

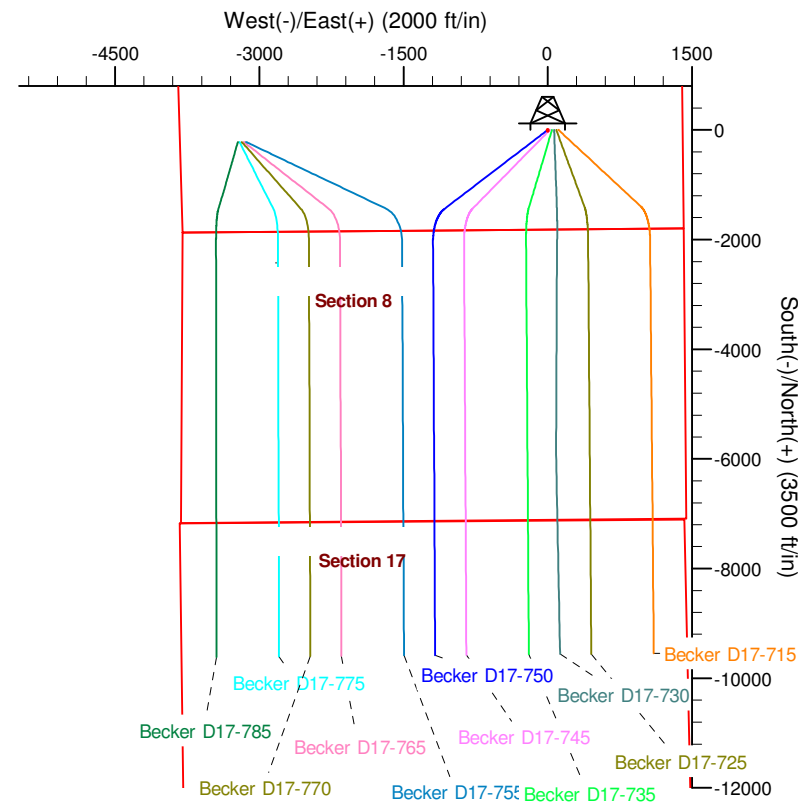
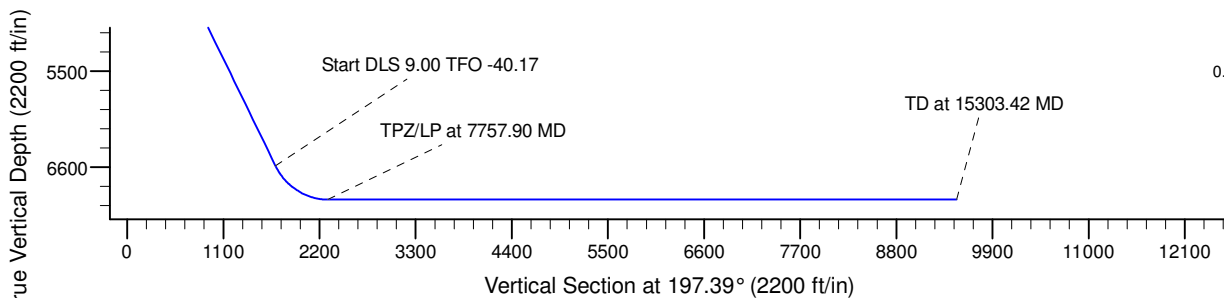
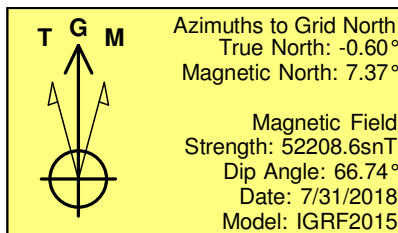
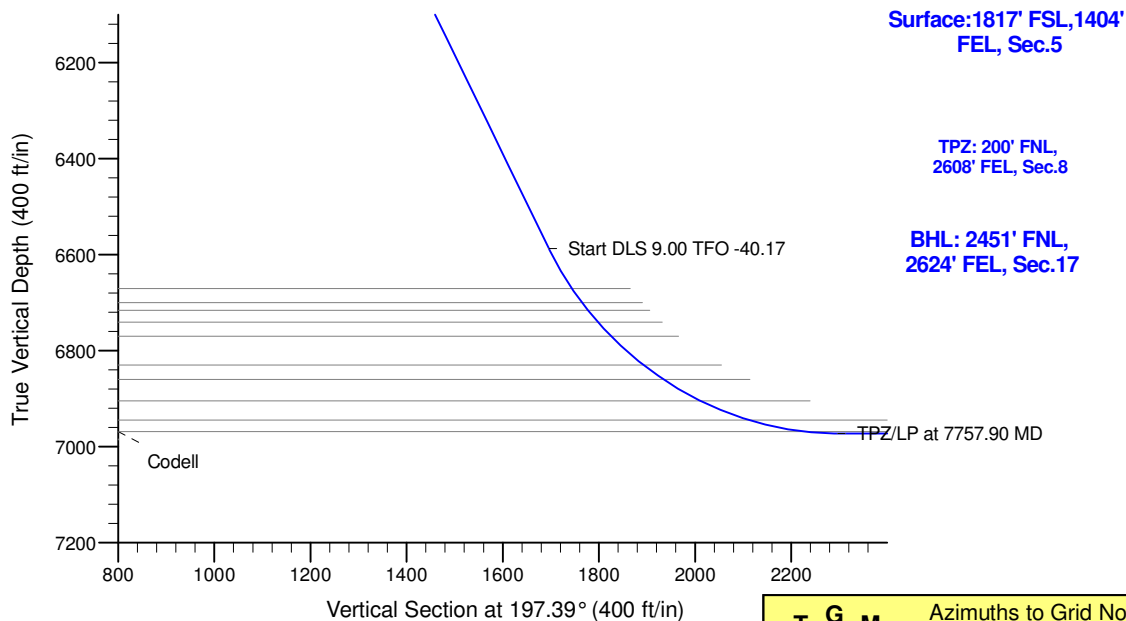
Project: Mustang
Site: D Section 08
Well: Becker D17-750
Wellbore: Wellbore #1
Design: Plan #1

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	3761.31	27.23	216.73	3710.66	-254.40	-189.80	2.00	216.73	299.50	
4	6996.37	27.23	216.73	6587.29	-1440.67	-1074.86	0.00	0.00	1696.11	
5	7757.90	90.00	179.83	6973.00	-2033.49	-1192.26	9.00	-40.17	2296.92	Becker D17-750 TPZ
6	15303.42	90.00	179.83	6973.00	-9578.98	-1170.16	0.00	0.00	9490.77	Becker D17-750 BHL



WELL DETAILS: Becker D17-750

	Northing	Easting	Latitude	Longitude
0.00	0.00	1336070.70	4747.00 40.2521800	-104.5704500

Plan: Plan #1 (Becker D17-750/Wellbore #1)

Created By: Colby Baxter Date: 9:28, October 02 2018

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region - DJ Basin

Mustang

D Section 08

Becker D17-750

Wellbore #1

Plan: Plan #1

Standard Survey Report

02 October, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Well:	Becker D17-750	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Project	Mustang, 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	D Section 08		
Site Position:		Northing:	1,334,012.94 usft
From:	Map	Easting:	3,256,643.55 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	40.2466118
		Longitude:	-104.5805772
		Grid Convergence:	0.59 °

Well	Becker D17-750		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	40.2521800
		Longitude:	-104.5704500
		Ground Level:	4,747.00 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	7/31/2018	7.98
			(°)
			66.74
			52,208.55867719

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	-68.00	0.00	0.00
			197.39

Survey Tool Program	Date	10/2/2018		
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
0.00	15,303.42	Plan #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Planned Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/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 Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Well:	Becker D17-750	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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	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	216.73	2,499.98	-1.40	-1.04	1.65	2.00	2.00	0.00
2,600.00	4.00	216.73	2,599.84	-5.59	-4.17	6.59	2.00	2.00	0.00
2,700.00	6.00	216.73	2,699.45	-12.58	-9.38	14.81	2.00	2.00	0.00
2,800.00	8.00	216.73	2,798.70	-22.35	-16.67	26.31	2.00	2.00	0.00
2,900.00	10.00	216.73	2,897.47	-34.88	-26.03	41.07	2.00	2.00	0.00
3,000.00	12.00	216.73	2,995.62	-50.18	-37.44	59.07	2.00	2.00	0.00
3,100.00	14.00	216.73	3,093.06	-68.21	-50.89	80.30	2.00	2.00	0.00
3,200.00	16.00	216.73	3,189.64	-88.95	-66.36	104.72	2.00	2.00	0.00
3,300.00	18.00	216.73	3,285.27	-112.38	-83.85	132.31	2.00	2.00	0.00
3,400.00	20.00	216.73	3,379.82	-138.47	-103.31	163.03	2.00	2.00	0.00
3,500.00	22.00	216.73	3,473.17	-167.20	-124.74	196.84	2.00	2.00	0.00
3,600.00	24.00	216.73	3,565.21	-198.51	-148.11	233.71	2.00	2.00	0.00
3,700.00	26.00	216.73	3,655.84	-232.38	-173.38	273.59	2.00	2.00	0.00
3,761.31	27.23	216.73	3,710.66	-254.40	-189.80	299.50	2.00	2.00	0.00
3,800.00	27.23	216.73	3,745.06	-268.58	-200.39	316.20	0.00	0.00	0.00
3,900.00	27.23	216.73	3,833.98	-305.25	-227.74	359.38	0.00	0.00	0.00
4,000.00	27.23	216.73	3,922.90	-341.92	-255.10	402.55	0.00	0.00	0.00
4,100.00	27.23	216.73	4,011.82	-378.59	-282.46	445.72	0.00	0.00	0.00
4,200.00	27.23	216.73	4,100.74	-415.26	-309.82	488.89	0.00	0.00	0.00
4,300.00	27.23	216.73	4,189.66	-451.93	-337.18	532.06	0.00	0.00	0.00
4,400.00	27.23	216.73	4,278.58	-488.60	-364.53	575.23	0.00	0.00	0.00
4,500.00	27.23	216.73	4,367.50	-525.27	-391.89	618.40	0.00	0.00	0.00
4,600.00	27.23	216.73	4,456.42	-561.94	-419.25	661.57	0.00	0.00	0.00
4,700.00	27.23	216.73	4,545.34	-598.61	-446.61	704.74	0.00	0.00	0.00
4,800.00	27.23	216.73	4,634.26	-635.28	-473.97	747.91	0.00	0.00	0.00
4,900.00	27.23	216.73	4,723.18	-671.95	-501.33	791.08	0.00	0.00	0.00
5,000.00	27.23	216.73	4,812.11	-708.62	-528.68	834.26	0.00	0.00	0.00
5,100.00	27.23	216.73	4,901.03	-745.28	-556.04	877.43	0.00	0.00	0.00
5,200.00	27.23	216.73	4,989.95	-781.95	-583.40	920.60	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Well:	Becker D17-750	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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	27.23	216.73	5,078.87	-818.62	-610.76	963.77	0.00	0.00	0.00
5,400.00	27.23	216.73	5,167.79	-855.29	-638.12	1,006.94	0.00	0.00	0.00
5,500.00	27.23	216.73	5,256.71	-891.96	-665.48	1,050.11	0.00	0.00	0.00
5,600.00	27.23	216.73	5,345.63	-928.63	-692.83	1,093.28	0.00	0.00	0.00
5,700.00	27.23	216.73	5,434.55	-965.30	-720.19	1,136.45	0.00	0.00	0.00
5,800.00	27.23	216.73	5,523.47	-1,001.97	-747.55	1,179.62	0.00	0.00	0.00
5,900.00	27.23	216.73	5,612.39	-1,038.64	-774.91	1,222.79	0.00	0.00	0.00
6,000.00	27.23	216.73	5,701.31	-1,075.31	-802.27	1,265.96	0.00	0.00	0.00
6,100.00	27.23	216.73	5,790.23	-1,111.98	-829.63	1,309.14	0.00	0.00	0.00
6,200.00	27.23	216.73	5,879.15	-1,148.65	-856.98	1,352.31	0.00	0.00	0.00
6,300.00	27.23	216.73	5,968.07	-1,185.32	-884.34	1,395.48	0.00	0.00	0.00
6,400.00	27.23	216.73	6,056.99	-1,221.99	-911.70	1,438.65	0.00	0.00	0.00
6,500.00	27.23	216.73	6,145.92	-1,258.65	-939.06	1,481.82	0.00	0.00	0.00
6,600.00	27.23	216.73	6,234.84	-1,295.32	-966.42	1,524.99	0.00	0.00	0.00
6,700.00	27.23	216.73	6,323.76	-1,331.99	-993.78	1,568.16	0.00	0.00	0.00
6,800.00	27.23	216.73	6,412.68	-1,368.66	-1,021.13	1,611.33	0.00	0.00	0.00
6,900.00	27.23	216.73	6,501.60	-1,405.33	-1,048.49	1,654.50	0.00	0.00	0.00
6,996.37	27.23	216.73	6,587.29	-1,440.67	-1,074.86	1,696.11	0.00	0.00	0.00
7,000.00	27.48	216.27	6,590.52	-1,442.01	-1,075.85	1,697.68	9.00	6.90	-12.58
7,100.00	34.84	206.18	6,676.09	-1,486.33	-1,102.15	1,747.84	9.00	7.36	-10.09
7,200.00	42.76	199.34	6,754.00	-1,544.11	-1,126.05	1,810.12	9.00	7.93	-6.84
7,300.00	50.99	194.32	6,822.32	-1,613.93	-1,146.95	1,882.99	9.00	8.23	-5.02
7,400.00	59.38	190.36	6,879.38	-1,694.07	-1,164.34	1,964.66	9.00	8.40	-3.96
7,500.00	67.88	187.05	6,923.77	-1,782.54	-1,177.79	2,053.12	9.00	8.50	-3.32
7,600.00	76.43	184.11	6,954.39	-1,877.19	-1,186.97	2,146.18	9.00	8.56	-2.94
7,700.00	85.02	181.37	6,970.49	-1,975.67	-1,191.65	2,241.56	9.00	8.59	-2.73
7,757.90	90.00	179.83	6,973.00	-2,033.49	-1,192.26	2,296.92	9.00	8.60	-2.66
7,800.00	90.00	179.83	6,973.00	-2,075.59	-1,192.14	2,337.05	0.00	0.00	0.00
7,900.00	90.00	179.83	6,973.00	-2,175.59	-1,191.84	2,432.39	0.00	0.00	0.00
8,000.00	90.00	179.83	6,973.00	-2,275.59	-1,191.55	2,527.73	0.00	0.00	0.00
8,100.00	90.00	179.83	6,973.00	-2,375.59	-1,191.26	2,623.07	0.00	0.00	0.00
