

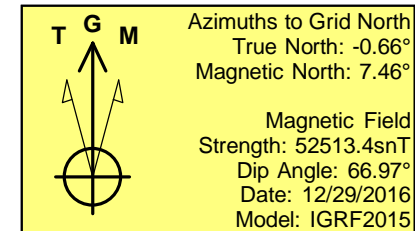
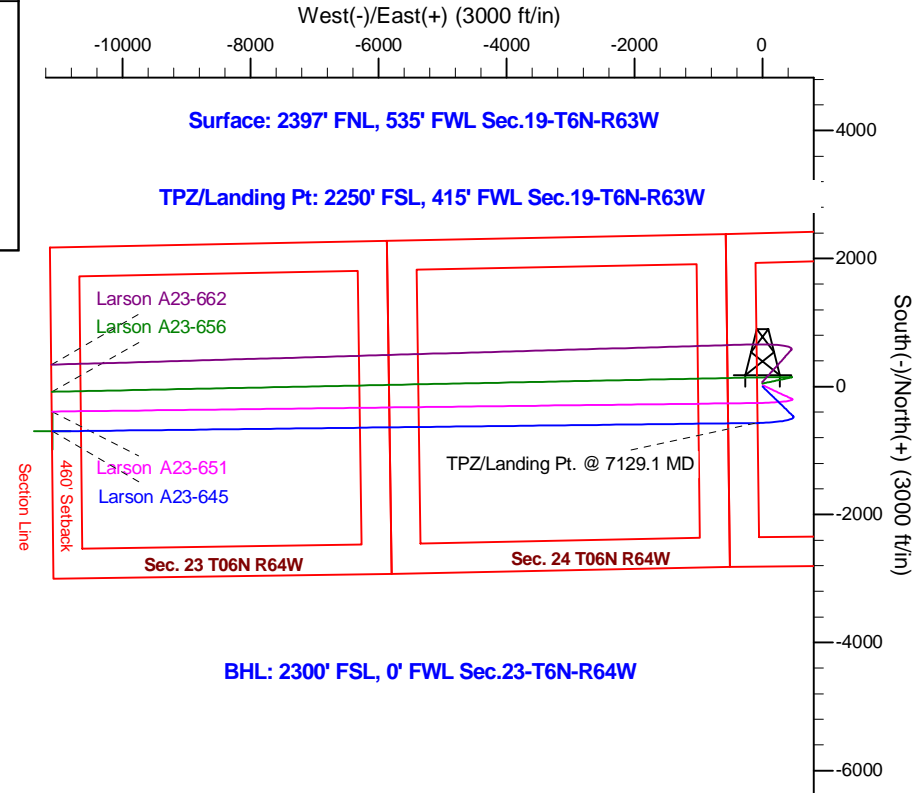
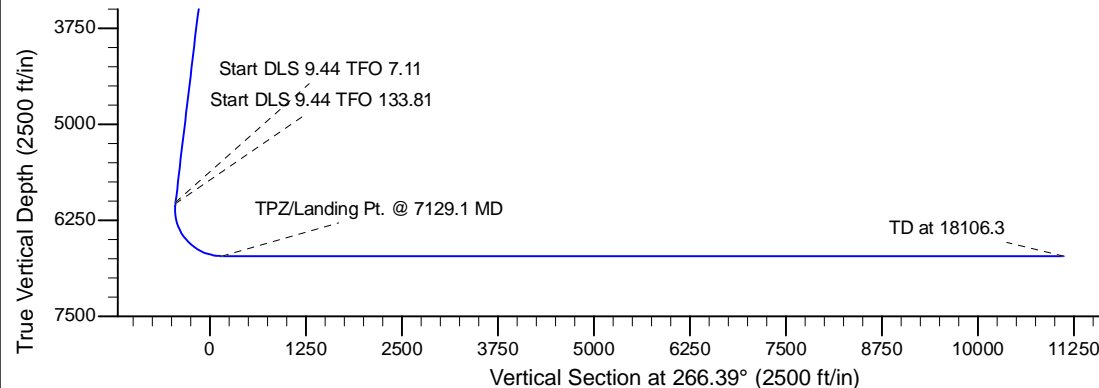
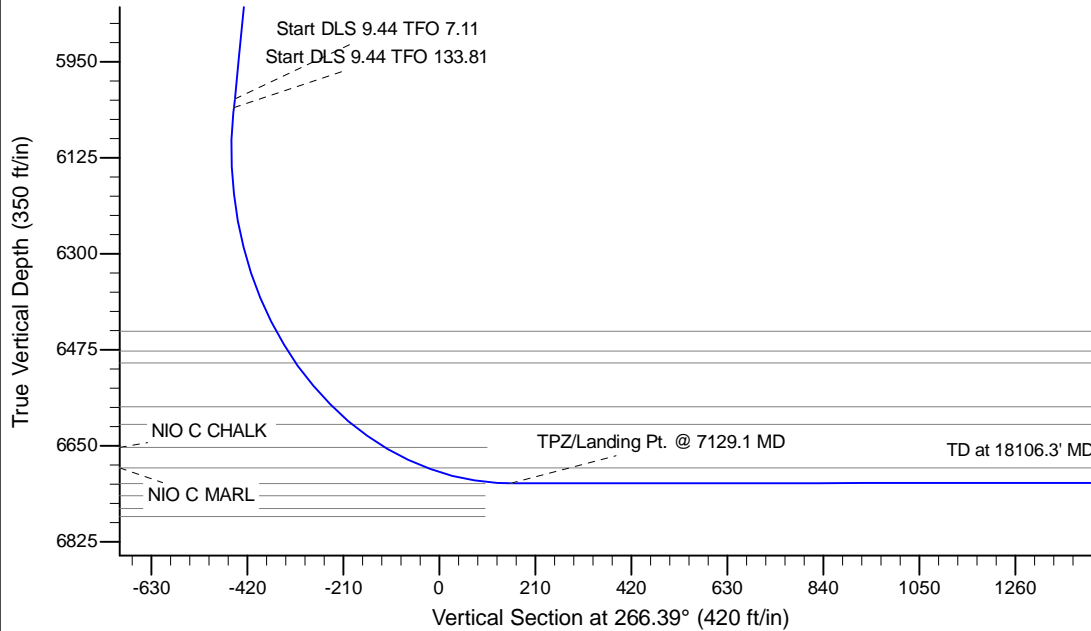
Project: Wells Ranch
 Site: AA Section 19-T6N-R63W Weld County, CO
 Well: Larson A23-645
 Wellbore: Original Drilling
 Design: APD - Rev 0

