	359.39	6,672.00	7,805.89	1,386.08	7,920.87	0.01	0.00	-0.01
14,600.00	90.00	359.38	6,672.00	7,905.89	1,385.01	8,019.84	0.01	0.00	-0.01
14,700.00	90.00	359.38	6,672.00	8,005.88	1,383.92	8,118.80	0.01	0.00	-0.01
14,800.00	90.00	359.37	6,672.00	8,105.88	1,382.83	8,217.76	0.01	0.00	-0.01
14,900.00	90.00	359.36	6,672.00	8,205.87	1,381.72	8,316.72	0.01	0.00	-0.01
14,990.40	90.00	359.36	6,672.00	8,296.27	1,380.71	8,406.18	0.01	0.00	-0.01
Start DLS 2.00 TFO -90.00									
14,995.87	90.00	359.25	6,672.00	8,301.74	1,380.64	8,411.59	2.00	0.00	-2.00
Start 1814.91 hold at 14995.87 MD									
15,000.00	90.00	359.25	6,672.00	8,305.86	1,380.59	8,415.67	0.00	0.00	0.00
15,100.00	90.00	359.25	6,672.00	8,405.86	1,379.28	8,514.60	0.00	0.00	0.00
15,200.00	90.00	359.25	6,672.00	8,505.85	1,377.97	8,613.53	0.00	0.00	0.00
15,300.00	90.00	359.25	6,672.00	8,605.84	1,376.65	8,712.46	0.00	0.00	0.00
15,400.00	90.00	359.25	6,672.00	8,705.83	1,375.34	8,811.39	0.00	0.00	0.00
15,500.00	90.00	359.25	6,672.00	8,805.82	1,374.03	8,910.32	0.00	0.00	0.00
15,600.00	90.00	359.25	6,672.00	8,905.81	1,372.72	9,009.25	0.00	0.00	0.00
15,700.00	90.00	359.25	6,672.00	9,005.80	1,371.40	9,108.18	0.00	0.00	0.00
15,800.00	90.00	359.25	6,672.00	9,105.79	1,370.09	9,207.11	0.00	0.00	0.00
15,900.00	90.00	359.25	6,672.00	9,205.79	1,368.78	9,306.04	0.00	0.00	0.00
16,000.00	90.00	359.25	6,672.00	9,305.78	1,367.47	9,404.97	0.00	0.00	0.00
16,100.00	90.00	359.25	6,672.00	9,405.77	1,366.16	9,503.90	0.00	0.00	0.00
16,200.00	90.00	359.25	6,672.00	9,505.76	1,364.84	9,602.83	0.00	0.00	0.00
16,300.00	90.00	359.25	6,672.00	9,605.75	1,363.53	9,701.76	0.00	0.00	0.00
16,400.00	90.00	359.25	6,672.00	9,705.74	1,362.22	9,800.69	0.00	0.00	0.00
16,500.00	90.00	359.25	6,672.00	9,805.73	1,360.91	9,899.62	0.00	0.00	0.00
16,600.00	90.00	359.25	6,672.00	9,905.73	1,359.59	9,998.55	0.00	0.00	0.00
16,700.00	90.00	359.25	6,672.00	10,005.72	1,358.28	10,097.48	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A35-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4677.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4677.00ft
Site:	A Section 35	North Reference:	Grid
Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A35-762 OH		
Design:	APD - Rev 2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,800.00	90.00	359.25	6,672.00	10,105.71	1,356.97	10,196.41	0.00	0.00	0.00
16,810.78	90.00	359.25	6,672.00	10,116.49	1,356.83	10,207.08	0.00	0.00	0.00
TD at 16810.78									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Reveille A35-762_SHL - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	1,403,286.41	3,271,307.54	40.4363300	-104.5253200
Reveille A35-762_KOP - plan hits target center - Point	0.00	0.00	6,016.25	-51.88	1,339.82	1,403,234.53	3,272,647.36	40.4361470	-104.5205091
Reveille A35-762_TPZ - plan hits target center - Point	0.00	0.00	6,547.00	222.36	1,461.68	1,403,508.77	3,272,769.22	40.4368961	-104.5200605
Reveille A35-762_BHL - plan hits target center - Point	0.00	0.00	6,672.00	10,116.49	1,356.83	1,413,402.88	3,272,664.37	40.4640568	-104.5200443

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
265.00	265.00	Pierre				
412.00	412.00	Upper Pierre Aquifer Top				
1,455.00	1,455.00	Upper Pierre Aquifer Base				
3,585.05	3,526.00	Parkman				
4,330.82	4,222.00	Sussex				
4,975.86	4,824.00	Shannon				
6,079.50	5,854.00	Teepee Buttes				
6,834.80	6,513.00	Sharon Springs				
6,889.17	6,547.00	Top A Chalk				
6,924.09	6,567.00	Top A Marl				
7,134.94	6,652.00	Top B Chalk				

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A35-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4677.00ft
Project:	Wells Ranch	MD Reference:	KB @ 4677.00ft
Site:	A Section 35	North Reference:	Grid
Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A35-762 OH		
Design:	APD - Rev 2		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,000.00	2,000.00	0.00	0.00	Start Build 2.00
3,052.46	3,028.95	-7.40	191.02	Start 3200.89 hold at 3052.46 MD
6,253.35	6,016.25	-51.88	1,339.82	Start DLS 9.00 TFO -107.31
6,889.17	6,547.00	222.36	1,461.68	TPZ at 6889.17 MD
7,294.95	6,672.00	601.20	1,457.92	Landing Pt. at 7294.95 MD
13,790.67	6,672.00	7,096.60	1,393.40	Start DLS 0.01 TFO -90.01
14,990.40	6,672.00	8,296.27	1,380.71	Start DLS 2.00 TFO -90.00
14,995.87	6,672.00	8,301.74	1,380.64	Start 1814.91 hold at 14995.87 MD
16,810.78	6,672.00	10,116.49	1,356.83	TD at 16810.78

Northern Region - DJ Basin

Wells Ranch

A Section 35

Reveille A35-762

Reveille A35-762 OH

APD - Rev 2

Anticollision Summary Report

22 July, 2019

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	Offset TVD Reference:	Offset Datum

