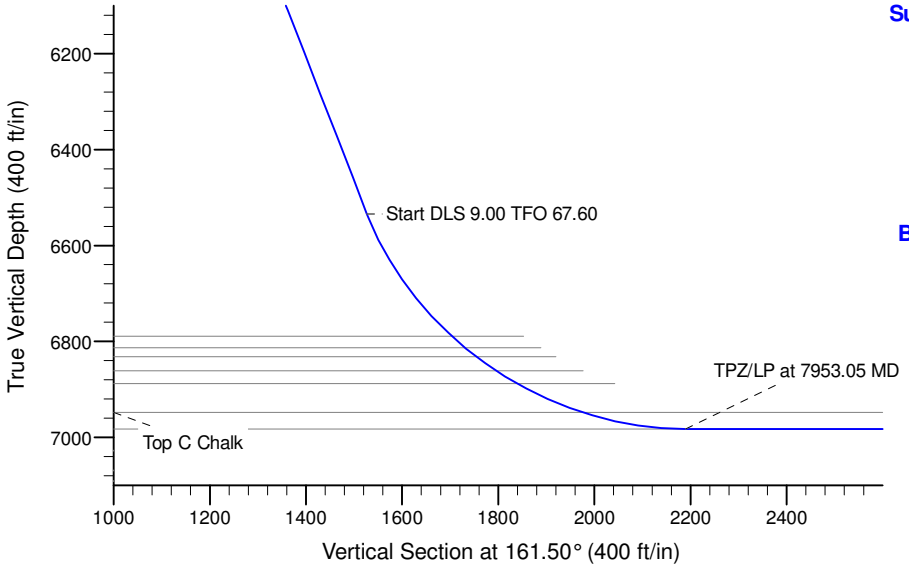
Project: Mustang
Site: H Section 03
Well: Beebe Draw Federal H15-715
Wellbore: Wellbore #1
Design: Plan #1

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

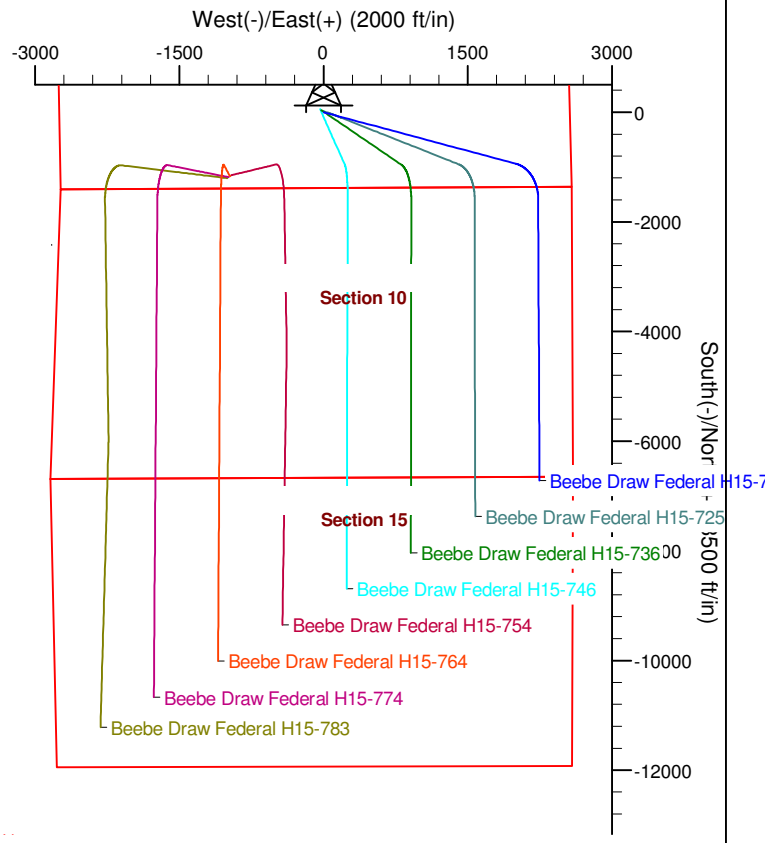
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	3174.04	29.35	115.15	3123.36	-125.03	266.30	2.50	115.15	203.08	
4	7087.45	29.35	115.15	6534.43	-940.25	2002.64	0.00	0.00	1527.20	
5	7953.05	90.00	179.84	6983.00	-1562.09	2232.42	9.00	67.60	2189.82	TPZ/LP Beebe Draw Federal H15-715
6	13105.02	90.00	179.84	6983.00	-6714.05	2246.90	0.00	0.00	7080.04	BHL Beebe Draw Federal H15-715

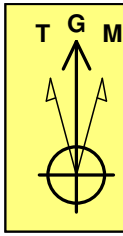


Surface:1384' FSL,2563' FEL, Sec.3

TPZ: 200' FNL, 350' FEL, Sec.10

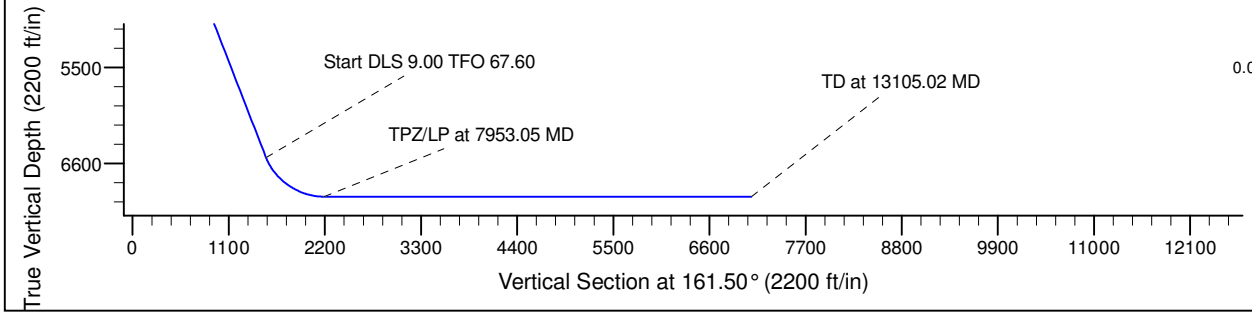
BHL: 62' FNL, 350' FEL, Sec.15





Azimuths to Grid North
True North: -0.55°
Magnetic North: 7.45°

Magnetic Field
Strength: 52183.6snT
Dip Angle: 66.72°
Date: 9/19/2018
Model: IGRF2015



WELL DETAILS: Beebe Draw Federal H15-715

	Northing	Easting	Latitude	Longitude
0.00	1335383.20	3237527.71	40.2508970	-104.6490080

4783.00

Plan: Plan #1 (Beebe Draw Federal H15-715/Wellbore #1)

Created By: Colby Baxter Date: 7:52, September 27 2018

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region - DJ Basin

Mustang
H Section 03
Beebe Draw Federal H15-715

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 H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Well:	Beebe Draw Federal H15-715	**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 H15-715					
Well Position	**+N/-S**	0.00 ft	**Northing:**	1,335,383.20 usft	**Latitude:**	40.2508970
	+E/-W	0.00 ft	**Easting:**	3,237,527.71 usft	**Longitude:**	-104.6490080
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,783.00 ft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	9/19/2018	8.00	66.72	52,183.61239880

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 (°)**
	-27.00	0.00	0.00	161.50