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	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	
3	2500.0	10.00	134.00	2497.5	-30.2	31.3	2.00	134.00	-29.3	
4	6074.8	10.00	134.00	6018.0	-461.5	477.8	0.00	0.00	-447.9	
5	6090.7	11.48	134.93	6033.5	-463.5	480.0	9.44	7.11	-449.8	
6	7129.1	90.00	269.32	6718.0	-570.0	-120.0	9.44	133.81	155.6	
7	18106.3	90.00	269.32	6718.0	-699.9	-11096.5	0.00	0.00	11118.5	Larson A23-645 BHL 2300'FSL 0'FWL



WELL DETAILS: Larson A23-645					
		Ground Elevation: 4649.0			
	Northing	Easting	Latitude	Longitude	
0.0	0.0	1416575.06	3281864.95	40.4724799	-104.4868500
Plan: APD - Rev 0 (Larson A23-645/Original Drilling)					
Created By: Shailey Jewell			Date: 9:55, January 06 2017		
OK to submit with 2A as per Noble Drilling 1/6/2017 9:59					

Northern Region - DJ Basin

Wells Ranch

AA Section 19

Larson A23-645

Original Drilling

APD - Rev 0

Anticollision Summary Report

06 January, 2017

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Larson A23-645
Project:	Wells Ranch	TVD Reference:	WELL @ 4679.0ft (Original Well Elev.)
Reference Site:	AA Section 19	MD Reference:	WELL @ 4679.0ft (Original Well Elev.)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Larson A23-645	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.79 sigma
Reference Wellbore	Original Drilling	Database:	EDM Produccction
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference	APD - Rev 0		
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 10,000.0 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.79 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	1/6/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	18,106.3	APD - Rev 0 (Original Drilling)	MWD+IFR1+MS_WY	Fixed:v2:Rockies, crustal dec + 3-axis correction

