

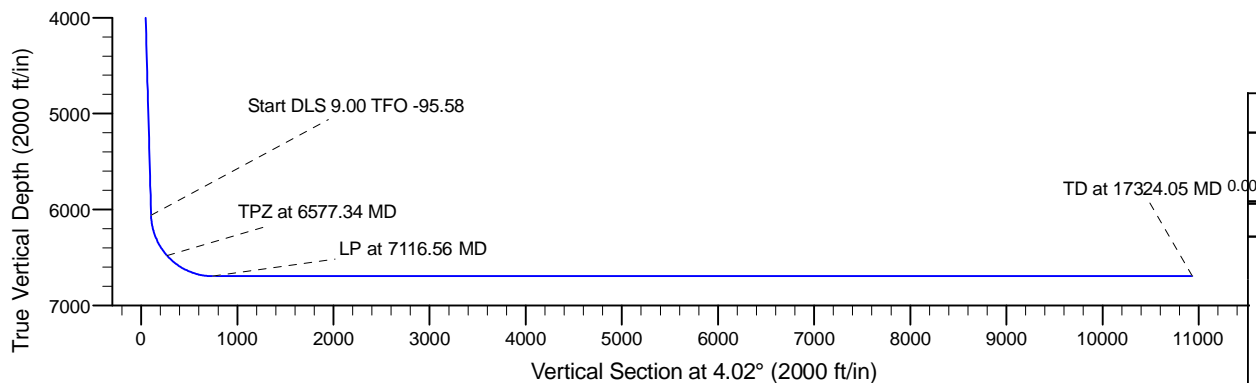
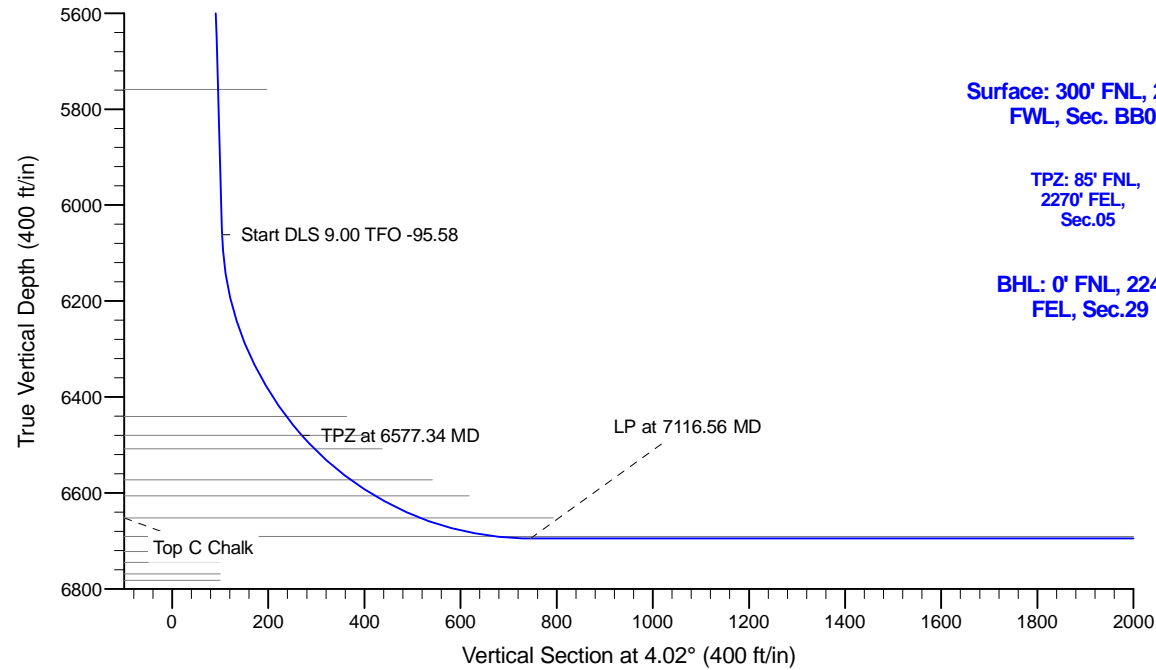
Project: Wells Ranch
Site: BB Section 05
Well: Wells Ranch State AA32-745
Wellbore: Wellbore #1
Design: Plan #2

Northern Region - DJ Basin

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

SECTION DETAILS

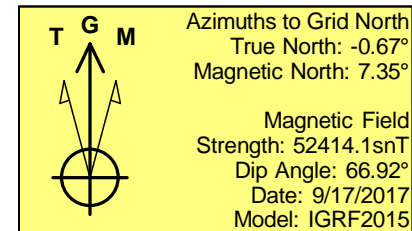
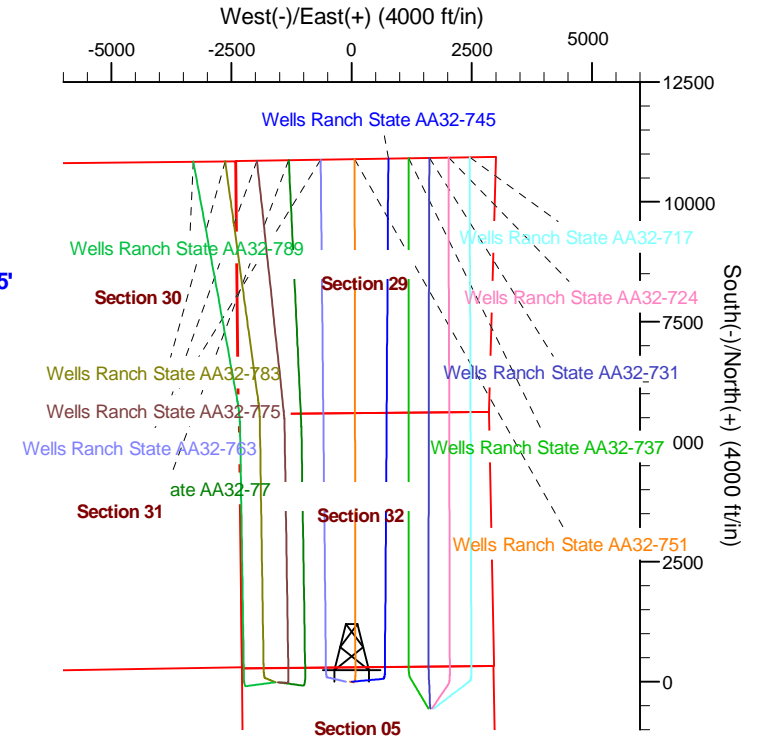
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	2487.06	9.74	84.89	2484.72	3.68	41.14	2.00	84.89	6.55	
4	3116.47	9.74	84.89	3061.80	58.33	652.80	0.00	0.00	103.91	
5	6577.34	41.47	0.38	6480.00	221.59	694.48	9.00	-95.58	269.69	Wells Ranch State AA32-745 TPZ
6	7116.56	90.00	0.38	6695.03	698.60	697.67	9.00	0.01	745.76	
7	17324.05	90.00	0.38	6695.00	10905.86	766.12	0.00	0.00	10932.73	Wells Ranch State AA32-745 BHL



Surface: 300' FNL, 2275' FWL, Sec. BB05

TPZ: 85' FNL, 2270' FEL, Sec.05

BHL: 0' FNL, 2240' FEL, Sec.29



WELL DETAILS: Wells Ranch State AA32-745

Northing	Easting	Latitude	Longitude
0.00	1402959.65	4685.00	40.4348842
	3288928.48		-104.4620356

Plan: Plan #2 (Wells Ranch State AA32-745/Wellbore #1)

Created By: Colby Baxter	Date: 11:57, April 23 2018
Checked: _____	Date: _____
Reviewed: _____	Date: _____
Approved: _____	Date: _____

Northern Region - DJ Basin

Wells Ranch

BB Section 05

Wells Ranch State AA32-745

Wellbore #1

Plan: Plan #2

Standard Survey Report

23 April, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Well:	Wells Ranch State AA32-745	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	EDMP

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	BB Section 05							
Site Position:		Northing:	1,398,574.18	usft	Latitude:	40.4229000		
From:	Map	Easting:	3,287,271.79	usft	Longitude:	-104.4681700		
Position Uncertainty:	0.00	ft	Slot Radius:	13.200	in	Grid Convergence:	0.67	°

Well	Wells Ranch State AA32-745					
Well Position	+N/-S	0.00 ft	Northing:	1,402,959.65 usft	Latitude:	40.4348842
	+E/-W	0.00 ft	Easting:	3,288,928.49 usft	Longitude:	-104.4620356
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,685.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/17/2017	8.03	66.92	52,414.10347614

Design	Plan #2				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	4.02	

Survey Tool Program	Date	4/23/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,324.04	Plan #2 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
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	

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Well:	Wells Ranch State AA32-745	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	EDMP

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)
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
1,500.00	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	2.00	84.89	2,099.98	0.16	1.74	0.28	2.00	2.00	0.00
2,200.00	4.00	84.89	2,199.84	0.62	6.95	1.11	2.00	2.00	0.00
2,300.00	6.00	84.89	2,299.45	1.40	15.63	2.49	2.00	2.00	0.00
2,400.00	8.00	84.89	2,398.70	2.48	27.77	4.42	2.00	2.00	0.00
2,487.07	9.74	84.89	2,484.72	3.68	41.14	6.55	2.00	2.00	0.00
2,500.00	9.74	84.89	2,497.47	3.87	43.32	6.90	0.00	0.00	0.00
2,600.00	9.74	84.89	2,596.03	5.38	60.17	9.58	0.00	0.00	0.00
2,700.00	9.74	84.89	2,694.59	6.88	77.03	12.26	0.00	0.00	0.00
2,800.00	9.74	84.89	2,793.14	8.39	93.88	14.94	0.00	0.00	0.00
2,900.00	9.74	84.89	2,891.70	9.89	110.73	17.63	0.00	0.00	0.00
3,000.00	9.74	84.89	2,990.26	11.40	127.59	20.31	0.00	0.00	0.00
3,100.00	9.74	84.89	3,088.82	12.91	144.44	22.99	0.00	0.00	0.00
3,200.00	9.74	84.89	3,187.38	14.41	161.29	25.67	0.00	0.00	0.00
3,300.00	9.74	84.89	3,285.94	15.92	178.14	28.36	0.00	0.00	0.00
3,400.00	9.74	84.89	3,384.49	17.42	195.00	31.04	0.00	0.00	0.00
3,500.00	9.74	84.89	3,483.05	18.93	211.85	33.72	0.00	0.00	0.00
3,600.00	9.74	84.89	3,581.61	20.43	228.70	36.41	0.00	0.00	0.00
3,700.00	9.74	84.89	3,680.17	21.94	245.56	39.09	0.00	0.00	0.00
3,800.00	9.74	84.89	3,778.73	23.45	262.41	41.77	0.00	0.00	0.00
3,900.00	9.74	84.89	3,877.28	24.95	279.26	44.45	0.00	0.00	0.00
4,000.00	9.74	84.89	3,975.84	26.46	296.11	47.14	0.00	0.00	0.00
4,100.00	9.74	84.89	4,074.40	27.96	312.97	49.82	0.00	0.00	0.00
4,200.00	9.74	84.89	4,172.96	29.47	329.82	52.50	0.00	0.00	0.00
4,300.00	9.74	84.89	4,271.52	30.97	346.67	55.18	0.00	0.00	0.00
4,400.00	9.74	84.89	4,370.08	32.48	363.53	57.87	0.00	0.00	0.00
4,500.00	9.74	84.89	4,468.63	33.99	380.38	60.55	0.00	0.00	0.00
4,600.00	9.74	84.89	4,567.19	35.49	397.23	63.23	0.00	0.00	0.00
4,700.00	9.74	84.89	4,665.75	37.00	414.08	65.91	0.00	0.00	0.00
4,800.00	9.74	84.89	4,764.31	38.50	430.94	68.60	0.00	0.00	0.00
4,900.00	9.74	84.89	4,862.87	40.01	447.79	71.28	0.00	0.00	0.00
5,000.00	9.74	84.89	4,961.42	41.52	464.64	73.96	0.00	0.00	0.00
5,100.00	9.74	84.89	5,059.98	43.02	481.50	76.65	0.00	0.00	0.00
5,200.00	9.74	84.89	5,158.54	44.53	498.35	79.33	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Well:	Wells Ranch State AA32-745	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	EDMP