8,200.00	90.00	179.83	6,973.00	-2,475.59	-1,190.96	2,718.41	0.00	0.00	0.00
8,300.00	90.00	179.83	6,973.00	-2,575.59	-1,190.67	2,813.75	0.00	0.00	0.00
8,400.00	90.00	179.83	6,973.00	-2,675.59	-1,190.38	2,909.09	0.00	0.00	0.00
8,500.00	90.00	179.83	6,973.00	-2,775.59	-1,190.09	3,004.43	0.00	0.00	0.00
8,600.00	90.00	179.83	6,973.00	-2,875.59	-1,189.79	3,099.77	0.00	0.00	0.00
8,700.00	90.00	179.83	6,973.00	-2,975.59	-1,189.50	3,195.11	0.00	0.00	0.00
8,800.00	90.00	179.83	6,973.00	-3,075.59	-1,189.21	3,290.45	0.00	0.00	0.00
8,900.00	90.00	179.83	6,973.00	-3,175.59	-1,188.91	3,385.79	0.00	0.00	0.00
9,000.00	90.00	179.83	6,973.00	-3,275.59	-1,188.62	3,481.13	0.00	0.00	0.00
9,100.00	90.00	179.83	6,973.00	-3,375.59	-1,188.33	3,576.46	0.00	0.00	0.00
9,200.00	90.00	179.83	6,973.00	-3,475.59	-1,188.04	3,671.80	0.00	0.00	0.00
9,300.00	90.00	179.83	6,973.00	-3,575.58	-1,187.74	3,767.14	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Well:	Becker D17-750	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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)
9,400.00	90.00	179.83	6,973.00	-3,675.58	-1,187.45	3,862.48	0.00	0.00	0.00
9,500.00	90.00	179.83	6,973.00	-3,775.58	-1,187.16	3,957.82	0.00	0.00	0.00
9,600.00	90.00	179.83	6,973.00	-3,875.58	-1,186.86	4,053.16	0.00	0.00	0.00
9,700.00	90.00	179.83	6,973.00	-3,975.58	-1,186.57	4,148.50	0.00	0.00	0.00
9,800.00	90.00	179.83	6,973.00	-4,075.58	-1,186.28	4,243.84	0.00	0.00	0.00
9,900.00	90.00	179.83	6,973.00	-4,175.58	-1,185.99	4,339.18	0.00	0.00	0.00
10,000.00	90.00	179.83	6,973.00	-4,275.58	-1,185.69	4,434.52	0.00	0.00	0.00
10,100.00	90.00	179.83	6,973.00	-4,375.58	-1,185.40	4,529.86	0.00	0.00	0.00
10,200.00	90.00	179.83	6,973.00	-4,475.58	-1,185.11	4,625.20	0.00	0.00	0.00
10,300.00	90.00	179.83	6,973.00	-4,575.58	-1,184.81	4,720.54	0.00	0.00	0.00
10,400.00	90.00	179.83	6,973.00	-4,675.58	-1,184.52	4,815.88	0.00	0.00	0.00
10,500.00	90.00	179.83	6,973.00	-4,775.58	-1,184.23	4,911.22	0.00	0.00	0.00
10,600.00	90.00	179.83	6,973.00	-4,875.58	-1,183.93	5,006.55	0.00	0.00	0.00
10,700.00	90.00	179.83	6,973.00	-4,975.58	-1,183.64	5,101.89	0.00	0.00	0.00
10,800.00	90.00	179.83	6,973.00	-5,075.58	-1,183.35	5,197.23	0.00	0.00	0.00
10,900.00	90.00	179.83	6,973.00	-5,175.58	-1,183.06	5,292.57	0.00	0.00	0.00
11,000.00	90.00	179.83	6,973.00	-5,275.58	-1,182.76	5,387.91	0.00	0.00	0.00
11,100.00	90.00	179.83	6,973.00	-5,375.58	-1,182.47	5,483.25	0.00	0.00	0.00
11,200.00	90.00	179.83	6,973.00	-5,475.58	-1,182.18	5,578.59	0.00	0.00	0.00
11,300.00	90.00	179.83	6,973.00	-5,575.58	-1,181.88	5,673.93	0.00	0.00	0.00
11,400.00	90.00	179.83	6,973.00	-5,675.58	-1,181.59	5,769.27	0.00	0.00	0.00
11,500.00	90.00	179.83	6,973.00	-5,775.58	-1,181.30	5,864.61	0.00	0.00	0.00
11,600.00	90.00	179.83	6,973.00	-5,875.57	-1,181.01	5,959.95	0.00	0.00	0.00
11,700.00	90.00	179.83	6,973.00	-5,975.57	-1,180.71	6,055.29	0.00	0.00	0.00
11,800.00	90.00	179.83	6,973.00	-6,075.57	-1,180.42	6,150.63	0.00	0.00	0.00
11,900.00	90.00	179.83	6,973.00	-6,175.57	-1,180.13	6,245.97	0.00	0.00	0.00
12,000.00	90.00	179.83	6,973.00	-6,275.57	-1,179.83	6,341.31	0.00	0.00	0.00
12,100.00	90.00	179.83	6,973.00	-6,375.57	-1,179.54	6,436.64	0.00	0.00	0.00
12,200.00	90.00	179.83	6,973.00	-6,475.57	-1,179.25	6,531.98	0.00	0.00	0.00
12,300.00	90.00	179.83	6,973.00	-6,575.57	-1,178.96	6,627.32	0.00	0.00	0.00
12,400.00	90.00	179.83	6,973.00	-6,675.57	-1,178.66	6,722.66	0.00	0.00	0.00
12,500.00	90.00	179.83	6,973.00	-6,775.57	-1,178.37	6,818.00	0.00	0.00	0.00
12,600.00	90.00	179.83	6,973.00	-6,875.57	-1,178.08	6,913.34	0.00	0.00	0.00
12,700.00	90.00	179.83	6,973.00	-6,975.57	-1,177.78	7,008.68	0.00	0.00	0.00
12,800.00	90.00	179.83	6,973.00	-7,075.57	-1,177.49	7,104.02	0.00	0.00	0.00
12,900.00	90.00	179.83	6,973.00	-7,175.57	-1,177.20	7,199.36	0.00	0.00	0.00
13,000.00	90.00	179.83	6,973.00	-7,275.57	-1,176.91	7,294.70	0.00	0.00	0.00
13,100.00	90.00	179.83	6,973.00	-7,375.57	-1,176.61	7,390.04	0.00	0.00	0.00
13,200.00	90.00	179.83	6,973.00	-7,475.57	-1,176.32	7,485.38	0.00	0.00	0.00
13,300.00	90.00	179.83	6,973.00	-7,575.57	-1,176.03	7,580.72	0.00	0.00	0.00
13,400.00	90.00	179.83	6,973.00	-7,675.57	-1,175.73	7,676.06	0.00	0.00	0.00
13,500.00	90.00	179.83	6,973.00	-7,775.57	-1,175.44	7,771.40	0.00	0.00	0.00
13,600.00	90.00	179.83	6,973.00	-7,875.57	-1,175.15	7,866.73	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Well:	Becker D17-750	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	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)
13,700.00	90.00	179.83	6,973.00	-7,975.57	-1,174.86	7,962.07	0.00	0.00	0.00
13,800.00	90.00	179.83	6,973.00	-8,075.57	-1,174.56	8,057.41	0.00	0.00	0.00
13,900.00	90.00	179.83	6,973.00	-8,175.57	-1,174.27	8,152.75	0.00	0.00	0.00
14,000.00	90.00	179.83	6,973.00	-8,275.56	-1,173.98	8,248.09	0.00	0.00	0.00
14,100.00	90.00	179.83	6,973.00	-8,375.56	-1,173.68	8,343.43	0.00	0.00	0.00
14,200.00	90.00	179.83	6,973.00	-8,475.56	-1,173.39	8,438.77	0.00	0.00	0.00
14,300.00	90.00	179.83	6,973.00	-8,575.56	-1,173.10	8,534.11	0.00	0.00	0.00
14,400.00	90.00	179.83	6,973.00	-8,675.56	-1,172.81	8,629.45	0.00	0.00	0.00
14,500.00	90.00	179.83	6,973.00	-8,775.56	-1,172.51	8,724.79	0.00	0.00	0.00
14,600.00	90.00	179.83	6,973.00	-8,875.56	-1,172.22	8,820.13	0.00	0.00	0.00
14,700.00	90.00	179.83	6,973.00	-8,975.56	-1,171.93	8,915.47	0.00	0.00	0.00
14,800.00	90.00	179.83	6,973.00	-9,075.56	-1,171.63	9,010.81	0.00	0.00	0.00
14,900.00	90.00	179.83	6,973.00	-9,175.56	-1,171.34	9,106.15	0.00	0.00	0.00
15,000.00	90.00	179.83	6,973.00	-9,275.56	-1,171.05	9,201.49	0.00	0.00	0.00
15,100.00	90.00	179.83	6,973.00	-9,375.56	-1,170.76	9,296.83	0.00	0.00	0.00
15,200.00	90.00	179.83	6,973.00	-9,475.56	-1,170.46	9,392.16	0.00	0.00	0.00
15,300.00	90.00	179.83	6,973.00	-9,575.56	-1,170.17	9,487.50	0.00	0.00	0.00
15,303.42	90.00	179.83	6,973.00	-9,578.98	-1,170.16	9,490.77	0.00	0.00	0.00