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						
A Section 23						
Cecil 23-13 - Original Drilling - Original Drilling - As Drille	15,093.4	6,707.2	1,153.4	977.0	6.539	CC
Cecil 23-13 - Original Drilling - Original Drilling - As Drille	15,100.0	6,707.1	1,153.4	976.9	6.535	ES
Cecil 23-13 - Original Drilling - Original Drilling - As Drille	15,200.0	6,706.0	1,158.3	980.9	6.530	SF
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	17,498.4	6,723.0	289.8	-103.5	0.737	Level 1, CC
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	17,500.0	6,723.0	289.8	-103.5	0.737	Level 1, ES, SF
Champlin 23-03 - Original Drilling - Original Drilling - As D	16,367.6	6,691.4	1,564.3	1,363.8	7.803	CC
Champlin 23-03 - Original Drilling - Original Drilling - As D	16,400.0	6,690.9	1,564.6	1,363.5	7.780	ES
Champlin 23-03 - Original Drilling - Original Drilling - As D	16,500.0	6,689.7	1,569.9	1,367.2	7.746	SF
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	16,531.3	6,698.0	1,620.3	1,246.1	4.329	CC, ES
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	16,600.0	6,698.0	1,621.8	1,246.2	4.318	SF
Cooper 23-1-17 - Orignal Drilling - Orignal Drilling - As Dr	14,171.7	6,711.4	2,600.2	2,441.3	16.357	CC
Cooper 23-1-17 - Orignal Drilling - Orignal Drilling - As Dr	14,200.0	6,711.5	2,600.4	2,440.9	16.309	ES
Cooper 23-1-17 - Original Drilling - Orignal Drilling - As Dr	14,600.0	6,713.6	2,635.3	2,470.8	16.023	SF
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	15,303.4	6,669.8	1,765.6	1,585.4	9.796	CC, ES
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	15,500.0	6,667.2	1,776.5	1,594.0	9.734	SF
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	14,771.8	6,710.9	2,240.8	2,070.4	13.148	CC
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	14,800.0	6,710.7	2,241.0	2,070.1	13.113	ES
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	15,000.0	6,709.5	2,252.4	2,078.8	12.977	SF
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	15,290.8	6,685.6	416.9	236.5	2.311	CC, ES, SF
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	14,118.5	6,640.7	1,694.9	1,536.6	10.707	CC, ES
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	14,300.0	6,640.1	1,704.6	1,544.0	10.618	SF
Foss 41-23D - Original Drilling - Original Drilling - As Drill	13,472.9	6,944.1	2,264.2	2,115.9	15.267	CC
Foss 41-23D - Original Drilling - Original Drilling - As Drill	13,500.0	6,943.8	2,264.4	2,115.6	15.223	ES
Foss 41-23D - Original Drilling - Original Drilling - As Drill	13,800.0	6,940.0	2,287.7	2,135.2	15.001	SF
Foss 42-23 - Original Drilling - Original Drilling - As Drille	13,681.9	6,696.9	819.4	669.6	5.472	CC
Foss 42-23 - Original Drilling - Original Drilling - As Drille	13,700.0	6,696.8	819.6	669.6	5.466	ES, SF
J&L Farms 23-11 - Original Drilling - Original Drilling - As	17,577.7	6,717.3	2,279.2	2,055.7	10.200	CC
J&L Farms 23-11 - Original Drilling - Original Drilling - As	17,600.0	6,717.4	2,279.3	2,055.4	10.183	ES
J&L Farms 23-11 - Original Drilling - Original Drilling - As	17,800.0	6,718.2	2,290.0	2,063.7	10.119	SF
J&L Farms 23-12 - Original Drilling - Original Drilling - As	17,684.6	6,705.4	791.9	566.3	3.510	CC
J&L Farms 23-12 - Original Drilling - Original Drilling - As	17,700.0	6,705.9	792.0	566.2	3.508	ES, SF
J&L Farms 23-21 - Original Drilling - Original Drilling - As	15,960.8	6,680.8	2,499.9	2,307.3	12.974	CC
J&L Farms 23-21 - Original Drilling - Original Drilling - As	16,000.0	6,680.3	2,500.3	2,306.9	12.932	ES
J&L Farms 23-21 - Original Drilling - Original Drilling - As	16,300.0	6,676.4	2,522.9	2,325.9	12.810	SF
J&L Farms 23-22 - Original Drilling - Original Drilling - As	16,199.6	6,681.3	1,016.8	819.4	5.151	CC
J&L Farms 23-22 - Original Drilling - Original Drilling - As	16,200.0	6,681.3	1,016.8	819.4	5.151	ES, SF
McIntosh 33-23 - Original Drilling - Original Drilling - As D	14,795.6	6,652.1	514.1	343.7	3.016	CC