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)
5,300.00	9.74	84.89	5,257.10	46.03	515.20	82.01	0.00	0.00	0.00
5,400.00	9.74	84.89	5,355.66	47.54	532.05	84.69	0.00	0.00	0.00
5,500.00	9.74	84.89	5,454.22	49.04	548.91	87.38	0.00	0.00	0.00
5,600.00	9.74	84.89	5,552.77	50.55	565.76	90.06	0.00	0.00	0.00
5,700.00	9.74	84.89	5,651.33	52.06	582.61	92.74	0.00	0.00	0.00
5,800.00	9.74	84.89	5,749.89	53.56	599.47	95.42	0.00	0.00	0.00
5,900.00	9.74	84.89	5,848.45	55.07	616.32	98.11	0.00	0.00	0.00
6,000.00	9.74	84.89	5,947.01	56.57	633.17	100.79	0.00	0.00	0.00
6,100.00	9.74	84.89	6,045.56	58.08	650.02	103.47	0.00	0.00	0.00
6,116.47	9.74	84.89	6,061.80	58.33	652.80	103.91	0.00	0.00	0.00
6,200.00	11.69	44.90	6,143.98	64.96	665.83	111.44	9.00	2.33	-47.88
6,300.00	18.27	20.40	6,240.62	86.87	678.47	134.19	9.00	6.58	-24.50
6,400.00	26.29	9.46	6,333.11	123.49	687.59	171.35	9.00	8.02	-10.93
6,500.00	34.78	3.48	6,419.19	173.90	692.97	222.02	9.00	8.48	-5.98
6,577.34	41.47	0.38	6,480.00	221.59	694.48	269.69	9.00	8.66	-4.00
6,600.00	43.51	0.38	6,496.71	236.89	694.58	284.97	9.00	9.00	0.00
6,700.00	52.51	0.38	6,563.54	311.14	695.08	359.07	9.00	9.00	0.00
6,800.00	61.51	0.38	6,617.94	394.93	695.64	442.69	9.00	9.00	0.00
6,900.00	70.51	0.38	6,658.55	486.19	696.25	533.77	9.00	9.00	0.00
7,000.00	79.51	0.38	6,684.39	582.69	696.89	630.08	9.00	9.00	0.00
7,100.00	88.51	0.38	6,694.82	682.04	697.56	729.23	9.00	9.00	0.00
7,116.56	90.00	0.38	6,695.03	698.60	697.67	745.76	9.00	9.00	0.00
7,200.00	90.00	0.38	6,695.03	782.03	698.23	829.02	0.00	0.00	0.00
7,300.00	90.00	0.38	6,695.03	882.03	698.90	928.82	0.00	0.00	0.00
7,400.00	90.00	0.38	6,695.03	982.03	699.57	1,028.62	0.00	0.00	0.00
7,500.00	90.00	0.38	6,695.03	1,082.03	700.24	1,128.42	0.00	0.00	0.00
7,600.00	90.00	0.38	6,695.03	1,182.02	700.91	1,228.22	0.00	0.00	0.00
7,700.00	90.00	0.38	6,695.03	1,282.02	701.58	1,328.02	0.00	0.00	0.00
7,800.00	90.00	0.38	6,695.03	1,382.02	702.25	1,427.82	0.00	0.00	0.00
7,900.00	90.00	0.38	6,695.03	1,482.02	702.92	1,527.62	0.00	0.00	0.00
8,000.00	90.00	0.38	6,695.03	1,582.01	703.59	1,627.42	0.00	0.00	0.00
8,100.00	90.00	0.38	6,695.03	1,682.01	704.26	1,727.22	0.00	0.00	0.00
8,200.00	90.00	0.38	6,695.03	1,782.01	704.93	1,827.02	0.00	0.00	0.00
8,300.00	90.00	0.38	6,695.03	1,882.01	705.60	1,926.81	0.00	0.00	0.00
8,400.00	90.00	0.38	6,695.03	1,982.01	706.27	2,026.61	0.00	0.00	0.00
8,500.00	90.00	0.38	6,695.03	2,082.00	706.95	2,126.41	0.00	0.00	0.00
8,600.00	90.00	0.38	6,695.03	2,182.00	707.62	2,226.21	0.00	0.00	0.00
8,700.00	90.00	0.38	6,695.03	2,282.00	708.29	2,326.01	0.00	0.00	0.00
8,800.00	90.00	0.38	6,695.03	2,382.00	708.96	2,425.81	0.00	0.00	0.00
8,900.00	90.00	0.38	6,695.03	2,481.99	709.63	2,525.61	0.00	0.00	0.00
9,000.00	90.00	0.38	6,695.03	2,581.99	710.30	2,625.41	0.00	0.00	0.00
9,100.00	90.00	0.38	6,695.03	2,681.99	710.97	2,725.21	0.00	0.00	0.00
9,200.00	90.00	0.38	6,695.03	2,781.99	711.64	2,825.01	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Well:	Wells Ranch State AA32-745	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	EDMP

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)
9,300.00	90.00	0.38	6,695.03	2,881.99	712.31	2,924.81	0.00	0.00	0.00
9,400.00	90.00	0.38	6,695.03	2,981.98	712.98	3,024.60	0.00	0.00	0.00
9,500.00	90.00	0.38	6,695.03	3,081.98	713.65	3,124.40	0.00	0.00	0.00
9,600.00	90.00	0.38	6,695.02	3,181.98	714.32	3,224.20	0.00	0.00	0.00
9,700.00	90.00	0.38	6,695.02	3,281.98	714.99	3,324.00	0.00	0.00	0.00
9,800.00	90.00	0.38	6,695.02	3,381.97	715.66	3,423.80	0.00	0.00	0.00
9,900.00	90.00	0.38	6,695.02	3,481.97	716.33	3,523.60	0.00	0.00	0.00
10,000.00	90.00	0.38	6,695.02	3,581.97	717.00	3,623.40	0.00	0.00	0.00
10,100.00	90.00	0.38	6,695.02	3,681.97	717.68	3,723.20	0.00	0.00	0.00
10,200.00	90.00	0.38	6,695.02	3,781.97	718.35	3,823.00	0.00	0.00	0.00
10,300.00	90.00	0.38	6,695.02	3,881.96	719.02	3,922.80	0.00	0.00	0.00
10,400.00	90.00	0.38	6,695.02	3,981.96	719.69	4,022.59	0.00	0.00	0.00
10,500.00	90.00	0.38	6,695.02	4,081.96	720.36	4,122.39	0.00	0.00	0.00
10,600.00	90.00	0.38	6,695.02	4,181.96	721.03	4,222.19	0.00	0.00	0.00
10,700.00	90.00	0.38	6,695.02	4,281.95	721.70	4,321.99	0.00	0.00	0.00
10,800.00	90.00	0.38	6,695.02	4,381.95	722.37	4,421.79	0.00	0.00	0.00
10,900.00	90.00	0.38	6,695.02	4,481.95	723.04	4,521.59	0.00	0.00	0.00
11,000.00	90.00	0.38	6,695.02	4,581.95	723.71	4,621.39	0.00	0.00	0.00
11,100.00	90.00	0.38	6,695.02	4,681.95	724.38	4,721.19	0.00	0.00	0.00
11,200.00	90.00	0.38	6,695.02	4,781.94	725.05	4,820.99	0.00	0.00	0.00
11,300.00	90.00	0.38	6,695.02	4,881.94	725.72	4,920.79	0.00	0.00	0.00
11,400.00	90.00	0.38	6,695.02	4,981.94	726.39	5,020.59	0.00	0.00	0.00
11,500.00	90.00	0.38	6,695.02	5,081.94	727.06	5,120.38	0.00	0.00	0.00
11,600.00	90.00	0.38	6,695.02	5,181.93	727.73	5,220.18	0.00	0.00	0.00
11,700.00	90.00	0.38	6,695.02	5,281.93	728.41	5,319.98	0.00	0.00	0.00
11,800.00	90.00	0.38	6,695.02	5,381.93	729.08	5,419.78	0.00	0.00	0.00
11,900.00	90.00	0.38	6,695.02	5,481.93	729.75	5,519.58	0.00	0.00	0.00
12,000.00	90.00	0.38	6,695.02	5,581.93	730.42	5,619.38	0.00	0.00	0.00
12,100.00	90.00	0.38	6,695.02	5,681.92	731.09	5,719.18	0.00	0.00	0.00
12,200.00	90.00	0.38	6,695.02	5,781.92	731.76	5,818.98	0.00	0.00	0.00
12,300.00	90.00	0.38	6,695.02	5,881.92	732.43	5,918.78	0.00	0.00	0.00
12,400.00	90.00	0.38	6,695.02	5,981.92	733.10	6,018.58	0.00	0.00	0.00
12,500.00	90.00	0.38	6,695.02	6,081.91	733.77	6,118.38	0.00	0.00	0.00
12,600.00	90.00	0.38	6,695.02	6,181.91	734.44	6,218.17	0.00	0.00	0.00
12,700.00	90.00	0.38	6,695.01	6,281.91	735.11	6,317.97	0.00	0.00	0.00
12,800.00	90.00	0.38	6,695.01	6,381.91	735.78	6,417.77	0.00	0.00	0.00
12,900.00	90.00	0.38	6,695.01	6,481.90	736.45	6,517.57	0.00	0.00	0.00
13,000.00	90.00	0.38	6,695.01	6,581.90	737.12	6,617.37	0.00	0.00	0.00
13,100.00	90.00	0.38	6,695.01	6,681.90	737.79	6,717.17	0.00	0.00	0.00
13,200.00	90.00	0.38	6,695.01	6,781.90	738.46	6,816.97	0.00	0.00	0.00
13,300.00	90.00	0.38	6,695.01	6,881.90	739.14	6,916.77	0.00	0.00	0.00
13,400.00	90.00	0.38	6,695.01	6,981.89	739.81	7,016.57	0.00	0.00	0.00
13,500.00	90.00	0.38	6,695.01	7,081.89	740.48	7,116.37	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Well:	Wells Ranch State AA32-745	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	EDMP