Survey Tool Program **Date** 9/26/2018

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
0.00	13,105.02	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 H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Well:	Beebe Draw Federal H15-715	**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	2.50	115.15	2,099.97	-0.93	1.97	1.51	2.50	2.50	0.00
2,200.00	5.00	115.15	2,199.75	-3.71	7.89	6.02	2.50	2.50	0.00
2,300.00	7.50	115.15	2,299.14	-8.34	17.75	13.53	2.50	2.50	0.00
2,400.00	10.00	115.15	2,397.97	-14.80	31.52	24.03	2.50	2.50	0.00
2,500.00	12.50	115.15	2,496.04	-23.09	49.18	37.50	2.50	2.50	0.00
2,600.00	15.00	115.15	2,593.17	-33.19	70.69	53.91	2.50	2.50	0.00
2,700.00	17.50	115.15	2,689.17	-45.08	96.02	73.22	2.50	2.50	0.00
2,800.00	20.00	115.15	2,783.85	-58.74	125.11	95.41	2.50	2.50	0.00
2,900.00	22.50	115.15	2,877.05	-74.15	157.92	120.43	2.50	2.50	0.00
3,000.00	25.00	115.15	2,968.57	-91.26	194.37	148.22	2.50	2.50	0.00
3,100.00	27.50	115.15	3,058.25	-110.06	234.40	178.75	2.50	2.50	0.00
3,174.04	29.35	115.15	3,123.36	-125.04	266.30	203.08	2.50	2.50	0.00
3,200.00	29.35	115.15	3,145.99	-130.44	277.82	211.87	0.00	0.00	0.00
3,300.00	29.35	115.15	3,233.15	-151.27	322.19	245.70	0.00	0.00	0.00
3,400.00	29.35	115.15	3,320.31	-172.11	366.56	279.54	0.00	0.00	0.00
3,500.00	29.35	115.15	3,407.48	-192.94	410.93	313.37	0.00	0.00	0.00
3,600.00	29.35	115.15	3,494.64	-213.77	455.30	347.21	0.00	0.00	0.00
3,700.00	29.35	115.15	3,581.81	-234.60	499.67	381.04	0.00	0.00	0.00
3,800.00	29.35	115.15	3,668.97	-255.43	544.04	414.88	0.00	0.00	0.00
3,900.00	29.35	115.15	3,756.13	-276.26	588.40	448.71	0.00	0.00	0.00
4,000.00	29.35	115.15	3,843.30	-297.10	632.77	482.55	0.00	0.00	0.00
4,100.00	29.35	115.15	3,930.46	-317.93	677.14	516.38	0.00	0.00	0.00
4,200.00	29.35	115.15	4,017.62	-338.76	721.51	550.22	0.00	0.00	0.00
4,300.00	29.35	115.15	4,104.79	-359.59	765.88	584.05	0.00	0.00	0.00
4,400.00	29.35	115.15	4,191.95	-380.42	810.25	617.89	0.00	0.00	0.00
4,500.00	29.35	115.15	4,279.11	-401.25	854.62	651.72	0.00	0.00	0.00
4,600.00	29.35	115.15	4,366.28	-422.08	898.99	685.56	0.00	0.00	0.00
4,700.00	29.35	115.15	4,453.44	-442.92	943.35	719.40	0.00	0.00	0.00
4,800.00	29.35	115.15	4,540.60	-463.75	987.72	753.23	0.00	0.00	0.00
4,900.00	29.35	115.15	4,627.77	-484.58	1,032.09	787.07	0.00	0.00	0.00
5,000.00	29.35	115.15	4,714.93	-505.41	1,076.46	820.90	0.00	0.00	0.00
5,100.00	29.35	115.15	4,802.09	-526.24	1,120.83	854.74	0.00	0.00	0.00
5,200.00	29.35	115.15	4,889.26	-547.07	1,165.20	888.57	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Beebe Draw Federal H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Well:	Beebe Draw Federal H15-715	**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	29.35	115.15	4,976.42	-567.90	1,209.57	922.41	0.00	0.00	0.00
5,400.00	29.35	115.15	5,063.58	-588.74	1,253.94	956.24	0.00	0.00	0.00
5,500.00	29.35	115.15	5,150.75	-609.57	1,298.31	990.08	0.00	0.00	0.00
5,600.00	29.35	115.15	5,237.91	-630.40	1,342.67	1,023.91	0.00	0.00	0.00
5,700.00	29.35	115.15	5,325.07	-651.23	1,387.04	1,057.75	0.00	0.00	0.00
5,800.00	29.35	115.15	5,412.24	-672.06	1,431.41	1,091.58	0.00	0.00	0.00
5,900.00	29.35	115.15	5,499.40	-692.89	1,475.78	1,125.42	0.00	0.00	0.00
6,000.00	29.35	115.15	5,586.56	-713.73	1,520.15	1,159.26	0.00	0.00	0.00
6,100.00	29.35	115.15	5,673.73	-734.56	1,564.52	1,193.09	0.00	0.00	0.00
6,200.00	29.35	115.15	5,760.89	-755.39	1,608.89	1,226.93	0.00	0.00	0.00
6,300.00	29.35	115.15	5,848.05	-776.22	1,653.26	1,260.76	0.00	0.00	0.00
6,400.00	29.35	115.15	5,935.22	-797.05	1,697.62	1,294.60	0.00	0.00	0.00
6,500.00	29.35	115.15	6,022.38	-817.88	1,741.99	1,328.43	0.00	0.00	0.00
6,600.00	29.35	115.15	6,109.54	-838.71	1,786.36	1,362.27	0.00	0.00	0.00
6,700.00	29.35	115.15	6,196.71	-859.55	1,830.73	1,396.10	0.00	0.00	0.00
6,800.00	29.35	115.15	6,283.87	-880.38	1,875.10	1,429.94	0.00	0.00	0.00
6,900.00	29.35	115.15	6,371.03	-901.21	1,919.47	1,463.77	0.00	0.00	0.00
7,000.00	29.35	115.15	6,458.20	-922.04	1,963.84	1,497.61	0.00	0.00	0.00
7,087.46	29.35	115.15	6,534.43	-940.26	2,002.64	1,527.20	0.00	0.00	0.00
7,100.00	29.80	117.25	6,545.34	-942.99	2,008.20	1,531.56	9.00	3.56	16.75
7,200.00	34.39	131.88	6,630.16	-973.29	2,051.40	1,573.99	9.00	4.59	14.63
7,300.00	40.33	143.06	6,709.70	-1,018.10	2,091.96	1,629.36	9.00	5.94	11.18
7,400.00	47.11	151.66	6,781.99	-1,076.32	2,128.88	1,696.29	9.00	6.77	8.60
7,500.00	54.40	158.49	6,845.26	-1,146.53	2,161.24	1,773.14	9.00	7.29	6.83
7,600.00	62.00	164.16	6,897.95	-1,226.99	2,188.25	1,858.02	9.00	7.61	5.67
7,700.00	69.81	169.07	6,938.76	-1,315.73	2,209.24	1,948.82	9.00	7.81	4.91
7,800.00	77.75	173.50	6,966.68	-1,410.54	2,223.70	2,043.33	9.00	7.93	4.43
7,900.00	85.75	177.67	6,981.03	-1,509.12	2,231.27	2,139.21	9.00	8.00	4.17
7,953.05	90.00	179.84	6,983.00	-1,562.10	2,232.42	2,189.82	9.00	8.02	4.09
8,000.00	90.00	179.84	6,983.00	-1,609.05	2,232.56	2,234.39	0.00	0.00	0.00
8,100.00	90.00	179.84	6,983.00	-1,709.05	2,232.84	2,329.30	0.00	0.00	0.00
8,200.00	90.00	179.84	6,983.00	-1,809.05	2,233.12	2,424.22	0.00	0.00	0.00
8,300.00	90.00	179.84	6,983.00	-1,909.05	2,233.40	2,519.14	0.00	0.00	0.00
8,400.00	90.00	179.84	6,983.00	-2,009.05	2,233.68	2,614.06	0.00	0.00	0.00
8,500.00	90.00	179.84	6,983.00	-2,109.05	2,233.96	2,708.98	0.00	0.00	0.00
8,600.00	90.00	179.84	6,983.00	-2,209.05	2,234.24	2,803.90	0.00	0.00	0.00
8,700.00	90.00	179.84	6,983.00	-2,309.05	2,234.52	2,898.82	0.00	0.00	0.00
8,800.00	90.00	179.84	6,983.00	-2,409.05	2,234.80	2,993.74	0.00	0.00	0.00
8,900.00	90.00	179.84	6,983.00	-2,509.05	2,235.09	3,088.66	0.00	0.00	0.00
9,000.00	90.00	179.84	6,983.00	-2,609.05	2,235.37	3,183.58	0.00	0.00	0.00
9,100.00	90.00	179.84	6,983.00	-2,709.05	2,235.65	3,278.50	0.00	0.00	0.00
9,200.00	90.00	179.84	6,983.00	-2,809.05	2,235.93	3,373.42	0.00	0.00	0.00
9,300.00	90.00	179.84	6,983.00	-2,909.05	2,236.21	3,468.34	0.00	0.00	0.00