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

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Larson A23-645
Project:	Wells Ranch	TVD Reference:	WELL @ 4679.0ft (Original Well Elev.)
Reference Site:	AA Section 19	MD Reference:	WELL @ 4679.0ft (Original Well Elev.)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Larson A23-645	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.79 sigma
Reference Wellbore	Original Drilling	Database:	EDM Production
Reference Design:	APD - Rev 0	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						
A Section 23						
McIntosh 33-23 - Original Drilling - Original Drilling - As D	14,800.0	6,652.3	514.2	343.6	3.014	ES, SF
McIntosh 34-23 - Original Drilling - Original Drilling - As D	14,665.6	6,658.5	1,629.8	1,461.6	9.690	CC
McIntosh 34-23 - Original Drilling - Original Drilling - As D	14,700.0	6,658.8	1,630.2	1,461.3	9.652	ES
McIntosh 34-23 - Original Drilling - Original Drilling - As D	14,800.0	6,659.5	1,635.3	1,464.8	9.589	SF
McIntosh 43-23 - Original Drilling - Original Drilling - As D	13,309.6	6,722.3	231.4	88.6	1.621	CC, ES, SF
McIntosh 44-23 - Original Drilling - Original Drilling - As D	13,243.6	6,634.8	1,807.9	1,666.5	12.787	CC
McIntosh 44-23 - Original Drilling - Original Drilling - As D	13,300.0	6,635.7	1,808.8	1,666.3	12.693	ES
McIntosh 44-23 - Original Drilling - Original Drilling - As D	13,500.0	6,639.0	1,826.0	1,680.5	12.549	SF
Schroeder 23-31 - Original Drilling - Original Drilling - As	15,953.2	6,698.1	576.6	383.9	2.992	CC, ES
Schroeder 23-31 - Original Drilling - Original Drilling - As	16,000.0	6,697.9	578.5	385.2	2.992	SF
Schroeder 23-33 - Original Drilling - Original Drilling - As	17,612.9	6,708.8	1,881.6	1,657.4	8.389	CC, ES
Schroeder 23-33 - Original Drilling - Original Drilling - As	17,800.0	6,707.6	1,890.9	1,663.7	8.322	SF
A Section 24						
Larson Farms 01-24 - Original Drilling - Original Drilling -	8,222.4	6,772.7	2,304.5	2,232.5	32.015	CC, ES
Larson Farms 01-24 - Original Drilling - Original Drilling -	8,600.0	6,764.9	2,335.2	2,260.7	31.341	SF
Larson Farms 02-24 - Original Drilling - Original Drilling -	8,167.2	6,960.1	990.9	917.9	13.574	CC
Larson Farms 02-24 - Original Drilling - Original Drilling -	8,200.0	6,959.3	991.5	917.8	13.451	ES
Larson Farms 02-24 - Original Drilling - Original Drilling -	8,300.0	6,956.9	999.8	924.3	13.232	SF
Larson Farms 03-24 - Original Drilling - Original Drilling -	9,489.6	6,805.7	303.4	217.3	3.524	CC, ES
Larson Farms 03-24 - Original Drilling - Original Drilling -	9,500.0	6,805.6	303.5	217.4	3.522	SF
Larson Farms 04-24 - Original Drilling - Original Drilling -	8,200.0	7,243.1	303.7	203.4	3.028	ES, SF
Larson Farms 04-24 - Original Drilling - Original Drilling -	8,200.2	7,243.1	303.7	203.4	3.028	CC
Larson Farms 05-24 - Original Drilling - Original Drilling -	8,892.0	7,066.2	923.9	832.0	10.051	CC, ES, SF
Larson Farms 06-24 - Original Drilling - Original Drilling -	8,200.0	7,117.1	1,600.7	1,500.7	16.015	SF
Larson Farms 06-24 - Original Drilling - Original Drilling -	8,293.7	7,107.3	1,598.0	1,498.4	16.046	CC, ES
Larson Farms 07-24 - Original Drilling - Original Drilling -	9,492.9	7,114.4	1,630.9	1,540.9	18.118	CC
Larson Farms 07-24 - Original Drilling - Original Drilling -	9,500.0	7,114.3	1,630.9	1,540.9	18.113	ES
Larson Farms 07-24 - Original Drilling - Original Drilling -	9,600.0	7,112.6	1,634.4	1,544.0	18.091	SF
Peppler 24-32 - Original Drilling - Original Drilling - As Dr	12,315.1	6,683.6	129.0	5.0	1.041	Level 2, CC, ES, SF
Roth 24-21 - Original Drilling - Original Drilling - As Drilled	10,890.6	6,664.8	2,216.4	2,118.8	22.718	CC
Roth 24-21 - Original Drilling - Original Drilling - As Drilled	10,900.0	6,665.0	2,216.4	2,118.7	22.682	ES
Roth 24-21 - Original Drilling - Original Drilling - As Drilled	11,400.0	6,679.3	2,274.1	2,170.1	21.857	SF