Reference	APD - Rev 2		
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	16,810.78	APD - Rev 2 (Reveille A35-762 OH)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 21						
Culbreath 23-21 - Original Drilling - Original Drilling - As D						Out of range
Culbreath 33-21 (PA) - Original Drilling - Original Drilling -	16,810.78	6,713.00	9,357.74	9,137.20	42.430	CC, ES, SF
Harper A21-618 - Harper A21-618 OH - As-Drilled	16,700.00	16,240.00	2,039.49	1,906.32	15.316	SF
Harper A21-618 - Harper A21-618 OH - As-Drilled	16,810.78	16,240.00	1,999.32	1,869.14	15.358	CC, ES
Harper A21-626 - Harper A21-626 OH - As-Drilled	16,810.78	16,140.00	2,339.19	2,193.30	16.034	CC, ES, SF
Harper A21-631 - Harper A21-631 OH - As-Drilled	16,810.78	16,120.00	2,559.89	2,406.67	16.708	CC, ES, SF
Harper A21-637 - Harper A21-637 OH - As-Drilled	16,810.78	16,223.00	2,837.55	2,679.10	17.909	CC, ES, SF
Harper A21-643 - Harper A21-643 OH - As-Drilled	16,810.78	16,273.00	3,146.56	2,987.57	19.791	CC, ES, SF
Harper A21-649 - Harper A21-649 OH - As-Drilled	16,810.78	16,403.00	3,387.48	3,226.20	21.004	CC, ES, SF
Harper A21-656 - Harper A21-656 OH - As-Drilled	16,810.78	16,378.00	3,713.54	3,550.91	22.834	CC, ES, SF
Harper A21-664 - Harper A21-664 OH - As-Drilled	16,810.78	16,571.00	4,148.25	3,984.82	25.382	CC, ES, SF
Harper A21-669 - Harper A21-669 OH - As-Drilled	16,810.78	16,585.00	4,437.13	4,273.27	27.079	CC, ES, SF
Harper A21-674 - Harper A21-674 OH - As-Drilled	16,810.78	16,788.00	4,773.85	4,609.66	29.075	CC, ES, SF
Harper A21-681 - Harper A21-681 OH - As-Drilled	16,810.78	16,642.00	5,122.65	4,960.33	31.558	CC, ES, SF
Kona A19-616 - Kona A19-616 - Kona A19-616 - As Drille						Out of range
Kona A19-624 - Kona A19-624 - Kona A19-624 - As Drille						Out of range
Kona A19-636 - Kona A19-636 - Kona A19-636 - As Drille						Out of range
Kona A19-646 - Original Drilling - Original Drilling - As Dr						Out of range
Kona A19-662 - Original Drilling - Original Drilling - As Dr						Out of range
Kona A19-670 - Kona A19-670 - Original Drilling - As Dril						Out of range
Kona A19-685 - Original Drilling - Original Drilling - As Dr						Out of range
McKee 12-21 (PA) - Original Drilling - Original Drilling - A						Out of range
McKee 21-21 (PA) - Original Drilling - Original Drilling - A						Out of range
McKee 22-21 - Original Drilling - Original Drilling - As Dril						Out of range
McKee 31-21 - Original Drilling - Original Drilling - As Dril						Out of range
McKee 32-21 - Original Drilling - Original Drilling - As Dril	16,810.78	6,803.05	9,738.04	9,630.06	90.181	CC, ES, SF
McKee 41-21 - Original Drilling - Original Drilling - As Dril	16,810.78	6,672.92	9,214.52	9,112.63	90.429	CC, ES, SF
McKee 42-21 - Original Drilling - Original Drilling - As Dril	16,810.78	6,753.99	8,406.87	8,299.88	78.575	CC, ES, SF
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	3,929.33	17,720.27	8,045.52	7,934.27	72.320	CC, ES
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	5,100.00	17,720.27	8,130.24	8,016.37	71.398	SF
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	3,769.29	17,515.21	8,676.60	8,567.77	79.727	CC
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	3,800.00	17,515.21	8,676.65	8,567.73	79.658	ES
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	5,500.00	17,515.21	8,847.53	8,733.80	77.796	SF
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	3,445.43	17,093.98	9,271.31	9,165.95	88.001	CC
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	3,500.00	17,093.98	9,271.47	9,165.92	87.839	ES
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	5,800.00	17,093.98	9,565.62	9,452.47	84.534	SF
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	3,254.26	16,956.23	9,877.62	9,774.74	96.009	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 A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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	3,300.00	16,956.23	9,877.72	9,774.66	95.840	ES
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	4,800.00	16,956.23	9,997.83	9,888.87	91.758	SF
Rampart A33-770 - Rampart A33-770 - APD-Rev 0						Out of range
Sexton 43-21 (PA) - Original Drilling - Original Drilling - As	16,810.78	6,705.00	8,163.51	7,943.93	37.177	CC, ES, SF
Wells Trust 13-21 - Original Drilling - Original Drilling - As						Out of range
Wells Trust 14-21 - Original Drilling - Original Drilling - As						Out of range
Wells Trust 24-21 - Original Drilling - Original Drilling - As						Out of range
A Section 22						
Carpio 22-01 - Original Drilling - Original Drilling - As Drill	16,810.78	6,745.42	2,695.97	2,587.98	24.966	CC, ES, SF
Carpio 22-04-19 - Original Drilling - Original Drilling - As D	16,810.78	6,686.14	4,286.96	4,178.27	39.443	CC, ES, SF
Carpio 22-41 - Original Drilling - Original Drilling - As Drill	16,810.78	6,691.96	3,065.98	2,951.46	26.773	CC, ES, SF
Carpio 22-43 - Original Drilling - Original Drilling - As Drill	16,810.78	6,817.16	3,958.03	3,847.92	35.946	CC, ES, SF
Carpio 22-45 - Original Drilling - Original Drilling - As Drill	16,810.78	6,713.07	3,178.83	3,073.13	30.074	CC, ES, SF
Eisenstat 22-11 (PA) - Original Drilling - Original Drilling -	16,810.78	6,719.00	5,516.56	5,329.80	29.539	CC, ES, SF
Eisenstat 22-13 - Original Drilling - Original Drilling - As D	16,810.78	6,726.61	4,986.05	4,887.64	50.667	CC, ES, SF
Eisenstat 22-15 - Original Drilling - Original Drilling - As D	16,810.78	6,719.45	5,293.64	5,208.65	62.281	CC, ES, SF
Eisenstat 22-21 - Original Drilling - Original Drilling - As D	16,810.78	6,779.03	6,710.55	6,615.68	70.738	CC, ES, SF
Eisenstat 22-23 - Original Drilling - Original Drilling - As D	16,810.78	6,772.97	7,288.42	7,184.65	70.235	CC, ES, SF
Gill Land Assoc. 1 (PA) - Original Drilling - Original Drilling	16,810.78	6,720.00	4,224.85	4,028.85	21.556	CC, ES, SF
Gill Land Assoc. 22-02 (PA) - Original Drilling - Original D	16,810.78	6,730.00	6,182.84	5,970.28	29.088	CC, ES, SF
Gill Land Assoc. 22-03 - Original Drilling - Original Drilling	16,810.78	6,708.17	7,973.21	7,873.83	80.225	CC, ES, SF
Gill Land Assoc. 22-04 (PA) - Original Drilling - Original D	16,810.78	6,728.00	6,090.78	5,891.63	30.585	CC, ES, SF
Gruen 22-01 - Original Drilling - Original Drilling - As Drille	16,100.00	16,100.00	7,107.50	6,973.55	53.059	SF
Gruen 22-01 - Original Drilling - Original Drilling - As Drille	16,810.78	6,697.37	6,860.56	6,752.30	63.369	CC, ES
Gruen 22-02 - Original Drilling - Original Drilling - As Drille	16,810.78	6,525.31	5,287.94	5,178.91	48.503	CC, ES, SF
Gruen 22-31 - Original Drilling - Original Drilling - As Drille	16,810.78	6,749.77	5,618.48	5,511.47	52.506	CC, ES, SF
Gruen 22-33 - Original Drilling - Original Drilling - As Drille	16,810.78	6,901.22	6,548.68	6,437.50	58.899	CC, ES, SF
Gruen 22-35 - Original Drilling - Original Drilling - As Drille	16,810.78	6,595.35	6,039.83	5,930.86	55.424	CC, ES, SF
Ottinger 22-01 - Original Drilling - Original Drilling - As Dr	16,810.78	6,746.02	4,445.92	4,342.67	43.062	CC, ES, SF
A Section 23						
Cecil 23-13 - Original Drilling - Original Drilling - As Drilled	16,810.78	6,682.21	3,823.82	3,765.52	65.584	CC, ES, SF
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	16,810.78	6,679.00	2,538.36	2,349.91	13.470	CC, ES, SF
Champlin 23-03 - Original Drilling - Original Drilling - As D	16,810.78	6,662.85	938.95	881.10	16.231	CC, ES, SF
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	16,810.78	6,654.00	921.20	744.36	5.209	CC, ES, SF
Cooper 23-1-17 - Original Drilling - Original Drilling - As Dr	16,810.78	6,640.54	5,498.19	5,436.21	88.711	CC, ES, SF
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	16,810.78	6,578.94	4,360.54	4,305.47	79.178	CC, ES, SF
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	16,810.78	6,654.17	4,957.36	4,899.21	85.248	CC, ES, SF
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	16,810.78	6,672.70	3,062.24	3,003.55	52.175	CC, ES, SF
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	16,810.78	6,540.01	4,693.70	4,627.40	70.802	CC, ES, SF
Foss 41-23D - Original Drilling - Original Drilling - As Drill	16,810.78	6,850.37	5,503.55	5,430.58	75.419	CC, ES, SF
Foss 42-23 - Original Drilling - Original Drilling - As Drilled	16,810.78	6,645.87	4,186.05	4,109.11	54.410	CC, ES, SF
J&L Farms 23-11 - Original Drilling - Original Drilling - As	16,810.78	6,663.07	4,957.12	4,892.89	77.182	CC, ES, SF
J&L Farms 23-12 - Original Drilling - Original Drilling - As	16,810.78	6,530.17	3,581.78	3,510.58	50.306	CC, ES, SF
J&L Farms 23-21 - Original Drilling - Original Drilling - As	16,810.78	6,612.88	4,899.32	4,846.23	92.280	CC, ES, SF
J&L Farms 23-22 - Original Drilling - Original Drilling - As	16,810.78	6,558.88	3,508.69	3,455.22	65.623	CC, ES, SF
McIntosh 33-23 - Original Drilling - Original Drilling - As D	16,810.78	6,948.14	2,437.26	2,361.83	32.309	CC, ES, SF
McIntosh 34-23 - Original Drilling - Original Drilling - As D	16,810.78	6,646.09	1,796.26	1,698.66	18.404	CC, ES, SF
McIntosh 43-23 - Original Drilling - Original Drilling - As D	16,810.78	6,650.21	3,702.45	3,611.84	40.861	CC, ES, SF
McIntosh 44-23 - Original Drilling - Original Drilling - As D	16,810.78	6,679.35	3,073.58	2,967.06	28.854	CC, ES, SF