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Beebe Draw Federal H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Well:	Beebe Draw Federal H15-715	**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	179.84	6,983.00	-3,009.05	2,236.49	3,563.26	0.00	0.00	0.00
9,500.00	90.00	179.84	6,983.00	-3,109.04	2,236.77	3,658.18	0.00	0.00	0.00
9,600.00	90.00	179.84	6,983.00	-3,209.04	2,237.05	3,753.10	0.00	0.00	0.00
9,700.00	90.00	179.84	6,983.00	-3,309.04	2,237.33	3,848.02	0.00	0.00	0.00
9,800.00	90.00	179.84	6,983.00	-3,409.04	2,237.61	3,942.93	0.00	0.00	0.00
9,900.00	90.00	179.84	6,983.00	-3,509.04	2,237.89	4,037.85	0.00	0.00	0.00
10,000.00	90.00	179.84	6,983.00	-3,609.04	2,238.18	4,132.77	0.00	0.00	0.00
10,100.00	90.00	179.84	6,983.00	-3,709.04	2,238.46	4,227.69	0.00	0.00	0.00
10,200.00	90.00	179.84	6,983.00	-3,809.04	2,238.74	4,322.61	0.00	0.00	0.00
10,300.00	90.00	179.84	6,983.00	-3,909.04	2,239.02	4,417.53	0.00	0.00	0.00
10,400.00	90.00	179.84	6,983.00	-4,009.04	2,239.30	4,512.45	0.00	0.00	0.00
10,500.00	90.00	179.84	6,983.00	-4,109.04	2,239.58	4,607.37	0.00	0.00	0.00
10,600.00	90.00	179.84	6,983.00	-4,209.04	2,239.86	4,702.29	0.00	0.00	0.00
10,700.00	90.00	179.84	6,983.00	-4,309.04	2,240.14	4,797.21	0.00	0.00	0.00
10,800.00	90.00	179.84	6,983.00	-4,409.04	2,240.42	4,892.13	0.00	0.00	0.00
10,900.00	90.00	179.84	6,983.00	-4,509.04	2,240.70	4,987.05	0.00	0.00	0.00
11,000.00	90.00	179.84	6,983.00	-4,609.04	2,240.98	5,081.97	0.00	0.00	0.00
11,100.00	90.00	179.84	6,983.00	-4,709.04	2,241.27	5,176.89	0.00	0.00	0.00
11,200.00	90.00	179.84	6,983.00	-4,809.04	2,241.55	5,271.81	0.00	0.00	0.00
11,300.00	90.00	179.84	6,983.00	-4,909.04	2,241.83	5,366.73	0.00	0.00	0.00
11,400.00	90.00	179.84	6,983.00	-5,009.04	2,242.11	5,461.65	0.00	0.00	0.00
11,500.00	90.00	179.84	6,983.00	-5,109.04	2,242.39	5,556.56	0.00	0.00	0.00
11,600.00	90.00	179.84	6,983.00	-5,209.04	2,242.67	5,651.48	0.00	0.00	0.00
11,700.00	90.00	179.84	6,983.00	-5,309.04	2,242.95	5,746.40	0.00	0.00	0.00
11,800.00	90.00	179.84	6,983.00	-5,409.04	2,243.23	5,841.32	0.00	0.00	0.00
11,900.00	90.00	179.84	6,983.00	-5,509.04	2,243.51	5,936.24	0.00	0.00	0.00
12,000.00	90.00	179.84	6,983.00	-5,609.03	2,243.79	6,031.16	0.00	0.00	0.00
12,100.00	90.00	179.84	6,983.00	-5,709.03	2,244.07	6,126.08	0.00	0.00	0.00
12,200.00	90.00	179.84	6,983.00	-5,809.03	2,244.36	6,221.00	0.00	0.00	0.00
12,300.00	90.00	179.84	6,983.00	-5,909.03	2,244.64	6,315.92	0.00	0.00	0.00
12,400.00	90.00	179.84	6,983.00	-6,009.03	2,244.92	6,410.84	0.00	0.00	0.00
12,500.00	90.00	179.84	6,983.00	-6,109.03	2,245.20	6,505.76	0.00	0.00	0.00
12,600.00	90.00	179.84	6,983.00	-6,209.03	2,245.48	6,600.68	0.00	0.00	0.00
12,700.00	90.00	179.84	6,983.00	-6,309.03	2,245.76	6,695.60	0.00	0.00	0.00
12,800.00	90.00	179.84	6,983.00	-6,409.03	2,246.04	6,790.52	0.00	0.00	0.00
12,900.00	90.00	179.84	6,983.00	-6,509.03	2,246.32	6,885.44	0.00	0.00	0.00
13,000.00	90.00	179.84	6,983.00	-6,609.03	2,246.60	6,980.36	0.00	0.00	0.00
13,100.00	90.00	179.84	6,983.00	-6,709.03	2,246.88	7,075.28	0.00	0.00	0.00
13,105.02	90.00	179.84	6,983.00	-6,714.05	2,246.90	7,080.04	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Beebe Draw Federal H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Well:	Beebe Draw Federal H15-715	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDMP

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL Beebe Draw Federa - plan hits target center - Point	0.00	0.00	6,983.00	-6,714.05	2,246.90	1,328,669.17	3,239,774.60	40.2324077	-104.6411915
TPZ/LP Beebe Draw Fe - plan hits target center - Point	0.00	0.00	6,983.00	-1,562.10	2,232.42	1,333,821.11	3,239,760.13	40.2465500	-104.6410646

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
334.00	334.00	Pierre			
626.00	626.00	Upper Pierre Aquifer Top			
1,548.00	1,548.00	Upper Pierre Aquifer Base			
3,948.03	3,798.00	Parkman			
4,632.95	4,395.00	Sussex			
5,541.59	5,187.00	Shannon			
6,577.58	6,090.00	Teepee Buttes			
7,410.37	6,789.00	Sharon Springs			
7,447.07	6,813.00	Top A Chalk			
7,477.67	6,832.00	Top A Marl			
7,527.75	6,861.00	Top B Chalk			
7,579.34	6,888.00	Top B Marl			
7,728.30	6,948.00	Top C Chalk			
7,953.05	6,983.00	Top C Marl			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2000	2000	0	0	Start Build 2.50
7087	6534	-125	266	Start DLS 9.00 TFO 67.60
7953	6983	-940	2003	TPZ/LP at 7953.05 MD
13,105	6983	-1562	2232	TD at 13105.02 MD

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang
H Section 03
Beebe Draw Federal H15-715

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 H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Reference Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Beebe Draw Federal H15-715	**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	13,105.02	Plan #1 (Wellbore #1)	2_MWD+IFR1	A005Mb: IFR declination correction only

