

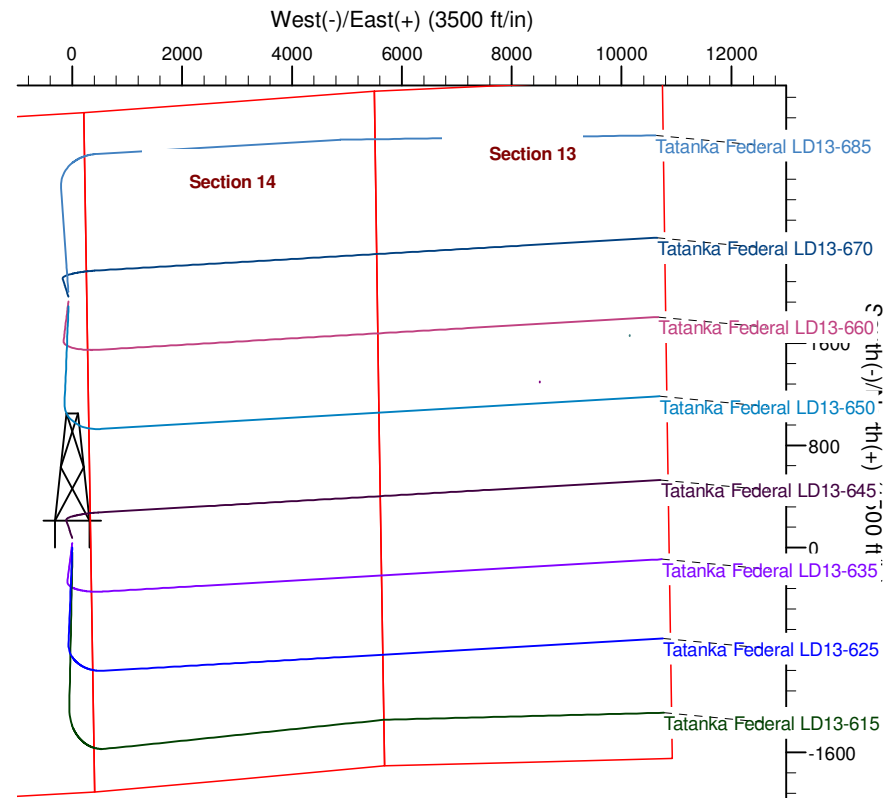
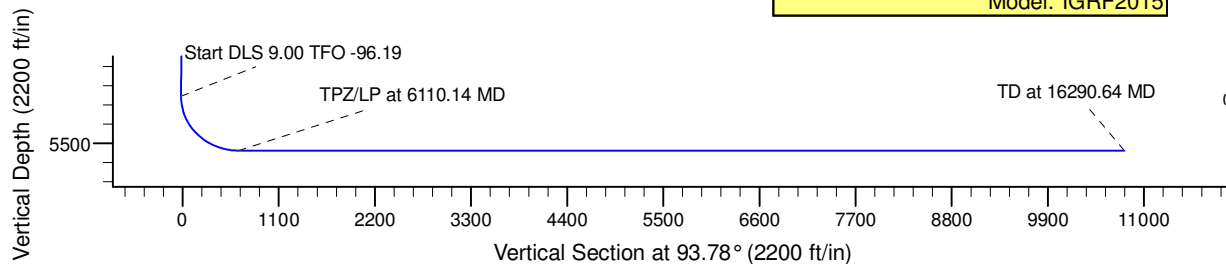
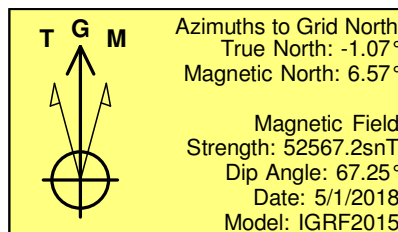
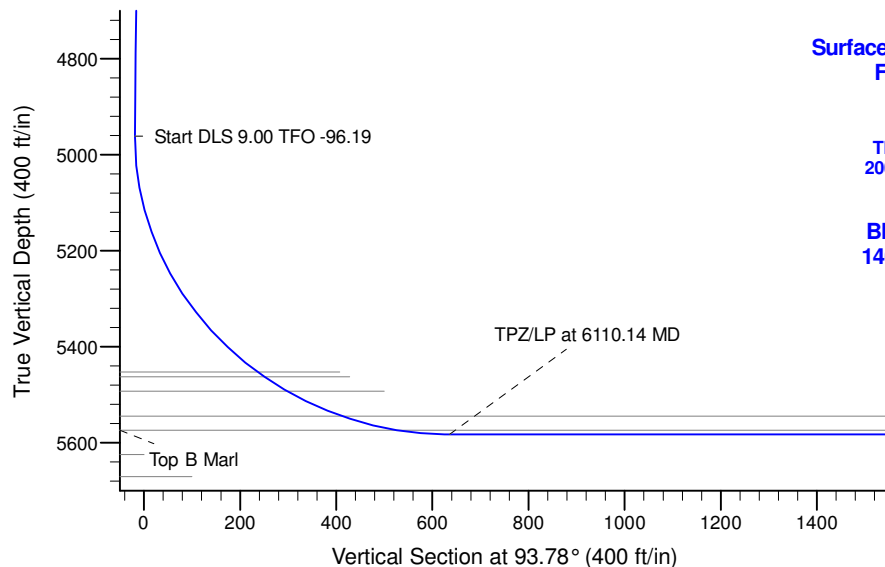
Project: East Pony
Site: LD Section 15
Well: Tatanka Federal LD13-625
Wellbore: Wellbore #1
Design: Plan #1

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	VSec	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	3409.03	20.18	185.18	3388.29	-175.15	-15.87	2.00	185.18	-4.30	
4	5084.91	20.18	185.18	4961.30	-750.94	-68.05	0.00	0.00	-18.43	
5	6110.14	90.00	88.58	5583.00	-962.12	573.49	9.00	-96.19	635.63	Tatanka Federal LD13-625 TPZ/LP
6	16290.64	90.00	88.58	5583.00	-709.87	10750.86	0.00	0.00	10774.27	Tatanka Federal LD13-625 BHL



WELL DETAILS: Tatanka Federal LD13-625				
0.00	0.00	1520139.62	3459413.38	40.7493799
				-103.8418200
Plan: Plan #1 (Tatanka Federal LD13-625/Wellbore #1)				
Created By: Colby Baxter		Date: 10:56, July 10 2018		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		

Northern Region - DJ Basin

East Pony

LD Section 15

Tatanka Federal LD13-625

Wellbore #1

Plan: Plan #1

Standard Survey Report

10 July, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Well:	Tatanka Federal LD13-625	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Project	East Pony, 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	LD Section 15				
Site Position:		Northing:	1,522,925.45 usft	Latitude:	40.7571973
From:	Map	Easting:	3,456,045.62 usft	Longitude:	-103.8537859
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	1.06 °

