

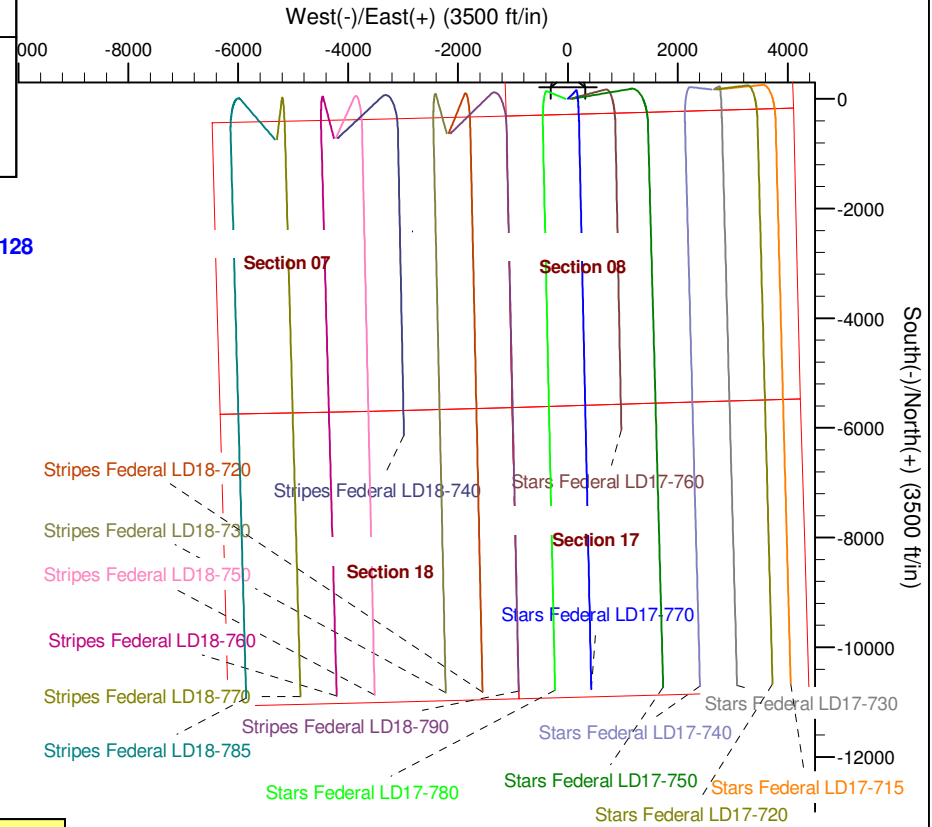
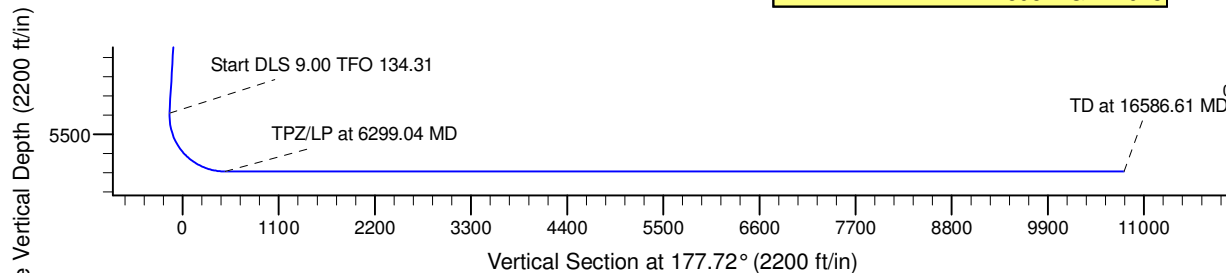
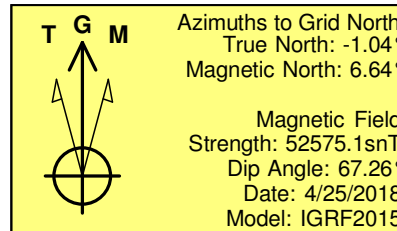
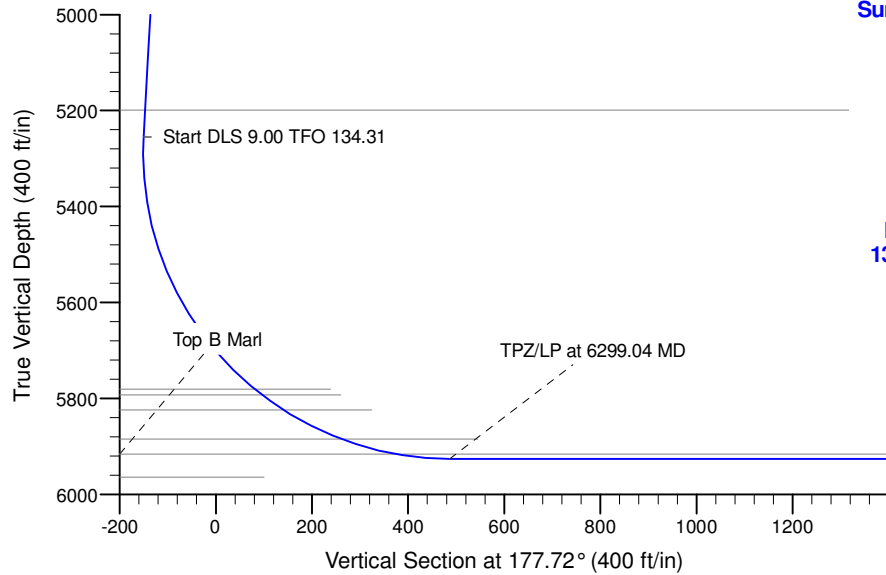
Project: East Pony  
Site: LD Section 05  
Well: Stars Federal LD17-770  
Wellbore: Wellbore #1  
Design: Plan #1

# 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	Target
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	2627.66	4.55	44.35	2627.43	6.47	6.32	2.00	44.35	-6.21	
4	5263.66	4.55	44.35	5255.10	156.11	152.60	0.00	0.00	-149.92	
5	6299.04	90.00	178.76	5926.00	-478.55	204.56	9.00	134.32	486.30	Stars Federal LD17-770 TPZ/LP
6	16586.61	90.00	178.76	5926.00	-10763.70	427.79	0.00	0.00	10772.19	Stars Federal LD17-770 BHL



WELL DETAILS: Stars Federal LD17-770				
	Northing	Easting	Latitude	Longitude
0.00	1528773.98	3444866.10	40.7738099	-103.8937500
Plan: Plan #1 (Stars Federal LD17-770/Wellbore #1)				
Created By:	Colby Baxter	Date:	9:07, June 26 2018	
Checked:		Date:		
Reviewed:		Date:		
Approved:		Date:		

# **Northern Region - DJ Basin**

**East Pony**

**LD Section 05**

**Stars Federal LD17-770**

**Wellbore #1**

**Plan: Plan #1**

## **Standard Survey Report**

**26 June, 2018**

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Well:</b>	Stars Federal LD17-770	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDMP

<b>Project</b>	East Pony, Weld County Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		LD Section 05			
Site Position:		Northing:	1,528,825.19 usft	Latitude:	40.7739420
From:	Map	Easting:	3,445,036.42 usft	Longitude:	-103.8931318
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	1.04 °