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Larson A23-645
Project:	Wells Ranch	TVD Reference:	WELL @ 4679.0ft (Original Well Elev.)
Reference Site:	AA Section 19	MD Reference:	WELL @ 4679.0ft (Original Well Elev.)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Larson A23-645	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.79 sigma
Reference Wellbore	Original Drilling	Database:	EDM Production
Reference Design:	APD - Rev 0	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
AA Section 19						
J&L Farms 31-19 - Original Drilling - Original Drilling - As	4,857.8	4,803.6	3,053.4	3,026.2	112.134	CC
J&L Farms 31-19 - Original Drilling - Original Drilling - As	6,074.8	6,022.3	3,055.3	3,020.4	87.669	ES
J&L Farms 31-19 - Original Drilling - Original Drilling - As	6,800.0	6,638.0	3,309.1	3,269.0	82.576	SF
J&L Farms 32-19 - Original Drilling - Original Drilling - As	6,164.6	6,144.4	1,957.2	1,922.0	55.690	CC, ES
J&L Farms 32-19 - Original Drilling - Original Drilling - As	6,300.0	6,268.3	1,971.8	1,936.0	55.093	SF
J&L Farms 41-19 - Original Drilling - Original Drilling - As	6,103.0	5,992.1	4,105.9	4,071.1	117.896	CC, ES
J&L Farms 41-19 - Original Drilling - Original Drilling - As	6,450.0	6,313.6	4,183.5	4,147.1	114.951	SF
J&L Farms 42-19 - Original Drilling - Original Drilling - As	6,152.8	6,045.5	3,730.0	3,695.2	107.284	CC, ES
J&L Farms 42-19 - Original Drilling - Original Drilling - As	6,400.0	6,264.0	3,779.6	3,743.7	105.309	SF
Larson A23-651 - Original Drilling - APD - Rev 0	2,000.0	2,000.0	21.9	9.7	1.801	CC
Larson A23-651 - Original Drilling - APD - Rev 0	18,106.3	18,048.9	310.4	-123.2	0.716	Level 1, ES, SF
Larson A23-656 - Original Drilling - APD - Rev 0	2,000.0	2,000.0	47.4	35.3	3.910	CC, ES
Larson A23-656 - Original Drilling - APD - Rev 0	18,106.3	18,073.9	619.3	184.6	1.425	Level 3, SF
Larson A23-662 - Original Drilling - APD - Rev 0	2,000.0	2,000.0	69.3	57.1	5.709	CC, ES
Larson A23-662 - Original Drilling - APD - Rev 0	18,106.3	18,064.8	1,042.5	608.0	2.399	SF
Larson A23-668 - Original Drilling - APD - Rev 0	18,106.3	17,466.4	1,413.5	995.1	3.378	CC, ES, SF
Larson A23-672 - Original Drilling - APD - Rev 0	18,106.3	17,459.1	1,724.3	1,310.1	4.162	CC, ES, SF
Larson A23-678 - Original Drilling - APD - Rev 0	2,000.0	2,002.0	1,914.9	1,902.8	157.730	CC
Larson A23-678 - Original Drilling - APD - Rev 0	18,106.3	17,179.6	2,076.5	1,658.3	4.965	ES, SF
Larson A23-683 - Original Drilling - APD - Rev 0	2,001.1	2,004.8	1,934.8	1,922.6	159.215	CC, ES
Larson A23-683 - Original Drilling - APD - Rev 0	18,106.3	17,320.2	2,387.4	1,969.1	5.708	SF
Larson USX AA19-03 - Original Drilling - Original Drilling	2,546.7	2,553.9	2,239.4	2,225.7	163.642	CC
Larson USX AA19-03 - Original Drilling - Original Drilling	2,700.0	2,696.6	2,239.7	2,225.3	154.666	ES
