

Project: Wells Ranch
Site: A Section 34
Well: Reveille A34-746
Wellbore: Reveille A34-746 OH
Design: APD - Rev 1

Northern Region - DJ Basin

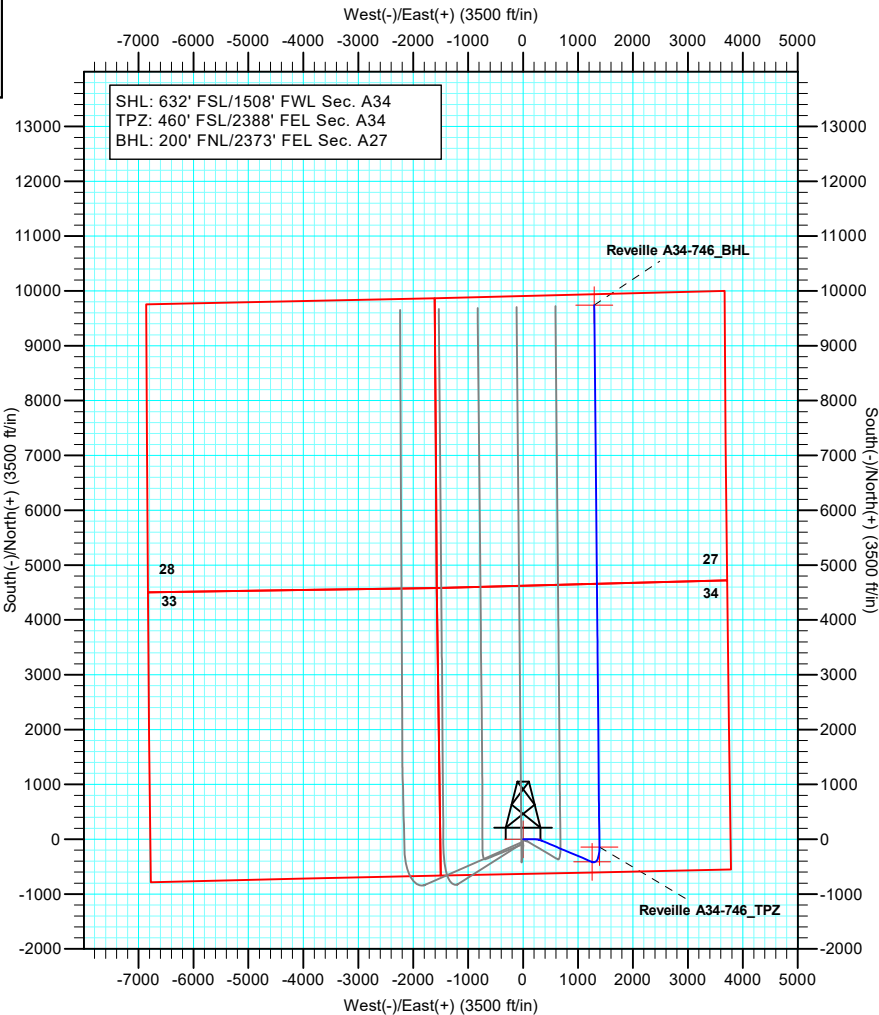
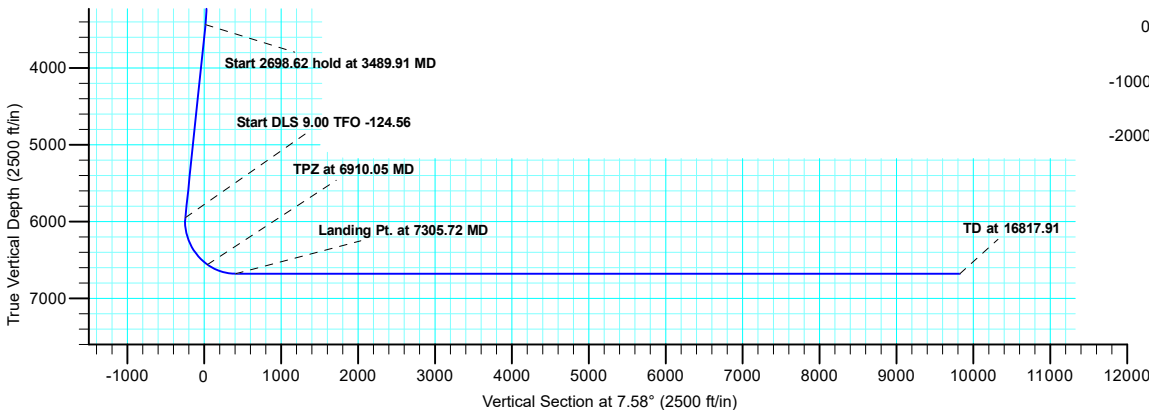
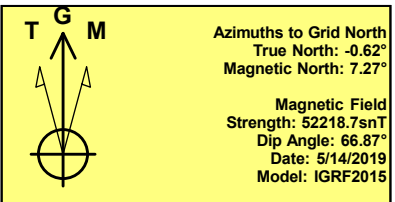
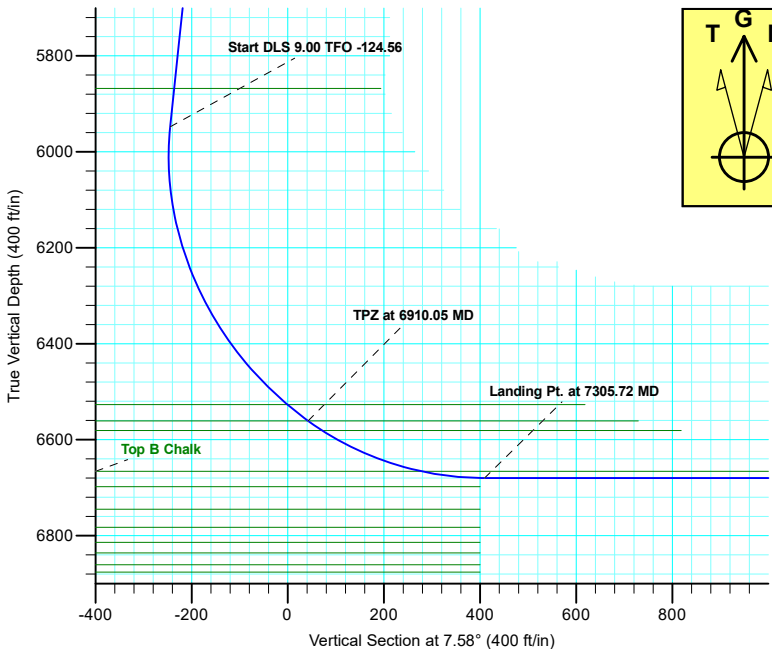
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	3073.50	21.47	90.00	3048.55	0.00	198.79	2.00	90.00	26.23
4	3489.91	21.47	112.89	3436.75	-29.69	345.45	2.00	100.68	16.16
5	6188.52	21.47	112.89	5948.15	-413.78	1255.32	0.00	0.00	-244.51
6	6910.05	54.39	359.47	6561.00	-142.12	1388.83	9.00	-124.56	42.40
7	7305.72	90.00	359.47	6680.05	228.55	1385.38	9.00	0.00	409.37
8	16817.91	90.00	359.47	6680.00	9740.32	1296.69	0.00	0.00	9826.26

WELL DETAILS: Reveille A34-746

+N/-S	+E/-W	Ground Level: Northing	Ground Level: Easting	Ground Level: Latitude	Ground Level: Longitude	Slot
0.00	0.00	1403575.95	3267123.18	40.4372500	-104.5403400	



Plan: APD - Rev 1 (Reveille A34-746/Reveille A34-746 OH)

Created By: Shelly C. Peterkin Date: 11:14, July 22 2019

Northern Region - DJ Basin

Wells Ranch

A Section 34

Reveille A34-746

Reveille A34-746 OH

Plan: APD - Rev 1

Standard Planning Report

22 July, 2019

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A34-746
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Project:	Wells Ranch	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-746 OH		
Design:	APD - Rev 1		

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

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

Well	Reveille A34-746			
Well Position	+N/-S	200.32 ft	Northing:	1,403,575.95 usft
	+E/-W	-4.95 ft	Easting:	3,267,123.18 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	4,631.00 ft

Wellbore	Reveille A34-746 OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/14/2019	7.89	66.87	52,218.67110503

Design	APD - Rev 1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	7.58

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	
3,073.50	21.47	90.00	3,048.55	0.00	198.79	2.00	2.00	0.00	90.00	
3,489.91	21.47	112.89	3,436.75	-29.69	345.45	2.00	0.00	5.50	100.68	
6,188.52	21.47	112.89	5,948.15	-413.78	1,255.32	0.00	0.00	0.00	0.00	
6,910.05	54.39	359.47	6,561.00	-142.12	1,388.83	9.00	4.56	-15.72	-124.56	Reveille A34-746_TP;
7,305.72	90.00	359.47	6,680.05	228.55	1,385.38	9.00	9.00	0.00	0.00	
16,817.91	90.00	359.47	6,680.00	9,740.32	1,296.69	0.00	0.00	0.00	0.00	Reveille A34-746_BH

Noble Energy, Inc.

Planning Report

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Project:	Wells Ranch	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-746 OH		
Design:	APD - Rev 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
279.00	0.00	0.00	279.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
396.00	0.00	0.00	396.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,439.00	0.00	0.00	1,439.00	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	90.00	2,099.98	0.00	1.75	0.23	2.00	2.00	0.00
2,200.00	4.00	90.00	2,199.84	0.00	6.98	0.92	2.00	2.00	0.00
2,300.00	6.00	90.00	2,299.45	0.00	15.69	2.07	2.00	2.00	0.00
2,400.00	8.00	90.00	2,398.70	0.00	27.88	3.68	2.00	2.00	0.00
2,500.00	10.00	90.00	2,497.47	0.00	43.52	5.74	2.00	2.00	0.00
2,600.00	12.00	90.00	2,595.62	0.00	62.60	8.26	2.00	2.00	0.00
2,700.00	14.00	90.00	2,693.06	0.00	85.10	11.23	2.00	2.00	0.00
2,800.00	16.00	90.00	2,789.64	0.00	110.98	14.64	2.00	2.00	0.00
2,900.00	18.00	90.00	2,885.27	0.00	140.21	18.50	2.00	2.00	0.00
3,000.00	20.00	90.00	2,979.82	0.00	172.77	22.80	2.00	2.00	0.00
3,073.50	21.47	90.00	3,048.55	0.00	198.79	26.23	2.00	2.00	0.00
Start DLS 2.00 TFO 100.68									
3,100.00	21.38	91.43	3,073.22	-0.12	208.47	27.39	2.00	-0.35	5.39
3,200.00	21.14	96.91	3,166.43	-2.74	244.59	29.56	2.00	-0.24	5.48
3,300.00	21.08	102.46	3,259.72	-8.79	280.06	28.24	2.00	-0.06	5.55
3,400.00	21.21	108.00	3,353.00	-18.26	314.83	23.44	2.00	0.12	5.54
3,489.91	21.47	112.89	3,436.75	-29.69	345.45	16.16	2.00	0.29	5.44
Start 2698.62 hold at 3489.91 MD									
3,500.00	21.47	112.89	3,446.15	-31.12	348.85	15.18	0.00	0.00	0.00
3,600.00	21.47	112.89	3,539.21	-45.36	382.57	5.53	0.00	0.00	0.00
3,600.85	21.47	112.89	3,540.00	-45.48	382.86	5.44	0.00	0.00	0.00
Parkman									
3,700.00	21.47	112.89	3,632.27	-59.59	416.29	-4.13	0.00	0.00	0.00
3,800.00	21.47	112.89	3,725.33	-73.82	450.00	-13.79	0.00	0.00	0.00
3,900.00	21.47	112.89	3,818.40	-88.05	483.72	-23.45	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