Schroeder 23-31 - Original Drilling - Original Drilling - As	16,810.78	6,714.75	1,939.30	1,885.50	36.050	CC, ES, SF
Schroeder 23-33 - Original Drilling - Original Drilling - As	16,810.78	6,687.85	1,503.64	1,397.75	14.200	CC, ES, SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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 24						
Larson A23-622 - Larson A23-622 OH - As-drilled	16,810.78	15,476.80	1,058.73	915.29	7.381	CC, ES, SF
Larson A23-627 - Larson A23-627 OH - As-drilled	16,810.78	15,520.70	1,351.37	1,207.37	9.385	CC, ES, SF
Larson A23-633 - Larson A23-633 OH - As-drilled	16,810.78	15,396.33	1,716.32	1,574.82	12.129	CC, ES, SF
Larson A23-639 - Larson A23-639 OH - As-drilled	16,810.78	15,586.86	2,084.15	1,940.26	14.484	CC, ES, SF
Larson A23-645 - Larson A23-645 OH - As-drilled	16,810.78	16,103.90	2,483.87	2,333.68	16.538	CC, ES, SF
Larson A23-651 - Larson A23-651 OH - As-drilled	16,810.78	16,225.93	2,760.30	2,608.53	18.188	CC, ES, SF
Larson A23-656 - Larson A23-656 OH - As-drilled	16,810.78	16,417.82	3,135.74	2,979.38	20.055	CC, ES, SF
Larson A23-662 - Larson A23-662 OH - As-drilled	16,810.78	16,500.31	3,589.67	3,433.72	23.018	CC, ES, SF
Larson A23-668 - Larson A23-668 OH - As-Drilled	16,810.78	15,425.02	3,893.21	3,752.42	27.653	CC, ES, SF
Larson A23-672 - Larson A23-672 OH - As-Drilled	16,810.78	15,629.92	4,169.31	4,025.71	29.033	CC, ES, SF
Larson A23-678 - Larson A23-678 OH - As-Drilled	16,810.78	15,110.20	4,563.75	4,425.28	32.959	CC, ES, SF
Larson A23-683 - Larson A23-683 OH - As-Drilled	16,810.78	15,496.00	4,846.90	4,704.78	34.105	CC, ES, SF
Larson AA19-618 - Larson AA19-618 OH - As-Drilled	16,810.78	6,090.43	7,870.70	7,767.19	76.041	CC, ES, SF
Larson AA19-624 - Larson AA19-624 OH - As-Drilled	16,810.78	6,235.00	7,995.66	7,893.16	78.011	CC, ES, SF
Larson AA19-624 - Larson AA19-624 ST01 - As-Drilled	16,810.78	6,235.00	7,995.66	7,893.16	78.011	CC, ES, SF
Larson AA19-630 - Larson AA19-630 OH - As-Drilled	16,810.78	6,047.00	7,987.59	7,886.21	78.782	CC, ES, SF
Larson AA19-635 - Larson AA19-635 OH - As-Drilled	16,810.78	6,142.00	8,080.10	7,979.14	80.025	CC, ES, SF
Larson Farms 01-24 - Original Drilling - Original Drilling -	16,810.78	3,617.00	9,269.16	9,177.25	100.849	CC, ES, SF
Larson Farms 02-24 - Original Drilling - Original Drilling -	16,500.00	16,500.00	8,919.77	8,785.78	66.571	SF
Larson Farms 02-24 - Original Drilling - Original Drilling -	16,810.78	6,709.69	8,792.26	8,684.66	81.713	CC, ES
Larson Farms 03-24 - Original Drilling - Original Drilling -	16,810.78	6,728.19	7,096.73	6,989.77	66.344	CC, ES, SF
Larson Farms 04-24 - Original Drilling - Original Drilling -	16,810.78	2,837.24	7,987.69	7,890.99	82.607	CC, ES, SF
Larson Farms 05-24 - Original Drilling - Original Drilling -	16,810.78	6,909.45	7,512.54	7,395.04	63.936	CC, ES, SF
Larson Farms 06-24 - Original Drilling - Original Drilling -	16,810.78	4,873.00	7,840.88	7,721.96	65.933	CC, ES, SF
Larson Farms 07-24 - Original Drilling - Original Drilling -	16,810.78	6,916.64	6,799.59	6,675.17	54.654	CC, ES, SF
Peppler 24-32 - Original Drilling - Original Drilling - As Dri	16,810.78	6,458.83	4,576.02	4,480.24	47.774	CC, ES, SF
Roth 24-21 - Original Drilling - Original Drilling - As Drilled	16,810.78	6,747.02	7,127.34	7,039.79	81.407	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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
A Section 25						
Fairmeadows 03-25G - Original Drilling - Original Drilling	12,477.10	6,654.75	8,028.88	7,952.25	104.777	CC
Fairmeadows 03-25G - Original Drilling - Original Drilling	12,500.00	6,655.02	8,028.91	7,952.10	104.530	ES
Fairmeadows 03-25G - Original Drilling - Original Drilling	16,100.00	6,705.90	8,812.24	8,711.71	87.659	SF
Fairmeadows Land Co 1 - Original Drilling - Original Drilling	13,723.86	6,631.00	8,042.41	7,846.93	41.141	CC
Fairmeadows Land Co 1 - Original Drilling - Original Drilling	13,790.67	6,631.00	8,042.69	7,846.66	41.027	ES
Fairmeadows Land Co 1 - Original Drilling - Original Drilling	15,800.00	6,631.00	8,309.31	8,098.54	39.425	SF
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,387.79	6,659.51	4,219.59	4,084.67	31.274	CC
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,400.00	6,659.80	4,219.61	4,084.57	31.247	ES
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,810.78	6,669.45	4,240.73	4,102.12	30.595	SF
Larsen A25-01 - Original Drilling - Original Drilling - As Dr	16,280.66	6,628.27	8,025.02	7,919.43	76.003	CC
Larsen A25-01 - Original Drilling - Original Drilling - As Dr	16,300.00	6,628.36	8,025.05	7,919.29	75.884	ES
Larsen A25-01 - Original Drilling - Original Drilling - As Dr	16,810.78	6,630.74	8,042.51	7,932.51	73.111	SF
Larsen A25-02 - Original Drilling - Original Drilling - As Dr	16,404.92	6,527.84	6,949.64	6,843.25	65.324	CC
Larsen A25-02 - Original Drilling - Original Drilling - As Dr	16,500.00	6,527.43	6,950.29	6,843.08	64.828	ES
Larsen A25-02 - Original Drilling - Original Drilling - As Dr	16,810.78	6,526.13	6,961.48	6,851.68	63.398	SF
Larsen A25-03 - Original Drilling - Original Drilling - As Dr	16,375.15	6,629.00	5,384.50	5,168.57	24.936	CC
Larsen A25-03 - Original Drilling - Original Drilling - As Dr	16,400.00	6,629.00	5,384.56	5,168.40	24.910	ES
Larsen A25-03 - Original Drilling - Original Drilling - As Dr	16,810.78	6,629.00	5,402.10	5,182.49	24.599	SF
Larsen A25-03X - Original Drilling - Original Drilling - As D	16,551.31	6,588.38	5,159.88	5,052.21	47.922	CC
Larsen A25-03X - Original Drilling - Original Drilling - As D	16,600.00	6,587.48	5,160.11	5,052.00	47.731	ES
Larsen A25-03X - Original Drilling - Original Drilling - As D	16,810.78	6,583.62	5,166.40	5,056.48	47.001	SF
Larsen A25-05 - Original Drilling - Original Drilling - As Dr	15,001.77	6,650.19	4,068.48	3,972.88	42.561	CC, ES
Larsen A25-05 - Original Drilling - Original Drilling - As Dr	15,900.00	6,626.18	4,166.40	4,064.16	40.749	SF
Larsen A25-06 - Original Drilling - Original Drilling - As Dr	15,023.07	6,629.00	5,660.27	5,454.89	27.561	CC
Larsen A25-06 - Original Drilling - Original Drilling - As Dr	15,100.00	6,629.00	5,660.79	5,454.74	27.474	ES
Larsen A25-06 - Original Drilling - Original Drilling - As Dr	16,000.00	6,629.00	5,743.95	5,530.96	26.968	SF
Larsen A25-06X - Original Drilling - Original Drilling - As D	14,972.37	6,541.98	5,299.83	5,200.06	53.123	CC
Larsen A25-06X - Original Drilling - Original Drilling - As D	15,000.00	6,541.81	5,299.91	5,199.93	53.009	ES
Larsen A25-06X - Original Drilling - Original Drilling - As D	16,300.00	6,533.57	5,466.02	5,357.96	50.582	SF
Larsen A25-07 - Original Drilling - Original Drilling - As Dr	15,080.02	6,562.20	6,724.71	6,628.61	69.982	CC
Larsen A25-07 - Original Drilling - Original Drilling - As Dr	15,100.00	6,562.14	6,724.73	6,628.47	69.858	ES
Larsen A25-07 - Original Drilling - Original Drilling - As Dr	16,810.78	6,556.63	6,943.86	6,835.13	63.863	SF
Larsen A25-08 - Original Drilling - Original Drilling - As Dr	15,087.98	6,579.90	8,001.48	7,905.31	83.202	CC
Larsen A25-08 - Original Drilling - Original Drilling - As Dr	15,200.00	6,579.83	8,002.27	7,905.15	82.400	ES
Larsen A25-08 - Original Drilling - Original Drilling - As Dr	16,810.78	6,578.89	8,184.85	8,075.63	74.938	SF
Larsen A25-10 - Original Drilling - Original Drilling - Drilled	13,787.95	6,572.81	6,703.72	6,617.49	77.744	CC
Larsen A25-10 - Original Drilling - Original Drilling - Drilled	13,800.00	6,572.82	6,703.73	6,617.40	77.653	ES
Larsen A25-10 - Original Drilling - Original Drilling - Drilled	16,200.00	6,574.86	7,128.80	7,026.17	69.463	SF
Larsen A25-11 - Original Drilling - Original Drilling - As Dr	13,749.47	6,616.00	5,506.94	5,311.56	28.186	CC
Larsen A25-11 - Original Drilling - Original Drilling - As Dr	13,800.00	6,616.00	5,507.17	5,311.37	28.125	ES
Larsen A25-11 - Original Drilling - Original Drilling - As Dr	14,800.00	6,616.00	5,606.78	5,403.37	27.564	SF
Larsen A25-12 - Original Drilling - Original Drilling - As Dr	13,817.85	6,605.60	3,928.33	3,841.83	45.414	CC, ES
Larsen A25-12 - Original Drilling - Original Drilling - As Dr	14,800.00	6,608.05	4,049.75	3,956.13	43.259	SF
Larsen A25-13 - Original Drilling - Original Drilling - As Dr	12,605.90	6,684.93	4,030.66	3,953.12	51.984	CC, ES
Larsen A25-13 - Original Drilling - Original Drilling - As Dr	13,700.00	6,667.40	4,176.49	4,091.12	48.925	SF
Larsen A25-14 - Original Drilling - Original Drilling - As Dr	12,355.85	6,807.19	5,313.37	5,237.47	70.012	CC
Larsen A25-14 - Original Drilling - Original Drilling - As Dr	12,400.00	6,806.65	5,313.55	5,237.30	69.683	ES
Larsen A25-14 - Original Drilling - Original Drilling - As Dr	14,200.00	6,791.20	5,624.34	5,535.83	63.544	SF
Larsen A25-15 - Original Drilling - Original Drilling - As Dr	12,457.52	6,590.23	6,739.26	6,662.89	88.248	CC
Larsen A25-15 - Original Drilling - Original Drilling - As Dr	12,500.00	6,590.48	6,739.40	6,662.69	87.858	ES
Larsen A25-15 - Original Drilling - Original Drilling - As Dr	15,200.00	6,605.83	7,277.22	7,182.58	76.897	SF
Larsen A25-17 - Original Drilling - Original Drilling - As D	15,648.23	6,579.74	7,471.82	7,371.26	74.302	CC
Larsen A25-17 - Original Drilling - Original Drilling - As D	15,700.00	6,579.86	7,471.99	7,370.99	73.977	ES