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 03						
Beebe 17-3(PR) - Wellbore #1 - Wellbore #1	3,176.29	3,173.31	2,808.18	2,785.80	125.500	CC
Beebe 17-3(PR) - Wellbore #1 - Wellbore #1	3,200.00	3,200.00	2,808.35	2,785.75	124.306	ES
Beebe 17-3(PR) - Wellbore #1 - Wellbore #1	7,200.00	6,570.74	3,571.44	3,512.97	61.078	SF
ARISTOCRAT #24-3C(PR) - Wellbore #1 - Wellbore #1	2,000.00	1,980.00	1,050.22	350.29	1.500	CC
ARISTOCRAT #24-3C(PR) - Wellbore #1 - Wellbore #1	3,100.00	3,038.25	1,216.56	142.31	1.132	Level 2, ES
ARISTOCRAT #24-3C(PR) - Wellbore #1 - Wellbore #1	3,174.04	3,103.36	1,241.66	144.31	1.132	Level 2, SF
ARISTOCRAT #33-3C(PR) - Wellbore #1 - Wellbore #1	3,105.72	3,024.32	767.51	730.00	20.465	CC
ARISTOCRAT #33-3C(PR) - Wellbore #1 - Wellbore #1	3,174.04	3,084.36	768.20	729.83	20.020	ES
ARISTOCRAT #33-3C(PR) - Wellbore #1 - Wellbore #1	3,900.00	3,717.13	860.20	812.40	17.996	SF
ARISTOCRAT #43-3C(PR) - Wellbore #1 - Wellbore #1	5,535.67	5,128.83	1,353.71	1,281.42	18.725	CC
ARISTOCRAT #43-3C(PR) - Wellbore #1 - Wellbore #1	5,600.00	5,184.91	1,354.08	1,280.82	18.484	ES
ARISTOCRAT #43-3C(PR) - Wellbore #1 - Wellbore #1	6,800.00	6,230.87	1,488.82	1,399.26	16.623	SF
ARISTOCRAT ANGUS #11-3(PR) - Wellbore #1 - Wellbo	2,000.00	1,962.00	3,767.32	3,073.69	5.431	CC
ARISTOCRAT ANGUS #11-3(PR) - Wellbore #1 - Wellbo	2,900.00	2,839.05	3,916.87	2,913.17	3.902	ES
ARISTOCRAT ANGUS #11-3(PR) - Wellbore #1 - Wellbo	7,300.00	6,671.70	5,886.61	3,522.56	2.490	SF
ARISTOCRAT ANGUS #1-3(PR) - Wellbore #1 - Wellbor	4,956.98	4,639.43	630.15	-1,016.92	0.383	Level 1, CC
ARISTOCRAT ANGUS #1-3(PR) - Wellbore #1 - Wellbor	5,300.00	4,938.42	652.19	-1,101.60	0.372	Level 1, SF
ARISTOCRAT ANGUS #1-3(PR) - Wellbore #1 - Wellbor	6,000.00	5,548.56	811.45	-1,158.14	0.412	Level 1, ES
ARISTOCRAT ANGUS #14-3 (PR) - Wellbore #1 - Wellb	2,000.00	1,996.00	2,180.76	1,475.22	3.091	CC
ARISTOCRAT ANGUS #14-3 (PR) - Wellbore #1 - Wellb	3,000.00	2,964.57	2,336.90	1,288.86	2.230	ES
ARISTOCRAT ANGUS #14-3 (PR) - Wellbore #1 - Wellb	5,400.00	5,059.58	3,305.72	1,513.62	1.845	SF
ARISTOCRAT ANGUS #14-3A(PR) - Wellbore #1 - Wellb	2,000.00	1,990.00	2,194.70	1,491.26	3.120	CC
ARISTOCRAT ANGUS #14-3A(PR) - Wellbore #1 - Wellb	3,100.00	3,048.25	2,372.16	1,294.42	2.201	ES
ARISTOCRAT ANGUS #14-3A(PR) - Wellbore #1 - Wellb	7,550.00	6,863.01	4,190.61	1,757.15	1.722	SF
ARISTOCRAT ANGUS #2-0-3(PR) - Wellbore #1 - Wellb	2,000.00	1,963.00	3,372.30	2,678.31	4.859	CC
ARISTOCRAT ANGUS #2-0-3(PR) - Wellbore #1 - Wellb	2,900.00	2,840.05	3,517.10	2,513.04	3.503	ES
ARISTOCRAT ANGUS #2-0-3(PR) - Wellbore #1 - Wellb	7,300.00	6,672.70	5,459.63	3,095.06	2.309	SF
ARISTOCRAT ANGUS #21-3(PR) - Wellbore #1 - Wellbo	2,000.00	1,967.00	3,031.27	2,335.89	4.359	CC
ARISTOCRAT ANGUS #21-3(PR) - Wellbore #1 - Wellbo	3,100.00	3,025.25	3,194.63	2,124.88	2.986	ES
ARISTOCRAT ANGUS #21-3(PR) - Wellbore #1 - Wellbo	7,250.00	6,637.72	4,795.04	2,441.00	2.037	SF
ARISTOCRAT ANGUS #2-4-3X(PR) - Wellbore #1 - Well	2,000.00	1,963.00	1,119.50	425.51	1.613	CC
ARISTOCRAT ANGUS #2-4-3X(PR) - Wellbore #1 - Well	3,600.00	3,457.64	1,369.52	146.04	1.119	Level 2, ES
ARISTOCRAT ANGUS #2-4-3X(PR) - Wellbore #1 - Well	4,000.00	3,806.30	1,501.73	154.35	1.115	Level 2, SF
ARISTOCRAT ANGUS #34-3C(PR) - Wellbore #1 - Wellb	4,382.13	4,149.37	149.51	-1,321.91	0.102	Level 1, CC
ARISTOCRAT ANGUS #34-3C(PR) - Wellbore #1 - Wellb	4,400.00	4,164.95	149.76	-1,327.22	0.101	Level 1, SF
ARISTOCRAT ANGUS #34-3C(PR) - Wellbore #1 - Wellb	4,600.00	4,339.28	183.73	-1,354.34	0.119	Level 1, ES
ARISTOCRAT ANGUS #4-0-3(PR) - Wellbore #1 - Wellb	2,000.00	1,952.00	3,095.46	2,405.33	4.485	CC

