

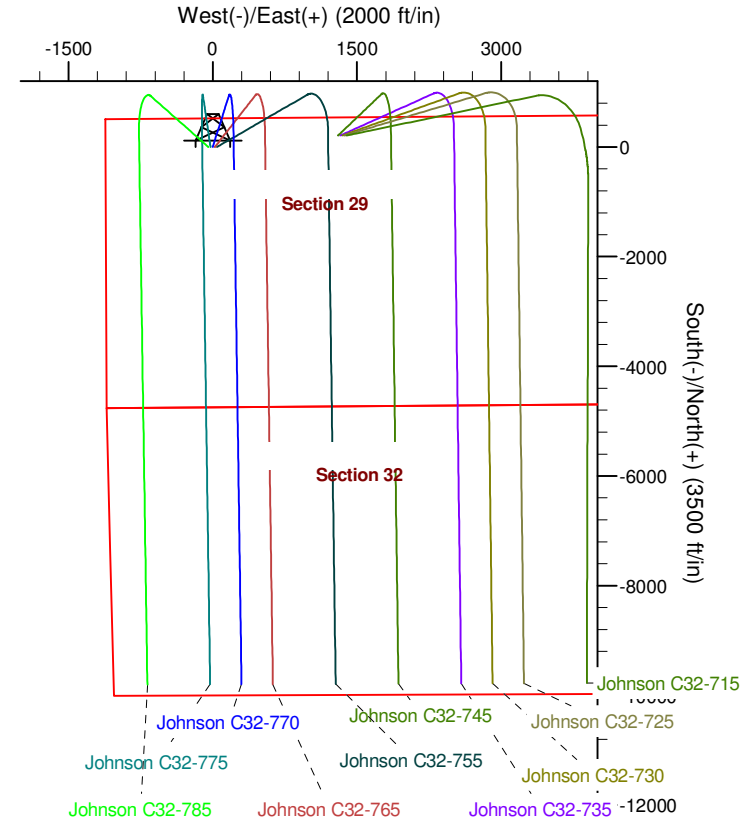
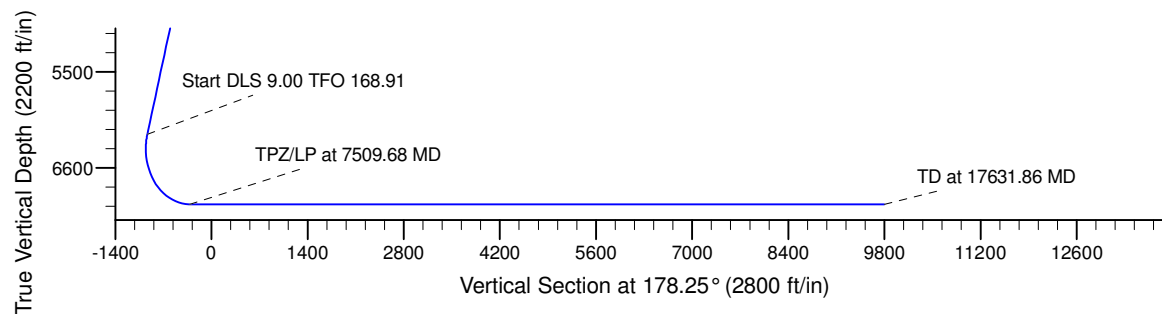
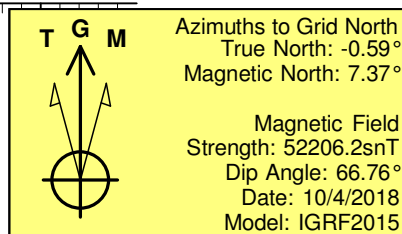
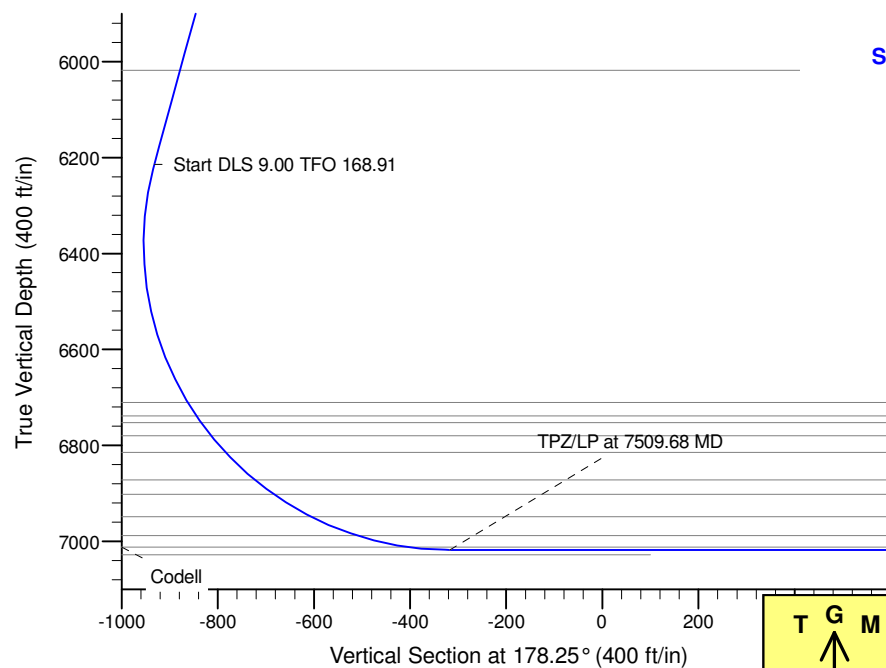
Project: Mustang
Site: C Section 29
Well: Johnson C32-770
Wellbore: Wellbore #1
Design: Plan #1

Northern Region - DJ Basin

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

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00	
3	3177.37	15.55	10.22	3167.86	103.16	18.59	2.00	10.22	-102.55	
4	6340.00	15.55	10.22	6214.77	937.42	168.92	0.00	0.00	-931.82	
5	7509.68	90.00	179.52	7018.00	323.65	215.47	9.00	168.91	-316.91	TPZ Johnson C32-770
6	17631.86	90.00	179.52	7018.00	-9798.19	299.49	0.00	0.00	9802.77	BHL Johnson C32-770



WELL DETAILS: Johnson C32-770

	Northing	Easting	Latitude	Longitude
0.00	0.00	1349539.20	4786.00 40.2892320	-104.5801940

Plan: Plan #1 (Johnson C32-770/Wellbore #1)

Created By: Colby Baxter Date: 15:59, October 04 2018

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region - DJ Basin

Mustang

C Section 29

Johnson C32-770

Wellbore #1

Plan: Plan #1

Standard Survey Report

04 October, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Johnson C32-770
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Site:	C Section 29	MD Reference:	KB @ 4816.00ft
Well:	Johnson C32-770	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	C Section 29				
Site Position:		Northing:	1,346,017.00 usft	Latitude:	40.2794770
From:	Lat/Long	Easting:	3,259,619.89 usft	Longitude:	-104.5694640
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.60 °