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)
13,600.00	90.00	0.38	6,695.01	7,181.89	741.15	7,216.16	0.00	0.00	0.00
13,700.00	90.00	0.38	6,695.01	7,281.89	741.82	7,315.96	0.00	0.00	0.00
13,800.00	90.00	0.38	6,695.01	7,381.88	742.49	7,415.76	0.00	0.00	0.00
13,900.00	90.00	0.38	6,695.01	7,481.88	743.16	7,515.56	0.00	0.00	0.00
14,000.00	90.00	0.38	6,695.01	7,581.88	743.83	7,615.36	0.00	0.00	0.00
14,100.00	90.00	0.38	6,695.01	7,681.88	744.50	7,715.16	0.00	0.00	0.00
14,200.00	90.00	0.38	6,695.01	7,781.88	745.17	7,814.96	0.00	0.00	0.00
14,300.00	90.00	0.38	6,695.01	7,881.87	745.84	7,914.76	0.00	0.00	0.00
14,400.00	90.00	0.38	6,695.01	7,981.87	746.51	8,014.56	0.00	0.00	0.00
14,500.00	90.00	0.38	6,695.01	8,081.87	747.18	8,114.36	0.00	0.00	0.00
14,600.00	90.00	0.38	6,695.01	8,181.87	747.85	8,214.16	0.00	0.00	0.00
14,700.00	90.00	0.38	6,695.01	8,281.86	748.52	8,313.95	0.00	0.00	0.00
14,800.00	90.00	0.38	6,695.01	8,381.86	749.19	8,413.75	0.00	0.00	0.00
14,900.00	90.00	0.38	6,695.01	8,481.86	749.87	8,513.55	0.00	0.00	0.00
15,000.00	90.00	0.38	6,695.01	8,581.86	750.54	8,613.35	0.00	0.00	0.00
15,100.00	90.00	0.38	6,695.01	8,681.86	751.21	8,713.15	0.00	0.00	0.00
15,200.00	90.00	0.38	6,695.01	8,781.85	751.88	8,812.95	0.00	0.00	0.00
15,300.00	90.00	0.38	6,695.01	8,881.85	752.55	8,912.75	0.00	0.00	0.00
15,400.00	90.00	0.38	6,695.01	8,981.85	753.22	9,012.55	0.00	0.00	0.00
15,500.00	90.00	0.38	6,695.01	9,081.85	753.89	9,112.35	0.00	0.00	0.00
15,600.00	90.00	0.38	6,695.01	9,181.84	754.56	9,212.15	0.00	0.00	0.00
15,700.00	90.00	0.38	6,695.01	9,281.84	755.23	9,311.95	0.00	0.00	0.00
15,800.00	90.00	0.38	6,695.00	9,381.84	755.90	9,411.74	0.00	0.00	0.00
15,900.00	90.00	0.38	6,695.00	9,481.84	756.57	9,511.54	0.00	0.00	0.00
16,000.00	90.00	0.38	6,695.00	9,581.84	757.24	9,611.34	0.00	0.00	0.00
16,100.00	90.00	0.38	6,695.00	9,681.83	757.91	9,711.14	0.00	0.00	0.00
16,200.00	90.00	0.38	6,695.00	9,781.83	758.58	9,810.94	0.00	0.00	0.00
16,300.00	90.00	0.38	6,695.00	9,881.83	759.25	9,910.74	0.00	0.00	0.00
16,400.00	90.00	0.38	6,695.00	9,981.83	759.92	10,010.54	0.00	0.00	0.00
16,500.00	90.00	0.38	6,695.00	10,081.82	760.60	10,110.34	0.00	0.00	0.00
16,600.00	90.00	0.38	6,695.00	10,181.82	761.27	10,210.14	0.00	0.00	0.00
16,700.00	90.00	0.38	6,695.00	10,281.82	761.94	10,309.94	0.00	0.00	0.00
16,800.00	90.00	0.38	6,695.00	10,381.82	762.61	10,409.73	0.00	0.00	0.00
16,900.00	90.00	0.38	6,695.00	10,481.82	763.28	10,509.53	0.00	0.00	0.00
17,000.00	90.00	0.38	6,695.00	10,581.81	763.95	10,609.33	0.00	0.00	0.00
17,100.00	90.00	0.38	6,695.00	10,681.81	764.62	10,709.13	0.00	0.00	0.00
17,200.00	90.00	0.38	6,695.00	10,781.81	765.29	10,808.93	0.00	0.00	0.00
17,300.00	90.00	0.38	6,695.00	10,881.81	765.96	10,908.73	0.00	0.00	0.00
17,324.05	90.00	0.38	6,695.00	10,905.86	766.12	10,932.73	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Well:	Wells Ranch State AA32-745	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	EDMP

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
Wells Ranch State AA32-745 TPZ0.00 - plan hits target center - Point		0.00	6,480.00	221.59	694.48	1,403,181.24	3,289,622.97	40.4354701	-104.4595316
Wells Ranch State AA32-745 BHD.00 - plan hits target center - Point		0.00	6,695.00	10,905.86	766.12	1,413,865.49	3,289,694.61	40.4647938	-104.4588236

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,577.34	6,480.00	TPZ	5.500	6.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
181.00	181.00	Pierre			
486.00	486.00	Upper Pierre Aquifer Top			
1,547.00	1,547.00	Upper Pierre Aquifer Base			
4,310.64	4,282.00	Sussex			
4,738.81	4,704.00	Parkman			
4,774.32	4,739.00	Shannon			
5,809.24	5,759.00	Teepee Buttes			
6,526.94	6,441.00	Sharon Springs			
6,577.34	6,480.00	Top A Chalk			
6,615.75	6,508.00	Top A Marl			
6,715.80	6,573.00	Top B Chalk			
6,775.82	6,606.00	Top B Marl			
6,881.15	6,652.00	Top C Chalk			
7,044.87	6,691.00	Top C Marl			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2000	2000	0	0	Start Build 2.00
6116	6062	4	41	Start DLS 9.00 TFO -95.58
6577	6480	58	653	TPZ at 6577.34 MD
7117	6695	222	694	LP at 7116.56 MD
17,324	6695	699	698	TD at 17324.05 MD