CC - Min centre to center distance or covergent 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 H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Reference Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Beebe Draw Federal H15-715	**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 03						
ARISTOCRAT ANGUS #4-0-3(PR) - Wellbore #1 - Wellb	3,100.00	3,010.25	3,259.89	2,195.40	3.062	ES
ARISTOCRAT ANGUS #4-0-3(PR) - Wellbore #1 - Wellb	7,250.00	6,622.72	4,861.62	2,512.82	2.070	SF
ARISTOCRAT ANGUS #44-3C(PR) - Wellbore #1 - No S	6,762.47	6,211.16	260.89	169.87	2.866	CC, ES
ARISTOCRAT ANGUS #44-3C(PR) - Wellbore #1 - No S	6,800.00	6,243.87	261.54	170.02	2.858	SF
ARISTOCRAT ANGUS #6-4-3(PR) - Wellbore #1 - Wellb	3,159.86	3,068.98	812.61	-272.91	0.749	Level 1, CC
ARISTOCRAT ANGUS #6-4-3(PR) - Wellbore #1 - Wellb	3,900.00	3,714.13	889.90	-425.49	0.677	Level 1, SF
ARISTOCRAT ANGUS #6-4-3(PR) - Wellbore #1 - Wellb	4,500.00	4,237.11	1,044.88	-456.46	0.696	Level 1, ES
ARISTOCRAT ANGUS #7-6-3(PR) - Wellbore #1 - Wellb	5,002.19	4,678.84	627.87	-1,033.31	0.378	Level 1, CC
ARISTOCRAT ANGUS #7-6-3(PR) - Wellbore #1 - Wellb	5,300.00	4,938.42	644.62	-1,109.26	0.368	Level 1, SF
ARISTOCRAT ANGUS #7-6-3(PR) - Wellbore #1 - Wellb	6,000.00	5,548.56	795.88	-1,173.88	0.404	Level 1, ES
Aristocrat Angus 0-8-3(PR) - Wellbore #1 - Wellbore #1	898.99	911.37	2,121.01	2,114.71	336.736	CC
Aristocrat Angus 0-8-3(PR) - Wellbore #1 - Wellbore #1	900.00	912.04	2,121.01	2,114.70	336.390	ES
Aristocrat Angus 0-8-3(PR) - Wellbore #1 - Wellbore #1	9,200.00	7,148.52	5,134.17	5,069.46	79.348	SF
Aristocrat Angus 2-0-3 - Wellbore #1 - Actual	100.00	73.06	3,372.30	3,372.05	10,000.000	CC
Aristocrat Angus 2-0-3 - Wellbore #1 - Actual	700.00	657.54	3,374.03	3,370.59	981.207	ES
Aristocrat Angus 2-0-3 - Wellbore #1 - Actual	7,350.00	6,912.28	6,061.64	6,004.85	106.749	SF
ARISTOCRAT ANGUS 2-3(PR) - Wellbore #1 - Wellbore	2,152.77	2,295.43	2,957.76	2,939.36	160.755	CC
ARISTOCRAT ANGUS 2-3(PR) - Wellbore #1 - Wellbore	2,200.00	2,347.32	2,958.08	2,939.24	157.015	ES
ARISTOCRAT ANGUS 2-3(PR) - Wellbore #1 - Wellbore	7,500.00	7,500.00	5,084.38	5,024.08	84.318	SF
Aristocrat Angus 3-3(PR) - Wellbore #1 - Wellbore #1	2,595.05	3,043.25	1,799.09	1,776.72	80.403	CC
Aristocrat Angus 3-3(PR) - Wellbore #1 - Wellbore #1	2,600.00	3,045.97	1,799.10	1,776.69	80.275	ES
Aristocrat Angus 3-3(PR) - Wellbore #1 - Wellbore #1	4,800.00	4,810.38	2,427.40	2,387.25	60.457	SF
Aristocrat Angus 4-0-3 - Aristocrat Angus 4-0-3 - Actual	0.00	0.00	3,091.78			
Aristocrat Angus 4-0-3 - Aristocrat Angus 4-0-3 - Actual	100.00	44.34	3,091.80	3,091.60	10,000.000	ES
Aristocrat Angus 4-0-3 - Aristocrat Angus 4-0-3 - Actual	7,250.00	6,754.48	5,305.58	5,245.94	88.954	SF
Aristocrat Angus 4-0-3 (DO NOT USE) - Original Drilling	2,732.26	3,215.88	2,748.33	2,725.84	122.192	CC, ES
Aristocrat Angus 4-0-3 (DO NOT USE) - Original Drilling	7,200.00	6,687.92	4,190.55	4,135.59	76.247	SF
ARISTOCRAT ANGUS 4-2-3(PR) - Wellbore #1 - Wellbo	2,732.26	3,215.89	2,748.34	2,725.84	122.179	CC, ES
ARISTOCRAT ANGUS 4-2-3(PR) - Wellbore #1 - Wellbo	7,200.00	6,687.92	4,190.56	4,135.60	76.246	SF
Aristocrat Angus 6-4-3(PR) - Wellbore #1 - Wellbore #1	3,159.86	3,068.98	812.61	774.45	21.292	CC
Aristocrat Angus 6-4-3(PR) - Wellbore #1 - Wellbore #1	3,200.00	3,103.99	812.85	774.17	21.015	ES
Aristocrat Angus 6-4-3(PR) - Wellbore #1 - Wellbore #1	4,100.00	3,888.46	934.16	883.75	18.531	SF
ARISTOCRAT ANGUS 6-8-3(PR) - Wellbore #1 - Wellbo	5,105.58	4,751.93	591.27	550.38	14.460	CC
ARISTOCRAT ANGUS 6-8-3(PR) - Wellbore #1 - Wellbo	5,200.00	4,843.47	592.08	550.05	14.089	ES
ARISTOCRAT ANGUS 6-8-3(PR) - Wellbore #1 - Wellbo	6,300.00	5,996.94	674.71	615.91	11.473	SF
BB DRAW H #3-14JI(PR) - Wellbore #1 - Wellbore #1	2,000.00	1,982.00	1,096.56	395.92	1.565	CC
BB DRAW H #3-14JI(PR) - Wellbore #1 - Wellbore #1	3,100.00	3,040.25	1,265.54	190.59	1.177	Level 2, ES
BB DRAW H #3-14JI(PR) - Wellbore #1 - Wellbore #1	3,300.00	3,215.15	1,336.27	199.27	1.175	Level 2, SF
BB DRAW H #3-6JI(SI) - Wellbore #1 - Wellbore #1	2,000.00	1,987.00	2,136.21	1,433.83	3.041	CC
BB DRAW H #3-6JI(SI) - Wellbore #1 - Wellbore #1	3,000.00	2,955.57	2,285.95	1,241.04	2.188	ES
BB DRAW H #3-6JI(SI) - Wellbore #1 - Wellbore #1	7,150.00	6,575.28	4,005.78	1,675.48	1.719	SF
BB Draw H 03-02J(PA) - Wellbore #1 - Wellbore #1	1,469.93	1,436.97	3,326.78	3,316.89	336.600	CC
BB Draw H 03-02J(PA) - Wellbore #1 - Wellbore #1	2,004.61	1,977.23	3,327.48	3,313.79	243.123	ES
BB Draw H 03-02J(PA) - Wellbore #1 - Wellbore #1	7,350.00	6,880.40	5,399.09	5,345.81	101.345	SF
BB Draw H3-3J(PR) - Wellbore #1 - Wellbore #1	1,160.68	1,172.72	1,705.59	1,697.74	217.157	CC
BB Draw H3-3J(PR) - Wellbore #1 - Wellbore #1	2,000.00	2,007.89	1,706.82	1,693.05	123.916	ES
BB Draw H3-3J(PR) - Wellbore #1 - Wellbore #1	7,500.00	6,904.14	3,869.30	3,815.44	71.838	SF
Beebe Draw Federal H15-725 - Wellbore #1 - Plan #1	2,029.85	2,047.09	22.50	8.36	1.591	CC
Beebe Draw Federal H15-725 - Wellbore #1 - Plan #1	2,100.00	2,117.61	22.83	8.20	1.561	ES, SF
Beebe Draw Federal H15-736 - Wellbore #1 - Plan #1	2,000.00	2,000.00	45.18	31.30	3.256	CC, ES
Beebe Draw Federal H15-736 - Wellbore #1 - Plan #1	2,100.00	2,100.03	47.02	32.44	3.225	SF
Beebe Draw Federal H15-746 - Wellbore #1 - Plan #1	2,000.00	1,999.00	67.76	53.89	4.886	CC
Beebe Draw Federal H15-746 - Wellbore #1 - Plan #1	2,100.00	2,101.26	67.95	53.39	4.668	ES