Well	Johnson C32-770					
Well Position	+N/-S	0.00 ft	Northing:	1,349,539.20 usft	Latitude:	40.2892320
	+E/-W	0.00 ft	Easting:	3,256,589.46 usft	Longitude:	-104.5801940
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,786.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/4/2018	7.97	66.76	52,206.15908886

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 (°)	
	0.00	0.00	0.00	178.25	

Survey Tool Program	Date	10/4/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,631.86	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 Johnson C32-770
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Site:	C Section 29	MD Reference:	KB @ 4816.00ft
Well:	Johnson C32-770	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	10.22	2,499.98	1.72	0.31	-1.71	2.00	2.00	0.00
2,600.00	4.00	10.22	2,599.84	6.87	1.24	-6.83	2.00	2.00	0.00
2,700.00	6.00	10.22	2,699.45	15.44	2.78	-15.35	2.00	2.00	0.00
2,800.00	8.00	10.22	2,798.70	27.44	4.94	-27.27	2.00	2.00	0.00
2,900.00	10.00	10.22	2,897.47	42.83	7.72	-42.58	2.00	2.00	0.00
3,000.00	12.00	10.22	2,995.62	61.61	11.10	-61.24	2.00	2.00	0.00
3,100.00	14.00	10.22	3,093.06	83.75	15.09	-83.25	2.00	2.00	0.00
3,177.37	15.55	10.22	3,167.86	103.16	18.59	-102.55	2.00	2.00	0.00
3,200.00	15.55	10.22	3,189.67	109.13	19.67	-108.48	0.00	0.00	0.00
3,300.00	15.55	10.22	3,286.01	135.51	24.42	-134.70	0.00	0.00	0.00
3,400.00	15.55	10.22	3,382.35	161.89	29.17	-160.92	0.00	0.00	0.00
3,500.00	15.55	10.22	3,478.69	188.27	33.93	-187.14	0.00	0.00	0.00
3,600.00	15.55	10.22	3,575.03	214.65	38.68	-213.37	0.00	0.00	0.00
3,700.00	15.55	10.22	3,671.37	241.03	43.43	-239.59	0.00	0.00	0.00
3,800.00	15.55	10.22	3,767.71	267.40	48.19	-265.81	0.00	0.00	0.00
3,900.00	15.55	10.22	3,864.05	293.78	52.94	-292.03	0.00	0.00	0.00
4,000.00	15.55	10.22	3,960.39	320.16	57.69	-318.25	0.00	0.00	0.00
4,100.00	15.55	10.22	4,056.74	346.54	62.45	-344.47	0.00	0.00	0.00
4,200.00	15.55	10.22	4,153.08	372.92	67.20	-370.69	0.00	0.00	0.00
4,300.00	15.55	10.22	4,249.42	399.30	71.95	-396.91	0.00	0.00	0.00
4,400.00	15.55	10.22	4,345.76	425.68	76.71	-423.13	0.00	0.00	0.00
4,500.00	15.55	10.22	4,442.10	452.05	81.46	-449.36	0.00	0.00	0.00
4,600.00	15.55	10.22	4,538.44	478.43	86.21	-475.58	0.00	0.00	0.00
4,700.00	15.55	10.22	4,634.78	504.81	90.97	-501.80	0.00	0.00	0.00
4,800.00	15.55	10.22	4,731.12	531.19	95.72	-528.02	0.00	0.00	0.00
4,900.00	15.55	10.22	4,827.46	557.57	100.47	-554.24	0.00	0.00	0.00
5,000.00	15.55	10.22	4,923.80	583.95	105.23	-580.46	0.00	0.00	0.00
5,100.00	15.55	10.22	5,020.14	610.33	109.98	-606.68	0.00	0.00	0.00
5,200.00	15.55	10.22	5,116.49	636.71	114.73	-632.90	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Johnson C32-770
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Site:	C Section 29	MD Reference:	KB @ 4816.00ft
Well:	Johnson C32-770	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	15.55	10.22	5,212.83	663.08	119.49	-659.12	0.00	0.00	0.00
5,400.00	15.55	10.22	5,309.17	689.46	124.24	-685.34	0.00	0.00	0.00
5,500.00	15.55	10.22	5,405.51	715.84	128.99	-711.57	0.00	0.00	0.00
5,600.00	15.55	10.22	5,501.85	742.22	133.75	-737.79	0.00	0.00	0.00
5,700.00	15.55	10.22	5,598.19	768.60	138.50	-764.01	0.00	0.00	0.00
5,800.00	15.55	10.22	5,694.53	794.98	143.25	-790.23	0.00	0.00	0.00
5,900.00	15.55	10.22	5,790.87	821.36	148.01	-816.45	0.00	0.00	0.00
6,000.00	15.55	10.22	5,887.21	847.73	152.76	-842.67	0.00	0.00	0.00
6,100.00	15.55	10.22	5,983.55	874.11	157.51	-868.89	0.00	0.00	0.00
6,200.00	15.55	10.22	6,079.90	900.49	162.27	-895.11	0.00	0.00	0.00
6,300.00	15.55	10.22	6,176.24	926.87	167.02	-921.33	0.00	0.00	0.00
6,340.00	15.55	10.22	6,214.78	937.42	168.92	-931.82	0.00	0.00	0.00
6,400.00	10.30	16.02	6,273.23	950.50	171.83	-944.81	9.00	-8.75	9.68
6,500.00	3.08	73.09	6,372.56	959.89	176.88	-954.04	9.00	-7.22	57.06
6,600.00	8.65	159.68	6,472.13	953.61	182.07	-947.61	9.00	5.57	86.59
6,700.00	17.37	170.03	6,569.48	931.81	187.28	-925.66	9.00	8.73	10.35
6,800.00	26.28	173.53	6,662.22	895.03	192.37	-888.74	9.00	8.91	3.50
6,900.00	35.24	175.33	6,748.06	844.18	197.22	-837.76	9.00	8.95	1.81
7,000.00	44.21	176.48	6,824.90	780.50	201.71	-773.97	9.00	8.97	1.15
7,100.00	53.19	177.31	6,890.84	705.56	205.74	-698.95	9.00	8.98	0.83
7,200.00	62.17	177.96	6,944.25	621.21	209.20	-614.53	9.00	8.98	0.65
7,300.00	71.15	178.52	6,983.83	529.53	212.00	-522.81	9.00	8.99	0.55
7,400.00	80.14	179.01	7,008.59	432.77	214.08	-426.03	9.00	8.99	0.50
7,500.00	89.13	179.48	7,017.93	333.32	215.39	-326.59	9.00	8.99	0.47
7,509.68	90.00	179.52	7,018.00	323.65	215.47	-316.91	9.00	8.99	0.46
7,600.00	90.00	179.52	7,018.00	233.33	216.22	-226.61	0.00	0.00	0.00
7,700.00	90.00	179.52	7,018.00	133.33	217.05	-126.64	0.00	0.00	0.00
7,800.00	90.00	179.52	7,018.00	33.33	217.88	-26.66	0.00	0.00	0.00
7,900.00	90.00	179.52	7,018.00	-66.66	218.71	73.31	0.00	0.00	0.00
8,000.00	90.00	179.52	7,018.00	-166.66	219.54	173.29	0.00	0.00	0.00
8,100.00	90.00	179.52	7,018.00	-266.66	220.37	273.26	0.00	0.00	0.00
8,200.00	90.00	179.52	7,018.00	-366.65	221.20	373.24	0.00	0.00	0.00
8,300.00	90.00	179.52	7,018.00	-466.65	222.03	473.21	0.00	0.00	0.00
8,400.00	90.00	179.52	7,018.00	-566.65	222.86	573.19	0.00	0.00	0.00
8,500.00	90.00	179.52	7,018.00	-666.64	223.69	673.16	0.00	0.00	0.00
8,600.00	90.00	179.52	7,018.00	-766.64	224.52	773.14	0.00	0.00	0.00
8,700.00	90.00	179.52	7,018.00	-866.64	225.35	873.12	0.00	0.00	0.00
8,800.00	90.00	179.52	7,018.00	-966.63	226.18	973.09	0.00	0.00	0.00
8,900.00	90.00	179.52	7,018.00	-1,066.63	227.01	1,073.07	0.00	0.00	0.00
9,000.00	90.00	179.52	7,018.00	-1,166.62	227.84	1,173.04	0.00	0.00	0.00
9,100.00	90.00	179.52	7,018.00	-1,266.62	228.67	1,273.02	0.00	0.00	0.00
9,200.00	90.00	179.52	7,018.00	-1,366.62	229.50	1,372.99	0.00	0.00	0.00
9,300.00	90.00	179.52	7,018.00	-1,466.61	230.33	1,472.97	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Johnson C32-770
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Site:	C Section 29	MD Reference:	KB @ 4816.00ft
Well:	Johnson C32-770	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	179.52	7,018.00	-1,566.61	231.16	1,572.94	0.00	0.00	0.00
9,500.00	90.00	179.52	7,018.00	-1,666.61	231.99	1,672.92	0.00	0.00	0.00
9,600.00	90.00	179.52	7,018.00	-1,766.60	232.82	1,772.89	0.00	0.00	0.00
9,700.00	90.00	179.52	7,018.00	-1,866.60	233.65	1,872.87	0.00	0.00	0.00
9,800.00	90.00	179.52	7,018.00	-1,966.60	234.48	1,972.84	0.00	0.00	0.00
9,900.00	90.00	179.52	7,018.00	-2,066.59	235.31	2,072.82	0.00	0.00	0.00
10,000.00	90.00	179.52	7,018.00	-2,166.59	236.14	2,172.79	0.00	0.00	0.00
10,100.00	90.00	179.52	7,018.00	-2,266.59	236.97	2,272.77	0.00	0.00	0.00
10,200.00	90.00	179.52	7,018.00	-2,366.58	237.80	2,372.74	0.00	0.00	0.00
10,300.00	90.00	179.52	7,018.00	-2,466.58	238.63	2,472.72	0.00	0.00	0.00
10,400.00	90.00	179.52	7,018.00	-2,566.58	239.46	2,572.69	0.00	0.00	0.00
10,500.00	90.00	179.52	7,018.00	-2,666.57	240.29	2,672.67	0.00	0.00	0.00
10,600.00	90.00	179.52	7,018.00	-2,766.57	241.12	2,772.64	0.00	0.00	0.00
10,700.00	90.00	179.52	7,018.00	-2,866.57	241.95	2,872.62	0.00	0.00	0.00
10,800.00	90.00	179.52	7,018.00	-2,966.56	242.78	2,972.60	0.00	0.00	0.00
10,900.00	90.00	179.52	7,018.00	-3,066.56	243.61	3,072.57	0.00	0.00	0.00
11,000.00	90.00	179.52	7,018.00	-3,166.56	244.44	3,172.55	0.00	0.00	0.00
11,100.00	90.00	179.52	7,018.00	-3,266.55	245.27	3,272.52	0.00	0.00	0.00
11,200.00	90.00	179.52	7,018.00	-3,366.55	246.10	3,372.50	0.00	0.00	0.00
11,300.00	90.00	179.52	7,018.00	-3,466.55	246.93	3,472.47	0.00	0.00	0.00
11,400.00	90.00	179.52	7,018.00	-3,566.54	247.76	3,572.45	0.00	0.00	0.00
11,500.00	90.00	179.52	7,018.00	-3,666.54	248.59	3,672.42	0.00	0.00	0.00
11,600.00	90.00	179.52	7,018.00	-3,766.54	249.42	3,772.40	0.00	0.00	0.00
11,700.00	90.00	179.52	7,018.00	-3,866.53	250.25	3,872.37	0.00	0.00	0.00
11,800.00	90.00	179.52	7,018.00	-3,966.53	251.08	3,972.35	0.00	0.00	0.00
11,900.00	90.00	179.52	7,018.00	-4,066.52	251.91	4,072.32	0.00	0.00	0.00
12,000.00	90.00	179.52	7,018.00	-4,166.52	252.74	4,172.30	0.00	0.00	0.00
12,100.00	90.00	179.52	7,018.00	-4,266.52	253.57	4,272.27	0.00	0.00	0.00
12,200.00	90.00	179.52	7,018.00	-4,366.51	254.40	4,372.25	0.00	0.00	0.00
12,300.00	90.00	179.52	7,018.00	-4,466.51	255.23	4,472.22	0.00	0.00	0.00
12,400.00	90.00	179.52	7,018.00	-4,566.51	256.06	4,572.20	0.00	0.00	0.00
12,500.00	90.00	179.52	7,018.00	-4,666.50	256.89	4,672.17	0.00	0.00	0.00
12,600.00	90.00	179.52	7,018.00	-4,766.50	257.72	4,772.15	0.00	0.00	0.00
12,700.00	90.00	179.52	7,018.00	-4,866.50	258.55	4,872.12	0.00	0.00	0.00
12,800.00	90.00	179.52	7,018.00	-4,966.49	259.38	4,972.10	0.00	0.00	0.00
12,900.00	90.00	179.52	7,018.00	-5,066.49	260.21	5,072.08	0.00	0.00	0.00
13,000.00	90.00	179.52	7,018.00	-5,166.49	261.04	5,172.05	0.00	0.00	0.00
13,100.00	90.00	179.52	7,018.00	-5,266.48	261.87	5,272.03	0.00	0.00	0.00
13,200.00	90.00	179.52	7,018.00	-5,366.48	262.70	5,372.00	0.00	0.00	0.00
13,300.00	90.00	179.52	7,018.00	-5,466.48	263.53	5,471.98	0.00	0.00	0.00
13,400.00	90.00	179.52	7,018.00	-5,566.47	264.36	5,571.95	0.00	0.00	0.00
13,500.00	90.00	179.52	7,018.00	-5,666.47	265.19	5,671.93	0.00	0.00	0.00
13,600.00	90.00	179.52	7,018.00	-5,766.47	266.02	5,771.90	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Johnson C32-770
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Site:	C Section 29	MD Reference:	KB @ 4816.00ft
Well:	Johnson C32-770	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	179.52	7,018.00	-5,866.46	266.85	5,871.88	0.00	0.00	0.00
13,800.00	90.00	179.52	7,018.00	-5,966.46	267.68	5,971.85	0.00	0.00	0.00
13,900.00	90.00	179.52	7,018.00	-6,066.46	268.51	6,071.83	0.00	0.00	0.00
14,000.00	90.00	179.52	7,018.00	-6,166.45	269.34	6,171.80	0.00	0.00	0.00
14,100.00	90.00	179.52	7,018.00	-6,266.45	270.17	6,271.78	0.00	0.00	0.00
14,200.00	90.00	179.52	7,018.00	-6,366.45	271.00	6,371.75	0.00	0.00	0.00
14,300.00	90.00	179.52	7,018.00	-6,466.44	271.83	6,471.73	0.00	0.00	0.00
14,400.00	90.00	179.52	7,018.00	-6,566.44	272.66	6,571.70	0.00	0.00	0.00
14,500.00	90.00	179.52	7,018.00	-6,666.44	273.49	6,671.68	0.00	0.00	0.00
14,600.00	90.00	179.52	7,018.00	-6,766.43	274.32	6,771.65	0.00	0.00	0.00
14,700.00	90.00	179.52	7,018.00	-6,866.43	275.15	6,871.63	0.00	0.00	0.00
14,800.00	90.00	179.52	7,018.00	-6,966.43	275.98	6,971.60	0.00	0.00	0.00
14,900.00	90.00	179.52	7,018.00	-7,066.42	276.81	7,071.58	0.00	0.00	0.00
15,000.00	90.00	179.52	7,018.00	-7,166.42	277.64	7,171.56	0.00	0.00	0.00
15,100.00	90.00	179.52	7,018.00	-7,266.41	278.47	7,271.53	0.00	0.00	0.00
15,200.00	90.00	179.52	7,018.00	-7,366.41	279.30	7,371.51	0.00	0.00	0.00
15,300.00	90.00	179.52	7,018.00	-7,466.41	280.13	7,471.48	0.00	0.00	0.00
15,400.00	90.00	179.52	7,018.00	-7,566.40	280.96	7,571.46	0.00	0.00	0.00
15,500.00	90.00	179.52	7,018.00	-7,666.40	281.79	7,671.43	0.00	0.00	0.00
15,600.00	90.00	179.52	7,018.00	-7,766.40	282.62	7,771.41	0.00	0.00	0.00
15,700.00	90.00	179.52	7,018.00	-7,866.39	283.45	7,871.38	0.00	0.00	0.00
15,800.00	90.00	179.52	7,018.00	-7,966.39	284.28	7,971.36	0.00	0.00	0.00
15,900.00	90.00	179.52	7,018.00	-8,066.39	285.11	8,071.33	0.00	0.00	0.00
16,000.00	90.00	179.52	7,018.00	-8,166.38	285.94	8,171.31	0.00	0.00	0.00
16,100.00	90.00	179.52	7,018.00	-8,266.38	286.77	8,271.28	0.00	0.00	0.00
16,200.00	90.00	179.52	7,018.00	-8,366.38	287.60	8,371.26	0.00	0.00	0.00
16,300.00	90.00	179.52	7,018.00	-8,466.37	288.43	8,471.23	0.00	0.00	0.00
16,400.00	90.00	179.52	7,018.00	-8,566.37	289.26	8,571.21	0.00	0.00	0.00
16,500.00	90.00	179.52	7,018.00	-8,666.37	290.09	8,671.18	0.00	0.00	0.00
16,600.00	90.00	179.52	7,018.00	-8,766.36	290.92	8,771.16	0.00	0.00	0.00
16,700.00	90.00	179.52	7,018.00	-8,866.36	291.75	8,871.13	0.00	0.00	0.00
16,800.00	90.00	179.52	7,018.00	-8,966.36	292.58	8,971.11	0.00	0.00	0.00
16,900.00	90.00	179.52	7,018.00	-9,066.35	293.41	9,071.08	0.00	0.00	0.00
17,000.00	90.00	179.52	7,018.00	-9,166.35	294.24	9,171.06	0.00	0.00	0.00
17,100.00	90.00	179.52	7,018.00	-9,266.35	295.07	9,271.04	0.00	0.00	0.00
17,200.00	90.00	179.52	7,018.00	-9,366.34	295.90	9,371.01	0.00	0.00	0.00
17,300.00	90.00	179.52	7,018.00	-9,466.34	296.73	9,470.99	0.00	0.00	0.00
17,400.00	90.00	179.52	7,018.00	-9,566.34	297.56	9,570.96	0.00	0.00	0.00
17,500.00	90.00	179.52	7,018.00	-9,666.33	298.39	9,670.94	0.00	0.00	0.00
17,600.00	90.00	179.52	7,018.00	-9,766.33	299.22	9,770.91	0.00	0.00	0.00
17,631.86	90.00	179.52	7,018.00	-9,798.19	299.49	9,802.77	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Johnson C32-770
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Site:	C Section 29	MD Reference:	KB @ 4816.00ft
Well:	Johnson C32-770	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
SHL Johnson C32-770 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,349,539.20	3,256,589.46	40.2892320	-104.5801940
KOP Johnson C32-770 - plan hits target center - Point	0.00	0.00	6,214.77	937.42	168.92	1,350,476.62	3,256,758.38	40.2918003	-104.5795536
TPZ Johnson C32-770 - plan hits target center - Point	0.00	0.01	7,018.00	323.65	215.47	1,349,862.84	3,256,804.93	40.2901142	-104.5794096
BHL Johnson C32-770 - plan hits target center - Point	0.00	0.00	7,018.00	-9,798.19	299.49	1,339,741.02	3,256,888.95	40.2623281	-104.5794851

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
591.00	591.00	Pierre			
671.00	671.00	Upper Pierre Aquifer Top			
1,567.00	1,567.00	Upper Pierre Aquifer Base			
3,681.97	3,654.00	Parkman			
4,161.52	4,116.00	Sussex			
5,032.38	4,955.00	Shannon			
6,135.75	6,018.00	Teepee Buttes			
6,855.67	6,711.00	Sharon Springs			
6,888.97	6,739.00	Top A Chalk			
6,906.07	6,753.00	Top A Marl			
6,940.01	6,780.00	Top B Chalk			
6,986.33	6,815.00	Top B Marl			
7,069.52	6,872.00	Top C Chalk			
7,119.01	6,902.00	Top C Marl			
7,210.33	6,949.00	Top D Chalk			
7,313.33	6,988.00	Top Ft. Hayes			
7,422.15	7,012.00	Codell			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2400	2400	0	0	Start Build 2.00
6340	6215	937	169	Start DLS 9.00 TFO 168.91
7510	7018	324	215	TPZ/LP at 7509.68 MD
17,632	7018	-9798	299	TD at 17631.86 MD

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

Mustang

C Section 29

Johnson C32-770

Wellbore #1

Plan #1

Anticollision Summary Report

04 October, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Johnson C32-770
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	C Section 29	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Johnson C32-770	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	10/4/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,631.86	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						
C Section 20						
Agricultural Products Inc 20-414 - Wellbore #1 - Wellbore	6,504.85	6,355.68	4,143.19	4,097.62	90.911	CC, ES
Agricultural Products Inc 20-414 - Wellbore #1 - Wellbore	6,800.00	6,701.60	4,206.82	4,159.37	88.645	SF
BALBOA #20-1(SI) - Wellbore #1 - No Surveys	6,797.36	6,590.85	3,357.54	3,275.03	40.693	CC
BALBOA #20-1(SI) - Wellbore #1 - No Surveys	6,850.00	6,637.14	3,357.89	3,274.83	40.430	ES
BALBOA #20-1(SI) - Wellbore #1 - No Surveys	7,300.00	6,914.83	3,399.46	3,312.91	39.276	SF
Balboa C #20-24D(PR) - Wellbore #1 - MWD Survey	452.19	415.59	1,466.55	1,464.44	695.913	CC
Balboa C #20-24D(PR) - Wellbore #1 - MWD Survey	500.00	455.01	1,466.78	1,464.30	591.425	ES
Balboa C #20-24D(PR) - Wellbore #1 - MWD Survey	6,700.00	6,666.03	1,716.48	1,665.03	33.356	SF
BALBOS #C20-4(TA) - Wellbore #1 - No Surveys	6,739.92	6,546.18	1,894.49	1,812.55	23.119	CC
BALBOS #C20-4(TA) - Wellbore #1 - No Surveys	6,750.00	6,555.57	1,894.51	1,812.45	23.089	ES
BALBOS #C20-4(TA) - Wellbore #1 - No Surveys	7,100.00	6,829.84	1,920.70	1,835.41	22.519	SF
Chenoweth 2 - Wellbore #1 - Wellbore #1 - As Drilled	6,414.80	6,279.60	688.14	642.55	15.095	CC, ES
Chenoweth 2 - Wellbore #1 - Wellbore #1 - As Drilled	6,700.00	6,642.14	708.61	660.86	14.841	SF
Chenoweth C20-25D(SI) - Wellbore #1 - MWD Surveys	6,494.29	6,557.19	802.09	748.81	15.056	CC, ES
Chenoweth C20-25D(SI) - Wellbore #1 - MWD Surveys	6,550.00	6,614.42	804.51	750.96	15.024	SF
HANSCOME C #28-30D(SI) - Wellbore #1 - No Surveys	6,822.77	6,617.45	3,405.23	3,322.41	41.119	CC
HANSCOME C #28-30D(SI) - Wellbore #1 - No Surveys	6,850.00	6,641.14	3,405.32	3,322.22	40.981	ES
HANSCOME C #28-30D(SI) - Wellbore #1 - No Surveys	7,350.00	6,933.11	3,451.22	3,364.38	39.743	SF
HANSCOME C #29-27D(SI) - Wellbore #1 - No Surveys	6,812.32	6,608.21	3,388.74	3,306.04	40.974	CC
HANSCOME C #29-27D(SI) - Wellbore #1 - No Surveys	6,850.00	6,641.14	3,388.92	3,305.83	40.785	ES
HANSCOME C #29-27D(SI) - Wellbore #1 - No Surveys	7,300.00	6,918.83	3,427.62	3,341.02	39.581	SF
Highland 12-20 - Wellbore #1 - Wellbore #1 - As Drilled	6,492.37	6,328.94	1,644.98	1,599.34	36.040	CC
Highland 12-20 - Wellbore #1 - Wellbore #1 - As Drilled	6,500.00	6,336.50	1,645.03	1,599.33	35.999	ES
Highland 12-20 - Wellbore #1 - Wellbore #1 - As Drilled	6,650.00	6,485.86	1,662.81	1,616.17	35.651	SF
JOHNSON C #29-28(PR) - Wellbore #1 - No Surveys	7,174.09	6,881.69	1,131.11	1,045.05	13.143	CC, ES
JOHNSON C #29-28(PR) - Wellbore #1 - No Surveys	7,250.00	6,915.84	1,133.40	1,046.88	13.099	SF
Klingenberg C20-780 - Original Drilling - Original Drilling	5,110.52	5,013.00	727.05	694.04	22.028	CC
Klingenberg C20-780 - Original Drilling - Original Drilling	5,200.00	5,097.82	727.53	693.88	21.617	ES
Klingenberg C20-780 - Original Drilling - Original Drilling	7,100.00	6,885.66	807.21	760.51	17.286	SF
Klingenberg C20-780 - Original Drilling - ST01 - ST01 - A	5,110.52	5,013.00	727.05	694.04	22.028	CC
Klingenberg C20-780 - Original Drilling - ST01 - ST01 - A	5,200.00	5,097.82	727.53	693.88	21.617	ES
Klingenberg C20-780 - Original Drilling - ST01 - ST01 - A	6,950.00	6,766.62	804.02	759.29	17.974	SF
Klingenberg C20-780 - Original Drilling - ST02 - ST02 - A	5,110.52	5,013.00	727.05	694.04	22.028	CC
Klingenberg C20-780 - Original Drilling - ST02 - ST02 - A	5,200.00	5,097.82	727.53	693.88	21.617	ES
Klingenberg C20-780 - Original Drilling - ST02 - ST02 - A	6,950.00	6,766.62	804.02	759.29	17.974	SF
Prebish 2 - Wellbore #1 - Wellbore #1 - As Drilled	6,497.76	6,334.55	2,958.80	2,913.26	64.966	CC
Prebish 2 - Wellbore #1 - Wellbore #1 - As Drilled	6,500.00	6,336.98	2,958.81	2,913.25	64.943	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 Johnson C32-770