Well		Stars Federal LD17-770				
Well Position	+N/-S	0.00 ft	Northing:	1,528,773.99 usft	Latitude:	40.7738100
	+E/-W	0.00 ft	Easting:	3,444,866.09 usft	Longitude:	-103.8937500
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,834.00 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	4/25/2018	7.67	67.26	52,575.14149994

<b>Design</b>	Plan #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	177.72	

<b>Survey Tool Program</b>	<b>Date</b>	5/22/2018			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	16,586.61	Plan #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

<b>Planned Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Well:</b>	Stars Federal LD17-770	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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	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
2,500.00	2.00	44.35	2,499.98	1.25	1.22	-1.20	2.00	2.00	0.00
2,600.00	4.00	44.35	2,599.84	4.99	4.88	-4.79	2.00	2.00	0.00
2,627.66	4.55	44.35	2,627.43	6.47	6.32	-6.21	2.00	2.00	0.00
2,700.00	4.55	44.35	2,699.53	10.57	10.33	-10.15	0.00	0.00	0.00
2,800.00	4.55	44.35	2,799.22	16.25	15.88	-15.61	0.00	0.00	0.00
2,900.00	4.55	44.35	2,898.90	21.93	21.43	-21.06	0.00	0.00	0.00
3,000.00	4.55	44.35	2,998.59	27.60	26.98	-26.51	0.00	0.00	0.00
3,100.00	4.55	44.35	3,098.27	33.28	32.53	-31.96	0.00	0.00	0.00
3,200.00	4.55	44.35	3,197.95	38.96	38.08	-37.41	0.00	0.00	0.00
3,300.00	4.55	44.35	3,297.64	44.63	43.63	-42.87	0.00	0.00	0.00
3,400.00	4.55	44.35	3,397.32	50.31	49.18	-48.32	0.00	0.00	0.00
3,500.00	4.55	44.35	3,497.01	55.99	54.73	-53.77	0.00	0.00	0.00
3,600.00	4.55	44.35	3,596.69	61.66	60.28	-59.22	0.00	0.00	0.00
3,700.00	4.55	44.35	3,696.38	67.34	65.83	-64.67	0.00	0.00	0.00
3,800.00	4.55	44.35	3,796.06	73.02	71.38	-70.13	0.00	0.00	0.00
3,900.00	4.55	44.35	3,895.74	78.69	76.93	-75.58	0.00	0.00	0.00
4,000.00	4.55	44.35	3,995.43	84.37	82.48	-81.03	0.00	0.00	0.00
4,100.00	4.55	44.35	4,095.11	90.05	88.03	-86.48	0.00	0.00	0.00
4,200.00	4.55	44.35	4,194.80	95.72	93.57	-91.93	0.00	0.00	0.00
4,300.00	4.55	44.35	4,294.48	101.40	99.12	-97.38	0.00	0.00	0.00
4,400.00	4.55	44.35	4,394.17	107.08	104.67	-102.84	0.00	0.00	0.00
4,500.00	4.55	44.35	4,493.85	112.76	110.22	-108.29	0.00	0.00	0.00
4,600.00	4.55	44.35	4,593.54	118.43	115.77	-113.74	0.00	0.00	0.00
4,700.00	4.55	44.35	4,693.22	124.11	121.32	-119.19	0.00	0.00	0.00
4,800.00	4.55	44.35	4,792.90	129.79	126.87	-124.64	0.00	0.00	0.00
4,900.00	4.55	44.35	4,892.59	135.46	132.42	-130.10	0.00	0.00	0.00
5,000.00	4.55	44.35	4,992.27	141.14	137.97	-135.55	0.00	0.00	0.00
5,100.00	4.55	44.35	5,091.96	146.82	143.52	-141.00	0.00	0.00	0.00
5,200.00	4.55	44.35	5,191.64	152.49	149.07	-146.45	0.00	0.00	0.00

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Well:</b>	Stars Federal LD17-770	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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)
5,263.66	4.55	44.35	5,255.10	156.11	152.60	-149.92	0.00	0.00	0.00
5,300.00	3.26	90.27	5,291.36	157.13	154.64	-150.87	9.00	-3.57	126.37
5,400.00	9.65	159.20	5,390.78	149.27	160.47	-142.78	9.00	6.39	68.93
5,500.00	18.37	168.89	5,487.73	125.93	166.49	-119.22	9.00	8.72	9.69
5,600.00	27.27	172.42	5,579.81	87.68	172.56	-80.76	9.00	8.90	3.53
5,700.00	36.21	174.30	5,664.77	35.48	178.53	-28.36	9.00	8.95	1.88
5,800.00	45.18	175.51	5,740.52	-29.41	184.25	36.70	9.00	8.97	1.21
5,900.00	54.15	176.40	5,805.17	-105.37	189.58	112.81	9.00	8.97	0.89
6,000.00	63.13	177.10	5,857.16	-190.54	194.39	198.11	9.00	8.98	0.70
6,100.00	72.12	177.70	5,895.19	-282.82	198.56	290.48	9.00	8.98	0.60
6,200.00	81.10	178.25	5,918.32	-379.94	201.98	387.66	9.00	8.98	0.54
6,299.04	90.00	178.76	5,926.00	-478.55	204.56	486.30	9.00	8.99	0.52
6,300.00	90.00	178.76	5,926.00	-479.51	204.58	487.26	0.00	0.00	0.00
6,400.00	90.00	178.76	5,926.00	-579.49	206.75	587.24	0.00	0.00	0.00
6,500.00	90.00	178.76	5,926.00	-679.46	208.92	687.22	0.00	0.00	0.00
6,600.00	90.00	178.76	5,926.00	-779.44	211.09	787.21	0.00	0.00	0.00
6,700.00	90.00	178.76	5,926.00	-879.41	213.26	887.19	0.00	0.00	0.00
6,800.00	90.00	178.76	5,926.00	-979.39	215.43	987.17	0.00	0.00	0.00
6,900.00	90.00	178.76	5,926.00	-1,079.37	217.60	1,087.16	0.00	0.00	0.00
7,000.00	90.00	178.76	5,926.00	-1,179.34	219.78	1,187.14	0.00	0.00	0.00
7,100.00	90.00	178.76	5,926.00	-1,279.32	221.95	1,287.13	0.00	0.00	0.00
7,200.00	90.00	178.76	5,926.00	-1,379.30	224.12	1,387.11	0.00	0.00	0.00
7,300.00	90.00	178.76	5,926.00	-1,479.27	226.29	1,487.09	0.00	0.00	0.00
7,400.00	90.00	178.76	5,926.00	-1,579.25	228.46	1,587.08	0.00	0.00	0.00
7,500.00	90.00	178.76	5,926.00	-1,679.23	230.63	1,687.06	0.00	0.00	0.00
7,600.00	90.00	178.76	5,926.00	-1,779.20	232.80	1,787.04	0.00	0.00	0.00
7,700.00	90.00	178.76	5,926.00	-1,879.18	234.97	1,887.03	0.00	0.00	0.00
7,800.00	90.00	178.76	5,926.00	-1,979.16	237.14	1,987.01	0.00	0.00	0.00
7,900.00	90.00	178.76	5,926.00	-2,079.13	239.31	2,087.00	0.00	0.00	0.00
8,000.00	90.00	178.76	5,926.00	-2,179.11	241.48	2,186.98	0.00	0.00	0.00
8,100.00	90.00	178.76	5,926.00	-2,279.08	243.65	2,286.96	0.00	0.00	0.00
8,200.00	90.00	178.76	5,926.00	-2,379.06	245.82	2,386.95	0.00	0.00	0.00
8,300.00	90.00	178.76	5,926.00	-2,479.04	248.00	2,486.93	0.00	0.00	0.00
8,400.00	90.00	178.76	5,926.00	-2,579.01	250.17	2,586.91	0.00	0.00	0.00
8,500.00	90.00	178.76	5,926.00	-2,678.99	252.34	2,686.90	0.00	0.00	0.00
8,600.00	90.00	178.76	5,926.00	-2,778.97	254.51	2,786.88	0.00	0.00	0.00
8,700.00	90.00	178.76	5,926.00	-2,878.94	256.68	2,886.87	0.00	0.00	0.00
8,800.00	90.00	178.76	5,926.00	-2,978.92	258.85	2,986.85	0.00	0.00	0.00
8,900.00	90.00	178.76	5,926.00	-3,078.90	261.02	3,086.83	0.00	0.00	0.00
9,000.00	90.00	178.76	5,926.00	-3,178.87	263.19	3,186.82	0.00	0.00	0.00
9,100.00	90.00	178.76	5,926.00	-3,278.85	265.36	3,286.80	0.00	0.00	0.00
9,200.00	90.00	178.76	5,926.00	-3,378.83	267.53	3,386.78	0.00	0.00	0.00
9,300.00	90.00	178.76	5,926.00	-3,478.80	269.70	3,486.77	0.00	0.00	0.00