Well		Tatanka Federal LD13-625				
Well Position	+N/-S	0.00 ft	Northing:	1,520,139.62 usft	Latitude:	40.7493800
	+E/-W	0.00 ft	Easting:	3,459,413.38 usft	Longitude:	-103.8418200
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,662.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/1/2018	7.64	67.25	52,567.23713484

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	93.78	

Survey Tool Program	Date	7/10/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	16,290.64	Plan #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

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 Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Well:	Tatanka Federal LD13-625	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	185.18	2,499.98	-1.74	-0.16	-0.04	2.00	2.00	0.00
2,600.00	4.00	185.18	2,599.84	-6.95	-0.63	-0.17	2.00	2.00	0.00
2,700.00	6.00	185.18	2,699.45	-15.63	-1.42	-0.38	2.00	2.00	0.00
2,800.00	8.00	185.18	2,798.70	-27.77	-2.52	-0.68	2.00	2.00	0.00
2,900.00	10.00	185.18	2,897.47	-43.35	-3.93	-1.06	2.00	2.00	0.00
3,000.00	12.00	185.18	2,995.62	-62.35	-5.65	-1.53	2.00	2.00	0.00
3,100.00	14.00	185.18	3,093.06	-84.75	-7.68	-2.08	2.00	2.00	0.00
3,200.00	16.00	185.18	3,189.64	-110.53	-10.02	-2.71	2.00	2.00	0.00
3,300.00	18.00	185.18	3,285.27	-139.64	-12.65	-3.43	2.00	2.00	0.00
3,400.00	20.00	185.18	3,379.82	-172.07	-15.59	-4.22	2.00	2.00	0.00
3,409.03	20.18	185.18	3,388.29	-175.15	-15.87	-4.30	2.00	2.00	0.00
3,500.00	20.18	185.18	3,473.68	-206.41	-18.70	-5.07	0.00	0.00	0.00
3,600.00	20.18	185.18	3,567.54	-240.77	-21.82	-5.91	0.00	0.00	0.00
3,700.00	20.18	185.18	3,661.40	-275.12	-24.93	-6.75	0.00	0.00	0.00
3,800.00	20.18	185.18	3,755.26	-309.48	-28.04	-7.60	0.00	0.00	0.00
3,900.00	20.18	185.18	3,849.13	-343.84	-31.16	-8.44	0.00	0.00	0.00
4,000.00	20.18	185.18	3,942.99	-378.20	-34.27	-9.28	0.00	0.00	0.00
4,100.00	20.18	185.18	4,036.85	-412.55	-37.39	-10.13	0.00	0.00	0.00
4,200.00	20.18	185.18	4,130.71	-446.91	-40.50	-10.97	0.00	0.00	0.00
4,300.00	20.18	185.18	4,224.57	-481.27	-43.61	-11.81	0.00	0.00	0.00
4,400.00	20.18	185.18	4,318.43	-515.62	-46.73	-12.66	0.00	0.00	0.00
4,500.00	20.18	185.18	4,412.29	-549.98	-49.84	-13.50	0.00	0.00	0.00
4,600.00	20.18	185.18	4,506.15	-584.34	-52.95	-14.34	0.00	0.00	0.00
4,700.00	20.18	185.18	4,600.01	-618.70	-56.07	-15.19	0.00	0.00	0.00
4,800.00	20.18	185.18	4,693.88	-653.05	-59.18	-16.03	0.00	0.00	0.00
4,900.00	20.18	185.18	4,787.74	-687.41	-62.29	-16.87	0.00	0.00	0.00
5,000.00	20.18	185.18	4,881.60	-721.77	-65.41	-17.72	0.00	0.00	0.00
5,084.91	20.18	185.18	4,961.30	-750.94	-68.05	-18.43	0.00	0.00	0.00
5,100.00	20.08	181.24	4,975.46	-756.12	-68.34	-18.38	9.00	-0.68	-26.08