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 A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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						
Larson A25-17 - Original Drilling - Original Drilling - As D	16,810.78	6,582.42	7,561.72	7,452.00	68.919	SF
Larson A25-19 - Original Drilling - Original Drilling - As Dr	15,787.52	6,400.01	4,630.38	4,528.86	45.612	CC
Larson A25-19 - Original Drilling - Original Drilling - As Dr	15,800.00	6,400.01	4,630.40	4,528.77	45.561	ES
Larson A25-19 - Original Drilling - Original Drilling - As Dr	16,810.78	6,400.01	4,742.10	4,633.06	43.491	SF
Larson A25-23 - Original Drilling - Original Drilling - As Dr	13,123.64	6,609.00	7,436.30	7,355.00	91.473	CC
Larson A25-23 - Original Drilling - Original Drilling - As Dr	13,200.00	6,609.11	7,436.69	7,354.77	90.784	ES
Larson A25-23 - Original Drilling - Original Drilling - As Dr	16,200.00	6,614.36	8,051.78	7,950.03	79.134	SF
Larson A25-25 - Original Drilling - Original Drilling - As Dr	13,045.84	6,592.25	4,705.83	4,625.11	58.300	CC
Larson A25-25 - Original Drilling - Original Drilling - As Dr	13,100.00	6,592.02	4,706.14	4,624.96	57.973	ES
Larson A25-25 - Original Drilling - Original Drilling - As Dr	14,400.00	6,586.95	4,896.98	4,806.69	54.240	SF
A Section 26						
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	13,780.66	6,621.99	30.01	-59.70	0.334	Level 1, CC, ES, SF
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	13,764.08	6,629.40	1,345.47	1,260.34	15.805	CC, ES
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	13,800.00	6,629.78	1,345.95	1,260.71	15.790	SF
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling -	12,199.69	6,639.76	1,426.74	1,352.11	19.117	CC
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling -	12,200.00	6,639.76	1,426.74	1,352.11	19.117	ES
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling -	12,300.00	6,639.80	1,430.26	1,355.36	19.094	SF
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	12,173.33	6,627.03	262.17	188.02	3.536	CC, ES
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	12,200.00	6,627.61	263.52	188.87	3.530	SF
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,389.63	6,663.99	1,244.37	1,137.73	11.668	CC, ES
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,400.00	6,664.01	1,244.42	1,137.74	11.665	SF
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	14,858.33	6,633.30	1,137.54	1,043.05	12.039	CC, ES
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	14,900.00	6,633.07	1,138.30	1,043.74	12.038	SF
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,221.66	6,618.02	1,433.97	1,328.78	13.632	CC, ES
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,400.00	6,618.61	1,445.02	1,338.25	13.533	SF
DCD Farms 01-26 - Original Drilling - Original Drilling - As	15,004.42	6,666.33	2,725.83	2,630.26	28.522	CC, ES
DCD Farms 01-26 - Original Drilling - Original Drilling - As	15,500.00	6,669.02	2,770.51	2,671.08	27.864	SF
DCD Farms 02-26 (PA) - Original Drilling - Original Drillin	14,980.38	6,632.82	30.00	-65.54	0.314	Level 1, CC, ES, SF
DCD Farms A26-07 - Original Drilling - Original Drilling - A	15,250.32	6,632.68	1,392.60	1,295.09	14.283	CC, ES
DCD Farms A26-07 - Original Drilling - Original Drilling - A	15,400.00	6,635.47	1,400.61	1,301.69	14.159	SF
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	13,704.21	6,642.85	2,732.92	2,647.28	31.913	CC, ES
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	14,200.00	6,638.12	2,777.61	2,688.08	31.025	SF
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	13,738.12	6,613.80	1,412.80	1,326.87	16.442	CC, ES
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	13,900.00	6,612.98	1,422.05	1,334.61	16.263	SF
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	12,349.75	6,680.17	1,236.37	1,161.08	16.421	CC, ES
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	12,500.00	6,682.93	1,245.46	1,168.75	16.237	SF
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,228.63	6,618.00	2,766.06	2,581.90	15.020	CC, ES
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,500.00	6,618.00	2,779.34	2,592.90	14.908	SF
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,254.10	6,606.79	2,783.42	2,677.76	26.342	CC
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,300.00	6,607.43	2,783.80	2,677.68	26.234	ES
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,700.00	6,612.99	2,818.91	2,709.71	25.815	SF
Sidwell A26-03 (PA) - Original Drilling - Original Drilling -	16,430.60	6,908.46	164.17	45.40	1.382	Level 3, CC, ES, SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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	16,328.37	6,735.00	3,831.35	3,613.66	17.600	CC, ES
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	16,600.00	6,735.00	3,840.96	3,621.75	17.522	SF
Howard 03-27 - Original Drilling - Original Drilling - As Dri	16,246.00	6,653.70	5,238.88	5,133.62	49.771	CC
Howard 03-27 - Original Drilling - Original Drilling - As Dri	16,300.00	6,653.40	5,239.16	5,133.54	49.605	ES
Howard 03-27 - Original Drilling - Original Drilling - As Dri	16,810.78	6,650.54	5,269.24	5,160.64	48.519	SF
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	16,358.10	6,695.00	6,481.65	6,264.53	29.853	CC
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	16,400.00	6,695.00	6,481.78	6,264.37	29.814	ES
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	16,810.78	6,695.00	6,497.44	6,277.36	29.523	SF
Howard 08-27 - Original Drilling - Original Drilling - As Dri	14,925.37	6,692.43	2,539.47	2,444.20	26.657	CC, ES
Howard 08-27 - Original Drilling - Original Drilling - As Dri	15,200.00	6,692.15	2,553.87	2,457.46	26.491	SF
Howard 10-27 - Original Drilling - Original Drilling - As Dri	13,610.27	6,680.35	3,766.47	3,681.27	44.208	CC, ES
Howard 10-27 - Original Drilling - Original Drilling - As Dri	14,200.00	6,674.00	3,812.26	3,724.14	43.260	SF
Howard 15-27 - Original Drilling - Original Drilling - As Dri	12,441.77	6,628.20	3,922.91	3,848.79	52.925	CC, ES
Howard 15-27 - Original Drilling - Original Drilling - As Dri	13,200.00	6,641.89	3,995.49	3,917.54	51.256	SF
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,318.05	3,765.00	7,120.41	6,973.87	48.588	CC
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,400.00	3,765.00	7,120.89	6,973.77	48.402	ES
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,810.78	3,765.00	7,137.44	6,987.57	47.623	SF
Howard A27-01 - Original Drilling - Original Drilling - As D	16,323.21	6,694.00	2,503.12	2,396.97	23.579	CC, ES
Howard A27-01 - Original Drilling - Original Drilling - As D	16,500.00	6,693.52	2,509.36	2,402.42	23.465	SF
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	14,945.83	6,690.45	6,473.50	6,378.06	67.826	CC
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	15,000.00	6,690.15	6,473.71	6,377.90	67.568	ES
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	16,700.00	6,680.44	6,703.73	6,598.78	63.878	SF
Howard A27-06 (PR) - Original Drilling - Original Drilling -	14,987.70	6,783.36	5,094.95	4,996.58	51.792	CC
Howard A27-06 (PR) - Original Drilling - Original Drilling -	15,000.00	6,783.38	5,094.95	4,996.48	51.742	ES
Howard A27-06 (PR) - Original Drilling - Original Drilling -	16,200.00	6,785.12	5,234.94	5,128.84	49.339	SF
Howard A27-07 - Original Drilling - Original Drilling - As D	14,915.63	6,748.38	3,745.87	3,650.46	39.264	CC, ES
Howard A27-07 - Original Drilling - Original Drilling - As D	15,500.00	6,745.01	3,790.17	3,691.93	38.579	SF
Howard A27-09 - Original Drilling - Original Drilling - As D	13,549.50	6,675.51	2,638.14	2,553.46	31.151	CC, ES
Howard A27-09 - Original Drilling - Original Drilling - As D	13,800.00	6,673.46	2,650.01	2,564.19	30.878	SF
Howard A27-16 - Original Drilling - Original Drilling - As D	12,277.96	6,667.55	2,359.70	2,284.43	31.351	CC
Howard A27-16 - Original Drilling - Original Drilling - As D	12,300.00	6,667.63	2,359.80	2,284.42	31.306	ES
Howard A27-16 - Original Drilling - Original Drilling - As D	12,500.00	6,668.32	2,370.12	2,293.89	31.092	SF
Howard A27-17D - Original Drilling - Original Drilling - As	15,733.34	6,800.00	3,089.60	2,984.24	29.324	CC, ES
Howard A27-17D - Original Drilling - Original Drilling - As	15,900.00	6,799.87	3,094.09	2,988.22	29.225	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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	16,406.56	6,687.00	9,223.72	9,006.38	42.439	CC
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	16,500.00	6,687.00	9,224.19	9,006.18	42.310	ES
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	16,810.78	6,687.00	9,232.57	9,012.38	41.930	SF
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	14,741.97	6,752.39	7,759.08	7,665.83	83.204	CC
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	14,800.00	6,751.92	7,759.30	7,665.64	82.850	ES
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	16,810.78	6,735.83	8,026.28	7,920.99	76.229	SF
Art Rohr 1 (PA) - Wellbore #1 - No Surveys						Out of range
Danley 1 (TA) - Wellbore #1 - Gyro Surveys						Out of range
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys						Out of range
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	12,210.76	6,714.39	7,972.25	7,897.23	106.272	CC
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	12,300.00	6,715.80	7,972.75	7,897.14	105.447	ES
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	15,400.00	6,755.52	8,584.49	8,491.89	92.705	SF
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	12,822.60	6,655.00	8,304.60	8,115.37	43.886	CC
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	12,900.00	6,655.00	8,304.96	8,115.21	43.768	ES
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	14,800.00	6,655.00	8,536.25	8,334.98	42.412	SF
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	12,855.24	6,704.28	8,296.06	8,216.39	104.130	CC
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	12,900.00	6,704.76	8,296.18	8,216.21	103.736	ES
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	16,200.00	6,747.81	8,940.58	8,842.35	91.024	SF
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	13,350.99	7,500.00	8,852.61	8,707.93	61.188	CC
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	13,500.00	7,500.00	8,853.86	8,706.63	60.136	ES
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	16,810.78	7,500.00	9,498.56	9,306.11	49.357	SF
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,622.10	6,670.00	8,016.09	7,820.60	41.004	CC