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Well:</b>	Stars Federal LD17-770	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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)
9,400.00	90.00	178.76	5,926.00	-3,578.78	271.87	3,586.75	0.00	0.00	0.00
9,500.00	90.00	178.76	5,926.00	-3,678.75	274.04	3,686.74	0.00	0.00	0.00
9,600.00	90.00	178.76	5,926.00	-3,778.73	276.22	3,786.72	0.00	0.00	0.00
9,700.00	90.00	178.76	5,926.00	-3,878.71	278.39	3,886.70	0.00	0.00	0.00
9,800.00	90.00	178.76	5,926.00	-3,978.68	280.56	3,986.69	0.00	0.00	0.00
9,900.00	90.00	178.76	5,926.00	-4,078.66	282.73	4,086.67	0.00	0.00	0.00
10,000.00	90.00	178.76	5,926.00	-4,178.64	284.90	4,186.65	0.00	0.00	0.00
10,100.00	90.00	178.76	5,926.00	-4,278.61	287.07	4,286.64	0.00	0.00	0.00
10,200.00	90.00	178.76	5,926.00	-4,378.59	289.24	4,386.62	0.00	0.00	0.00
10,300.00	90.00	178.76	5,926.00	-4,478.57	291.41	4,486.61	0.00	0.00	0.00
10,400.00	90.00	178.76	5,926.00	-4,578.54	293.58	4,586.59	0.00	0.00	0.00
10,500.00	90.00	178.76	5,926.00	-4,678.52	295.75	4,686.57	0.00	0.00	0.00
10,600.00	90.00	178.76	5,926.00	-4,778.50	297.92	4,786.56	0.00	0.00	0.00
10,700.00	90.00	178.76	5,926.00	-4,878.47	300.09	4,886.54	0.00	0.00	0.00
10,800.00	90.00	178.76	5,926.00	-4,978.45	302.26	4,986.53	0.00	0.00	0.00
10,900.00	90.00	178.76	5,926.00	-5,078.43	304.43	5,086.51	0.00	0.00	0.00
11,000.00	90.00	178.76	5,926.00	-5,178.40	306.61	5,186.49	0.00	0.00	0.00
11,100.00	90.00	178.76	5,926.00	-5,278.38	308.78	5,286.48	0.00	0.00	0.00
11,200.00	90.00	178.76	5,926.00	-5,378.35	310.95	5,386.46	0.00	0.00	0.00
11,300.00	90.00	178.76	5,926.00	-5,478.33	313.12	5,486.44	0.00	0.00	0.00
11,400.00	90.00	178.76	5,926.00	-5,578.31	315.29	5,586.43	0.00	0.00	0.00
11,500.00	90.00	178.76	5,926.00	-5,678.28	317.46	5,686.41	0.00	0.00	0.00
11,600.00	90.00	178.76	5,926.00	-5,778.26	319.63	5,786.40	0.00	0.00	0.00
11,700.00	90.00	178.76	5,926.00	-5,878.24	321.80	5,886.38	0.00	0.00	0.00
11,800.00	90.00	178.76	5,926.00	-5,978.21	323.97	5,986.36	0.00	0.00	0.00
11,900.00	90.00	178.76	5,926.00	-6,078.19	326.14	6,086.35	0.00	0.00	0.00
12,000.00	90.00	178.76	5,926.00	-6,178.17	328.31	6,186.33	0.00	0.00	0.00
12,100.00	90.00	178.76	5,926.00	-6,278.14	330.48	6,286.31	0.00	0.00	0.00
12,200.00	90.00	178.76	5,926.00	-6,378.12	332.65	6,386.30	0.00	0.00	0.00
12,300.00	90.00	178.76	5,926.00	-6,478.10	334.83	6,486.28	0.00	0.00	0.00
12,400.00	90.00	178.76	5,926.00	-6,578.07	337.00	6,586.27	0.00	0.00	0.00
12,500.00	90.00	178.76	5,926.00	-6,678.05	339.17	6,686.25	0.00	0.00	0.00
12,600.00	90.00	178.76	5,926.00	-6,778.02	341.34	6,786.23	0.00	0.00	0.00
12,700.00	90.00	178.76	5,926.00	-6,878.00	343.51	6,886.22	0.00	0.00	0.00
12,800.00	90.00	178.76	5,926.00	-6,977.98	345.68	6,986.20	0.00	0.00	0.00
12,900.00	90.00	178.76	5,926.00	-7,077.95	347.85	7,086.18	0.00	0.00	0.00
13,000.00	90.00	178.76	5,926.00	-7,177.93	350.02	7,186.17	0.00	0.00	0.00
13,100.00	90.00	178.76	5,926.00	-7,277.91	352.19	7,286.15	0.00	0.00	0.00
13,200.00	90.00	178.76	5,926.00	-7,377.88	354.36	7,386.14	0.00	0.00	0.00
13,300.00	90.00	178.76	5,926.00	-7,477.86	356.53	7,486.12	0.00	0.00	0.00
13,400.00	90.00	178.76	5,926.00	-7,577.84	358.70	7,586.10	0.00	0.00	0.00
13,500.00	90.00	178.76	5,926.00	-7,677.81	360.87	7,686.09	0.00	0.00	0.00
13,600.00	90.00	178.76	5,926.00	-7,777.79	363.05	7,786.07	0.00	0.00	0.00