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	C Section 29	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Johnson C32-770	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						
C Section 20						
Prebish 2 - Wellbore #1 - Wellbore #1 - As Drilled	6,750.00	6,595.85	3,006.56	2,959.47	63.837	SF
Prebish C20-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,508.39	6,338.82	3,582.85	3,537.38	78.799	CC, ES
Prebish C20-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,750.00	6,590.59	3,627.48	3,580.53	77.254	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Johnson C32-770
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	C Section 29	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Johnson C32-770	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
C Section 29						
CPC-JOHNSON #29-1(SI) - Wellbore #1 - No Surveys	7,811.32	6,970.00	3,424.55	3,335.89	38.626	CC, ES
CPC-JOHNSON #29-1(SI) - Wellbore #1 - No Surveys	8,500.00	6,970.00	3,493.11	3,401.29	38.044	SF
JOHNSON #19-29(SI) - Wellbore #1 - No Surveys	11,255.10	7,008.00	35.28	-79.86	0.306	Level 1, CC, ES, SF
JOHNSON #20-29(SI) - Wellbore #1 - No Surveys	11,368.18	6,992.00	2,794.64	2,678.55	24.073	CC
JOHNSON #20-29(SI) - Wellbore #1 - No Surveys	11,400.00	6,992.00	2,794.82	2,678.42	24.011	ES
JOHNSON #20-29(SI) - Wellbore #1 - No Surveys	11,800.00	6,992.00	2,827.80	2,708.05	23.613	SF
JOHNSON #29-13(SI) - Wellbore #1 - No Surveys	9,284.42	6,993.00	1,967.90	1,870.23	20.149	CC
JOHNSON #29-13(SI) - Wellbore #1 - No Surveys	9,300.00	6,993.00	1,967.96	1,870.18	20.125	ES
JOHNSON #29-13(SI) - Wellbore #1 - No Surveys	9,500.00	6,993.00	1,979.67	1,880.44	19.949	SF
JOHNSON #29-15(SI) - Wellbore #1 - No Surveys	8,660.54	6,989.00	2,569.98	2,476.76	27.568	CC, ES
JOHNSON #29-15(SI) - Wellbore #1 - No Surveys	9,100.00	6,989.00	2,607.28	2,511.28	27.160	SF
JOHNSON C #29-18(SI) - Wellbore #1 - No Surveys	8,679.18	6,993.00	1,191.88	1,098.50	12.764	CC, ES
JOHNSON C #29-18(SI) - Wellbore #1 - No Surveys	8,800.00	6,993.00	1,197.99	1,103.89	12.732	SF
JOHNSON C #29-19(SI) - Wellbore #1 - Gyro Surveys	8,575.10	7,002.95	237.45	181.47	4.241	CC, ES, SF
JOHNSON C #29-29(SI) - Wellbore #1 - No Surveys	7,490.49	6,986.71	57.60	-30.20	0.656	Level 1, CC, ES, SF
Johnson C32-715 - Wellbore #1 - Plan #1	2,000.00	1,988.00	1,409.20	1,395.37	101.896	CC, ES
Johnson C32-715 - Wellbore #1 - Plan #1	17,631.86	18,074.11	3,593.64	3,355.07	15.064	SF
Johnson C32-725 - Wellbore #1 - Plan #1	2,200.00	2,188.00	1,386.83	1,371.56	90.858	CC, ES
Johnson C32-725 - Wellbore #1 - Plan #1	17,631.86	17,765.08	2,944.67	2,705.95	12.335	SF
Johnson C32-730 - Wellbore #1 - Plan #1	2,400.00	2,389.00	1,364.46	1,347.76	81.698	CC
Johnson C32-730 - Wellbore #1 - Plan #1	2,500.00	2,461.94	1,364.77	1,347.46	78.822	ES
Johnson C32-730 - Wellbore #1 - Plan #1	17,631.86	17,849.44	2,611.99	2,373.53	10.954	SF
Johnson C32-735 - Wellbore #1 - Plan #1	2,200.00	2,189.00	1,342.37	1,327.11	87.925	CC, ES
Johnson C32-735 - Wellbore #1 - Plan #1	17,631.86	17,657.18	2,286.92	2,047.99	9.571	SF
Johnson C32-745 - Wellbore #1 - Plan #1	2,000.00	1,988.00	1,320.02	1,306.19	95.447	CC, ES
Johnson C32-745 - Wellbore #1 - Plan #1	17,631.86	17,493.69	1,636.33	1,397.02	6.838	SF
Johnson C32-755 - Wellbore #1 - Plan #1	2,200.00	2,201.00	44.91	29.60	2.934	CC, ES
Johnson C32-755 - Wellbore #1 - Plan #1	2,300.00	2,299.85	46.18	30.16	2.883	SF
Johnson C32-765 - Wellbore #1 - Plan #1	2,000.00	2,001.00	22.32	8.44	1.608	CC, ES
Johnson C32-765 - Wellbore #1 - Plan #1	2,100.00	2,100.63	23.11	8.53	1.584	SF
Johnson C32-775 - Wellbore #1 - Plan #1	2,200.00	2,200.00	22.60	7.29	1.476	Level 3, CC
Johnson C32-775 - Wellbore #1 - Plan #1	2,300.00	2,299.90	22.79	6.77	1.422	Level 3, ES, SF
Johnson C32-785 - Wellbore #1 - Plan #1	2,000.00	2,000.00	45.19	31.32	3.258	CC, ES
Johnson C32-785 - Wellbore #1 - Plan #1	2,100.00	2,099.13	46.14	31.56	3.164	SF
JOHNSON PM C #29-8(SI) - Wellbore #1 - No Surveys	9,249.54	6,989.00	3,094.64	2,997.27	31.782	CC, ES
JOHNSON PM C #29-8(SI) - Wellbore #1 - No Surveys	9,900.00	6,989.00	3,162.26	3,060.18	30.978	SF
JOHNSON R C #29-2(SI) - Wellbore #1 - No Surveys	7,925.96	6,980.00	1,978.64	1,889.43	22.181	CC, ES
JOHNSON R C #29-2(SI) - Wellbore #1 - No Surveys	8,100.00	6,980.00	1,986.28	1,896.33	22.084	SF
UPRC #29-4H(SI) - Wellbore #1 - No Surveys	2,400.00	2,377.00	600.64	571.53	20.631	CC
UPRC #29-4H(SI) - Wellbore #1 - No Surveys	2,500.00	2,476.98	601.37	571.02	19.819	ES
UPRC #29-4H(SI) - Wellbore #1 - No Surveys	8,000.00	6,995.00	801.85	712.20	8.944	SF
UPRC #29-6H(SI) - Wellbore #1 - No Surveys	9,096.24	7,003.00	528.51	432.17	5.486	CC
UPRC #29-6H(SI) - Wellbore #1 - No Surveys	9,100.00	7,003.00	528.53	432.15	5.484	ES, SF
VICTOR #C29-16(SI) - Wellbore #1 - No Surveys	12,023.67	6,981.00	3,393.44	3,271.05	27.724	CC, ES
VICTOR #C29-16(SI) - Wellbore #1 - No Surveys	12,700.00	6,981.00	3,460.19	3,332.10	27.014	SF
VICTOR C #29-10(SI) - Wellbore #1 - No Surveys	10,651.65	7,019.00	1,946.03	1,836.46	17.760	CC, ES
VICTOR C #29-10(SI) - Wellbore #1 - No Surveys	10,900.00	7,019.00	1,961.81	1,850.22	17.580	SF
VICTOR C #29-11(SI) - Wellbore #1 - No Surveys	10,651.62	7,026.00	595.12	485.48	5.428	CC, ES, SF
VICTOR C #29-12(SI) - Wellbore #1 - No Surveys	10,608.74	7,031.00	683.62	574.34	6.256	CC, ES, SF
VICTOR C #29-13(SI) - Wellbore #1 - No Surveys	12,115.40	7,005.00	665.18	541.66	5.385	CC, ES, SF
VICTOR C #29-14(SI) - Wellbore #1 - No Surveys	12,088.30	6,992.00	629.11	505.98	5.109	CC
VICTOR C #29-14(SI) - Wellbore #1 - No Surveys	12,100.00	6,992.00	629.22	505.97	5.105	ES, SF
VICTOR C #29-15(SI) - Wellbore #1 - No Surveys	11,891.31	7,008.00	1,955.68	1,834.35	16.119	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 Johnson C32-770
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	C Section 29	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Johnson C32-770	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						
C Section 29						
VICTOR C #29-15(SI) - Wellbore #1 - No Surveys	11,900.00	7,008.00	1,955.70	1,834.28	16.108	ES
VICTOR C #29-15(SI) - Wellbore #1 - No Surveys	12,100.00	7,008.00	1,966.78	1,843.66	15.974	SF
VICTOR C #29-3(PA) - Wellbore #1 - Gyro Surveys	8,118.03	6,996.42	433.44	380.01	8.112	CC, ES, SF
VICTOR C #29-4(PA) - Wellbore #1 - No Surveys	2,400.00	2,378.00	474.85	445.72	16.305	CC
VICTOR C #29-4(PA) - Wellbore #1 - No Surveys	2,500.00	2,477.98	475.67	445.32	15.672	ES
VICTOR C #29-4(PA) - Wellbore #1 - No Surveys	3,177.37	3,145.86	532.35	493.77	13.799	SF
VICTOR C #29-5(PA) - Wellbore #1 - Gyro Surveys	9,273.59	7,027.36	688.79	627.84	11.301	CC, ES
VICTOR C #29-5(PA) - Wellbore #1 - Gyro Surveys	9,300.00	7,026.70	689.30	628.17	11.277	SF
VICTOR C #29-6(PA) - Wellbore #1 - No Surveys	2,400.00	2,386.00	1,692.71	1,663.52	57.985	CC, ES
VICTOR C #29-6(PA) - Wellbore #1 - No Surveys	5,100.00	5,006.14	2,201.22	2,139.27	35.528	SF
VICTOR C #29-9(SI) - Wellbore #1 - No Surveys	10,559.49	6,977.00	3,438.46	3,330.10	31.732	CC
VICTOR C #29-9(SI) - Wellbore #1 - No Surveys	10,600.00	6,977.00	3,438.70	3,329.97	31.626	ES
VICTOR C #29-9(SI) - Wellbore #1 - No Surveys	11,300.00	6,977.00	3,517.30	3,402.91	30.748	SF
C Section 32						
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	15,862.02	6,972.00	1,975.14	1,813.23	12.199	CC
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	15,900.00	6,972.00	1,975.51	1,813.21	12.172	ES
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	16,000.00	6,972.00	1,979.95	1,816.79	12.135	SF
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	13,093.49	6,973.00	1,940.42	1,807.33	14.580	CC
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	13,100.00	6,973.00	1,940.43	1,807.27	14.572	ES
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	13,300.00	6,973.00	1,951.38	1,816.51	14.469	SF
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	14,433.26	7,087.71	1,763.77	1,653.36	15.974	CC, ES
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	14,600.00	7,082.73	1,771.63	1,659.83	15.847	SF
HOWELL #1(SI) - Wellbore #1 - No Surveys	16,815.46	7,002.00	137.02	-35.26	0.795	Level 1, CC, ES, SF
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	14,800.70	6,986.00	625.34	474.47	4.145	CC, ES, SF
HOWELL #32-2(SI) - Wellbore #1 - No Surveys	13,406.91	6,980.00	685.18	548.82	5.025	CC, ES, SF
HOWELL #32-23(PR) - Wellbore #1 - No Surveys	14,506.72	7,013.00	550.33	402.30	3.718	CC, ES, SF
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	16,026.13	7,027.00	705.15	541.02	4.296	CC, ES, SF
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	15,822.29	6,985.00	617.72	456.12	3.822	CC, ES, SF
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Su	17,195.53	6,991.00	508.15	331.92	2.883	CC
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Su	17,200.00	6,991.00	508.17	331.89	2.883	ES, SF
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	13,119.96	7,028.00	590.85	457.01	4.415	CC, ES, SF
NELSON #32-25(PR) - Wellbore #1 - No Surveys	13,911.89	7,017.00	34.22	-107.67	0.241	Level 1, CC, ES, SF
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	17,330.27	7,062.91	1,645.41	1,504.32	11.663	CC, ES
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	17,400.00	7,061.02	1,646.88	1,505.15	11.620	SF
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	13,380.22	6,965.00	3,260.01	3,124.05	23.979	CC
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	13,400.00	6,965.00	3,260.07	3,123.91	23.943	ES
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	13,900.00	6,965.00	3,301.19	3,160.73	23.503	SF
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	17,241.68	6,966.00	3,262.97	3,086.47	18.487	CC
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	17,300.00	6,966.00	3,263.49	3,086.38	18.426	ES
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	17,631.86	6,966.00	3,286.22	3,106.32	18.267	SF
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	14,753.57	6,955.00	3,268.63	3,118.52	21.776	CC
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	14,800.00	6,955.00	3,268.96	3,118.37	21.708	ES
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	15,200.00	6,955.00	3,298.97	3,144.94	21.417	SF
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	16,115.96	6,957.00	3,291.18	3,126.71	20.012	CC, ES
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	16,600.00	6,957.00	3,326.58	3,158.02	19.735	SF