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,700.00	6,670.00	8,016.47	7,820.44	40.894	ES
Webster 09-28 (PR) - Original Drilling - Original Drilling -	15,400.00	6,670.00	8,208.87	8,002.49	39.776	SF
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	12,284.73	6,735.74	9,309.34	9,233.69	123.056	CC
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	12,300.00	6,735.73	9,309.35	9,233.60	122.891	ES
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	15,900.00	6,734.13	9,983.27	9,886.90	103.590	SF
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	13,661.56	6,715.23	8,001.10	7,915.37	93.330	CC
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	13,700.00	6,715.35	8,001.19	7,915.20	93.044	ES
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	16,500.00	6,724.30	8,484.39	8,382.81	83.526	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 A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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	100.00	26.92	8,982.31	8,982.13	10,000.000	CC
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	1,500.00	1,400.00	8,988.32	8,978.45	911.082	ES
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	5,400.00	5,273.19	9,969.16	9,931.47	264.505	SF
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	2,000.00	1,948.00	9,004.27	8,958.38	196.186	CC
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	2,100.00	2,047.98	9,006.02	8,957.77	186.672	ES
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	5,200.00	4,981.18	9,966.17	9,847.97	84.320	SF
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	575.88	528.89	7,691.16	7,687.66	2,192.965	CC
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	1,300.00	1,203.91	7,694.02	7,685.56	909.739	ES
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	11,000.00	6,981.33	9,981.70	9,918.34	157.539	SF
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	2,001.28	1,958.79	9,863.86	9,850.24	724.152	CC, ES
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	2,800.00	2,757.14	9,974.82	9,955.67	520.831	SF
French 09-33 (SI) - Original Drilling - Original Drilling - As	1,329.53	1,285.58	6,534.28	6,525.42	737.541	CC
French 09-33 (SI) - Original Drilling - Original Drilling - As	2,024.73	2,036.12	6,535.16	6,521.20	467.952	ES
French 09-33 (SI) - Original Drilling - Original Drilling - As	13,100.00	13,100.00	9,135.48	9,040.89	96.577	SF
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	100.00	30.18	6,288.99	6,288.81	10,000.000	CC
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	1,000.00	911.83	6,293.07	6,286.69	987.564	ES
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	11,700.00	6,361.93	9,086.43	9,023.87	145.244	SF
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	1,071.38	1,024.39	7,068.51	7,061.49	1,008.078	CC
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	1,900.00	1,800.00	7,070.56	7,057.87	557.244	ES
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	12,900.00	6,500.00	9,990.80	9,920.71	142.544	SF
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys						Out of range
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	1,752.56	1,418.19	8,714.05	8,702.80	774.669	CC
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	1,648.50	8,714.32	8,701.39	674.150	ES
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	15,500.00	6,500.00	9,913.30	9,823.06	109.863	SF
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	802.76	771.77	8,725.67	8,720.50	1,687.834	CC
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	1,200.00	1,119.51	8,726.66	8,718.85	1,118.389	ES
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	15,400.00	6,706.63	9,990.88	9,900.47	110.508	SF
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	2,022.04	2,047.80	8,276.36	8,262.28	587.702	CC, ES
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	13,100.00	6,885.14	9,983.70	9,906.91	130.016	SF
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	348.94	324.94	7,640.30	7,638.32	3,862.712	CC
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	2,018.45	2,036.08	7,646.47	7,632.52	548.415	ES
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	14,500.00	6,452.39	8,444.86	8,361.01	100.714	SF
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	100.00	41.05	7,880.35	7,880.15	10,000.000	CC
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	400.00	319.95	7,881.19	7,879.04	3,672.019	ES
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	12,500.00	6,927.02	9,988.22	9,915.97	138.252	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 A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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	846.44	828.44	5,840.60	5,835.07	1,056.405	CC
Barthol A34-05X - Original Drilling - Original Drilling - As D	900.00	852.90	5,840.73	5,834.92	1,005.930	ES
Barthol A34-05X - Original Drilling - Original Drilling - As D	12,600.00	6,600.00	7,183.69	7,111.50	99.507	SF
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	10,831.53	6,690.33	2,433.67	2,368.23	37.189	CC, ES
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	11,100.00	6,689.03	2,448.44	2,381.89	36.790	SF
Howard A34-03 (PA) - Original Drilling - Original Drilling -	10,976.01	6,676.00	5,207.48	5,030.90	29.491	CC
Howard A34-03 (PA) - Original Drilling - Original Drilling -	11,000.00	6,676.00	5,207.53	5,030.82	29.468	ES
Howard A34-03 (PA) - Original Drilling - Original Drilling -	11,800.00	6,676.00	5,272.27	5,091.19	29.116	SF
Howard BC A34-02 - Original Drilling - Original Drilling - A	10,850.35	6,597.07	4,097.86	4,032.97	63.150	CC, ES
Howard BC A34-02 - Original Drilling - Original Drilling - A	11,800.00	6,587.17	4,206.45	4,137.07	60.635	SF
Landwehr A34-03X - Original Drilling - Original Drilling - A	11,141.80	6,731.49	5,268.95	5,201.33	77.921	CC
Landwehr A34-03X - Original Drilling - Original Drilling - A	11,200.00	6,730.73	5,269.27	5,201.31	77.538	ES
Landwehr A34-03X - Original Drilling - Original Drilling - A	12,700.00	6,708.80	5,494.49	5,419.10	72.880	SF
Landwehr A34-04 - Original Drilling - Original Drilling - As	11,157.14	6,829.13	6,756.37	6,688.12	98.992	CC
Landwehr A34-04 - Original Drilling - Original Drilling - As	11,200.00	6,830.53	6,756.50	6,687.98	98.607	ES
Landwehr A34-04 - Original Drilling - Original Drilling - As	13,790.67	6,915.30	7,250.97	7,168.60	88.036	SF
Petrikon A34-05 (PA) - Original Drilling - Original Drilling -	2,000.00	1,981.00	5,844.74	5,798.18	125.541	CC
Petrikon A34-05 (PA) - Original Drilling - Original Drilling -	2,100.00	2,080.98	5,846.29	5,797.38	119.543	ES
Petrikon A34-05 (PA) - Original Drilling - Original Drilling -	10,900.00	6,653.00	6,647.86	6,473.57	38.143	SF
Petrikon A34-06 - Original Drilling - Original Drilling - As D	332.39	315.41	4,755.11	4,753.21	2,508.038	CC
Petrikon A34-06 - Original Drilling - Original Drilling - As D	2,039.43	2,075.81	4,762.06	4,747.91	336.480	ES
Petrikon A34-06 - Original Drilling - Original Drilling - As D	11,400.00	6,755.39	5,474.75	5,408.20	82.262	SF
Petrikon A34-07 (PA) - Original Drilling - Original Drilling -	2,000.00	1,966.00	3,865.70	3,819.45	83.571	CC
Petrikon A34-07 (PA) - Original Drilling - Original Drilling -	9,736.82	6,638.00	3,866.21	3,698.18	23.009	ES
Petrikon A34-07 (PA) - Original Drilling - Original Drilling -	10,100.00	6,638.00	3,883.23	3,713.49	22.878	SF
Petrikon A34-08 - Original Drilling - Original Drilling - As D	9,754.93	6,675.34	2,435.50	2,376.80	41.494	CC, ES
Petrikon A34-08 - Original Drilling - Original Drilling - As D	10,100.00	6,652.96	2,459.75	2,399.91	41.104	SF
Petrikon A34-09 - Original Drilling - Original Drilling - As D	0.00	0.00	2,029.89			
Petrikon A34-09 - Original Drilling - Original Drilling - As D	2,100.00	2,105.68	2,036.07	2,021.60	140.736	ES
Petrikon A34-09 - Original Drilling - Original Drilling - As D	8,800.00	6,625.03	2,437.97	2,385.24	46.237	SF
Petrikon A34-10 - Original Drilling - Original Drilling - As D	0.00	0.00	2,799.93			
Petrikon A34-10 - Original Drilling - Original Drilling - As D	9,300.00	6,521.90	3,771.21	3,717.17	69.786	SF
Petrikon A34-11 - Original Drilling - Original Drilling - As D	1,913.69	1,875.71	4,073.70	4,060.69	313.131	CC
Petrikon A34-11 - Original Drilling - Original Drilling - As D	2,000.00	1,953.60	4,073.81	4,060.22	299.774	ES
Petrikon A34-11 - Original Drilling - Original Drilling - As D	10,300.00	6,642.70	5,488.27	5,429.10	92.756	SF
Petrikon A34-12 (PA) - Original Drilling - Original Drilling -	2,064.78	2,149.20	5,248.31	5,233.82	362.256	CC
Petrikon A34-12 (PA) - Original Drilling - Original Drilling -	2,100.00	2,192.24	5,248.49	5,233.73	355.574	ES
Petrikon A34-12 (PA) - Original Drilling - Original Drilling -	11,400.00	6,934.73	7,056.95	6,991.13	107.208	SF
Petrikon A34-13 - Original Drilling - Original Drilling - As D	1,746.91	1,700.00	5,054.87	5,043.07	428.297	CC
Petrikon A34-13 - Original Drilling - Original Drilling - As D	2,000.00	1,932.83	5,055.57	5,042.05	373.898	ES
Petrikon A34-13 - Original Drilling - Original Drilling - As D	10,200.00	6,532.91	7,212.92	7,156.01	126.738	SF
Petrikon A34-14 (PA) - Original Drilling - Original Drilling -	100.00	48.82	4,014.41	4,014.20	10,000.000	CC
Petrikon A34-14 (PA) - Original Drilling - Original Drilling -	400.00	332.36	4,016.12	4,013.93	1,833.174	ES
Petrikon A34-14 (PA) - Original Drilling - Original Drilling -	9,500.00	6,596.28	6,220.61	6,165.88	113.662	SF
Petrikon A34-15 - Original Drilling - Original Drilling - As D	100.00	57.46	2,433.50	2,433.27	10,000.000	CC
Petrikon A34-15 - Original Drilling - Original Drilling - As D	2,000.29	1,969.59	2,441.34	2,427.69	178.800	ES
Petrikon A34-15 - Original Drilling - Original Drilling - As D	7,500.00	6,572.05	3,884.12	3,835.59	80.038	SF
Petrikon A34-16 (PA) - Original Drilling - Original Drilling -	395.26	377.28	1,126.06	1,123.72	482.592	CC
Petrikon A34-16 (PA) - Original Drilling - Original Drilling -	2,000.00	1,980.13	1,129.63	1,115.95	82.545	ES
Petrikon A34-16 (PA) - Original Drilling - Original Drilling -	7,400.00	6,758.43	2,485.12	2,435.70	50.279	SF
Petrikon A34-25 - Original Drilling - Original Drilling - As D	100.00	37.35	4,465.20	4,465.01	10,000.000	CC
Petrikon A34-25 - Original Drilling - Original Drilling - As D	1,800.00	1,724.17	4,470.04	4,457.96	370.205	ES
Petrikon A34-25 - Original Drilling - Original Drilling - As D	10,200.00	6,488.40	6,231.59	6,174.20	108.573	SF