Larson USX AA19-03 - Original Drilling - Original Drilling	6,400.0	6,415.2	2,345.2	2,308.7	64.336	SF
Larson USX AA19-04 - Original Drilling - Original Drilling	1,150.1	1,123.1	1,655.2	1,649.0	270.368	CC
Larson USX AA19-04 - Original Drilling - Original Drilling	2,100.0	2,105.0	1,655.5	1,644.1	145.078	ES
Larson USX AA19-04 - Original Drilling - Original Drilling	7,700.0	6,708.6	2,396.3	2,354.1	56.763	SF
Larson USX AA19-05 - Original Drilling - Original Drilling	1,698.4	1,668.6	311.8	302.6	33.985	CC
Larson USX AA19-05 - Original Drilling - Original Drilling	1,800.0	1,768.8	312.1	302.4	32.114	ES
Larson USX AA19-05 - Original Drilling - Original Drilling	7,050.0	6,729.9	904.1	865.6	23.468	SF
Larson USX AA19-06 - Original Drilling - Original Drilling	6,103.6	6,079.1	1,282.2	1,247.2	36.604	CC, ES
Larson USX AA19-06 - Original Drilling - Original Drilling	6,300.0	6,286.6	1,300.2	1,264.2	36.116	SF
Thrall USX AA19-11 - Original Drilling - Original Drilling	6,231.1	6,155.7	1,131.0	1,096.6	32.930	CC, ES
Thrall USX AA19-11 - Original Drilling - Original Drilling	6,350.0	6,272.9	1,141.4	1,106.5	32.679	SF
Thrall USX AA19-12 - Original Drilling - Original Drilling	7,120.2	6,685.4	163.9	125.5	4.265	CC, ES, SF
Thrall USX AA19-13 - Original Drilling - Original Drilling	6,883.8	6,640.2	1,578.1	1,540.9	42.472	CC, ES
Thrall USX AA19-13 - Original Drilling - Original Drilling	7,400.0	6,689.2	1,681.6	1,641.1	41.591	SF
Thrall USX AA19-14 - Original Drilling - Original Drilling	6,368.0	6,256.7	2,016.1	1,981.1	57.557	CC, ES
Thrall USX AA19-14 - Original Drilling - Original Drilling	6,550.0	6,363.8	2,030.3	1,994.7	57.047	SF
Thrall USX AA19-25 - Original Drilling - Original Drilling	6,564.9	6,441.3	715.2	679.3	19.937	CC, ES
Thrall USX AA19-25 - Original Drilling - Original Drilling	6,600.0	6,467.7	715.8	679.8	19.908	SF
Wells Ranch USX AA19-09 - Original Drilling - Original D	6,179.4	6,078.8	3,490.3	3,455.7	101.013	CC, ES
Wells Ranch USX AA19-09 - Original Drilling - Original D	6,450.0	6,351.3	3,549.3	3,513.4	99.070	SF
Wells Ranch USX AA19-10 - Original Drilling - Original D	6,190.5	6,116.5	2,189.0	2,154.4	63.257	CC, ES
Wells Ranch USX AA19-10 - Original Drilling - Original D	6,350.0	6,273.5	2,210.0	2,174.6	62.472	SF
Wells Ranch USX AA19-15 - Original Drilling - Original D	6,261.0	6,218.5	2,603.5	2,568.2	73.876	CC, ES
Wells Ranch USX AA19-15 - Original Drilling - Original D	6,800.0	6,654.1	2,786.0	2,743.3	65.285	SF
Wells Ranch USX AA19-16 - Original Drilling - Original D	6,200.6	6,008.9	3,947.0	3,913.0	116.026	CC, ES
Wells Ranch USX AA19-16 - Original Drilling - Original D	6,450.0	6,228.8	3,992.9	3,957.8	113.655	SF
Wells Ranch USX AA19-23 - Original Drilling - Original D	6,227.7	6,233.0	3,042.4	3,007.7	87.585	CC, ES
Wells Ranch USX AA19-23 - Original Drilling - Original D	6,400.0	6,352.6	3,066.6	3,031.2	86.536	SF