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Project:	Wells Ranch	MD Reference:	KB @ 4661.00ft (Original Well Elev)
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Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-746 OH		
Design:	APD - Rev 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,000.00	21.47	112.89	3,911.46	-102.29	517.44	-33.11	0.00	0.00	0.00
4,100.00	21.47	112.89	4,004.52	-116.52	551.15	-42.77	0.00	0.00	0.00
4,200.00	21.47	112.89	4,097.58	-130.75	584.87	-52.43	0.00	0.00	0.00
4,300.00	21.47	112.89	4,190.65	-144.99	618.59	-62.09	0.00	0.00	0.00
4,348.74	21.47	112.89	4,236.00	-151.92	635.02	-66.80	0.00	0.00	0.00
Sussex									
4,400.00	21.47	112.89	4,283.71	-159.22	652.30	-71.75	0.00	0.00	0.00
4,500.00	21.47	112.89	4,376.77	-173.45	686.02	-81.41	0.00	0.00	0.00
4,600.00	21.47	112.89	4,469.83	-187.69	719.73	-91.07	0.00	0.00	0.00
4,700.00	21.47	112.89	4,562.90	-201.92	753.45	-100.73	0.00	0.00	0.00
4,800.00	21.47	112.89	4,655.96	-216.15	787.17	-110.39	0.00	0.00	0.00
4,900.00	21.47	112.89	4,749.02	-230.39	820.88	-120.05	0.00	0.00	0.00
4,995.61	21.47	112.89	4,838.00	-243.99	853.12	-129.28	0.00	0.00	0.00
Shannon									
5,000.00	21.47	112.89	4,842.08	-244.62	854.60	-129.71	0.00	0.00	0.00
5,100.00	21.47	112.89	4,935.15	-258.85	888.32	-139.36	0.00	0.00	0.00
5,200.00	21.47	112.89	5,028.21	-273.08	922.03	-149.02	0.00	0.00	0.00
5,300.00	21.47	112.89	5,121.27	-287.32	955.75	-158.68	0.00	0.00	0.00
5,400.00	21.47	112.89	5,214.33	-301.55	989.46	-168.34	0.00	0.00	0.00
5,500.00	21.47	112.89	5,307.40	-315.78	1,023.18	-178.00	0.00	0.00	0.00
5,600.00	21.47	112.89	5,400.46	-330.02	1,056.90	-187.66	0.00	0.00	0.00
5,700.00	21.47	112.89	5,493.52	-344.25	1,090.61	-197.32	0.00	0.00	0.00
5,800.00	21.47	112.89	5,586.58	-358.48	1,124.33	-206.98	0.00	0.00	0.00
5,900.00	21.47	112.89	5,679.65	-372.72	1,158.05	-216.64	0.00	0.00	0.00
6,000.00	21.47	112.89	5,772.71	-386.95	1,191.76	-226.30	0.00	0.00	0.00
6,100.00	21.47	112.89	5,865.77	-401.18	1,225.48	-235.96	0.00	0.00	0.00
6,102.40	21.47	112.89	5,868.00	-401.52	1,226.29	-236.19	0.00	0.00	0.00
Teepee Buttes									
6,188.52	21.47	112.89	5,948.15	-413.78	1,255.32	-244.51	0.00	0.00	0.00
Start DLS 9.00 TFO -124.56									
6,200.00	20.90	110.50	5,958.85	-415.32	1,259.18	-245.52	9.00	-4.96	-20.78
6,250.00	18.86	98.67	6,005.89	-419.66	1,275.53	-247.67	9.00	-4.07	-23.67
6,300.00	17.72	84.76	6,053.39	-420.18	1,291.10	-246.13	9.00	-2.28	-27.81
6,350.00	17.65	69.91	6,101.05	-416.88	1,305.80	-240.92	9.00	-0.14	-29.70
6,400.00	18.66	55.80	6,148.58	-409.78	1,319.54	-232.07	9.00	2.02	-28.23
6,450.00	20.59	43.66	6,195.70	-398.92	1,332.24	-219.63	9.00	3.87	-24.27
6,500.00	23.22	33.84	6,242.10	-384.36	1,343.80	-203.67	9.00	5.25	-19.64
6,550.00	26.33	26.07	6,287.50	-366.21	1,354.17	-184.31	9.00	6.23	-15.54
6,600.00	29.78	19.91	6,331.63	-344.56	1,363.28	-161.65	9.00	6.90	-12.32
6,650.00	33.46	14.96	6,374.21	-319.56	1,371.07	-135.83	9.00	7.36	-9.91
6,700.00	37.30	10.90	6,414.97	-291.35	1,377.49	-107.03	9.00	7.68	-8.12
6,750.00	41.25	7.51	6,453.67	-260.11	1,382.51	-75.40	9.00	7.91	-6.79
6,800.00	45.29	4.61	6,490.08	-226.04	1,386.10	-41.15	9.00	8.08	-5.78
6,850.00	49.40	2.10	6,523.95	-189.35	1,388.22	-4.50	9.00	8.21	-5.02
6,854.71	49.79	1.88	6,527.00	-185.76	1,388.35	-0.93	9.00	8.26	-4.68
Sharon Springs									
6,900.00	53.55	359.88	6,555.09	-150.25	1,388.88	34.35	9.00	8.31	-4.41
6,910.05	54.39	359.47	6,561.00	-142.12	1,388.83	42.40	9.00	8.35	-4.15
TPZ at 6910.05 MD - Top A Chalk									
6,945.82	57.61	359.47	6,581.00	-112.47	1,388.56	71.75	9.00	9.00	0.00
Top A Marl									
6,950.00	57.99	359.47	6,583.23	-108.93	1,388.52	75.25	9.00	9.00	0.00
7,000.00	62.49	359.47	6,608.04	-65.54	1,388.12	118.21	9.00	9.00	0.00

Noble Energy, Inc.

Planning Report

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Project:	Wells Ranch	MD Reference:	KB @ 4661.00ft (Original Well Elev)
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Design:	APD - Rev 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,050.00	66.99	359.47	6,629.38	-20.34	1,387.70	162.96	9.00	9.00	0.00
7,100.00	71.49	359.47	6,647.10	26.40	1,387.26	209.23	9.00	9.00	0.00
7,150.00	75.99	359.47	6,661.10	74.38	1,386.81	256.74	9.00	9.00	0.00
7,171.73	77.94	359.47	6,666.00	95.55	1,386.62	277.69	9.00	9.00	0.00
Top B Chalk									
7,200.00	80.49	359.47	6,671.29	123.32	1,386.36	305.19	9.00	9.00	0.00
7,250.00	84.99	359.47	6,677.61	172.90	1,385.90	354.27	9.00	9.00	0.00
7,300.00	89.49	359.47	6,680.02	222.83	1,385.43	403.70	9.00	9.00	0.00
7,305.72	90.00	359.47	6,680.05	228.55	1,385.38	409.37	9.00	9.00	0.00
Landing Pt. at 7305.72 MD									
7,400.00	90.00	359.47	6,680.05	322.82	1,384.50	502.70	0.00	0.00	0.00
7,500.00	90.00	359.47	6,680.05	422.82	1,383.57	601.70	0.00	0.00	0.00
7,600.00	90.00	359.47	6,680.05	522.82	1,382.63	700.70	0.00	0.00	0.00
7,700.00	90.00	359.47	6,680.05	622.81	1,381.70	799.70	0.00	0.00	0.00
7,800.00	90.00	359.47	6,680.05	722.81	1,380.77	898.69	0.00	0.00	0.00
7,900.00	90.00	359.47	6,680.05	822.80	1,379.84	997.69	0.00	0.00	0.00
8,000.00	90.00	359.47	6,680.05	922.80	1,378.90	1,096.69	0.00	0.00	0.00
8,100.00	90.00	359.47	6,680.04	1,022.79	1,377.97	1,195.69	0.00	0.00	0.00
8,200.00	90.00	359.47	6,680.04	1,122.79	1,377.04	1,294.69	0.00	0.00	0.00
8,300.00	90.00	359.47	6,680.04	1,222.79	1,376.11	1,393.68	0.00	0.00	0.00
8,400.00	90.00	359.47	6,680.04	1,322.78	1,375.17	1,492.68	0.00	0.00	0.00
8,500.00	90.00	359.47	6,680.04	1,422.78	1,374.24	1,591.68	0.00	0.00	0.00
8,600.00	90.00	359.47	6,680.04	1,522.77	1,373.31	1,690.68	0.00	0.00	0.00
8,700.00	90.00	359.47	6,680.04	1,622.77	1,372.38	1,789.68	0.00	0.00	0.00
8,800.00	90.00	359.47	6,680.04	1,722.76	1,371.44	1,888.68	0.00	0.00	0.00
8,900.00	90.00	359.47	6,680.04	1,822.76	1,370.51	1,987.67	0.00	0.00	0.00
9,000.00	90.00	359.47	6,680.04	1,922.76	1,369.58	2,086.67	0.00	0.00	0.00
9,100.00	90.00	359.47	6,680.04	2,022.75	1,368.65	2,185.67	0.00	0.00	0.00
9,200.00	90.00	359.47	6,680.04	2,122.75	1,367.72	2,284.67	0.00	0.00	0.00
9,300.00	90.00	359.47	6,680.04	2,222.74	1,366.78	2,383.67	0.00	0.00	0.00
9,400.00	90.00	359.47	6,680.04	2,322.74	1,365.85	2,482.66	0.00	0.00	0.00
9,500.00	90.00	359.47	6,680.04	2,422.73	1,364.92	2,581.66	0.00	0.00	0.00
9,600.00	90.00	359.47	6,680.04	2,522.73	1,363.99	2,680.66	0.00	0.00	0.00
9,700.00	90.00	359.47	6,680.04	2,622.72	1,363.05	2,779.66	0.00	0.00	0.00
9,800.00	90.00	359.47	6,680.04	2,722.72	1,362.12	2,878.66	0.00	0.00	0.00
9,900.00	90.00	359.47	6,680.04	2,822.72	1,361.19	2,977.66	0.00	0.00	0.00
10,000.00	90.00	359.47	6,680.03	2,922.71	1,360.26	3,076.65	0.00	0.00	0.00
10,100.00	90.00	359.47	6,680.03	3,022.71	1,359.32	3,175.65	0.00	0.00	0.00
10,200.00	90.00	359.47	6,680.03	3,122.70	1,358.39	3,274.65	0.00	0.00	0.00
10,300.00	90.00	359.47	6,680.03	3,222.70	1,357.46	3,373.65	0.00	0.00	0.00
10,400.00	90.00	359.47	6,680.03	3,322.69	1,356.53	3,472.65	0.00	0.00	0.00
10,500.00	90.00	359.47	6,680.03	3,422.69	1,355.59	3,571.64	0.00	0.00	0.00
10,600.00	90.00	359.47	6,680.03	3,522.69	1,354.66	3,670.64	0.00	0.00	0.00
10,700.00	90.00	359.47	6,680.03	3,622.68	1,353.73	3,769.64	0.00	0.00	0.00
10,800.00	90.00	359.47	6,680.03	3,722.68	1,352.80	3,868.64	0.00	0.00	0.00
10,900.00	90.00	359.47	6,680.03	3,822.67	1,351.86	3,967.64	0.00	0.00	0.00
11,000.00	90.00	359.47	6,680.03	3,922.67	1,350.93	4,066.63	0.00	0.00	0.00
11,100.00	90.00	359.47	6,680.03	4,022.66	1,350.00	4,165.63	0.00	0.00	0.00
11,200.00	90.00	359.47	6,680.03	4,122.66	1,349.07	4,264.63	0.00	0.00	0.00
11,300.00	90.00	359.47	6,680.03	4,222.66	1,348.13	4,363.63	0.00	0.00	0.00
11,400.00	90.00	359.47	6,680.03	4,322.65	1,347.20	4,462.63	0.00	0.00	0.00
11,500.00	90.00	359.47	6,680.03	4,422.65	1,346.27	4,561.63	0.00	0.00	0.00
11,600.00	90.00	359.47	6,680.03	4,522.64	1,345.34	4,660.62	0.00	0.00	0.00
11,700.00	90.00	359.47	6,680.03	4,622.64	1,344.41	4,759.62	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A34-746
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Project:	Wells Ranch	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-746 OH		
Design:	APD - Rev 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,800.00	90.00	359.47	6,680.03	4,722.63	1,343.47	4,858.62	0.00	0.00	0.00
11,900.00	90.00	359.47	6,680.03	4,822.63	1,342.54	4,957.62	0.00	0.00	0.00
12,000.00	90.00	359.47	6,680.02	4,922.62	1,341.61	5,056.62	0.00	0.00	0.00
12,100.00	90.00	359.47	6,680.02	5,022.62	1,340.68	5,155.61	0.00	0.00	0.00
12,200.00	90.00	359.47	6,680.02	5,122.62	1,339.74	5,254.61	0.00	0.00	0.00
12,300.00	90.00	359.47	6,680.02	5,222.61	1,338.81	5,353.61	0.00	0.00	0.00
12,400.00	90.00	359.47	6,680.02	5,322.61	1,337.88	5,452.61	0.00	0.00	0.00
12,500.00	90.00	359.47	6,680.02	5,422.60	1,336.95	5,551.61	0.00	0.00	0.00
12,600.00	90.00	359.47	6,680.02	5,522.60	1,336.01	5,650.60	0.00	0.00	0.00
12,700.00	90.00	359.47	6,680.02	5,622.59	1,335.08	5,749.60	0.00	0.00	0.00
12,800.00	90.00	359.47	6,680.02	5,722.59	1,334.15	5,848.60	0.00	0.00	0.00
12,900.00	90.00	359.47	6,680.02	5,822.59	1,333.22	5,947.60	0.00	0.00	0.00
13,000.00	90.00	359.47	6,680.02	5,922.58	1,332.28	6,046.60	0.00	0.00	0.00
13,100.00	90.00	359.47	6,680.02	6,022.58	1,331.35	6,145.60	0.00	0.00	0.00
13,200.00	90.00	359.47	6,680.02	6,122.57	1,330.42	6,244.59	0.00	0.00	0.00
13,300.00	90.00	359.47	6,680.02	6,222.57	1,329.49	6,343.59	0.00	0.00	0.00
13,400.00	90.00	359.47	6,680.02	6,322.56	1,328.55	6,442.59	0.00	0.00	0.00
13,500.00	90.00	359.47	6,680.02	6,422.56	1,327.62	6,541.59	0.00	0.00	0.00
13,600.00	90.00	359.47	6,680.02	6,522.56	1,326.69	6,640.59	0.00	0.00	0.00
13,700.00	90.00	359.47	6,680.02	6,622.55	1,325.76	6,739.58	0.00	0.00	0.00
13,800.00	90.00	359.47	6,680.02	6,722.55	1,324.82	6,838.58	0.00	0.00	0.00
13,900.00	90.00	359.47	6,680.02	6,822.54	1,323.89	6,937.58	0.00	0.00	0.00
14,000.00	90.00	359.47	6,680.01	6,922.54	1,322.96	7,036.58	0.00	0.00	0.00
14,100.00	90.00	359.47	6,680.01	7,022.53	1,322.03	7,135.58	0.00	0.00	0.00
14,200.00	90.00	359.47	6,680.01	7,122.53	1,321.10	7,234.58	0.00	0.00	0.00
14,300.00	90.00	359.47	6,680.01	7,222.52	1,320.16	7,333.57	0.00	0.00	0.00
14,400.00	90.00	359.47	6,680.01	7,322.52	1,319.23	7,432.57	0.00	0.00	0.00
14,500.00	90.00	359.47	6,680.01	7,422.52	1,318.30	7,531.57	0.00	0.00	0.00
14,600.00	90.00	359.47	6,680.01	7,522.51	1,317.37	7,630.57	0.00	0.00	0.00
14,700.00	90.00	359.47	6,680.01	7,622.51	1,316.43	7,729.57	0.00	0.00	0.00
14,800.00	90.00	359.47	6,680.01	7,722.50	1,315.50	7,828.56	0.00	0.00	0.00
14,900.00	90.00	359.47	6,680.01	7,822.50	1,314.57	7,927.56	0.00	0.00	0.00
15,000.00	90.00	359.47	6,680.01	7,922.49	1,313.64	8,026.56	0.00	0.00	0.00
15,100.00	90.00	359.47	6,680.01	8,022.49	1,312.70	8,125.56	0.00	0.00	0.00
15,200.00	90.00	359.47	6,680.01	8,122.49	1,311.77	8,224.56	0.00	0.00	0.00
15,300.00	90.00	359.47	6,680.01	8,222.48	1,310.84	8,323.55	0.00	0.00	0.00
15,400.00	90.00	359.47	6,680.01	8,322.48	1,309.91	8,422.55	0.00	0.00	0.00
15,500.00	90.00	359.47	6,680.01	8,422.47	1,308.97	8,521.55	0.00	0.00	0.00
15,600.00	90.00	359.47	6,680.01	8,522.47	1,308.04	8,620.55	0.00	0.00	0.00
15,700.00	90.00	359.47	6,680.01	8,622.46	1,307.11	8,719.55	0.00	0.00	0.00
15,800.00	90.00	359.47	6,680.01	8,722.46	1,306.18	8,818.55	0.00	0.00	0.00
15,900.00	90.00	359.47	6,680.00	8,822.46	1,305.24	8,917.54	0.00	0.00	0.00
16,000.00	90.00	359.47	6,680.00	8,922.45	1,304.31	9,016.54	0.00	0.00	0.00
16,100.00	90.00	359.47	6,680.00	9,022.45	1,303.38	9,115.54	0.00	0.00	0.00
16,200.00	90.00	359.47	6,680.00	9,122.44	1,302.45	9,214.54	0.00	0.00	0.00
16,300.00	90.00	359.47	6,680.00	9,222.44	1,301.52	9,313.54	0.00	0.00	0.00
16,400.00	90.00	359.47	6,680.00	9,322.43	1,300.58	9,412.53	0.00	0.00	0.00
16,500.00	90.00	359.47	6,680.00	9,422.43	1,299.65	9,511.53	0.00	0.00	0.00
16,600.00	90.00	359.47	6,680.00	9,522.42	1,298.72	9,610.53	0.00	0.00	0.00
16,700.00	90.00	359.47	6,680.00	9,622.42	1,297.79	9,709.53	0.00	0.00	0.00
16,800.00	90.00	359.47	6,680.00	9,722.42	1,296.85	9,808.53	0.00	0.00	0.00
16,817.91	90.00	359.47	6,680.00	9,740.32	1,296.69	9,826.26	0.00	0.00	0.00
TD at 16817.91									

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A34-746
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Project:	Wells Ranch	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-746 OH		
Design:	APD - Rev 1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
Reveille A34-746_SHL - plan misses target center by 0.01ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	0.01	0.00	1,403,575.96	3,267,123.18	40.4372500	-104.5403400
Reveille A34-746_KOP - plan hits target center - Point	0.00	0.00	5,948.15	-413.78	1,255.32	1,403,162.17	3,268,378.50	40.4360769	-104.5358467
Reveille A34-746_TPZ - plan hits target center - Point	0.00	0.00	6,561.00	-142.12	1,388.83	1,403,433.83	3,268,512.01	40.4368185	-104.5353564
Reveille A34-746_BHL - plan hits target center - Point	0.00	0.00	6,680.00	9,740.32	1,296.69	1,413,316.25	3,268,419.86	40.4639468	-104.5353012

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
279.00	279.00	Pierre				
396.00	396.00	Upper Pierre Aquifer Top				
1,439.00	1,439.00	Upper Pierre Aquifer Base				
3,600.85	3,540.00	Parkman				
4,348.74	4,236.00	Sussex				
4,995.61	4,838.00	Shannon				
6,102.40	5,868.00	Teepee Buttes				
6,854.71	6,527.00	Sharon Springs				
6,910.05	6,561.00	Top A Chalk				
6,945.82	6,581.00	Top A Marl				
7,171.73	6,666.00	Top B Chalk				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
2,000.00	2,000.00	0.00	0.00	Start Build 2.00	
3,073.50	3,048.55	0.00	198.79	Start DLS 2.00 TFO 100.68	
3,489.91	3,436.75	-29.69	345.45	Start 2698.62 hold at 3489.91 MD	
6,188.52	5,948.15	-413.78	1,255.32	Start DLS 9.00 TFO -124.56	
6,910.05	6,561.00	-142.12	1,388.83	TPZ at 6910.05 MD	
7,305.72	6,680.05	228.55	1,385.38	Landing Pt. at 7305.72 MD	
16,817.91	6,680.00	9,740.32	1,296.69	TD at 16817.91	