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Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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 34						
Reveille A33-720 - Reveille A33-720 OH - APD - Rev 1	2,000.00	1,984.00	4,191.11	4,177.30	303.363	CC, ES
Reveille A33-720 - Reveille A33-720 OH - APD - Rev 1	16,810.78	17,576.35	7,784.68	7,611.03	44.830	SF
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	3,008.83	4,449.02	3,934.97	3,909.33	153.473	CC
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	3,052.46	4,492.29	3,935.31	3,909.33	151.490	ES
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	16,810.78	16,817.91	4,245.46	4,073.25	24.652	SF
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,480.56	3,166.74	4,134.02	4,114.64	213.351	CC
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,500.00	3,186.10	4,134.08	4,114.57	211.865	ES
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	16,810.78	16,626.69	4,954.39	4,782.38	28.803	SF
Reveille A34-768 - Reveille A34-768 OH - APD - Rev 1	2,000.00	1,983.00	4,184.29	4,170.48	302.948	CC, ES
Reveille A34-768 - Reveille A34-768 OH - APD - Rev 1	16,810.78	16,558.98	5,660.85	5,488.16	32.781	SF
Reveille A34-778 - Reveille A34-778 OH - APD - Rev 1	2,000.00	1,983.00	4,185.53	4,171.71	303.037	CC, ES
Reveille A34-778 - Reveille A34-778 OH - APD - Rev 1	16,810.78	16,607.30	6,369.53	6,197.92	37.117	SF
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	2,000.00	1,984.00	4,189.65	4,175.84	303.257	CC, ES
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	16,810.78	17,226.69	7,076.10	6,902.40	40.737	SF
A Section 35						
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	8,507.64	6,656.86	1,484.46	1,432.29	28.459	CC, ES
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	8,600.00	6,649.17	1,487.31	1,434.99	28.426	SF
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	2,538.59	2,529.35	192.22	174.74	10.995	CC
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	2,600.00	2,589.63	192.57	174.66	10.753	ES
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	2,800.00	2,783.58	201.07	181.77	10.419	SF
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	7,118.25	6,591.74	35.23	-12.97	0.731	Level 1, CC, ES, SF
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	8,254.67	6,654.80	1,700.12	1,649.22	33.401	CC, ES
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	8,500.00	6,646.00	1,717.71	1,665.58	32.948	SF
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	7,300.96	6,566.73	1,582.54	1,534.05	32.639	CC, ES
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	7,400.00	6,571.48	1,585.63	1,536.97	32.584	SF
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	7,133.52	6,633.27	2,910.87	2,862.60	60.312	CC, ES
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	7,600.00	6,647.98	2,948.94	2,899.70	59.886	SF
Reveille A34-714 - Reveille A34-714 OH - APD - Rev 1	2,000.00	2,002.00	66.81	52.93	4.813	CC, ES, SF
Reveille A34-725 - Reveille A34-725 OH - APD - Rev 1	2,000.00	2,003.00	91.86	77.98	6.616	CC, ES
Reveille A34-725 - Reveille A34-725 OH - APD - Rev 1	2,100.00	2,099.69	95.39	80.83	6.550	SF
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	2,000.00	2,004.00	114.13	100.24	8.218	CC, ES
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	2,100.00	2,099.90	117.68	103.12	8.081	SF
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	2,000.00	2,000.00	22.27	8.40	1.605	CC, ES
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	2,100.00	2,098.83	23.11	8.56	1.588	SF
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	2,284.11	2,287.31	22.15	6.37	1.404	Level 3, CC
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	2,500.00	2,504.82	22.48	5.33	1.311	Level 3, ES, SF
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	2,000.00	2,002.00	44.54	30.66	3.209	CC, ES
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	2,100.00	2,101.98	46.28	31.69	3.173	SF
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	11,082.91	6,621.61	1,428.78	1,362.09	21.425	CC
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	11,100.00	6,621.93	1,428.88	1,362.02	21.373	ES
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	11,300.00	6,625.58	1,445.17	1,376.64	21.088	SF
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	9,564.08	6,583.85	1,520.55	1,463.26	26.540	CC, ES
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	9,800.00	6,590.23	1,538.73	1,479.73	26.080	SF
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	10,859.25	6,619.09	70.03	4.90	1.075	Level 2, CC, ES, SF
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	11,175.38	6,614.51	1,222.62	1,155.42	18.194	CC, ES
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	11,200.00	6,615.27	1,222.87	1,155.59	18.177	SF
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	9,726.71	6,618.16	1,286.01	1,225.94	21.408	CC, ES
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	9,800.00	6,614.66	1,288.09	1,227.90	21.400	SF
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	9,750.00	6,620.73	94.33	36.36	1.627	CC, ES, SF
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	10,172.71	6,615.01	530.70	470.00	8.743	CC, ES, SF

