

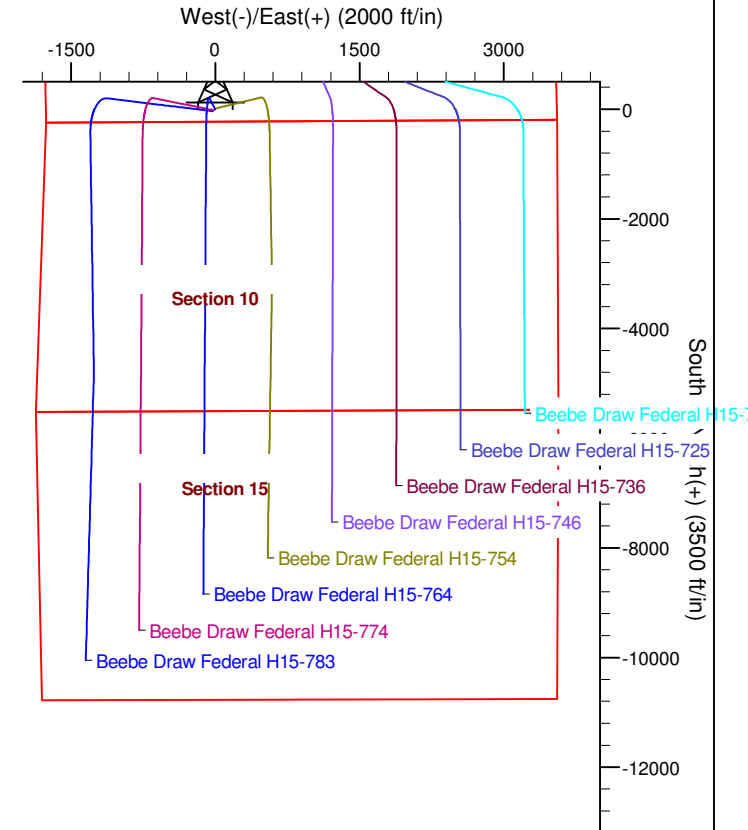
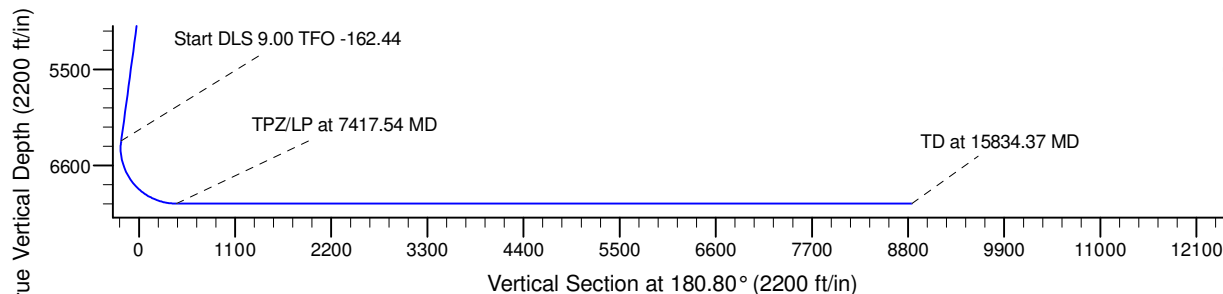
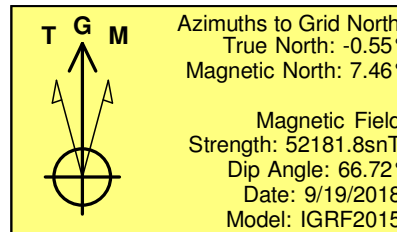
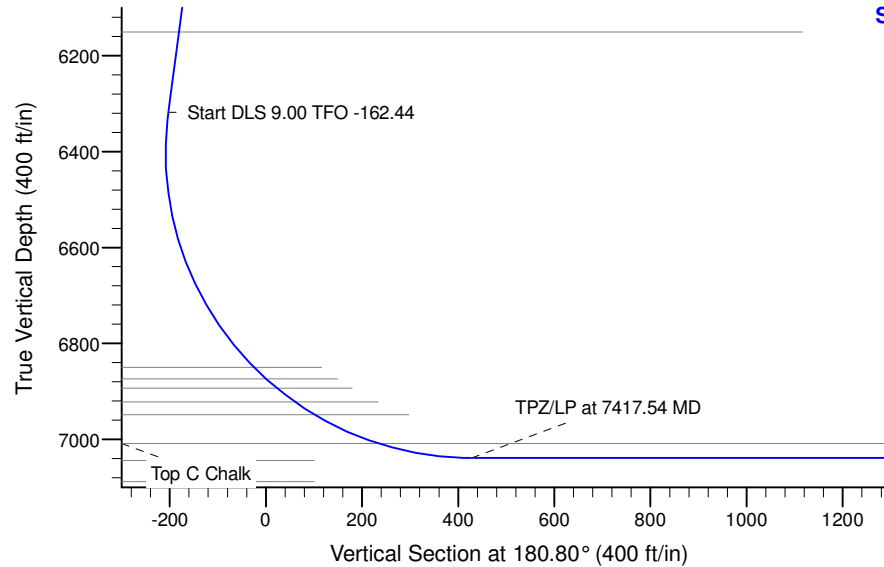
Project: Mustang
Site: H Section 03
Well: Beebe Draw Federal H15-764
Wellbore: Wellbore #1
Design: Plan #1

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	4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	0.00	0.00	
3	5000.03	8.00	342.80	4998.73	26.64	-8.25	2.00	342.80	-26.52	
4	6332.73	8.00	342.80	6318.46	203.83	-63.10	0.00	0.00	-202.92	
5	7417.54	90.00	180.19	7039.00	-427.04	-95.52	9.00	-162.44	428.34	TPZ/LP Beebe Draw Federal H15-764
6	15834.37	90.00	180.19	7039.00	-8843.83	-124.08	0.00	0.00	8844.70	BHL Beebe Draw Federal H15-764



WELL DETAILS: Beebe Draw Federal H15-764				
0.00	0.00	1334216.14	3236555.74	40.2477190
				-104.6525300
Plan: Plan #1 (Beebe Draw Federal H15-764/Wellbore #1)				
Created By: Colby Baxter		Date: 6:59, September 27 2018		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		

Northern Region - DJ Basin

Mustang

H Section 03

Beebe Draw Federal H15-764

Wellbore #1

Plan: Plan #1

Standard Survey Report

26 September, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Well:	Beebe Draw Federal H15-764	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		H Section 03			
Site Position:		Northing:	1,338,347.30 usft	Latitude:	40.2590500
From:	Lat/Long	Easting:	3,236,893.05 usft	Longitude:	-104.6511800
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.55 °

Well	Beebe Draw Federal H15-764					
Well Position	+N/-S	0.00 ft	Northing:	1,334,216.14 usft	Latitude:	40.2477190
	+E/-W	0.00 ft	Easting:	3,236,555.75 usft	Longitude:	-104.6525300
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,804.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/19/2018	8.01	66.72	52,181.75597040

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	14.00	0.00	0.00	180.80	

Survey Tool Program	Date	9/26/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	15,834.37	Plan #1 (Wellbore #1)	2_MWD+IFR1	A005Mb: IFR declination correction only	