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Well:</b>	Stars Federal LD17-770	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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)
13,700.00	90.00	178.76	5,926.00	-7,877.77	365.22	7,886.05	0.00	0.00	0.00
13,800.00	90.00	178.76	5,926.00	-7,977.74	367.39	7,986.04	0.00	0.00	0.00
13,900.00	90.00	178.76	5,926.00	-8,077.72	369.56	8,086.02	0.00	0.00	0.00
14,000.00	90.00	178.76	5,926.00	-8,177.69	371.73	8,186.01	0.00	0.00	0.00
14,100.00	90.00	178.76	5,926.00	-8,277.67	373.90	8,285.99	0.00	0.00	0.00
14,200.00	90.00	178.76	5,926.00	-8,377.65	376.07	8,385.97	0.00	0.00	0.00
14,300.00	90.00	178.76	5,926.00	-8,477.62	378.24	8,485.96	0.00	0.00	0.00
14,400.00	90.00	178.76	5,926.00	-8,577.60	380.41	8,585.94	0.00	0.00	0.00
14,500.00	90.00	178.76	5,926.00	-8,677.58	382.58	8,685.92	0.00	0.00	0.00
14,600.00	90.00	178.76	5,926.00	-8,777.55	384.75	8,785.91	0.00	0.00	0.00
14,700.00	90.00	178.76	5,926.00	-8,877.53	386.92	8,885.89	0.00	0.00	0.00
14,800.00	90.00	178.76	5,926.00	-8,977.51	389.09	8,985.88	0.00	0.00	0.00
14,900.00	90.00	178.76	5,926.00	-9,077.48	391.27	9,085.86	0.00	0.00	0.00
15,000.00	90.00	178.76	5,926.00	-9,177.46	393.44	9,185.84	0.00	0.00	0.00
15,100.00	90.00	178.76	5,926.00	-9,277.44	395.61	9,285.83	0.00	0.00	0.00
15,200.00	90.00	178.76	5,926.00	-9,377.41	397.78	9,385.81	0.00	0.00	0.00
15,300.00	90.00	178.76	5,926.00	-9,477.39	399.95	9,485.80	0.00	0.00	0.00
15,400.00	90.00	178.76	5,926.00	-9,577.36	402.12	9,585.78	0.00	0.00	0.00
15,500.00	90.00	178.76	5,926.00	-9,677.34	404.29	9,685.76	0.00	0.00	0.00
15,600.00	90.00	178.76	5,926.00	-9,777.32	406.46	9,785.75	0.00	0.00	0.00
15,700.00	90.00	178.76	5,926.00	-9,877.29	408.63	9,885.73	0.00	0.00	0.00
15,800.00	90.00	178.76	5,926.00	-9,977.27	410.80	9,985.71	0.00	0.00	0.00
15,900.00	90.00	178.76	5,926.00	-10,077.25	412.97	10,085.70	0.00	0.00	0.00
16,000.00	90.00	178.76	5,926.00	-10,177.22	415.14	10,185.68	0.00	0.00	0.00
16,100.00	90.00	178.76	5,926.00	-10,277.20	417.31	10,285.67	0.00	0.00	0.00
16,200.00	90.00	178.76	5,926.00	-10,377.18	419.48	10,385.65	0.00	0.00	0.00
16,300.00	90.00	178.76	5,926.00	-10,477.15	421.66	10,485.63	0.00	0.00	0.00
16,400.00	90.00	178.76	5,926.00	-10,577.13	423.83	10,585.62	0.00	0.00	0.00
16,500.00	90.00	178.76	5,926.00	-10,677.11	426.00	10,685.60	0.00	0.00	0.00
16,586.61	90.00	178.76	5,926.00	-10,763.70	427.79	10,772.19	0.00	0.00	0.00

### Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Stars Federal LD17-770 - hit/miss target - Shape - Point	0.00	0.00	5,926.00	-478.55	204.56	1,528,295.43	3,445,070.65	40.7724865	-103.8930429
Stars Federal LD17-770 - plan hits target center - Point	0.00	0.00	5,926.00	-10,763.70	427.79	1,518,010.31	3,445,293.89	40.7442500	-103.8929100

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Well:</b>	Stars Federal LD17-770	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDMP

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
526.00	526.00	Pierre				
891.00	891.00	Upper Pierre Aquifer Top				
1,515.00	1,515.00	Upper Pierre Aquifer Base				
3,377.61	3,375.00	Parkman				
3,948.41	3,944.00	Sussex				
4,480.09	4,474.00	Shannon				
5,207.38	5,199.00	Teepee Buttes				
5,860.40	5,781.00	Sharon Springs				
5,879.66	5,793.00	Top A Chalk				
5,933.37	5,824.00	Top A Marl				
6,069.13	5,885.00	Top B Chalk				
6,185.96	5,916.00	Top B Marl				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2400	2400	0	0	Start Build 2.00	
5264	5255	156	153	Start DLS 9.00 TFO 134.31	
6299	5926	-479	205	TPZ/LP at 6299.04 MD	
16,587	5926	-10,764	428	TD at 16586.61 MD	

Checked By: _____	Approved By: _____	Date: _____
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# **Northern Region - DJ Basin**

**East Pony**

**LD Section 05**

**Stars Federal LD17-770**

**Wellbore #1**

**Plan #1**

## **Anticollision Summary Report**

**26 June, 2018**

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Reference Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Stars Federal LD17-770	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

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

<b>Survey Tool Program</b>	<b>Date</b>	5/22/2018		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	16,586.61	Plan #1 (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
Offet Well - Wellbore - Design						
LD Section 04						
Alice Nay 1 (Exist) - Original Drilling - As Drilled						Out of range
Rohn PC LD04-03 - Wellbore #1 - Wellbore #1- As Drille	5,358.77	5,257.59	7,353.75	7,316.65	198.239	CC, ES
Rohn PC LD04-03 - Wellbore #1 - Wellbore #1- As Drille	6,100.00	5,746.88	7,585.53	7,544.88	186.590	SF
Rohn State LD03-62-1HN - Original Drilling - Original Dri	5,642.94	5,001.00	9,002.97	8,968.13	258.377	CC
Rohn State LD03-62-1HN - Original Drilling - Original Dri	5,650.00	5,001.00	9,002.97	8,968.11	258.231	ES
Rohn State LD03-62-1HN - Original Drilling - Original Dri	10,000.00	5,048.00	9,960.80	9,907.06	185.329	SF
Rohn State LD03-62HN - Original Drilling - Original Drillin	1,057.69	923.77	9,007.50	9,001.49	1,498.399	CC
Rohn State LD03-62HN - Original Drilling - Original Drillin	5,500.00	4,907.00	9,028.40	8,995.88	277.636	ES
Rohn State LD03-62HN - Original Drilling - Original Drillin	9,700.00	4,953.00	9,991.48	9,941.56	200.157	SF
Rohn State LD03-63-1HN - Original Drilling - Original Dri	1,589.93	1,456.00	9,011.56	9,002.19	962.163	CC
Rohn State LD03-63-1HN - Original Drilling - Original Dri	5,467.07	5,000.00	9,023.16	8,989.75	270.080	ES
Rohn State LD03-63-1HN - Original Drilling - Original Dri	9,400.00	5,000.00	9,992.08	9,943.61	206.135	SF
Rohn State LD03-63HN - Original Drilling - Original Drillin	5,117.91	4,439.01	9,077.54	9,045.29	281.480	CC
Rohn State LD03-63HN - Original Drilling - Original Drillin	5,300.00	4,646.86	9,078.13	9,044.32	268.492	ES
Rohn State LD03-63HN - Original Drilling - Original Drillin	8,900.00	5,102.01	9,979.48	9,930.56	203.988	SF
Rohn State LD03-64-1HN - Original Drilling - Original Dri	5,411.76	5,007.01	9,131.43	9,097.02	265.364	CC, ES
Rohn State LD03-64-1HN - Original Drilling - Original Dri	8,700.00	5,102.01	9,999.28	9,952.87	215.458	SF
Rohn State LD03-64HN - Original Drilling - Original Drillin	5,374.42	4,977.95	9,046.58	9,013.89	276.791	CC, ES
Rohn State LD03-64HN - Original Drilling - Original Drillin	8,600.00	5,007.00	9,996.32	9,952.71	229.188	SF
Rohn State LD03-65-1HN - Original Drilling - Original Dri	141.01	0.02	9,157.42	9,157.15	10,000.000	CC
Rohn State LD03-65-1HN - Original Drilling - Original Dri	1,300.00	1,103.24	9,158.26	9,150.51	1,181.426	ES
Rohn State LD03-65-1HN - Original Drilling - Original Dri	8,100.00	5,105.00	9,969.06	9,927.34	238.916	SF
Rohn State LD03-65HN - Original Drilling - Original Drillin	5,370.95	5,053.00	9,292.51	9,255.20	249.014	CC, ES
Rohn State LD03-65HN - Original Drilling - Original Drillin	7,600.00	5,192.00	9,958.36	9,914.35	226.254	SF
Rohn State LD03-66-1HN - Original Drilling - Original Dri	5,369.41	5,051.00	9,351.25	9,316.16	266.478	CC, ES
Rohn State LD03-66-1HN - Original Drilling - Original Dri	7,400.00	5,098.00	9,977.03	9,936.52	246.270	SF
Rohn State LD03-66HN - Original Drilling - Original Drillin	5,363.31	5,019.88	9,440.17	9,406.68	281.881	CC, ES
Rohn State LD03-66HN - Original Drilling - Original Drillin	7,100.00	5,051.00	9,968.19	9,930.32	263.188	SF
Rohn State LD04-62-1HN - Original Drilling - Original Dri	5,884.93	9,541.00	4,618.18	4,576.72	111.393	CC
Rohn State LD04-62-1HN - Original Drilling - Original Dri	5,900.00	9,541.00	4,618.22	4,576.71	111.256	ES
Rohn State LD04-62-1HN - Original Drilling - Original Dri	10,000.00	9,541.00	6,276.79	6,173.24	60.614	SF
Rohn State LD04-62HN - Original Drilling - Original Drillin	5,779.42	9,580.00	4,615.62	4,573.12	108.592	CC
Rohn State LD04-62HN - Original Drilling - Original Drillin	5,800.00	9,580.00	4,615.71	4,573.03	108.141	ES
Rohn State LD04-62HN - Original Drilling - Original Drillin	9,600.00	9,580.00	6,215.35	6,112.53	60.450	SF
Rohn State LD04-63-1HN - Original Drilling - Original Dri	5,732.08	9,834.00	4,643.75	4,597.18	99.716	CC
Rohn State LD04-63-1HN - Original Drilling - Original Dri	5,750.00	9,834.00	4,643.83	4,597.06	99.287	ES
Rohn State LD04-63-1HN - Original Drilling - Original Dri	9,400.00	9,834.00	6,257.97	6,152.09	59.106	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Reference Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Stars Federal LD17-770	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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						
LD Section 04						
Rohn State LD04-63HN - Original Drilling - Original Drilling	5,620.07	9,758.00	4,685.28	4,638.32	99.765	CC
Rohn State LD04-63HN - Original Drilling - Original Drilling	5,650.00	9,758.00	4,685.54	4,638.31	99.208	ES
Rohn State LD04-63HN - Original Drilling - Original Drilling	9,300.00	9,758.00	6,418.43	6,315.59	62.411	SF
Rohn State LD04-64-1HN - Original Drilling - Original Drilling	5,543.61	9,566.00	4,758.82	4,707.12	92.034	CC
Rohn State LD04-64-1HN - Original Drilling - Original Drilling	5,550.00	9,566.00	4,758.84	4,707.07	91.930	ES
Rohn State LD04-64-1HN - Original Drilling - Original Drilling	8,900.00	9,566.00	6,381.78	6,281.22	63.466	SF
Rohn State LD04-64-1HN - Original Drilling - Original Drilling	5,520.03	9,476.00	4,862.38	4,804.95	84.660	CC, ES
Rohn State LD04-64HN - Original Drilling - Original Drilling	8,500.00	9,476.00	6,337.87	6,239.38	64.354	SF
Rohn State LD04-65-1HN - Wellbore #1 - Wellbore #1- A	5,479.74	9,578.00	4,956.49	4,891.17	75.888	CC
Rohn State LD04-65-1HN - Wellbore #1 - Wellbore #1- A	5,500.00	9,578.00	4,956.66	4,891.17	75.688	ES
Rohn State LD04-65-1HN - Wellbore #1 - Wellbore #1- A	8,100.00	9,578.00	6,267.08	6,166.50	62.306	SF
Rohn State LD04-65HN - Wellbore #1 - Wellbore #1- As	5,476.57	9,648.02	5,106.76	5,042.67	79.681	CC, ES
Rohn State LD04-65HN - Wellbore #1 - Wellbore #1- As	8,000.00	9,648.02	6,435.81	6,341.29	68.090	SF
Rohn State LD04-66-1HN - Wellbore #1 - Wellbore #1- A	5,444.98	9,580.02	5,245.94	5,176.50	75.549	CC
Rohn State LD04-66-1HN - Wellbore #1 - Wellbore #1- A	5,450.00	9,580.02	5,245.95	5,176.48	75.511	ES
Rohn State LD04-66-1HN - Wellbore #1 - Wellbore #1- A	7,600.00	9,580.02	6,374.06	6,279.75	67.586	SF
Rohn State LD04-66HN - Original Drilling - Original Drilling	5,442.81	9,628.00	5,402.83	5,327.74	71.948	CC
Rohn State LD04-66HN - Original Drilling - Original Drilling	5,450.00	9,628.00	5,402.86	5,327.72	71.898	ES
Rohn State LD04-66HN - Original Drilling - Original Drilling	7,100.00	9,628.00	6,241.84	6,148.31	66.737	SF
Rohn State LD04-67-1HN - Original Drilling - Original Drilling	5,417.74	9,583.02	5,580.59	5,498.83	68.258	CC, ES
Rohn State LD04-67-1HN - Original Drilling - Original Drilling	6,600.00	9,583.02	6,130.35	6,036.45	65.280	SF
Rohn State LD04-67HN - Original Drilling - As Drilled	5,308.79	5,099.87	5,683.51	5,645.53	149.675	CC, ES
Rohn State LD04-67HN - Original Drilling - As Drilled	5,600.00	5,155.01	5,730.20	5,691.25	147.136	SF
Rohn State LD04-68-1HN - Original Drilling - As Drilled	5,307.63	5,060.01	5,839.17	5,803.61	164.201	CC, ES
Rohn State LD04-68-1HN - Original Drilling - As Drilled	5,600.00	5,060.01	5,889.93	5,853.55	161.912	SF
Rohn State LD04-68HN - Wellbore #1 - Wellbore #1- As	5,311.27	5,062.01	6,047.60	6,012.91	174.341	CC, ES
Rohn State LD04-68HN - Wellbore #1 - Wellbore #1- As	5,650.00	5,062.01	6,116.44	6,080.78	171.512	SF
Rohn State LD09-69HN - Original Drilling - Original Drilling	6,150.00	9,710.00	4,586.69	4,541.67	101.891	ES
Rohn State LD09-69HN - Original Drilling - Original Drilling	6,176.34	9,710.00	4,586.58	4,541.68	102.137	CC
Rohn State LD09-69HN - Original Drilling - Original Drilling	10,400.00	9,710.00	6,266.63	6,163.93	61.017	SF
Rohn State LD10-69HN - Original Drilling - Original Drilling	5,993.36	5,144.00	8,970.84	8,931.80	229.799	CC
Rohn State LD10-69HN - Original Drilling - Original Drilling	6,000.00	5,144.00	8,970.84	8,931.79	229.712	ES
Rohn State LD10-69HN - Original Drilling - Original Drilling	10,400.00	5,144.00	9,959.38	9,900.31	168.588	SF

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Reference Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Stars Federal LD17-770	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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						
LD Section 05						
Heston LD06-620 - Original Drilling - Original Drilling - As	5,852.66	9,916.96	224.96	166.47	3.846	CC, ES
Heston LD06-620 - Original Drilling - Original Drilling - As	5,900.00	9,914.54	231.59	167.39	3.608	SF
Heston LD06-620 - ST01 - Original Drilling - ST01 - As D	5,835.50	9,911.90	271.96	216.52	4.906	CC
Heston LD06-620 - ST01 - Original Drilling - ST01 - As D	5,850.00	9,911.67	272.51	215.48	4.778	ES
Heston LD06-620 - ST01 - Original Drilling - ST01 - As D	5,900.00	9,910.92	282.66	220.69	4.561	SF
Heston LD06-625 - Original Drilling - Original Drilling - As	5,614.45	9,874.81	686.77	614.82	9.546	CC, ES
Heston LD06-625 - Original Drilling - Original Drilling - As	5,700.00	9,872.50	697.72	622.10	9.226	SF
Heston LD06-630 - Original Drilling - Original Drilling - As	5,513.59	9,908.86	1,220.31	1,153.10	18.156	CC, ES
Heston LD06-630 - Original Drilling - Original Drilling - As	5,600.00	9,901.46	1,229.16	1,160.56	17.917	SF
Nugent LD06-655 - Original Drilling - Original Drilling - As	5,417.17	9,795.95	2,605.17	2,539.74	39.819	CC, ES
Nugent LD06-655 - Original Drilling - Original Drilling - As	5,500.00	9,791.43	2,611.85	2,545.95	39.633	SF
Nugent LD06-665 - Original Drilling - Original Drilling - As	5,395.60	9,861.78	3,270.18	3,204.57	49.838	CC
Nugent LD06-665 - Original Drilling - Original Drilling - As	5,400.00	9,861.47	3,270.20	3,204.56	49.822	ES
Nugent LD06-665 - Original Drilling - Original Drilling - As	5,500.00	9,854.50	3,280.36	3,214.27	49.637	SF
Reagan LD06-675 - Original Drilling - Original Drilling - A	5,385.19	9,731.00	3,883.77	3,813.86	55.551	CC, ES
Reagan LD06-675 - Original Drilling - Original Drilling - A	5,500.00	9,731.00	3,895.76	3,825.35	55.323	SF
Reagan LD06-685 - Original Drilling - Original Drilling - A	5,373.15	9,850.58	4,539.93	4,474.44	69.316	CC, ES
Reagan LD06-685 - Original Drilling - Original Drilling - A	5,500.00	9,835.27	4,554.24	4,488.38	69.144	SF
Stars Federal LD17-715 - Wellbore #1 - Plan #1	2,772.03	2,568.69	2,733.80	2,715.19	146.880	CC
Stars Federal LD17-715 - Wellbore #1 - Plan #1	2,803.30	2,600.00	2,733.98	2,715.15	145.192	ES
Stars Federal LD17-715 - Wellbore #1 - Plan #1	16,586.61	16,666.43	3,630.35	3,445.71	19.661	SF
Stars Federal LD17-720 - Wellbore #1 - Plan #1	2,967.03	2,768.50	2,683.49	2,663.47	134.065	CC
Stars Federal LD17-720 - Wellbore #1 - Plan #1	3,000.00	2,800.00	2,683.66	2,663.42	132.590	ES
Stars Federal LD17-720 - Wellbore #1 - Plan #1	16,586.61	16,507.47	3,302.87	3,118.27	17.892	SF
Stars Federal LD17-730 - Wellbore #1 - Plan #1	6,128.12	6,036.25	2,601.02	2,559.56	62.725	CC
Stars Federal LD17-730 - Wellbore #1 - Plan #1	16,586.61	16,512.21	2,654.88	2,470.65	14.411	ES, SF
Stars Federal LD17-740 - Wellbore #1 - Plan #1	6,275.24	6,201.92	1,929.04	1,887.07	45.962	CC
Stars Federal LD17-740 - Wellbore #1 - Plan #1	16,586.61	16,505.21	1,980.17	1,796.13	10.759	ES, SF
Stars Federal LD17-750 - Wellbore #1 - Plan #1	2,400.00	2,399.00	74.78	58.05	4.468	CC
Stars Federal LD17-750 - Wellbore #1 - Plan #1	2,500.00	2,496.50	75.20	57.77	4.315	ES
Stars Federal LD17-750 - Wellbore #1 - Plan #1	2,627.66	2,620.84	77.15	58.88	4.223	SF
Stars Federal LD17-760 - Wellbore #1 - Plan #1	2,200.00	2,200.00	38.78	23.47	2.533	CC, ES
Stars Federal LD17-760 - Wellbore #1 - Plan #1	2,300.00	2,298.66	40.45	24.45	2.528	SF
Stars Federal LD17-765(killed) - Wellbore #1 - Plan #1	2,200.00	2,199.00	74.78	59.48	4.887	CC, ES
Stars Federal LD17-765(killed) - Wellbore #1 - Plan #1	16,586.61	16,610.06	329.74	145.99	1.795	SF
Stars Federal LD17-775(killed) - Wellbore #1 - Plan #1	2,400.00	2,400.00	0.00	-16.74	0.000	Level 1, CC, ES, SF
Stars Federal LD17-780 - Wellbore #1 - Plan #1	2,400.00	2,401.00	36.01	19.26	2.151	CC, ES, SF
Stars Federal LD17-785(killed) - Wellbore #1 - Plan #1	2,200.00	2,201.00	74.78	59.47	4.885	CC, ES
Stars Federal LD17-785(killed) - Wellbore #1 - Plan #1	2,300.00	2,298.47	76.47	60.47	4.778	SF
LD Section 06						
Timbro LD06-64HN - Wellbore #1 - Wellbore #1 - As Drille	5,474.18	12,126.94	1,640.09	1,453.78	8.803	CC
Timbro LD06-64HN - Wellbore #1 - Wellbore #1 - As Drille	5,500.00	12,127.23	1,640.81	1,453.69	8.768	ES
Timbro LD06-64HN - Wellbore #1 - Wellbore #1 - As Drille	5,600.00	12,128.18	1,657.20	1,467.33	8.728	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Reference Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Stars Federal LD17-770	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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
LD Section 07						
Stripes Federal LD18-720 - Wellbore #1 - Plan #1	6,305.28	6,467.99	1,980.30	1,937.65	46.442	CC
Stripes Federal LD18-720 - Wellbore #1 - Plan #1	16,586.61	16,742.55	1,981.57	1,800.08	10.918	ES, SF
Stripes Federal LD18-730 - Wellbore #1 - Plan #1	2,400.17	2,431.29	2,291.66	2,274.80	135.979	CC, ES
Stripes Federal LD18-730 - Wellbore #1 - Plan #1	16,586.61	16,719.25	2,651.92	2,470.47	14.615	SF
Stripes Federal LD18-740 - Wellbore #1 - Plan #1	6,310.84	6,591.38	3,300.07	3,256.79	76.245	CC
Stripes Federal LD18-740 - Wellbore #1 - Plan #1	11,900.00	12,174.31	3,310.61	3,203.41	30.882	ES
Stripes Federal LD18-760 - Wellbore #1 - Plan #1	12,200.00	12,169.72	3,325.16	3,216.66	30.646	SF
Stripes Federal LD18-750 - Wellbore #1 - Plan #1	16,586.61	16,734.03	3,945.99	3,764.72	21.769	CC, ES, SF
Stripes Federal LD18-760 - Wellbore #1 - Plan #1	2,200.00	2,208.00	4,317.68	4,302.35	281.550	CC
Stripes Federal LD18-760 - Wellbore #1 - Plan #1	2,400.00	2,382.82	4,318.29	4,301.61	258.962	ES
Stripes Federal LD18-760 - Wellbore #1 - Plan #1	16,586.61	16,716.10	4,636.02	4,454.44	25.532	SF
Stripes Federal LD18-770 - Wellbore #1 - Plan #1	16,586.61	16,680.41	5,295.64	5,114.06	29.164	CC, ES, SF
Stripes Federal LD18-785 - Wellbore #1 - Plan #1	2,200.00	2,208.00	5,382.81	5,367.48	351.005	CC, ES
Stripes Federal LD18-785 - Wellbore #1 - Plan #1	16,586.61	16,763.79	6,284.87	6,103.25	34.604	SF
Stripes Federal LD18-790 - Wellbore #1 - Plan #1	6,308.07	6,578.67	1,321.02	1,277.94	30.666	CC
Stripes Federal LD18-790 - Wellbore #1 - Plan #1	16,586.61	16,857.21	1,321.78	1,140.47	7.290	ES, SF
Timbro Federal LD07-78HN - Original Drilling - As Drilled	3,422.47	3,834.01	5,876.39	5,852.40	244.926	CC, ES
Timbro Federal LD07-78HN - Original Drilling - As Drilled	11,800.00	10,293.02	6,083.55	5,950.08	45.579	SF
LD Section 08						
Timbro Federal LD08-62HN - Original Drilling - As Drilled	10,753.27	9,213.02	228.90	163.59	3.505	CC
Timbro Federal LD08-62HN - Original Drilling - As Drilled	10,800.00	9,213.02	233.63	162.10	3.266	ES
Timbro Federal LD08-62HN - Original Drilling - As Drilled	10,900.00	9,213.02	271.90	180.66	2.980	SF
LD Section 17						
Timbro Federal LD17-76HN - Wellbore #1 - Wellbore #1-	12,067.92	10,251.02	622.43	491.04	4.737	ES
Timbro Federal LD17-76HN - Wellbore #1 - Wellbore #1-	12,100.00	10,252.89	623.25	491.38	4.726	SF
Timbro Federal LD17-76HN - Wellbore #1 - Wellbore #1-	16,224.31	6,080.15	617.02	509.25	5.726	CC
LD Section 18						
Timbro Federal LD18-74HN - Original Drilling - As Drilled	13,700.00	13,700.00	3,325.34	3,123.62	16.485	SF
Timbro Federal LD18-74HN - Original Drilling - As Drilled	16,080.28	6,270.01	3,282.20	3,174.74	30.543	CC
Timbro Federal LD18-74HN - Original Drilling - As Drilled	16,200.00	16,200.00	3,283.98	3,104.35	18.282	ES
LD Section 19						
Bennett LD19-758 - Original Drilling - Original Drilling - A	16,586.61	10,939.00	4,532.84	4,396.65	33.283	CC, ES, SF
Bennett LD19-765 - Original Drilling - Original Drilling - A	16,586.61	10,896.00	4,970.79	4,834.35	36.431	CC, ES, SF
Bennett LD19-771 - Original Drilling - Original Drilling - A	16,586.61	10,806.00	5,409.86	5,273.30	39.615	CC, ES, SF
Bennett LD19-777 - Original Drilling - Original Drilling - A	16,586.61	10,840.00	5,820.77	5,684.31	42.656	CC, ES, SF
Bennett LD19-781 - Original Drilling - Original Drilling - A	16,586.61	11,090.00	6,070.20	5,937.17	45.632	CC, ES, SF
Bennett LD19-785 - Original Drilling - Original Drilling - A	16,586.61	10,902.00	6,297.56	6,160.81	46.054	CC, ES, SF
Riley LD19-715 - Original Drilling - Original Drilling - As D	16,586.61	11,052.00	1,690.46	1,559.90	12.947	CC, ES, SF
Riley LD19-722 - Original Drilling - Original Drilling - As D	16,586.61	10,665.00	2,092.62	1,957.69	15.509	CC, ES, SF
Riley LD19-738 - Original Drilling - Original Drilling - As D	16,586.61	10,950.00	3,239.98	3,103.65	23.765	CC, ES, SF
Riley LD19-745 - Original Drilling - Original Drilling - As D	16,586.61	10,872.00	3,664.17	3,528.71	27.050	CC, ES, SF
Riley LD19-752 - Original Drilling - Original Drilling - As D	16,586.61	11,064.00	4,162.94	4,026.55	30.523	CC, ES, SF
Timbro Federal LD29-78HN - Original Drilling - Original D	16,586.61	5,275.62	5,767.15	5,713.54	107.579	CC, ES, SF
Timbro LD19-73HN - Wellbore #1 - Wellbore #1-As Drille	16,586.61	10,273.02	2,184.98	2,021.64	13.377	CC, ES, SF
LD Section 20						
Anni LD29-755 - Original Drilling - Original Drilling - As D	16,586.61	5,386.00	5,175.11	5,129.76	114.114	CC, ES, SF
Anni LD29-763 - Original Drilling - Original Drilling - As D	16,586.61	5,289.00	5,120.44	5,076.74	117.184	CC, ES, SF
Anni LD29-771 - Original Drilling - Original Drilling - As D	16,586.61	5,290.00	5,135.93	5,094.76	124.746	CC, ES, SF

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

# Noble Energy, Inc.

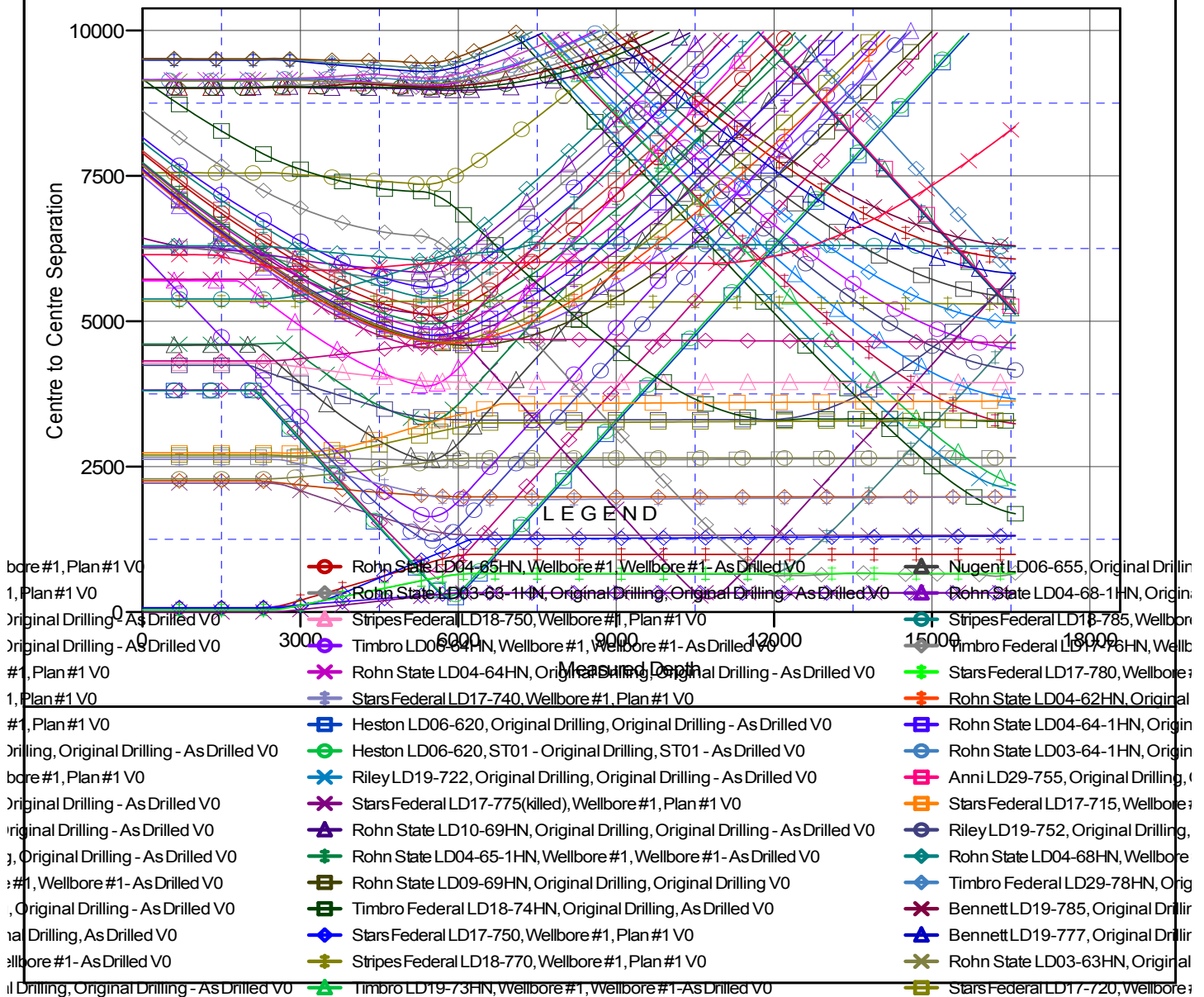
## Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Reference Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Stars Federal LD17-770	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to Well @ 4864.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.5000000

Coordinates are relative to: Stars Federal LD17-770  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 1.04°

### Ladder Plot



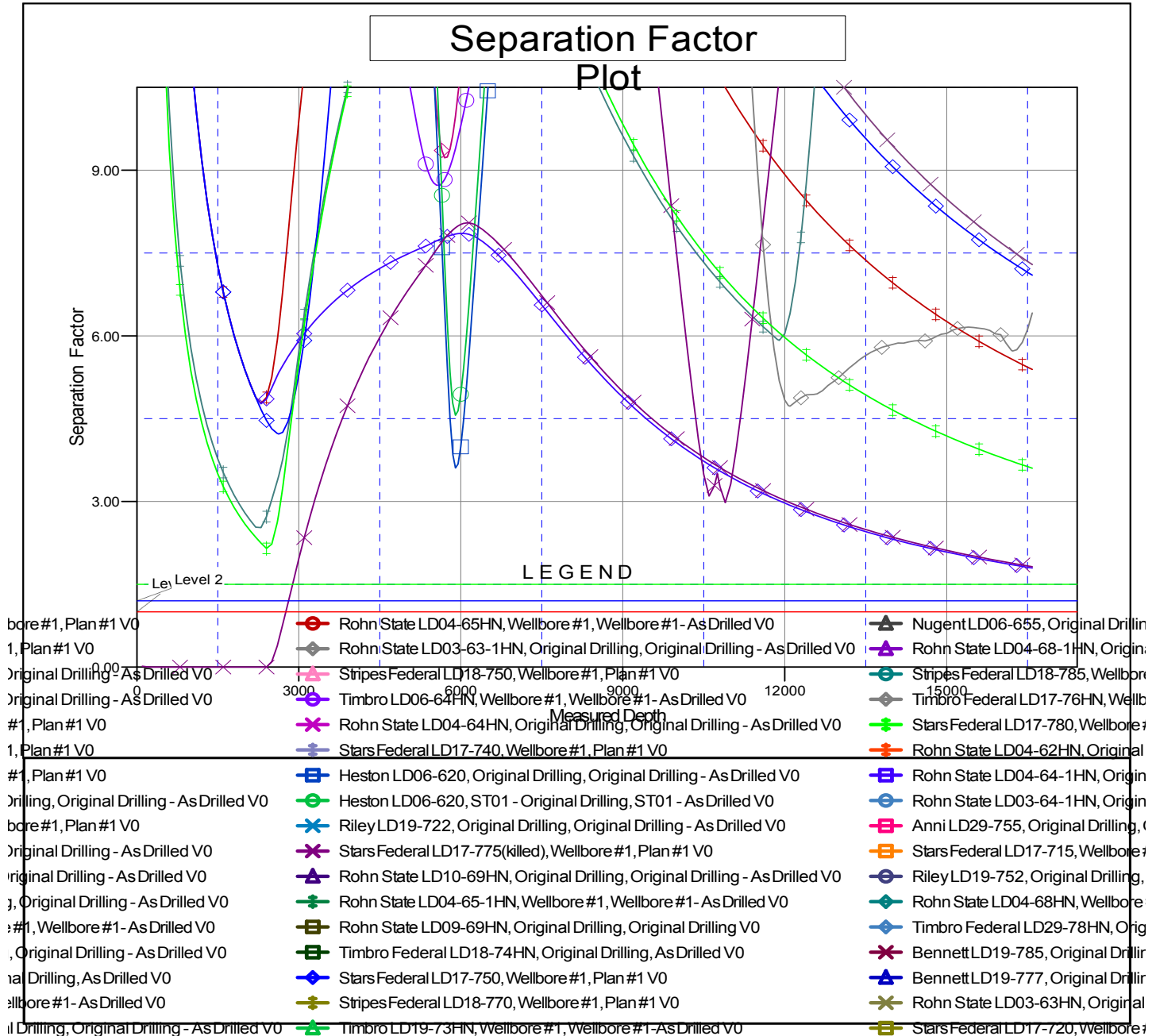
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Stars Federal LD17-770
<b>Project:</b>	East Pony	<b>TVD Reference:</b>	Well @ 4864.00ft
<b>Reference Site:</b>	LD Section 05	<b>MD Reference:</b>	Well @ 4864.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Stars Federal LD17-770	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to Well @ 4864.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.5000000

Coordinates are relative to: Stars Federal LD17-770  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 1.04°



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