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Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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
A Section 36						
Devries State A36-17 (Exist.) - Wellbore #1 - Wellbore #1	10,405.03	6,629.49	7,424.82	7,331.79	79.814	CC, ES
Devries State A36-17 (Exist.) - Wellbore #1 - Wellbore #1	13,300.00	6,502.84	7,968.23	7,858.04	72.311	SF
Devries State A36-21 - Wellbore #1 - Wellbore #1 - As Dr	8,884.37	6,717.98	5,890.84	5,836.95	109.303	CC
Devries State A36-21 - Wellbore #1 - Wellbore #1 - As Dr	8,900.00	6,718.26	5,890.86	5,836.89	109.140	ES
Devries State A36-21 - Wellbore #1 - Wellbore #1 - As Dr	11,900.00	6,771.35	6,617.65	6,546.46	92.970	SF
Devries State A36-23 - Wellbore #1 - Wellbore #1 - As Dr	7,889.19	6,565.64	7,405.70	7,356.01	149.035	CC
Devries State A36-23 - Wellbore #1 - Wellbore #1 - As Dr	7,900.00	6,565.55	7,405.71	7,355.99	148.939	ES
Devries State A36-23 - Wellbore #1 - Wellbore #1 - As Dr	12,600.00	6,533.35	8,776.95	8,703.27	119.115	SF
Devries State A36-25 - Wellbore #1 - Wellbore #1 - As Dr	7,782.32	6,584.52	4,714.05	4,664.58	95.291	CC
Devries State A36-25 - Wellbore #1 - Wellbore #1 - As Dr	7,800.00	6,584.33	4,714.08	4,664.56	95.197	ES
Devries State A36-25 - Wellbore #1 - Wellbore #1 - As Dr	10,000.00	6,561.77	5,209.59	5,149.95	87.354	SF
Scholfield A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A	10,415.66	6,687.18	4,557.52	4,495.07	72.985	CC, ES
Scholfield A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A	13,900.00	13,900.00	5,736.23	5,630.69	54.350	SF
Scholfield A36-20 - Wellbore #1 - Wellbore #1 - As Drilled	9,156.37	6,561.87	4,564.40	4,509.46	83.084	CC
Scholfield A36-20 - Wellbore #1 - Wellbore #1 - As Drilled	9,200.00	6,561.89	4,564.61	4,509.42	82.708	ES
Scholfield A36-20 - Wellbore #1 - Wellbore #1 - As Drilled	11,000.00	6,562.65	4,922.68	4,856.86	74.794	SF
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	11,159.32	6,642.91	3,938.30	3,871.02	58.536	CC
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	11,200.00	6,641.23	3,938.51	3,870.91	58.261	ES
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	12,400.00	6,602.00	4,128.93	4,053.20	54.520	SF
Scholfield State A36-69HN - Original Drilling - Original Dr	11,655.57	6,080.01	3,997.07	3,928.66	58.428	CC
Scholfield State A36-69HN - Original Drilling - Original Dr	11,700.00	6,080.01	3,997.31	3,928.54	58.125	ES
Scholfield State A36-69HN - Original Drilling - Original Dr	12,800.00	6,094.47	4,157.52	4,081.20	54.472	SF
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	6,800.00	10,428.00	3,353.46	3,248.02	31.807	SF
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	8,200.00	9,267.02	3,270.16	3,180.32	36.398	ES
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	10,503.66	6,938.16	3,258.33	3,190.23	47.848	CC
Sinjin E 36-9 (SI) - Wellbore #1 - No Surveys						Out of range
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	9,776.83	6,632.25	4,056.30	3,997.83	69.373	CC
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	9,800.00	6,632.13	4,056.37	3,997.74	69.191	ES
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	11,200.00	6,624.96	4,298.72	4,231.25	63.716	SF
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled	9,652.74	6,597.20	5,351.29	5,293.60	92.767	CC
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled	9,700.00	6,596.12	5,351.50	5,293.51	92.292	ES
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled	12,000.00	6,540.72	5,843.20	5,771.21	81.163	SF
State A36-07 - Wellbore #1 - Wellbore #1 - As Drilled	9,982.35	6,595.41	6,704.47	6,644.85	112.446	CC
State A36-07 - Wellbore #1 - Wellbore #1 - As Drilled	10,000.00	6,595.40	6,704.49	6,644.75	112.229	ES
State A36-07 - Wellbore #1 - Wellbore #1 - As Drilled	13,300.00	6,593.06	7,480.43	7,400.31	93.366	SF
State A36-08 - Wellbore #1 - Wellbore #1 - As Drilled	9,605.21	6,386.32	8,031.86	7,975.47	142.449	CC
State A36-08 - Wellbore #1 - Wellbore #1 - As Drilled	9,700.00	6,385.08	8,032.42	7,975.46	141.012	ES
State A36-08 - Wellbore #1 - Wellbore #1 - As Drilled	14,200.00	6,342.47	9,253.12	9,169.22	110.280	SF
State A36-09 - Wellbore #1 - Wellbore #1 - As Drilled	8,408.21	6,726.40	8,028.51	7,976.65	154.832	CC, ES
State A36-09 - Wellbore #1 - Wellbore #1 - As Drilled	13,500.00	6,715.42	9,507.00	9,427.25	119.206	SF
State A36-10 - Wellbore #1 - Wellbore #1 - As Drilled	8,376.56	6,721.77	6,714.64	6,662.94	129.884	CC
State A36-10 - Wellbore #1 - Wellbore #1 - As Drilled	8,400.00	6,721.12	6,714.68	6,662.89	129.645	ES
State A36-10 - Wellbore #1 - Wellbore #1 - As Drilled	12,100.00	6,556.22	7,676.84	7,605.27	107.264	SF
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled	8,341.76	6,704.08	5,387.85	5,336.35	104.628	CC, ES
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled	11,000.00	6,593.48	6,007.43	5,942.05	91.880	SF
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	8,416.85	6,653.12	4,009.80	3,958.15	77.643	CC, ES
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	10,000.00	6,650.19	4,311.01	4,251.07	71.923	SF
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,199.96	6,562.25	4,024.35	3,976.11	83.425	CC
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,200.00	6,562.26	4,024.35	3,976.11	83.425	ES
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	8,800.00	6,583.87	4,328.00	4,274.33	80.636	SF
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled	7,148.68	6,601.27	5,374.94	5,217.59	34.159	CC
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled	7,200.00	6,610.93	5,375.18	5,217.55	34.100	ES
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled	7,600.00	6,618.00	5,393.75	5,235.21	34.022	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 A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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						
State A36-15 - Wellbore #1 - Wellbore #1 - As Drilled	7,128.51	6,568.08	6,781.62	6,733.69	141.479	CC
State A36-15 - Wellbore #1 - Wellbore #1 - As Drilled	7,150.00	6,573.73	6,781.65	6,733.66	141.311	ES
State A36-15 - Wellbore #1 - Wellbore #1 - As Drilled	11,500.00	6,597.74	8,063.18	7,996.10	120.220	SF
State A36-16 - Wellbore #1 - Wellbore #1 - As Drilled	7,081.92	6,580.37	8,030.99	7,982.97	167.240	CC
State A36-16 - Wellbore #1 - Wellbore #1 - As Drilled	7,100.00	6,586.70	8,031.00	7,982.93	167.049	ES
State A36-16 - Wellbore #1 - Wellbore #1 - As Drilled	12,700.00	6,588.46	9,797.37	9,723.72	133.019	SF
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1	11,042.20	6,470.45	5,411.03	5,344.62	81.477	CC
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1	11,100.00	6,469.53	5,411.34	5,344.49	80.950	ES
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1	13,200.00	6,437.05	5,825.25	5,744.78	72.386	SF
State A36-99HZ - Original Drilling - As Drilled	11,420.35	6,194.01	3,982.50	3,914.98	58.982	CC, ES
State A36-99HZ - Original Drilling - As Drilled	12,600.00	6,163.01	4,153.25	4,077.67	54.947	SF
AA Section 30						
Shadow A26-622 - Original Drilling - Original Drilling - As	12,391.33	17,520.00	1,446.97	1,364.62	17.570	CC
Shadow A26-622 - Original Drilling - Original Drilling - As	12,400.00	17,520.00	1,447.00	1,364.54	17.547	ES
Shadow A26-622 - Original Drilling - Original Drilling - As	13,200.00	17,520.00	1,657.62	1,545.57	14.794	SF
Shadow A26-627 - Original Drilling - Original Drilling - As	12,784.33	17,590.00	1,308.83	1,223.33	15.308	CC
Shadow A26-627 - Original Drilling - Original Drilling - As	12,800.00	17,590.00	1,308.93	1,223.24	15.275	ES
Shadow A26-627 - Original Drilling - Original Drilling - As	13,600.00	17,590.00	1,542.19	1,417.25	12.343	SF
Shadow A26-632 - Original Drilling - Original Drilling - As	13,084.40	17,781.00	1,326.27	1,242.26	15.787	CC
Shadow A26-632 - Original Drilling - Original Drilling - As	13,100.00	17,781.00	1,326.36	1,241.89	15.702	ES
Shadow A26-632 - Original Drilling - Original Drilling - As	14,000.00	17,781.00	1,611.64	1,469.53	11.341	SF
Shadow A26-637 - Original Drilling - Original Drilling - As	13,370.13	17,626.00	1,312.42	1,229.64	15.855	CC
Shadow A26-637 - Original Drilling - Original Drilling - As	13,400.00	17,626.00	1,312.76	1,228.99	15.672	ES
Shadow A26-637 - Original Drilling - Original Drilling - As	14,200.00	17,626.00	1,552.86	1,413.52	11.144	SF
Shadow A26-646 - Original Drilling - Original Drilling - As	14,048.77	17,659.00	1,314.40	1,225.28	14.748	CC
Shadow A26-646 - Original Drilling - Original Drilling - As	14,100.00	17,659.00	1,315.40	1,224.90	14.535	ES
Shadow A26-646 - Original Drilling - Original Drilling - As	14,900.00	17,659.00	1,566.29	1,423.09	10.938	SF
Shadow A26-656 - Original Drilling - Original Drilling - As	14,690.29	17,347.00	1,688.84	1,589.62	17.022	CC
Shadow A26-656 - Original Drilling - Original Drilling - As	14,700.00	17,347.00	1,688.87	1,589.50	16.997	ES
Shadow A26-656 - Original Drilling - Original Drilling - As	15,600.00	17,347.00	1,919.50	1,790.62	14.893	SF
Shadow A26-663 - Original Drilling - Original Drilling - As	15,243.85	17,466.00	1,543.96	1,439.68	14.806	CC, ES
Shadow A26-663 - Original Drilling - Original Drilling - As	16,000.00	17,466.00	1,719.18	1,588.15	13.121	SF
Shadow A26-672 - Original Drilling - Original Drilling - As	15,736.78	17,710.00	1,306.79	1,205.06	12.846	CC
Shadow A26-672 - Original Drilling - Original Drilling - As	15,800.00	17,710.00	1,308.32	1,204.63	12.618	ES
Shadow A26-672 - Original Drilling - Original Drilling - As	16,500.00	17,710.00	1,513.34	1,363.00	10.066	SF
Shadow A26-676 - Original Drilling - Original Drilling - As	16,022.66	17,725.00	1,318.43	1,208.73	12.018	CC, ES
Shadow A26-676 - Original Drilling - Original Drilling - As	16,700.00	17,725.00	1,482.25	1,342.61	10.615	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	15,600.00	17,810.00	1,735.04	1,424.19	5.582	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	16,400.00	17,810.00	1,368.37	1,194.86	7.887	ES
Shadow A26-685 - Original Drilling - Original Drilling - As	16,711.20	17,810.00	1,332.51	1,218.10	11.646	CC
Shadow A26-690 - Original Drilling - Original Drilling - As	16,300.00	17,780.00	1,454.11	1,317.50	10.644	SF
Shadow A26-690 - Original Drilling - Original Drilling - As	16,810.78	17,780.00	1,312.07	1,199.12	11.617	CC, ES
Shadow State A26-614 - Original Drilling - Original Drilling	11,854.86	17,675.00	1,315.29	1,236.48	16.688	CC
Shadow State A26-614 - Original Drilling - Original Drilling	11,900.00	17,675.00	1,316.07	1,236.22	16.483	ES