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
Becker D17-750 SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,336,070.70	3,259,449.04	40.2521800	-104.5704500
Becker D17-750 KOP - plan hits target center - Point	0.00	0.00	6,587.29	-1,440.67	-1,074.86	1,334,630.03	3,258,374.19	40.2482563	-104.5743546
Becker D17-750 BHL - plan hits target center - Point	0.00	0.00	6,973.00	-9,578.98	-1,170.16	1,326,491.74	3,258,278.88	40.2259198	-104.5750001
Becker D17-750 TPZ - plan hits target center - Point	0.00	0.00	6,973.00	-2,033.49	-1,192.26	1,334,037.21	3,258,256.78	40.2466324	-104.5747973

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Well:	Becker D17-750	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
490.00	490.00	Pierre				
624.00	624.00	Upper Pierre Aquifer Top				
1,540.00	1,540.00	Upper Pierre Aquifer Base				
3,643.70	3,605.00	Parkman				
4,418.46	4,295.00	Sussex				
5,126.96	4,925.00	Shannon				
6,335.90	6,000.00	Teepee Buttes				
7,093.82	6,671.00	Sharon Springs				
7,129.55	6,700.00	Top A Chalk				
7,149.83	6,716.00	Top A Marl				
7,182.49	6,741.00	Top B Chalk				
7,222.12	6,770.00	Top B Marl				
7,312.33	6,830.00	Top C Chalk				
7,363.58	6,860.00	Top C Marl				
7,454.00	6,905.00	Top D Chalk				
7,563.99	6,945.00	Top Ft. Hayes				
7,684.85	6,969.00	Codell				

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	
6996	6587	-254	-190	Start DLS 9.00 TFO -40.17	
7758	6973	-1441	-1075	TPZ/LP at 7757.90 MD	
15,303	6973	-2033	-1192	TD at 15303.42 MD	

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

Mustang

D Section 08

Becker D17-750

Wellbore #1

Plan #1

Anticollision Summary Report

02 October, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Reference Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Becker D17-750	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 #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
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	10/2/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	15,303.42	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
D Section 05						
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	5,263.21	4,967.13	784.39	747.82	21.447	CC
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	5,300.00	5,000.05	784.57	747.71	21.287	ES
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	5,900.00	5,545.24	839.47	798.05	20.265	SF
BECKER #5-13(PA) - Wellbore #1 - No Surveys	5,367.80	5,130.16	1,570.68	1,505.98	24.276	CC
BECKER #5-13(PA) - Wellbore #1 - No Surveys	5,500.00	5,247.71	1,571.84	1,505.51	23.696	ES
BECKER #5-13(PA) - Wellbore #1 - No Surveys	7,050.00	6,625.13	1,751.07	1,665.82	20.541	SF
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	7,264.73	6,731.71	2,078.17	2,026.10	39.905	CC, ES
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	7,550.00	6,856.17	2,115.89	2,061.76	39.090	SF
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	100.00	67.95	602.17	601.93	2,460.731	CC
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	2,400.00	2,366.67	608.45	591.99	36.965	ES
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	3,100.00	3,060.21	676.95	655.75	31.933	SF
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	7,099.34	6,661.83	1,196.10	1,144.93	23.376	CC
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	7,100.00	6,662.43	1,196.10	1,144.92	23.373	ES
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	7,250.00	6,778.83	1,209.21	1,156.81	23.077	SF
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	3,968.33	3,802.00	1,110.18	1,083.21	41.168	CC
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	4,000.00	3,833.17	1,110.24	1,083.04	40.814	ES
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	5,600.00	5,305.84	1,290.71	1,251.71	33.099	SF
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	7,084.83	6,824.30	2,316.69	2,265.06	44.863	CC
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,838.19	2,316.82	2,265.06	44.757	ES
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	7,300.00	6,900.00	2,344.78	2,291.66	44.142	SF
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	3,768.43	3,706.31	353.90	328.05	13.694	CC, ES
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	3,900.00	3,826.87	358.44	331.69	13.401	SF
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	3,446.79	3,412.04	557.53	533.86	23.561	CC
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	3,500.00	3,460.40	557.85	533.82	23.221	ES
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	3,900.00	3,820.80	588.85	562.07	21.989	SF
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	6,585.16	6,189.76	147.37	99.44	3.075	CC
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	6,600.00	6,202.75	147.55	99.42	3.066	ES, SF
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	7,401.01	11,398.00	2,222.31	2,111.33	20.024	CC, ES
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	7,450.00	11,398.00	2,223.39	2,112.26	20.007	SF
Becker Ranch #5E-403 - As Drilled - As Drilled	7,463.72	11,599.00	2,505.31	2,389.31	21.597	CC, ES
Becker Ranch #5E-403 - As Drilled - As Drilled	7,550.00	11,599.00	2,508.86	2,392.43	21.547	SF
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	6,481.65	8,438.00	3,327.75	3,275.47	63.649	CC
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	6,500.00	8,438.00	3,327.80	3,275.45	63.564	ES
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	6,996.37	8,438.00	3,367.32	3,313.41	62.455	SF
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	7,369.35	11,568.80	1,250.67	1,176.36	16.832	CC, ES
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	7,450.00	11,568.80	1,255.54	1,180.67	16.769	SF
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	7,350.00	11,473.00	1,565.74	1,451.88	13.751	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 Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Reference Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Becker D17-750	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 #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 05						
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	7,365.15	11,473.00	1,565.61	1,451.79	13.755	CC, ES
Becker Ranch #5J-323 - Wellbore #1 - As Drilled	7,287.98	11,430.00	937.82	825.04	8.316	CC, ES, SF
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	7,273.15	11,454.00	926.72	853.49	12.655	CC, ES
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	7,300.00	11,454.00	927.33	853.98	12.643	SF
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	7,380.67	11,500.00	1,883.98	1,770.17	16.554	CC, ES, SF
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	7,082.31	11,268.00	171.52	116.17	3.099	CC, ES, SF
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	7,193.20	11,282.50	611.48	540.07	8.562	CC, ES, SF
Becker Ranch #5M-303 - Wellbore #1 - Plan #1	7,186.34	11,462.20	331.78	265.91	5.037	CC, ES, SF
Becker Ranch #5M-323 - Wellbore #1 - Plan #1	7,051.03	11,315.70	476.15	406.53	6.839	CC, ES, SF
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	7,177.59	11,437.50	390.13	325.24	6.013	CC, ES, SF
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	6,722.16	11,257.60	1,315.29	1,244.39	18.550	CC, ES
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	6,800.00	11,257.60	1,317.59	1,246.22	18.461	SF
Becker Ranch #5R-243 - Wellbore #1 - Plan #1	6,924.32	11,231.80	660.64	590.45	9.413	CC, ES
Becker Ranch #5R-243 - Wellbore #1 - Plan #1	6,996.37	11,231.80	664.56	593.74	9.384	SF
Becker Ranch #5R-303 - Wellbore #1 - Plan #1	6,879.68	11,308.90	1,075.07	1,005.03	15.349	CC
Becker Ranch #5R-303 - Wellbore #1 - Plan #1	6,900.00	11,308.90	1,075.26	1,004.98	15.300	ES
Becker Ranch #5R-303 - Wellbore #1 - Plan #1	7,000.00	11,308.90	1,081.78	1,010.50	15.176	SF
Becker Ranch #5R-323 - Wellbore #1 - Plan #1	6,741.44	11,332.80	1,541.23	1,470.77	21.876	CC, ES
Becker Ranch #5R-323 - Wellbore #1 - Plan #1	6,900.00	11,332.80	1,549.36	1,477.92	21.687	SF
Becker Ranch #5R-443 - Wellbore #1 - Plan #1	7,081.91	11,417.20	794.44	724.12	11.297	CC, ES
Becker Ranch #5R-443 - Wellbore #1 - Plan #1	7,150.00	11,417.20	798.15	727.24	11.256	SF
Becker Ranch #5U-243 - Wellbore #1 - Plan #1	6,548.19	11,206.58	1,864.53	1,796.02	27.216	CC, ES
Becker Ranch #5U-243 - Wellbore #1 - Plan #1	6,800.00	11,243.60	1,880.08	1,809.45	26.619	SF
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	6,505.81	11,295.91	2,284.50	2,216.61	33.650	CC, ES
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	6,996.37	11,348.00	2,333.30	2,261.36	32.432	SF
Becker Ranch #5U-443 - Wellbore #1 - Plan #1	6,705.50	11,418.46	2,128.61	2,059.12	30.635	CC, ES
Becker Ranch #5U-443 - Wellbore #1 - Plan #1	7,050.00	11,407.70	2,156.60	2,084.65	29.976	SF
LDS #D08-18D(PR) - Wellbore #1 - MWD Surveys	8,866.35	7,416.06	67.55	-6.14	0.917	Level 1, CC, ES, SF
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	7,460.21	6,876.60	1,267.77	1,214.40	23.754	CC, ES
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	7,600.00	6,922.34	1,279.47	1,225.05	23.509	SF
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	7,398.58	6,998.09	262.86	208.44	4.830	CC
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	7,400.00	6,998.81	262.86	208.41	4.828	ES
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	7,450.00	7,022.33	267.45	211.98	4.821	SF
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	7,630.34	7,146.34	2,772.15	2,715.98	49.353	CC, ES
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	8,600.00	7,163.33	2,985.08	2,921.60	47.022	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Reference Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Becker D17-750	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 #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 08						
Becker D17-715 - Wellbore #1 - Plan #1	2,000.00	1,998.00	111.65	97.73	8.021	CC, ES
Becker D17-715 - Wellbore #1 - Plan #1	2,300.00	2,291.14	120.15	104.20	7.536	SF
Becker D17-725 - Wellbore #1 - Plan #1	2,200.00	2,198.00	89.32	74.02	5.838	CC
Becker D17-725 - Wellbore #1 - Plan #1	2,300.00	2,297.37	89.66	73.66	5.605	ES
Becker D17-725 - Wellbore #1 - Plan #1	2,500.00	2,495.25	94.36	77.03	5.445	SF
Becker D17-730 - Wellbore #1 - Plan #1	2,400.00	2,399.00	66.99	50.25	4.002	CC, ES
Becker D17-730 - Wellbore #1 - Plan #1	2,500.00	2,498.96	68.06	50.65	3.908	SF
Becker D17-735 - Wellbore #1 - Plan #1	2,400.00	2,400.00	44.66	27.92	2.668	CC, ES
Becker D17-735 - Wellbore #1 - Plan #1	2,500.00	2,500.02	45.74	28.30	2.622	SF
Becker D17-745 - Wellbore #1 - Plan #1	2,449.83	2,450.20	19.43	2.41	1.142	Level 2, CC, ES
Becker D17-745 - Wellbore #1 - Plan #1	2,500.00	2,500.23	19.81	2.45	1.141	Level 2, SF
Becker D17-755 - Wellbore #1 - Plan #1	7,755.44	7,741.77	336.56	277.86	5.734	CC
Becker D17-755 - Wellbore #1 - Plan #1	15,303.42	15,276.83	338.72	178.40	2.113	ES, SF
Becker D17-765 - Wellbore #1 - Plan #1	7,768.54	7,481.98	987.80	925.53	15.863	CC
Becker D17-765 - Wellbore #1 - Plan #1	15,303.42	15,013.14	993.90	808.87	5.372	ES, SF
Becker D17-770 - Wellbore #1 - Plan #1	7,767.90	7,626.48	1,290.32	1,227.63	20.581	CC
Becker D17-770 - Wellbore #1 - Plan #1	15,303.42	15,147.72	1,299.33	1,113.09	6.977	ES, SF
Becker D17-775 - Wellbore #1 - Plan #1	7,771.37	7,472.70	1,615.77	1,553.87	26.105	CC
Becker D17-775 - Wellbore #1 - Plan #1	15,303.42	15,002.33	1,627.01	1,440.72	8.734	ES, SF
Becker D17-785 - Wellbore #1 - Plan #1	7,754.49	7,358.65	2,263.27	2,204.29	38.374	CC
Becker D17-785 - Wellbore #1 - Plan #1	15,303.42	14,905.64	2,279.02	2,115.91	13.972	ES, SF
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	10,759.86	6,958.00	1,854.33	1,745.62	17.057	CC, ES
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	11,000.00	6,958.00	1,869.82	1,758.86	16.851	SF
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	12,345.12	6,947.00	1,931.90	1,811.94	16.105	CC, ES
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	12,600.00	6,947.00	1,948.64	1,826.24	15.921	SF
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	11,819.35	6,938.00	793.90	677.86	6.842	CC, ES
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	11,900.00	6,938.00	797.98	680.86	6.813	SF
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	12,092.74	6,935.00	640.43	522.43	5.427	CC, ES, SF
HSR-LDS #16-8(SI) - Wellbore #1 - No Surveys	12,206.34	6,934.00	1,998.19	1,879.37	16.817	CC, ES
HSR-LDS #16-8(SI) - Wellbore #1 - No Surveys	12,300.00	6,934.00	2,000.39	1,881.26	16.792	SF
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	8,314.72	6,936.00	781.00	687.43	8.346	CC, ES
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	8,400.00	6,936.00	785.64	691.23	8.322	SF
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	8,468.91	6,961.00	1,918.81	1,824.23	20.288	CC, ES
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	8,700.00	6,961.00	1,932.67	1,836.39	20.074	SF
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	9,621.29	6,954.00	2,080.54	1,979.38	20.566	CC, ES
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	9,900.00	6,954.00	2,099.13	1,995.61	20.277	SF
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	9,559.85	6,934.00	679.57	578.96	6.755	CC, ES
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	9,600.00	6,934.00	680.75	579.60	6.730	SF
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	10,647.47	6,929.00	1,955.66	1,847.97	18.160	CC, ES
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	10,700.00	6,929.00	1,956.37	1,848.51	18.138	SF
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	10,926.36	6,933.00	723.78	614.13	6.601	CC, ES, SF
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	10,780.66	6,935.00	734.65	626.00	6.761	CC
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	10,800.00	6,935.00	734.91	625.96	6.745	ES, SF
LDS #18-8(SI) - Wellbore #1 - No Surveys	9,010.90	6,956.00	1,320.17	1,222.66	13.539	CC, ES
LDS #18-8(SI) - Wellbore #1 - No Surveys	9,200.00	6,956.00	1,333.64	1,234.45	13.445	SF
LDS #20-8(SI) - Wellbore #1 - No Surveys	11,552.26	6,932.00	1,298.05	1,183.99	11.381	CC, ES, SF
LDS D #09-30(SI) - Wellbore #1 - No Surveys	4,932.84	4,702.38	2,180.89	2,121.89	36.964	CC
LDS D #09-30(SI) - Wellbore #1 - No Surveys	5,100.00	4,851.03	2,182.23	2,121.19	35.749	ES
LDS D #09-30(SI) - Wellbore #1 - No Surveys	7,900.00	6,923.00	2,436.75	2,345.51	26.709	SF
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	4,978.22	4,742.74	2,193.91	2,134.36	36.838	CC
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	5,100.00	4,851.03	2,194.62	2,133.58	35.951	ES
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	7,900.00	6,923.00	2,433.02	2,341.75	26.657	SF
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	8,544.77	6,850.00	1,581.46	1,523.74	27.403	CC, ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Reference Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Becker D17-750	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 #1	Offset TVD Reference:	Offset Datum