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

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Larson A23-645
Project:	Wells Ranch	TVD Reference:	WELL @ 4679.0ft (Original Well Elev.)
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Reference Well:	Larson A23-645	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.79 sigma
Reference Wellbore	Original Drilling	Database:	EDM Produccion
Reference Design:	APD - Rev 0	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						
AA Section 20						
Cook 20D - Original Drilling - Original Drilling - As Drilled	6,179.2	6,055.2	8,173.6	8,139.0	236.531	CC, ES
Cook 20D - Original Drilling - Original Drilling - As Drilled	6,600.0	6,432.5	8,312.5	8,276.2	228.825	SF
Cook 33-20 - Original Drilling - Original Drilling - As Drilled	6,178.7	6,082.8	7,342.9	7,308.3	212.319	CC, ES
Cook 33-20 - Original Drilling - Original Drilling - As Drilled	6,550.0	6,418.5	7,452.8	7,416.6	206.114	SF
Cook 34-20 - Original Drilling - Original Drilling - As Drilled	6,196.9	6,155.7	7,478.7	7,443.7	213.750	CC
Cook 34-20 - Original Drilling - Original Drilling - As Drilled	6,200.0	6,158.1	7,478.7	7,443.7	213.663	ES
Cook 34-20 - Original Drilling - Original Drilling - As Drilled	6,650.0	6,512.8	7,639.1	7,602.4	208.236	SF
Cook 43-20 - Original Drilling - Original Drilling - As Drilled	6,177.3	6,073.4	8,914.2	8,879.7	257.815	CC, ES
Cook 43-20 - Original Drilling - Original Drilling - As Drilled	6,600.0	6,429.6	9,055.8	9,019.5	249.696	SF
Cook 44-20 - Original Drilling - Original Drilling - As Drilled	6,175.8	5,883.8	9,039.1	9,005.2	266.201	CC, ES
Cook 44-20 - Original Drilling - Original Drilling - As Drilled	6,700.0	6,500.1	9,242.8	9,206.4	253.954	SF
J&L Farms 01-20 - Original Drilling - Original Drilling - As Drilled	6,152.3	6,098.1	9,069.7	9,032.0	240.693	CC, ES
J&L Farms 01-20 - Original Drilling - Original Drilling - As Drilled	6,550.0	6,323.2	9,193.6	9,154.5	234.871	SF
J&L Farms 02-20 - Original Drilling - Original Drilling - As Drilled	6,147.7	6,080.7	7,823.2	7,787.8	220.821	CC
J&L Farms 02-20 - Original Drilling - Original Drilling - As Drilled	6,150.0	6,083.0	7,823.2	7,787.8	220.747	ES
J&L Farms 02-20 - