

Project: Wells Ranch
Site: A Section 34
Well: Reveille A34-778
Wellbore: Reveille A34-778 OH
Design: APD - Rev 1

Northern Region - DJ Basin

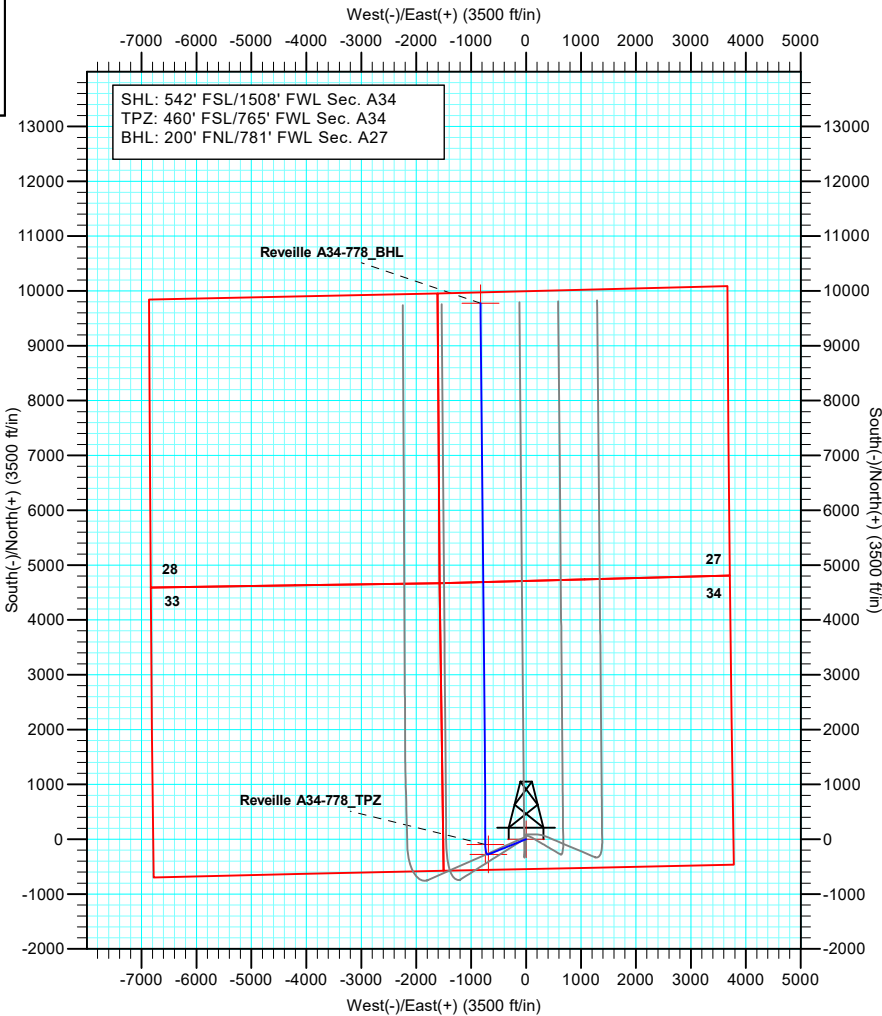
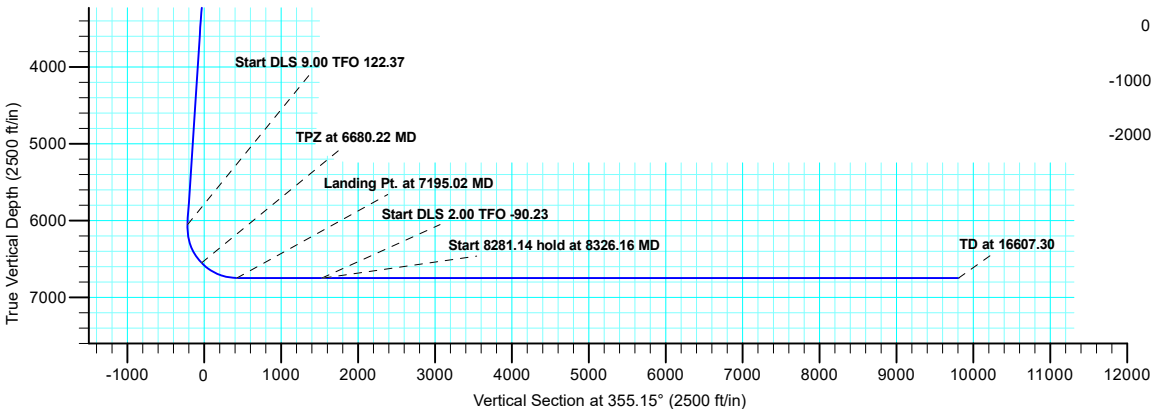
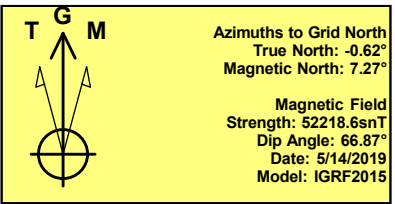
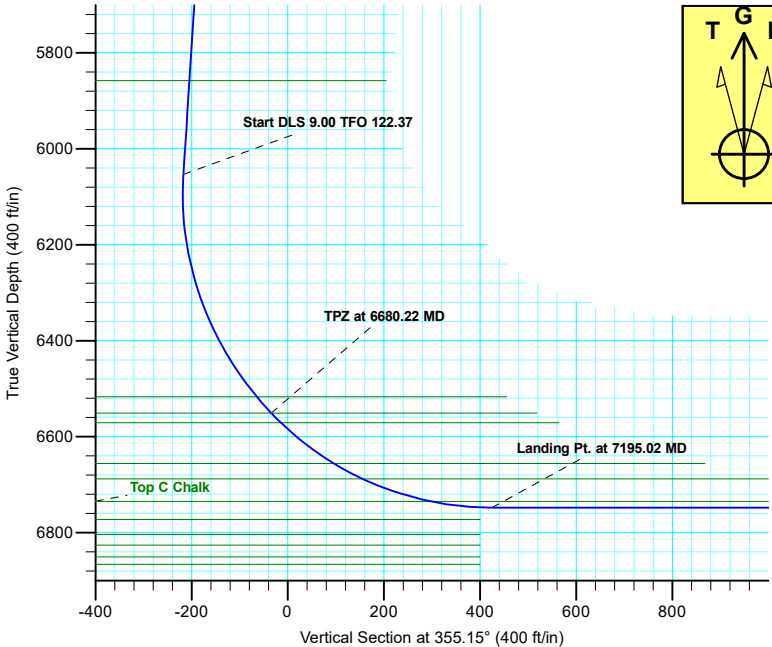
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

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	2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00
3	3022.73	12.45	248.03	3017.84	-25.22	-62.52	2.00	248.03	-19.84
4	6131.52	12.45	248.03	6053.46	-276.05	-684.29	0.00	0.00	-217.17
5	6680.22	43.67	359.84	6551.00	-97.55	-743.41	9.00	122.37	-34.31
6	7195.02	90.00	359.84	6748.03	362.95	-744.73	9.00	0.00	424.65
7	8306.02	90.00	359.84	6748.00	1473.95	-747.90	0.00	0.00	1531.93
8	8326.16	90.00	359.43	6748.00	1494.08	-748.02	2.00	-90.23	1552.01
9	16607.30	90.00	359.43	6748.00	9774.82	-829.85	0.00	0.00	9809.98

WELL DETAILS: Reveille A34-778

+N/-S	+E/-W	Ground Level: Northing	Ground Level: Easting	Ground Level: Latitude	Ground Level: Longitude	Slot
0.00	0.00	1403488.55	3267126.91	40.4370100	-104.5403300	



Plan: APD - Rev 1 (Reveille A34-778/Reveille A34-778 OH)

Created By: Shelly C. Peterkin Date: 10:45, July 22 2019

Northern Region - DJ Basin

Wells Ranch

A Section 34

Reveille A34-778

Reveille A34-778 OH

Plan: APD - Rev 1

Standard Planning Report

22 July, 2019

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A34-778
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-778 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 A34-778			
Well Position	+N/-S	112.92 ft	Northing:	1,403,488.55 usft
	+E/-W	-1.22 ft	Easting:	3,267,126.91 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	4,630.00 ft

Wellbore	Reveille A34-778 OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/14/2019	7.89	66.87	52,218.55636780

Design	APD - Rev 1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	355.15

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	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,022.73	12.45	248.03	3,017.84	-25.22	-62.52	2.00	2.00	0.00	248.03	
6,131.52	12.45	248.03	6,053.46	-276.05	-684.29	0.00	0.00	0.00	0.00	
6,680.22	43.67	359.84	6,551.00	-97.55	-743.41	9.00	5.69	20.38	122.37	Reveille A34-778_TP;
7,195.02	90.00	359.84	6,748.03	362.95	-744.73	9.00	9.00	0.00	0.00	
8,306.02	90.00	359.84	6,748.00	1,473.95	-747.90	0.00	0.00	0.00	0.00	Reveille A34-778_IP
8,326.16	90.00	359.43	6,748.00	1,494.08	-748.02	2.00	-0.01	-2.00	-90.23	
16,607.30	90.00	359.43	6,748.00	9,774.82	-829.85	0.00	0.00	0.00	0.00	Reveille A34-778_BH

Noble Energy, Inc.

Planning Report

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Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-778 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
269.00	0.00	0.00	269.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
395.00	0.00	0.00	395.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,438.00	0.00	0.00	1,438.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,500.00	2.00	248.03	2,499.98	-0.65	-1.62	-0.51	2.00	2.00	0.00
2,600.00	4.00	248.03	2,599.84	-2.61	-6.47	-2.05	2.00	2.00	0.00
2,700.00	6.00	248.03	2,699.45	-5.87	-14.55	-4.62	2.00	2.00	0.00
2,800.00	8.00	248.03	2,798.70	-10.43	-25.86	-8.21	2.00	2.00	0.00
2,900.00	10.00	248.03	2,897.47	-16.28	-40.36	-12.81	2.00	2.00	0.00
3,000.00	12.00	248.03	2,995.62	-23.42	-58.06	-18.43	2.00	2.00	0.00
3,022.73	12.45	248.03	3,017.84	-25.22	-62.52	-19.84	2.00	2.00	0.00
Start 3108.78 hold at 3022.73 MD									
3,100.00	12.45	248.03	3,093.29	-31.46	-77.98	-24.75	0.00	0.00	0.00
3,200.00	12.45	248.03	3,190.94	-39.52	-97.98	-31.09	0.00	0.00	0.00
3,300.00	12.45	248.03	3,288.58	-47.59	-117.98	-37.44	0.00	0.00	0.00
3,400.00	12.45	248.03	3,386.23	-55.66	-137.98	-43.79	0.00	0.00	0.00
3,500.00	12.45	248.03	3,483.88	-63.73	-157.98	-50.14	0.00	0.00	0.00
3,547.24	12.45	248.03	3,530.00	-67.54	-167.42	-53.13	0.00	0.00	0.00
Parkman									
3,600.00	12.45	248.03	3,581.52	-71.80	-177.98	-56.48	0.00	0.00	0.00
3,700.00	12.45	248.03	3,679.17	-79.87	-197.98	-62.83	0.00	0.00	0.00
3,800.00	12.45	248.03	3,776.82	-87.93	-217.98	-69.18	0.00	0.00	0.00
3,900.00	12.45	248.03	3,874.46	-96.00	-237.98	-75.53	0.00	0.00	0.00
4,000.00	12.45	248.03	3,972.11	-104.07	-257.98	-81.87	0.00	0.00	0.00
4,100.00	12.45	248.03	4,069.76	-112.14	-277.98	-88.22	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

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Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-778 OH		
Design:	APD - Rev 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,200.00	12.45	248.03	4,167.40	-120.21	-297.98	-94.57	0.00	0.00	0.00
4,260.01	12.45	248.03	4,226.00	-125.05	-309.98	-98.38	0.00	0.00	0.00
Sussex									
4,300.00	12.45	248.03	4,265.05	-128.27	-317.98	-100.92	0.00	0.00	0.00
4,400.00	12.45	248.03	4,362.70	-136.34	-337.98	-107.26	0.00	0.00	0.00
4,500.00	12.45	248.03	4,460.34	-144.41	-357.98	-113.61	0.00	0.00	0.00
4,600.00	12.45	248.03	4,557.99	-152.48	-377.98	-119.96	0.00	0.00	0.00
4,700.00	12.45	248.03	4,655.64	-160.55	-397.98	-126.31	0.00	0.00	0.00
4,800.00	12.45	248.03	4,753.28	-168.62	-417.98	-132.65	0.00	0.00	0.00
4,876.52	12.45	248.03	4,828.00	-174.79	-433.29	-137.51	0.00	0.00	0.00
Shannon									
4,900.00	12.45	248.03	4,850.93	-176.68	-437.99	-139.00	0.00	0.00	0.00
5,000.00	12.45	248.03	4,948.58	-184.75	-457.99	-145.35	0.00	0.00	0.00
5,100.00	12.45	248.03	5,046.22	-192.82	-477.99	-151.70	0.00	0.00	0.00
5,200.00	12.45	248.03	5,143.87	-200.89	-497.99	-158.04	0.00	0.00	0.00
5,300.00	12.45	248.03	5,241.52	-208.96	-517.99	-164.39	0.00	0.00	0.00
5,400.00	12.45	248.03	5,339.16	-217.03	-537.99	-170.74	0.00	0.00	0.00
5,500.00	12.45	248.03	5,436.81	-225.09	-557.99	-177.09	0.00	0.00	0.00
5,600.00	12.45	248.03	5,534.46	-233.16	-577.99	-183.43	0.00	0.00	0.00
5,700.00	12.45	248.03	5,632.10	-241.23	-597.99	-189.78	0.00	0.00	0.00
5,800.00	12.45	248.03	5,729.75	-249.30	-617.99	-196.13	0.00	0.00	0.00
5,900.00	12.45	248.03	5,827.40	-257.37	-637.99	-202.48	0.00	0.00	0.00
5,931.34	12.45	248.03	5,858.00	-259.90	-644.26	-204.46	0.00	0.00	0.00
Teepee Buttes									
6,000.00	12.45	248.03	5,925.04	-265.44	-657.99	-208.82	0.00	0.00	0.00
6,100.00	12.45	248.03	6,022.69	-273.50	-677.99	-215.17	0.00	0.00	0.00
6,131.52	12.45	248.03	6,053.46	-276.05	-684.29	-217.17	0.00	0.00	0.00
Start DLS 9.00 TFO 122.37									
6,150.00	11.65	255.01	6,071.54	-277.28	-687.95	-218.09	9.00	-4.37	37.74
6,200.00	10.51	277.84	6,120.63	-277.96	-697.34	-217.97	9.00	-2.27	45.67
6,250.00	11.19	301.64	6,169.76	-274.79	-706.00	-214.08	9.00	1.37	47.60
6,300.00	13.42	320.12	6,218.63	-267.79	-713.86	-206.44	9.00	4.46	36.97
6,350.00	16.59	332.57	6,266.93	-256.99	-720.87	-195.09	9.00	6.33	24.90
6,400.00	20.25	340.89	6,314.37	-242.47	-726.99	-180.10	9.00	7.33	16.63
6,450.00	24.19	346.67	6,360.65	-224.32	-732.19	-161.58	9.00	7.88	11.57
6,500.00	28.29	350.89	6,405.50	-202.64	-736.43	-139.62	9.00	8.19	8.44
6,550.00	32.48	354.11	6,448.62	-177.57	-739.68	-114.37	9.00	8.39	6.44
6,600.00	36.75	356.66	6,489.76	-149.27	-741.93	-85.98	9.00	8.52	5.10
6,634.68	39.73	358.15	6,517.00	-127.84	-742.90	-64.53	9.00	8.60	4.29
Sharon Springs									
6,650.00	41.05	358.74	6,528.67	-117.91	-743.17	-54.62	9.00	8.64	3.91
6,680.22	43.67	359.84	6,551.00	-97.55	-743.41	-34.31	9.00	8.66	3.61
TPZ at 6680.22 MD - Top A Chalk									
6,700.00	45.45	359.84	6,565.09	-83.68	-743.45	-20.49	9.00	9.00	0.00
6,708.48	46.21	359.84	6,571.00	-77.59	-743.47	-14.42	9.00	9.00	0.00
Top A Marl									
6,750.00	49.95	359.84	6,598.73	-46.70	-743.56	16.36	9.00	9.00	0.00
6,800.00	54.45	359.84	6,629.37	-7.21	-743.67	55.73	9.00	9.00	0.00
6,848.43	58.81	359.84	6,656.00	33.22	-743.79	96.02	9.00	9.00	0.00
Top B Chalk									
6,850.00	58.95	359.84	6,656.81	34.57	-743.79	97.37	9.00	9.00	0.00
6,900.00	63.45	359.84	6,680.90	78.38	-743.92	141.03	9.00	9.00	0.00
6,916.31	64.92	359.84	6,688.00	93.06	-743.96	155.66	9.00	9.00	0.00

Noble Energy, Inc.

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Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Top B Marl									
6,950.00	67.95	359.84	6,701.47	123.93	-744.05	186.43	9.00	9.00	0.00
7,000.00	72.45	359.84	6,718.40	170.97	-744.18	233.31	9.00	9.00	0.00
7,050.00	76.95	359.84	6,731.59	219.18	-744.32	281.36	9.00	9.00	0.00
7,065.97	78.39	359.84	6,735.00	234.78	-744.36	296.91	9.00	9.00	0.00
Top C Chalk									
7,100.00	81.45	359.84	6,740.96	268.28	-744.46	330.30	9.00	9.00	0.00
7,150.00	85.95	359.84	6,746.44	317.97	-744.60	379.82	9.00	9.00	0.00
7,195.02	90.00	359.84	6,748.03	362.95	-744.73	424.65	9.00	9.00	0.00
Landing Pt. at 7195.02 MD									
7,200.00	90.00	359.84	6,748.03	367.93	-744.74	429.61	0.00	0.00	0.00
7,300.00	90.00	359.84	6,748.03	467.93	-745.03	529.28	0.00	0.00	0.00
7,400.00	90.00	359.84	6,748.03	567.93	-745.31	628.94	0.00	0.00	0.00
7,500.00	90.00	359.84	6,748.02	667.93	-745.60	728.61	0.00	0.00	0.00
7,600.00	90.00	359.84	6,748.02	767.93	-745.88	828.27	0.00	0.00	0.00
7,700.00	90.00	359.84	6,748.02	867.93	-746.17	927.94	0.00	0.00	0.00
7,800.00	90.00	359.84	6,748.01	967.93	-746.45	1,027.60	0.00	0.00	0.00
7,900.00	90.00	359.84	6,748.01	1,067.93	-746.74	1,127.27	0.00	0.00	0.00
8,000.00	90.00	359.84	6,748.01	1,167.93	-747.02	1,226.93	0.00	0.00	0.00
8,100.00	90.00	359.84	6,748.01	1,267.93	-747.31	1,326.60	0.00	0.00	0.00
8,200.00	90.00	359.84	6,748.00	1,367.93	-747.59	1,426.26	0.00	0.00	0.00
8,306.02	90.00	359.84	6,748.00	1,473.95	-747.90	1,531.93	0.00	0.00	0.00
Start DLS 2.00 TFO -90.23									
8,326.16	90.00	359.43	6,748.00	1,494.08	-748.02	1,552.01	2.00	-0.01	-2.00
Start 8281.14 hold at 8326.16 MD									
8,400.00	90.00	359.43	6,748.00	1,567.92	-748.75	1,625.64	0.00	0.00	0.00
8,500.00	90.00	359.43	6,748.00	1,667.92	-749.74	1,725.36	0.00	0.00	0.00
8,600.00	90.00	359.43	6,748.00	1,767.91	-750.73	1,825.08	0.00	0.00	0.00
8,700.00	90.00	359.43	6,748.00	1,867.91	-751.72	1,924.80	0.00	0.00	0.00
8,800.00	90.00	359.43	6,748.00	1,967.90	-752.71	2,024.52	0.00	0.00	0.00
8,900.00	90.00	359.43	6,748.00	2,067.90	-753.70	2,124.24	0.00	0.00	0.00
9,000.00	90.00	359.43	6,748.00	2,167.89	-754.68	2,223.96	0.00	0.00	0.00
9,100.00	90.00	359.43	6,748.00	2,267.89	-755.67	2,323.68	0.00	0.00	0.00
9,200.00	90.00	359.43	6,748.00	2,367.88	-756.66	2,423.40	0.00	0.00	0.00
9,300.00	90.00	359.43	6,748.00	2,467.88	-757.65	2,523.12	0.00	0.00	0.00
9,400.00	90.00	359.43	6,748.00	2,567.87	-758.64	2,622.84	0.00	0.00	0.00
9,500.00	90.00	359.43	6,748.00	2,667.87	-759.62	2,722.56	0.00	0.00	0.00
9,600.00	90.00	359.43	6,748.00	2,767.86	-760.61	2,822.28	0.00	0.00	0.00
9,700.00	90.00	359.43	6,748.00	2,867.86	-761.60	2,922.01	0.00	0.00	0.00
9,800.00	90.00	359.43	6,748.00	2,967.85	-762.59	3,021.73	0.00	0.00	0.00
9,900.00	90.00	359.43	6,748.00	3,067.85	-763.58	3,121.45	0.00	0.00	0.00
10,000.00	90.00	359.43	6,748.00	3,167.84	-764.56	3,221.17	0.00	0.00	0.00
10,100.00	90.00	359.43	6,748.00	3,267.84	-765.55	3,320.89	0.00	0.00	0.00
10,200.00	90.00	359.43	6,748.00	3,367.83	-766.54	3,420.61	0.00	0.00	0.00
10,300.00	90.00	359.43	6,748.00	3,467.83	-767.53	3,520.33	0.00	0.00	0.00
10,400.00	90.00	359.43	6,748.00	3,567.82	-768.52	3,620.05	0.00	0.00	0.00
10,500.00	90.00	359.43	6,748.00	3,667.82	-769.51	3,719.77	0.00	0.00	0.00
10,600.00	90.00	359.43	6,748.00	3,767.81	-770.49	3,819.49	0.00	0.00	0.00
10,700.00	90.00	359.43	6,748.00	3,867.81	-771.48	3,919.21	0.00	0.00	0.00
10,800.00	90.00	359.43	6,748.00	3,967.80	-772.47	4,018.93	0.00	0.00	0.00
10,900.00	90.00	359.43	6,748.00	4,067.80	-773.46	4,118.65	0.00	0.00	0.00
11,000.00	90.00	359.43	6,748.00	4,167.80	-774.45	4,218.37	0.00	0.00	0.00
11,100.00	90.00	359.43	6,748.00	4,267.79	-775.43	4,318.09	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A34-778
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-778 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)
11,200.00	90.00	359.43	6,748.00	4,367.79	-776.42	4,417.81	0.00	0.00	0.00
11,300.00	90.00	359.43	6,748.00	4,467.78	-777.41	4,517.53	0.00	0.00	0.00
11,400.00	90.00	359.43	6,748.00	4,567.78	-778.40	4,617.25	0.00	0.00	0.00
11,500.00	90.00	359.43	6,748.00	4,667.77	-779.39	4,716.97	0.00	0.00	0.00
11,600.00	90.00	359.43	6,748.00	4,767.77	-780.38	4,816.69	0.00	0.00	0.00
11,700.00	90.00	359.43	6,748.00	4,867.76	-781.36	4,916.41	0.00	0.00	0.00
11,800.00	90.00	359.43	6,748.00	4,967.76	-782.35	5,016.13	0.00	0.00	0.00
11,900.00	90.00	359.43	6,748.00	5,067.75	-783.34	5,115.85	0.00	0.00	0.00
12,000.00	90.00	359.43	6,748.00	5,167.75	-784.33	5,215.57	0.00	0.00	0.00
12,100.00	90.00	359.43	6,748.00	5,267.74	-785.32	5,315.29	0.00	0.00	0.00
12,200.00	90.00	359.43	6,748.00	5,367.74	-786.30	5,415.01	0.00	0.00	0.00
12,300.00	90.00	359.43	6,748.00	5,467.73	-787.29	5,514.73	0.00	0.00	0.00
12,400.00	90.00	359.43	6,748.00	5,567.73	-788.28	5,614.45	0.00	0.00	0.00
12,500.00	90.00	359.43	6,748.00	5,667.72	-789.27	5,714.17	0.00	0.00	0.00
12,600.00	90.00	359.43	6,748.00	5,767.72	-790.26	5,813.89	0.00	0.00	0.00
12,700.00	90.00	359.43	6,748.00	5,867.71	-791.24	5,913.61	0.00	0.00	0.00
12,800.00	90.00	359.43	6,748.00	5,967.71	-792.23	6,013.33	0.00	0.00	0.00
12,900.00	90.00	359.43	6,748.00	6,067.70	-793.22	6,113.05	0.00	0.00	0.00
13,000.00	90.00	359.43	6,748.00	6,167.70	-794.21	6,212.77	0.00	0.00	0.00
13,100.00	90.00	359.43	6,748.00	6,267.69	-795.20	6,312.49	0.00	0.00	0.00
13,200.00	90.00	359.43	6,748.00	6,367.69	-796.19	6,412.22	0.00	0.00	0.00
13,300.00	90.00	359.43	6,748.00	6,467.68	-797.17	6,511.94	0.00	0.00	0.00
13,400.00	90.00	359.43	6,748.00	6,567.68	-798.16	6,611.66	0.00	0.00	0.00
13,500.00	90.00	359.43	6,748.00	6,667.67	-799.15	6,711.38	0.00	0.00	0.00
13,600.00	90.00	359.43	6,748.00	6,767.67	-800.14	6,811.10	0.00	0.00	0.00
13,700.00	90.00	359.43	6,748.00	6,867.66	-801.13	6,910.82	0.00	0.00	0.00
13,800.00	90.00	359.43	6,748.00	6,967.66	-802.11	7,010.54	0.00	0.00	0.00
13,900.00	90.00	359.43	6,748.00	7,067.65	-803.10	7,110.26	0.00	0.00	0.00
14,000.00	90.00	359.43	6,748.00	7,167.65	-804.09	7,209.98	0.00	0.00	0.00
14,100.00	90.00	359.43	6,748.00	7,267.64	-805.08	7,309.70	0.00	0.00	0.00
14,200.00	90.00	359.43	6,748.00	7,367.64	-806.07	7,409.42	0.00	0.00	0.00
14,300.00	90.00	359.43	6,748.00	7,467.63	-807.06	7,509.14	0.00	0.00	0.00
14,400.00	90.00	359.43	6,748.00	7,567.63	-808.04	7,608.86	0.00	0.00	0.00
14,500.00	90.00	359.43	6,748.00	7,667.62	-809.03	7,708.58	0.00	0.00	0.00
14,600.00	90.00	359.43	6,748.00	7,767.62	-810.02	7,808.30	0.00	0.00	0.00
14,700.00	90.00	359.43	6,748.00	7,867.61	-811.01	7,908.02	0.00	0.00	0.00
14,800.00	90.00	359.43	6,748.00	7,967.61	-812.00	8,007.74	0.00	0.00	0.00
14,900.00	90.00	359.43	6,748.00	8,067.60	-812.98	8,107.46	0.00	0.00	0.00
15,000.00	90.00	359.43	6,748.00	8,167.60	-813.97	8,207.18	0.00	0.00	0.00
15,100.00	90.00	359.43	6,748.00	8,267.60	-814.96	8,306.90	0.00	0.00	0.00
15,200.00	90.00	359.43	6,748.00	8,367.59	-815.95	8,406.62	0.00	0.00	0.00
15,300.00	90.00	359.43	6,748.00	8,467.59	-816.94	8,506.34	0.00	0.00	0.00
15,400.00	90.00	359.43	6,748.00	8,567.58	-817.92	8,606.06	0.00	0.00	0.00
15,500.00	90.00	359.43	6,748.00	8,667.58	-818.91	8,705.78	0.00	0.00	0.00
15,600.00	90.00	359.43	6,748.00	8,767.57	-819.90	8,805.50	0.00	0.00	0.00
15,700.00	90.00	359.43	6,748.00	8,867.57	-820.89	8,905.22	0.00	0.00	0.00
15,800.00	90.00	359.43	6,748.00	8,967.56	-821.88	9,004.94	0.00	0.00	0.00
15,900.00	90.00	359.43	6,748.00	9,067.56	-822.87	9,104.66	0.00	0.00	0.00
16,000.00	90.00	359.43	6,748.00	9,167.55	-823.85	9,204.38	0.00	0.00	0.00
16,100.00	90.00	359.43	6,748.00	9,267.55	-824.84	9,304.10	0.00	0.00	0.00
16,200.00	90.00	359.43	6,748.00	9,367.54	-825.83	9,403.82	0.00	0.00	0.00
16,300.00	90.00	359.43	6,748.00	9,467.54	-826.82	9,503.54	0.00	0.00	0.00
16,400.00	90.00	359.43	6,748.00	9,567.53	-827.81	9,603.26	0.00	0.00	0.00
16,500.00	90.00	359.43	6,748.00	9,667.53	-828.79	9,702.98	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A34-778
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-778 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)
16,607.30	90.00	359.43	6,748.00	9,774.82	-829.85	9,809.98	0.00	0.00	0.00
TD at 16607.30									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Reveille A34-778_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	1,403,488.56	3,267,126.91	40.4370100	-104.5403300
Reveille A34-778_KOP - plan hits target center - Point	0.00	0.00	6,053.47	-276.05	-684.30	1,403,212.51	3,266,442.61	40.4362726	-104.5427989
Reveille A34-778_TPZ - plan hits target center - Point	0.00	0.00	6,551.00	-97.55	-743.41	1,403,391.00	3,266,383.50	40.4367643	-104.5430043
Reveille A34-778_BHL - plan hits target center - Point	0.00	0.00	6,748.00	9,774.82	-829.85	1,413,263.35	3,266,297.06	40.4638647	-104.5429320

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
269.00	269.00	Pierre				
395.00	395.00	Upper Pierre Aquifer Top				
1,438.00	1,438.00	Upper Pierre Aquifer Base				
3,547.24	3,530.00	Parkman				
4,260.01	4,226.00	Sussex				
4,876.52	4,828.00	Shannon				
5,931.34	5,858.00	Teepee Buttes				
6,634.68	6,517.00	Sharon Springs				
6,680.22	6,551.00	Top A Chalk				
6,708.48	6,571.00	Top A Marl				
6,848.43	6,656.00	Top B Chalk				
6,916.31	6,688.00	Top B Marl				
7,065.97	6,735.00	Top C Chalk				

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Reveille A34-778
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Project:	Wells Ranch	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site:	A Section 34	North Reference:	Grid
Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Wellbore:	Reveille A34-778 OH		
Design:	APD - Rev 1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,400.00	2,400.00	0.00	0.00	Start Build 2.00
3,022.73	3,017.84	-25.22	-62.52	Start 3108.78 hold at 3022.73 MD
6,131.52	6,053.46	-276.05	-684.29	Start DLS 9.00 TFO 122.37
6,680.22	6,551.00	-97.55	-743.41	TPZ at 6680.22 MD
7,195.02	6,748.03	362.95	-744.73	Landing Pt. at 7195.02 MD
8,306.02	6,748.00	1,473.95	-747.90	Start DLS 2.00 TFO -90.23
8,326.16	6,748.00	1,494.08	-748.02	Start 8281.14 hold at 8326.16 MD
16,607.30	6,748.00	9,774.82	-829.85	TD at 16607.30

Northern Region - DJ Basin

Wells Ranch

A Section 34

Reveille A34-778

Reveille A34-778 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 A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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	16,607.30	APD - Rev 1 (Reveille A34-778 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	16,607.30	6,866.55	4,414.44	4,317.01	45.309	CC, ES, SF
Culbreath 33-21 (PA) - Original Drilling - Original Drilling -	16,607.30	6,806.00	3,465.79	3,261.23	16.943	CC, ES, SF
Harper A21-618 - Harper A21-618 OH - As-Drilled	16,607.30	11,816.19	718.91	622.48	7.455	CC, ES, SF
Harper A21-626 - Harper A21-626 OH - As-Drilled	16,607.30	11,717.20	1,282.67	1,189.05	13.701	CC, ES, SF
Harper A21-631 - Harper A21-631 OH - As-Drilled	16,607.30	11,772.88	1,638.86	1,543.58	17.201	CC, ES, SF
Harper A21-637 - Harper A21-637 OH - As-Drilled	16,607.30	11,782.74	1,998.78	1,904.86	21.282	CC, ES, SF
Harper A21-643 - Harper A21-643 OH - As-Drilled	16,607.30	11,731.56	2,461.36	2,367.63	26.262	CC, ES, SF
Harper A21-649 - Harper A21-649 OH - As-Drilled	16,607.30	11,720.13	2,794.30	2,701.27	30.037	CC, ES, SF
Harper A21-656 - Harper A21-656 OH - As-Drilled	16,607.30	12,124.00	3,149.48	3,051.03	31.990	CC, ES, SF
Harper A21-664 - Harper A21-664 OH - As-Drilled	16,607.30	12,125.83	3,674.57	3,578.30	38.171	CC, ES, SF
Harper A21-669 - Harper A21-669 OH - As-Drilled	16,607.30	12,379.49	4,015.93	3,916.31	40.314	CC, ES, SF
Harper A21-674 - Harper A21-674 OH - As-Drilled	16,607.30	12,458.64	4,358.45	4,259.87	44.212	CC, ES, SF
Harper A21-681 - Harper A21-681 OH - As-Drilled	16,607.30	11,833.00	4,795.13	4,703.34	52.238	CC, ES, SF
Kona A19-616 - Kona A19-616 - Kona A19-616 - As Drille	16,607.30	6,329.00	4,715.29	4,613.96	46.534	CC, ES, SF
Kona A19-624 - Kona A19-624 - Kona A19-624 - As Drille	16,607.30	6,422.00	4,698.16	4,598.58	47.177	CC, ES, SF
Kona A19-636 - Kona A19-636 - Kona A19-636 - As Drille	16,607.30	6,327.00	4,622.61	4,523.88	46.822	CC, ES, SF
Kona A19-646 - Original Drilling - Original Drilling - As Dr	16,607.30	6,380.66	5,186.48	5,094.77	56.553	CC, ES, SF
Kona A19-662 - Original Drilling - Original Drilling - As Dr	16,607.30	6,136.00	5,802.51	5,714.94	66.268	CC, ES, SF
Kona A19-670 - Kona A19-670 - Original Drilling - As Dril	16,607.30	6,231.00	5,860.75	5,775.40	68.670	CC, ES, SF
Kona A19-685 - Original Drilling - Original Drilling - As Dr	16,607.30	6,015.51	5,891.14	5,807.12	70.118	CC, ES, SF
McKee 12-21 (PA) - Original Drilling - Original Drilling - A	16,607.30	6,842.00	6,295.84	6,085.72	29.964	CC, ES, SF
McKee 21-21 (PA) - Original Drilling - Original Drilling - A	16,607.30	6,858.00	5,949.80	5,755.41	30.608	CC, ES, SF
McKee 22-21 - Original Drilling - Original Drilling - As Dril	15,500.00	15,500.00	6,002.16	5,894.97	55.995	SF
McKee 22-21 - Original Drilling - Original Drilling - As Dril	16,607.30	6,894.53	5,237.06	5,146.88	58.077	CC, ES
McKee 31-21 - Original Drilling - Original Drilling - As Dril	16,607.30	7,000.66	5,651.48	5,580.25	79.335	CC, ES, SF
McKee 32-21 - Original Drilling - Original Drilling - As Dril	16,607.30	6,872.11	4,374.04	4,293.60	54.375	CC, ES, SF
McKee 41-21 - Original Drilling - Original Drilling - As Dril	16,607.30	6,708.88	5,082.04	5,023.37	86.618	CC, ES, SF
McKee 42-21 - Original Drilling - Original Drilling - As Dril	16,607.30	6,858.71	3,501.04	3,435.73	53.614	CC, ES, SF
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	6,650.00	17,710.57	2,087.94	1,971.63	17.951	SF
Rampart A33-730 - Rampart A33-730 - APD-Rev 1	16,323.16	8,119.48	2,070.75	1,961.29	18.917	CC, ES
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	6,650.00	17,508.92	2,739.18	2,623.31	23.642	SF
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	6,900.00	17,312.63	2,730.24	2,616.05	23.910	ES
Rampart A33-740 - Rampart A33-740 - APD-Rev 0	6,992.12	17,227.54	2,729.81	2,616.29	24.048	CC
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	6,600.00	17,098.54	3,405.59	3,291.04	29.730	SF
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	6,800.00	16,956.46	3,399.02	3,285.48	29.935	ES
Rampart A33-750 - Rampart A33-750 - APD-Rev 0	16,303.12	7,482.67	3,396.49	3,290.66	32.092	CC
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	6,600.00	16,951.15	4,041.56	3,927.51	35.438	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 A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 21						
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	6,850.00	16,767.30	4,034.14	3,921.16	35.709	ES
Rampart A33-760 - Rampart A33-760 - APD-Rev 1	16,296.71	7,348.62	4,031.27	3,926.91	38.630	CC
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	6,600.00	16,795.53	4,725.67	4,611.66	41.450	SF
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	6,750.00	16,707.05	4,721.43	4,607.76	41.538	ES
Rampart A33-770 - Rampart A33-770 - APD-Rev 0	16,300.36	7,185.23	4,716.90	4,613.62	45.669	CC
Sexton 43-21 (PA) - Original Drilling - Original Drilling - As	16,607.30	6,798.00	2,746.89	2,561.22	14.795	CC, ES, SF
Wells Trust 13-21 - Original Drilling - Original Drilling - As	16,607.30	6,879.87	5,784.62	5,681.00	55.827	CC, ES, SF
Wells Trust 14-21 - Original Drilling - Original Drilling - As	16,607.30	6,799.48	5,628.53	5,521.20	52.441	CC, ES, SF
Wells Trust 24-21 - Original Drilling - Original Drilling - As	16,607.30	6,832.38	4,796.85	4,690.05	44.915	CC, ES, SF
A Section 22						
Carpio 22-01 - Original Drilling - Original Drilling - As Drill	16,607.30	6,738.58	3,949.05	3,842.71	37.135	CC, ES, SF
Carpio 22-04-19 - Original Drilling - Original Drilling - As D	16,607.30	6,794.57	2,799.59	2,700.38	28.218	CC, ES, SF
Carpio 22-41 - Original Drilling - Original Drilling - As Drill	16,607.30	6,810.24	4,454.17	4,333.78	36.998	CC, ES, SF
Carpio 22-43 - Original Drilling - Original Drilling - As Drill	16,607.30	6,775.05	2,677.23	2,573.00	25.685	CC, ES, SF
Carpio 22-45 - Original Drilling - Original Drilling - As Drill	16,607.30	6,731.69	3,742.14	3,638.60	36.142	CC, ES, SF
Eisenstat 22-11 (PA) - Original Drilling - Original Drilling -	16,607.30	6,812.00	6,285.25	6,090.80	32.322	CC, ES, SF
Eisenstat 22-13 - Original Drilling - Original Drilling - As D	16,607.30	6,828.97	3,888.92	3,806.87	47.398	CC, ES, SF
Eisenstat 22-15 - Original Drilling - Original Drilling - As D	16,607.30	6,763.12	5,357.94	5,277.43	66.552	CC, ES, SF
Eisenstat 22-21 - Original Drilling - Original Drilling - As D	16,607.30	6,913.16	4,769.42	4,707.18	76.621	CC, ES, SF
Eisenstat 22-23 - Original Drilling - Original Drilling - As D	16,607.30	6,830.02	3,579.37	3,527.38	68.836	CC, ES, SF
Gill Land Assoc. 1 (PA) - Original Drilling - Original Drilling	16,607.30	6,813.00	5,166.38	4,962.77	25.373	CC, ES, SF
Gill Land Assoc. 22-02 (PA) - Original Drilling - Original D	16,607.30	6,823.00	3,603.49	3,427.05	20.424	CC, ES, SF
Gill Land Assoc. 22-03 - Original Drilling - Original Drilling	16,607.30	6,830.60	4,694.97	4,643.03	90.393	CC, ES, SF
Gill Land Assoc. 22-04 (PA) - Original Drilling - Original D	16,607.30	6,821.00	5,333.65	5,149.03	28.890	CC, ES, SF
Gruen 22-01 - Original Drilling - Original Drilling - As Drille	16,607.30	6,849.89	2,134.14	2,081.80	40.775	CC, ES, SF
Gruen 22-02 - Original Drilling - Original Drilling - As Drille	16,607.30	6,855.87	1,415.04	1,319.80	14.858	CC, ES, SF
Gruen 22-31 - Original Drilling - Original Drilling - As Drille	16,607.30	6,855.94	2,435.84	2,363.10	33.487	CC, ES, SF
Gruen 22-33 - Original Drilling - Original Drilling - As Drille	16,607.30	6,836.91	878.89	825.31	16.404	CC, ES, SF
Gruen 22-35 - Original Drilling - Original Drilling - As Drille	16,607.30	6,716.19	1,481.95	1,418.88	23.497	CC, ES, SF
Ottinger 22-01 - Original Drilling - Original Drilling - As Dr	16,607.30	6,829.57	3,372.72	3,281.80	37.095	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 23						
Cecil 23-13 - Original Drilling - Original Drilling - As Drilled	16,607.30	6,689.72	8,381.71	8,280.48	82.803	CC, ES, SF
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	16,607.30	6,772.00	5,590.93	5,376.21	26.039	CC, ES, SF
Champlin 23-03 - Original Drilling - Original Drilling - As D	16,607.30	6,700.00	6,319.84	6,212.47	58.857	CC, ES, SF
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	16,607.30	6,747.00	6,149.13	5,929.94	28.054	CC, ES, SF
Cooper 23-1-17 - Original Drilling - Original Drilling - As Dr	16,607.30	6,711.05	9,888.99	9,790.68	100.596	CC, ES, SF
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	16,607.30	6,598.48	8,488.65	8,390.35	86.355	CC, ES, SF
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	16,607.30	6,718.12	9,189.46	9,091.19	93.509	CC, ES, SF
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	16,607.30	6,711.47	7,899.35	7,795.97	76.409	CC, ES, SF
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	16,607.30	6,604.73	9,495.75	9,395.02	94.267	CC, ES, SF
Foss 41-23D - Original Drilling - Original Drilling - As Drill						Out of range
Foss 42-23 - Original Drilling - Original Drilling - As Drilled	16,607.30	6,709.30	9,544.34	9,440.37	91.794	CC, ES, SF
J&L Farms 23-11 - Original Drilling - Original Drilling - As	16,607.30	6,787.82	6,979.06	6,889.79	78.178	CC, ES, SF
J&L Farms 23-12 - Original Drilling - Original Drilling - As	16,607.30	6,750.46	5,955.23	5,858.70	61.691	CC, ES, SF
J&L Farms 23-21 - Original Drilling - Original Drilling - As	16,607.30	6,622.45	8,291.59	8,197.35	87.981	CC, ES, SF
J&L Farms 23-22 - Original Drilling - Original Drilling - As	16,607.30	6,754.67	7,338.13	7,238.28	73.489	CC, ES, SF
McIntosh 33-23 - Original Drilling - Original Drilling - As D	16,607.30	7,019.00	8,048.15	7,940.58	74.819	CC, ES, SF
McIntosh 34-23 - Original Drilling - Original Drilling - As D	16,607.30	6,794.91	7,996.06	7,887.84	73.887	CC, ES, SF
McIntosh 43-23 - Original Drilling - Original Drilling - As D	16,607.30	6,700.00	9,585.80	9,479.51	90.180	CC, ES, SF
McIntosh 44-23 - Original Drilling - Original Drilling - As D	16,607.30	6,768.56	9,393.72	9,285.50	86.802	CC, ES, SF
Schroeder 23-31 - Original Drilling - Original Drilling - As	16,607.30	6,790.57	6,943.80	6,837.90	65.571	CC, ES, SF
Schroeder 23-33 - Original Drilling - Original Drilling - As	16,607.30	6,727.42	5,041.50	4,933.83	46.822	CC, ES, SF
A Section 24						
Larson A23-622 - Larson A23-622 OH - As-drilled	16,000.00	17,299.00	4,812.74	4,685.27	37.758	SF
Larson A23-622 - Larson A23-622 OH - As-drilled	16,607.30	17,299.00	4,632.02	4,510.63	38.159	CC, ES
Larson A23-627 - Larson A23-627 OH - As-drilled	16,400.00	17,330.00	4,790.97	4,660.14	36.619	SF
Larson A23-627 - Larson A23-627 OH - As-drilled	16,607.30	17,330.00	4,723.66	4,594.79	36.657	CC, ES
Larson A23-633 - Larson A23-633 OH - As-drilled	16,607.30	17,260.00	4,844.08	4,709.79	36.073	CC, ES, SF
Larson A23-639 - Larson A23-639 OH - As-drilled	16,607.30	17,355.00	5,005.11	4,863.00	35.221	CC, ES, SF
Larson A23-645 - Larson A23-645 OH - As-drilled	16,607.30	18,040.00	5,185.73	5,036.51	34.752	CC, ES, SF
Larson A23-651 - Larson A23-651 OH - As-drilled	16,607.30	18,045.00	5,349.56	5,195.86	34.807	CC, ES, SF
Larson A23-656 - Larson A23-656 OH - As-drilled	16,607.30	18,030.00	5,515.28	5,358.07	35.081	CC, ES, SF
Larson A23-662 - Larson A23-662 OH - As-drilled	16,607.30	18,100.00	5,764.11	5,602.94	35.764	CC, ES, SF
Larson A23-668 - Larson A23-668 OH - As-Drilled	16,607.30	17,400.00	6,022.96	5,866.16	38.411	CC, ES, SF
Larson A23-672 - Larson A23-672 OH - As-Drilled	16,607.30	17,415.00	6,205.19	6,046.78	39.172	CC, ES, SF
Larson A23-678 - Larson A23-678 OH - As-Drilled	16,607.30	17,106.00	6,477.16	6,317.08	40.464	CC, ES, SF
Larson A23-683 - Larson A23-683 OH - As-Drilled	16,607.30	17,368.00	6,697.41	6,534.57	41.129	CC, ES, SF
Larson AA19-618 - Larson AA19-618 OH - As-Drilled						Out of range
Larson AA19-624 - Larson AA19-624 OH - As-Drilled						Out of range
Larson AA19-624 - Larson AA19-624 ST01 - As-Drilled						Out of range
Larson AA19-630 - Larson AA19-630 OH - As-Drilled						Out of range
Larson AA19-635 - Larson AA19-635 OH - As-Drilled						Out of range
Larson Farms 01-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 02-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 03-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 04-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 05-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 06-24 - Original Drilling - Original Drilling -						Out of range
Larson Farms 07-24 - Original Drilling - Original Drilling -						Out of range
Peppler 24-32 - Original Drilling - Original Drilling - As Dri						Out of range
Roth 24-21 - Original Drilling - Original Drilling - As Drilled						Out of range

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 A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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						Out of range
Larson A25-01 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-02 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-03 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-03X - Original Drilling - Original Drilling - As D						Out of range
Larson A25-05 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-06 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-06X - Original Drilling - Original Drilling - As D						Out of range
Larson A25-07 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-08 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-10 - Original Drilling - Original Drilling - Drilled						Out of range
Larson A25-11 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-12 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-13 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-14 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-15 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-17 - Original Drilling - Original Drilling - As D						Out of range
Larson A25-19 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-23 - Original Drilling - Original Drilling - As Dr						Out of range
Larson A25-25 - Original Drilling - Original Drilling - As Dr						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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 26						
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	13,653.78	6,619.63	6,345.79	6,257.87	72.182	CC
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	13,700.00	6,619.69	6,345.96	6,257.71	71.911	ES
Barrett 11-26 (SI) - Original Drilling - Original Drilling - As	15,600.00	6,622.07	6,637.53	6,538.17	66.801	SF
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	13,638.72	6,778.53	5,028.58	4,944.75	59.987	CC
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	13,700.00	6,779.18	5,028.96	4,944.69	59.683	ES
Barrett 12-26 (SI) - Original Drilling - Original Drilling - As	14,900.00	6,791.91	5,184.33	5,093.23	56.906	SF
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	12,072.66	6,718.17	4,948.66	4,875.34	67.495	CC
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	12,100.00	6,718.12	4,948.74	4,875.23	67.326	ES
Brown-Orr 14-26 (SI) - Original Drilling - Original Drilling - As	13,500.00	6,715.67	5,150.39	5,069.07	63.329	SF
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	12,053.06	6,941.51	6,631.63	6,557.45	89.393	CC
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	12,100.00	6,942.51	6,631.80	6,557.29	89.002	ES
Brown-Orr 24-26 - Original Drilling - Original Drilling - As	14,500.00	6,993.71	7,068.48	6,980.10	79.984	SF
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,258.79	6,717.31	5,125.85	5,020.57	48.690	CC
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,300.00	6,717.35	5,126.01	5,020.43	48.552	ES
Carpio A26-04 - Original Drilling - Original Drilling - As Dr	16,607.30	6,717.70	5,137.68	5,029.99	47.710	SF
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	14,729.47	6,744.58	5,236.63	5,143.18	56.038	CC
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	14,800.00	6,744.18	5,237.10	5,143.15	55.741	ES
Carpio A26-05 - Original Drilling - Original Drilling - As Dr	16,000.00	6,737.43	5,388.55	5,287.78	53.474	SF
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,099.58	6,665.09	7,804.79	7,700.96	75.166	CC
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,200.00	6,665.47	7,805.44	7,700.85	74.630	ES
DCD Farm A26-02 - Original Drilling - Original Drilling - A	16,607.30	6,666.99	7,821.29	7,713.76	72.737	SF
DCD Farms 01-26 - Original Drilling - Original Drilling - As	14,887.14	6,867.16	9,097.61	9,002.43	95.582	CC
DCD Farms 01-26 - Original Drilling - Original Drilling - As	15,000.00	6,867.57	9,098.31	9,002.29	94.750	ES
DCD Farms 01-26 - Original Drilling - Original Drilling - As	16,607.30	6,873.48	9,258.80	9,151.89	86.601	SF
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	14,856.22	6,809.83	6,402.55	6,307.62	67.444	CC
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	14,900.00	6,810.46	6,402.70	6,307.45	67.216	ES
DCD Farms 02-26 (PA) - Original Drilling - Original Drilling - As	16,607.30	6,835.16	6,637.64	6,532.20	62.949	SF
DCD Farms A26-07 - Original Drilling - Original Drilling - A	15,129.17	6,713.17	7,766.03	7,669.61	80.549	CC
DCD Farms A26-07 - Original Drilling - Original Drilling - A	15,200.00	6,711.51	7,766.35	7,669.41	80.118	ES
DCD Farms A26-07 - Original Drilling - Original Drilling - A	16,607.30	6,721.33	7,905.37	7,799.08	74.379	SF
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	13,576.19	6,773.65	9,107.23	9,022.51	107.497	CC
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	13,600.00	6,773.42	9,107.26	9,022.37	107.278	ES
Pfeiffer 09-26 - Original Drilling - Original Drilling - As Dril	16,607.30	6,744.47	9,598.35	9,494.83	92.717	SF
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	13,610.77	6,723.63	7,787.93	7,703.14	91.855	CC
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	13,700.00	6,723.17	7,788.44	7,703.01	91.167	ES
Pfeiffer 10-26 - Wellbore #1 - Wellbore #1 - As Drilled	16,500.00	6,714.15	8,306.58	8,204.88	81.684	SF
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	12,229.31	7,026.00	7,599.84	7,524.03	100.243	CC
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	12,300.00	7,026.00	7,600.17	7,523.87	99.601	ES
Pfeiffer 15-26 - Wellbore #1 - Wellbore #1 - As Drilled	15,300.00	7,026.00	8,196.75	8,103.28	87.688	SF
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,101.89	6,711.00	9,141.26	8,956.78	49.553	CC
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	12,200.00	6,711.00	9,141.78	8,956.62	49.372	ES
Pfeiffer 16-26 - Original Drilling - Original Drilling - As Dril	14,600.00	6,711.00	9,476.45	9,275.88	47.247	SF
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,136.83	6,649.84	9,154.14	9,049.70	87.652	CC
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,200.00	6,650.72	9,154.36	9,049.43	87.249	ES
Sidwell 26-1G4 - Original Drilling - Original Drilling - As D	16,607.30	6,656.39	9,166.22	9,058.25	84.899	SF
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	16,304.26	6,971.48	6,534.12	6,416.69	55.642	CC
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	16,400.00	6,971.57	6,534.83	6,416.68	55.310	ES
Sidwell A26-03 (PA) - Original Drilling - Original Drilling - As	16,607.30	6,971.76	6,541.15	6,421.51	54.676	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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	16,189.07	6,828.00	2,538.63	2,320.60	11.644	CC
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	16,200.00	6,828.00	2,538.65	2,320.55	11.640	ES
Howard 02-27 (PA) - Original Drilling - Original Drilling - A	16,300.00	6,828.00	2,541.05	2,322.33	11.618	SF
Howard 03-27 - Original Drilling - Original Drilling - As Dri	16,101.63	6,823.18	1,129.80	1,025.30	10.812	CC, ES, SF
Howard 04-27 (PA) - Original Drilling - Original Drilling - A	16,210.21	6,788.00	111.76	-105.64	0.514	Level 1, CC, ES, SF
Howard 08-27 - Original Drilling - Original Drilling - As Dri	14,795.05	6,775.88	3,835.05	3,741.01	40.781	CC
Howard 08-27 - Original Drilling - Original Drilling - As Dri	14,800.00	6,775.85	3,835.05	3,740.98	40.765	ES
Howard 08-27 - Original Drilling - Original Drilling - As Dri	15,500.00	6,772.16	3,899.30	3,801.32	39.796	SF
Howard 10-27 - Original Drilling - Original Drilling - As Dri	13,482.16	6,766.69	2,608.75	2,524.78	31.067	CC
Howard 10-27 - Original Drilling - Original Drilling - As Dri	13,500.00	6,766.50	2,608.81	2,524.73	31.025	ES
Howard 10-27 - Original Drilling - Original Drilling - As Dri	13,800.00	6,763.25	2,628.04	2,542.34	30.667	SF
Howard 15-27 - Original Drilling - Original Drilling - As Dri	12,317.92	6,807.26	2,450.44	2,377.25	33.481	CC, ES
Howard 15-27 - Original Drilling - Original Drilling - As Dri	12,700.00	6,814.15	2,480.04	2,404.89	32.999	SF
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,170.12	3,765.00	3,024.38	2,941.70	36.579	CC
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,200.00	3,765.00	3,024.53	2,941.56	36.454	ES
Howard 4B-27 (DA) - Original Drilling - Original Drilling - A	16,607.30	3,765.00	3,055.82	2,963.97	33.272	SF
Howard A27-01 - Original Drilling - Original Drilling - As D	16,187.90	6,778.59	3,866.98	3,762.03	36.846	CC
Howard A27-01 - Original Drilling - Original Drilling - As D	16,200.00	6,778.54	3,867.00	3,761.96	36.816	ES
Howard A27-01 - Original Drilling - Original Drilling - As D	16,607.30	6,776.86	3,889.66	3,782.11	36.169	SF
Howard A27-05 (SI) - Original Drilling - Original Drilling - A	14,809.95	6,778.31	98.85	4.68	1.050	Level 2, CC, ES, SF
Howard A27-06 (PR) - Original Drilling - Original Drilling -	14,854.20	6,888.72	1,279.08	1,181.86	13.157	CC, ES, SF
Howard A27-07 - Original Drilling - Original Drilling - As D	14,783.82	6,811.00	2,628.92	2,534.87	27.954	CC
Howard A27-07 - Original Drilling - Original Drilling - As D	14,800.00	6,810.94	2,628.97	2,534.81	27.923	ES
Howard A27-07 - Original Drilling - Original Drilling - As D	15,100.00	6,809.92	2,647.86	2,552.11	27.653	SF
Howard A27-09 - Original Drilling - Original Drilling - As D	13,421.83	6,758.32	3,737.10	3,653.64	44.779	CC, ES
Howard A27-09 - Original Drilling - Original Drilling - As D	14,100.00	6,753.99	3,798.13	3,710.83	43.510	SF
Howard A27-16 - Original Drilling - Original Drilling - As D	12,151.58	6,769.46	4,015.37	3,941.27	54.188	CC
Howard A27-16 - Original Drilling - Original Drilling - As D	12,200.00	6,769.92	4,015.66	3,941.23	53.956	ES
Howard A27-16 - Original Drilling - Original Drilling - As D	13,100.00	6,778.56	4,125.84	4,046.45	51.966	SF
Howard A27-17D - Original Drilling - Original Drilling - As	15,596.19	6,887.62	3,282.34	3,178.22	31.527	CC
Howard A27-17D - Original Drilling - Original Drilling - As	15,600.00	6,887.61	3,282.34	3,178.19	31.517	ES
Howard A27-17D - Original Drilling - Original Drilling - As	16,100.00	6,885.69	3,320.78	3,212.90	30.784	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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	16,249.77	6,780.00	2,853.97	2,636.43	13.119	CC, ES
Ankeney 2-28 (SI) - Wellbore #1 - No Surveys	16,500.00	6,780.00	2,864.92	2,645.46	13.055	SF
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	14,606.58	6,782.25	1,383.88	1,292.32	15.114	CC, ES
Ankeney 28-01 (PA) - Wellbore #1 - Gyro Surveys	14,700.00	6,781.50	1,387.03	1,294.72	15.025	SF
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	13,438.21	6,775.00	4,113.75	3,918.09	21.025	CC
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	13,500.00	6,775.00	4,114.22	3,918.06	20.974	ES
Art Rohr 1 (PA) - Wellbore #1 - No Surveys	14,000.00	6,775.00	4,151.94	3,952.17	20.784	SF
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	16,317.68	6,856.00	5,146.31	5,040.11	48.461	CC
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	16,400.00	6,855.33	5,146.97	5,040.09	48.159	ES