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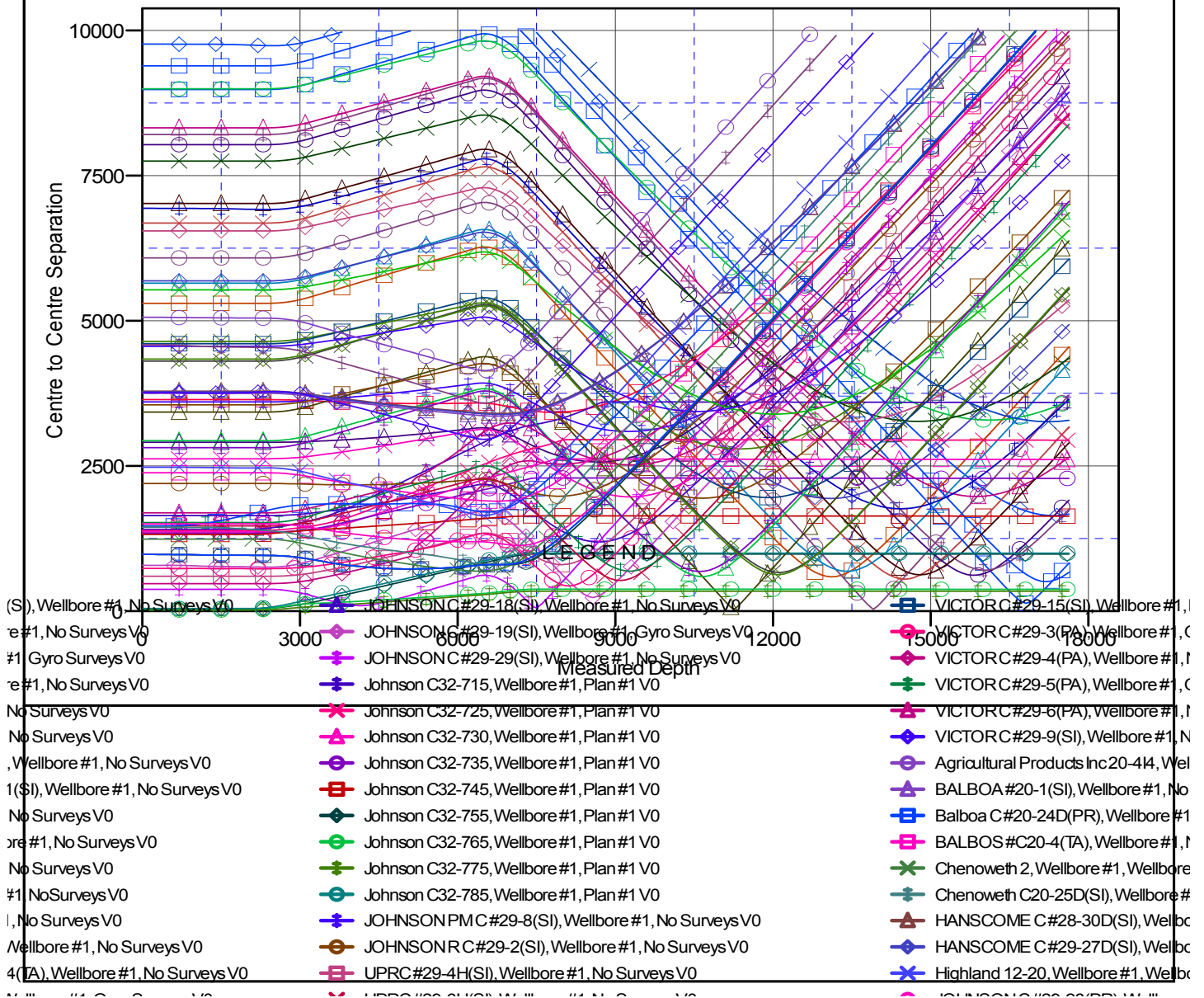
Noble Energy, Inc.
Anticollision Summary Report