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Well:	Tatanka Federal LD13-625	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)
5,200.00	21.56	156.08	5,069.12	-790.15	-61.25	-9.06	9.00	1.49	-25.16
5,300.00	26.12	136.71	5,160.70	-823.04	-38.66	15.65	9.00	4.55	-19.37
5,400.00	32.47	123.59	5,247.96	-853.98	-1.13	55.13	9.00	6.35	-13.12
5,500.00	39.77	114.60	5,328.74	-882.21	50.42	108.43	9.00	7.30	-8.99
5,600.00	47.57	108.08	5,401.06	-907.03	114.71	174.22	9.00	7.80	-6.53
5,700.00	55.66	103.03	5,463.13	-927.83	190.17	250.88	9.00	8.09	-5.05
5,800.00	63.91	98.88	5,513.43	-944.10	274.93	336.53	9.00	8.26	-4.15
5,900.00	72.27	95.28	5,550.71	-955.44	366.91	429.06	9.00	8.36	-3.60
6,000.00	80.69	92.01	5,574.07	-961.57	463.85	526.19	9.00	8.42	-3.27
6,100.00	89.14	88.90	5,582.92	-962.34	563.35	625.52	9.00	8.45	-3.12
6,110.14	90.00	88.58	5,583.00	-962.12	573.49	635.63	9.00	8.45	-3.09
6,200.00	90.00	88.58	5,583.00	-959.90	663.32	725.11	0.00	0.00	0.00
6,300.00	90.00	88.58	5,583.00	-957.42	763.29	824.70	0.00	0.00	0.00
6,400.00	90.00	88.58	5,583.00	-954.95	863.26	924.29	0.00	0.00	0.00
6,500.00	90.00	88.58	5,583.00	-952.47	963.23	1,023.88	0.00	0.00	0.00
6,600.00	90.00	88.58	5,583.00	-950.00	1,063.20	1,123.47	0.00	0.00	0.00
6,700.00	90.00	88.58	5,583.00	-947.52	1,163.17	1,223.06	0.00	0.00	0.00
6,800.00	90.00	88.58	5,583.00	-945.05	1,263.14	1,322.65	0.00	0.00	0.00
6,900.00	90.00	88.58	5,583.00	-942.57	1,363.11	1,422.24	0.00	0.00	0.00
7,000.00	90.00	88.58	5,583.00	-940.10	1,463.08	1,521.83	0.00	0.00	0.00
7,100.00	90.00	88.58	5,583.00	-937.63	1,563.04	1,621.42	0.00	0.00	0.00
7,200.00	90.00	88.58	5,583.00	-935.15	1,663.01	1,721.01	0.00	0.00	0.00
7,300.00	90.00	88.58	5,583.00	-932.68	1,762.98	1,820.60	0.00	0.00	0.00
7,400.00	90.00	88.58	5,583.00	-930.20	1,862.95	1,920.18	0.00	0.00	0.00
7,500.00	90.00	88.58	5,583.00	-927.73	1,962.92	2,019.77	0.00	0.00	0.00
7,600.00	90.00	88.58	5,583.00	-925.25	2,062.89	2,119.36	0.00	0.00	0.00
7,700.00	90.00	88.58	5,583.00	-922.78	2,162.86	2,218.95	0.00	0.00	0.00
7,800.00	90.00	88.58	5,583.00	-920.30	2,262.83	2,318.54	0.00	0.00	0.00
7,900.00	90.00	88.58	5,583.00	-917.83	2,362.80	2,418.13	0.00	0.00	0.00
8,000.00	90.00	88.58	5,583.00	-915.35	2,462.77	2,517.72	0.00	0.00	0.00
8,100.00	90.00	88.58	5,583.00	-912.88	2,562.74	2,617.31	0.00	0.00	0.00
8,200.00	90.00	88.58	5,583.00	-910.41	2,662.71	2,716.90	0.00	0.00	0.00
8,300.00	90.00	88.58	5,583.00	-907.93	2,762.68	2,816.49	0.00	0.00	0.00
8,400.00	90.00	88.58	5,583.00	-905.46	2,862.65	2,916.08	0.00	0.00	0.00
8,500.00	90.00	88.58	5,583.00	-902.98	2,962.62	3,015.67	0.00	0.00	0.00
8,600.00	90.00	88.58	5,583.00	-900.51	3,062.59	3,115.26	0.00	0.00	0.00
8,700.00	90.00	88.58	5,583.00	-898.03	3,162.55	3,214.84	0.00	0.00	0.00
8,800.00	90.00	88.58	5,583.00	-895.56	3,262.52	3,314.43	0.00	0.00	0.00
8,900.00	90.00	88.58	5,583.00	-893.08	3,362.49	3,414.02	0.00	0.00	0.00
9,000.00	90.00	88.58	5,583.00	-890.61	3,462.46	3,513.61	0.00	0.00	0.00
9,100.00	90.00	88.58	5,583.00	-888.13	3,562.43	3,613.20	0.00	0.00	0.00
9,200.00	90.00	88.58	5,583.00	-885.66	3,662.40	3,712.79	0.00	0.00	0.00
9,300.00	90.00	88.58	5,583.00	-883.19	3,762.37	3,812.38	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Well:	Tatanka Federal LD13-625	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	88.58	5,583.00	-880.71	3,862.34	3,911.97	0.00	0.00	0.00
9,500.00	90.00	88.58	5,583.00	-878.24	3,962.31	4,011.56	0.00	0.00	0.00
9,600.00	90.00	88.58	5,583.00	-875.76	4,062.28	4,111.15	0.00	0.00	0.00
9,700.00	90.00	88.58	5,583.00	-873.29	4,162.25	4,210.74	0.00	0.00	0.00
9,800.00	90.00	88.58	5,583.00	-870.81	4,262.22	4,310.33	0.00	0.00	0.00
9,900.00	90.00	88.58	5,583.00	-868.34	4,362.19	4,409.91	0.00	0.00	0.00
10,000.00	90.00	88.58	5,583.00	-865.86	4,462.16	4,509.50	0.00	0.00	0.00
10,100.00	90.00	88.58	5,583.00	-863.39	4,562.13	4,609.09	0.00	0.00	0.00
10,200.00	90.00	88.58	5,583.00	-860.91	4,662.10	4,708.68	0.00	0.00	0.00
10,300.00	90.00	88.58	5,583.00	-858.44	4,762.06	4,808.27	0.00	0.00	0.00
10,400.00	90.00	88.58	5,583.00	-855.97	4,862.03	4,907.86	0.00	0.00	0.00
10,500.00	90.00	88.58	5,583.00	-853.49	4,962.00	5,007.45	0.00	0.00	0.00
10,600.00	90.00	88.58	5,583.00	-851.02	5,061.97	5,107.04	0.00	0.00	0.00
10,700.00	90.00	88.58	5,583.00	-848.54	5,161.94	5,206.63	0.00	0.00	0.00
10,800.00	90.00	88.58	5,583.00	-846.07	5,261.91	5,306.22	0.00	0.00	0.00
10,900.00	90.00	88.58	5,583.00	-843.59	5,361.88	5,405.81	0.00	0.00	0.00
11,000.00	90.00	88.58	5,583.00	-841.12	5,461.85	5,505.40	0.00	0.00	0.00
11,100.00	90.00	88.58	5,583.00	-838.64	5,561.82	5,604.99	0.00	0.00	0.00
11,200.00	90.00	88.58	5,583.00	-836.17	5,661.79	5,704.57	0.00	0.00	0.00
11,300.00	90.00	88.58	5,583.00	-833.69	5,761.76	5,804.16	0.00	0.00	0.00
11,400.00	90.00	88.58	5,583.00	-831.22	5,861.73	5,903.75	0.00	0.00	0.00
11,500.00	90.00	88.58	5,583.00	-828.75	5,961.70	6,003.34	0.00	0.00	0.00
11,600.00	90.00	88.58	5,583.00	-826.27	6,061.67	6,102.93	0.00	0.00	0.00
11,700.00	90.00	88.58	5,583.00	-823.80	6,161.64	6,202.52	0.00	0.00	0.00
11,800.00	90.00	88.58	5,583.00	-821.32	6,261.61	6,302.11	0.00	0.00	0.00
11,900.00	90.00	88.58	5,583.00	-818.85	6,361.57	6,401.70	0.00	0.00	0.00
12,000.00	90.00	88.58	5,583.00	-816.37	6,461.54	6,501.29	0.00	0.00	0.00
12,100.00	90.00	88.58	5,583.00	-813.90	6,561.51	6,600.88	0.00	0.00	0.00
12,200.00	90.00	88.58	5,583.00	-811.42	6,661.48	6,700.47	0.00	0.00	0.00
12,300.00	90.00	88.58	5,583.00	-808.95	6,761.45	6,800.06	0.00	0.00	0.00
12,400.00	90.00	88.58	5,583.00	-806.48	6,861.42	6,899.64	0.00	0.00	0.00
12,500.00	90.00	88.58	5,583.00	-804.00	6,961.39	6,999.23	0.00	0.00	0.00
12,600.00	90.00	88.58	5,583.00	-801.53	7,061.36	7,098.82	0.00	0.00	0.00
12,700.00	90.00	88.58	5,583.00	-799.05	7,161.33	7,198.41	0.00	0.00	0.00
12,800.00	90.00	88.58	5,583.00	-796.58	7,261.30	7,298.00	0.00	0.00	0.00
12,900.00	90.00	88.58	5,583.00	-794.10	7,361.27	7,397.59	0.00	0.00	0.00
13,000.00	90.00	88.58	5,583.00	-791.63	7,461.24	7,497.18	0.00	0.00	0.00
13,100.00	90.00	88.58	5,583.00	-789.15	7,561.21	7,596.77	0.00	0.00	0.00
13,200.00	90.00	88.58	5,583.00	-786.68	7,661.18	7,696.36	0.00	0.00	0.00
13,300.00	90.00	88.58	5,583.00	-784.20	7,761.15	7,795.95	0.00	0.00	0.00
13,400.00	90.00	88.58	5,583.00	-781.73	7,861.12	7,895.54	0.00	0.00	0.00
13,500.00	90.00	88.58	5,583.00	-779.26	7,961.08	7,995.13	0.00	0.00	0.00
13,600.00	90.00	88.58	5,583.00	-776.78	8,061.05	8,094.72	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Well:	Tatanka Federal LD13-625	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	88.58	5,583.00	-774.31	8,161.02	8,194.30	0.00	0.00	0.00
13,800.00	90.00	88.58	5,583.00	-771.83	8,260.99	8,293.89	0.00	0.00	0.00
13,900.00	90.00	88.58	5,583.00	-769.36	8,360.96	8,393.48	0.00	0.00	0.00
14,000.00	90.00	88.58	5,583.00	-766.88	8,460.93	8,493.07	0.00	0.00	0.00
14,100.00	90.00	88.58	5,583.00	-764.41	8,560.90	8,592.66	0.00	0.00	0.00
14,200.00	90.00	88.58	5,583.00	-761.93	8,660.87	8,692.25	0.00	0.00	0.00
14,300.00	90.00	88.58	5,583.00	-759.46	8,760.84	8,791.84	0.00	0.00	0.00
14,400.00	90.00	88.58	5,583.00	-756.98	8,860.81	8,891.43	0.00	0.00	0.00
14,500.00	90.00	88.58	5,583.00	-754.51	8,960.78	8,991.02	0.00	0.00	0.00
14,600.00	90.00	88.58	5,583.00	-752.04	9,060.75	9,090.61	0.00	0.00	0.00
14,700.00	90.00	88.58	5,583.00	-749.56	9,160.72	9,190.20	0.00	0.00	0.00
14,800.00	90.00	88.58	5,583.00	-747.09	9,260.69	9,289.79	0.00	0.00	0.00
14,900.00	90.00	88.58	5,583.00	-744.61	9,360.66	9,389.38	0.00	0.00	0.00
15,000.00	90.00	88.58	5,583.00	-742.14	9,460.63	9,488.96	0.00	0.00	0.00
15,100.00	90.00	88.58	5,583.00	-739.66	9,560.60	9,588.55	0.00	0.00	0.00
15,200.00	90.00	88.58	5,583.00	-737.19	9,660.56	9,688.14	0.00	0.00	0.00
15,300.00	90.00	88.58	5,583.00	-734.71	9,760.53	9,787.73	0.00	0.00	0.00
15,400.00	90.00	88.58	5,583.00	-732.24	9,860.50	9,887.32	0.00	0.00	0.00
15,500.00	90.00	88.58	5,583.00	-729.76	9,960.47	9,986.91	0.00	0.00	0.00
15,600.00	90.00	88.58	5,583.00	-727.29	10,060.44	10,086.50	0.00	0.00	0.00
15,700.00	90.00	88.58	5,583.00	-724.82	10,160.41	10,186.09	0.00	0.00	0.00
15,800.00	90.00	88.58	5,583.00	-722.34	10,260.38	10,285.68	0.00	0.00	0.00
15,900.00	90.00	88.58	5,583.00	-719.87	10,360.35	10,385.27	0.00	0.00	0.00
16,000.00	90.00	88.58	5,583.00	-717.39	10,460.32	10,484.86	0.00	0.00	0.00
16,100.00	90.00	88.58	5,583.00	-714.92	10,560.29	10,584.45	0.00	0.00	0.00
16,200.00	90.00	88.58	5,583.00	-712.44	10,660.26	10,684.03	0.00	0.00	0.00
16,290.64	90.00	88.58	5,583.00	-709.87	10,750.86	10,774.27	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Tatanka Federal LD13-6 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,520,139.62	3,459,413.38	40.7493800	-103.8418200
Tatanka Federal LD13-6 - plan misses target center by 0.10ft at 5084.92ft MD (4961.30 TVD, -750.94 N, -68.05 E) - Point	0.00	0.00	4,961.27	-751.03	-68.05	1,519,388.59	3,459,345.33	40.7473224	-103.8421162
Tatanka Federal LD13-6 - plan hits target center - Point	0.00	0.00	5,583.00	-709.87	10,750.86	1,519,429.76	3,470,164.22	40.7468737	-103.8030749
Tatanka Federal LD13-6 - plan hits target center - Point	0.00	0.00	5,583.00	-962.12	573.49	1,519,177.51	3,459,986.87	40.7467102	-103.8398156

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Well:	Tatanka Federal LD13-625	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 (°)	
386.00	386.00	Pierre				
720.00	720.00	Upper Pierre Aquifer Top				
1,344.00	1,344.00	Upper Pierre Aquifer Base				
3,201.41	3,191.00	Parkman				
3,715.55	3,676.00	Sussex				
4,347.34	4,269.00	Shannon				
4,725.55	4,624.00	Teepee Buttes				
5,682.37	5,453.00	Sharon Springs				
5,699.77	5,463.00	Top A Chalk				
5,756.34	5,493.00	Top A Marl				
5,881.97	5,545.00	Top B Chalk				
5,999.56	5,574.00	Top B Marl				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2400	2400	0	0	Start Build 2.00	
5085	4961	-175	-16	Start DLS 9.00 TFO -96.19	
6110	5583	-751	-68	TPZ/LP at 6110.14 MD	
16,291	5583	-962	573	TD at 16290.64 MD	

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

East Pony

LD Section 15

Tatanka Federal LD13-625

Wellbore #1

Plan #1

Anticollision Summary Report

10 July, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Reference Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Tatanka Federal LD13-625	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	7/10/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	16,290.64	Plan #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
LD Section 01						
McCaffrey State LD12-74-1AHN - Original Drilling - Origin	14,678.18	10,391.02	4,716.24	4,579.11	34.392	CC
McCaffrey State LD12-74-1AHN - Original Drilling - Origin	14,700.00	10,391.02	4,716.29	4,578.97	34.346	ES
McCaffrey State LD12-74-1AHN - Original Drilling - Origin	16,291.58	10,391.02	4,984.26	4,824.31	31.163	SF
McCaffrey State LD12-75-1BHN - Original Drilling - Origin	14,169.79	10,303.02	4,719.97	4,590.22	36.377	CC
McCaffrey State LD12-75-1BHN - Original Drilling - Origin	14,200.00	10,303.02	4,720.06	4,589.91	36.266	ES
McCaffrey State LD12-75-1BHN - Original Drilling - Origin	16,291.58	10,303.02	5,174.64	5,009.37	31.309	SF
McCaffrey State LD12-75HN - Original Drilling - Original	13,796.67	10,402.02	4,722.74	4,595.45	37.103	CC
McCaffrey State LD12-75HN - Original Drilling - Original	13,900.00	10,402.02	4,723.87	4,594.75	36.585	ES
McCaffrey State LD12-75HN - Original Drilling - Original	16,000.00	10,402.02	5,211.43	5,044.63	31.244	SF
Nalen State LD12-76-1AHN - Original Drilling - Original D	13,331.91	10,388.02	4,728.27	4,605.22	38.424	CC, ES
Nalen State LD12-76-1AHN - Original Drilling - Original D	15,700.00	10,388.02	5,288.14	5,136.62	34.900	SF
Nalen State LD12-77-1BHN - Original Drilling - Original D	12,954.41	10,419.02	4,728.74	4,612.26	40.598	CC
Nalen State LD12-77-1BHN - Original Drilling - Original D	13,000.00	10,419.02	4,728.96	4,612.13	40.476	ES
Nalen State LD12-77-1BHN - Original Drilling - Original D	15,400.00	10,419.02	5,323.71	5,171.97	35.085	SF
Nalen State LD12-77HN - Original Drilling - Original Drilli	12,457.97	10,320.02	4,789.13	4,680.05	43.906	CC
Nalen State LD12-77HN - Original Drilling - Original Drilli	12,500.00	10,320.02	4,789.31	4,679.67	43.682	ES
Nalen State LD12-77HN - Original Drilling - Original Drilli	15,000.00	10,320.02	5,421.96	5,270.21	35.728	SF
Smith State LD12-72-1AHN - Original Drilling - Original D	15,938.75	10,216.02	4,710.10	4,556.00	30.566	CC, ES
Smith State LD12-72-1AHN - Original Drilling - Original D	16,291.58	10,216.02	4,722.96	4,566.49	30.185	SF
Smith State LD12-73-1BHN - Original Drilling - Original D	15,506.32	10,286.02	4,711.45	4,564.30	32.019	CC
Smith State LD12-73-1BHN - Original Drilling - Original D	15,600.00	10,286.02	4,712.38	4,564.26	31.814	ES
Smith State LD12-73-1BHN - Original Drilling - Original D	16,291.58	10,286.02	4,776.11	4,618.35	30.274	SF
Smith State LD12-73HN - Original Drilling - Original Drilli	15,073.99	10,349.02	4,715.57	4,574.49	33.425	CC
Smith State LD12-73HN - Original Drilling - Original Drilli	15,100.00	10,349.02	4,715.64	4,574.17	33.335	ES
Smith State LD12-73HN - Original Drilling - Original Drilli	16,291.58	10,349.02	4,869.90	4,707.06	29.907	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 Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Reference Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Tatanka Federal LD13-625	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						
LD Section 02						
Gonsoulin State LD11-76HN - Original Drilling - Original D	7,835.71	10,851.00	4,711.00	4,653.87	82.460	CC, ES
Gonsoulin State LD11-76HN - Original Drilling - Original D	11,600.00	10,851.00	6,030.21	5,911.75	50.906	SF
Gradishar State LD11-72-1BHN - Original Drilling - Origin	10,942.00	10,443.02	4,737.70	4,646.77	52.102	CC
Gradishar State LD11-72-1BHN - Original Drilling - Origin	11,000.00	10,443.02	4,738.06	4,646.53	51.768	ES
Gradishar State LD11-72-1BHN - Original Drilling - Origin	13,800.00	10,443.02	5,532.99	5,394.89	40.067	SF
Gradishar State LD11-72HN - Original Drilling - Original D	10,497.80	10,436.02	4,732.93	4,646.52	54.770	CC
Gradishar State LD11-72HN - Original Drilling - Original D	10,600.00	10,436.02	4,734.04	4,646.05	53.804	ES
Gradishar State LD11-72HN - Original Drilling - Original D	13,400.00	10,436.02	5,551.89	5,413.35	40.077	SF
Gradishar State LD11-73-1AHN - Original Drilling - Origin	10,042.63	10,448.02	4,727.31	4,643.53	56.427	CC
Gradishar State LD11-73-1AHN - Original Drilling - Origin	10,100.00	10,448.02	4,727.66	4,642.79	55.706	ES
Gradishar State LD11-73-1AHN - Original Drilling - Origin	12,900.00	10,448.02	5,523.77	5,385.56	39.966	SF
Little State LD11-74-1BHN - Original Drilling - Original Dr	9,595.14	10,663.00	4,727.62	4,651.42	62.048	CC
Little State LD11-74-1BHN - Original Drilling - Original Dr	9,600.00	10,663.00	4,727.62	4,651.39	62.020	ES
Little State LD11-74-1BHN - Original Drilling - Original Dr	12,800.00	10,663.00	5,711.52	5,583.31	44.548	SF
Little State LD11-74HN - Original Drilling - Original Drillin	9,156.55	10,598.00	4,722.05	4,651.42	66.853	CC
Little State LD11-74HN - Original Drilling - Original Drillin	9,200.00	10,598.00	4,722.25	4,651.08	66.356	ES
Little State LD11-74HN - Original Drilling - Original Drillin	12,400.00	10,598.00	5,728.67	5,600.07	44.546	SF
Moses State LD11-77-1AHN - Original Drilling - Original D	7,427.72	10,911.02	4,709.47	4,657.41	90.468	CC
Moses State LD11-77-1AHN - Original Drilling - Original D	7,500.00	10,911.02	4,710.02	4,657.31	89.355	ES
Moses State LD11-77-1AHN - Original Drilling - Original D	11,200.00	10,911.02	6,034.00	5,915.67	50.993	SF
Moses State LD11-78-1BHN - Original Drilling - Original D	4,017.07	10,639.02	4,603.59	4,553.59	92.065	CC, ES
Moses State LD11-78-1BHN - Original Drilling - Original D	10,800.00	10,639.02	6,049.46	5,934.78	52.748	SF
Moses State LD11-78HN - Original Drilling - Original Drill	4,051.62	10,870.02	4,551.24	4,507.76	104.668	CC, ES
Moses State LD11-78HN - Original Drilling - Original Drill	10,500.00	10,870.02	6,167.63	6,050.36	52.596	SF
LD Section 11						
Castor LD11-75HN - Original Drilling - Original Drilling - A	8,547.67	9,890.00	5,051.83	4,987.91	79.027	CC
Castor LD11-75HN - Original Drilling - Original Drilling - A	8,600.00	9,890.00	5,052.10	4,987.54	78.254	ES
Castor LD11-75HN - Original Drilling - Original Drilling - A	12,100.00	9,890.00	6,175.76	6,057.44	52.192	SF
LD Section 12						
Castor Federal LD13-78HN - Original Drilling - Oringinal	11,800.00	9,672.95	37.16	-67.06	0.357	Level 1, ES
Castor Federal LD13-78HN - Original Drilling - Oringinal	11,830.17	9,671.98	21.72	-61.10	0.262	Level 1, CC, SF
Castor LD12-78HN - Original Drilling - Original Drilling - A	11,808.54	4,851.16	4,729.81	4,637.01	50.967	CC
Castor LD12-78HN - Original Drilling - Original Drilling - A	11,900.00	4,851.09	4,730.69	4,636.88	50.428	ES
Castor LD12-78HN - Original Drilling - Original Drilling - A	13,200.00	4,850.15	4,930.24	4,825.42	47.034	SF
LD Section 13						
Kog Nicola #1 (DA) - Original Drilling - Original Drilling - A	15,747.39	5,309.00	2,386.61	2,151.65	10.157	CC, ES
Kog Nicola #1 (DA) - Original Drilling - Original Drilling - A	15,900.00	5,309.00	2,391.49	2,155.16	10.120	SF
Rauth #G (DA) - Original Drilling - Original Drilling - As D	14,099.80	5,516.00	2,064.41	1,845.50	9.430	CC
Rauth #G (DA) - Original Drilling - Original Drilling - As D	14,100.00	5,516.00	2,064.41	1,845.50	9.430	ES
Rauth #G (DA) - Original Drilling - Original Drilling - As D	14,200.00	5,516.00	2,066.84	1,847.02	9.403	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Reference Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Tatanka Federal LD13-625	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						
LD Section 14						
Alice G Nay #1 (PA) - Original Drilling - Original Drilling -	8,863.31	5,528.00	721.26	564.95	4.614	CC, ES, SF
Alice Nay #1 (DA) - Original Drilling - Original Drilling - As	8,841.85	5,558.00	2,714.32	2,557.65	17.325	CC, ES
Alice Nay #1 (DA) - Original Drilling - Original Drilling - As	9,200.00	5,558.00	2,737.85	2,577.96	17.124	SF
Alice Nay #1/2 (DA) - Original Drilling - Original Drilling -	8,858.92	5,538.00	1,384.39	1,227.92	8.848	CC, ES
Alice Nay #1/2 (DA) - Original Drilling - Original Drilling -	8,900.00	5,538.00	1,385.00	1,228.20	8.833	SF
Alice Nay #1/3 (DA) - Original Drilling - Original Drilling -	9,189.47	5,535.00	1,054.53	894.37	6.584	CC
Alice Nay #1/3 (DA) - Original Drilling - Original Drilling -	9,200.00	5,535.00	1,054.58	894.34	6.581	ES, SF
Alice Nay #2 (DA) - Original Drilling - Original Drilling - As	9,339.11	5,541.00	1,057.29	895.29	6.527	CC, ES
Alice Nay #2 (DA) - Original Drilling - Original Drilling - As	9,400.00	5,541.00	1,059.04	896.64	6.521	SF
Brady #1 (DA) - Original Drilling - Original Drilling - As Dr	10,502.41	5,571.00	2,405.79	2,229.54	13.650	CC, ES
Brady #1 (DA) - Original Drilling - Original Drilling - As Dr	10,800.00	5,571.00	2,424.13	2,245.28	13.554	SF
Castor Federal LD14-68HN - Original Drilling - Original D	2,751.03	3,148.94	2,931.59	2,914.14	168.017	CC
Castor Federal LD14-68HN - Original Drilling - Original D	2,800.00	3,204.69	2,931.95	2,914.04	163.698	ES
Castor Federal LD14-68HN - Original Drilling - Original D	10,400.00	10,400.00	3,767.43	3,580.82	20.189	SF
McDermott #1-14 (PA) - Original Drilling - Original Drilling	9,027.78	5,528.00	887.89	729.71	5.613	CC, ES, SF
Nay #1 (DA) - Original Drilling - Original Drilling - As Drille	8,854.60	5,700.00	2,058.44	1,898.79	12.893	CC, ES
Nay #1 (DA) - Original Drilling - Original Drilling - As Drille	9,100.00	5,700.00	2,073.02	1,911.32	12.820	SF
Zimith #1 (DA) - Original Drilling - Original Drilling - As Dr	2,400.00	2,368.00	1,696.81	1,641.08	30.447	CC
Zimith #1 (DA) - Original Drilling - Original Drilling - As Dr	2,500.00	2,467.98	1,698.05	1,639.98	29.241	ES
Zimith #1 (DA) - Original Drilling - Original Drilling - As Dr	7,100.00	5,551.00	2,048.74	1,910.42	14.812	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Reference Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Tatanka Federal LD13-625	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
LD Section 15						
Castor Federal LD15-72HN - Original Drilling - Original D	5,514.04	9,521.64	406.94	331.32	5.381	CC
Castor Federal LD15-72HN - Original Drilling - Original D	5,550.00	9,531.73	409.39	329.92	5.152	ES
Castor Federal LD15-72HN - Original Drilling - Original D	5,600.00	9,545.09	420.76	336.77	5.010	SF
Castor Federal LD15-73-1HN - Original Drilling - Original	5,398.29	9,444.77	692.53	610.31	8.423	CC
Castor Federal LD15-73-1HN - Original Drilling - Original	5,400.00	9,445.35	692.54	610.22	8.413	ES
Castor Federal LD15-73-1HN - Original Drilling - Original	5,500.00	9,477.74	707.16	620.04	8.117	SF
Castor Federal LD15-74-1HN - Original Drilling - Original D	5,368.57	9,554.02	1,021.09	937.69	12.243	CC, ES
Castor Federal LD15-73HN - Original Drilling - Original D	5,500.00	9,599.20	1,041.82	954.04	11.869	SF
Castor Federal LD15-74-1HN - Original Drilling - Original	5,337.52	9,701.78	1,383.59	1,302.12	16.982	CC
Castor Federal LD15-74-1HN - Original Drilling - Original	5,350.00	9,705.64	1,383.77	1,301.97	16.917	ES
Castor Federal LD15-75-1HN - Original Drilling - Original	5,500.00	9,753.05	1,412.40	1,327.12	16.562	SF
Castor Federal LD15-74HN - Original Drilling - Original D	5,288.41	9,513.28	1,653.94	1,571.28	20.009	CC
Castor Federal LD15-74HN - Original Drilling - Original D	5,300.00	9,518.12	1,654.08	1,571.17	19.949	ES
Castor Federal LD15-74HN - Original Drilling - Original D	5,500.00	9,619.91	1,699.26	1,612.07	19.490	SF
Castor Federal LD15-75-1HN - Original Drilling - Original	5,291.64	9,701.68	1,982.45	1,897.87	23.436	CC
Castor Federal LD15-75-1HN - Original Drilling - Original	5,300.00	9,704.68	1,982.52	1,897.77	23.392	ES
Castor Federal LD15-75-1HN - Original Drilling - Original	5,500.00	9,780.69	2,025.25	1,936.95	22.935	SF
Dillos PC LD15-74HN - Original Drilling - Original Drilling	5,223.53	9,414.04	2,587.98	2,504.75	31.097	CC, ES
Dillos PC LD15-74HN - Original Drilling - Original Drilling	5,400.00	9,458.00	2,617.54	2,532.10	30.638	SF
Fiscus Federal LD15-76HN - Original Drilling - Original D	5,221.33	9,457.85	2,923.37	2,835.09	33.115	CC, ES
Fiscus Federal LD15-76HN - Original Drilling - Original D	5,450.00	9,556.88	2,971.22	2,879.60	32.428	SF
Fiscus Federal LD15-77-1HN - Original Drilling - Original	5,218.87	9,513.02	3,261.57	3,174.15	37.308	CC, ES
Fiscus Federal LD15-77-1HN - Original Drilling - Original	5,450.00	9,595.19	3,309.79	3,219.37	36.604	SF
Fiscus Federal LD15-77HN - Original Drilling - Original D	5,205.67	9,472.86	3,491.73	3,403.49	39.573	CC, ES
Fiscus Federal LD15-77HN - Original Drilling - Original D	5,450.00	9,579.21	3,544.37	3,452.81	38.710	SF
Tatanka Federal LD13-615 - Wellbore #1 - Plan #1	2,115.64	2,116.64	36.53	21.83	2.484	CC
Tatanka Federal LD13-615 - Wellbore #1 - Plan #1	2,200.00	2,200.96	36.54	21.23	2.386	ES
Tatanka Federal LD13-615 - Wellbore #1 - Plan #1	16,291.58	16,484.46	580.84	309.19	2.138	SF
Tatanka Federal LD13-635 - Wellbore #1 - Plan #1	2,400.00	2,400.00	36.43	19.69	2.176	CC, ES, SF
Tatanka Federal LD13-645 - Wellbore #1 - Plan #1	2,400.00	2,401.00	76.51	59.77	4.570	CC, ES
Tatanka Federal LD13-645 - Wellbore #1 - Plan #1	2,500.00	2,501.02	78.25	60.81	4.486	SF
Tatanka Federal LD13-650 - Wellbore #1 - Plan #1	3,337.35	3,942.71	1,720.66	1,696.25	70.509	CC
Tatanka Federal LD13-650 - Wellbore #1 - Plan #1	16,290.64	16,262.14	1,895.07	1,623.94	6.989	ES
Tatanka Federal LD13-650 - Wellbore #1 - Plan #1	16,291.58	16,262.14	1,895.08	1,623.94	6.989	SF
Tatanka Federal LD13-660 - Wellbore #1 - Plan #1	2,774.04	3,039.02	1,910.47	1,890.51	95.706	CC
Tatanka Federal LD13-660 - Wellbore #1 - Plan #1	2,800.00	3,064.97	1,910.59	1,890.46	94.890	ES
Tatanka Federal LD13-660 - Wellbore #1 - Plan #1	16,291.58	16,173.38	2,514.73	2,243.44	9.270	SF
Tatanka Federal LD13-670 - Wellbore #1 - Plan #1	2,400.00	2,417.00	1,964.04	1,947.24	116.896	CC, ES
Tatanka Federal LD13-670 - Wellbore #1 - Plan #1	16,291.58	16,154.79	3,134.81	2,863.44	11.552	SF
Tatanka Federal LD13-685 - Wellbore #1 - Plan #1	2,109.35	2,127.35	2,000.52	1,985.80	135.892	CC
Tatanka Federal LD13-685 - Wellbore #1 - Plan #1	2,200.00	2,200.00	2,000.60	1,985.29	130.705	ES
Tatanka Federal LD13-685 - Wellbore #1 - Plan #1	16,291.58	16,259.63	3,935.86	3,664.19	14.487	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 Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Reference Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Tatanka Federal LD13-625	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						
LD Section 22						
Fiscus LD22-76HN - Original Drilling - As Drilled	5,325.66	10,079.02	3,364.38	3,279.91	39.828	CC, ES
Fiscus LD22-76HN - Original Drilling - As Drilled	5,550.00	10,079.02	3,406.56	3,319.75	39.239	SF
Gracie LD22-720 - Original Drilling - Original Drilling - As	5,722.55	10,754.00	1,428.81	1,382.58	30.909	CC, ES
Gracie LD22-720 - Original Drilling - Original Drilling - As	5,900.00	10,754.00	1,454.32	1,406.72	30.554	SF
Gracie LD22-730 - Original Drilling - Original Drilling - As	5,515.31	10,481.00	1,719.48	1,670.51	35.112	CC, ES
Gracie LD22-730 - Original Drilling - Original Drilling - As	5,750.00	10,481.00	1,765.72	1,713.84	34.038	SF
Gracie LD22-740 - Original Drilling - Original Drilling - As	5,402.36	10,427.00	2,159.84	2,076.44	25.896	CC, ES
Gracie LD22-740 - Original Drilling - Original Drilling - As	5,650.00	10,427.00	2,212.69	2,124.68	25.141	SF
Gracie LD22-750 - Original Drilling - Original Drilling - As	5,351.29	10,575.00	2,691.49	2,597.93	28.766	CC, ES
Gracie LD22-750 - Original Drilling - Original Drilling - As	5,550.00	10,575.00	2,726.15	2,630.04	28.364	SF
Kidd LD22-770 - Original Drilling - Original Drilling - As D	5,269.24	10,396.00	3,844.85	3,750.28	40.658	CC, ES
Kidd LD22-770 - Original Drilling - Original Drilling - As D	5,450.00	10,396.00	3,873.17	3,777.03	40.287	SF
Kidd LD22-780 - Original Drilling - Original Drilling - As D	5,256.53	10,500.00	4,452.08	4,353.60	45.208	CC, ES
Kidd LD22-780 - Original Drilling - Original Drilling - As D	5,450.00	10,500.00	4,484.27	4,384.40	44.901	SF
LD Section 23						
Fiscus Federal LD23-78HN - Original Drilling - Original D	6,594.52	10,037.02	1,594.83	1,548.93	34.752	CC
Fiscus Federal LD23-78HN - Original Drilling - Original D	6,600.00	10,037.02	1,594.84	1,548.92	34.733	ES
Fiscus Federal LD23-78HN - Original Drilling - Original D	7,800.00	10,037.02	1,999.16	1,917.89	24.597	SF
Hensley #A-1 (DA) - Hensley #A-1 OH - As-drilled (No Su	9,201.59	5,553.00	1,586.99	1,325.46	6.068	CC, ES
Hensley #A-1 (DA) - Hensley #A-1 OH - As-drilled (No Su	9,300.00	5,553.00	1,590.04	1,327.22	6.050	SF
Ingram #1 (DA) - Ingram #1 OH - As-drilled (No Surveys)	10,520.71	5,549.00	1,572.88	1,296.00	5.681	CC, ES
Ingram #1 (DA) - Ingram #1 OH - As-drilled (No Surveys)	10,600.00	5,549.00	1,574.87	1,296.93	5.666	SF

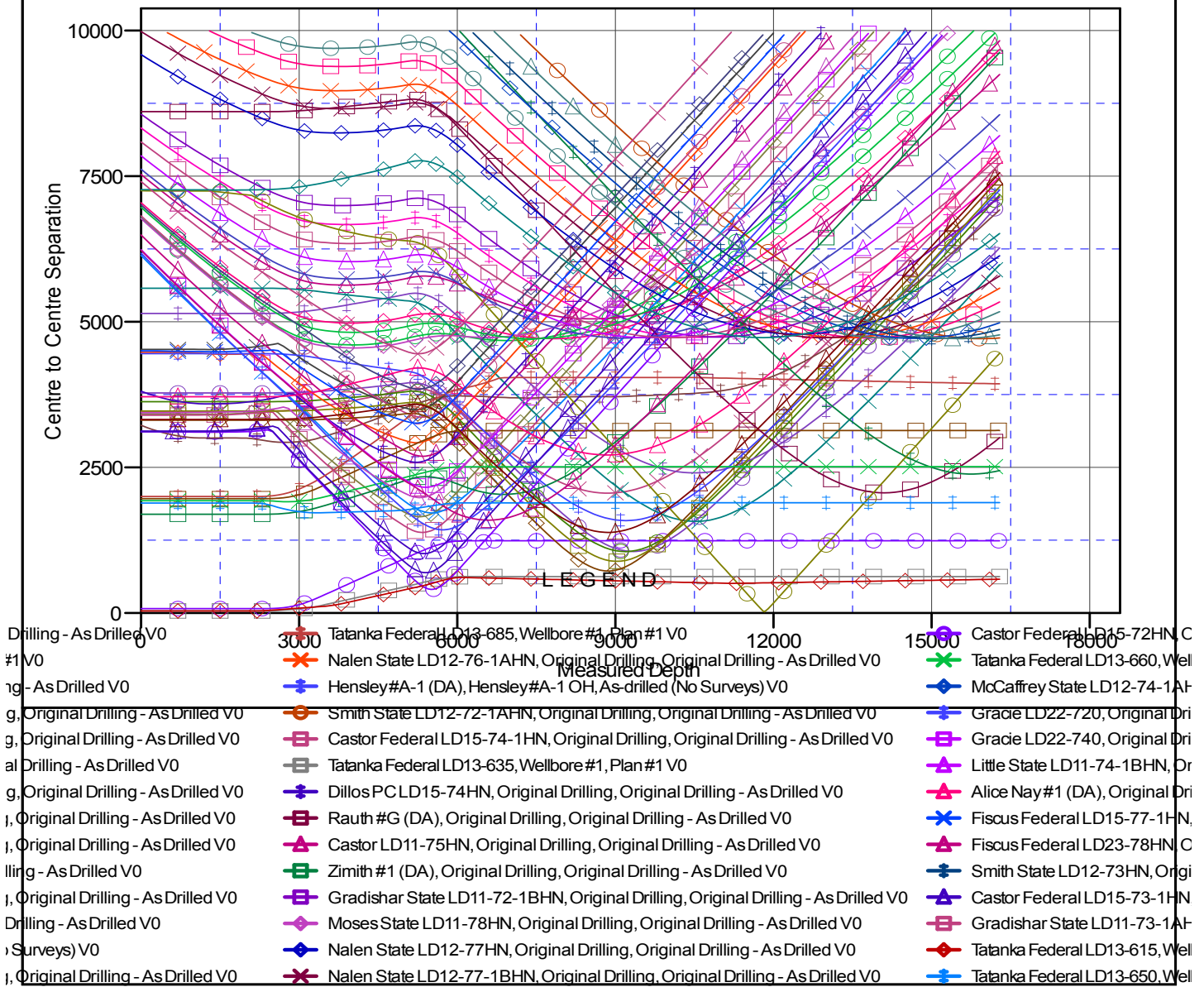
Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Reference Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Tatanka Federal LD13-625	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 @ 4692.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Tatanka Federal LD13-625
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.07°