Shadow State A26-614 - Original Drilling - Original Drilling	12,600.00	17,675.00	1,511.70	1,402.41	13.832	SF
Shadow State A26-618 - Original Drilling - Original Drilling	12,102.08	17,415.00	1,479.88	1,399.70	18.456	CC, ES
Shadow State A26-618 - Original Drilling - Original Drilling	13,000.00	17,415.00	1,730.98	1,612.38	14.595	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 A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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						
BB Section 01						
Wells Ranch 14-01 - Original Drilling - Original Drilling - A						Out of range
Wells Ranch 23-01 - Original Drilling - Original Drilling - A						Out of range
Wells Ranch 24-01 - Original Drilling - Original Drilling - A						Out of range
Wells Ranch USX BB01-01 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-02 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-03 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-04 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-05 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-06 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-07 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-08 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-09 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-10 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-12 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-15 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-16 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-17 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-19 - Original Drilling - Original D						Out of range
Wells Ranch USX BB01-23 - Original Drilling - Original D						Out of range
BB Section 02						
Wells Ranch 11-2 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch 12-2 SI - Wellbore #1 - No Surveys						Out of range
Wells Ranch 13-2 - No Surveys - No Surveys						Out of range
Wells Ranch 14-2 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch 21-2 SI - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch 22-2 SI - Wellbore #1 - No Surveys						Out of range
Wells Ranch 23-2 - Wellbore #1 - No Surveys						Out of range
Wells Ranch 24-2 - Wellbore #1 - No Surveys						Out of range
Wells Ranch 31-2 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch 32-2 - Wellbore #1 - No Surveys						Out of range
Wells Ranch 33-2 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch 34-2 SI - Wellbore #1 - No Surveys						Out of range
Wells Ranch 41-2 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch 42-2 SI - Wellbore #1 - No Surveys						Out of range
Wells Ranch 43-2 TA - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch 44-2 - Wellbore #1 - No Surveys						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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						
BB Section 03						
UPRR Pan Am 1 (PA) - Original Drilling - Original Drilling						Out of range
Wells 43-3 PA - Wellbore #1 - No Surveys						Out of range
Wells 34-3 - Wellbore #1 - Gyro Surveys						Out of range
Wells Rach USX BB 3-14 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch 12-03 - Original Drilling - Original Drilling - A						Out of range
Wells Ranch 21-3 TA - Wellbore #1 - No Surveys						Out of range
Wells Ranch 32-3 SI - Wellbore #1 - No Surveys						Out of range
Wells Ranch 41-3 - Wellbore #1 - No Surveys						Out of range
WELLS RANCH BB03-627 - Wellbore #1 - Plan #2						Out of range
WELLS RANCH BB03-651 - Wellbore #1 - Plan #4						Out of range
WELLS RANCH STATE BB03-620 - Wellbore #1 - Plan #						Out of range
WELLS RANCH STATE BB03-636 - Wellbore #1 - Plan #						Out of range
WELLS RANCH STATE BB03-643 - Wellbore #1 - Plan #						Out of range
WELLS RANCH STATE BB03-659 - Wellbore #1 - Plan #						Out of range
WELLS RANCH STATE BB03-668 - Wellbore #1 - Plan #						Out of range
WELLS RANCH STATE BB03-676 - Wellbore #1 - Plan #						Out of range
WELLS RANCH STATE BB03-684 - Wellbore #1 - Plan #						Out of range
Wells Ranch State BB05-613 - Original Drilling - Original						Out of range
Wells Ranch State BB05-617 - Original Drilling - Original						Out of range
Wells Ranch State BB05-625 - Original Drilling - Original						Out of range
Wells Ranch State BB05-630 - Original Drilling - Original						Out of range
Wells Ranch State BB05-635 - Original Drilling - Original						Out of range
Wells Ranch State BB05-644 - Original Drilling - Original						Out of range
Wells Ranch State BB05-650 - Original Drilling - Original						Out of range
Wells Ranch State BB05-656 - Original Drilling - Original						Out of range
Wells Ranch State BB05-665 - Original Drilling - Original						Out of range
Wells Ranch State BB05-669 - Original Drilling - Original						Out of range
Wells Ranch State BB05-678 - Original Drilling - Original						Out of range
Wells Ranch State BB05-685 - Original Drilling - Original						Out of range
Wells Ranch State BB05-690 - Original Drilling - Original						Out of range
Wells Ranch USX BB 3-10 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch USX BB 3-11 SI - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch USX BB 3-16 SI - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch USX BB 3-2 SI - Wellbore #1 - No Surveys						Out of range
Wells Ranch USX BB 3-4 - Wellbore #1 - No Surveys						Out of range
Wells Ranch USX BB 3-6 SI - Wellbore #1 - Gyro Survey						Out of range
Wells Ranch USX BB 3-8 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch USX BB03-04 - Original Drilling - Original D						Out of range
Wells Ranch USX BB03-12 - Original Drilling - Original D						Out of range
Wells Ranch USX BB03-13 - Original Drilling - Original D						Out of range
Wells Ranch USX BB03-25 PA - Original Drilling - Gyro S						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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						
BB Section 04						
State 11-04 - Original Drilling - Original Drilling - As Drille						Out of range
State 12-04 - Original Drilling - Original Drilling - As Drille						Out of range
State 13-04 - Original Drilling - Original Drilling - As Drille						Out of range
State 21-04 - Original Drilling - Original Drilling - As Drille						Out of range
State 22-04 - Original Drilling - Original Drilling - As Drille						Out of range
State 23-04 - Original Drilling - Original Drilling - As Drille						Out of range
State 24-04 - Original Drilling - Original Drilling - As Drille						Out of range
State 31-04 (SI) - Original Drilling - Original Drilling - As D						Out of range
State 32-04 - Original Drilling - Original Drilling - As Drille						Out of range
State 33-04 - Original Drilling - Original Drilling - As Drille						Out of range
State 41-04 (SI) - Original Drilling - Original Drilling - As D						Out of range
State 42-04 (SI) - Original Drilling - Original Drilling - As D						Out of range
State Lease 34-04 (PA) - Original Drilling - Original Drillin						Out of range
State Wells 14-04 - Original Drilling - Original Drilling - As						Out of range
State Wells 44-04 - Original Drilling - Original Drilling - As						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A35-762
Project:	Wells Ranch	TVD Reference:	KB @ 4677.00ft
Reference Site:	A Section 35	MD Reference:	KB @ 4677.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A35-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A35-762 OH	Database:	EDMP
Reference Design:	APD - Rev 2	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						
BB Section 05						
UPV 05-03H3 - Original Drilling - Original Drilling - As Dri						Out of range
UPV 05-04H3 - Original Drilling - Original Drilling - As Dri						Out of range
UPV 05-05H3 - Original Drilling - Original Drilling - As Dri						Out of range
UPV 05-06H3 - Original Drilling - Original Drilling - As Dri						Out of range
Wells Ranch 31-05 - Original Drilling - Original Drilling - A						Out of range
Wells Ranch 32-05 - Original Drilling - Original Drilling - A						Out of range
Wells Ranch 41-05 - Original Drilling - Original Drilling - A						Out of range
Wells Ranch 42-05 - Original Drilling - Original Drilling - A						Out of range
Wells Ranch BB01-611 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-615 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-624 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-624 - Original Drilling - ST01 - ST01 -						Out of range
Wells Ranch BB01-638 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-649 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-655 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-669 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-675 - Original Drilling - Original Drillin						Out of range
Wells Ranch State AA32-717 - Wellbore #1 - Plan #3						Out of range
Wells Ranch State AA32-724 - Wellbore #1 - Plan #3						Out of range
Wells Ranch State AA32-731 - Wellbore #1 - Plan #3						Out of range
Wells Ranch State AA32-737 - Wellbore #1 - Plan #3						Out of range
Wells Ranch State AA32-745 - Wellbore #1 - Plan #3						Out of range
Wells Ranch State AA32-751 - Wellbore #1 - Plan #3						Out of range
Wells Ranch State AA32-763 - Wellbore #1 - Plan #2						Out of range
Wells Ranch State AA32-770 - Wellbore #1 - Plan #3						Out of range
Wells Ranch State AA32-775 - Wellbore #1 - Plan #3						Out of range
Wells Ranch State AA32-783 - Wellbore #1 - Plan #3						Out of range
Wells Ranch State AA32-789 - Wellbore #1 - Plan #3						Out of range
Wells Ranch State BB01-690 - Original Drilling - Original						Out of range
Wells Ranch USX BB05-09 - Original Drilling - Original D						Out of range
Wells Ranch USX BB05-10 - Original Drilling - Original D						Out of range
Wells Ranch USX BB05-11 - Original Drilling - Original Dr						Out of range
Wells Ranch USX BB05-12 - Original Drilling - Original D						Out of range
Wells Ranch USX BB05-13 - Original Drilling - Original D						Out of range
Wells Ranch USX BB05-14 - Original Drilling - Original D						Out of range
Wells Ranch USX BB05-15 - Original Drilling - Original D						Out of range
Wells Ranch USX BB05-16 - Original Drilling - Original D						Out of range
Wells Ranch USX BB05-23 - Original Drilling - Original D						Out of range
Wells Ranch USX BB05-25 - Original Drilling - Original D						Out of range