CC - Min centre to center distance or covergent 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 H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Reference Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Beebe Draw Federal H15-715	**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 03						
Beebe Draw Federal H15-746 - Wellbore #1 - Plan #1	2,300.00	2,305.22	70.76	54.92	4.466	SF
Beebe Draw Federal H15-754 - Wellbore #1 - Plan #1	2,000.00	2,021.00	1,496.34	1,482.39	107.279	CC
Beebe Draw Federal H15-754 - Wellbore #1 - Plan #1	2,820.85	3,010.05	1,499.47	1,479.23	74.077	ES
Beebe Draw Federal H15-754 - Wellbore #1 - Plan #1	13,105.02	12,543.02	2,650.91	2,506.62	18.372	SF
Beebe Draw Federal H15-764 - Wellbore #1 - Plan #1	2,000.00	2,021.00	1,518.80	1,504.85	108.889	CC
Beebe Draw Federal H15-764 - Wellbore #1 - Plan #1	2,100.00	2,120.97	1,519.35	1,504.70	103.693	ES
Beebe Draw Federal H15-764 - Wellbore #1 - Plan #1	13,105.02	12,526.20	3,331.92	3,187.76	23.114	SF
Beebe Draw Federal H15-774 - Wellbore #1 - Plan #1	2,000.00	2,021.00	1,541.26	1,527.31	110.499	CC
Beebe Draw Federal H15-774 - Wellbore #1 - Plan #1	2,100.00	2,120.97	1,541.81	1,527.16	105.226	ES
Beebe Draw Federal H15-774 - Wellbore #1 - Plan #1	13,105.02	12,563.61	3,995.44	3,851.61	27.778	SF
Beebe Draw Federal H15-783 - Wellbore #1 - Plan #1	1,907.81	1,928.81	1,563.72	1,550.43	117.687	CC
Beebe Draw Federal H15-783 - Wellbore #1 - Plan #1	2,000.00	2,016.75	1,563.75	1,549.82	112.244	ES
Beebe Draw Federal H15-783 - Wellbore #1 - Plan #1	13,105.02	12,613.04	4,493.50	4,350.11	31.338	SF
Gun Club 43-3 #1(PA) - Wellbore #1 - Wellbore #1	1,891.46	1,825.54	3,802.20	3,789.44	298.053	CC
Gun Club 43-3 #1(PA) - Wellbore #1 - Wellbore #1	3,200.00	3,200.00	3,805.64	3,783.05	168.478	ES
Gun Club 43-3 #1(PA) - Wellbore #1 - Wellbore #1	7,250.00	6,600.00	4,347.20	4,286.67	71.818	SF
Gun Club UPRR 31-3 2(PA) - Wellbore #1 - Wellbore #1	100.00	36.95	3,317.96	3,317.77	10,000.000	CC
Gun Club UPRR 31-3 2(PA) - Wellbore #1 - Wellbore #1	2,200.00	2,178.85	3,324.75	3,309.70	220.841	ES
Gun Club UPRR 31-3 2(PA) - Wellbore #1 - Wellbore #1	7,250.00	6,645.45	4,375.90	4,318.14	75.763	SF
Moser UPRR 32-3 #1(PA) - Wellbore #1 - Wellbore #1	1,724.81	1,672.83	1,909.69	1,898.07	164.253	CC
Moser UPRR 32-3 #1(PA) - Wellbore #1 - Wellbore #1	1,900.00	1,841.40	1,909.77	1,896.93	148.720	ES
Moser UPRR 32-3 #1(PA) - Wellbore #1 - Wellbore #1	7,100.00	6,498.35	3,184.93	3,131.12	59.183	SF
Moser UPRR 42-3 #2(PA) - Wellbore #1 - Wellbore #1	4,307.94	4,021.19	2,542.74	2,510.25	78.261	CC
Moser UPRR 42-3 #2(PA) - Wellbore #1 - Wellbore #1	4,400.00	4,094.17	2,543.25	2,509.86	76.168	ES
Moser UPRR 42-3 #2(PA) - Wellbore #1 - Wellbore #1	7,200.00	6,574.99	2,885.17	2,824.82	47.812	SF