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Wells Ranch

BB Section 05

Wells Ranch State AA32-745

Wellbore #1

Plan #2

Anticollision Summary Report

23 April, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	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	4/23/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,324.04	Plan #2 (Wellbore #1)	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						
AA Section 28						
State 6524 11-28 - Original Drilling - Original Drilling - As	16,521.06	6,630.31	2,789.65	2,624.57	16.899	CC, ES
State 6524 11-28 - Original Drilling - Original Drilling - As	16,800.00	6,620.78	2,803.54	2,636.72	16.806	SF
State 6524 12-28 - Original Drilling - Original Drilling - As	15,479.23	6,661.25	2,669.31	2,568.44	26.463	CC
State 6524 12-28 - Original Drilling - Original Drilling - As	15,500.00	6,661.07	2,669.39	2,568.34	26.416	ES
State 6524 12-28 - Original Drilling - Original Drilling - As	15,800.00	6,658.45	2,688.51	2,585.32	26.052	SF
State 6524 13-28 (SI) - Original Drilling - Original Drilling	14,098.50	6,706.98	2,801.55	2,711.34	31.057	CC
State 6524 13-28 (SI) - Original Drilling - Original Drilling	14,100.00	6,707.04	2,801.55	2,711.33	31.053	ES
State 6524 13-28 (SI) - Original Drilling - Original Drilling	14,600.00	6,727.52	2,846.02	2,752.39	30.395	SF
State 6524 21-28 - Original Drilling - Original Drilling - As	16,892.20	6,705.46	4,292.32	4,180.21	38.285	CC
State 6524 21-28 - Original Drilling - Original Drilling - As	16,900.00	6,705.41	4,292.33	4,180.15	38.262	ES
State 6524 21-28 - Original Drilling - Original Drilling - As	17,324.05	6,702.46	4,313.99	4,198.60	37.385	SF
State 6524 22-28 (SI) - Original Drilling - Original Drilling	15,409.21	6,637.66	4,207.04	4,106.74	41.942	CC, ES
State 6524 22-28 (SI) - Original Drilling - Original Drilling	16,300.00	6,621.08	4,300.28	4,194.11	40.503	SF
State 6524 24-28 - Original Drilling - Original Drilling - As	12,852.55	6,585.15	4,192.28	4,087.98	40.193	CC
State 6524 24-28 - Original Drilling - Original Drilling - As	12,900.00	6,586.51	4,192.55	4,087.84	40.041	ES
State 6524 24-28 - Original Drilling - Original Drilling - As	13,800.00	6,612.38	4,297.92	4,186.75	38.659	SF
State Lease 14-28 (SI) - Original Drilling - Original Drilling	12,761.07	6,681.35	2,866.39	2,784.78	35.121	CC
State Lease 14-28 (SI) - Original Drilling - Original Drilling	12,800.00	6,681.30	2,866.65	2,784.72	34.987	ES
State Lease 14-28 (SI) - Original Drilling - Original Drilling	13,300.00	6,680.61	2,916.61	2,831.34	34.202	SF
State Lease 23-28 - Original Drilling - Original Drilling - A	14,076.95	6,671.94	4,292.65	4,202.67	47.711	CC
State Lease 23-28 - Original Drilling - Original Drilling - A	14,100.00	6,672.02	4,292.71	4,202.54	47.611	ES
State Lease 23-28 - Original Drilling - Original Drilling - A	15,100.00	6,675.55	4,412.87	4,316.12	45.609	SF
State Lease 32-28 (PA) - Original Drilling - Original Drilling	15,401.31	6,736.01	5,337.82	5,126.02	25.203	CC, ES
State Lease 32-28 (PA) - Original Drilling - Original Drilling	16,200.00	6,736.00	5,397.24	5,179.58	24.797	SF
State Lease 6524 41-28 (PA) - Original Drilling - Original	16,752.22	6,758.00	6,751.98	6,529.11	30.296	CC
State Lease 6524 41-28 (PA) - Original Drilling - Original	16,800.00	6,758.00	6,752.15	6,528.88	30.243	ES
State Lease 6524 41-28 (PA) - Original Drilling - Original	17,324.05	6,758.00	6,776.15	6,548.81	29.806	SF
Wells Ranch State 28C - Original Drilling - Original Drilling	16,234.20	6,762.84	6,087.54	5,981.18	57.236	CC
Wells Ranch State 28C - Original Drilling - Original Drilling	16,300.00	6,763.77	6,087.89	5,980.99	56.946	ES
Wells Ranch State 28C - Original Drilling - Original Drilling	17,324.05	6,778.72	6,184.30	6,070.08	54.141	SF
Wells Ranch State 28D - Original Drilling - Original Drilling	13,525.31	6,957.00	5,951.45	5,865.70	69.400	CC
Wells Ranch State 28D - Original Drilling - Original Drilling	13,600.00	6,957.00	5,951.92	5,865.57	68.928	ES
Wells Ranch State 28D - Original Drilling - Original Drilling	15,400.00	6,957.00	6,239.73	6,141.81	63.721	SF
Wells Ranch State 28R - Original Drilling - Original Drilling	17,324.05	6,726.34	6,270.36	6,154.78	54.252	CC, ES, SF
Wells Ranch State 28S - Original Drilling - Original Drilling	14,738.31	6,973.20	6,027.21	5,932.17	63.414	CC
Wells Ranch State 28S - Original Drilling - Original Drilling	14,800.00	6,973.33	6,027.53	5,931.98	63.083	ES
Wells Ranch State 28S - Original Drilling - Original Drilling	16,500.00	6,977.04	6,279.40	6,172.78	58.899	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 Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA Section 28						
Wells Ranch State 31-28 - Original Drilling - Original Drill	16,846.11	6,772.90	5,526.25	5,415.15	49.743	CC
Wells Ranch State 31-28 - Original Drilling - Original Drill	16,900.00	6,772.39	5,526.51	5,414.96	49.545	ES
Wells Ranch State 31-28 - Original Drilling - Original Drill	17,324.05	6,768.42	5,546.88	5,432.06	48.313	SF
Wells Ranch State 32-28 - Original Drilling - Original Drill	15,577.72	6,808.57	5,266.10	5,164.89	52.029	CC
Wells Ranch State 32-28 - Original Drilling - Original Drill	15,600.00	6,808.74	5,266.15	5,164.75	51.934	ES
Wells Ranch State 32-28 - Original Drilling - Original Drill	16,900.00	6,818.17	5,429.56	5,319.65	49.398	SF
Wells Ranch State 33-28 - Original Drilling - Original Drill	14,099.81	6,666.81	5,313.32	5,224.02	59.494	CC
Wells Ranch State 33-28 - Original Drilling - Original Drill	14,100.00	6,666.81	5,313.32	5,224.01	59.493	ES
Wells Ranch State 33-28 - Original Drilling - Original Drill	15,600.00	6,634.46	5,520.93	5,421.84	55.716	SF
Wells Ranch State 34-28 - Original Drilling - Original Drill	12,853.99	6,947.00	5,446.44	5,365.66	67.422	CC
Wells Ranch State 34-28 - Original Drilling - Original Drill	12,900.00	6,947.00	5,446.63	5,365.49	67.123	ES
Wells Ranch State 34-28 - Original Drilling - Original Drill	14,600.00	6,947.00	5,719.46	5,627.46	62.169	SF
Wells Ranch State 41-28 - Original Drilling - Original Drill	16,762.25	6,797.15	6,718.37	6,607.83	60.776	CC
Wells Ranch State 41-28 - Original Drilling - Original Drill	16,800.00	6,796.52	6,718.48	6,607.62	60.606	ES
Wells Ranch State 41-28 - Original Drilling - Original Drill	17,324.05	6,787.30	6,741.81	6,626.88	58.662	SF
Wells Ranch State 42-28 - Original Drilling - Original Drill	15,529.56	6,696.05	6,541.54	6,440.93	65.017	CC
Wells Ranch State 42-28 - Original Drilling - Original Drill	15,600.00	6,697.75	6,541.92	6,440.73	64.647	ES
Wells Ranch State 42-28 - Original Drilling - Original Drill	17,324.05	6,734.20	6,783.07	6,670.40	60.205	SF
Wells Ranch State 43-28 - Original Drilling - Original Drill	14,222.17	6,804.04	6,623.32	6,532.52	72.945	CC
Wells Ranch State 43-28 - Original Drilling - Original Drill	14,300.00	6,809.00	6,623.77	6,532.33	72.438	ES
Wells Ranch State 43-28 - Original Drilling - Original Drill	16,400.00	6,939.85	6,970.71	6,865.37	66.168	SF
Wells Ranch State 44-28 - Original Drilling - Original Drill	12,937.04	6,947.00	6,654.59	6,573.31	81.867	CC
Wells Ranch State 44-28 - Original Drilling - Original Drill	13,000.00	6,947.00	6,654.89	6,573.11	81.377	ES
Wells Ranch State 44-28 - Original Drilling - Original Drill	15,400.00	6,947.00	7,095.76	6,998.80	73.185	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA Section 29						
J&L Farms 29B PR - Wellbore #1 - Gyro Surveys	13,127.58	6,640.25	1,745.08	1,662.48	21.128	CC, ES
J&L Farms 29B PR - Wellbore #1 - Gyro Surveys	13,300.00	6,640.96	1,753.57	1,670.16	21.023	SF
J&L Farms 11-29 PA - Wellbore #1 - Gyro Surveys	16,603.89	6,570.19	2,430.29	2,321.14	22.266	CC, ES
J&L Farms 11-29 PA - Wellbore #1 - Gyro Surveys	16,800.00	6,568.58	2,438.19	2,327.98	22.124	SF
J&L Farms 12-29 PR - Wellbore #1 - Gyro Surveys	15,293.91	6,665.00	2,532.53	2,433.11	25.475	CC
J&L Farms 12-29 PR - Wellbore #1 - Gyro Surveys	15,300.00	6,665.12	2,532.53	2,433.08	25.464	ES
J&L Farms 12-29 PR - Wellbore #1 - Gyro Surveys	15,600.00	6,671.05	2,550.95	2,449.93	25.252	SF
J&L Farms 13-29 SI - Wellbore #1 - Gyro Surveys	13,844.00	6,650.00	2,445.92	2,357.84	27.767	CC, ES
J&L Farms 13-29 SI - Wellbore #1 - Gyro Surveys	14,100.00	6,650.00	2,459.29	2,369.81	27.487	SF
J&L Farms 14-29 SI - Wellbore #1 - Gyro Surveys	12,649.25	6,638.49	2,432.25	2,353.26	30.792	CC, ES
J&L Farms 14-29 SI - Wellbore #1 - Gyro Surveys	13,000.00	6,641.71	2,457.40	2,376.61	30.417	SF
J&L Farms 21-29 PA - Wellbore #1 - Gyro Surveys	16,612.57	5,825.00	1,689.91	1,589.06	16.756	CC, ES
J&L Farms 21-29 PA - Wellbore #1 - Gyro Surveys	16,700.00	5,825.00	1,692.17	1,590.89	16.707	SF
J&L Farms 22-29 PR - Wellbore #1 - Gyro Surveys	15,188.68	6,678.58	884.94	786.14	8.957	CC, ES
J&L Farms 22-29 PR - Wellbore #1 - Gyro Surveys	15,200.00	6,678.70	885.02	786.17	8.953	SF
J&L Farms 23-29 PR - Wellbore #1 - Gyro Surveys	14,031.36	6,672.47	703.31	613.57	7.838	CC, ES, SF
J&L Farms 24-29 SI - Wellbore #1 - No Surveys	12,663.03	6,656.01	1,154.42	1,086.70	17.047	CC, ES
J&L Farms 24-29 SI - Wellbore #1 - No Surveys	12,700.00	6,656.01	1,155.01	1,087.12	17.013	SF
J&L Farms 29-34 SI - Wellbore #1 - Gyro Surveys	12,732.63	6,670.14	448.05	368.29	5.617	CC, ES, SF
J&L Farms 31-29 SI - Wellbore #1 - Gyro Surveys	16,454.63	6,660.71	289.28	180.83	2.668	CC, ES, SF
J&L Farms 32-29D PR - Wellbore #1 - No Surveys	15,357.64	6,670.01	730.28	595.34	5.412	CC, ES
J&L Farms 32-29D PR - Wellbore #1 - No Surveys	15,400.00	6,670.01	731.51	596.20	5.406	SF
J&L Farms 33-29 SI - Wellbore #1 - Gyro Surveys	14,206.07	6,682.08	432.03	341.05	4.749	CC, ES, SF
J&L Farms 41-29 SI - Wellbore #1 - No Surveys	16,710.25	6,670.00	1,562.45	1,416.87	10.733	CC, ES
J&L Farms 41-29 SI - Wellbore #1 - No Surveys	16,800.00	6,670.00	1,565.03	1,418.71	10.696	SF
J&L Farms 42-29 PA - Wellbore #1 - Gyro Surveys	15,183.41	6,550.00	1,676.41	1,577.87	17.012	CC
J&L Farms 42-29 PA - Wellbore #1 - Gyro Surveys	15,200.00	6,550.00	1,676.49	1,577.80	16.987	ES
J&L Farms 42-29 PA - Wellbore #1 - Gyro Surveys	15,300.00	6,550.00	1,680.46	1,580.99	16.894	SF
J&L Farms 43-29 PA - Wellbore #1 - Gyro Surveys	14,006.38	6,650.14	1,724.52	1,635.06	19.278	CC, ES
J&L Farms 43-29 PA - Wellbore #1 - Gyro Surveys	14,200.00	6,653.27	1,735.35	1,644.47	19.096	SF
J&L Farms 44-29 SI - Wellbore #1 - No Surveys	12,704.75	6,694.01	1,697.84	1,583.01	14.786	CC, ES
J&L Farms 44-29 SI - Wellbore #1 - No Surveys	12,900.00	6,694.01	1,709.03	1,592.76	14.699	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA Section 30						
Fairmeadows 01-30 - Original Drilling - Original Drilling -	12,519.80	7,194.15	7,515.68	7,432.92	90.812	CC
Fairmeadows 01-30 - Original Drilling - Original Drilling -	12,600.00	7,191.40	7,516.11	7,432.80	90.220	ES
Fairmeadows 01-30 - Original Drilling - Original Drilling -	15,200.00	7,102.56	7,978.75	7,880.84	81.486	SF
Fairmeadows 03-30 - Original Drilling - Original Drilling -	13,864.47	6,656.41	7,613.30	7,525.04	86.256	CC
Fairmeadows 03-30 - Original Drilling - Original Drilling -	13,900.00	6,656.94	7,613.39	7,524.86	86.002	ES
Fairmeadows 03-30 - Original Drilling - Original Drilling -	16,500.00	6,703.71	8,056.46	7,952.54	77.524	SF
Fairmeadows 04-30 - Original Drilling - Original Drilling -	13,899.28	6,720.44	5,084.16	4,977.68	47.746	CC
Fairmeadows 04-30 - Original Drilling - Original Drilling -	13,900.00	6,720.44	5,084.16	4,977.67	47.744	ES
Fairmeadows 04-30 - Original Drilling - Original Drilling -	15,000.00	6,715.15	5,201.95	5,089.04	46.074	SF
J&L Farms 31-30 - Original Drilling - Original Drilling - As	16,524.62	6,792.52	4,990.68	4,880.97	45.489	CC, ES
J&L Farms 31-30 - Original Drilling - Original Drilling - As	17,324.05	6,795.34	5,054.30	4,939.72	44.113	SF
J&L Farms 32-30 - Original Drilling - Original Drilling - As	15,207.74	6,643.33	5,034.15	4,935.50	51.033	CC, ES
J&L Farms 32-30 - Original Drilling - Original Drilling - As	16,300.00	6,616.29	5,151.18	5,046.37	49.149	SF
Larsen Fairmeadows 02-30 - Original Drilling - Original D	12,609.07	6,610.41	5,080.19	5,001.59	64.633	CC, ES
Larsen Fairmeadows 02-30 - Original Drilling - Original D	14,000.00	6,615.62	5,267.17	5,180.68	60.904	SF
Larsen Fairmeadows 05-30 - Original Drilling - Original D	12,509.73	6,600.00	6,306.55	6,228.73	81.037	CC, ES
Larsen Fairmeadows 05-30 - Original Drilling - Original D	14,600.00	6,600.00	6,643.93	6,554.13	73.981	SF
Larson Fairmeadows 06-30 - Original Drilling - Original D	13,887.64	6,439.81	6,389.40	6,301.88	73.002	CC
Larson Fairmeadows 06-30 - Original Drilling - Original D	13,900.00	6,439.45	6,389.41	6,301.80	72.929	ES
Larson Fairmeadows 06-30 - Original Drilling - Original D	15,800.00	6,379.86	6,669.16	6,570.80	67.802	SF
Shadow A26-622 - Original Drilling - Original Drilling - As	12,731.93	6,146.00	4,480.75	4,408.67	62.160	CC, ES
Shadow A26-622 - Original Drilling - Original Drilling - As	13,900.00	6,146.00	4,630.50	4,552.03	59.006	SF
Shadow A26-627 - Original Drilling - Original Drilling - As	13,011.30	6,051.00	4,496.83	4,422.81	60.749	CC, ES
Shadow A26-627 - Original Drilling - Original Drilling - As	14,400.00	6,093.74	4,704.50	4,623.06	57.767	SF
Shadow A26-632 - Original Drilling - Original Drilling - As	13,481.13	6,235.00	4,479.79	4,400.95	56.820	CC
Shadow A26-632 - Original Drilling - Original Drilling - As	13,500.00	6,235.00	4,479.83	4,400.86	56.725	ES
Shadow A26-632 - Original Drilling - Original Drilling - As	14,500.00	6,235.00	4,594.20	4,509.52	54.259	SF
Shadow A26-637 - Original Drilling - Original Drilling - As	13,706.48	6,048.00	4,501.26	4,423.94	58.215	CC, ES
Shadow A26-637 - Original Drilling - Original Drilling - As	14,800.00	6,048.00	4,632.19	4,548.78	55.534	SF
Shadow A26-646 - Original Drilling - Original Drilling - As	14,297.61	6,047.00	4,495.21	4,411.65	53.797	CC
Shadow A26-646 - Original Drilling - Original Drilling - As	14,300.00	6,047.00	4,495.21	4,411.64	53.787	ES
Shadow A26-646 - Original Drilling - Original Drilling - As	15,300.00	6,092.24	4,604.15	4,514.73	51.489	SF
Shadow A26-656 - Original Drilling - Original Drilling - As	15,077.49	6,149.18	4,543.52	4,452.72	50.042	CC
Shadow A26-656 - Original Drilling - Original Drilling - As	15,100.00	6,149.32	4,543.57	4,452.66	49.975	ES
Shadow A26-656 - Original Drilling - Original Drilling - As	16,200.00	6,186.00	4,680.48	4,583.69	48.356	SF
Shadow A26-663 - Original Drilling - Original Drilling - As	15,391.70	6,147.00	4,541.54	4,448.63	48.880	CC
Shadow A26-663 - Original Drilling - Original Drilling - As	15,400.00	6,147.00	4,541.55	4,448.58	48.849	ES
Shadow A26-663 - Original Drilling - Original Drilling - As	16,300.00	6,188.12	4,630.06	4,531.82	47.128	SF
Shadow A26-672 - Original Drilling - Original Drilling - As	16,014.20	6,144.00	4,568.90	4,471.00	46.672	CC, ES
Shadow A26-672 - Original Drilling - Original Drilling - As	16,900.00	6,144.00	4,653.98	4,550.88	45.140	SF
Shadow A26-676 - Original Drilling - Original Drilling - As	16,414.70	6,144.00	4,570.40	4,469.60	45.339	CC, ES
Shadow A26-676 - Original Drilling - Original Drilling - As	17,300.00	6,144.00	4,655.35	4,549.50	43.980	SF
Shadow A26-685 - Original Drilling - Original Drilling - As	16,903.34	6,236.00	4,566.40	4,461.21	43.412	CC, ES
Shadow A26-685 - Original Drilling - Original Drilling - As	17,324.05	6,236.00	4,585.74	4,477.87	42.513	SF
Shadow A26-690 - Original Drilling - Original Drilling - As	17,197.59	6,235.00	4,590.00	4,482.33	42.628	CC
Shadow A26-690 - Original Drilling - Original Drilling - As	17,200.00	6,235.00	4,590.00	4,482.31	42.622	ES
Shadow A26-690 - Original Drilling - Original Drilling - As	17,324.05	6,235.00	4,591.74	4,483.21	42.308	SF
Shadow State A26-614 - Original Drilling - Original Drillin	12,195.00	6,147.00	4,461.03	4,392.71	65.296	CC
Shadow State A26-614 - Original Drilling - Original Drillin	12,200.00	6,147.00	4,461.03	4,392.68	65.263	ES
Shadow State A26-614 - Original Drilling - Original Drillin	13,400.00	6,147.00	4,620.91	4,545.85	61.565	SF
Shadow State A26-618 - Original Drilling - Original Drillin	12,414.64	6,091.00	4,478.71	4,409.47	64.678	CC, ES
Shadow State A26-618 - Original Drilling - Original Drillin	13,600.00	6,091.00	4,632.92	4,557.15	61.148	SF
Wells Ranch 41-30 - Original Drilling - Original Drilling - A	16,578.49	6,635.00	3,814.65	3,595.61	17.416	CC