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 Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Well:	Beebe Draw Federal H15-764	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	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	2.00	342.80	4,699.98	1.66	-0.52	-1.66	2.00	2.00	0.00
4,800.00	4.00	342.80	4,799.84	6.66	-2.06	-6.64	2.00	2.00	0.00
4,900.00	6.00	342.80	4,899.45	14.99	-4.64	-14.93	2.00	2.00	0.00
5,000.00	8.00	342.80	4,998.70	26.63	-8.25	-26.51	2.00	2.00	0.00
5,000.03	8.00	342.80	4,998.73	26.63	-8.25	-26.52	2.00	2.00	0.00
5,100.00	8.00	342.80	5,097.73	39.92	-12.36	-39.75	0.00	0.00	0.00
5,200.00	8.00	342.80	5,196.76	53.22	-16.48	-52.99	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Well:	Beebe Draw Federal H15-764	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	8.00	342.80	5,295.78	66.52	-20.59	-66.22	0.00	0.00	0.00
5,400.00	8.00	342.80	5,394.81	79.81	-24.71	-79.46	0.00	0.00	0.00
5,500.00	8.00	342.80	5,493.84	93.11	-28.83	-92.70	0.00	0.00	0.00
5,600.00	8.00	342.80	5,592.86	106.40	-32.94	-105.93	0.00	0.00	0.00
5,700.00	8.00	342.80	5,691.89	119.70	-37.06	-119.17	0.00	0.00	0.00
5,800.00	8.00	342.80	5,790.92	132.99	-41.17	-132.41	0.00	0.00	0.00
5,900.00	8.00	342.80	5,889.94	146.29	-45.29	-145.64	0.00	0.00	0.00
6,000.00	8.00	342.80	5,988.97	159.59	-49.41	-158.88	0.00	0.00	0.00
6,100.00	8.00	342.80	6,088.00	172.88	-53.52	-172.12	0.00	0.00	0.00
6,200.00	8.00	342.80	6,187.02	186.18	-57.64	-185.35	0.00	0.00	0.00
6,300.00	8.00	342.80	6,286.05	199.47	-61.75	-198.59	0.00	0.00	0.00
6,332.73	8.00	342.80	6,318.46	203.83	-63.10	-202.92	0.00	0.00	0.00
6,400.00	2.88	303.47	6,385.42	209.23	-65.90	-208.29	9.00	-7.62	-58.46
6,500.00	7.80	198.06	6,485.10	204.16	-70.10	-203.16	9.00	4.92	-105.41
6,600.00	16.59	188.30	6,582.76	183.53	-74.28	-182.48	9.00	8.79	-9.76
6,700.00	25.53	185.24	6,675.99	147.87	-78.32	-146.77	9.00	8.94	-3.06
6,800.00	34.50	183.70	6,762.49	98.06	-82.12	-96.90	9.00	8.97	-1.54
6,900.00	43.48	182.73	6,840.14	35.31	-85.60	-34.11	9.00	8.98	-0.97
7,000.00	52.46	182.04	6,907.03	-38.83	-88.66	40.07	9.00	8.99	-0.69
7,100.00	61.45	181.50	6,961.51	-122.53	-91.23	123.79	9.00	8.99	-0.54
7,200.00	70.44	181.05	7,002.23	-213.73	-93.25	215.01	9.00	8.99	-0.45
7,300.00	79.43	180.64	7,028.19	-310.18	-94.67	311.47	9.00	8.99	-0.41
7,400.00	88.42	180.26	7,038.76	-409.51	-95.45	410.81	9.00	8.99	-0.38
7,417.54	90.00	180.19	7,039.00	-427.05	-95.52	428.34	9.00	8.99	-0.38
7,500.00	90.00	180.19	7,039.00	-509.51	-95.80	510.80	0.00	0.00	0.00
7,600.00	90.00	180.19	7,039.00	-609.51	-96.14	610.79	0.00	0.00	0.00
7,700.00	90.00	180.19	7,039.00	-709.51	-96.48	710.79	0.00	0.00	0.00
7,800.00	90.00	180.19	7,039.00	-809.51	-96.82	810.78	0.00	0.00	0.00
7,900.00	90.00	180.19	7,039.00	-909.51	-97.16	910.78	0.00	0.00	0.00
8,000.00	90.00	180.19	7,039.00	-1,009.51	-97.50	1,010.77	0.00	0.00	0.00
8,100.00	90.00	180.19	7,039.00	-1,109.51	-97.84	1,110.77	0.00	0.00	0.00
8,200.00	90.00	180.19	7,039.00	-1,209.51	-98.18	1,210.76	0.00	0.00	0.00
8,300.00	90.00	180.19	7,039.00	-1,309.51	-98.51	1,310.76	0.00	0.00	0.00
8,400.00	90.00	180.19	7,039.00	-1,409.51	-98.85	1,410.75	0.00	0.00	0.00
8,500.00	90.00	180.19	7,039.00	-1,509.51	-99.19	1,510.74	0.00	0.00	0.00
8,600.00	90.00	180.19	7,039.00	-1,609.50	-99.53	1,610.74	0.00	0.00	0.00
8,700.00	90.00	180.19	7,039.00	-1,709.50	-99.87	1,710.73	0.00	0.00	0.00
8,800.00	90.00	180.19	7,039.00	-1,809.50	-100.21	1,810.73	0.00	0.00	0.00
8,900.00	90.00	180.19	7,039.00	-1,909.50	-100.55	1,910.72	0.00	0.00	0.00
9,000.00	90.00	180.19	7,039.00	-2,009.50	-100.89	2,010.72	0.00	0.00	0.00
9,100.00	90.00	180.19	7,039.00	-2,109.50	-101.23	2,110.71	0.00	0.00	0.00
9,200.00	90.00	180.19	7,039.00	-2,209.50	-101.57	2,210.70	0.00	0.00	0.00
9,300.00	90.00	180.19	7,039.00	-2,309.50	-101.91	2,310.70	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Well:	Beebe Draw Federal H15-764	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	180.19	7,039.00	-2,409.50	-102.25	2,410.69	0.00	0.00	0.00
9,500.00	90.00	180.19	7,039.00	-2,509.50	-102.59	2,510.69	0.00	0.00	0.00
9,600.00	90.00	180.19	7,039.00	-2,609.50	-102.92	2,610.68	0.00	0.00	0.00
9,700.00	90.00	180.19	7,039.00	-2,709.50	-103.26	2,710.68	0.00	0.00	0.00
9,800.00	90.00	180.19	7,039.00	-2,809.50	-103.60	2,810.67	0.00	0.00	0.00
9,900.00	90.00	180.19	7,039.00	-2,909.50	-103.94	2,910.66	0.00	0.00	0.00
10,000.00	90.00	180.19	7,039.00	-3,009.50	-104.28	3,010.66	0.00	0.00	0.00
10,100.00	90.00	180.19	7,039.00	-3,109.50	-104.62	3,110.65	0.00	0.00	0.00
10,200.00	90.00	180.19	7,039.00	-3,209.50	-104.96	3,210.65	0.00	0.00	0.00
10,300.00	90.00	180.19	7,039.00	-3,309.49	-105.30	3,310.64	0.00	0.00	0.00
10,400.00	90.00	180.19	7,039.00	-3,409.49	-105.64	3,410.64	0.00	0.00	0.00
10,500.00	90.00	180.19	7,039.00	-3,509.49	-105.98	3,510.63	0.00	0.00	0.00
10,600.00	90.00	180.19	7,039.00	-3,609.49	-106.32	3,610.63	0.00	0.00	0.00
10,700.00	90.00	180.19	7,039.00	-3,709.49	-106.66	3,710.62	0.00	0.00	0.00
10,800.00	90.00	180.19	7,039.00	-3,809.49	-107.00	3,810.61	0.00	0.00	0.00
10,900.00	90.00	180.19	7,039.00	-3,909.49	-107.34	3,910.61	0.00	0.00	0.00
11,000.00	90.00	180.19	7,039.00	-4,009.49	-107.67	4,010.60	0.00	0.00	0.00
11,100.00	90.00	180.19	7,039.00	-4,109.49	-108.01	4,110.60	0.00	0.00	0.00
11,200.00	90.00	180.19	7,039.00	-4,209.49	-108.35	4,210.59	0.00	0.00	0.00
11,300.00	90.00	180.19	7,039.00	-4,309.49	-108.69	4,310.59	0.00	0.00	0.00
11,400.00	90.00	180.19	7,039.00	-4,409.49	-109.03	4,410.58	0.00	0.00	0.00
11,500.00	90.00	180.19	7,039.00	-4,509.49	-109.37	4,510.57	0.00	0.00	0.00
11,600.00	90.00	180.19	7,039.00	-4,609.49	-109.71	4,610.57	0.00	0.00	0.00
11,700.00	90.00	180.19	7,039.00	-4,709.49	-110.05	4,710.56	0.00	0.00	0.00
11,800.00	90.00	180.19	7,039.00	-4,809.49	-110.39	4,810.56	0.00	0.00	0.00
11,900.00	90.00	180.19	7,039.00	-4,909.49	-110.73	4,910.55	0.00	0.00	0.00
12,000.00	90.00	180.19	7,039.00	-5,009.48	-111.07	5,010.55	0.00	0.00	0.00
12,100.00	90.00	180.19	7,039.00	-5,109.48	-111.41	5,110.54	0.00	0.00	0.00
12,200.00	90.00	180.19	7,039.00	-5,209.48	-111.75	5,210.53	0.00	0.00	0.00
12,300.00	90.00	180.19	7,039.00	-5,309.48	-112.08	5,310.53	0.00	0.00	0.00
12,400.00	90.00	180.19	7,039.00	-5,409.48	-112.42	5,410.52	0.00	0.00	0.00
12,500.00	90.00	180.19	7,039.00	-5,509.48	-112.76	5,510.52	0.00	0.00	0.00
12,600.00	90.00	180.19	7,039.00	-5,609.48	-113.10	5,610.51	0.00	0.00	0.00
12,700.00	90.00	180.19	7,039.00	-5,709.48	-113.44	5,710.51	0.00	0.00	0.00
12,800.00	90.00	180.19	7,039.00	-5,809.48	-113.78	5,810.50	0.00	0.00	0.00
12,900.00	90.00	180.19	7,039.00	-5,909.48	-114.12	5,910.50	0.00	0.00	0.00
13,000.00	90.00	180.19	7,039.00	-6,009.48	-114.46	6,010.49	0.00	0.00	0.00
13,100.00	90.00	180.19	7,039.00	-6,109.48	-114.80	6,110.48	0.00	0.00	0.00
13,200.00	90.00	180.19	7,039.00	-6,209.48	-115.14	6,210.48	0.00	0.00	0.00
13,300.00	90.00	180.19	7,039.00	-6,309.48	-115.48	6,310.47	0.00	0.00	0.00
13,400.00	90.00	180.19	7,039.00	-6,409.48	-115.82	6,410.47	0.00	0.00	0.00
13,500.00	90.00	180.19	7,039.00	-6,509.48	-116.16	6,510.46	0.00	0.00	0.00
13,600.00	90.00	180.19	7,039.00	-6,609.48	-116.50	6,610.46	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Well:	Beebe Draw Federal H15-764	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	180.19	7,039.00	-6,709.48	-116.83	6,710.45	0.00	0.00	0.00
13,800.00	90.00	180.19	7,039.00	-6,809.47	-117.17	6,810.44	0.00	0.00	0.00
13,900.00	90.00	180.19	7,039.00	-6,909.47	-117.51	6,910.44	0.00	0.00	0.00
14,000.00	90.00	180.19	7,039.00	-7,009.47	-117.85	7,010.43	0.00	0.00	0.00
14,100.00	90.00	180.19	7,039.00	-7,109.47	-118.19	7,110.43	0.00	0.00	0.00
14,200.00	90.00	180.19	7,039.00	-7,209.47	-118.53	7,210.42	0.00	0.00	0.00
14,300.00	90.00	180.19	7,039.00	-7,309.47	-118.87	7,310.42	0.00	0.00	0.00
14,400.00	90.00	180.19	7,039.00	-7,409.47	-119.21	7,410.41	0.00	0.00	0.00
14,500.00	90.00	180.19	7,039.00	-7,509.47	-119.55	7,510.40	0.00	0.00	0.00
14,600.00	90.00	180.19	7,039.00	-7,609.47	-119.89	7,610.40	0.00	0.00	0.00
14,700.00	90.00	180.19	7,039.00	-7,709.47	-120.23	7,710.39	0.00	0.00	0.00
14,800.00	90.00	180.19	7,039.00	-7,809.47	-120.57	7,810.39	0.00	0.00	0.00
14,900.00	90.00	180.19	7,039.00	-7,909.47	-120.91	7,910.38	0.00	0.00	0.00
15,000.00	90.00	180.19	7,039.00	-8,009.47	-121.24	8,010.38	0.00	0.00	0.00
15,100.00	90.00	180.19	7,039.00	-8,109.47	-121.58	8,110.37	0.00	0.00	0.00
15,200.00	90.00	180.19	7,039.00	-8,209.47	-121.92	8,210.37	0.00	0.00	0.00
15,300.00	90.00	180.19	7,039.00	-8,309.47	-122.26	8,310.36	0.00	0.00	0.00
15,400.00	90.00	180.19	7,039.00	-8,409.47	-122.60	8,410.35	0.00	0.00	0.00
15,500.00	90.00	180.19	7,039.00	-8,509.46	-122.94	8,510.35	0.00	0.00	0.00
15,600.00	90.00	180.19	7,039.00	-8,609.46	-123.28	8,610.34	0.00	0.00	0.00
15,700.00	90.00	180.19	7,039.00	-8,709.46	-123.62	8,710.34	0.00	0.00	0.00
15,800.00	90.00	180.19	7,039.00	-8,809.46	-123.96	8,810.33	0.00	0.00	0.00
15,834.37	90.00	180.19	7,039.00	-8,843.83	-124.08	8,844.70	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
TPZ/LP Beebe Draw Federal H15-764 - hit/miss target - Shape - Point	0.00	0.00	7,039.00	-427.05	-95.52	1,333,789.10	3,236,460.23	40.2465493	-104.6528868
BHL Beebe Draw Federal H15-764 - plan hits target center - Point	0.00	0.00	7,039.00	-8,843.83	-124.08	1,325,372.33	3,236,431.67	40.2234462	-104.6532770