Danley 1 (TA) - Wellbore #1 - Gyro Surveys	16,607.30	6,853.64	5,154.45	5,045.95	47.507	SF
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	14,729.61	6,838.86	5,309.92	5,216.20	56.656	CC
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	14,800.00	6,835.73	5,310.39	5,216.10	56.321	ES
Danley 12-28 (SI) - Wellbore #1 - Gyro Surveys	16,100.00	6,783.42	5,483.60	5,380.93	53.410	SF
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	13,408.97	6,879.80	5,347.20	5,263.81	64.121	CC, ES
Danley 13-28 (PR) - Wellbore #1 - Gyro Surveys	15,000.00	6,856.48	5,578.84	5,485.08	59.502	SF
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	12,060.44	6,823.67	5,365.41	5,291.87	72.966	CC
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	12,100.00	6,822.74	5,365.55	5,291.72	72.673	ES
Danley 14-28 (PR) - Wellbore #1 - Gyro Surveys	13,900.00	6,775.44	5,671.77	5,586.71	66.681	SF
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	15,966.42	6,940.88	4,057.95	3,954.77	39.326	CC
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	16,000.00	6,940.24	4,058.09	3,954.62	39.220	ES
Dewey 21-28 (TA) - Wellbore #1 - Gyro Surveys	16,607.30	6,928.79	4,108.23	4,000.51	38.139	SF
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	14,831.94	7,016.82	4,005.15	3,910.30	42.228	CC, ES
Dewey 22-28 (SI) - Wellbore #1 - Gyro Surveys	15,700.00	6,954.18	4,097.66	3,997.15	40.768	SF
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	12,037.89	6,756.59	4,070.14	3,997.11	55.732	CC
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	12,100.00	6,756.79	4,070.61	3,997.10	55.377	ES
Hannan Rohr 1 (PA) - Wellbore #1 - Gyro Surveys	13,100.00	6,759.91	4,206.43	4,126.49	52.617	SF
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	12,916.98	6,931.24	4,556.78	4,477.06	57.159	CC, ES
Rohr A 28-25 (SI) - Wellbore #1 - Gyro Surveys	14,200.00	6,909.05	4,733.91	4,645.87	53.772	SF
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	12,084.04	6,766.95	1,596.53	1,523.00	21.711	CC
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,767.11	1,596.61	1,522.94	21.673	ES
Wardlaw 16-28 (SI) - Wellbore #1 - Gyro Surveys	12,300.00	6,769.02	1,611.07	1,536.03	21.469	SF
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	12,695.30	6,748.00	1,929.44	1,739.87	10.178	CC
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	12,700.00	6,748.00	1,929.44	1,739.84	10.176	ES
Wardlaw 20-28 - Original Drilling - Original Drilling - As D	12,800.00	6,748.00	1,932.28	1,741.88	10.149	SF
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	12,728.58	6,761.26	1,920.45	1,842.20	24.544	CC, ES
Wardlaw 20-28 (SI) - Wellbore #1 - Gyro Surveys	13,000.00	6,764.82	1,939.53	1,859.39	24.202	SF
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	13,223.66	7,500.00	2,484.36	2,342.69	17.536	CC
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	13,300.00	7,500.00	2,485.54	2,340.47	17.133	ES
Wardlaw 33-28 (PA) - Wellbore #1 - Gyro Surveys	14,100.00	7,500.00	2,634.39	2,462.03	15.284	SF
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,494.81	6,763.00	1,640.97	1,445.11	8.379	CC
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,500.00	6,763.00	1,640.97	1,445.08	8.377	ES
Webster 09-28 (PR) - Original Drilling - Original Drilling -	13,600.00	6,763.00	1,644.33	1,447.64	8.360	SF
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	12,157.27	6,772.43	2,933.62	2,859.61	39.637	CC
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	12,200.00	6,772.29	2,933.93	2,859.58	39.461	ES
Webster 15-28 (SI) - Wellbore #1 - Gyro Surveys	12,800.00	6,770.42	3,003.20	2,924.99	38.400	SF
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	13,534.49	6,771.42	1,625.58	1,541.29	19.286	CC, ES
Webster 9-28 (PR) - Wellbore #1 - Gyro Surveys	13,700.00	6,772.06	1,633.99	1,548.47	19.107	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 A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 OH	Database:	EDMP
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A Section 33						
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	8,269.29	6,787.79	3,856.34	3,805.70	76.151	CC, ES
Achziger 11-33 (PR) - Wellbore #1 - Gyro Surveys	9,600.00	6,751.79	4,070.80	4,014.12	71.819	SF
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	6,655.69	6,497.94	4,081.05	3,927.72	26.614	CC
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	6,700.00	6,530.09	4,081.51	3,927.43	26.489	ES
Achziger 14-33 (PA) - Wellbore #1 - No Surveys	7,100.00	6,705.96	4,104.64	3,946.34	25.928	SF
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	6,911.21	6,767.98	2,769.96	2,722.86	58.815	CC, ES
Briggs 15-33 (SI) - Wellbore #1 - Gyro Surveys	7,100.00	6,822.60	2,777.03	2,729.58	58.520	SF
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	7,430.66	6,728.97	4,874.54	4,826.48	101.426	CC, ES
Ehrlich 19-33 (PR) - Wellbore #1 - Gyro Survey	9,700.00	6,716.61	5,368.05	5,311.42	94.781	SF
French 09-33 (SI) - Original Drilling - Original Drilling - As	8,200.70	6,703.01	1,420.63	1,370.46	28.313	CC, ES
French 09-33 (SI) - Original Drilling - Original Drilling - As	8,400.00	6,699.88	1,433.96	1,382.98	28.128	SF
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	6,703.35	6,498.49	1,348.74	1,302.65	29.268	CC, ES
Hammerbeck 16-33 (PA) - Original Drilling - Original Drilling	6,900.00	6,619.87	1,356.76	1,309.91	28.958	SF
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	7,506.17	6,674.48	2,120.78	2,072.72	44.120	CC, ES
Hammerbeck 20-33 - Wellbore #1 - Gyro Surveys	7,800.00	6,678.21	2,141.04	2,092.23	43.867	SF
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	10,960.21	6,751.41	5,497.37	5,431.75	83.772	CC
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	11,000.00	6,751.08	5,497.52	5,431.61	83.416	ES
Noffsinger 11-33 (PR) - Wellbore #1 - Gyro Surveys	13,000.00	6,735.34	5,863.59	5,785.39	74.985	SF
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	9,229.25	6,765.22	5,307.69	5,252.82	96.720	CC, ES
Noffsinger 12-33 (PR) - Wellbore #1 - Gyro Surveys	11,500.00	6,767.88	5,773.03	5,705.58	85.591	SF
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	10,984.67	6,753.00	4,071.57	3,894.36	22.976	CC
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	11,000.00	6,753.00	4,071.60	3,894.28	22.962	ES
Noffsinger 21-33 (PA) - Wellbore #1 - No Surveys	11,600.00	6,753.00	4,117.81	3,936.40	22.699	SF
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	11,013.76	6,446.35	2,530.25	2,465.23	38.917	CC, ES
Noffsinger 22-33 (PR) - Wellbore #1 - Gyro Surveys	11,500.00	6,459.70	2,576.51	2,508.32	37.787	SF
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	10,974.75	6,748.33	2,645.55	2,579.87	40.279	CC
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	11,000.00	6,748.35	2,645.67	2,579.80	40.166	ES
Noffsinger 31-33 (PR) - Wellbore #1 - Gyro Surveys	11,500.00	6,748.62	2,697.19	2,628.10	39.040	SF
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	9,202.05	6,832.20	2,868.83	2,814.08	52.397	CC, ES
Noffsinger 32-33 (PR) - Wellbore #1 - Gyro Surveys	9,900.00	6,817.95	2,952.47	2,893.89	50.396	SF
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	8,108.54	6,750.87	5,442.64	5,392.82	109.241	CC, ES
Sitzman 12-33 (PR) - Wellbore #1 - Gyro Surveys	10,800.00	6,754.02	6,056.09	5,993.50	96.762	SF
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	6,636.35	6,486.92	5,431.96	5,386.14	118.549	CC
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	6,650.00	6,499.89	5,432.01	5,386.11	118.350	ES
Sitzman 13-33 (SI) - Wellbore #1 - Gyro Surveys	9,400.00	6,716.31	6,124.34	6,069.48	111.652	SF
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	10,972.40	6,670.26	1,362.20	1,296.50	20.734	CC, ES
Sughrue 41-33 (SI) - Original Drilling - Original Drilling -	11,100.00	6,671.02	1,368.16	1,301.53	20.534	SF
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	8,226.37	6,793.45	2,720.16	2,670.01	54.245	CC, ES
Webster 10-33 (PA) - Wellbore #1 - Gyro Surveys	8,900.00	6,801.59	2,798.33	2,745.29	52.766	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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
A Section 34						
Barthol A34-05X - Original Drilling - Original Drilling - As D	9,663.22	6,752.78	237.17	179.72	4.128	CC, ES, SF
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	10,704.41	6,712.75	3,942.22	3,878.47	61.835	CC, ES
Ehlich A34-01 - Original Drilling - Original Drilling - As Dr	11,700.00	6,712.44	4,065.99	3,996.90	58.849	SF
Howard A34-03 (PA) - Original Drilling - Original Drilling -	10,848.86	6,769.00	1,167.78	990.92	6.603	CC, ES
Howard A34-03 (PA) - Original Drilling - Original Drilling -	10,900.00	6,769.00	1,168.90	991.81	6.600	SF
Howard BC A34-02 - Original Drilling - Original Drilling - A	10,721.23	6,776.36	2,276.76	2,212.60	35.486	CC, ES
Howard BC A34-02 - Original Drilling - Original Drilling - A	11,000.00	6,772.44	2,293.76	2,228.19	34.983	SF
Landwehr A34-03X - Original Drilling - Original Drilling - A	11,014.29	6,765.08	1,106.90	1,040.90	16.771	CC, ES
Landwehr A34-03X - Original Drilling - Original Drilling - A	11,100.00	6,764.26	1,110.21	1,043.87	16.735	SF
Landwehr A34-04 - Original Drilling - Original Drilling - As	11,027.75	6,764.02	380.74	314.71	5.767	CC, ES, SF
Petrikin A34-05 (PA) - Original Drilling - Original Drilling -	9,503.37	6,746.00	150.21	-17.79	0.894	Level 1, CC, ES, SF
Petrikin A34-06 - Original Drilling - Original Drilling - As D	9,538.35	6,726.91	1,183.20	1,126.73	20.950	CC, ES
Petrikin A34-06 - Original Drilling - Original Drilling - As D	9,600.00	6,727.22	1,184.81	1,128.08	20.884	SF
Petrikin A34-07 (PA) - Original Drilling - Original Drilling -	9,609.74	6,731.00	2,509.12	2,340.82	14.908	CC, ES
Petrikin A34-07 (PA) - Original Drilling - Original Drilling -	9,800.00	6,731.00	2,516.32	2,347.07	14.868	SF
Petrikin A34-08 - Original Drilling - Original Drilling - As D	9,626.90	6,700.00	3,940.48	3,883.47	69.110	CC, ES
Petrikin A34-08 - Original Drilling - Original Drilling - As D	10,700.00	6,663.42	4,083.75	4,021.58	65.684	SF
Petrikin A34-09 - Original Drilling - Original Drilling - As D	1,789.85	1,798.89	3,604.50	3,592.21	293.210	CC
Petrikin A34-09 - Original Drilling - Original Drilling - As D	2,000.00	1,983.73	3,605.29	3,591.60	263.360	ES
Petrikin A34-09 - Original Drilling - Original Drilling - As D	9,500.00	6,798.93	4,130.43	4,074.76	74.191	SF
Petrikin A34-10 - Original Drilling - Original Drilling - As D	2,428.94	2,460.78	2,437.72	2,420.83	144.271	CC, ES
Petrikin A34-10 - Original Drilling - Original Drilling - As D	8,800.00	6,849.87	2,729.75	2,676.75	51.505	SF
Petrikin A34-11 - Original Drilling - Original Drilling - As D	8,301.49	6,724.88	1,219.39	1,168.83	24.117	CC
Petrikin A34-11 - Original Drilling - Original Drilling - As D	8,306.02	6,724.86	1,219.40	1,168.82	24.111	ES
Petrikin A34-11 - Original Drilling - Original Drilling - As D	8,400.00	6,724.62	1,223.95	1,173.09	24.067	SF
Petrikin A34-12 (PA) - Original Drilling - Original Drilling -	8,306.03	6,738.39	30.00	-20.46	0.595	Level 1, CC, ES, SF
Petrikin A34-13 - Original Drilling - Original Drilling - As D	6,856.85	6,630.22	79.79	32.94	1.703	CC, ES, SF
Petrikin A34-14 (PA) - Original Drilling - Original Drilling -	2,660.64	2,645.71	96.94	78.59	5.285	CC
Petrikin A34-14 (PA) - Original Drilling - Original Drilling -	2,700.00	2,685.16	97.19	78.57	5.220	ES
Petrikin A34-14 (PA) - Original Drilling - Original Drilling -	2,800.00	2,785.05	100.25	80.93	5.189	SF
Petrikin A34-15 - Original Drilling - Original Drilling - As D	2,344.71	2,330.80	1,780.25	1,764.10	110.242	CC
Petrikin A34-15 - Original Drilling - Original Drilling - As D	2,400.00	2,383.48	1,780.29	1,763.76	107.698	ES
Petrikin A34-15 - Original Drilling - Original Drilling - As D	7,150.00	6,748.38	2,524.49	2,476.76	52.889	SF
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	0.00	0.00	3,136.20			
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	2,405.41	2,410.29	3,145.14	3,128.49	188.956	ES
Petrikin A34-16 (PA) - Original Drilling - Original Drilling -	7,800.00	6,584.30	3,977.64	3,929.54	82.707	SF
Petrikin A34-25 - Original Drilling - Original Drilling - As D	7,708.20	6,725.13	611.93	563.25	12.570	CC, ES, SF
Reveille A33-720 - Reveille A33-720 OH - APD - Rev 1	2,288.67	2,290.16	41.27	25.37	2.596	CC
Reveille A33-720 - Reveille A33-720 OH - APD - Rev 1	2,300.00	2,301.43	41.28	25.31	2.584	ES, SF
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	2,145.13	2,146.19	87.40	72.50	5.865	CC
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	2,200.00	2,200.93	87.46	72.17	5.721	ES
Reveille A34-746 - Reveille A34-746 OH - APD - Rev 1	2,400.00	2,398.92	90.69	74.01	5.437	SF
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,290.03	2,291.53	63.94	48.02	4.017	CC
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,300.00	2,301.45	63.95	47.96	4.000	ES
Reveille A34-757 - Reveille A34-757 OH - APD - Rev 1	2,400.00	2,400.46	65.30	48.62	3.915	SF
Reveille A34-768 - Reveille A34-768 OH - APD - Rev 1	2,200.00	2,200.00	21.87	6.56	1.429	Level 3, CC, ES, SF
Reveille A34-788 - Reveille A34-788 OH - APD - Rev 1	2,227.67	2,228.91	20.04	4.58	1.296	Level 3, CC, ES, SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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	2,484.02	2,623.78	4,501.48	4,483.79	254.541	CC
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	2,500.00	2,640.05	4,501.52	4,483.73	252.938	ES
Hoffner 13-35 - Original Drilling - Original Drilling - As Dri	10,800.00	10,800.00	5,457.26	5,381.97	72.475	SF
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	0.00	10.56	4,228.50			
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	1,700.00	1,687.77	4,231.07	4,219.49	365.242	ES
Hoffner 14-35 (SI) - Original Drilling - Original Drilling - As	8,300.00	6,799.11	5,215.60	5,165.20	103.473	SF
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	1,002.81	962.82	5,722.86	5,716.31	873.125	CC
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	2,421.81	2,422.86	5,722.87	5,706.13	342.024	ES
Hoffner 24-35 (SI) - Original Drilling - Original Drilling - As	10,500.00	6,537.42	7,307.58	7,249.52	125.867	SF
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	100.00	48.05	7,415.05	7,414.84	10,000.000	CC
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	800.00	703.78	7,417.27	7,412.35	1,507.534	ES
Hoffner 33-35 - Original Drilling - Original Drilling - As Dri	12,900.00	6,758.55	9,379.18	9,306.78	129.537	SF
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	100.00	28.63	7,256.24	7,256.07	10,000.000	CC
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	2,433.31	2,465.68	7,271.47	7,254.54	429.534	ES
Hoffner 34-35 - Original Drilling - Original Drilling - As Dri	9,400.00	9,400.00	8,263.66	8,199.38	128.561	SF
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	2,410.20	2,400.00	8,566.55	8,549.94	515.680	CC, ES
Hoffner 44-35 - Wellbore #1 - Wellbore #1- As Drilled	10,700.00	6,740.90	9,995.77	9,934.31	162.650	SF
Reveille A34-714 - Reveille A34-714 OH - APD - Rev 1	2,845.94	3,441.17	4,015.87	3,994.15	184.903	CC, ES
Reveille A34-714 - Reveille A34-714 OH - APD - Rev 1	16,607.30	16,554.06	4,245.44	4,074.99	24.907	SF
Reveille A34-725 - Reveille A34-725 OH - APD - Rev 1	5,678.40	6,535.34	3,500.07	3,455.88	79.212	CC
Reveille A34-725 - Reveille A34-725 OH - APD - Rev 1	16,607.30	16,715.90	3,538.84	3,368.21	20.740	ES, SF
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	5,902.77	6,900.00	2,811.45	2,764.00	59.250	CC
Reveille A34-735 - Reveille A34-735 OH - APD - Rev 1	16,607.30	16,980.30	2,831.26	2,660.13	16.545	ES, SF
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	1,909.84	1,926.84	4,207.76	4,194.47	316.673	CC
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	2,000.00	2,000.00	4,207.79	4,193.92	303.313	ES
Reveille A35-750 - Reveille A35-750 OH - APD - Rev 2	16,607.30	16,989.98	7,076.49	6,905.23	41.320	SF
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	1,909.84	1,926.84	4,185.53	4,172.24	315.000	CC
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	2,000.00	2,000.00	4,185.56	4,171.69	301.711	ES
Reveille A35-762 - Reveille A35-762 OH - APD - Rev 2	16,607.30	16,754.83	6,369.29	6,198.08	37.202	SF
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	1,909.35	1,927.35	4,163.30	4,150.01	313.325	CC
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	2,000.00	2,000.00	4,163.33	4,149.46	300.109	ES
Reveille A35-772 - Reveille A35-772 OH - APD - Rev 2	16,607.30	16,515.92	5,661.44	5,491.08	33.233	SF
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	2,400.00	2,419.00	4,141.07	4,124.26	246.364	CC, ES
Reveille A35-783 - Reveille A35-783 OH - APD - Rev 1	16,607.30	16,489.23	4,954.56	4,784.55	29.143	SF
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	10,957.61	6,718.31	7,803.84	7,738.34	119.134	CC
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	11,000.00	6,718.86	7,803.96	7,738.17	118.631	ES
Sharkey 31-35 - Original Drilling - Original Drilling - As Dr	14,600.00	6,765.69	8,611.89	8,525.80	100.037	SF
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	100.00	24.57	7,628.72	7,628.55	10,000.000	CC
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	2,400.00	2,335.12	7,634.71	7,618.35	466.897	ES
Sharkey 32-35 - Original Drilling - Original Drilling - As Dr	13,700.00	6,660.27	8,973.31	8,895.24	114.943	SF
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	10,731.40	6,774.16	6,444.10	6,379.86	100.302	CC
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	10,800.00	6,773.67	6,444.47	6,379.79	99.635	ES
Wardlaw 35-21 (SI) - Original Drilling - Original Drilling - A	13,300.00	6,755.80	6,937.14	6,858.74	88.489	SF
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	11,050.65	6,721.43	5,152.22	5,086.08	77.892	CC
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	11,100.00	6,722.29	5,152.46	5,086.00	77.520	ES
Wardlaw 35-22 - Original Drilling - Original Drilling - As D	12,700.00	6,749.93	5,409.71	5,334.34	71.772	SF
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	9,594.02	6,738.15	5,088.87	5,029.05	85.074	CC
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	9,600.00	6,737.86	5,088.87	5,029.03	85.033	ES
Wardlaw 35-23 (PA) - Original Drilling - Original Drilling -	11,300.00	6,656.53	5,366.59	5,298.96	79.352	SF
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	2,441.77	2,496.70	6,389.51	6,372.45	374.562	CC, ES
Wardlaw 35-24 - Original Drilling - Original Drilling - As D	12,500.00	6,882.71	7,075.98	7,003.21	97.231	SF
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	10,049.03	6,757.41	5,843.67	5,783.91	97.775	CC
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	10,100.00	6,758.66	5,843.90	5,783.82	97.282	ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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 35						
Wardlaw 35-25 - Original Drilling - Original Drilling - As D	12,400.00	6,815.00	6,298.59	6,226.13	86.926	SF
A Section 36						
Devries State A36-17 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Devries State A36-21 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Devries State A36-23 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Devries State A36-25 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
Scholfield A36-19 (Exist.) - Wellbore #1 - Wellbore #1 - A						Out of range
Scholfield A36-20 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Scholfield State A36-4X - Wellbore #1 - Wellbore #1 - As						Out of range
Scholfield State A36-69HN - Original Drilling - Original Dr						Out of range
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	4,679.76	9,876.82	9,580.54	9,493.84	110.505	CC
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	4,700.00	9,876.99	9,580.56	9,493.76	110.376	ES
Scholfield State A36-79HN - Wellbore #1 - Original Drillin	6,850.00	9,836.02	9,705.59	9,611.07	102.686	SF
Sinjin E 36-9 (SI) - Wellbore #1 - No Surveys						Out of range
State A36-05 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-06 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-07 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-08 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-09 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-10 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-11 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	2,457.51	2,600.00	9,821.80	9,804.36	563.046	CC, ES
State A36-12 - Wellbore #1 - Wellbore #1 - As Drilled	3,600.00	3,801.58	9,985.48	9,959.94	390.908	SF
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	0.00	0.00	9,730.68			
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	2,521.87	2,870.15	9,737.73	9,719.10	522.638	ES
State A36-13 - Wellbore #1 - Wellbore #1 - As Drilled	4,200.00	4,576.73	9,992.66	9,962.24	328.422	SF
State A36-14 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-15 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-16 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
State A36-3 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
State A36-99HZ - Original Drilling - As Drilled						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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	12,264.53	17,520.00	7,820.22	7,739.02	96.300	CC
Shadow A26-622 - Original Drilling - Original Drilling - As	12,300.00	17,520.00	7,820.30	7,738.84	95.998	ES
Shadow A26-622 - Original Drilling - Original Drilling - As	16,607.30	17,520.00	8,945.14	8,814.55	68.499	SF
Shadow A26-627 - Original Drilling - Original Drilling - As	12,657.52	17,590.00	7,684.07	7,599.96	91.358	CC
Shadow A26-627 - Original Drilling - Original Drilling - As	12,700.00	17,590.00	7,684.19	7,599.78	91.036	ES
Shadow A26-627 - Original Drilling - Original Drilling - As	16,607.30	17,590.00	8,639.77	8,504.12	63.692	SF
Shadow A26-632 - Original Drilling - Original Drilling - As	12,957.59	17,781.00	7,690.43	7,608.11	93.423	CC
Shadow A26-632 - Original Drilling - Original Drilling - As	13,000.00	17,781.00	7,690.55	7,607.78	92.925	ES
Shadow A26-632 - Original Drilling - Original Drilling - As	16,607.30	17,781.00	8,512.52	8,369.10	59.353	SF
Shadow A26-637 - Original Drilling - Original Drilling - As	13,243.32	17,626.00	7,688.13	7,606.92	94.675	CC
Shadow A26-637 - Original Drilling - Original Drilling - As	13,300.00	17,626.00	7,688.34	7,606.55	94.010	ES
Shadow A26-637 - Original Drilling - Original Drilling - As	16,607.30	17,626.00	8,391.88	8,253.05	60.445	SF
Shadow A26-646 - Original Drilling - Original Drilling - As	13,922.32	17,659.00	7,688.78	7,600.61	87.198	CC
Shadow A26-646 - Original Drilling - Original Drilling - As	14,000.00	17,659.00	7,689.18	7,600.33	86.548	ES
Shadow A26-646 - Original Drilling - Original Drilling - As	16,607.30	17,659.00	8,144.11	8,012.73	61.991	SF
Shadow A26-656 - Original Drilling - Original Drilling - As	14,565.12	17,347.00	8,062.59	7,964.18	81.927	CC
Shadow A26-656 - Original Drilling - Original Drilling - As	14,600.00	17,347.00	8,062.67	7,963.97	81.689	ES
Shadow A26-656 - Original Drilling - Original Drilling - As	16,607.30	17,347.00	8,317.20	8,195.80	68.510	SF
Shadow A26-663 - Original Drilling - Original Drilling - As	15,121.98	17,466.00	7,918.01	7,815.13	76.965	CC
Shadow A26-663 - Original Drilling - Original Drilling - As	15,200.00	17,466.00	7,918.40	7,814.95	76.543	ES
Shadow A26-663 - Original Drilling - Original Drilling - As	16,607.30	17,466.00	8,056.12	7,937.76	68.067	SF
Shadow A26-672 - Original Drilling - Original Drilling - As	15,614.13	17,710.00	7,678.84	7,577.77	75.970	CC
Shadow A26-672 - Original Drilling - Original Drilling - As	15,700.00	17,710.00	7,679.32	7,577.45	75.378	ES
Shadow A26-672 - Original Drilling - Original Drilling - As	16,607.30	17,710.00	7,742.80	7,628.27	67.603	SF
Shadow A26-676 - Original Drilling - Original Drilling - As	15,900.04	17,725.00	7,688.28	7,579.03	70.376	CC
Shadow A26-676 - Original Drilling - Original Drilling - As	16,000.00	17,725.00	7,688.92	7,578.80	69.819	ES
Shadow A26-676 - Original Drilling - Original Drilling - As	16,607.30	17,725.00	7,720.74	7,604.17	66.233	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	10,300.00	17,810.00	9,936.74	9,653.21	35.046	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	16,588.61	17,810.00	7,693.65	7,579.27	67.269	CC
Shadow A26-685 - Original Drilling - Original Drilling - As	16,607.30	17,810.00	7,693.67	7,579.12	67.164	ES
Shadow A26-690 - Original Drilling - Original Drilling - As	16,607.30	17,780.00	7,676.87	7,567.52	70.204	CC, ES, SF
Shadow State A26-614 - Original Drilling - Original Drilling	11,728.06	17,675.00	7,688.51	7,610.68	98.784	CC
Shadow State A26-614 - Original Drilling - Original Drilling	11,800.00	17,675.00	7,688.84	7,610.40	98.022	ES
Shadow State A26-614 - Original Drilling - Original Drilling	16,607.30	17,675.00	9,106.05	8,972.86	68.368	SF
Shadow State A26-618 - Original Drilling - Original Drilling	11,975.28	17,415.00	7,855.25	7,776.50	99.744	CC
Shadow State A26-618 - Original Drilling - Original Drilling	12,000.00	17,415.00	7,855.29	7,776.34	99.502	ES
Shadow State A26-618 - Original Drilling - Original Drilling	16,607.30	17,415.00	9,119.24	8,982.25	66.572	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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	2,461.28	2,461.28	9,724.49	9,708.59	611.528	CC
Lucci B01-69HNL - Original Drilling - Original Drilling - As	2,500.00	2,671.68	9,724.75	9,707.95	578.733	ES
Lucci B01-69HNL - Original Drilling - Original Drilling - As	4,100.00	4,207.47	9,984.95	9,956.86	355.470	SF
Lucci B01-99HZ - Original Drilling - Original Drilling - As	0.00	0.00	9,781.62			
Lucci B01-99HZ - Original Drilling - Original Drilling - As	500.00	425.29	9,782.83	9,780.53	4,257.713	ES
Lucci B01-99HZ - Original Drilling - Original Drilling - As	3,700.00	3,723.97	9,991.35	9,966.75	406.050	SF
Lucci BC B 01-13 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-14 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-15 (PA) - Wellbore #1 - Gyro Surveys						Out of range
Lucci BC B 1-16 (PA) - Wellbore #1 - Wellbore #1						Out of range
Lucci State B03-69HNL - Original Drilling - Original Drilling	6,560.78	16,759.68	417.12	167.28	1.670	CC
Lucci State B03-69HNL - Original Drilling - Original Drilling	6,650.00	16,765.95	432.32	157.08	1.571	ES, SF
SLW Ranch B01-62-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B01-63-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B01-64-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B01-66-1HN - Original Drilling - Original Drill						Out of range
SLW Ranch B01-67-1HN - Original Drilling - As Drilled - S						Out of range
SLW Ranch B01-68-1HN - Original Drilling - Original Drill						Out of range
SLW Ranch B01-69-1HN - Original Drilling - As Drilled						Out of range
SLW Ranch B12-69-1HN - Wellbore #1 - Wellbore #1- As						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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	201.57	179.57	4,661.84	4,660.89	4,924.063	CC
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	2,413.02	2,408.49	4,662.67	4,646.02	280.006	ES
Baker B02-04 - Wellbore #1 - Original Drilling - As Drilled	7,050.00	6,766.49	5,444.01	5,396.29	114.087	SF
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	1,766.21	1,745.31	5,210.50	5,198.48	433.177	CC
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	2,200.00	2,143.63	5,212.80	5,197.84	348.255	ES
Baker B02-05 - Wellbore #1 - Wellbore #1-As Drilled	6,850.00	6,630.45	5,913.94	5,866.94	125.847	SF
Bucklen 01-02 - Wellbore #1 - Wellbore #1-As Drilled	2,304.27	2,255.85	6,806.83	6,791.06	431.636	CC
Bucklen 01-02 - Wellbore #1 - Wellbore #1-As Drilled	2,500.00	2,481.27	6,807.34	6,790.10	394.802	ES
Bucklen 01-02 - Wellbore #1 - Wellbore #1-As Drilled	6,800.00	6,632.28	7,266.79	7,219.76	154.509	SF
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	100.00	54.09	5,813.55	5,813.33	10,000.000	CC
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	2,300.00	2,242.05	5,819.29	5,803.59	370.858	ES
Bucklen B02-12 - Wellbore #1 - Wellbore #1-As drilled	6,750.00	6,400.01	6,389.88	6,343.86	138.874	SF
Buckmur B02-14 - Wellbore #1 - Wellbore #1-As Drilled	1,608.22	1,564.27	7,793.05	7,782.21	718.982	CC
Buckmur B02-14 - Wellbore #1 - Wellbore #1-As Drilled	2,400.00	2,354.69	7,794.76	7,778.34	474.460	ES
Buckmur B02-14 - Wellbore #1 - Wellbore #1-As Drilled	6,850.00	6,331.97	8,427.95	8,382.04	183.566	SF
Buckmur B02-25 - Wellbore #1 - Wellbore #1-As Drilled	2,502.01	2,571.32	6,698.97	6,681.44	382.121	CC, ES
Buckmur B02-25 - Wellbore #1 - Wellbore #1-As Drilled	6,800.00	6,516.54	7,282.28	7,235.75	156.490	SF
Cougar B02-67-1HN - Original Drilling - Original Drilling -	929.49	934.73	4,570.67	4,564.81	780.702	CC
Cougar B02-67-1HN - Original Drilling - Original Drilling -	1,300.00	1,278.33	4,571.58	4,563.15	542.357	ES
Cougar B02-67-1HN - Original Drilling - Original Drilling -	9,700.00	9,700.00	7,171.83	7,108.31	112.900	SF
Cougar B02-68-1HN - Original Drilling - Original Drilling -	0.00	3.94	4,616.00			
Cougar B02-68-1HN - Original Drilling - Original Drilling -	2,412.61	2,433.56	4,620.66	4,605.36	302.117	ES
Cougar B02-68-1HN - Original Drilling - Original Drilling -	6,650.00	6,149.00	5,452.20	5,411.29	133.283	SF
Cougar B02-69-1HN - Original Drilling - Original Drilling -	2,321.70	2,329.45	4,578.17	4,563.29	307.708	CC
Cougar B02-69-1HN - Original Drilling - Original Drilling -	2,600.00	2,832.18	4,578.54	4,561.86	274.466	ES
Cougar B02-69-1HN - Original Drilling - Original Drilling -	7,000.00	6,101.00	5,363.15	5,323.33	134.701	SF
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	1,653.95	1,602.48	7,518.45	7,509.57	846.053	CC, ES
Foe A35-73HN - Original Drilling - Original Drilling - As Dr	13,200.00	11,176.02	8,720.32	8,577.83	61.203	SF
Foe B02-02 - Wellbore #1 - Wellbore #1-As Drilled	1,037.04	988.06	7,159.97	7,153.20	1,058.845	CC
Foe B02-02 - Wellbore #1 - Wellbore #1-As Drilled	1,600.00	1,500.61	7,161.49	7,150.93	677.712	ES
Foe B02-02 - Wellbore #1 - Wellbore #1-As Drilled	11,100.00	6,672.76	9,557.28	9,497.21	159.094	SF
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	2,410.50	2,382.18	7,381.94	7,365.38	445.842	CC, ES
Foe B02-07 - Wellbore #1 - Wellbore #1-As Drilled	7,050.00	6,647.12	8,157.72	8,110.43	172.488	SF
Foemeyer B02-17 - Original Drilling - Original Drilling - As	2,419.65	2,417.16	7,728.98	7,712.27	462.723	CC, ES
Foemeyer B02-17 - Original Drilling - Original Drilling - As	10,700.00	6,500.01	9,965.66	9,908.09	173.093	SF
Fritzler B02-03 - Wellbore #1 - Original Drilling	2,400.00	2,352.00	5,995.54	5,940.13	108.202	CC
Fritzler B02-03 - Wellbore #1 - Original Drilling	2,500.00	2,451.98	5,997.01	5,939.26	103.834	ES
Fritzler B02-03 - Wellbore #1 - Original Drilling	7,100.00	6,692.96	6,777.84	6,619.69	42.857	SF
Fritzler B02-06 - Original Drilling - Original Drilling	2,400.00	2,357.00	6,044.58	5,989.07	108.891	CC
Fritzler B02-06 - Original Drilling - Original Drilling	2,500.00	2,456.98	6,045.80	5,987.94	104.498	ES
Fritzler B02-06 - Original Drilling - Original Drilling	6,950.00	6,658.47	6,778.23	6,620.92	43.087	SF
Fritzler B2-19 - Original Drilling - Original Drilling	2,400.00	2,369.00	5,195.52	5,139.77	93.192	CC
Fritzler B2-19 - Original Drilling - Original Drilling	2,500.00	2,468.98	5,196.85	5,138.76	89.453	ES
Fritzler B2-19 - Original Drilling - Original Drilling	7,000.00	6,687.40	5,956.42	5,798.48	37.714	SF
Lonewolf B02-65HC - Original Drilling - As Drilled	3,150.46	3,746.49	5,304.83	5,281.60	228.363	CC
Lonewolf B02-65HC - Original Drilling - As Drilled	3,300.00	3,874.28	5,305.12	5,280.73	217.488	ES
Lonewolf B02-65HC - Original Drilling - As Drilled	6,600.00	6,251.01	5,690.49	5,645.56	126.638	SF
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	3,146.57	3,742.32	5,304.51	5,280.86	224.304	CC
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	3,300.00	3,874.14	5,304.81	5,279.97	213.527	ES
Lonewolf B02-65HC - Original Drilling - ST01 - ST01 As D	6,600.00	6,251.01	5,690.27	5,644.83	125.238	SF
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	3,150.46	3,746.49	5,304.83	5,281.60	228.357	CC
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	3,300.00	3,874.28	5,305.12	5,280.73	217.482	ES
Lonewolf B02-65HC - Wellbore #3 - Wellbore #3	6,600.00	6,251.01	5,690.49	5,645.56	126.635	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 A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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						
M&M 02-23 - Wellbore #1 - Wellbore #1- As Drilled	2,926.67	3,932.40	9,110.80	9,084.01	339.963	CC, ES
M&M 02-23 - Wellbore #1 - Wellbore #1- As Drilled	6,900.00	6,485.64	9,588.28	9,537.74	189.733	SF
Meyer B02-01 - Original Drilling - Original Drilling - As Drill	855.06	803.36	8,463.01	8,457.54	1,548.951	CC
Meyer B02-01 - Original Drilling - Original Drilling - As Drill	2,400.00	2,309.49	8,465.80	8,449.54	520.691	ES
Meyer B02-01 - Original Drilling - Original Drilling - As Drill	9,700.00	6,500.01	9,971.80	9,917.17	182.525	SF
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	427.35	374.35	8,728.86	8,726.43	3,588.471	CC
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	2,408.02	2,374.39	8,734.58	8,718.07	528.885	ES
Meyer B02-08 - Wellbore #1 - Wellbore #1-As Drilled	8,500.00	6,500.01	9,994.64	9,945.12	201.815	SF
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	2,475.06	2,585.54	9,153.81	9,136.30	522.819	CC
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	2,500.00	2,614.84	9,153.88	9,136.18	517.243	ES
Meyer B02-09 - Wellbore #1 - Wellbore #1-As Drilled	7,050.00	6,502.31	9,918.29	9,871.53	212.117	SF
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	100.00	21.32	9,772.63	9,772.47	10,000.000	CC
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	2,436.53	2,452.01	9,776.90	9,760.01	578.952	ES
Meyer B02-16 (PA) - Wellbore #1 - Gyro Surveys	4,400.00	4,177.49	9,997.92	9,968.09	335.176	SF
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	2,458.63	2,507.22	6,900.65	6,883.50	402.153	CC
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	2,500.00	2,541.40	6,900.85	6,883.43	396.096	ES
Pherson 02-02 - Wellbore #1 - Wellbore #1-As Drilled	6,900.00	6,537.98	7,537.21	7,490.45	161.191	SF
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	1,581.47	1,535.16	7,903.20	7,892.41	732.236	CC
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	1,700.00	1,600.00	7,903.55	7,892.09	689.584	ES
Trebor B02-10 - Wellbore #1 - Wellbore #1 - As Drilled	6,900.00	6,328.54	8,692.83	8,646.81	188.901	SF
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	1,752.34	1,702.39	8,578.78	8,566.96	725.682	CC
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	2,400.00	2,313.91	8,581.80	8,565.53	527.318	ES
Trebor B02-15 - Wellbore #1 - Wellbore #1- As Drilled	6,750.00	6,916.01	9,137.06	9,089.18	190.844	SF
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	314.53	285.53	5,878.39	5,877.01	4,260.070	CC
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	700.00	652.53	5,878.60	5,874.67	1,494.913	ES
Wolfpack B02-62-1HN - Original Drilling - Original Drilling	9,400.00	9,400.00	9,047.03	8,986.30	148.956	SF
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	1,443.14	1,414.27	5,860.65	5,852.48	717.255	CC
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	1,500.00	1,449.99	5,860.73	5,852.25	690.915	ES
Wolfpack B02-63-1HN - Original Drilling - Original Drilling	6,500.00	6,000.00	6,496.39	6,452.97	149.633	SF
Wolfpack B02-64-1HN - Original Drilling - Original Drilling	2,914.07	3,272.53	5,672.23	5,651.55	274.268	CC, ES
Wolfpack B02-64-1HN - Original Drilling - Original Drilling	6,400.00	5,955.01	6,014.78	5,972.18	141.196	SF
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	2,379.72	2,368.82	5,403.15	5,388.60	371.387	CC
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	2,400.00	2,386.53	5,403.16	5,388.48	368.072	ES
Wolfpack B02-65-1HN - Original Drilling - Original Drilling	6,600.00	6,062.01	5,881.64	5,839.32	138.984	SF
Wolfpack B02-65HN - Original Drilling - Original Drilling -	2,719.49	3,026.38	5,308.04	5,289.94	293.202	CC, ES
Wolfpack B02-65HN - Original Drilling - Original Drilling -	6,450.00	6,062.01	5,739.87	5,697.73	136.224	SF
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	3,625.28	4,267.66	5,053.10	5,025.13	180.687	CC
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	3,700.00	4,306.01	5,053.41	5,025.00	177.839	ES
Wolfpack B02-66-1HN - Original Drilling - Original Drilling	6,350.00	6,108.01	5,257.74	5,212.65	116.630	SF
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	5,339.45	7,410.17	4,037.09	3,915.34	33.158	CC
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	5,400.00	7,431.02	4,037.58	3,915.18	32.988	ES
Wolfpack PC B03-63-1HN - Original Drilling - Original Dri	5,500.00	7,431.02	4,040.21	3,917.73	32.987	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 A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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 03						
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	406.50	359.51	5,110.75	5,108.44	2,216.330	CC
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	2,500.00	2,487.64	5,111.45	5,094.21	296.586	ES
Annie B3-9 - Wellbore #1 - Wellbore #1- As Drilled	6,650.00	6,538.64	5,547.65	5,501.27	119.608	SF
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	2,430.80	2,424.37	1,983.77	1,966.99	118.248	CC, ES
Clemons 2-3 - Wellbore #1 - Wellbore #1- As Drilled	6,600.00	6,434.24	2,586.08	2,540.35	56.555	SF
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	1,505.93	1,479.94	4,067.29	4,057.14	400.430	CC
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	2,100.00	2,045.70	4,069.69	4,055.43	285.340	ES
Clemons 42-3 - Wellbore #1 - Wellbore #1- As Drilled	6,750.00	6,585.90	4,649.21	4,602.47	99.459	SF
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	100.00	30.63	5,815.58	5,815.40	10,000.000	CC, ES
Schoenleber 16-3 - Wellbore #1 - Wellbore #1- As Drilled	6,650.00	6,248.48	6,231.81	6,186.44	137.348	SF
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	215.70	165.70	5,431.33	5,430.39	5,749.097	CC
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	4,400.00	4,300.01	5,439.35	5,408.99	179.151	ES
Sitzman 03-01 - Wellbore #1 - Wellbore #1- As Drilled	6,750.00	6,681.27	5,688.35	5,641.26	120.800	SF
B Section 04						
Bauer 1 (PA) - Wellbore #1 - No Surveys	6,466.85	6,343.94	5,519.85	5,370.16	36.875	CC
Bauer 1 (PA) - Wellbore #1 - No Surveys	6,500.00	6,373.50	5,520.23	5,369.86	36.710	ES
Bauer 1 (PA) - Wellbore #1 - No Surveys	7,000.00	6,686.40	5,601.87	5,444.18	35.524	SF
Bauer 2 (PA) - Wellbore #1 - No Surveys	6,390.05	6,270.01	2,965.94	2,888.67	38.387	CC
Bauer 2 (PA) - Wellbore #1 - No Surveys	6,400.00	6,279.37	2,965.98	2,888.60	38.331	ES
Bauer 2 (PA) - Wellbore #1 - No Surveys	6,700.00	6,530.09	3,010.38	2,930.03	37.466	SF
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	6,442.70	6,323.45	4,226.58	4,181.90	94.598	CC
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	6,450.00	6,330.02	4,226.60	4,181.88	94.503	ES
Bauer 21-4 (PR) - Wellbore #1 - Gyro Surveys	6,680.22	6,514.26	4,248.59	4,202.68	92.547	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Reveille A34-778
Project:	Wells Ranch	TVD Reference:	KB @ 4660.00ft (Original Well Elev)
Reference Site:	A Section 34	MD Reference:	KB @ 4660.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Reveille A34-778	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Reveille A34-778 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 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	6,557.11	6,300.00	9,934.86	9,889.21	217.634	CC, ES
Ehrlich 5J-203 (PR) - Wellbore #1 - Permitted-PDC	7,200.00	6,334.08	9,990.05	9,943.12	212.843	SF
Ehrlich 5J-223 (PR) - Wellbore #1 - Permitted-PDC	6,551.71	6,332.42	9,484.41	9,438.43	206.272	CC, ES
Ehrlich 5J-223 (PR) - Wellbore #1 - Permitted-PDC	9,200.00	6,250.00	9,975.05	9,921.44	186.058	SF
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	6,561.18	6,350.00	9,696.59	9,650.66	211.096	CC, ES
Ehrlich 5J-323 (PR) - Wellbore #1 - Permitted-PDC	8,500.00	6,300.00	9,986.22	9,935.62	197.383	SF
Ehrlich 5M-243 (PR) - Wellbore #1 - Permitted-PDC	6,547.28	6,512.99	8,980.93	8,934.39	192.944	CC
Ehrlich 5M-243 (PR) - Wellbore #1 - Permitted-PDC	6,550.00	6,513.89	8,980.93	8,934.38	192.911	ES
Ehrlich 5M-243 (PR) - Wellbore #1 - Permitted-PDC	10,500.00	6,400.00	9,990.87	9,930.21	164.683	SF
Ehrlich 5M-343 (PR) - Wellbore #1 - Permitted-PDC	6,557.58	6,440.22	9,234.96	9,188.46	198.589	CC, ES
Ehrlich 5M-343 (PR) - Wellbore #1 - Permitted-PDC	9,900.00	6,350.00	9,976.42	9,918.97	173.651	SF
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	6,488.31	6,378.64	6,761.10	6,716.12	150.326	CC
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	6,500.00	6,386.81	6,761.15	6,716.11	150.116	ES
Mininger Pfeif 41-5 (SI) - Wellbore #1 - Gyro Surveys	10,100.00	6,711.82	8,106.66	8,049.62	142.118	SF
Noffsinger 21-5 (TA) - Wellbore #1 - Gyro Surveys	6,523.95	6,390.09	9,366.66	9,321.53	207.528	CC, ES
Noffsinger 21-5 (TA) - Wellbore #1 - Gyro Surveys	9,100.00	6,704.55	9,967.34	9,913.55	185.312	SF
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys	6,537.59	6,533.15	8,057.55	8,011.99	176.842	CC, ES
Noffsinger 31-5 (TA) - Wellbore #1 - Gyro Surveys	11,600.00	6,766.39	9,956.59	9,892.38	155.064	SF
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	6,320.22	16,156.48	2,977.10	2,730.43	12.070	CC, ES
Snowmass 10N (DG) - Wellbore #1 - Permitted-PDC	6,450.00	16,156.48	2,993.04	2,743.82	12.009	SF
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	6,560.49	14,787.56	1,073.97	920.28	6.988	CC
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	6,600.00	14,787.56	1,075.75	917.71	6.807	ES
Snowmass 1C (DG) - Wellbore #1 - Permitted-PDC	6,850.00	14,787.56	1,161.08	978.36	6.354	SF
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	6,472.44	14,729.08	1,245.61	1,065.72	6.924	CC
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	6,500.00	14,729.08	1,246.46	1,064.43	6.848	ES
Snowmass 2N (DG) - Wellbore #1 - Permitted-PDC	6,650.00	14,729.08	1,280.22	1,087.58	6.645	SF
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	6,425.96	15,299.73	1,377.53	1,174.35	6.780	CC
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	6,450.00	15,299.73	1,378.17	1,173.42	6.731	ES
Snowmass 3N (DG) - Wellbore #1 - Permitted-PDC	6,600.00	15,299.73	1,410.25	1,196.72	6.605	SF
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	6,417.50	15,736.33	1,589.11	1,370.10	7.256	CC
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	6,450.00	15,736.33	1,590.25	1,369.40	7.201	ES
Snowmass 4N (DG) - Wellbore #1 - Permitted-PDC	6,550.00	15,736.33	1,607.76	1,381.71	7.112	SF
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	6,379.09	15,406.96	1,778.78	1,556.26	7.994	CC
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	6,400.00	15,406.96	1,779.24	1,555.82	7.964	ES
Snowmass 5N (DG) - Wellbore #1 - Permitted-PDC	6,500.00	15,406.96	1,793.98	1,566.62	7.890	SF
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	6,373.64	15,878.12	2,041.09	1,806.95	8.717	CC
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	6,400.00	15,878.12	2,041.80	1,806.66	8.683	ES
Snowmass 6N (DG) - Wellbore #1 - Permitted-PDC	6,500.00	15,878.12	2,057.26	1,818.65	8.622	SF
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	6,340.99	15,556.58	2,233.72	2,000.38	9.573	CC
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	6,350.00	15,556.58	2,233.80	2,000.19	9.562	ES
Snowmass 7N (DG) - Wellbore #1 - Permitted-PDC	6,450.00	15,556.58	2,245.57	2,009.22	9.501	SF
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	6,344.68	16,001.51	2,445.70	2,204.60	10.144	CC
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	6,350.00	16,001.51	2,445.73	2,204.48	10.138	ES
Snowmass 8N (DG) - Wellbore #1 - Permitted-PDC	6,450.00	16,001.51	2,456.58	2,212.66	10.071	SF
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	6,318.68	15,681.01	2,685.47	2,446.08	11.218	CC, ES
Snowmass 9N (DG) - Wellbore #1 - Permitted-PDC	6,450.00	15,681.01	2,702.08	2,459.99	11.161	SF

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