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA Section 30						
Wells Ranch 41-30 - Original Drilling - Original Drilling - A	16,600.00	6,635.00	3,814.71	3,595.52	17.404	ES
Wells Ranch 41-30 - Original Drilling - Original Drilling - A	16,900.00	6,635.00	3,828.17	3,607.11	17.317	SF
Wells Ranch 42-30 - Original Drilling - Original Drilling - A	15,241.65	6,630.01	3,993.36	3,784.93	19.159	CC, ES
Wells Ranch 42-30 - Original Drilling - Original Drilling - A	15,700.00	6,630.01	4,019.58	3,808.33	19.028	SF
Wells Ranch 43-30 - Original Drilling - Original Drilling - A	14,028.34	6,630.01	3,793.04	3,594.01	19.057	CC, ES
Wells Ranch 43-30 - Original Drilling - Original Drilling - A	14,400.00	6,630.01	3,811.21	3,609.85	18.928	SF
Wells Ranch 44-30 - Original Drilling - Original Drilling - A	12,595.21	6,650.02	3,658.27	3,469.67	19.397	CC
Wells Ranch 44-30 - Original Drilling - Original Drilling - A	12,600.00	6,650.02	3,658.27	3,469.64	19.394	ES
Wells Ranch 44-30 - Original Drilling - Original Drilling - A	13,000.00	6,650.01	3,680.60	3,489.54	19.264	SF
Wolfe 02-30G - Original Drilling - Original Drilling - As Dri	15,168.35	6,667.74	7,671.45	7,573.04	77.952	CC
Wolfe 02-30G - Original Drilling - Original Drilling - As Dri	15,200.00	6,667.50	7,671.51	7,572.87	77.767	ES
Wolfe 02-30G - Original Drilling - Original Drilling - As Dri	17,324.05	6,653.41	7,968.56	7,857.06	71.465	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA Section 31						
Devries USX AA31-11 - Wellbore #1 - Wellbore #1 - As D	1,888.98	1,796.99	6,014.16	6,001.55	476.920	CC
Devries USX AA31-11 - Wellbore #1 - Wellbore #1 - As D	2,000.00	1,885.27	6,014.37	6,001.05	451.661	ES
Devries USX AA31-11 - Wellbore #1 - Wellbore #1 - As D	11,600.00	6,978.76	6,868.06	6,797.87	97.846	SF
Devries USX AA31-19 - Wellbore #1 - Wellbore #1 - As	10,601.59	6,768.45	6,940.23	6,869.53	98.166	CC, ES
Devries USX AA31-19 - Wellbore #1 - Wellbore #1 - As	13,100.00	6,824.49	7,376.00	7,293.50	89.400	SF
UPV 31-10G3 - Wellbore #1 - Wellbore #1 - As Drilled	100.00	21.18	4,918.90	4,918.74	10,000.000	CC
UPV 31-10G3 - Wellbore #1 - Wellbore #1 - As Drilled	8,900.00	6,667.74	4,935.17	4,880.98	91.069	ES
UPV 31-10G3 - Wellbore #1 - Wellbore #1 - As Drilled	10,700.00	6,653.27	5,257.21	5,194.44	83.742	SF
UPV 31-12G3 - Wellbore #1 - Wellbore #1 - As Drilled	100.00	0.00	7,250.02	7,249.89	10,000.000	CC
UPV 31-12G3 - Wellbore #1 - Wellbore #1 - As Drilled	2,000.00	1,893.18	7,253.61	7,240.26	543.446	ES
UPV 31-12G3 - Wellbore #1 - Wellbore #1 - As Drilled	14,200.00	14,200.00	9,598.71	9,494.58	92.182	SF
UPV 31-13G3 - Wellbore #1 - Wellbore #1 - As Drilled	432.91	349.91	6,884.63	6,882.26	2,909.329	CC
UPV 31-13G3 - Wellbore #1 - Wellbore #1 - As Drilled	1,100.00	969.53	6,886.61	6,879.69	994.691	ES
UPV 31-13G3 - Wellbore #1 - Wellbore #1 - As Drilled	11,800.00	6,723.35	9,068.23	9,001.88	136.667	SF
UPV 31-14G3 - Wellbore #1 - Wellbore #1 - As Drilled	100.00	0.00	5,351.50	5,351.37	10,000.000	CC
UPV 31-14G3 - Wellbore #1 - Wellbore #1 - As Drilled	2,012.59	1,939.56	5,355.90	5,342.32	394.254	ES
UPV 31-14G3 - Wellbore #1 - Wellbore #1 - As Drilled	11,500.00	6,610.64	7,515.25	7,448.93	113.314	SF
UPV 31-15G3 - Wellbore #1 - Wellbore #1 - As Drilled	0.00	0.00	4,297.90			
UPV 31-15G3 - Wellbore #1 - Wellbore #1 - As Drilled	2,000.00	1,971.00	4,302.88	4,289.23	315.177	ES
UPV 31-15G3 - Wellbore #1 - Wellbore #1 - As Drilled	9,300.00	6,842.31	5,277.12	5,221.65	95.128	SF
UPV 31-16G3 - Wellbore #1 - Wellbore #1 - As Drilled	100.00	39.77	3,079.66	3,079.46	10,000.000	CC
UPV 31-16G3 - Wellbore #1 - Wellbore #1 - As Drilled	200.00	123.65	3,080.20	3,079.45	4,147.154	ES
UPV 31-16G3 - Wellbore #1 - Wellbore #1 - As Drilled	8,500.00	6,524.55	3,866.61	3,815.71	75.959	SF
UPV 31-9G3 - Wellbore #1 - Wellbore #1 - As Drilled	8,860.45	6,677.01	3,820.21	3,765.63	69.993	CC, ES
UPV 31-9G3 - Wellbore #1 - Wellbore #1 - As Drilled	10,000.00	6,685.00	3,986.54	3,926.68	66.604	SF
Wells Ranch AA30-717 - Wellbore #1 - Rev 2	12,355.16	6,888.23	3,587.16	3,507.97	45.298	CC
Wells Ranch AA30-717 - Wellbore #1 - Rev 2	17,300.00	11,777.66	3,609.00	3,449.93	22.688	ES
Wells Ranch AA30-717 - Wellbore #1 - Rev 2	17,324.05	11,777.66	3,609.46	3,450.23	22.668	SF
Wells Ranch AA30-725 - Wellbore #1 - Rev 4	11,963.71	6,928.05	4,056.55	3,981.14	53.795	CC
Wells Ranch AA30-725 - Wellbore #1 - Rev 4	17,300.00	12,202.11	4,058.57	3,899.13	25.455	ES
Wells Ranch AA30-725 - Wellbore #1 - Rev 4	17,324.05	12,202.11	4,059.03	3,899.41	25.430	SF
Wells Ranch State A36-625 - Original Drilling - Original D	7,883.90	6,269.00	3,041.90	2,995.93	66.176	CC
Wells Ranch State A36-625 - Original Drilling - Original D	7,900.00	6,269.00	3,041.94	2,995.92	66.104	ES
Wells Ranch State A36-625 - Original Drilling - Original D	8,600.00	6,222.00	3,122.73	3,074.56	64.830	SF
Wells Ranch State A36-635 - Original Drilling - Original D	8,329.26	6,128.00	3,127.53	3,080.82	66.954	CC, ES
Wells Ranch State A36-635 - Original Drilling - Original D	9,100.00	6,149.20	3,220.71	3,170.84	64.572	SF
Wells Ranch State A36-649 - Original Drilling - Original D	9,308.59	6,162.00	3,145.14	3,093.53	60.940	CC, ES
Wells Ranch State A36-649 - Original Drilling - Original D	10,000.00	6,162.00	3,220.24	3,165.70	59.043	SF
Wells Ranch State A36-655 - Original Drilling - Original D	9,642.47	6,162.00	3,175.53	3,120.15	57.343	CC, ES
Wells Ranch State A36-655 - Original Drilling - Original D	10,300.00	6,162.00	3,242.89	3,184.84	55.869	SF
Wells Ranch State A36-665 - Original Drilling - Original D	10,691.43	6,071.00	3,200.71	3,139.54	52.322	CC
Wells Ranch State A36-665 - Original Drilling - Original D	10,700.00	6,071.00	3,200.72	3,139.49	52.274	ES
Wells Ranch State A36-665 - Original Drilling - Original D	11,400.00	6,071.00	3,278.21	3,213.05	50.313	SF
Wells Ranch State A36-675 - Original Drilling - Original D	10,883.19	6,168.00	3,185.73	3,123.34	51.061	CC
Wells Ranch State A36-675 - Original Drilling - Original D	10,900.00	6,168.00	3,185.78	3,123.28	50.974	ES
Wells Ranch State A36-675 - Original Drilling - Original D	11,600.00	6,168.00	3,265.38	3,199.08	49.250	SF
Wells Ranch State A36-686 - Original Drilling - Original D	11,707.18	6,259.00	3,196.83	3,126.68	45.572	CC, ES
Wells Ranch State A36-686 - Original Drilling - Original D	12,300.00	6,302.97	3,249.39	3,176.05	44.310	SF
Wells Ranch USX AA31-01 - Wellbore #1 - Wellbore #1 -	11,288.09	6,767.41	3,937.61	3,867.88	56.467	CC
Wells Ranch USX AA31-01 - Wellbore #1 - Wellbore #1 -	11,300.00	6,767.29	3,937.63	3,867.82	56.406	ES
Wells Ranch USX AA31-01 - Wellbore #1 - Wellbore #1 -	12,200.00	6,757.88	4,041.81	3,967.16	54.138	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 Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA Section 32						
State 14-32 PR - Wellbore #1 - Gyro Surveys	1,833.91	1,788.96	1,877.80	1,865.39	151.252	CC
State 14-32 PR - Wellbore #1 - Gyro Surveys	2,000.00	1,952.95	1,877.87	1,864.28	138.240	ES
State 14-32 PR - Wellbore #1 - Gyro Surveys	7,700.00	6,655.44	2,335.18	2,286.28	47.757	SF
State 23-32 PR - Wellbore #1 - Gyro Surveys	8,692.95	6,669.05	906.19	853.06	17.056	CC, ES
State 23-32 PR - Wellbore #1 - Gyro Surveys	8,700.00	6,669.09	906.22	853.06	17.049	SF
State 24-32 PA - Wellbore #1 - No Surveys	2,000.00	1,968.00	1,009.20	916.39	10.874	CC
State 24-32 PA - Wellbore #1 - No Surveys	7,371.50	6,663.03	1,009.73	694.00	3.198	ES, SF
State 32-32 PA - Wellbore #1 - No Surveys	10,036.60	6,674.02	263.51	167.56	2.746	CC, ES, SF
State 6525 11-32 PA - Wellbore #1 - No Surveys	11,309.66	6,650.02	2,231.82	2,127.51	21.396	CC, ES
State 6525 11-32 PA - Wellbore #1 - No Surveys	11,500.00	6,650.02	2,239.92	2,134.59	21.265	SF
State 6525 12-32 PA - Wellbore #1 - No Surveys	10,089.94	6,645.02	2,382.02	2,285.99	24.804	CC
State 6525 12-32 PA - Wellbore #1 - No Surveys	10,100.00	6,645.02	2,382.04	2,285.96	24.790	ES
State 6525 12-32 PA - Wellbore #1 - No Surveys	10,400.00	6,645.02	2,402.12	2,304.54	24.618	SF
State 6525 13-32 SI - Wellbore #1 - Gyro Surveys	8,705.80	6,315.00	2,115.58	2,064.85	41.699	CC, ES
State 6525 13-32 SI - Wellbore #1 - Gyro Surveys	9,000.00	6,315.00	2,135.94	2,084.05	41.163	SF
State 6525 21-32 PA - Wellbore #1 - Gyro Surveys	11,264.54	6,650.00	1,161.50	1,092.48	16.830	CC, ES
State 6525 21-32 PA - Wellbore #1 - Gyro Surveys	11,300.00	6,650.00	1,162.04	1,092.86	16.798	SF
State 6525 22-32 PR - Wellbore #1 - No Surveys	10,052.56	6,670.02	1,045.15	949.13	10.885	CC, ES
State 6525 22-32 PR - Wellbore #1 - No Surveys	10,100.00	6,670.02	1,046.22	950.02	10.875	SF
State 6525 31-32 PA - Wellbore #1 - Gyro Surveys	11,396.36	6,665.82	198.73	128.68	2.837	CC
State 6525 31-32 PA - Wellbore #1 - Gyro Surveys	11,400.00	6,665.87	198.76	128.65	2.835	ES, SF
State 6525 33-32 PA - Wellbore #1 - Gyro Surveys	8,639.03	6,650.00	330.32	277.25	6.224	CC, ES, SF
State 6525 34-32 PR - Wellbore #1 - Gyro Surveys	7,398.89	6,650.00	378.47	330.16	7.835	CC
State 6525 34-32 PR - Wellbore #1 - Gyro Surveys	7,400.00	6,650.00	378.47	330.16	7.835	ES, SF
State 6525 42-32 PR - Wellbore #1 - No Surveys	9,906.60	6,705.02	1,510.25	1,414.85	15.831	CC, ES
State 6525 42-32 PR - Wellbore #1 - No Surveys	10,100.00	6,705.02	1,522.58	1,425.89	15.747	SF
State 6525 43-32 PR - Wellbore #1 - Gyro Surveys	8,611.39	6,800.00	1,634.76	1,581.78	30.857	CC, ES
State 6525 43-32 PR - Wellbore #1 - Gyro Surveys	8,900.00	6,800.00	1,660.04	1,605.53	30.452	SF
State 6525 44-32 PR - Wellbore #1 - No Surveys	7,438.10	6,718.03	1,611.61	1,527.82	19.235	CC, ES
State 6525 44-32 PR - Wellbore #1 - No Surveys	7,500.00	6,718.03	1,612.80	1,528.84	19.210	SF
State Lease 41-32 PA - Wellbore #1 - Gyro Surveys	11,313.06	6,668.27	1,490.18	1,420.72	21.453	CC, ES
State Lease 41-32 PA - Wellbore #1 - Gyro Surveys	11,500.00	6,668.51	1,501.86	1,431.06	21.211	SF
State Wells 32D PR - Wellbore #1 - Gyro Surveys	10,686.43	6,616.50	1,699.28	1,634.50	26.228	CC
State Wells 32D PR - Wellbore #1 - Gyro Surveys	10,700.00	6,617.16	1,699.34	1,634.47	26.197	ES
State Wells 32D PR - Wellbore #1 - Gyro Surveys	10,900.00	6,626.82	1,712.62	1,646.79	26.018	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
BB Section 03						
UPRR Pan Am 1 (PA) - Original Drilling - Original Drilling	6,512.02	6,473.00	8,221.63	8,069.13	53.912	CC
UPRR Pan Am 1 (PA) - Original Drilling - Original Drilling	6,550.00	6,503.15	8,221.99	8,068.77	53.663	ES
UPRR Pan Am 1 (PA) - Original Drilling - Original Drilling	7,100.00	6,738.82	8,258.27	8,099.06	51.870	SF
Wells 43-3 PA - Wellbore #1 - No Surveys						Out of range
Wells 34-3 - Wellbore #1 - Gyro Surveys						Out of range
Wells Rach USX BB 3-14 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch 12-03 - Original Drilling - Original Drilling - A	6,361.62	6,275.89	8,455.93	8,411.59	190.721	CC, ES
Wells Ranch 12-03 - Original Drilling - Original Drilling - A	10,400.00	6,620.01	9,973.81	9,913.71	165.966	SF
Wells Ranch 21-3 TA - Wellbore #1 - No Surveys	6,517.34	6,468.30	9,491.27	9,411.76	119.380	CC
Wells Ranch 21-3 TA - Wellbore #1 - No Surveys	6,550.00	6,494.15	9,491.53	9,411.70	118.902	ES
Wells Ranch 21-3 TA - Wellbore #1 - No Surveys	9,300.00	6,730.03	9,970.89	9,879.16	108.694	SF
Wells Ranch 32-3 SI - Wellbore #1 - No Surveys						Out of range
Wells Ranch 41-3 - Wellbore #1 - No Surveys						Out of range
WELLS RANCH BB03-627 - Wellbore #1 - Plan 1	6,241.04	6,100.00	8,685.89	8,642.08	198.283	CC, ES
WELLS RANCH BB03-627 - Wellbore #1 - Plan 1	6,950.00	6,150.00	8,904.12	8,858.35	194.560	SF
WELLS RANCH BB03-651 - Wellbore #1 - Plan 3	6,295.75	6,250.00	8,224.46	8,179.89	184.530	CC
WELLS RANCH BB03-651 - Wellbore #1 - Plan 3	6,300.00	6,250.00	8,224.47	8,179.88	184.472	ES
WELLS RANCH BB03-651 - Wellbore #1 - Plan 3	10,200.00	6,350.00	9,949.67	9,891.81	171.972	SF
WELLS RANCH STATE BB03-612 - Wellbore #1 - Plan #	6,215.21	6,050.00	9,183.62	9,140.15	211.240	CC, ES