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Well:	Beebe Draw Federal H15-764	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 (°)	
395.00	395.00	Pierre				
687.00	687.00	Upper Pierre Aquifer Top				
1,609.00	1,609.00	Upper Pierre Aquifer Base				
3,859.00	3,859.00	Parkman				
4,456.00	4,456.00	Sussex				
5,251.75	5,248.00	Shannon				
6,163.62	6,151.00	Teepee Buttes				
6,913.72	6,850.00	Sharon Springs				
6,948.44	6,874.00	Top A Chalk				
6,977.49	6,893.00	Top A Marl				
7,025.22	6,922.00	Top B Chalk				
7,074.75	6,949.00	Top B Marl				
7,221.23	7,009.00	Top C Chalk				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
4600	4600	0	0	Start Build 2.00	
6333	6318	27	-8	Start DLS 9.00 TFO -162.44	
7418	7039	204	-63	TPZ/LP at 7417.54 MD	
15,834	7039	-427	-96	TD at 15834.37 MD	

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang

H Section 03

Beebe Draw Federal H15-764

Wellbore #1

Plan #1

Anticollision Summary Report

26 September, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Reference Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Beebe Draw Federal H15-764	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	9/26/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	15,834.37	Plan #1 (Wellbore #1)	2_MWD+IFR1	A005Mb: IFR declination correction only

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						
H Section 03						
Beebe 17-3(PR) - Wellbore #1 - Wellbore #1	6,398.95	6,309.03	4,202.77	4,158.23	94.369	CC
Beebe 17-3(PR) - Wellbore #1 - Wellbore #1	6,400.00	6,310.25	4,202.77	4,158.22	94.353	ES
Beebe 17-3(PR) - Wellbore #1 - Wellbore #1	6,800.00	6,694.81	4,305.06	4,258.01	91.488	SF
ARISTOCRAT #24-3C(PR) - Wellbore #1 - Wellbore #1	6,409.59	6,354.00	449.99	-1,796.64	0.200	Level 1, CC
ARISTOCRAT #24-3C(PR) - Wellbore #1 - Wellbore #1	6,450.00	6,394.36	451.22	-1,809.67	0.200	Level 1, SF
ARISTOCRAT #24-3C(PR) - Wellbore #1 - Wellbore #1	6,650.00	6,589.07	493.00	-1,836.65	0.212	Level 1, ES
ARISTOCRAT #33-3C(PR) - Wellbore #1 - Wellbore #1	6,390.00	6,315.43	2,222.24	2,144.47	28.573	CC
ARISTOCRAT #33-3C(PR) - Wellbore #1 - Wellbore #1	6,400.00	6,325.42	2,222.30	2,144.40	28.529	ES
ARISTOCRAT #33-3C(PR) - Wellbore #1 - Wellbore #1	6,650.00	6,570.07	2,258.84	2,178.03	27.951	SF
ARISTOCRAT #43-3C(PR) - Wellbore #1 - Wellbore #1	6,368.16	6,279.66	3,319.59	3,242.21	42.903	CC
ARISTOCRAT #43-3C(PR) - Wellbore #1 - Wellbore #1	6,400.00	6,311.42	3,319.97	3,242.20	42.692	ES
ARISTOCRAT #43-3C(PR) - Wellbore #1 - Wellbore #1	6,900.00	6,766.14	3,422.42	3,339.23	41.141	SF
ARISTOCRAT ANGUS #11-3(PR) - Wellbore #1 - Wellbo	6,424.28	6,350.68	4,236.01	1,990.52	1.886	CC
ARISTOCRAT ANGUS #11-3(PR) - Wellbore #1 - Wellbo	6,650.00	6,571.07	4,274.45	1,951.13	1.840	ES
ARISTOCRAT ANGUS #11-3(PR) - Wellbore #1 - Wellbo	6,800.00	6,703.49	4,340.63	1,970.58	1.831	SF
ARISTOCRAT ANGUS #1-3(PR) - Wellbore #1 - Wellbor	6,357.26	6,283.81	2,577.90	356.03	1.160	Level 2, CC
ARISTOCRAT ANGUS #1-3(PR) - Wellbore #1 - Wellbor	6,800.00	6,703.49	2,639.56	269.45	1.114	Level 2, ES
ARISTOCRAT ANGUS #1-3(PR) - Wellbore #1 - Wellbor	6,850.00	6,743.55	2,654.22	269.96	1.113	Level 2, SF
ARISTOCRAT ANGUS #14-3 (PR) - Wellbore #1 - Wellb	5,042.29	5,015.58	1,133.38	-639.90	0.639	Level 1, CC, ES, SF
ARISTOCRAT ANGUS #14-3A(PR) - Wellbore #1 - Wellb	6,651.84	6,600.79	962.57	-1,371.16	0.412	Level 1, CC
ARISTOCRAT ANGUS #14-3A(PR) - Wellbore #1 - Wellb	6,850.00	6,771.55	971.17	-1,422.88	0.406	Level 1, SF
ARISTOCRAT ANGUS #14-3A(PR) - Wellbore #1 - Wellb	7,000.00	6,876.03	994.86	-1,436.14	0.409	Level 1, ES
ARISTOCRAT ANGUS #2-0-3(PR) - Wellbore #1 - Wellb	6,422.14	6,349.55	3,928.93	1,683.84	1.750	CC
ARISTOCRAT ANGUS #2-0-3(PR) - Wellbore #1 - Wellb	6,650.00	6,572.07	3,968.72	1,645.04	1.708	ES
ARISTOCRAT ANGUS #2-0-3(PR) - Wellbore #1 - Wellb	6,750.00	6,662.22	4,010.40	1,654.91	1.703	SF
ARISTOCRAT ANGUS #21-3(PR) - Wellbore #1 - Wellbo	6,414.88	6,346.28	3,942.42	1,698.48	1.757	CC
ARISTOCRAT ANGUS #21-3(PR) - Wellbore #1 - Wellbo	6,650.00	6,576.07	3,985.14	1,660.05	1.714	ES
ARISTOCRAT ANGUS #21-3(PR) - Wellbore #1 - Wellbo	6,750.00	6,666.22	4,028.19	1,671.29	1.709	SF
ARISTOCRAT ANGUS #2-4-3X(PR) - Wellbore #1 - Well	6,402.75	6,330.17	2,371.46	133.19	1.060	Level 2, CC
ARISTOCRAT ANGUS #2-4-3X(PR) - Wellbore #1 - Well	6,650.00	6,572.07	2,412.98	89.28	1.038	Level 2, ES, SF
ARISTOCRAT ANGUS #34-3C(PR) - Wellbore #1 - Wellb	5,660.49	5,604.76	1,827.94	-153.75	0.922	Level 1, CC
ARISTOCRAT ANGUS #34-3C(PR) - Wellbore #1 - Wellb	6,850.00	6,754.55	1,888.15	-499.96	0.791	Level 1, SF
ARISTOCRAT ANGUS #34-3C(PR) - Wellbore #1 - Wellb	6,900.00	6,792.14	1,900.23	-501.17	0.791	Level 1, ES
ARISTOCRAT ANGUS #4-0-3(PR) - Wellbore #1 - Wellb	6,415.13	6,331.54	3,997.71	1,758.93	1.786	CC
ARISTOCRAT ANGUS #4-0-3(PR) - Wellbore #1 - Wellb	6,650.00	6,561.07	4,040.38	1,720.54	1.742	ES
ARISTOCRAT ANGUS #4-0-3(PR) - Wellbore #1 - Wellb	6,750.00	6,651.22	4,083.43	1,731.78	1.736	SF
ARISTOCRAT ANGUS #44-3C(PR) - Wellbore #1 - No S	4,600.00	4,539.00	2,988.78	2,932.91	53.498	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 Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Reference Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Beebe Draw Federal H15-764	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
Offset Well - Wellbore - Design						
H Section 03						
ARISTOCRAT ANGUS #44-3C(PR) - Wellbore #1 - No S	4,900.00	4,838.45	2,990.72	2,931.18	50.225	ES
ARISTOCRAT ANGUS #44-3C(PR) - Wellbore #1 - No S	7,150.00	6,922.66	3,112.87	3,027.66	36.535	SF
ARISTOCRAT ANGUS #6-4-3(PR) - Wellbore #1 - Wellb	6,389.81	6,312.24	2,273.56	41.62	1.019	Level 2, CC
ARISTOCRAT ANGUS #6-4-3(PR) - Wellbore #1 - Wellb	6,700.00	6,612.99	2,325.27	-12.89	0.994	Level 1, ES, SF
ARISTOCRAT ANGUS #7-6-3(PR) - Wellbore #1 - Wellb	6,356.12	6,282.67	2,590.85	369.38	1.166	Level 2, CC
ARISTOCRAT ANGUS #7-6-3(PR) - Wellbore #1 - Wellb	6,800.00	6,703.49	2,651.87	281.76	1.119	Level 2, ES
ARISTOCRAT ANGUS #7-6-3(PR) - Wellbore #1 - Wellb	6,850.00	6,743.55	2,666.35	282.08	1.118	Level 2, SF
Aristocrat Angus 0-8-3(PR) - Wellbore #1 - Wellbore #1	1,181.62	1,176.25	943.35	935.05	113.615	CC
Aristocrat Angus 0-8-3(PR) - Wellbore #1 - Wellbore #1	1,200.00	1,188.77	943.41	934.99	112.018	ES
Aristocrat Angus 0-8-3(PR) - Wellbore #1 - Wellbore #1	7,500.00	7,146.31	1,653.94	1,600.87	31.165	SF
Aristocrat Angus 2-0-3 - Wellbore #1 - Actual	100.00	52.29	4,146.71	4,146.49	10,000.000	CC
Aristocrat Angus 2-0-3 - Wellbore #1 - Actual	700.00	633.26	4,148.33	4,144.94	1,221.575	ES