CC - Min centre to center distance or covergent 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 H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Reference Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Beebe Draw Federal H15-715	**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						
ARISTOCRAT #21-10C(PR) - Wellbore #1 - Wellbore #1	2,931.37	2,900.95	2,237.18	2,201.56	62.792	CC
ARISTOCRAT #21-10C(PR) - Wellbore #1 - Wellbore #1	3,100.00	3,053.25	2,238.35	2,200.63	59.332	ES
ARISTOCRAT #21-10C(PR) - Wellbore #1 - Wellbore #1	8,500.00	6,978.00	3,015.80	2,917.28	30.612	SF
ARISTOCRAT #31-10C(PR) - Wellbore #1 - Wellbore #1	8,400.00	6,959.00	1,624.79	1,525.92	16.435	SF
ARISTOCRAT #31-10C(PR) - Wellbore #1 - Wellbore #1	8,497.12	6,959.00	1,621.88	1,523.47	16.481	CC, ES
ARISTOCRAT #41-10C(PR) - Wellbore #1 - Wellbore #1	8,377.64	6,942.00	80.10	-17.46	0.821	Level 1, CC, ES, SF
ARISTOCRAT ANGUS #1-10(PR) - Wellbore #1 - Wellbo	5,269.35	4,935.70	1,688.33	1,619.70	24.600	CC
ARISTOCRAT ANGUS #1-10(PR) - Wellbore #1 - Wellbo	5,400.00	5,049.58	1,689.54	1,618.95	23.934	ES
ARISTOCRAT ANGUS #1-10(PR) - Wellbore #1 - Wellbo	8,400.00	6,969.00	1,757.10	1,658.43	17.809	SF
ARISTOCRAT ANGUS #13-10(PR) - Wellbore #1 - Wellb	11,217.21	6,985.00	4,521.39	4,400.95	37.541	CC, ES
ARISTOCRAT ANGUS #13-10(PR) - Wellbore #1 - Wellb	11,800.00	6,985.00	4,558.79	4,435.86	37.082	SF
ARISTOCRAT ANGUS #1-6-10(PR) - Wellbore #1 - Well	11,252.92	6,987.00	4,522.27	4,401.48	37.440	CC, ES
ARISTOCRAT ANGUS #1-6-10(PR) - Wellbore #1 - Well	11,900.00	6,987.00	4,568.33	4,444.79	36.981	SF
ARISTOCRAT ANGUS #21-10(PR) - Wellbore #1 - Wellb	2,989.92	2,947.42	2,155.37	2,119.08	59.395	CC
ARISTOCRAT ANGUS #21-10(PR) - Wellbore #1 - Wellb	3,100.00	3,046.25	2,155.92	2,118.25	57.240	ES
ARISTOCRAT ANGUS #21-10(PR) - Wellbore #1 - Wellb	5,300.00	4,964.42	2,431.66	2,363.78	35.820	SF
ARISTOCRAT ANGUS #42-10(PR) - Wellbore #1 - No Su	9,648.68	6,947.00	76.60	-29.87	0.719	Level 1, CC, ES, SF
ARISTOCRAT ANGUS #5-2-10(PR) - Wellbore #1 - Well	5,299.68	4,962.14	1,694.11	1,625.02	24.522	CC
ARISTOCRAT ANGUS #5-2-10(PR) - Wellbore #1 - Well	5,400.00	5,049.58	1,694.82	1,624.23	24.008	ES
ARISTOCRAT ANGUS #5-2-10(PR) - Wellbore #1 - Well	8,400.00	6,969.00	1,746.69	1,647.90	17.682	SF
ARISTOCRAT ANGUS #7-2-10(PR) - Wellbore #1 - Well	9,618.77	6,949.00	70.53	-35.70	0.664	Level 1, CC, ES, SF
Aristocrat Angus 14-10 - Wellbore #1 - Wellbore #1 - As	12,296.42	6,998.59	4,540.60	4,446.37	48.185	CC
Aristocrat Angus 14-10 - Wellbore #1 - Wellbore #1 - As	12,300.00	6,998.57	4,540.60	4,446.35	48.176	ES
Aristocrat Angus 14-10 - Wellbore #1 - Wellbore #1 - As	13,000.00	6,994.12	4,594.79	4,497.49	47.227	SF
Aristocrat Angus 6-4-10(PR) - Wellbore #1 - MWD Surve	10,200.00	7,131.22	878.23	799.89	11.210	SF
Aristocrat Angus 6-4-10(PR) - Wellbore #1 - MWD Surve	10,251.60	7,129.78	876.71	798.68	11.235	CC, ES
ARISTOCRAT ANGUS FEDERAL #0-4-10(PR) - Wellbor	3,128.06	3,647.95	4,991.09	4,962.70	175.782	CC
ARISTOCRAT ANGUS FEDERAL #0-4-10(PR) - Wellbor	10,400.00	7,094.98	4,997.78	4,917.30	62.094	ES
ARISTOCRAT ANGUS FEDERAL #0-4-10(PR) - Wellbor	11,300.00	7,100.49	5,082.58	4,998.87	60.717	SF
ARISTOCRAT ANGUS FEDERAL #1-2-10(PR) - Wellbor	2,000.00	1,988.00	2,355.98	2,331.70	97.013	CC
ARISTOCRAT ANGUS FEDERAL #1-2-10(PR) - Wellbor	2,100.00	2,087.97	2,356.63	2,331.12	92.404	ES
ARISTOCRAT ANGUS FEDERAL #1-2-10(PR) - Wellbor	8,300.00	6,971.00	3,822.07	3,725.49	39.573	SF
ARISTOCRAT ANGUS FEDERAL #2-10(PR) - Wellbore	2,000.00	1,988.00	2,371.44	2,347.16	97.650	CC
ARISTOCRAT ANGUS FEDERAL #2-10(PR) - Wellbore	2,100.00	2,087.97	2,372.07	2,346.57	93.010	ES
ARISTOCRAT ANGUS FEDERAL #2-10(PR) - Wellbore	8,300.00	6,971.00	3,821.31	3,724.64	39.528	SF
ARISTOCRAT ANGUS FEDERAL #2-4-10(PR) - Wellbor	11,182.02	6,982.00	4,488.12	4,368.04	37.374	CC
ARISTOCRAT ANGUS FEDERAL #2-4-10(PR) - Wellbor	11,200.00	6,982.00	4,488.16	4,367.99	37.349	ES
ARISTOCRAT ANGUS FEDERAL #2-4-10(PR) - Wellbor	11,800.00	6,982.00	4,530.47	4,407.78	36.927	SF
FEDERAL #11-10(PR) - Wellbore #1 - No Surveys	2,000.00	1,983.00	2,434.96	2,410.72	100.446	CC
FEDERAL #11-10(PR) - Wellbore #1 - No Surveys	2,100.00	2,082.97	2,435.65	2,410.19	95.666	ES
FEDERAL #11-10(PR) - Wellbore #1 - No Surveys	8,300.00	6,966.00	3,910.68	3,814.02	40.457	SF
FEDERAL #12-10(PR) - Wellbore #1 - Wellbore #1	3,090.21	3,053.56	3,272.24	3,234.56	86.836	CC
FEDERAL #12-10(PR) - Wellbore #1 - Wellbore #1	3,300.00	3,237.15	3,273.82	3,233.43	81.065	ES
FEDERAL #12-10(PR) - Wellbore #1 - Wellbore #1	9,700.00	6,987.00	3,406.08	3,300.33	32.208	SF
FEDERAL #22-10(PR) - Wellbore #1 - Wellbore #1	3,136.69	3,093.66	3,265.84	3,227.58	85.351	CC
FEDERAL #22-10(PR) - Wellbore #1 - Wellbore #1	3,300.00	3,236.15	3,266.82	3,226.44	80.909	ES
FEDERAL #22-10(PR) - Wellbore #1 - Wellbore #1	9,700.00	6,986.00	3,383.53	3,277.78	31.994	SF
FEDERAL #32-10(PR) - Wellbore #1 - Wellbore #1	9,500.00	6,957.00	1,440.02	1,333.58	13.529	SF
FEDERAL #32-10(PR) - Wellbore #1 - Wellbore #1	9,580.01	6,957.00	1,437.80	1,331.78	13.562	CC, ES
FRICO #23-10(PR) - Wellbore #1 - Wellbore #1	10,545.13	6,980.00	2,956.92	2,842.61	25.868	CC, ES
FRICO #23-10(PR) - Wellbore #1 - Wellbore #1	10,700.00	6,980.00	2,960.97	2,846.39	25.842	SF
Frico 28-15 - Original Drilling - Original Drilling - As Drille	12,300.00	7,546.83	2,653.82	2,521.00	19.980	SF
Frico 28-15 - Original Drilling - Original Drilling - As Drille	13,105.02	7,558.98	2,517.36	2,400.47	21.536	CC, ES

CC - Min centre to center distance or covergent 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 H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Reference Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Beebe Draw Federal H15-715	**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

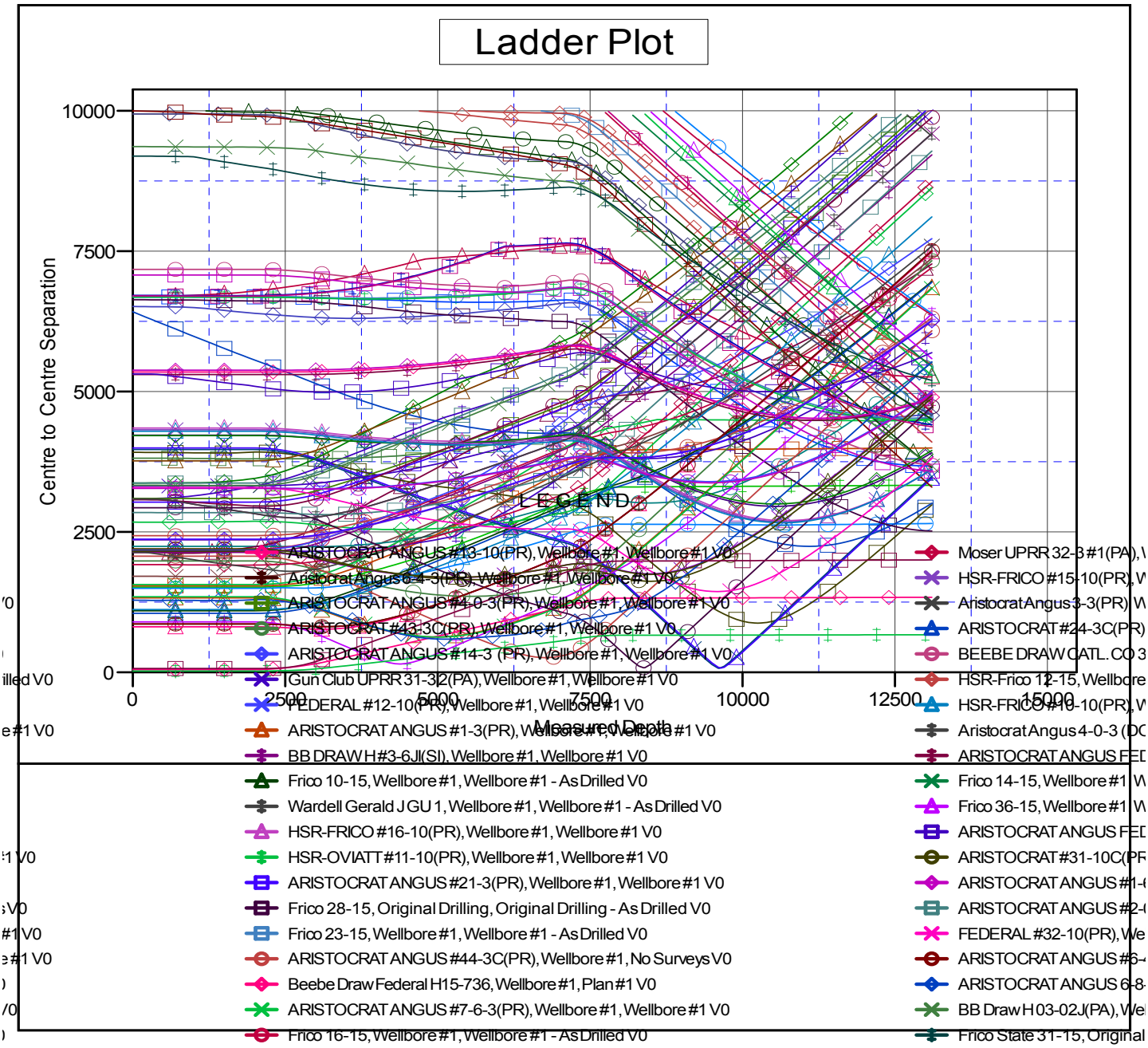
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 10						
HSR-BEEBE DRAW #14-10(PA) - Wellbore #1 - Wellbor	12,672.23	6,980.00	4,525.61	4,391.26	33.684	CC
HSR-BEEBE DRAW #14-10(PA) - Wellbore #1 - Wellbor	12,700.00	6,980.00	4,525.69	4,391.19	33.648	ES
HSR-BEEBE DRAW #14-10(PA) - Wellbore #1 - Wellbor	13,105.02	6,980.00	4,546.26	4,409.84	33.326	SF
HSR-BEEBE DRAW #4-15(PR) - Wellbore #1 - Wellbore	13,105.02	7,050.00	4,410.54	4,294.04	37.859	CC, ES, SF
HSR-Beebe Draw 3-15 - Original Drilling - Original Drillin	13,105.02	7,312.61	4,375.07	4,256.40	36.868	CC, ES, SF
HSR-FRICO #10-10(PR) - Wellbore #1 - Wellbore #1	10,656.08	6,983.00	2,663.03	2,547.71	23.093	CC, ES
HSR-FRICO #10-10(PR) - Wellbore #1 - Wellbore #1	10,700.00	6,983.00	2,663.39	2,548.02	23.086	SF
HSR-FRICO #15-10(PR) - Wellbore #1 - Wellbore #1	10,681.69	6,984.00	2,679.61	2,564.05	23.189	CC, ES
HSR-FRICO #15-10(PR) - Wellbore #1 - Wellbore #1	10,700.00	6,984.00	2,679.67	2,564.09	23.185	SF
HSR-FRICO #16-10(PR) - Wellbore #1 - Wellbore #1	10,710.98	6,985.00	2,701.74	2,585.92	23.326	CC, ES
HSR-FRICO #16-10(PR) - Wellbore #1 - Wellbore #1	10,800.00	6,985.00	2,703.21	2,587.27	23.316	SF
HSR-OVIATT #11-10(PR) - Wellbore #1 - Wellbore #1	12,668.38	6,979.00	4,494.92	4,360.62	33.467	CC
HSR-OVIATT #11-10(PR) - Wellbore #1 - Wellbore #1	12,700.00	6,979.00	4,495.03	4,360.56	33.427	ES
HSR-OVIATT #11-10(PR) - Wellbore #1 - Wellbore #1	13,105.02	6,979.00	4,516.08	4,379.71	33.117	SF
REI #11-10(PR) - Wellbore #1 - Wellbore #1	10,530.84	6,980.00	2,998.89	2,884.71	26.264	CC, ES
REI #11-10(PR) - Wellbore #1 - Wellbore #1	10,700.00	6,980.00	3,003.66	2,889.16	26.235	SF
REI #35-10(PR) - Wellbore #1 - Wellbore #1	12,991.81	7,218.17	3,678.02	3,574.32	35.467	CC
REI #35-10(PR) - Wellbore #1 - Wellbore #1	13,000.00	7,218.21	3,678.03	3,574.30	35.458	ES
REI #35-10(PR) - Wellbore #1 - Wellbore #1	13,105.02	7,218.72	3,679.76	3,575.71	35.363	SF
REI #38-9(PR) - Wellbore #1 - Wellbore #1	13,012.85	7,129.08	5,262.36	5,159.33	51.074	CC, ES
REI #38-9(PR) - Wellbore #1 - Wellbore #1	13,105.02	7,127.71	5,263.17	5,159.54	50.789	SF
REI FEDERAL #25-10(PA) - Wellbore #1 - Wellbore #1	11,097.29	7,751.20	2,243.58	2,145.04	22.767	CC
REI FEDERAL #25-10(PA) - Wellbore #1 - Wellbore #1	11,100.00	7,751.25	2,243.58	2,145.00	22.759	ES
REI FEDERAL #25-10(PA) - Wellbore #1 - Wellbore #1	11,600.00	7,759.18	2,299.20	2,194.80	22.023	SF
H Section 15						
BEEBE DRAW 41-15 #2(PA) - Wellbore #1 - No Surveys	13,105.02	5,475.00	3,582.63	3,467.67	31.165	CC, ES, SF
BEEBE DRAW CATL. CO 32-15 #1(PA) - Wellbore #1 - N	13,105.02	5,153.00	3,688.73	3,579.59	33.800	CC, ES, SF
Frico 10-15 - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	7,778.64	3,644.52	3,526.37	30.846	CC, ES, SF
Frico 11-15 - Original Drilling - Original Drilling - As Drille	13,105.02	7,085.75	4,505.86	4,396.41	41.171	CC, ES, SF
Frico 1-15XHZ - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	6,940.00	6,387.64	6,291.99	66.783	CC, ES, SF
Frico 14-15 - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	7,032.52	5,447.41	5,346.00	53.719	CC, ES, SF
Frico 15-15 - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	7,619.52	4,848.99	4,672.55	27.482	CC, ES, SF
Frico 16-15 - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	7,957.63	4,628.74	4,509.09	38.685	CC, ES, SF
Frico 20-15 - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	7,811.90	4,102.13	3,977.97	33.040	CC, ES, SF
Frico 22-15 - Original Drilling - Original Drilling - As Drille	13,105.02	7,047.55	4,574.43	4,471.46	44.425	CC, ES, SF
Frico 23-15 - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	7,413.51	4,573.13	4,442.54	35.021	CC, ES, SF
Frico 25-15 - Original Drilling - Original Drilling - As Drille	13,105.02	7,490.16	3,676.85	3,513.52	22.511	CC, ES, SF
Frico 36-15 - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	7,376.82	5,587.44	5,459.30	43.603	CC, ES, SF
Frico 37-15 - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	7,762.30	5,283.56	5,068.46	24.564	CC, ES, SF
Frico 9-15 - Original Drilling - Original Drilling - As Drilled	13,105.02	8,085.69	3,298.58	3,012.75	11.540	CC, ES, SF
Frico State 31-15 - Original Drilling - Original Drilling - As	13,105.02	7,117.51	5,199.82	5,090.22	47.445	CC, ES, SF
HSR-Frico 12-15 - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	7,021.09	5,484.38	5,382.17	53.657	CC, ES, SF
HSR-Frico 13-15 - Wellbore #1 - Wellbore #1 - As Drilled	13,105.02	7,010.59	6,360.17	6,260.28	63.674	CC, ES, SF
Wardell Gerald J GU 1 - Wellbore #1 - Wellbore #1 - As D	13,105.02	6,841.09	9,547.57	9,465.21	115.927	CC, ES, SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Beebe Draw Federal H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Reference Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Beebe Draw Federal H15-715	**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 @ 4813.00ft	Coordinates are relative to: Beebe Draw Federal H15-715
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.5000000	Grid Convergence at Surface is: 0.55°



CC - Min centre to center distance or covergent 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 H15-715
Project:	Mustang	**TVD Reference:**	KB @ 4813.00ft
Reference Site:	H Section 03	**MD Reference:**	KB @ 4813.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Beebe Draw Federal H15-715	**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 @ 4813.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Beebe Draw Federal H15-715
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.55°