WELLS RANCH STATE BB03-612 - Wellbore #1 - Plan #	6,700.00	6,100.00	9,311.28	9,266.22	206.623	SF
WELLS RANCH STATE BB03-620 - Wellbore #1 - Plan 1	6,233.17	6,050.00	8,888.71	8,845.00	203.379	CC, ES
WELLS RANCH STATE BB03-620 - Wellbore #1 - Plan 1	6,950.00	6,073.26	9,120.44	9,074.81	199.893	SF
WELLS RANCH STATE BB03-636 - Wellbore #1 - Plan 1	6,245.80	5,950.00	8,506.26	8,463.02	196.761	CC
WELLS RANCH STATE BB03-636 - Wellbore #1 - Plan 1	6,250.00	5,950.00	8,506.26	8,463.02	196.696	ES
WELLS RANCH STATE BB03-636 - Wellbore #1 - Plan 1	9,400.00	5,972.31	9,978.24	9,925.38	188.753	SF
WELLS RANCH STATE BB03-643 - Wellbore #1 - Plan 1	6,268.87	6,076.35	8,279.39	8,235.58	188.977	CC, ES
WELLS RANCH STATE BB03-643 - Wellbore #1 - Plan 1	10,000.00	6,150.00	9,990.22	9,934.10	178.006	SF
WELLS RANCH STATE BB03-659 - Wellbore #1 - Plan 1	6,303.17	6,125.30	7,912.82	7,868.32	177.821	CC, ES
WELLS RANCH STATE BB03-659 - Wellbore #1 - Plan 1	11,100.00	6,100.00	9,959.55	9,897.45	160.379	SF
WELLS RANCH STATE BB03-668 - Wellbore #1 - Plan 1	6,356.65	6,150.00	7,787.05	7,742.64	175.325	CC, ES
WELLS RANCH STATE BB03-668 - Wellbore #1 - Plan 1	11,500.00	6,150.00	9,791.95	9,727.69	152.381	SF
WELLS RANCH STATE BB03-676 - Wellbore #1 - Plan 1	6,395.67	6,150.00	7,723.06	7,678.41	172.951	CC
WELLS RANCH STATE BB03-676 - Wellbore #1 - Plan 1	6,400.00	6,150.00	7,723.07	7,678.40	172.901	ES
WELLS RANCH STATE BB03-676 - Wellbore #1 - Plan 1	11,800.00	6,200.00	9,631.85	9,565.53	145.234	SF
WELLS RANCH STATE BB03-684 - Wellbore #1 - Plan 1	6,432.08	6,300.00	7,542.53	7,496.93	165.432	CC, ES
WELLS RANCH STATE BB03-684 - Wellbore #1 - Plan 1	11,700.00	6,500.00	9,312.61	9,245.29	138.343	SF
Wells Ranch State BB05-613 - Original Drilling - Original	6,178.39	14,743.00	4,850.12	4,726.78	39.321	CC, ES
Wells Ranch State BB05-613 - Original Drilling - Original	6,300.00	14,743.00	4,862.92	4,738.91	39.215	SF
Wells Ranch State BB05-617 - Original Drilling - Original	6,171.89	14,814.53	4,558.64	4,433.32	36.377	CC, ES
Wells Ranch State BB05-617 - Original Drilling - Original	6,250.00	14,805.65	4,563.93	4,438.30	36.328	SF
Wells Ranch State BB05-625 - Original Drilling - Original	6,183.83	14,648.00	4,028.34	3,904.07	32.416	CC, ES
Wells Ranch State BB05-625 - Original Drilling - Original	6,300.00	14,648.00	4,040.22	3,915.34	32.355	SF
Wells Ranch State BB05-630 - Original Drilling - Original	6,187.22	14,713.25	3,746.62	3,623.21	30.359	CC, ES
Wells Ranch State BB05-630 - Original Drilling - Original	6,250.00	14,706.22	3,750.15	3,626.42	30.309	SF
Wells Ranch State BB05-635 - Original Drilling - Original	6,201.10	14,950.56	3,415.14	3,290.06	27.302	CC, ES
Wells Ranch State BB05-635 - Original Drilling - Original	6,250.00	14,947.77	3,417.29	3,291.90	27.254	SF
Wells Ranch State BB05-644 - Original Drilling - Original	6,204.22	14,831.62	2,806.61	2,681.10	22.361	CC, ES
Wells Ranch State BB05-644 - Original Drilling - Original	6,250.00	14,825.40	2,808.55	2,682.80	22.334	SF
Wells Ranch State BB05-650 - Original Drilling - Original	6,239.62	14,592.76	2,462.62	2,340.33	20.137	CC, ES
Wells Ranch State BB05-650 - Original Drilling - Original	6,300.00	14,589.22	2,466.15	2,343.44	20.096	SF
Wells Ranch State BB05-656 - Original Drilling - Original	6,245.96	13,937.97	2,133.42	2,018.69	18.595	CC
Wells Ranch State BB05-656 - Original Drilling - Original	6,250.00	13,937.76	2,133.44	2,018.67	18.589	ES
Wells Ranch State BB05-656 - Original Drilling - Original	6,350.00	13,932.91	2,144.36	2,028.63	18.528	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 Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
BB Section 03						
Wells Ranch State BB05-665 - Original Drilling - Original	6,285.86	14,536.88	1,391.76	1,271.70	11.593	CC, ES
Wells Ranch State BB05-665 - Original Drilling - Original	6,350.00	14,529.30	1,396.37	1,275.42	11.545	SF
Wells Ranch State BB05-669 - Original Drilling - Original	6,378.29	14,692.27	1,126.83	1,008.39	9.514	CC
Wells Ranch State BB05-669 - Original Drilling - Original	6,400.00	14,690.93	1,127.39	1,008.37	9.472	ES
Wells Ranch State BB05-669 - Original Drilling - Original	6,450.00	14,688.65	1,132.94	1,012.67	9.420	SF
Wells Ranch State BB05-678 - Original Drilling - Original	6,402.87	14,756.69	783.59	667.35	6.741	CC, ES
Wells Ranch State BB05-678 - Original Drilling - Original	6,500.00	14,754.30	796.58	676.53	6.636	SF
Wells Ranch State BB05-685 - Original Drilling - Original	6,535.89	14,285.24	276.75	169.04	2.569	CC
Wells Ranch State BB05-685 - Original Drilling - Original	6,550.00	14,285.06	277.26	167.45	2.525	ES
Wells Ranch State BB05-685 - Original Drilling - Original	6,600.00	14,284.92	287.11	171.22	2.477	SF
Wells Ranch State BB05-690 - Original Drilling - Original	6,805.18	14,648.15	175.14	83.81	1.918	CC
Wells Ranch State BB05-690 - Original Drilling - Original	6,850.00	14,650.37	182.28	78.70	1.760	ES, SF
Wells Ranch USX BB 3-10 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch USX BB 3-11 SI - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch USX BB 3-16 SI - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch USX BB 3-2 SI - Wellbore #1 - No Surveys						Out of range
Wells Ranch USX BB 3-4 - Wellbore #1 - No Surveys	6,526.79	6,505.88	8,135.03	8,055.17	101.864	CC
Wells Ranch USX BB 3-4 - Wellbore #1 - No Surveys	6,550.00	6,524.15	8,135.16	8,055.07	101.576	ES
Wells Ranch USX BB 3-4 - Wellbore #1 - No Surveys	10,500.00	6,760.02	9,134.30	9,036.42	93.327	SF
Wells Ranch USX BB 3-6 SI - Wellbore #1 - Gyro Survey	6,120.17	6,600.00	9,903.96	9,859.54	222.945	CC, ES
Wells Ranch USX BB 3-6 SI - Wellbore #1 - Gyro Survey	6,650.00	6,600.00	9,986.65	9,940.72	217.417	SF
Wells Ranch USX BB 3-8 - Wellbore #1 - Gyro Surveys						Out of range
Wells Ranch USX BB03-04 - Original Drilling - Original D	6,515.96	6,423.26	8,150.51	8,105.18	179.787	CC, ES
Wells Ranch USX BB03-04 - Original Drilling - Original D	12,100.00	6,674.27	9,964.45	9,895.01	143.504	SF
Wells Ranch USX BB03-12 - Original Drilling - Original D	6,275.44	6,020.13	8,618.66	8,575.52	199.816	CC, ES
Wells Ranch USX BB03-12 - Original Drilling - Original D	9,400.00	6,495.51	9,967.77	9,913.34	183.159	SF
Wells Ranch USX BB03-13 - Original Drilling - Original D	6,236.09	5,905.16	9,279.36	9,236.76	217.822	CC, ES
Wells Ranch USX BB03-13 - Original Drilling - Original D	7,000.00	6,317.00	9,514.73	9,468.65	206.492	SF
Wells Ranch USX BB03-25 PA - Original Drilling - Gyro S	6,259.14	5,933.15	9,741.85	9,699.03	227.516	CC, ES
Wells Ranch USX BB03-25 PA - Original Drilling - Gyro S	7,050.00	6,300.00	9,958.44	9,912.25	215.584	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
BB Section 05						
UPV 05-03H3 - Original Drilling - Original Drilling - As Dri	1,646.35	1,609.47	415.13	404.01	37.320	CC
UPV 05-03H3 - Original Drilling - Original Drilling - As Dri	1,900.00	1,859.97	416.24	403.33	32.259	ES
UPV 05-03H3 - Original Drilling - Original Drilling - As Dri	4,300.00	4,229.14	711.23	681.51	23.937	SF
UPV 05-04H3 - Original Drilling - Original Drilling - As Dri	100.00	52.54	1,696.08	1,695.86	7,788.504	CC
UPV 05-04H3 - Original Drilling - Original Drilling - As Dri	2,000.00	1,946.13	1,700.53	1,686.97	125.391	ES
UPV 05-04H3 - Original Drilling - Original Drilling - As Dri	6,650.00	6,658.17	2,344.14	2,296.87	49.587	SF
UPV 05-05H3 - Original Drilling - Original Drilling - As Dri	445.08	407.77	2,462.65	2,460.03	942.540	CC
UPV 05-05H3 - Original Drilling - Original Drilling - As Dri	2,019.65	1,992.73	2,469.67	2,455.88	179.071	ES
UPV 05-05H3 - Original Drilling - Original Drilling - As Dri	6,450.00	6,395.20	3,038.07	2,992.77	67.066	SF
UPV 05-06H3 - Original Drilling - Original Drilling - As Dri	0.00	0.00	1,708.44			
UPV 05-06H3 - Original Drilling - Original Drilling - As Dri	2,100.00	2,078.09	1,709.70	1,695.33	118.996	ES
UPV 05-06H3 - Original Drilling - Original Drilling - As Dri	6,300.00	6,243.18	2,010.08	1,965.76	45.354	SF
Wells Ranch 31-05 - Original Drilling - Original Drilling - A	6,146.33	6,023.22	618.89	576.19	14.492	CC
Wells Ranch 31-05 - Original Drilling - Original Drilling - A	6,150.00	6,027.87	618.90	576.16	14.481	ES
Wells Ranch 31-05 - Original Drilling - Original Drilling - A	6,300.00	6,212.95	627.31	583.32	14.263	SF
Wells Ranch 32-05 - Original Drilling - Original Drilling - A	6,140.44	6,096.99	1,706.22	1,663.07	39.539	CC, ES
Wells Ranch 32-05 - Original Drilling - Original Drilling - A	6,300.00	6,261.04	1,725.84	1,681.53	38.952	SF
Wells Ranch 41-05 - Original Drilling - Original Drilling - A	6,337.96	6,291.38	1,759.80	1,715.53	39.748	CC
Wells Ranch 41-05 - Original Drilling - Original Drilling - A	6,350.00	6,302.71	1,759.86	1,715.50	39.678	ES
Wells Ranch 41-05 - Original Drilling - Original Drilling - A	6,577.34	6,497.99	1,783.67	1,737.95	39.009	SF
Wells Ranch 42-05 - Original Drilling - Original Drilling - A	6,196.03	6,125.20	2,367.51	2,324.21	54.669	CC
Wells Ranch 42-05 - Original Drilling - Original Drilling - A	6,200.00	6,128.94	2,367.52	2,324.19	54.634	ES
Wells Ranch 42-05 - Original Drilling - Original Drilling - A	6,450.00	6,349.13	2,410.64	2,365.69	53.629	SF
Wells Ranch BB01-611 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-615 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-624 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-624 - Original Drilling - ST01 - ST01 -						Out of range
Wells Ranch BB01-638 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-649 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-655 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-669 - Original Drilling - Original Drillin						Out of range
Wells Ranch BB01-675 - Original Drilling - Original Drillin						Out of range
Wells Ranch State AA32-717 - Wellbore #1 - Plan #2	17,324.05	17,447.21	1,691.10	1,503.04	8.992	CC, ES, SF
Wells Ranch State AA32-724 - Wellbore #1 - Plan #2	17,324.05	17,358.76	1,254.03	1,065.57	6.654	CC, ES, SF
Wells Ranch State AA32-731 - Wellbore #1 - Plan #2	17,324.05	17,106.83	850.73	662.94	4.530	CC, ES, SF
Wells Ranch State AA32-737 - Wellbore #1 - Plan #2	17,324.05	17,241.82	429.79	242.03	2.289	CC, ES, SF
Wells Ranch State AA32-751 - Wellbore #1 - Plan #2	2,000.00	2,001.00	37.50	23.62	2.702	CC, ES
Wells Ranch State AA32-751 - Wellbore #1 - Plan #2	2,100.00	2,101.02	39.24	24.65	2.690	SF
Wells Ranch State AA32-763 - Wellbore #1 - Plan 1	2,000.00	1,998.00	112.46	98.60	8.111	CC, ES
Wells Ranch State AA32-763 - Wellbore #1 - Plan 1	17,324.05	17,242.93	1,409.69	1,196.92	6.625	SF
Wells Ranch State AA32-770 - Wellbore #1 - Plan #2	2,373.06	2,556.43	1,488.58	1,471.62	87.763	CC
Wells Ranch State AA32-770 - Wellbore #1 - Plan #2	2,400.00	2,583.35	1,488.71	1,471.56	86.817	ES
Wells Ranch State AA32-770 - Wellbore #1 - Plan #2	17,324.05	17,274.10	2,072.17	1,858.30	9.689	SF
Wells Ranch State AA32-775 - Wellbore #1 - Plan #2	2,000.00	1,989.00	1,537.07	1,523.23	111.113	CC, ES
Wells Ranch State AA32-775 - Wellbore #1 - Plan #2	17,324.05	17,080.36	2,723.49	2,540.88	14.914	SF
Wells Ranch State AA32-783 - Wellbore #1 - Plan #2	2,000.00	1,988.00	1,574.53	1,560.70	113.851	CC, ES
Wells Ranch State AA32-783 - Wellbore #1 - Plan #2	17,324.05	16,758.42	3,372.32	3,161.21	15.974	SF
Wells Ranch State AA32-789 - Wellbore #1 - Plan #2	2,000.00	1,987.00	1,612.03	1,598.20	116.592	CC, ES
Wells Ranch State AA32-789 - Wellbore #1 - Plan #2	17,324.05	16,816.46	4,002.86	3,823.35	22.300	SF
Wells Ranch State BB01-690 - Original Drilling - Original						Out of range
Wells Ranch USX BB05-09 - Original Drilling - Original D	6,167.14	6,093.03	3,428.55	3,385.41	79.485	CC, ES
Wells Ranch USX BB05-09 - Original Drilling - Original D	6,500.00	6,404.53	3,507.41	3,462.08	77.375	SF
Wells Ranch USX BB05-10 - Original Drilling - Original D	6,097.92	6,008.04	3,127.59	3,084.87	73.222	CC