Ladder Plot



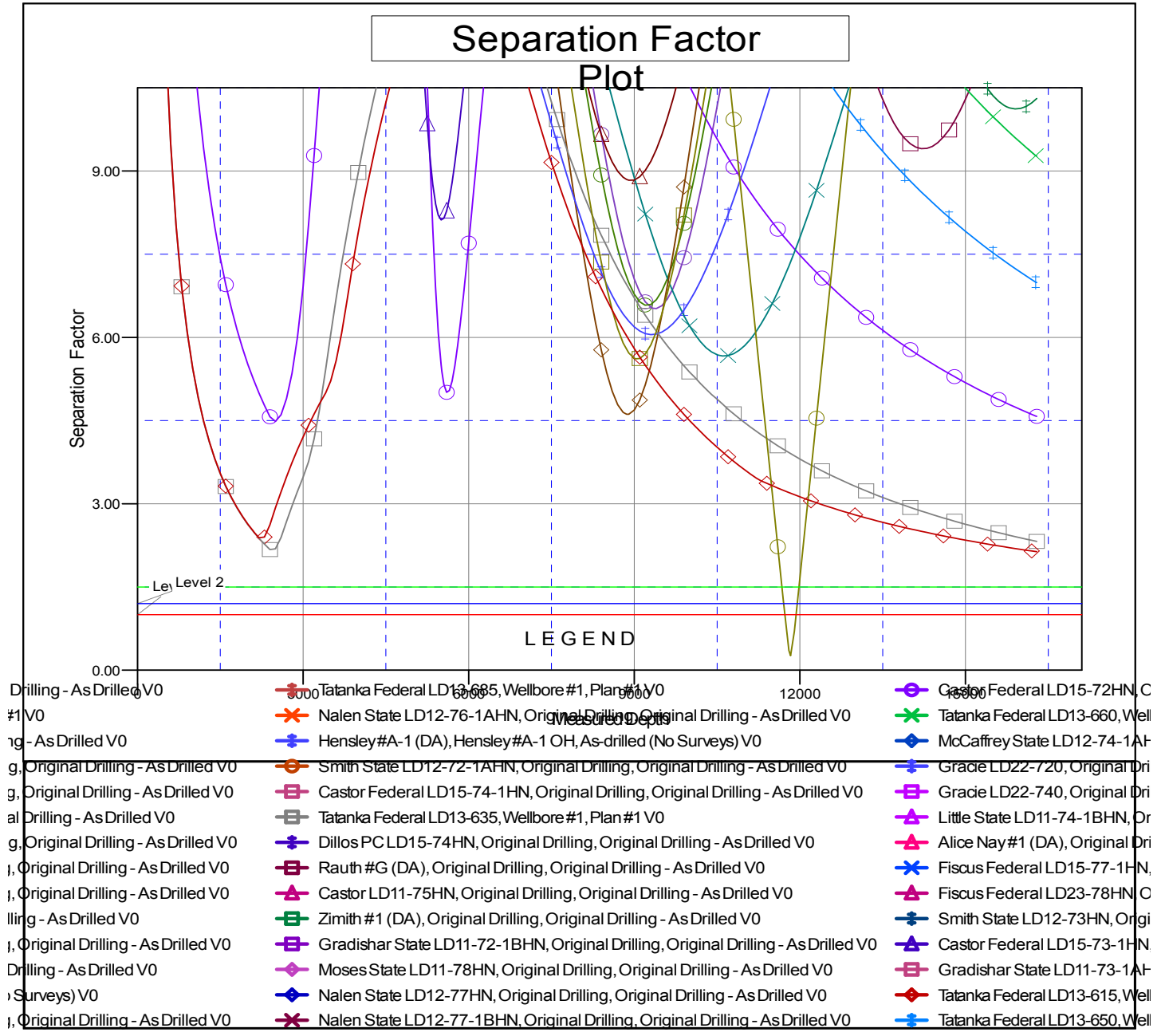
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Tatanka Federal LD13-625
Project:	East Pony	TVD Reference:	KB @ 4692.00ft
Reference Site:	LD Section 15	MD Reference:	KB @ 4692.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Tatanka Federal LD13-625	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 @ 4692.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Tatanka Federal LD13-625
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.07°



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