Aristocrat Angus 2-0-3 - Wellbore #1 - Actual	6,800.00	6,856.15	4,926.02	4,878.44	103.544	SF
ARISTOCRAT ANGUS 2-3(PR) - Wellbore #1 - Wellbore	6,426.30	6,480.91	3,455.59	3,406.04	69.748	CC, ES
ARISTOCRAT ANGUS 2-3(PR) - Wellbore #1 - Wellbore	6,650.00	6,709.65	3,493.97	3,443.15	68.757	SF
Aristocrat Angus 3-3(PR) - Wellbore #1 - Wellbore #1	6,429.42	6,507.92	979.72	930.09	19.739	CC, ES
Aristocrat Angus 3-3(PR) - Wellbore #1 - Wellbore #1	6,500.00	6,579.14	983.37	933.32	19.648	SF
Aristocrat Angus 4-0-3 - Aristocrat Angus 4-0-3 - Actual	100.00	24.78	4,196.54	4,196.38	10,000.000	CC, ES
Aristocrat Angus 4-0-3 - Aristocrat Angus 4-0-3 - Actual	6,750.00	6,769.51	4,914.60	4,866.30	101.761	SF
Aristocrat Angus 4-0-3 (DO NOT USE) - Original Drilling	6,412.10	6,397.28	3,629.19	3,581.95	76.830	CC, ES
Aristocrat Angus 4-0-3 (DO NOT USE) - Original Drilling	6,700.00	6,668.16	3,692.01	3,642.99	75.318	SF
ARISTOCRAT ANGUS 4-2-3(PR) - Wellbore #1 - Wellbo	6,412.10	6,397.28	3,629.20	3,581.96	76.825	CC, ES
ARISTOCRAT ANGUS 4-2-3(PR) - Wellbore #1 - Wellbo	6,700.00	6,668.16	3,692.02	3,643.00	75.313	SF
Aristocrat Angus 6-4-3(PR) - Wellbore #1 - Wellbore #1	6,389.81	6,312.24	2,273.56	2,195.82	29.244	CC
Aristocrat Angus 6-4-3(PR) - Wellbore #1 - Wellbore #1	6,400.00	6,322.42	2,273.62	2,195.75	29.197	ES
Aristocrat Angus 6-4-3(PR) - Wellbore #1 - Wellbore #1	6,700.00	6,612.99	2,325.27	2,243.94	28.591	SF
ARISTOCRAT ANGUS 6-8-3(PR) - Wellbore #1 - Wellbo	4,722.35	4,860.75	2,197.05	2,154.12	51.173	CC
ARISTOCRAT ANGUS 6-8-3(PR) - Wellbore #1 - Wellbo	4,900.00	5,060.96	2,198.28	2,153.48	49.066	ES
ARISTOCRAT ANGUS 6-8-3(PR) - Wellbore #1 - Wellbo	7,300.00	7,188.69	2,276.89	2,217.90	38.600	SF
BB DRAW H #3-14J(PR) - Wellbore #1 - Wellbore #1	6,412.61	6,359.01	432.37	-1,816.02	0.192	Level 1, CC
BB DRAW H #3-14J(PR) - Wellbore #1 - Wellbore #1	6,450.00	6,396.36	433.45	-1,828.13	0.192	Level 1, SF
BB DRAW H #3-14J(PR) - Wellbore #1 - Wellbore #1	6,650.00	6,591.07	475.40	-1,854.94	0.204	Level 1, ES
BB DRAW H #3-6J(SI) - Wellbore #1 - Wellbore #1	6,413.95	6,365.36	3,028.32	777.71	1.346	Level 3, CC
BB DRAW H #3-6J(SI) - Wellbore #1 - Wellbore #1	6,650.00	6,596.07	3,071.20	739.11	1.317	Level 3, ES
BB DRAW H #3-6J(SI) - Wellbore #1 - Wellbore #1	6,700.00	6,641.99	3,090.95	742.66	1.316	Level 3, SF
BB Draw H 03-02J(PA) - Wellbore #1 - Wellbore #1	6,430.08	6,408.54	3,814.98	3,769.97	84.756	CC, ES
BB Draw H 03-02J(PA) - Wellbore #1 - Wellbore #1	6,750.00	6,704.31	3,892.98	3,845.99	82.855	SF
BB Draw H3-3J(PR) - Wellbore #1 - Wellbore #1	6,457.61	6,440.38	792.83	747.69	17.563	CC, ES
BB Draw H3-3J(PR) - Wellbore #1 - Wellbore #1	6,550.00	6,533.04	797.13	751.37	17.421	SF
Beebe Draw Federal H15-715 - Wellbore #1 - Plan #1	2,000.00	2,006.00	1,518.80	1,504.91	109.311	CC
Beebe Draw Federal H15-715 - Wellbore #1 - Plan #1	2,100.00	2,090.73	1,519.34	1,504.79	104.460	ES
Beebe Draw Federal H15-715 - Wellbore #1 - Plan #1	13,200.00	13,128.58	3,399.36	3,246.76	22.276	SF
Beebe Draw Federal H15-725 - Wellbore #1 - Plan #1	2,400.00	2,396.00	1,526.08	1,509.36	91.239	CC
Beebe Draw Federal H15-725 - Wellbore #1 - Plan #1	2,600.00	2,588.11	1,526.58	1,508.49	84.367	ES
Beebe Draw Federal H15-725 - Wellbore #1 - Plan #1	13,600.00	13,591.51	2,697.10	2,535.33	16.673	SF
Beebe Draw Federal H15-736 - Wellbore #1 - Plan #1	3,609.67	3,648.75	1,501.11	1,475.47	58.548	CC
Beebe Draw Federal H15-736 - Wellbore #1 - Plan #1	3,700.00	3,734.41	1,501.38	1,475.06	57.037	ES
Beebe Draw Federal H15-736 - Wellbore #1 - Plan #1	14,000.00	14,054.11	2,004.75	1,832.65	11.649	SF
Beebe Draw Federal H15-746 - Wellbore #1 - Plan #1	5,618.46	5,710.91	1,214.84	1,173.68	29.515	CC
Beebe Draw Federal H15-746 - Wellbore #1 - Plan #1	14,500.00	14,607.15	1,332.75	1,148.43	7.231	ES
Beebe Draw Federal H15-746 - Wellbore #1 - Plan #1	14,600.00	14,620.65	1,335.73	1,150.44	7.209	SF
Beebe Draw Federal H15-754 - Wellbore #1 - Plan #1	2,400.00	2,396.00	22.49	5.76	1.345	Level 3, CC, ES, SF
Beebe Draw Federal H15-774 - Wellbore #1 - Plan #1	2,200.00	2,200.00	22.49	7.18	1.469	Level 3, 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 Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Reference Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Beebe Draw Federal H15-764	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
H Section 03						
Beebe Draw Federal H15-774 - Wellbore #1 - Plan #1	2,300.00	2,299.72	23.08	7.06	1.441	Level 3, ES, SF
Beebe Draw Federal H15-783 - Wellbore #1 - Plan #1	2,000.00	2,000.00	44.98	31.10	3.242	CC, ES
Beebe Draw Federal H15-783 - Wellbore #1 - Plan #1	2,100.00	2,099.30	45.73	31.15	3.137	SF
Gun Club 43-3 #1(PA) - Wellbore #1 - Wellbore #1	6,399.66	6,296.05	5,158.35	5,113.84	115.904	CC
Gun Club 43-3 #1(PA) - Wellbore #1 - Wellbore #1	6,400.00	6,296.48	5,158.35	5,113.84	115.897	ES
Gun Club 43-3 #1(PA) - Wellbore #1 - Wellbore #1	6,700.00	6,596.50	5,216.16	5,169.69	112.244	SF
Gun Club UPRR 31-3 2(PA) - Wellbore #1 - Wellbore #1	6,406.72	6,313.70	4,495.35	4,450.75	100.798	CC, ES
Gun Club UPRR 31-3 2(PA) - Wellbore #1 - Wellbore #1	6,750.00	6,638.20	4,579.15	4,532.41	97.952	SF
Moser UPRR 32-3 #1(PA) - Wellbore #1 - Wellbore #1	6,407.01	6,336.35	3,177.58	3,132.91	71.132	CC, ES
Moser UPRR 32-3 #1(PA) - Wellbore #1 - Wellbore #1	6,700.00	6,611.13	3,236.61	3,190.09	69.568	SF
Moser UPRR 42-3 #2(PA) - Wellbore #1 - Wellbore #1	6,395.67	6,328.72	4,130.96	4,086.33	92.563	CC
Moser UPRR 42-3 #2(PA) - Wellbore #1 - Wellbore #1	6,400.00	6,332.47	4,130.97	4,086.32	92.504	ES
Moser UPRR 42-3 #2(PA) - Wellbore #1 - Wellbore #1	6,750.00	6,638.32	4,198.86	4,152.08	89.755	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Reference Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Beebe Draw Federal H15-764	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)	Between Ellipses (ft)	Separation Factor	Warning
H Section 10						
ARISTOCRAT #21-10C(PR) - Wellbore #1 - Wellbore #1	7,926.87	7,013.00	287.38	198.82	3.245	CC, ES, SF
ARISTOCRAT #31-10C(PR) - Wellbore #1 - Wellbore #1	7,928.44	6,994.00	1,681.30	1,592.90	19.018	CC, ES
ARISTOCRAT #31-10C(PR) - Wellbore #1 - Wellbore #1	8,100.00	6,994.00	1,690.03	1,600.83	18.946	SF
ARISTOCRAT #41-10C(PR) - Wellbore #1 - Wellbore #1	7,799.41	6,977.00	3,222.32	3,134.63	36.747	CC
ARISTOCRAT #41-10C(PR) - Wellbore #1 - Wellbore #1	7,800.00	6,977.00	3,222.32	3,134.63	36.746	ES
ARISTOCRAT #41-10C(PR) - Wellbore #1 - Wellbore #1	8,400.00	6,977.00	3,277.81	3,187.20	36.173	SF
ARISTOCRAT ANGUS #1-6-10(PR) - Wellbore #1 - Wellbo	7,907.96	7,004.00	1,547.59	1,459.19	17.507	CC, ES
ARISTOCRAT ANGUS #1-10(PR) - Wellbore #1 - Wellbo	8,000.00	7,004.00	1,550.33	1,461.51	17.455	SF
ARISTOCRAT ANGUS #13-10(PR) - Wellbore #1 - Wellb	10,666.47	7,020.00	1,201.28	1,091.75	10.968	CC, ES
ARISTOCRAT ANGUS #13-10(PR) - Wellbore #1 - Wellb	10,800.00	7,020.00	1,208.68	1,098.10	10.931	SF
ARISTOCRAT ANGUS #1-6-10(PR) - Wellbore #1 - Well	10,702.18	7,022.00	1,201.93	1,092.06	10.939	CC, ES
ARISTOCRAT ANGUS #1-6-10(PR) - Wellbore #1 - Well	10,800.00	7,022.00	1,205.91	1,095.22	10.894	SF
ARISTOCRAT ANGUS #21-10(PR) - Wellbore #1 - Wellb	4,600.00	4,567.00	907.53	851.42	16.174	CC, ES
ARISTOCRAT ANGUS #21-10(PR) - Wellbore #1 - Wellb	5,000.03	4,965.73	935.41	874.39	15.330	SF
ARISTOCRAT ANGUS #42-10(PR) - Wellbore #1 - No Su	9,069.46	6,982.00	3,386.89	3,291.43	35.480	CC
ARISTOCRAT ANGUS #42-10(PR) - Wellbore #1 - No Su	9,100.00	6,982.00	3,387.03	3,291.34	35.397	ES
ARISTOCRAT ANGUS #42-10(PR) - Wellbore #1 - No Su	9,900.00	6,982.00	3,487.24	3,385.79	34.373	SF
ARISTOCRAT ANGUS #5-2-10(PR) - Wellbore #1 - Well	7,919.48	7,004.00	1,558.63	1,470.18	17.621	CC, ES
ARISTOCRAT ANGUS #5-2-10(PR) - Wellbore #1 - Well	8,000.00	7,004.00	1,560.71	1,471.89	17.572	SF
ARISTOCRAT ANGUS #7-2-10(PR) - Wellbore #1 - Well	9,039.66	6,984.00	3,380.64	3,285.39	35.492	CC, ES
ARISTOCRAT ANGUS #7-2-10(PR) - Wellbore #1 - Well	9,800.00	6,984.00	3,465.09	3,364.34	34.392	SF
Aristocrat Angus 14-10 - Wellbore #1 - Wellbore #1 - As	11,745.60	7,033.78	1,213.79	1,130.55	14.582	CC, ES
Aristocrat Angus 14-10 - Wellbore #1 - Wellbore #1 - As	11,900.00	7,033.03	1,223.57	1,139.17	14.497	SF
Aristocrat Angus 6-4-10(PR) - Wellbore #1 - MWD Surve	9,679.18	7,101.39	2,437.41	2,371.04	36.723	CC
Aristocrat Angus 6-4-10(PR) - Wellbore #1 - MWD Surve	9,700.00	7,100.74	2,437.50	2,371.02	36.662	ES
Aristocrat Angus 6-4-10(PR) - Wellbore #1 - MWD Surve	10,100.00	7,087.61	2,473.43	2,405.01	36.148	SF
ARISTOCRAT ANGUS FEDERAL #0-4-10(PR) - Wellbor	9,827.60	7,140.88	1,682.96	1,613.62	24.271	CC, ES
ARISTOCRAT ANGUS FEDERAL #0-4-10(PR) - Wellbor	10,000.00	7,141.94	1,691.76	1,621.42	24.050	SF
ARISTOCRAT ANGUS FEDERAL #1-2-10(PR) - Wellbor	7,568.23	7,006.00	517.08	429.99	5.937	CC, ES, SF
ARISTOCRAT ANGUS FEDERAL #2-10(PR) - Wellbore	7,589.00	7,006.00	517.09	429.93	5.933	CC, ES
ARISTOCRAT ANGUS FEDERAL #2-10(PR) - Wellbore	7,600.00	7,006.00	517.20	430.01	5.932	SF
ARISTOCRAT ANGUS FEDERAL #2-4-10(PR) - Wellbor	10,631.07	7,017.00	1,168.23	1,059.06	10.701	CC, ES
ARISTOCRAT ANGUS FEDERAL #2-4-10(PR) - Wellbor	10,700.00	7,017.00	1,170.26	1,060.50	10.662	SF
FEDERAL #11-10(PR) - Wellbore #1 - No Surveys	7,593.07	7,001.00	606.65	519.52	6.963	CC, ES
FEDERAL #11-10(PR) - Wellbore #1 - No Surveys	7,600.00	7,001.00	606.69	519.54	6.962	SF
FEDERAL #12-10(PR) - Wellbore #1 - Wellbore #1	8,893.85	7,022.00	87.87	-6.64	0.930	Level 1, CC, ES, SF
FEDERAL #22-10(PR) - Wellbore #1 - Wellbore #1	8,897.18	7,021.00	65.49	-29.03	0.693	Level 1, CC, ES, SF
FEDERAL #32-10(PR) - Wellbore #1 - Wellbore #1	9,010.17	6,992.00	1,872.10	1,777.00	19.686	CC, ES
FEDERAL #32-10(PR) - Wellbore #1 - Wellbore #1	9,200.00	6,992.00	1,881.70	1,785.27	19.513	SF
FRICO #23-10(PR) - Wellbore #1 - Wellbore #1	9,984.70	7,015.00	359.00	255.71	3.476	CC, ES
FRICO #23-10(PR) - Wellbore #1 - Wellbore #1	10,000.00	7,015.00	359.32	255.94	3.475	SF
Frico 28-15 - Original Drilling - Original Drilling - As Drille	12,575.40	7,406.26	811.55	708.26	7.857	CC
Frico 28-15 - Original Drilling - Original Drilling - As Drille	12,600.00	7,406.62	811.92	706.61	7.709	ES
Frico 28-15 - Original Drilling - Original Drilling - As Drille	12,900.00	7,411.04	874.04	746.31	6.842	SF
HSR-BEEBE DRAW #14-10(PA) - Wellbore #1 - Wellbor	12,121.49	7,015.00	1,196.47	1,072.89	9.681	CC, ES
HSR-BEEBE DRAW #14-10(PA) - Wellbore #1 - Wellbor	12,200.00	7,015.00	1,199.05	1,074.77	9.648	SF
HSR-BEEBE DRAW #4-15(PR) - Wellbore #1 - Wellbore	13,209.94	7,050.00	1,052.95	945.24	9.776	CC, ES, SF
HSR-Beebe Draw 3-15 - Original Drilling - Original Drillin	13,197.19	7,314.15	991.43	880.11	8.906	CC
HSR-Beebe Draw 3-15 - Original Drilling - Original Drillin	13,200.00	7,314.02	991.43	880.10	8.905	ES, SF
HSR-FRICO #10-10(PR) - Wellbore #1 - Wellbore #1	10,093.82	7,018.00	653.57	549.29	6.267	CC
HSR-FRICO #10-10(PR) - Wellbore #1 - Wellbore #1	10,100.00	7,018.00	653.60	549.27	6.265	ES, SF
HSR-FRICO #15-10(PR) - Wellbore #1 - Wellbore #1	10,119.54	7,019.00	637.15	532.63	6.096	CC, ES, SF
HSR-FRICO #16-10(PR) - Wellbore #1 - Wellbore #1	10,148.96	7,020.00	615.20	510.41	5.871	CC, ES, SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Reference Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Beebe Draw Federal H15-764	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
H Section 10						
HSR-OVIATT #11-10(PR) - Wellbore #1 - Wellbore #1	12,117.45	7,014.00	1,165.81	1,042.27	9.437	CC, ES
HSR-OVIATT #11-10(PR) - Wellbore #1 - Wellbore #1	12,200.00	7,014.00	1,168.73	1,044.48	9.406	SF
REI #11-10(PR) - Wellbore #1 - Wellbore #1	9,970.67	7,015.00	316.94	213.77	3.072	CC, ES, SF
REI #35-10(PR) - Wellbore #1 - Wellbore #1	12,435.55	7,172.94	347.06	254.93	3.767	CC, ES, SF
REI #38-9(PR) - Wellbore #1 - Wellbore #1	12,466.69	7,128.00	1,930.91	1,838.99	21.005	CC
REI #38-9(PR) - Wellbore #1 - Wellbore #1	12,500.00	7,127.45	1,931.20	1,838.89	20.921	ES
REI #38-9(PR) - Wellbore #1 - Wellbore #1	12,800.00	7,122.54	1,959.46	1,864.48	20.631	SF
REI FEDERAL #25-10(PA) - Wellbore #1 - Wellbore #1	10,400.00	7,822.16	1,083.41	993.46	12.044	SF
REI FEDERAL #25-10(PA) - Wellbore #1 - Wellbore #1	10,500.00	7,823.72	1,075.68	987.38	12.182	ES
REI FEDERAL #25-10(PA) - Wellbore #1 - Wellbore #1	10,533.55	7,824.25	1,075.15	987.48	12.263	CC
H Section 15						
BEEBE DRAW 41-15 #2(PA) - Wellbore #1 - No Surveys	12,829.83	5,475.00	1,535.73	1,470.39	23.503	CC, ES
BEEBE DRAW 41-15 #2(PA) - Wellbore #1 - No Surveys	13,400.00	5,475.00	1,638.16	1,564.59	22.270	SF
BEEBE DRAW CATL. CO 32-15 #1(PA) - Wellbore #1 - N	12,938.35	5,153.00	1,864.17	1,798.83	28.532	CC, ES
BEEBE DRAW CATL. CO 32-15 #1(PA) - Wellbore #1 - N	13,600.00	5,153.00	1,978.11	1,904.53	26.886	SF
Frico 10-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,793.26	7,737.50	1,717.44	1,588.15	13.284	CC
Frico 10-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,800.00	7,737.18	1,717.45	1,588.07	13.274	ES
Frico 10-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	7,735.57	1,717.93	1,588.07	13.229	SF
Frico 11-15 - Original Drilling - Original Drilling - As Drille	15,770.09	7,152.69	203.99	78.47	1.625	CC, ES, SF
Frico 1-15XHZ - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	6,940.00	1,787.65	1,714.62	24.477	CC, ES, SF
Frico 14-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	7,066.09	1,329.15	1,250.17	16.828	CC, ES, SF
Frico 15-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	7,580.84	2,071.55	1,898.35	11.961	CC, ES, SF
Frico 16-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	6,548.74	3,043.65	2,917.29	24.087	CC, ES, SF
Frico 20-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	6,670.46	2,282.91	2,160.49	18.648	CC, ES, SF
Frico 22-15 - Original Drilling - Original Drilling - As Drille	15,173.23	7,062.15	398.89	279.43	3.339	CC, ES
Frico 22-15 - Original Drilling - Original Drilling - As Drille	15,200.00	7,062.05	399.79	280.06	3.339	SF
Frico 23-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	7,376.85	1,242.94	1,080.97	7.674	CC, ES, SF
Frico 25-15 - Original Drilling - Original Drilling - As Drille	15,206.63	7,454.28	814.87	689.59	6.505	CC
Frico 25-15 - Original Drilling - Original Drilling - As Drille	15,300.00	7,454.22	820.20	687.56	6.184	ES
Frico 25-15 - Original Drilling - Original Drilling - As Drille	15,500.00	7,454.09	866.07	718.10	5.853	SF
Frico 36-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	7,243.35	2,143.62	2,032.80	19.343	CC, ES, SF
Frico 37-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	7,532.28	2,992.53	2,821.82	17.530	CC, ES, SF
Frico 9-15 - Original Drilling - Original Drilling - As Drilled	14,300.00	6,600.00	2,880.60	2,715.82	17.482	SF
Frico 9-15 - Original Drilling - Original Drilling - As Drilled	15,785.79	6,628.88	2,467.94	2,342.11	19.614	CC
Frico 9-15 - Original Drilling - Original Drilling - As Drilled	15,834.37	6,629.49	2,468.42	2,340.85	19.350	ES
Frico State 31-15 - Original Drilling - Original Drilling - As	13,972.75	7,115.00	1,662.62	1,553.57	15.247	CC
Frico State 31-15 - Original Drilling - Original Drilling - As	14,000.00	7,114.17	1,662.85	1,553.57	15.217	ES
Frico State 31-15 - Original Drilling - Original Drilling - As	14,100.00	7,111.05	1,667.48	1,557.56	15.169	SF
HSR-Frico 12-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,812.68	7,019.08	1,058.70	933.91	8.483	CC, ES
HSR-Frico 12-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	7,019.02	1,058.92	933.91	8.471	SF
HSR-Frico 13-15 - Wellbore #1 - Wellbore #1 - As Drilled	15,834.37	7,022.78	1,668.68	1,573.70	17.569	CC, ES, SF
Wardell Gerald J GU 1 - Wellbore #1 - Wellbore #1 - As D	15,834.37	6,906.42	5,590.68	5,538.59	107.324	CC, ES, SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Reference Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Beebe Draw Federal H15-764	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 @ 4834.00ft