Northern Region - DJ Basin

Wells Ranch

A Section 34

Reveille A34-746

Reveille A34-746 OH

APD - Rev 1

Anticollision Summary Report

22 July, 2019

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	7/22/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	16,817.91	APD - Rev 1 (Reveille A34-746 OH)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 21						
Culbreath 23-21 - Original Drilling - Original Drilling - As D	16,817.91	6,777.23	6,333.57	6,227.51	59.712	CC, ES, SF
Culbreath 33-21 (PA) - Original Drilling - Original Drilling -	16,817.91	6,737.00	5,306.70	5,090.53	24.548	CC, ES, SF
Harper A21-618 - Harper A21-618 OH - As-Drilled	16,817.91	13,884.28	722.95	601.42	5.949	CC, ES, SF
Harper A21-626 - Harper A21-626 OH - As-Drilled	16,817.91	13,851.36	1,261.07	1,139.05	10.334	CC, ES, SF
Harper A21-631 - Harper A21-631 OH - As-Drilled	16,817.91	13,792.16	1,624.72	1,503.01	13.349	CC, ES, SF
Harper A21-637 - Harper A21-637 OH - As-Drilled	16,817.91	14,078.90	1,984.33	1,861.96	16.216	CC, ES, SF
Harper A21-643 - Harper A21-643 OH - As-Drilled	16,817.91	14,034.40	2,453.79	2,330.78	19.948	CC, ES, SF
Harper A21-649 - Harper A21-649 OH - As-Drilled	16,817.91	14,208.00	2,791.54	2,667.44	22.494	CC, ES, SF
Harper A21-656 - Harper A21-656 OH - As-Drilled	16,817.91	13,925.00	3,172.64	3,050.15	25.902	CC, ES, SF
Harper A21-664 - Harper A21-664 OH - As-Drilled	16,817.91	14,427.18	3,672.07	3,546.96	29.351	CC, ES, SF
Harper A21-669 - Harper A21-669 OH - As-Drilled	16,817.91	14,401.02	3,984.54	3,859.71	31.919	CC, ES, SF
Harper A21-674 - Harper A21-674 OH - As-Drilled	16,817.91	14,486.00	4,398.86	4,274.44	35.355	CC, ES, SF
Harper A21-681 - Harper A21-681 OH - As-Drilled	16,817.91	14,252.30	4,788.83	4,667.02	39.315	CC, ES, SF
Kona A19-616 - Kona A19-616 - Kona A19-616 - As Drille	16,817.91	6,234.00	6,805.75	6,704.50	67.220	CC, ES, SF
Kona A19-624 - Kona A19-624 - Kona A19-624 - As Drille	16,817.91	6,375.88	6,763.93	6,662.52	66.700	CC, ES, SF
Kona A19-636 - Kona A19-636 - Kona A19-636 - As Drille	16,817.91	6,327.00	6,615.49	6,512.77	64.398	CC, ES, SF
Kona A19-646 - Original Drilling - Original Drilling - As Dr	16,817.91	6,327.00	7,095.98	6,997.60	72.126	CC, ES, SF
Kona A19-662 - Original Drilling - Original Drilling - As Dr	16,817.91	6,136.00	7,601.44	7,505.61	79.318	CC, ES, SF
Kona A19-670 - Kona A19-670 - Original Drilling - As Dril	15,000.00	15,000.00	8,604.58	8,492.12	76.509	SF
Kona A19-670 - Kona A19-670 - Original Drilling - As Dril	16,817.91	6,325.00	7,568.90	7,473.13	79.025	CC, ES
Kona A19-685 - Original Drilling - Original Drilling - As Dr	16,817.91	6,149.00	7,518.11	7,423.72	79.653	CC, ES, SF
McKee 12-21 (PA) - Original Drilling - Original Drilling - A	16,817.91	6,773.00	8,185.96	7,969.04	37.737	CC, ES, SF
McKee 21-21 (PA) - Original Drilling - Original Drilling - A	16,817.91	6,789.00	7,483.10	7,274.01	35.789	CC, ES, SF
McKee 22-21 - Original Drilling - Original Drilling - As Dril	16,817.91	6,808.70	6,992.49	6,890.01	68.234	CC, ES, SF
McKee 31-21 - Original Drilling - Original Drilling - As Dril	16,817.91	6,882.27	6,934.95	6,843.42	75.770	CC, ES, SF
McKee 32-21 - Original Drilling - Original Drilling - As Dril	16,817.91	6,809.29	5,942.70	5,843.70	60.030	CC, ES, SF
McKee 41-21 - Original Drilling - Original Drilling - As Dril	16,817.91	6,664.37	6,036.48	5,953.47	72.714	CC, ES, SF
McKee 42-21 - Original Drilling - Original Drilling - As Dril	16,817.91	6,777.77	4,762.57	4,669.10	50.955	CC, ES, SF
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	5,507.29	17,720.27	4,094.07	3,976.67	34.873	CC, ES
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	5,600.00	17,720.27	4,095.12	3,977.69	34.872	SF
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	5,362.97	17,515.21	4,727.69	4,612.46	41.031	CC, ES
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	5,700.00	17,515.21	4,739.68	4,623.83	40.911	SF
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	5,055.93	17,093.98	5,328.47	5,216.57	47.618	CC, ES
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	5,700.00	17,093.98	5,367.25	5,253.43	47.153	SF
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	4,880.28	16,955.41	5,938.66	5,829.16	54.234	CC
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	4,900.00	16,958.28	5,938.70	5,829.09	54.180	ES
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	5,900.00	16,956.23	6,025.55	5,912.18	53.145	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 21						
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	4,595.54	16,758.07	6,568.27	6,461.74	61.659	CC
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	4,600.00	16,758.72	6,568.27	6,461.72	61.642	ES
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	6,750.00	16,811.58	6,846.00	6,730.34	59.192	SF
Sexton 43-21 (PA) - Original Drilling - Original Drilling - As	16,817.91	6,729.00	4,266.69	4,055.72	20.224	CC, ES, SF
Wells Trust 13-21 - Original Drilling - Original Drilling - As	16,817.91	6,830.81	7,814.87	7,706.70	72.243	CC, ES, SF
Wells Trust 14-21 - Original Drilling - Original Drilling - As	16,817.91	6,723.73	7,734.98	7,626.18	71.091	CC, ES, SF
Wells Trust 24-21 - Original Drilling - Original Drilling - As	16,817.91	6,817.17	6,893.66	6,784.48	63.142	CC, ES, SF
A Section 22						
Carpio 22-01 - Original Drilling - Original Drilling - As Drill	16,817.91	6,702.86	1,946.55	1,849.47	20.050	CC, ES, SF
Carpio 22-04-19 - Original Drilling - Original Drilling - As D	16,817.91	6,720.60	1,521.69	1,466.70	27.670	CC, ES, SF
Carpio 22-41 - Original Drilling - Original Drilling - As Drill	16,817.91	6,732.79	2,705.84	2,605.37	26.932	CC, ES, SF
Carpio 22-43 - Original Drilling - Original Drilling - As Drill	16,817.91	6,742.25	985.92	922.95	15.656	CC, ES, SF
Carpio 22-45 - Original Drilling - Original Drilling - As Drill	16,817.91	6,687.63	1,914.83	1,830.90	22.815	CC, ES, SF
Eisenstat 22-11 (PA) - Original Drilling - Original Drilling -	16,817.91	6,743.00	5,234.67	5,063.39	30.562	CC, ES, SF
Eisenstat 22-13 - Original Drilling - Original Drilling - As D	16,817.91	6,754.53	3,052.36	2,999.42	57.660	CC, ES, SF
Eisenstat 22-15 - Original Drilling - Original Drilling - As D	16,817.91	6,716.70	4,405.11	4,349.03	78.546	CC, ES, SF
Eisenstat 22-21 - Original Drilling - Original Drilling - As D	16,817.91	6,830.60	4,594.65	4,536.30	78.755	CC, ES, SF
Eisenstat 22-23 - Original Drilling - Original Drilling - As D	16,817.91	6,769.94	4,146.20	4,068.18	53.146	CC, ES, SF
Gill Land Assoc. 1 (PA) - Original Drilling - Original Drilling	16,817.91	6,744.00	3,832.10	3,654.24	21.547	CC, ES, SF
Gill Land Assoc. 22-02 (PA) - Original Drilling - Original D	16,817.91	6,754.00	3,513.26	3,338.32	20.082	CC, ES, SF
Gill Land Assoc. 22-03 - Original Drilling - Original Drilling	15,500.00	15,500.00	6,390.11	6,295.48	67.530	SF
Gill Land Assoc. 22-03 - Original Drilling - Original Drilling	16,817.91	6,752.51	5,178.28	5,105.59	71.244	CC, ES
Gill Land Assoc. 22-04 (PA) - Original Drilling - Original D	16,817.91	6,752.00	4,717.71	4,553.20	28.678	CC, ES, SF
Gruen 22-01 - Original Drilling - Original Drilling - As Drille	16,817.91	6,784.25	3,112.84	3,019.86	33.481	CC, ES, SF
Gruen 22-02 - Original Drilling - Original Drilling - As Drille	16,817.91	6,728.71	1,284.78	1,190.31	13.600	CC, ES, SF
Gruen 22-31 - Original Drilling - Original Drilling - As Drille	16,817.91	6,773.49	2,332.23	2,260.43	32.481	CC, ES, SF
Gruen 22-33 - Original Drilling - Original Drilling - As Drille	16,817.91	6,820.16	2,406.82	2,300.42	22.621	CC, ES, SF
Gruen 22-35 - Original Drilling - Original Drilling - As Drille	16,817.91	6,641.35	2,142.88	2,048.78	22.772	CC, ES, SF
Ottinger 22-01 - Original Drilling - Original Drilling - As Dr	16,817.91	6,764.07	2,264.99	2,210.94	41.905	CC, ES, SF
A Section 23						
Cecil 23-13 - Original Drilling - Original Drilling - As Drilled	16,817.91	6,657.48	6,529.92	6,437.08	70.338	CC, ES, SF
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	16,817.91	6,703.00	3,733.84	3,532.09	18.507	CC, ES, SF
Champlin 23-03 - Original Drilling - Original Drilling - As D	16,817.91	6,657.54	4,229.24	4,123.84	40.126	CC, ES, SF
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	16,817.91	6,678.00	4,057.30	3,841.37	18.790	CC, ES, SF
Cooper 23-1-17 - Original Drilling - Original Drilling - As Dr	16,817.91	6,652.40	8,135.30	8,046.33	91.443	CC, ES, SF
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	16,817.91	6,550.24	6,729.92	6,641.70	76.283	CC, ES, SF
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	16,817.91	6,641.06	7,443.46	7,355.19	84.328	CC, ES, SF
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	16,817.91	6,667.94	5,972.28	5,875.90	61.965	CC, ES, SF
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	16,817.91	6,541.11	7,640.16	7,546.93	81.954	CC, ES, SF
Foss 41-23D - Original Drilling - Original Drilling - As Drill	16,817.91	6,838.45	8,493.88	8,393.46	84.586	CC, ES, SF
Foss 42-23 - Original Drilling - Original Drilling - As Drilled	16,817.91	6,662.80	7,583.25	7,484.59	76.860	CC, ES, SF
J&L Farms 23-11 - Original Drilling - Original Drilling - As	16,817.91	6,699.77	5,620.14	5,549.65	79.737	CC, ES, SF
J&L Farms 23-12 - Original Drilling - Original Drilling - As	16,817.91	6,700.00	4,344.79	4,265.49	54.795	CC, ES, SF
J&L Farms 23-21 - Original Drilling - Original Drilling - As	16,817.91	6,584.67	6,689.07	6,607.80	82.309	CC, ES, SF
J&L Farms 23-22 - Original Drilling - Original Drilling - As	16,817.91	6,683.87	5,562.93	5,474.33	62.788	CC, ES, SF
McIntosh 33-23 - Original Drilling - Original Drilling - As D	16,817.91	7,019.00	6,011.88	5,908.56	58.185	CC, ES, SF
McIntosh 34-23 - Original Drilling - Original Drilling - As D	16,817.91	6,702.50	5,888.68	5,781.72	55.055	CC, ES, SF
McIntosh 43-23 - Original Drilling - Original Drilling - As D	16,817.91	6,652.37	7,534.88	7,431.50	72.887	CC, ES, SF
McIntosh 44-23 - Original Drilling - Original Drilling - As D	16,817.91	6,712.25	7,276.80	7,169.08	67.553	CC, ES, SF
Schroeder 23-31 - Original Drilling - Original Drilling - As	16,817.91	6,722.64	4,935.27	4,834.67	49.062	CC, ES, SF
Schroeder 23-33 - Original Drilling - Original Drilling - As	16,817.91	6,680.84	2,944.59	2,838.92	27.866	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 A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 24						
Larson A23-622 - Larson A23-622 OH - As-drilled	16,817.91	17,299.00	2,604.78	2,469.97	19.321	CC, ES, SF
Larson A23-627 - Larson A23-627 OH - As-drilled	16,817.91	17,330.00	2,762.26	2,618.63	19.231	CC, ES, SF
Larson A23-633 - Larson A23-633 OH - As-drilled	16,817.91	17,260.00	2,952.39	2,802.77	19.732	CC, ES, SF
Larson A23-639 - Larson A23-639 OH - As-drilled	16,817.91	17,355.00	3,206.49	3,050.62	20.571	CC, ES, SF
Larson A23-645 - Larson A23-645 OH - As-drilled	16,817.91	18,040.00	3,482.35	3,318.14	21.207	CC, ES, SF
Larson A23-651 - Larson A23-651 OH - As-drilled	16,817.91	18,045.00	3,717.92	3,551.61	22.355	CC, ES, SF
Larson A23-656 - Larson A23-656 OH - As-drilled	16,817.91	18,030.00	3,950.36	3,781.93	23.454	CC, ES, SF
Larson A23-662 - Larson A23-662 OH - As-drilled	16,817.91	18,100.00	4,287.97	4,118.49	25.300	CC, ES, SF
Larson A23-668 - Larson A23-668 OH - As-Drilled	16,817.91	17,400.00	4,625.89	4,463.85	28.548	CC, ES, SF
Larson A23-672 - Larson A23-672 OH - As-Drilled	16,817.91	17,415.00	4,863.67	4,701.85	30.056	CC, ES, SF
Larson A23-678 - Larson A23-678 OH - As-Drilled	16,817.91	17,106.00	5,201.84	5,040.13	32.168	CC, ES, SF
Larson A23-683 - Larson A23-683 OH - As-Drilled	16,817.91	17,368.00	5,472.12	5,308.70	33.486	CC, ES, SF
Larson AA19-618 - Larson AA19-618 OH - As-Drilled						Out of range
Larson AA19-624 - Larson AA19-624 OH - As-Drilled						Out of range
Larson AA19-624 - Larson AA19-624 ST01 - As-Drilled						Out of range
Larson AA19-630 - Larson AA19-630 OH - As-Drilled						Out of range
Larson AA19-635 - Larson AA19-635 OH - As-Drilled						Out of range
Larson Farms 01-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 02-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 03-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 04-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 05-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 06-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 07-24 - Original Drilling - Original Drilling -						Out of range
Peppler 24-32 - Original Drilling - Original Drilling - As Dri	16,817.91	6,388.05	8,507.95	8,404.51	82.254	CC, ES, SF
Roth 24-21 - Original Drilling - Original Drilling - As Drilled						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 25						
Fairmeadows 03-25G - Original Drilling - Original Drilling						Out of range
Fairmeadows Land Co 1 - Original Drilling - Original Drilling						Out of range
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,459.56	6,726.47	8,465.85	8,330.72	62.649	CC
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,500.00	6,727.42	8,465.94	8,330.46	62.487	ES
Larsen 01-25G - Original Drilling - Original Drilling - As D	16,817.91	6,734.87	8,473.43	8,335.22	61.311	SF
Larsen A25-01 - Original Drilling - Original Drilling - As Dr						Out of range
Larsen A25-02 - Original Drilling - Original Drilling - As Dr						Out of range
Larsen A25-03 - Original Drilling - Original Drilling - As Dr	16,449.78	6,653.00	9,631.26	9,415.69	44.679	CC
Larsen A25-03 - Original Drilling - Original Drilling - As Dr	16,500.00	6,653.00	9,631.39	9,415.40	44.593	ES
Larsen A25-03 - Original Drilling - Original Drilling - As Dr	16,817.91	6,653.00	9,638.29	9,419.70	44.093	SF
Larsen A25-03X - Original Drilling - Original Drilling - As D	14,600.00	14,600.00	9,621.49	9,504.70	82.385	SF
Larsen A25-03X - Original Drilling - Original Drilling - As D	16,625.63	6,537.43	9,405.99	9,299.31	88.169	CC
Larsen A25-03X - Original Drilling - Original Drilling - As D	16,700.00	6,534.42	9,406.28	9,298.99	87.667	ES
Larsen A25-05 - Original Drilling - Original Drilling - As Dr	15,070.30	6,728.08	8,320.00	8,225.03	87.606	CC
Larsen A25-05 - Original Drilling - Original Drilling - As Dr	15,100.00	6,727.72	8,320.06	8,224.84	87.382	ES
Larsen A25-05 - Original Drilling - Original Drilling - As Dr	16,600.00	16,600.00	8,459.42	8,318.34	59.962	SF
Larsen A25-06 - Original Drilling - Original Drilling - As Dr	15,098.76	6,653.01	9,912.15	9,707.12	48.344	CC
Larsen A25-06 - Original Drilling - Original Drilling - As Dr	15,200.00	6,653.01	9,912.67	9,706.81	48.152	ES
Larsen A25-06 - Original Drilling - Original Drilling - As Dr	16,400.00	6,653.00	9,997.20	9,782.02	46.460	SF
Larsen A25-06X - Original Drilling - Original Drilling - As D	15,037.25	6,454.42	9,550.37	9,451.85	96.931	CC
Larsen A25-06X - Original Drilling - Original Drilling - As D	15,100.00	6,453.96	9,550.58	9,451.57	96.463	ES
Larsen A25-06X - Original Drilling - Original Drilling - As D	16,817.91	6,441.57	9,714.95	9,603.92	87.502	SF
Larsen A25-07 - Original Drilling - Original Drilling - As Dr						Out of range
Larsen A25-08 - Original Drilling - Original Drilling - As Dr						Out of range
Larsen A25-10 - Original Drilling - Original Drilling - Drilled						Out of range
Larsen A25-11 - Original Drilling - Original Drilling - As Dr	13,807.01	6,640.02	9,760.51	9,565.60	50.078	CC
Larsen A25-11 - Original Drilling - Original Drilling - As Dr	13,900.00	6,640.02	9,760.95	9,565.30	49.890	ES
Larsen A25-11 - Original Drilling - Original Drilling - As Dr	15,900.00	6,640.00	9,982.39	9,771.92	47.428	SF
Larsen A25-12 - Original Drilling - Original Drilling - As Dr	13,874.58	6,616.66	8,181.91	8,096.32	95.597	CC
Larsen A25-12 - Original Drilling - Original Drilling - As Dr	13,900.00	6,616.72	8,181.95	8,096.15	95.369	ES
Larsen A25-12 - Original Drilling - Original Drilling - As Dr	16,817.91	6,623.84	8,695.21	8,589.64	82.363	SF
Larsen A25-13 - Original Drilling - Original Drilling - As Dr	12,661.97	6,736.70	8,284.22	8,207.37	107.800	CC
Larsen A25-13 - Original Drilling - Original Drilling - As Dr	12,700.00	6,736.48	8,284.31	8,207.17	107.390	ES
Larsen A25-13 - Original Drilling - Original Drilling - As Dr	16,817.91	16,817.91	9,268.21	9,130.11	67.113	SF
Larsen A25-14 - Original Drilling - Original Drilling - As Dr	12,411.49	6,953.00	9,564.33	9,488.79	126.628	CC
Larsen A25-14 - Original Drilling - Original Drilling - As Dr	12,500.00	6,953.00	9,564.74	9,488.53	125.514	ES
Larsen A25-14 - Original Drilling - Original Drilling - As Dr	15,300.00	6,946.22	9,990.98	9,895.07	104.165	SF
Larsen A25-15 - Original Drilling - Original Drilling - As Dr						Out of range
Larsen A25-17 - Original Drilling - Original Drilling - As D						Out of range
Larsen A25-19 - Original Drilling - Original Drilling - As Dr	15,858.62	6,274.39	8,875.93	8,775.79	88.639	CC
Larsen A25-19 - Original Drilling - Original Drilling - As Dr	15,900.00	6,274.66	8,876.02	8,775.54	88.336	ES
Larsen A25-19 - Original Drilling - Original Drilling - As Dr	16,817.91	6,280.72	8,927.61	8,819.86	82.854	SF
Larsen A25-23 - Original Drilling - Original Drilling - As Dr						Out of range
Larsen A25-25 - Original Drilling - Original Drilling - As Dr	13,102.92	6,586.72	8,959.89	8,880.13	112.334	CC
Larsen A25-25 - Original Drilling - Original Drilling - As Dr	13,200.00	6,586.38	8,960.41	8,879.89	111.279	ES
Larsen A25-25 - Original Drilling - Original Drilling - As Dr	16,817.91	6,576.04	9,699.51	9,595.14	92.929	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 26						
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	13,834.77	6,582.39	4,223.43	4,135.44	47.999	CC
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	13,900.00	6,582.47	4,223.93	4,135.39	47.704	ES
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	14,900.00	6,583.73	4,355.69	4,260.24	45.632	SF
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	13,818.10	6,690.88	2,907.72	2,823.55	34.546	CC, ES
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	14,400.00	6,697.05	2,965.36	2,877.00	33.559	SF
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	12,253.00	6,652.65	2,827.82	2,754.07	38.344	CC
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	12,300.00	6,652.64	2,828.21	2,754.07	38.144	ES
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	12,900.00	6,652.58	2,900.89	2,822.60	37.049	SF
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	12,231.42	6,808.18	4,514.55	4,440.83	61.238	CC
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	12,300.00	6,801.52	4,515.08	4,440.82	60.800	ES
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	13,600.00	6,829.23	4,717.40	4,634.43	56.856	SF
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,439.07	6,661.93	3,002.44	2,896.85	28.435	CC, ES
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,817.91	6,662.59	3,026.25	2,917.67	27.873	SF
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	14,910.32	6,668.93	3,114.67	3,021.07	33.275	CC, ES
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	15,500.00	6,665.58	3,170.00	3,072.10	32.380	SF
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,281.24	6,607.05	5,681.39	5,577.20	54.531	CC
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,300.00	6,607.12	5,681.42	5,577.07	54.447	ES
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,817.91	6,608.95	5,706.68	5,598.16	52.586	SF
DCD Farms 01-26 - Original Drilling - Original Drilling - As	15,069.33	6,762.84	6,976.81	6,881.81	73.436	CC
DCD Farms 01-26 - Original Drilling - Original Drilling - As	15,100.00	6,762.95	6,976.88	6,881.62	73.239	ES
DCD Farms 01-26 - Original Drilling - Original Drilling - As	16,817.91	6,769.25	7,192.59	7,085.02	66.864	SF
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	15,035.90	6,713.93	4,281.41	4,186.58	45.150	CC
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	15,100.00	6,713.84	4,281.89	4,186.51	44.892	ES
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	16,000.00	6,726.85	4,388.60	4,286.91	43.157	SF
DCD Farms A26-07 - Original Drilling - Original Drilling - A	15,310.35	6,657.77	5,643.57	5,546.88	58.371	CC
DCD Farms A26-07 - Original Drilling - Original Drilling - A	15,400.00	6,658.93	5,644.28	5,546.83	57.922	ES
DCD Farms A26-07 - Original Drilling - Original Drilling - A	16,817.91	6,677.66	5,841.40	5,734.21	54.496	SF
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	13,759.58	6,709.45	6,986.21	6,901.28	82.262	CC
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	13,800.00	6,709.84	6,986.33	6,901.07	81.945	ES
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	16,400.00	6,670.25	7,468.50	7,366.27	73.058	SF
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	13,793.08	6,631.38	5,666.42	5,581.41	66.659	CC
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	13,800.00	6,631.33	5,666.42	5,581.36	66.614	ES
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	15,600.00	6,619.33	5,947.53	5,850.36	61.204	SF
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	12,408.91	6,909.52	5,484.67	5,409.45	72.913	CC, ES
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	14,300.00	6,944.31	5,801.44	5,713.62	66.062	SF
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,284.50	6,642.02	7,020.56	6,836.83	38.212	CC
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,300.00	6,642.02	7,020.57	6,836.73	38.187	ES
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	14,000.00	6,642.01	7,227.11	7,031.14	36.878	SF
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,318.72	6,597.61	7,030.71	6,926.03	67.163	CC
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,400.00	6,598.74	7,031.18	6,925.81	66.726	ES
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,817.91	6,604.56	7,048.41	6,939.62	64.792	SF
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	16,485.39	6,916.70	4,410.81	4,293.03	37.448	CC
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	16,500.00	6,916.70	4,410.83	4,292.92	37.407	ES
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	16,817.91	6,916.53	4,423.32	4,302.79	36.698	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 27						
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	16,367.99	6,759.00	415.65	198.60	1.915	CC, ES, SF
Howard 03-27 - Original Drilling - Original Drilling - As Dri	16,279.99	6,728.21	992.09	887.73	9.506	CC, ES
Howard 03-27 - Original Drilling - Original Drilling - As Dri	16,300.00	6,728.16	992.29	887.88	9.504	SF
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	16,387.65	6,719.00	2,234.75	2,018.35	10.327	CC
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	16,400.00	6,719.00	2,234.78	2,018.31	10.324	ES
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	16,500.00	6,719.00	2,237.57	2,020.62	10.314	SF
Howard 08-27 - Original Drilling - Original Drilling - As Dri	14,974.91	6,709.27	1,712.74	1,618.45	18.164	CC
Howard 08-27 - Original Drilling - Original Drilling - As Dri	15,000.00	6,709.24	1,712.92	1,618.38	18.117	ES
Howard 08-27 - Original Drilling - Original Drilling - As Dri	15,200.00	6,708.99	1,727.47	1,631.36	17.975	SF
Howard 10-27 - Original Drilling - Original Drilling - As Dri	13,661.92	6,699.86	487.21	402.93	5.781	CC, ES
Howard 10-27 - Original Drilling - Original Drilling - As Dri	13,700.00	6,699.36	488.69	403.94	5.766	SF
Howard 15-27 - Original Drilling - Original Drilling - As Dri	12,495.03	6,709.66	330.75	257.40	4.509	CC
Howard 15-27 - Original Drilling - Original Drilling - As Dri	12,500.00	6,709.75	330.78	257.35	4.505	ES, SF
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,347.58	3,765.00	3,708.29	3,587.80	30.775	CC
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,400.00	3,765.00	3,708.66	3,587.77	30.677	ES
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,817.91	3,765.00	3,738.00	3,613.88	30.116	SF
Howard A27-01 - Original Drilling - Original Drilling - As D	16,367.80	6,715.63	1,743.89	1,638.74	16.584	CC
Howard A27-01 - Original Drilling - Original Drilling - As D	16,400.00	6,715.53	1,744.19	1,638.71	16.536	ES
Howard A27-01 - Original Drilling - Original Drilling - As D	16,500.00	6,715.21	1,748.90	1,642.55	16.446	SF
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	14,987.95	6,712.27	2,221.34	2,126.90	23.521	CC
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	15,000.00	6,712.17	2,221.37	2,126.86	23.505	ES
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	15,200.00	6,710.58	2,231.44	2,136.09	23.403	SF
Howard A27-06 (PR) - Original Drilling - Original Drilling -	15,032.32	6,812.78	842.94	745.56	8.657	CC, ES
Howard A27-06 (PR) - Original Drilling - Original Drilling -	15,100.00	6,812.89	845.65	747.79	8.642	SF
Howard A27-07 - Original Drilling - Original Drilling - As D	14,963.00	6,755.55	506.39	412.00	5.365	CC, ES
Howard A27-07 - Original Drilling - Original Drilling - As D	15,000.00	6,755.38	507.74	412.89	5.353	SF
Howard A27-09 - Original Drilling - Original Drilling - As D	13,601.87	6,700.64	1,615.54	1,531.74	19.278	CC, ES
Howard A27-09 - Original Drilling - Original Drilling - As D	13,800.00	6,699.08	1,627.65	1,542.20	19.048	SF
Howard A27-16 - Original Drilling - Original Drilling - As D	12,330.79	6,693.52	1,894.76	1,820.34	25.462	CC, ES
Howard A27-16 - Original Drilling - Original Drilling - As D	12,600.00	6,694.46	1,913.79	1,837.25	25.006	SF
Howard A27-17D - Original Drilling - Original Drilling - As	15,775.76	6,815.84	1,159.69	1,055.35	11.115	CC
Howard A27-17D - Original Drilling - Original Drilling - As	15,800.00	6,815.79	1,159.94	1,055.19	11.073	ES
Howard A27-17D - Original Drilling - Original Drilling - As	15,900.00	6,815.61	1,166.32	1,060.18	10.988	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 28						
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	16,425.69	6,711.00	4,976.98	4,760.45	22.984	CC, ES
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	16,817.91	6,711.00	4,992.41	4,773.40	22.795	SF
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	14,783.70	6,734.31	3,506.56	3,414.40	38.050	CC
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	14,800.00	6,734.18	3,506.60	3,414.34	38.008	ES
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	15,300.00	6,730.20	3,544.36	3,449.58	37.393	SF
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	13,613.42	6,706.02	6,235.20	6,040.43	32.013	CC, ES
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	14,700.00	6,706.01	6,329.17	6,127.77	31.426	SF
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	16,492.68	6,822.75	7,270.04	7,163.39	68.169	CC
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	16,500.00	6,822.69	7,270.04	7,163.34	68.135	ES
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	16,817.91	6,819.94	7,277.31	7,168.40	66.824	SF
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	14,906.19	6,790.59	7,432.65	7,338.50	78.943	CC
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	15,000.00	6,787.41	7,433.24	7,338.44	78.412	ES
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	16,817.91	6,729.14	7,674.25	7,569.03	72.939	SF
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	13,583.88	6,853.28	7,469.58	7,385.36	88.691	CC
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	13,600.00	6,853.04	7,469.60	7,385.27	88.574	ES
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	16,200.00	6,814.95	7,914.37	7,815.57	80.101	SF
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	12,235.88	6,793.31	7,486.85	7,412.60	100.831	CC
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	12,300.00	6,791.53	7,487.12	7,412.46	100.275	ES
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	15,100.00	6,712.58	8,015.53	7,925.84	89.362	SF
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	16,141.46	6,951.37	6,181.90	6,077.70	59.327	CC
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	16,200.00	6,950.27	6,182.18	6,077.57	59.099	ES
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	16,817.91	6,938.62	6,218.79	6,110.28	57.311	SF
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	15,003.14	7,073.40	6,127.75	6,031.30	63.536	CC, ES
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	16,500.00	6,965.43	6,307.00	6,202.63	60.433	SF
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	12,212.92	6,689.72	6,190.87	6,117.40	84.263	CC, ES
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	14,300.00	6,696.22	6,533.20	6,448.46	77.091	SF
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	13,091.84	6,937.10	6,679.05	6,598.20	82.616	CC
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	13,100.00	6,936.96	6,679.05	6,598.15	82.560	ES
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	15,300.00	6,898.94	7,034.50	6,941.59	75.710	SF
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	12,260.02	6,709.19	3,717.68	3,643.64	50.212	CC
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	12,300.00	6,709.75	3,717.89	3,643.61	50.050	ES
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	13,000.00	6,719.10	3,790.59	3,712.75	48.693	SF
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	12,871.73	6,679.02	4,050.47	3,861.74	21.462	CC
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	12,900.00	6,679.02	4,050.57	3,861.66	21.442	ES
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	13,300.00	6,679.02	4,073.05	3,881.85	21.303	SF
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	12,904.36	6,703.55	4,041.88	3,963.19	51.371	CC, ES
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	13,700.00	6,712.04	4,119.43	4,036.54	49.693	SF
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	13,399.78	7,500.00	4,603.66	4,459.84	32.009	CC
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	13,500.00	7,500.00	4,604.76	4,458.31	31.444	ES
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	15,200.00	7,500.00	4,943.13	4,763.19	27.471	SF
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,671.40	6,694.02	3,762.44	3,567.48	19.298	CC
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,700.00	6,694.02	3,762.55	3,567.40	19.281	ES
Webster 09-28 (PR) - Original Drilling - Original Drilling -	14,000.00	6,694.01	3,776.77	3,579.90	19.184	SF
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	12,333.25	6,727.07	5,054.83	4,980.17	67.705	CC, ES
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	13,700.00	6,727.38	5,236.34	5,154.44	63.930	SF
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	13,710.87	6,715.44	3,747.40	3,662.69	44.234	CC, ES
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	14,400.00	6,717.81	3,810.24	3,721.99	43.176	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 33						
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	0.00	0.00	4,824.18			
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	1,400.00	1,346.90	4,830.57	4,821.24	518.158	ES
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	11,100.00	6,680.73	6,527.67	6,465.27	104.603	SF
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	2,000.00	1,964.00	4,827.77	4,781.56	104.460	CC
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	2,100.00	2,063.98	4,829.52	4,780.95	99.443	ES
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	7,300.00	6,644.02	6,225.32	6,066.98	39.316	SF
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	566.44	535.46	3,503.40	3,499.91	1,002.008	CC
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	1,300.00	1,243.24	3,506.44	3,497.84	407.979	ES
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	8,400.00	6,842.56	5,075.28	5,023.91	98.813	SF
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	2,000.18	1,969.64	5,670.64	5,656.99	415.264	CC, ES
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	11,400.00	6,639.63	7,944.84	7,882.09	126.629	SF
French 09-33 (SI) - Original Drilling - Original Drilling - As	1,282.52	1,254.57	2,499.53	2,490.95	291.284	CC
French 09-33 (SI) - Original Drilling - Original Drilling - As	2,014.82	1,998.11	2,502.33	2,488.54	181.396	ES
French 09-33 (SI) - Original Drilling - Original Drilling - As	9,200.00	6,618.70	3,631.05	3,577.45	67.744	SF
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	100.00	55.40	2,106.21	2,105.99	9,401.556	CC
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	1,000.00	951.66	2,110.29	2,103.78	324.087	ES
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	7,300.00	6,544.94	3,494.11	3,446.17	72.878	SF
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	1,064.81	1,033.81	2,887.63	2,880.61	411.243	CC
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	1,900.00	1,843.36	2,889.57	2,876.73	225.048	ES
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	8,900.00	6,557.40	4,409.76	4,357.93	85.079	SF
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	1,738.77	1,729.79	7,434.48	7,422.62	626.526	CC
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	2,011.55	2,027.95	7,435.24	7,421.36	535.531	ES
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	14,500.00	6,667.03	8,327.54	8,243.56	99.159	SF
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	0.00	0.00	6,495.83			
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	2,010.94	2,020.38	6,497.38	6,483.52	468.918	ES
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	13,100.00	6,711.35	8,296.05	8,222.27	112.437	SF
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	11,159.90	6,684.03	6,191.65	6,015.14	35.079	CC
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	11,200.00	6,684.03	6,191.78	6,015.03	35.031	ES
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	12,300.00	6,684.02	6,295.74	6,112.63	34.382	SF
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	11,187.75	6,383.33	4,650.66	4,585.12	70.964	CC
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	11,200.00	6,383.96	4,650.67	4,585.06	70.882	ES
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	12,500.00	6,429.38	4,832.00	4,759.56	66.710	SF
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	11,150.65	6,688.41	4,765.95	4,699.72	71.952	CC
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	11,200.00	6,688.61	4,766.21	4,699.68	71.639	ES
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	12,500.00	6,693.90	4,953.29	4,880.13	67.708	SF
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	2,049.37	2,093.48	4,324.67	4,310.34	301.954	CC, ES
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	11,100.00	6,802.30	5,277.78	5,213.86	82.575	SF
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	0.00	0.00	6,341.66			
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	2,002.09	1,977.70	6,345.01	6,331.33	463.895	ES
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	12,500.00	6,702.39	8,640.48	8,571.36	124.994	SF
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	2,003.97	1,978.88	6,151.01	6,137.29	448.475	CC, ES
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	11,400.00	6,656.53	8,867.44	8,805.55	143.263	SF
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	11,147.72	6,540.72	3,477.11	3,411.88	53.309	CC, ES
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	11,900.00	6,547.00	3,557.55	3,488.65	51.631	SF
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	100.00	60.72	3,762.66	3,762.43	10,000.000	CC
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	400.00	344.59	3,763.65	3,761.42	1,685.590	ES
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	10,100.00	6,803.59	5,123.14	5,064.99	88.100	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 34						
Barthol A34-05X - Original Drilling - Original Drilling - As D	9,841.45	6,669.11	2,356.28	2,298.34	40.666	CC, ES
Barthol A34-05X - Original Drilling - Original Drilling - As D	10,200.00	6,667.03	2,383.40	2,323.99	40.117	SF
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	10,884.33	6,668.42	1,821.68	1,757.16	28.232	CC
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	10,900.00	6,668.36	1,821.75	1,757.10	28.177	ES
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	11,200.00	6,667.17	1,848.83	1,782.01	27.667	SF
Howard A34-03 (PA) - Original Drilling - Original Drilling -	11,027.02	6,700.03	952.22	776.03	5.405	CC, ES, SF
Howard BC A34-02 - Original Drilling - Original Drilling - A	10,901.09	6,689.91	157.17	92.65	2.436	CC, ES, SF
Landwehr A34-03X - Original Drilling - Original Drilling - A	11,192.97	6,715.99	1,013.75	947.07	15.203	CC, ES
Landwehr A34-03X - Original Drilling - Original Drilling - A	11,200.00	6,715.90	1,013.77	947.07	15.199	SF
Landwehr A34-04 - Original Drilling - Original Drilling - As	11,204.25	6,741.92	2,501.86	2,434.85	37.336	CC, ES
Landwehr A34-04 - Original Drilling - Original Drilling - As	11,600.00	6,757.53	2,532.92	2,464.05	36.781	SF
Petrikin A34-05 (PA) - Original Drilling - Original Drilling -	9,680.79	6,677.04	2,269.46	2,101.98	13.551	CC
Petrikin A34-05 (PA) - Original Drilling - Original Drilling -	9,700.00	6,677.04	2,269.54	2,101.98	13.544	ES
Petrikin A34-05 (PA) - Original Drilling - Original Drilling -	9,800.00	6,677.04	2,272.59	2,104.60	13.528	SF
Petrikin A34-06 - Original Drilling - Original Drilling - As D	9,716.38	6,697.63	936.99	879.45	16.285	CC, ES, SF
Petrikin A34-07 (PA) - Original Drilling - Original Drilling -	9,788.65	6,662.04	389.81	222.03	2.323	CC, ES
Petrikin A34-07 (PA) - Original Drilling - Original Drilling -	9,800.00	6,662.04	389.97	222.06	2.322	SF
Petrikin A34-08 - Original Drilling - Original Drilling - As D	9,808.30	6,659.86	1,820.55	1,762.66	31.446	CC, ES
Petrikin A34-08 - Original Drilling - Original Drilling - As D	10,100.00	6,649.47	1,843.74	1,783.91	30.817	SF
Petrikin A34-09 - Original Drilling - Original Drilling - As D	8,505.77	6,722.70	1,842.19	1,790.67	35.758	CC, ES
Petrikin A34-09 - Original Drilling - Original Drilling - As D	8,800.00	6,710.43	1,865.49	1,812.62	35.282	SF
Petrikin A34-10 - Original Drilling - Original Drilling - As D	8,512.57	6,711.85	574.61	523.33	11.206	CC, ES, SF
Petrikin A34-11 - Original Drilling - Original Drilling - As D	8,471.24	6,660.08	899.46	848.09	17.513	CC, ES
Petrikin A34-11 - Original Drilling - Original Drilling - As D	8,500.00	6,660.06	899.92	848.48	17.497	SF
Petrikin A34-12 (PA) - Original Drilling - Original Drilling -	2,081.90	2,091.26	1,540.64	1,526.29	107.370	CC
Petrikin A34-12 (PA) - Original Drilling - Original Drilling -	2,100.00	2,110.98	1,540.66	1,526.18	106.392	ES
Petrikin A34-12 (PA) - Original Drilling - Original Drilling -	8,800.00	6,753.95	2,172.88	2,119.80	40.940	SF
Petrikin A34-13 - Original Drilling - Original Drilling - As D	1,711.60	1,680.68	863.90	852.29	74.429	CC
Petrikin A34-13 - Original Drilling - Original Drilling - As D	2,000.00	1,963.68	865.02	851.39	63.476	ES
Petrikin A34-13 - Original Drilling - Original Drilling - As D	7,250.00	6,620.59	2,216.71	2,168.39	45.875	SF
Petrikin A34-14 (PA) - Original Drilling - Original Drilling -	2,732.67	2,703.56	92.34	73.43	4.882	CC, ES, SF
Petrikin A34-15 - Original Drilling - Original Drilling - As D	7,155.55	6,652.28	393.08	344.87	8.153	CC, ES, SF
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	7,202.74	6,600.63	1,780.52	1,732.14	36.798	CC, ES
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	7,250.00	6,607.39	1,781.07	1,732.63	36.769	SF
Petrikin A34-25 - Original Drilling - Original Drilling - As D	1,894.22	1,864.34	805.66	792.75	62.405	CC
Petrikin A34-25 - Original Drilling - Original Drilling - As D	2,100.00	2,065.23	806.44	792.11	56.245	ES
Petrikin A34-25 - Original Drilling - Original Drilling - As D	8,000.00	6,635.21	1,514.45	1,464.85	30.530	SF
Reveille A33-720 - Reveille A33-720 OH - APD - Rev 1	2,000.00	2,000.00	43.72	29.85	3.151	CC, ES
Reveille A33-720 - Reveille A33-720 OH - APD - Rev 1	2,100.00	2,099.29	44.51	29.94	3.056	SF
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,000.00	2,000.00	21.86	7.99	1.576	CC
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,100.00	2,099.86	22.16	7.59	1.521	ES
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,200.00	2,199.71	23.07	7.81	1.512	SF
Reveille A34-768 - Reveille A34-768 OH - APD - Rev 1	2,150.76	2,149.69	109.27	94.33	7.317	CC
Reveille A34-768 - Reveille A34-768 OH - APD - Rev 1	2,200.00	2,198.84	109.31	94.03	7.154	ES
Reveille A34-768 - Reveille A34-768 OH - APD - Rev 1	2,300.00	2,294.78	111.52	95.58	6.994	SF
Reveille A34-778 - Reveille A34-778 OH - APD - Rev 1	2,146.20	2,145.13	87.40	72.50	5.865	CC
Reveille A34-778 - Reveille A34-778 OH - APD - Rev 1	2,200.00	2,201.16	87.46	72.17	5.721	ES
Reveille A34-778 - Reveille A34-778 OH - APD - Rev 1	2,400.00	2,397.70	90.67	73.99	5.434	SF
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	2,000.00	2,000.00	65.58	51.71	4.727	CC, ES
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	2,100.00	2,098.70	66.54	51.98	4.570	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
A Section 35						
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	8,557.93	6,698.73	2,772.16	2,720.32	53.476	CC, ES
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	9,300.00	6,651.59	2,869.34	2,814.02	51.863	SF
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	6,950.85	6,642.30	2,866.32	2,818.50	59.937	CC, ES
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	7,200.00	6,717.87	2,876.92	2,828.53	59.453	SF
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	7,163.62	6,578.61	4,292.95	4,244.84	89.230	CC, ES
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	8,800.00	6,546.81	4,590.16	4,537.65	87.416	SF
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	8,304.57	6,802.69	5,954.68	5,903.71	116.829	CC, ES
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	11,500.00	6,685.81	6,756.88	6,690.23	101.368	SF
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	7,350.93	6,419.20	5,838.33	5,790.43	121.894	CC, ES
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	11,000.00	11,000.00	6,882.81	6,804.58	87.975	SF
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	7,189.97	6,720.69	7,167.93	7,119.36	147.584	CC, ES
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	11,900.00	6,673.77	8,581.28	8,513.37	126.367	SF
Reveille A34-714 - Reveille A34-714 OH - APD - Rev 1	16,817.91	16,585.72	2,122.51	1,951.24	12.393	CC, ES, SF
Reveille A34-725 - Reveille A34-725 OH - APD - Rev 1	16,817.91	16,748.11	1,415.09	1,243.31	8.238	CC, ES, SF
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	6,993.65	7,170.33	709.60	658.52	13.892	CC
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	16,817.91	17,013.07	710.66	538.33	4.124	ES, SF
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	4,111.26	2,669.19	4,014.46	3,991.37	173.864	CC
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	4,200.00	2,700.00	4,014.82	3,991.33	170.938	ES
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	16,817.91	17,020.06	4,953.49	4,781.68	28.832	SF
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	4,440.27	3,000.00	3,934.99	3,909.42	153.883	CC
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	4,500.00	3,030.13	3,935.17	3,909.28	151.999	ES
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	16,817.91	16,779.87	4,245.35	4,073.30	24.674	SF
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	6,641.05	5,784.78	3,514.77	3,469.34	77.358	CC
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	16,817.91	16,546.89	3,538.53	3,367.56	20.696	ES, SF
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	16,817.91	16,509.58	2,830.41	2,659.45	16.556	CC, ES, SF
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	11,138.55	6,654.35	5,683.89	5,617.92	86.162	CC
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	11,200.00	6,655.23	5,684.22	5,617.80	85.585	ES
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	13,400.00	6,682.46	6,117.16	6,036.72	76.046	SF
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	9,616.35	6,491.60	5,776.17	5,719.85	102.548	CC, ES
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	12,300.00	6,595.58	6,368.38	6,296.21	88.241	SF
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	10,913.13	6,684.30	4,324.94	4,260.42	67.036	CC, ES
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	12,400.00	6,674.93	4,573.38	4,499.34	61.769	SF
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	11,230.02	6,666.07	3,032.22	2,965.62	45.529	CC, ES
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	12,000.00	6,676.83	3,128.43	3,056.62	43.569	SF
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	9,778.10	6,660.10	2,969.87	2,910.08	49.667	CC
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	9,800.00	6,659.05	2,969.96	2,910.03	49.557	ES
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	10,500.00	6,625.55	3,056.16	2,992.17	47.762	SF
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	9,804.90	6,745.80	4,348.33	4,290.57	75.288	CC, ES
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	11,400.00	6,755.43	4,631.65	4,564.36	68.832	SF
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	10,227.75	6,672.88	3,724.72	3,664.57	61.929	CC, ES
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	11,400.00	6,700.98	3,904.73	3,837.25	57.863	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
A Section 36						
Devries State A36-17 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Devries State A36-21 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Devries State A36-23 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Devries State A36-25 - Wellbore #1 - Wellbore #1 - As Dr	7,839.51	6,572.60	8,971.30	8,922.15	182.516	CC, ES
Devries State A36-25 - Wellbore #1 - Wellbore #1 - As Dr	12,200.00	6,532.30	9,974.78	9,903.63	140.198	SF
Scholfield A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A	10,470.75	6,750.42	8,812.66	8,750.77	142.400	CC
Scholfield A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A	10,500.00	6,749.41	8,812.71	8,750.63	141.965	ES
Scholfield A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A	15,100.00	6,652.57	9,953.76	9,863.56	110.345	SF
Scholfield A36-20 - Wellbore #1 - Wellbore #1 - As Drilled	9,213.21	6,505.38	8,820.68	8,766.53	162.872	CC
Scholfield A36-20 - Wellbore #1 - Wellbore #1 - As Drilled	9,300.00	6,506.01	8,821.11	8,766.50	161.519	ES
Scholfield A36-20 - Wellbore #1 - Wellbore #1 - As Drilled	13,900.00	6,527.59	9,988.50	9,906.82	122.288	SF
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	11,202.93	6,878.35	8,192.40	8,125.50	122.463	CC
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	11,800.00	11,800.00	8,214.00	8,125.34	92.649	ES
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As	12,100.00	12,100.00	8,240.94	8,149.07	89.695	SF
Scholfield State A36-69HN - Original Drilling - Original Dr	11,711.57	6,034.48	8,230.51	8,163.70	123.193	CC
Scholfield State A36-69HN - Original Drilling - Original Dr	11,800.00	6,034.57	8,230.99	8,163.52	122.001	ES
Scholfield State A36-69HN - Original Drilling - Original Dr	15,800.00	6,048.01	9,190.06	9,097.65	99.439	SF
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	6,700.00	10,343.45	7,620.92	7,516.95	73.299	SF
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	8,300.00	9,267.02	7,527.40	7,437.79	84.005	ES
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	10,560.86	6,937.11	7,513.94	7,446.64	111.662	CC
Sinjin E 36-9 (SI) - Wellbore #1 - No Surveys						Out of range
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	9,833.31	6,673.88	8,312.28	8,254.40	143.605	CC
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	9,900.00	6,673.32	8,312.55	8,254.26	142.625	ES
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled	14,600.00	6,637.14	9,581.99	9,496.09	111.544	SF
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled	9,709.86	6,612.12	9,607.40	9,550.35	168.410	CC
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled	9,800.00	6,610.00	9,607.82	9,550.25	166.887	ES
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled	12,400.00	6,545.49	9,976.73	9,902.54	134.475	SF
State A36-07 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-08 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-09 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-10 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled	8,397.37	6,804.34	9,643.57	9,592.16	187.584	CC
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled	8,400.00	6,804.29	9,643.57	9,592.16	187.550	ES
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled	11,000.00	6,756.39	9,988.49	9,923.18	152.942	SF
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	8,473.40	6,717.45	8,266.09	8,214.66	160.727	CC
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	8,500.00	6,717.42	8,266.14	8,214.61	160.414	ES
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	13,800.00	6,712.54	9,833.67	9,753.99	123.426	SF
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,256.32	6,542.39	8,281.95	8,233.85	172.196	CC, ES
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	12,800.00	6,591.26	9,961.73	9,888.80	136.602	SF
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled	7,207.03	6,634.41	9,632.53	9,474.56	60.976	CC
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled	7,250.00	6,639.61	9,632.63	9,474.50	60.919	ES
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled	9,800.00	6,642.04	9,975.33	9,807.74	59.522	SF
State A36-15 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-16 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1	11,101.38	6,400.01	9,665.25	9,599.94	147.994	CC
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1	11,200.00	6,400.01	9,665.76	9,599.75	146.445	ES
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1	13,600.00	6,383.92	9,982.98	9,900.28	120.724	SF
State A36-99HZ - Original Drilling - As Drilled	11,479.97	6,131.01	8,223.58	8,157.56	124.559	CC
State A36-99HZ - Original Drilling - As Drilled	11,500.00	6,131.01	8,223.60	8,157.43	124.285	ES
State A36-99HZ - Original Drilling - As Drilled	15,600.00	6,131.01	9,197.93	9,106.11	100.181	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA Section 30						
Shadow A26-622 - Original Drilling - Original Drilling - As	12,446.39	17,520.00	5,699.64	5,617.89	69.715	CC
Shadow A26-622 - Original Drilling - Original Drilling - As	12,500.00	17,520.00	5,699.89	5,617.69	69.337	ES
Shadow A26-622 - Original Drilling - Original Drilling - As	16,300.00	17,520.00	6,880.13	6,745.51	51.106	SF
Shadow A26-627 - Original Drilling - Original Drilling - As	12,839.31	17,590.00	5,562.76	5,478.01	65.643	CC
Shadow A26-627 - Original Drilling - Original Drilling - As	12,900.00	17,590.00	5,563.09	5,477.85	65.262	ES
Shadow A26-627 - Original Drilling - Original Drilling - As	16,700.00	17,590.00	6,771.20	6,625.12	46.352	SF
Shadow A26-632 - Original Drilling - Original Drilling - As	13,139.38	17,781.00	5,570.84	5,488.29	67.486	CC
Shadow A26-632 - Original Drilling - Original Drilling - As	13,200.00	17,781.00	5,571.17	5,487.83	66.852	ES
Shadow A26-632 - Original Drilling - Original Drilling - As	16,817.91	17,781.00	6,675.76	6,518.20	42.369	SF
Shadow A26-637 - Original Drilling - Original Drilling - As	13,425.11	17,626.00	5,566.27	5,484.40	67.986	CC
Shadow A26-637 - Original Drilling - Original Drilling - As	13,500.00	17,626.00	5,566.78	5,483.95	67.206	ES
Shadow A26-637 - Original Drilling - Original Drilling - As	16,817.91	17,626.00	6,518.78	6,365.24	42.457	SF
Shadow A26-646 - Original Drilling - Original Drilling - As	14,104.11	17,659.00	5,566.97	5,478.38	62.835	CC
Shadow A26-646 - Original Drilling - Original Drilling - As	14,200.00	17,659.00	5,567.80	5,478.18	62.128	ES
Shadow A26-646 - Original Drilling - Original Drilling - As	16,817.91	17,659.00	6,193.21	6,048.39	42.765	SF
Shadow A26-656 - Original Drilling - Original Drilling - As	14,747.12	17,347.00	5,940.53	5,841.75	60.142	CC
Shadow A26-656 - Original Drilling - Original Drilling - As	14,800.00	17,347.00	5,940.77	5,841.48	59.833	ES
Shadow A26-656 - Original Drilling - Original Drilling - As	16,817.91	17,347.00	6,291.11	6,162.87	49.058	SF
Shadow A26-663 - Original Drilling - Original Drilling - As	15,303.89	17,466.00	5,795.10	5,691.73	56.061	CC
Shadow A26-663 - Original Drilling - Original Drilling - As	15,400.00	17,466.00	5,795.90	5,691.70	55.624	ES
Shadow A26-663 - Original Drilling - Original Drilling - As	16,817.91	17,466.00	5,989.61	5,865.54	48.277	SF
Shadow A26-672 - Original Drilling - Original Drilling - As	15,795.92	17,710.00	5,555.84	5,454.49	54.816	CC
Shadow A26-672 - Original Drilling - Original Drilling - As	15,900.00	17,710.00	5,556.81	5,454.24	54.174	ES
Shadow A26-672 - Original Drilling - Original Drilling - As	16,817.91	17,710.00	5,649.05	5,528.53	46.870	SF
Shadow A26-676 - Original Drilling - Original Drilling - As	16,081.84	17,725.00	5,565.46	5,455.94	50.818	CC
Shadow A26-676 - Original Drilling - Original Drilling - As	16,100.00	17,725.00	5,565.49	5,455.79	50.733	ES
Shadow A26-676 - Original Drilling - Original Drilling - As	16,817.91	17,725.00	5,613.92	5,494.45	46.989	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	12,200.00	17,810.00	7,206.31	6,916.60	24.875	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	16,770.40	17,810.00	5,571.56	5,457.06	48.662	CC
Shadow A26-685 - Original Drilling - Original Drilling - As	16,817.91	17,810.00	5,571.76	5,456.57	48.369	ES
Shadow A26-690 - Original Drilling - Original Drilling - As	15,000.00	17,780.00	5,899.32	5,781.97	50.273	SF
Shadow A26-690 - Original Drilling - Original Drilling - As	16,817.91	17,780.00	5,553.22	5,443.52	50.622	CC, ES
Shadow State A26-614 - Original Drilling - Original Drilling	11,909.85	17,675.00	5,568.20	5,489.80	71.016	CC
Shadow State A26-614 - Original Drilling - Original Drilling	12,000.00	17,675.00	5,568.93	5,489.61	70.206	ES
Shadow State A26-614 - Original Drilling - Original Drilling	15,600.00	17,675.00	6,679.98	6,549.66	51.258	SF
Shadow State A26-618 - Original Drilling - Original Drilling	12,157.17	17,415.00	5,734.30	5,654.85	72.181	CC
Shadow State A26-618 - Original Drilling - Original Drilling	12,200.00	17,415.00	5,734.46	5,654.62	71.829	ES
Shadow State A26-618 - Original Drilling - Original Drilling	16,200.00	17,415.00	7,016.17	6,875.09	49.733	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
B Section 01						
Lucci B01-69HNL - Original Drilling - Original Drilling - As	6,808.57	6,043.00	8,343.13	8,297.98	184.779	CC, ES
Lucci B01-69HNL - Original Drilling - Original Drilling - As	12,100.00	6,043.00	9,982.35	9,915.48	149.270	SF
Lucci B01-99HZ - Original Drilling - Original Drilling - As	6,737.09	5,887.00	8,406.83	8,362.95	191.580	CC, ES
Lucci B01-99HZ - Original Drilling - Original Drilling - As	11,500.00	5,918.00	9,954.66	9,891.89	158.588	SF
Lucci BC B 01-13 (PA) - Wellbore #1 - Gyro Surveys	6,501.92	5,933.99	9,540.76	9,496.56	215.814	CC, ES
Lucci BC B 01-13 (PA) - Wellbore #1 - Gyro Surveys	7,050.00	6,314.56	9,700.65	9,653.91	207.541	SF
Lucci BC B 1-14 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-15 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-16 (PA) - Wellbore #1 - Wellbore #1						Out of range
Lucci State B03-69HNL - Original Drilling - Original Drilling	6,737.38	14,651.29	366.76	177.94	1.942	CC
Lucci State B03-69HNL - Original Drilling - Original Drilling	6,800.00	14,648.10	374.85	165.58	1.791	ES
Lucci State B03-69HNL - Original Drilling - Original Drilling	6,850.00	14,647.26	392.31	171.15	1.774	SF
SLW Ranch B01-62-1HN - Original Drilling - As Drilled	6,545.28	11,286.02	9,667.06	9,573.99	103.862	CC
SLW Ranch B01-62-1HN - Original Drilling - As Drilled	6,550.00	11,286.02	9,667.08	9,573.97	103.822	ES
SLW Ranch B01-62-1HN - Original Drilling - As Drilled	7,305.72	11,286.02	9,957.76	9,858.83	100.655	SF
SLW Ranch B01-63-1HN - Original Drilling - As Drilled	6,563.95	11,250.02	9,337.90	9,255.70	113.597	CC, ES
SLW Ranch B01-63-1HN - Original Drilling - As Drilled	8,000.00	11,250.02	9,984.08	9,888.99	104.996	SF
SLW Ranch B01-64-1HN - Original Drilling - As Drilled	6,596.37	11,274.02	9,055.49	8,981.04	121.622	CC
SLW Ranch B01-64-1HN - Original Drilling - As Drilled	6,600.00	11,274.02	9,055.50	8,981.02	121.574	ES
SLW Ranch B01-64-1HN - Original Drilling - As Drilled	8,600.00	11,274.02	9,963.67	9,870.16	106.551	SF
SLW Ranch B01-66-1HN - Original Drilling - Original Drill	6,665.16	11,201.02	8,596.39	8,519.52	111.825	CC, ES
SLW Ranch B01-66-1HN - Original Drilling - Original Drill	9,900.00	11,201.02	9,972.79	9,859.41	87.963	SF
SLW Ranch B01-67-1HN - Original Drilling - As Drilled - S	6,709.69	11,165.02	8,425.44	8,361.26	131.270	CC, ES
SLW Ranch B01-67-1HN - Original Drilling - As Drilled - S	10,600.00	11,165.02	9,993.62	9,881.97	89.505	SF
SLW Ranch B01-68-1HN - Original Drilling - Original Drill	6,762.92	11,204.02	8,300.45	8,248.36	159.361	CC, ES
SLW Ranch B01-68-1HN - Original Drilling - Original Drill	11,200.00	11,204.02	9,949.78	9,870.25	125.107	SF
SLW Ranch B01-69-1HN - Original Drilling - As Drilled	6,823.56	11,247.02	8,229.31	8,174.35	149.749	CC, ES
SLW Ranch B01-69-1HN - Original Drilling - As Drilled	11,900.00	11,247.02	9,988.81	9,878.78	90.779	SF
SLW Ranch B12-69-1HN - Wellbore #1 - Wellbore #1- As						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
B Section 02						
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	6,660.67	6,404.62	3,289.93	3,243.77	71.273	CC, ES
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	6,910.05	6,575.48	3,320.76	3,273.50	70.262	SF
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	6,489.18	6,202.45	3,949.33	3,904.28	87.662	CC
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	6,500.00	6,216.87	3,949.40	3,904.27	87.504	ES
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	6,800.00	6,457.32	4,011.21	3,964.43	85.744	SF
Bucklen 01-02 - Wellbore #1 - Wellbore #1- As Drilled	6,395.55	6,145.40	5,748.94	5,703.95	127.789	CC
Bucklen 01-02 - Wellbore #1 - Wellbore #1- As Drilled	6,400.00	6,149.25	5,748.95	5,703.93	127.702	ES
Bucklen 01-02 - Wellbore #1 - Wellbore #1- As Drilled	6,800.00	6,470.38	5,870.74	5,823.45	124.154	SF
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	6,417.27	6,043.86	4,658.86	4,614.32	104.589	CC, ES
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	6,750.00	6,317.95	4,737.09	4,690.60	101.887	SF
Buckmur B02-14 - Wellbore #1 - Wellbore #1- As Drilled	6,421.52	5,949.19	6,633.65	6,589.47	150.130	CC, ES
Buckmur B02-14 - Wellbore #1 - Wellbore #1- As Drilled	6,850.00	6,262.37	6,758.41	6,711.97	145.518	SF
Buckmur B02-25 - Wellbore #1 - Wellbore #1- As Drilled	6,434.78	6,153.05	5,533.38	5,488.51	123.315	CC, ES
Buckmur B02-25 - Wellbore #1 - Wellbore #1- As Drilled	6,800.00	6,431.04	5,627.99	5,581.11	120.054	SF
Cougar B02-67-1HN - Original Drilling - Original Drilling -	6,441.17	5,857.93	3,579.73	3,535.66	81.229	CC
Cougar B02-67-1HN - Original Drilling - Original Drilling -	6,450.00	5,863.33	3,579.77	3,535.65	81.131	ES
Cougar B02-67-1HN - Original Drilling - Original Drilling -	6,700.00	5,998.65	3,618.65	3,573.29	79.767	SF
Cougar B02-68-1HN - Original Drilling - Original Drilling -	6,534.77	6,085.87	3,388.16	3,346.86	82.025	CC, ES
Cougar B02-68-1HN - Original Drilling - Original Drilling -	6,750.00	6,149.00	3,414.84	3,372.72	81.076	SF
Cougar B02-69-1HN - Original Drilling - Original Drilling -	6,596.80	6,015.31	3,183.13	3,142.89	79.102	CC
Cougar B02-69-1HN - Original Drilling - Original Drilling -	6,600.00	6,015.88	3,183.14	3,142.89	79.079	ES
Cougar B02-69-1HN - Original Drilling - Original Drilling -	6,800.00	6,101.00	3,204.63	3,163.60	78.106	SF
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	6,905.70	6,810.01	6,271.89	6,223.88	130.621	CC
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	11,300.00	11,176.02	6,333.83	6,201.90	48.008	ES
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	12,600.00	11,176.02	6,477.02	6,337.13	46.299	SF
Foe B02-02 - Wellbore #1 - Wellbore #1- As Drilled	6,718.57	6,446.93	5,763.31	5,716.72	123.708	CC, ES
Foe B02-02 - Wellbore #1 - Wellbore #1- As Drilled	7,150.00	6,646.71	5,828.62	5,780.57	121.307	SF
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	6,589.83	6,263.60	6,015.85	5,970.34	132.199	CC
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	6,600.00	6,270.94	6,015.90	5,970.34	132.036	ES
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	7,050.00	6,529.54	6,118.25	6,070.84	129.049	SF
Foemeyer B02-17 - Original Drilling - Original Drilling - As	6,645.77	6,215.15	6,278.94	6,233.30	137.578	CC
Foemeyer B02-17 - Original Drilling - Original Drilling - As	6,650.00	6,220.21	6,278.95	6,233.28	137.494	ES
Foemeyer B02-17 - Original Drilling - Original Drilling - As	7,050.00	6,500.01	6,344.15	6,296.75	133.843	SF
Fritzler B02-03 - Wellbore #1 - Original Drilling	6,695.67	6,362.52	4,607.99	4,456.58	30.434	CC
Fritzler B02-03 - Wellbore #1 - Original Drilling	6,700.00	6,365.97	4,608.00	4,456.51	30.418	ES
Fritzler B02-03 - Wellbore #1 - Original Drilling	7,100.00	6,598.10	4,670.96	4,514.12	29.781	SF
Fritzler B02-06 - Original Drilling - Original Drilling	6,542.24	6,236.53	4,704.73	4,556.34	31.706	CC
Fritzler B02-06 - Original Drilling - Original Drilling	6,550.00	6,243.50	4,704.76	4,556.21	31.671	ES
Fritzler B02-06 - Original Drilling - Original Drilling	6,910.05	6,517.00	4,781.22	4,626.36	30.875	SF
Fritzler B2-19 - Original Drilling - Original Drilling	6,593.24	6,293.75	3,827.31	3,677.63	25.570	CC
Fritzler B2-19 - Original Drilling - Original Drilling	6,600.00	6,299.63	3,827.34	3,677.52	25.546	ES
Fritzler B2-19 - Original Drilling - Original Drilling	6,910.05	6,529.00	3,880.12	3,725.03	25.018	SF
Lonewolf B02-65HC - Original Drilling - As Drilled	6,429.29	6,160.63	3,953.85	3,909.34	88.824	CC, ES
Lonewolf B02-65HC - Original Drilling - As Drilled	6,600.00	6,251.01	3,976.93	3,931.51	87.569	SF
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	6,429.33	6,160.63	3,953.44	3,908.42	87.815	CC, ES
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	6,600.00	6,251.01	3,976.50	3,930.58	86.590	SF
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	6,429.29	6,160.63	3,953.85	3,909.34	88.823	CC, ES
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	6,600.00	6,251.01	3,976.93	3,931.51	87.567	SF
M&M 02-23 - Wellbore #1 - Wellbore #1- As Drilled	6,503.83	6,277.16	7,589.97	7,540.67	153.925	CC, ES
M&M 02-23 - Wellbore #1 - Wellbore #1- As Drilled	6,800.00	6,400.01	7,644.58	7,594.15	151.578	SF
Meyer B02-01 - Original Driling - Original Driling - As Drill	6,747.01	6,369.26	7,068.43	7,022.00	152.221	CC
Meyer B02-01 - Original Driling - Original Driling - As Drill	6,750.00	6,370.92	7,068.44	7,021.99	152.178	ES
Meyer B02-01 - Original Driling - Original Driling - As Drill	10,800.00	6,423.58	8,578.28	8,517.51	141.160	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
B Section 02						
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	6,626.99	6,300.01	7,335.97	7,290.23	160.376	CC, ES
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	9,900.00	6,500.01	8,802.83	8,746.65	156.682	SF
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	6,543.11	6,154.37	7,800.07	7,755.05	173.247	CC
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	6,550.00	6,159.44	7,800.09	7,755.03	173.094	ES
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	7,050.00	6,435.56	7,932.92	7,885.80	168.372	SF
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	6,492.62	6,085.19	8,475.27	8,430.60	189.729	CC
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	6,500.00	6,090.67	8,475.31	8,430.59	189.540	ES
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	6,950.00	6,384.96	8,598.76	8,551.95	183.688	SF
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	6,479.11	6,173.74	5,587.27	5,542.30	124.248	CC, ES
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	6,850.00	6,415.33	5,675.84	5,629.03	121.258	SF
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	6,519.55	6,100.01	6,643.77	6,598.85	147.911	CC, ES
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	6,910.05	6,284.29	6,731.90	6,685.34	144.577	SF
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	6,523.87	6,759.14	7,320.54	7,273.84	156.755	CC, ES
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	6,800.00	6,916.01	7,371.40	7,323.38	153.495	SF
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	6,292.58	5,327.01	5,449.38	5,407.17	129.080	CC, ES
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	6,650.00	5,642.77	5,545.79	5,501.18	124.312	SF
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	6,361.90	5,955.00	5,137.13	5,093.71	118.333	CC, ES
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	6,600.00	6,045.00	5,182.78	5,138.26	116.397	SF
Wolfpack B02-64-1HN - Original Drilling - Original Drilling	6,374.42	5,938.36	4,575.08	4,531.76	105.618	CC, ES
Wolfpack B02-64-1HN - Original Drilling - Original Drilling	6,600.00	6,000.01	4,616.42	4,572.09	104.145	SF
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	6,408.83	5,989.65	4,188.12	4,145.71	98.762	CC, ES
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	6,600.00	6,062.01	4,219.18	4,175.85	97.367	SF
Wolfpack B02-65HN - Original Drilling - Original Drilling -	6,417.98	6,062.01	4,041.18	3,998.42	94.510	CC, ES
Wolfpack B02-65HN - Original Drilling - Original Drilling -	6,650.00	6,090.30	4,083.07	4,039.41	93.518	SF
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	6,418.95	6,108.01	3,568.83	3,523.79	79.233	CC, ES
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	6,600.00	6,133.14	3,594.82	3,549.16	78.732	SF
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	5,400.00	7,072.01	4,204.04	4,092.75	37.777	SF
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	5,666.62	6,108.32	4,088.46	3,987.62	40.543	CC, ES
B Section 03						
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	6,379.25	6,115.16	4,154.95	4,110.01	92.462	CC, ES
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	6,700.00	6,498.77	4,230.85	4,183.66	89.638	SF
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	6,340.53	6,060.90	924.20	879.34	20.601	CC, ES
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	6,450.00	6,162.51	934.27	888.58	20.450	SF
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	6,405.98	6,122.41	2,962.66	2,917.78	66.010	CC, ES
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	6,650.00	6,346.54	3,006.96	2,960.50	64.720	SF
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	6,342.68	5,940.72	4,998.46	4,953.99	112.400	CC
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	6,350.00	5,945.78	4,998.50	4,953.98	112.278	ES
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	6,650.00	6,162.91	5,073.00	5,026.71	109.583	SF
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	6,300.48	5,981.70	4,831.53	4,786.75	107.889	CC, ES
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	6,700.00	6,438.92	4,952.06	4,904.40	103.922	SF
B Section 04						
Bauer 1 (PA) - Wellbore #1 - No Surveys	2,000.00	1,967.00	6,298.44	6,252.16	136.104	CC
Bauer 1 (PA) - Wellbore #1 - No Surveys	2,100.00	2,066.98	6,300.13	6,251.51	129.564	ES
Bauer 1 (PA) - Wellbore #1 - No Surveys	7,200.00	6,638.29	7,679.05	7,520.76	48.515	SF
Bauer 2 (PA) - Wellbore #1 - No Surveys	2,000.00	1,964.00	3,759.44	3,735.37	156.151	CC, ES
Bauer 2 (PA) - Wellbore #1 - No Surveys	7,100.00	6,611.10	5,083.44	5,000.23	61.092	SF
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	1,633.98	1,600.18	4,972.43	4,961.38	449.680	CC
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	1,800.00	1,728.59	4,973.10	4,961.00	411.004	ES
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	7,050.00	6,590.45	6,354.51	6,306.66	132.810	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-746
Project:	Wells Ranch	TVD Reference:	KB @ 4661.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4661.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-746 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
B Section 05						
Ehrlich 1 (TA) - Wellbore #1 - Gyro Surveys						Out of range
Ehrlich 5E-323 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5E-423 (DG) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5J-203 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5J-223 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5J-243 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5J-303 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5J-323 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5M-243 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Ehrlich 5M-343 (PR) - Wellbore #1 - Permitted-PDC						Out of range
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	756.04	725.04	7,560.30	7,555.46	1,562.492	CC
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	2,000.00	1,945.81	7,565.88	7,552.32	558.005	ES
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	10,400.00	6,650.27	9,980.85	9,923.35	173.570	SF
Noffsinger 21-5 (TA) - Wellbore #1 - Gyro Surveys						Out of range
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys	100.00	33.65	8,843.89	8,843.71	10,000.000	CC
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys	2,008.34	1,985.84	8,846.48	8,832.75	644.528	ES
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys	6,100.00	5,782.52	9,994.49	9,952.05	235.514	SF
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	6,234.96	16,156.48	3,981.15	3,789.55	20.779	CC, ES
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	6,450.00	16,156.48	4,005.38	3,812.44	20.760	SF
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	6,164.30	14,787.56	2,935.62	2,867.91	43.355	CC, ES
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	8,900.00	14,787.56	3,966.87	3,790.79	22.528	SF
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	6,100.00	14,729.08	2,974.09	2,887.17	34.217	ES
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	6,116.79	14,729.08	2,974.04	2,887.25	34.264	CC
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	8,500.00	14,729.08	3,899.06	3,725.84	22.509	SF
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	6,085.66	15,299.73	3,015.75	2,913.09	29.375	CC, ES
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	8,400.00	15,299.73	3,964.35	3,779.08	21.398	SF
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	6,178.57	15,736.33	3,120.84	3,001.86	26.229	CC, ES
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	8,100.00	15,736.33	3,926.00	3,738.15	20.900	SF
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	6,153.81	15,406.96	3,208.14	3,076.29	24.331	CC, ES
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	7,800.00	15,406.96	3,886.70	3,704.78	21.365	SF
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	6,212.43	15,878.12	3,361.12	3,212.48	22.613	CC, ES
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	7,600.00	15,878.12	3,943.25	3,754.52	20.894	SF
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	6,188.52	15,556.58	3,469.58	3,311.57	21.958	ES
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	6,194.52	15,556.58	3,469.57	3,311.58	21.961	CC
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	7,300.00	15,556.58	3,898.20	3,714.89	21.265	SF
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	6,223.03	16,001.51	3,611.48	3,441.96	21.304	CC, ES
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	7,150.00	16,001.51	3,944.98	3,755.71	20.844	SF
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	6,188.52	15,681.01	3,768.20	3,589.13	21.043	SF
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	6,211.54	15,681.01	3,767.94	3,588.89	21.044	CC, ES

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