Summary

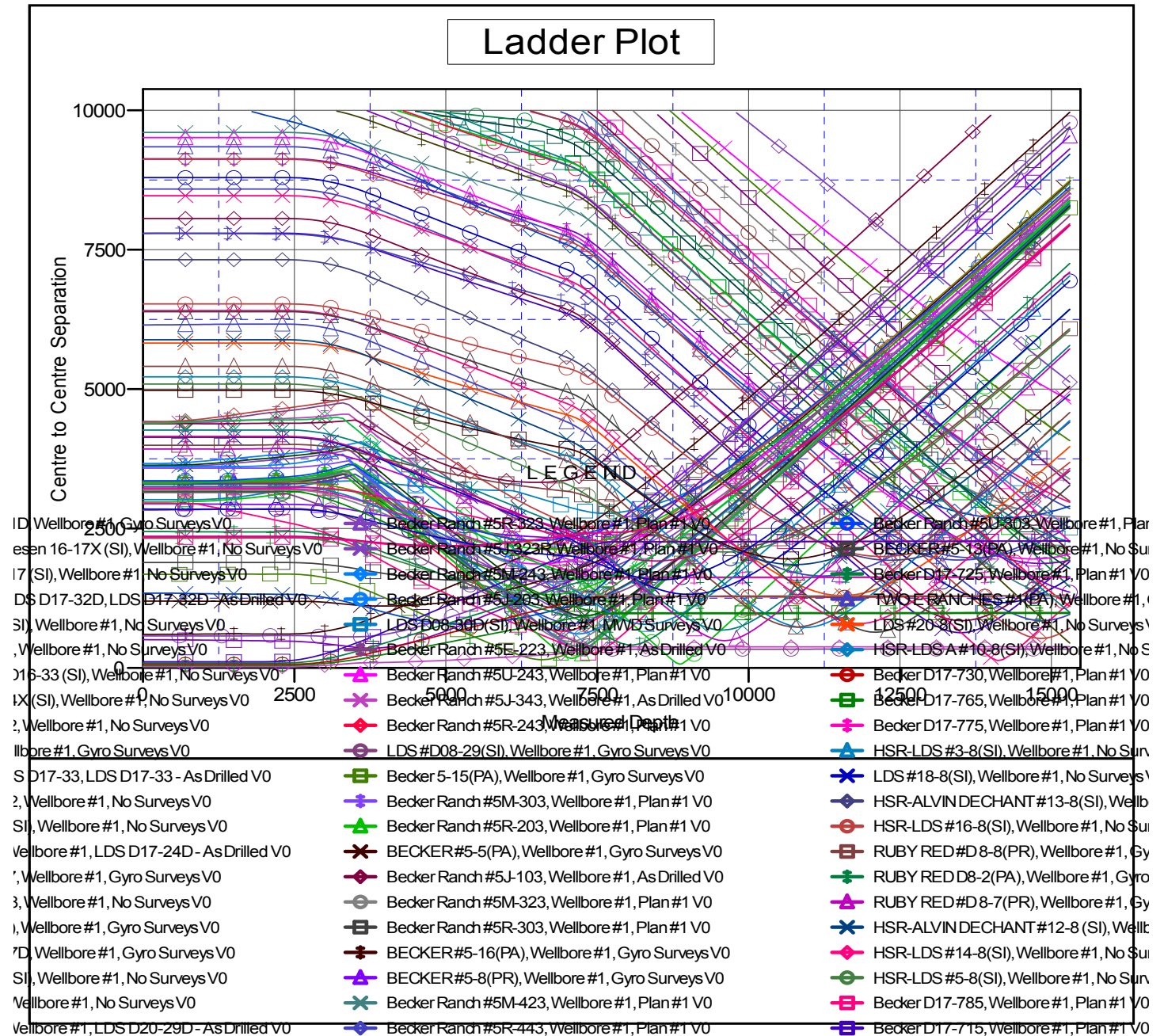
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 08						
RUBY RED #D 8-1D(PA) - Wellbore #1 - Gyro Surveys	8,600.00	6,850.00	1,582.42	1,524.60	27.367	SF
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	9,600.00	6,930.08	488.79	424.37	7.588	ES, SF
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	9,603.87	6,930.04	488.77	424.38	7.590	CC
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	9,606.94	6,850.00	2,137.75	2,073.88	33.471	CC, ES
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	9,800.00	6,850.00	2,146.45	2,082.02	33.313	SF
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	8,060.79	6,850.00	410.60	356.92	7.649	CC, ES, SF
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	11,214.53	6,800.00	1,649.05	1,573.82	21.920	CC, ES
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	11,500.00	6,800.00	1,673.58	1,595.86	21.534	SF
D Section 17						
Butterball D19-27D - Wellbore #1 - Gyro Surveys	15,303.42	7,187.59	4,796.44	4,694.12	46.877	CC, ES, SF
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	15,303.42	6,948.00	2,970.11	2,831.56	21.437	CC, ES, SF
HSR LDS 6-17 (SI) - Wellbore #1 - No Surveys	14,848.86	6,946.00	846.93	707.99	6.096	CC, ES
HSR LDS 6-17 (SI) - Wellbore #1 - No Surveys	14,900.00	6,946.00	848.47	708.79	6.074	SF
HSR LDS B5-17 (SI) - Wellbore #1 - No Surveys	14,702.27	6,947.00	1,953.49	1,815.67	14.175	CC, ES
HSR LDS B5-17 (SI) - Wellbore #1 - No Surveys	14,900.00	6,947.00	1,963.47	1,823.67	14.045	SF
HSR Mike Guttersen 16-17X (SI) - Wellbore #1 - No Su	15,303.42	6,953.00	2,991.94	2,867.16	23.979	CC, ES, SF
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	15,303.42	6,700.00	1,105.57	1,021.11	13.091	CC, ES, SF
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	15,303.42	6,951.00	2,272.38	2,168.24	21.820	CC, ES, SF
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	15,303.42	6,950.86	1,930.38	1,828.34	18.919	CC, ES, SF
HSR-LDS 3-17 (SI) - Wellbore #1 - No Surveys	13,524.66	6,941.00	848.17	719.43	6.588	CC, ES
HSR-LDS 3-17 (SI) - Wellbore #1 - No Surveys	13,600.00	6,941.00	851.51	721.75	6.562	SF
HSR-LDS 4-17 (SI) - Wellbore #1 - No Surveys	13,707.91	6,943.00	1,974.83	1,844.68	15.174	CC, ES
HSR-LDS 4-17 (SI) - Wellbore #1 - No Surveys	13,900.00	6,943.00	1,984.15	1,852.07	15.022	SF
LDS 18-17 (SI) - Wellbore #1 - No Surveys	14,196.65	6,946.00	1,171.79	1,037.88	8.750	CC
LDS 18-17 (SI) - Wellbore #1 - No Surveys	14,200.00	6,946.00	1,171.80	1,037.84	8.747	ES
LDS 18-17 (SI) - Wellbore #1 - No Surveys	14,300.00	6,946.00	1,176.34	1,041.20	8.704	SF
LDS D17-13 - Wellbore #1 - Gyro Surveys	15,303.42	6,900.00	3,387.24	3,308.93	43.255	CC, ES, SF
LDS D17-18 (SI) - Wellbore #1 - No Surveys	14,129.32	6,944.00	133.62	0.24	1.002	Level 2, CC, ES, SF
LDS D17-20 - Wellbore #1 - No Surveys	15,303.42	6,952.00	1,359.26	1,221.58	9.873	CC, ES, SF
LDS D17-21 - Wellbore #1 - No Surveys	15,303.42	6,948.00	446.70	349.57	4.599	CC, ES, SF
LDS D17-22 (SI) - Wellbore #1 - No Surveys	15,303.42	6,943.00	1,245.91	1,103.31	8.737	CC, ES, SF
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	15,303.42	7,078.90	1,454.78	1,397.95	25.599	CC, ES, SF
LDS D17-25D - Wellbore #1 - LDS D17-25D - As Drilled	15,303.42	7,188.96	1,781.05	1,696.02	20.948	CC, ES, SF
LDS D17-31D - LDS D17-31D - LDS D17-31D - As Drille	14,219.33	7,188.97	2,692.20	2,584.80	25.068	CC, ES
LDS D17-31D - LDS D17-31D - LDS D17-31D - As Drille	14,600.00	7,188.15	2,718.98	2,608.87	24.693	SF
LDS D17-32D - LDS D17-32D - LDS D17-32D - As Drille	15,303.42	7,012.50	2,708.33	2,603.00	25.712	CC, ES, SF
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	15,303.42	6,958.94	2,858.18	2,765.79	30.936	CC, ES, SF
LDS D17-7 - Wellbore #1 - No Surveys	14,824.71	6,942.00	528.37	389.65	3.809	CC, ES, SF
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	15,303.42	7,157.21	3,301.49	3,232.50	47.855	CC, ES, SF
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	15,303.42	7,009.07	4,075.79	3,997.65	52.160	CC, ES, SF
LDS RED D17-11 (SI) - Wellbore #1 - No Surveys	15,303.42	6,949.00	999.46	895.65	9.628	CC, ES, SF
LDS Red D17-12 - Wellbore #1 - No Surveys	15,303.42	6,952.00	2,259.56	2,122.73	16.514	CC, ES, SF
LDS Red D17-14X (SI) - Wellbore #1 - No Surveys	15,303.42	6,953.00	2,090.45	1,997.91	22.592	CC, ES, SF
LDS Red D17-3J - Wellbore #1 - Gyro Surveys	15,303.42	6,955.73	2,508.01	2,429.02	31.751	CC, ES, SF
LDS White D17-1 - Wellbore #1 - Gyro Surveys	13,481.21	6,917.22	1,935.07	1,843.66	21.169	CC, ES
LDS White D17-1 - Wellbore #1 - Gyro Surveys	13,600.00	6,917.22	1,938.71	1,846.98	21.134	SF
LDS White D17-2 - Wellbore #1 - No Surveys	13,500.00	6,939.00	632.07	503.50	4.916	ES, SF
LDS White D17-2 - Wellbore #1 - No Surveys	13,502.99	6,939.00	632.06	503.51	4.917	CC
LDS White D17-8 - Wellbore #1 - No Surveys	14,834.94	6,937.00	1,874.61	1,735.85	13.510	CC, ES
LDS White D17-8 - Wellbore #1 - No Surveys	14,900.00	6,937.00	1,875.73	1,736.79	13.499	SF
Thomson D20-31D - Wellbore #1 - Gyro Surveys	15,303.42	6,905.09	5,127.23	5,052.36	68.483	CC, ES, SF
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	15,303.42	6,935.14	1,985.64	1,901.25	23.529	CC, ES, 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 Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Reference Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Becker D17-750	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 #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 4777.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000