Offset Depths are relative to Offset Datum

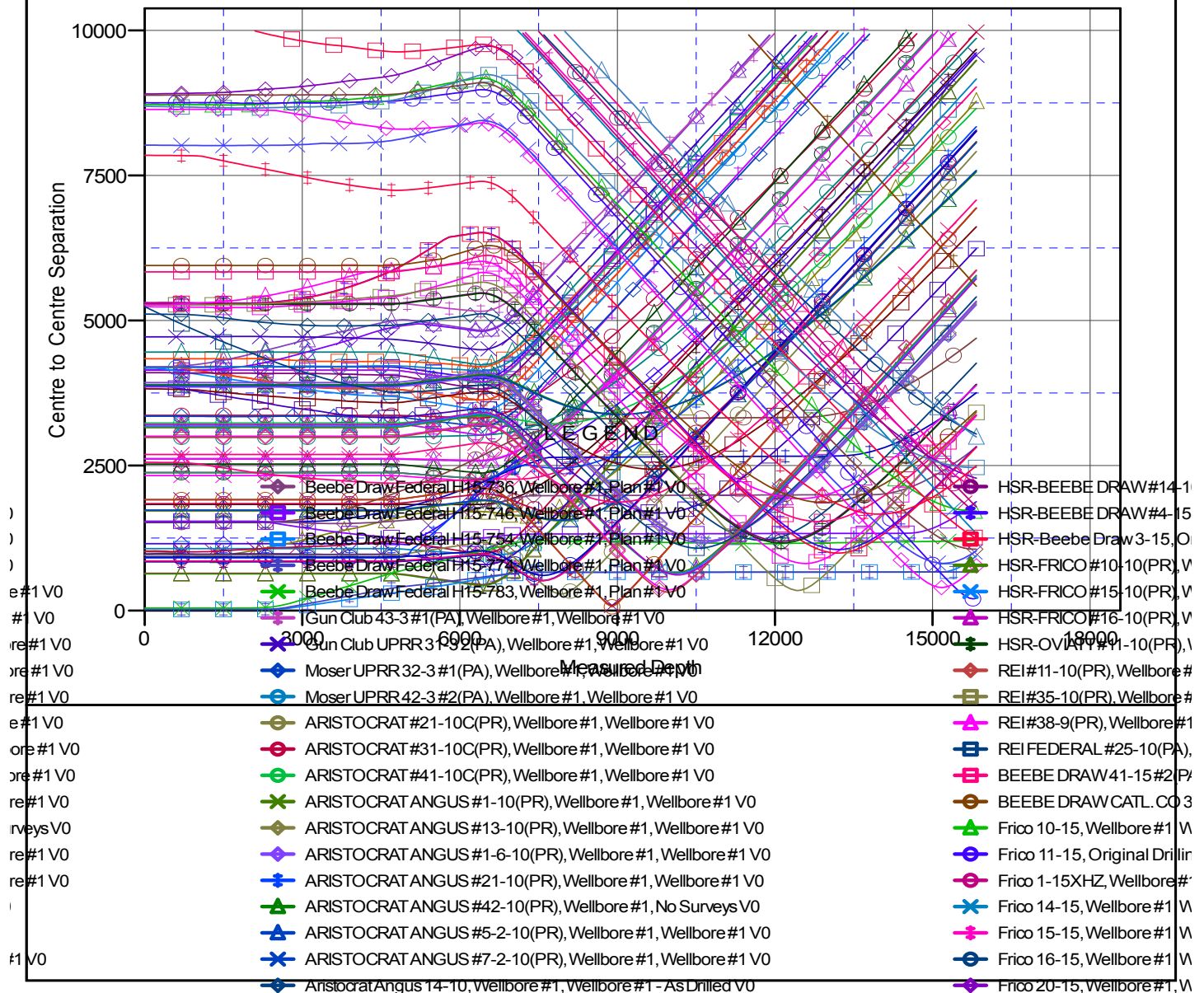
Central Meridian is -105.5000000

Coordinates are relative to: Beebe Draw Federal H15-764

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.55°

Ladder Plot



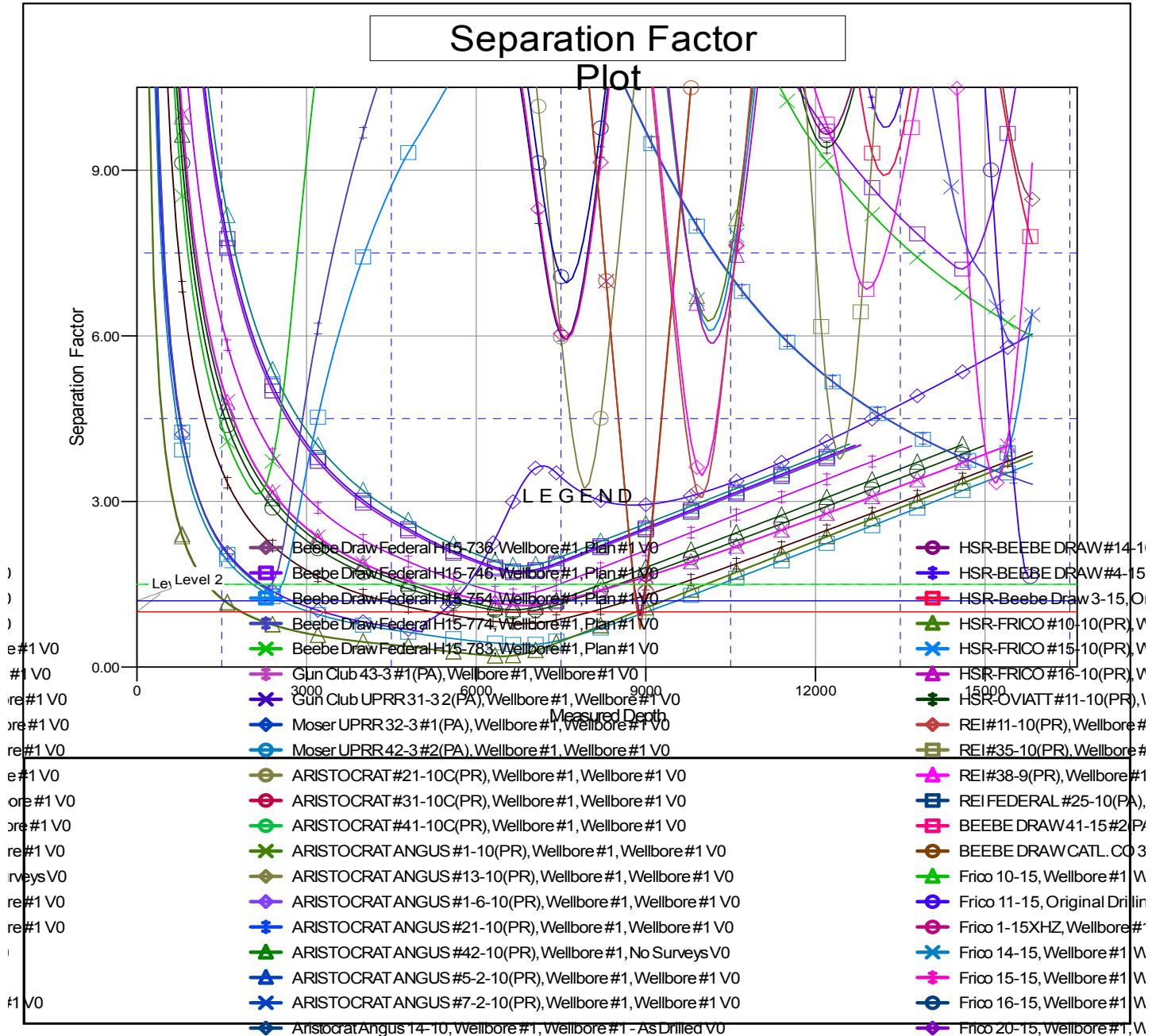
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Beebe Draw Federal H15-764
Project:	Mustang	TVD Reference:	KB @ 4834.00ft
Reference Site:	H Section 03	MD Reference:	KB @ 4834.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Beebe Draw Federal H15-764	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 @ 4834.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Beebe Draw Federal H15-764
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.55°



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