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
BB Section 05						
Wells Ranch USX BB05-10 - Original Drilling - Original D	6,116.47	6,024.67	3,127.59	3,084.75	73.004	ES
Wells Ranch USX BB05-10 - Original Drilling - Original D	6,400.00	6,278.20	3,191.51	3,146.79	71.358	SF
Wells Ranch USX BB05-11 - Original Drilling - Original D	1,455.76	1,444.78	2,824.83	2,814.97	286.552	CC
Wells Ranch USX BB05-11 - Original Drilling - Original D	2,400.00	2,426.83	2,830.02	2,813.39	170.199	ES
Wells Ranch USX BB05-11 - Original Drilling - Original D	6,350.00	6,260.26	3,025.99	2,981.44	67.924	SF
Wells Ranch USX BB05-12 - Original Drilling - Original D	0.00	0.00	3,383.67			
Wells Ranch USX BB05-12 - Original Drilling - Original D	300.00	248.76	3,384.83	3,383.27	2,175.761	ES
Wells Ranch USX BB05-12 - Original Drilling - Original D	6,550.00	6,509.98	3,978.46	3,932.40	86.367	SF
Wells Ranch USX BB05-13 - Original Drilling - Original D	2,059.23	2,096.57	4,677.62	4,663.31	326.729	CC
Wells Ranch USX BB05-13 - Original Drilling - Original D	2,100.00	2,143.15	4,677.73	4,663.10	319.885	ES
Wells Ranch USX BB05-13 - Original Drilling - Original D	6,700.00	6,700.00	5,227.38	5,180.36	111.180	SF
Wells Ranch USX BB05-14 - Original Drilling - Original D	0.00	21.44	4,154.89			
Wells Ranch USX BB05-14 - Original Drilling - Original D	1,800.00	1,793.54	4,157.88	4,145.57	337.805	ES
Wells Ranch USX BB05-14 - Original Drilling - Original D	6,500.00	6,417.89	4,448.13	4,402.55	97.584	SF
Wells Ranch USX BB05-15 - Original Drilling - Original D	5,531.65	5,476.21	4,298.87	4,260.12	110.953	CC
Wells Ranch USX BB05-15 - Original Drilling - Original D	5,900.00	5,831.85	4,299.40	4,258.03	103.946	ES
Wells Ranch USX BB05-15 - Original Drilling - Original D	6,450.00	6,328.64	4,389.97	4,344.90	97.418	SF
Wells Ranch USX BB05-16 - Original Drilling - Original D	6,144.13	6,083.39	4,535.76	4,492.67	105.265	CC
Wells Ranch USX BB05-16 - Original Drilling - Original D	6,150.00	6,088.29	4,535.78	4,492.65	105.170	ES
Wells Ranch USX BB05-16 - Original Drilling - Original D	6,550.00	6,471.10	4,657.61	4,611.84	101.771	SF
Wells Ranch USX BB05-23 - Original Drilling - Original D	6,140.04	6,080.30	3,816.91	3,773.80	88.531	CC, ES
Wells Ranch USX BB05-23 - Original Drilling - Original D	6,450.00	6,362.84	3,890.57	3,845.40	86.141	SF
Wells Ranch USX BB05-25 - Original Drilling - Original D	1,751.50	1,731.59	3,717.73	3,705.80	311.667	CC
Wells Ranch USX BB05-25 - Original Drilling - Original D	1,800.00	1,765.16	3,717.83	3,705.61	304.263	ES
Wells Ranch USX BB05-25 - Original Drilling - Original D	6,450.00	6,303.77	4,146.23	4,101.22	92.117	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary

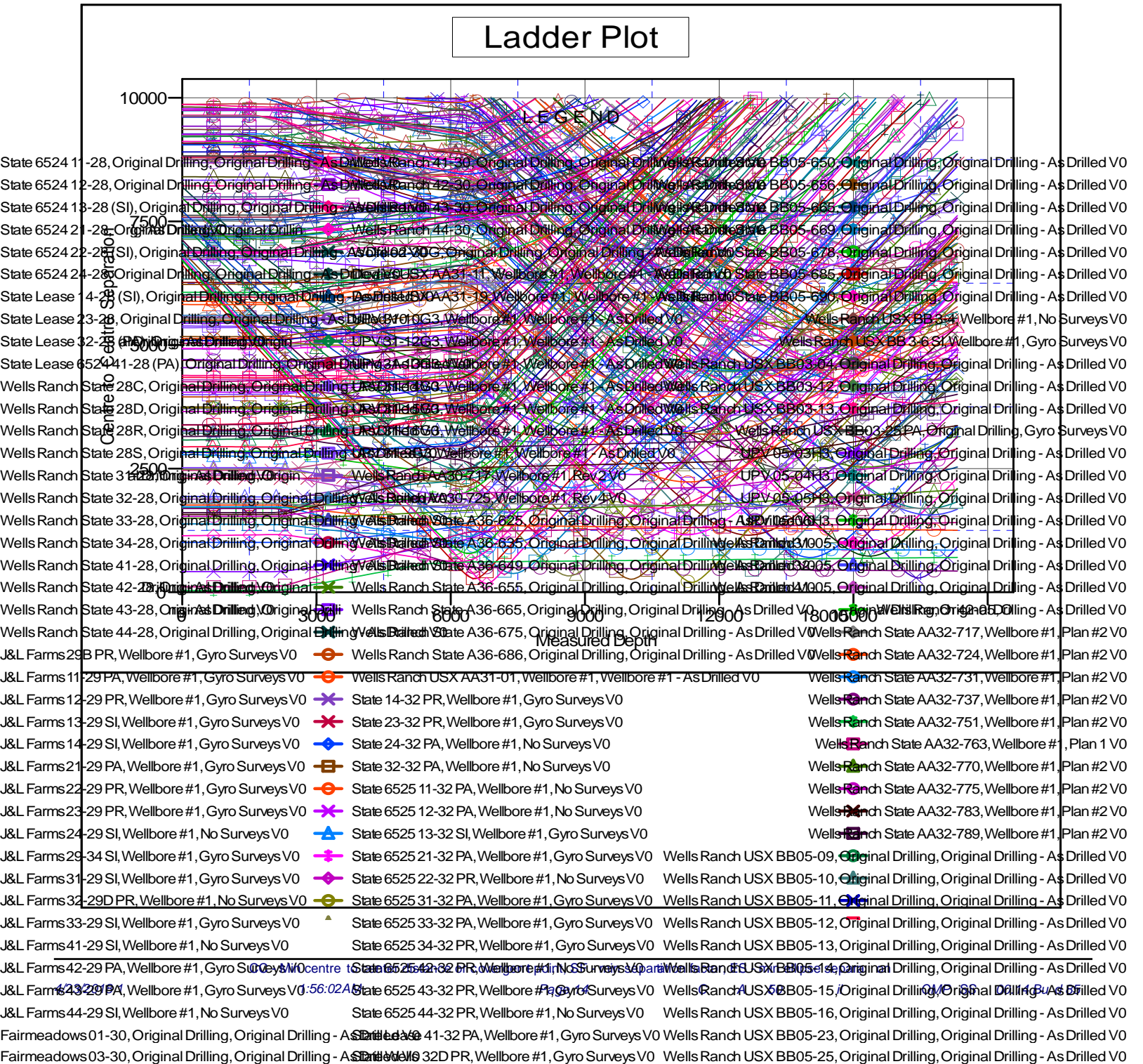
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
BB Section 06						
Skurich-Roth 21-06 - Original Drilling - Original Drilling - A	404.00	300.00	5,538.13	5,536.04	2,652.113	CC
Skurich-Roth 21-06 - Original Drilling - Original Drilling - A	2,029.98	1,984.00	5,539.68	5,525.88	401.588	ES
Skurich-Roth 21-06 - Original Drilling - Original Drilling - A	9,100.00	6,568.01	6,958.20	6,905.44	131.898	SF
Skurich-Roth 23-06 - Original Drilling - Original Drilling - A	100.00	17.64	6,226.73	6,226.58	10,000.000	CC
Skurich-Roth 23-06 - Original Drilling - Original Drilling - A	2,000.00	1,889.65	6,233.40	6,220.02	466.041	ES
Skurich-Roth 23-06 - Original Drilling - Original Drilling - A	6,850.00	6,719.93	7,027.65	6,980.26	148.303	SF
Skurich-Roth 24-06 - Original Drilling - Original Drilling - A	394.63	323.67	6,913.10	6,910.96	3,226.547	CC
Skurich-Roth 24-06 - Original Drilling - Original Drilling - A	2,000.00	1,914.47	6,921.08	6,907.62	514.054	ES
Skurich-Roth 24-06 - Original Drilling - Original Drilling - A	6,850.00	6,634.26	7,770.03	7,722.96	165.062	SF
Skurich-Roth 33-06 - Original Drilling - Original Drilling - A	737.54	668.56	5,167.48	5,162.90	1,128.739	CC
Skurich-Roth 33-06 - Original Drilling - Original Drilling - A	2,006.06	1,946.53	5,174.80	5,161.22	381.052	ES
Skurich-Roth 33-06 - Original Drilling - Original Drilling - A	6,650.00	6,395.20	5,896.91	5,851.17	128.921	SF
Skurich-Roth 42-06 - Original Drilling - Original Drilling - A	405.39	357.39	3,388.10	3,385.81	1,476.139	CC
Skurich-Roth 42-06 - Original Drilling - Original Drilling - A	1,000.00	933.53	3,389.60	3,383.16	526.562	ES
Skurich-Roth 42-06 - Original Drilling - Original Drilling - A	6,700.00	6,627.42	4,159.71	4,113.00	89.042	SF
Skurich-Roth 6D - Original Drilling - Original Drilling - As	1,090.28	988.28	6,064.68	6,057.73	871.584	CC
Skurich-Roth 6D - Original Drilling - Original Drilling - As	2,008.74	1,925.21	6,068.10	6,054.58	449.008	ES
Skurich-Roth 6D - Original Drilling - Original Drilling - As	9,000.00	6,827.78	7,597.65	7,544.47	142.865	SF
Skurich-Roth 11-06 - Original Drilling - Original Drilling -	972.29	870.30	6,769.02	6,762.90	1,105.863	CC
Skurich-Roth 11-06 - Original Drilling - Original Drilling -	1,700.00	1,554.71	6,770.74	6,759.63	609.108	ES
Skurich-Roth 11-06 - Original Drilling - Original Drilling -	10,100.00	6,570.02	8,550.22	8,481.38	124.198	SF
Skurich-Roth 12-06 - Original Drilling - Original Drilling -	2,008.02	1,927.03	6,877.09	6,863.56	508.164	CC, ES
Skurich-Roth 12-06 - Original Drilling - Original Drilling -	9,600.00	6,653.99	8,859.63	8,805.32	163.119	SF
Skurich-Roth 13-06 - Original Drilling - Original Drilling -	100.00	0.00	7,402.47	7,402.35	10,000.000	CC
Skurich-Roth 13-06 - Original Drilling - Original Drilling -	2,004.63	1,917.96	7,406.87	7,393.39	549.432	ES
Skurich-Roth 13-06 - Original Drilling - Original Drilling -	7,000.00	6,537.93	8,298.92	8,250.09	169.963	SF
Skurich-Roth 14-06 - Original Drilling - Original Drilling -	1,024.84	933.85	7,995.71	7,989.19	1,224.939	CC
Skurich-Roth 14-06 - Original Drilling - Original Drilling -	1,700.00	1,561.65	7,998.15	7,987.01	718.050	ES
Skurich-Roth 14-06 - Original Drilling - Original Drilling -	6,850.00	6,878.62	8,792.30	8,744.32	183.251	SF
Skurich-Roth 22-06 - Original Drilling - Original Drilling -	1,263.72	1,190.73	5,819.09	5,810.81	702.707	CC
Skurich-Roth 22-06 - Original Drilling - Original Drilling -	2,000.00	1,903.04	5,821.61	5,808.21	434.219	ES
Skurich-Roth 22-06 - Original Drilling - Original Drilling -	10,700.00	10,700.00	8,806.92	8,736.59	125.231	SF
Skurich-Roth 31-06 - Original Drilling - Original Drilling -	100.00	26.88	4,258.09	4,257.92	10,000.000	CC
Skurich-Roth 31-06 - Original Drilling - Original Drilling -	600.00	505.19	4,260.47	4,256.96	1,213.176	ES
Skurich-Roth 31-06 - Original Drilling - Original Drilling -	6,950.00	6,500.00	5,062.17	5,015.51	108.485	SF
Skurich-Roth 34-06 - Original Drilling - Original Drilling -	1,116.57	1,055.58	5,968.98	5,961.70	819.784	CC
Skurich-Roth 34-06 - Original Drilling - Original Drilling -	2,000.00	1,930.71	5,969.93	5,956.43	442.169	ES
Skurich-Roth 34-06 - Original Drilling - Original Drilling -	6,750.00	6,467.21	6,736.62	6,690.34	145.582	SF
Skurich-Roth 41-06 - Original Drilling - Original Drilling -	2,007.30	1,958.81	2,937.21	2,923.58	215.509	CC, ES
Skurich-Roth 41-06 - Original Drilling - Original Drilling -	7,000.00	6,777.23	3,743.09	3,695.04	77.906	SF
Skurich-Roth 43-06 - Original Drilling - Original Drilling -	963.24	913.25	4,173.79	4,167.55	669.074	CC
Skurich-Roth 43-06 - Original Drilling - Original Drilling -	2,000.00	1,947.51	4,175.62	4,162.06	307.900	ES
Skurich-Roth 43-06 - Original Drilling - Original Drilling -	6,650.00	6,482.18	4,875.61	4,829.50	105.732	SF
Skurich-Roth 44-06 - Original Drilling - Original Drilling -	186.36	141.36	5,091.44	5,090.68	6,709.705	CC
Skurich-Roth 44-06 - Original Drilling - Original Drilling -	2,000.00	1,927.01	5,100.66	5,087.16	377.762	ES
Skurich-Roth 44-06 - Original Drilling - Original Drilling -	6,900.00	6,751.16	5,874.63	5,826.91	123.098	SF
Skurich-Roth 6A - Original Drilling - Original Drilling - As	2,052.12	2,066.00	5,024.62	5,010.44	354.359	CC
Skurich-Roth 6A - Original Drilling - Original Drilling - As	2,100.00	2,112.94	5,024.93	5,010.42	346.264	ES
Skurich-Roth 6A - Original Drilling - Original Drilling - As	6,700.00	6,483.26	5,705.56	5,659.31	123.373	SF
Skurich-Roth 32-06 - Original Drilling - Original Drilling -	2,000.00	1,935.00	4,543.49	4,497.86	99.558	CC
Skurich-Roth 32-06 - Original Drilling - Original Drilling -	2,100.00	2,034.98	4,545.17	4,497.18	94.718	ES
Skurich-Roth 32-06 - Original Drilling - Original Drilling -	6,850.00	6,575.04	5,354.99	5,199.47	34.433	SF

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

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Grid Convergence at Surface is: 0.67°



Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Wells Ranch State AA32-745
Project:	Wells Ranch	TVD Reference:	Well @ 4715.00ft
Reference Site:	BB Section 05	MD Reference:	Well @ 4715.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Wells Ranch State AA32-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4715.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Wells Ranch State AA32-745
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.67°