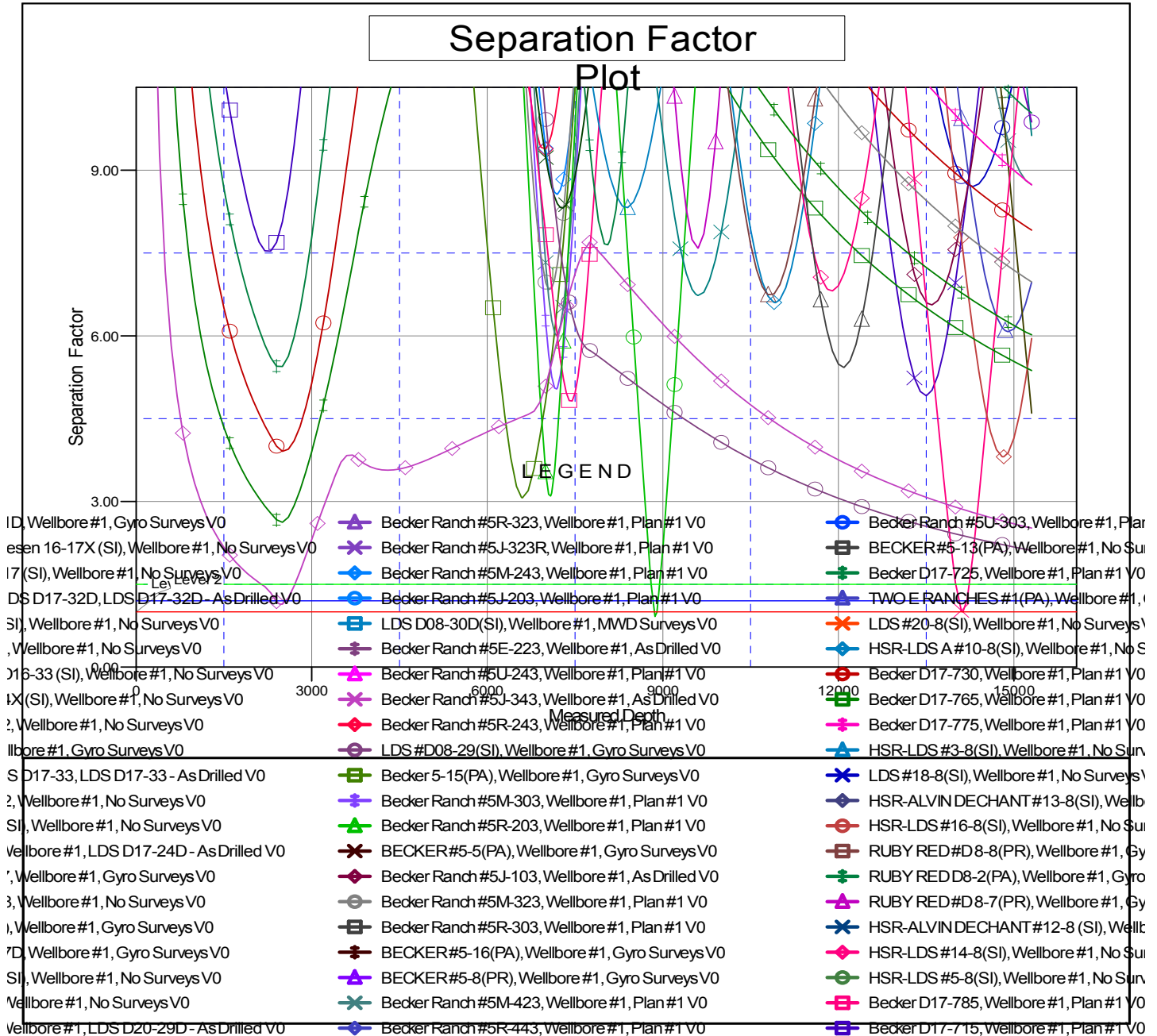
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Becker D17-750
Project:	Mustang	TVD Reference:	KB @ 4777.00ft
Reference Site:	D Section 08	MD Reference:	KB @ 4777.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Becker D17-750	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 #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 4777.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Becker D17-750
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.60°



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