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Reference Well:	Johnson C32-770	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 @ 4816.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Johnson C32-770
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.59°

Ladder Plot



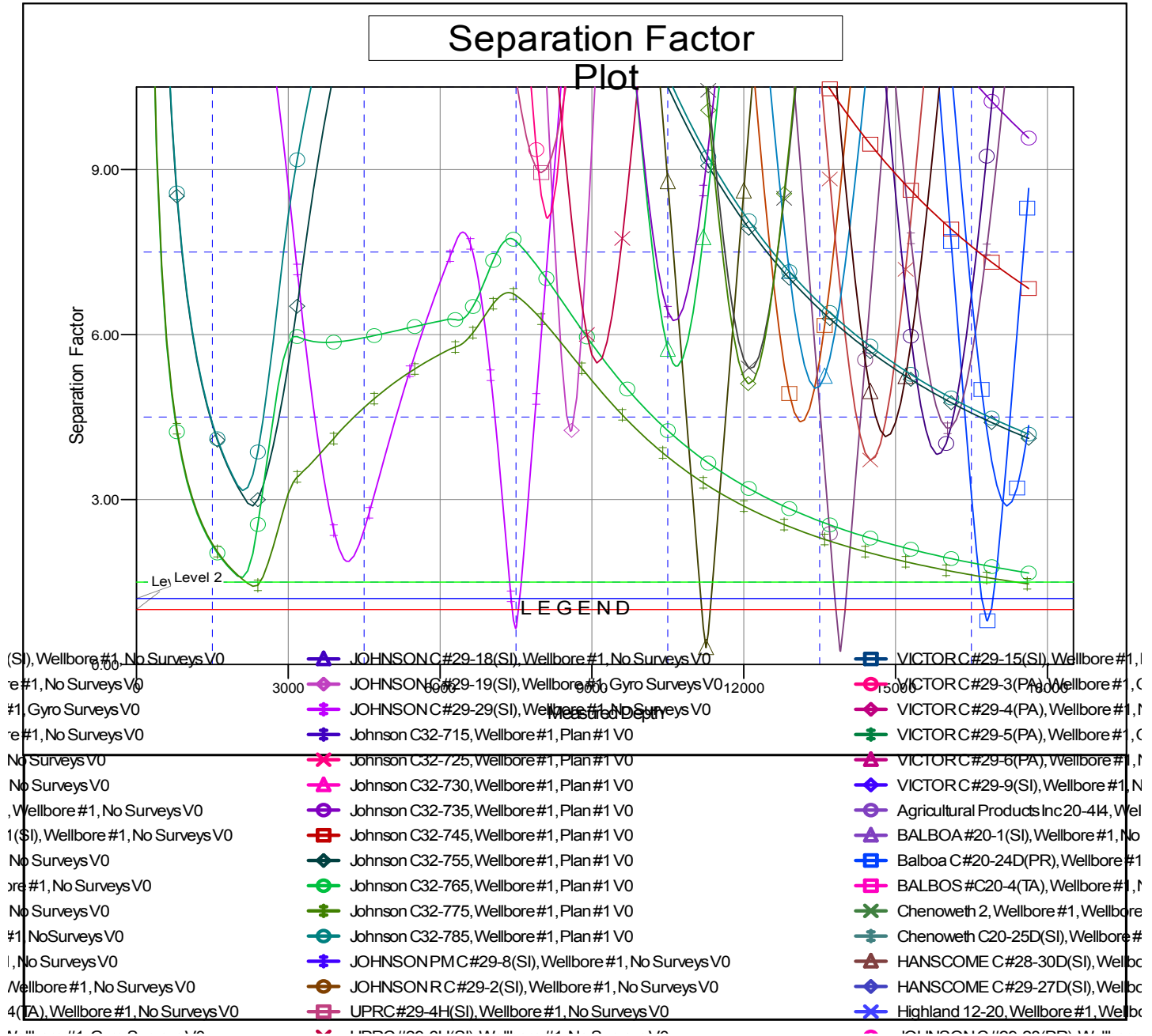
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Noble Energy, Inc.
Anticollision Summary Report

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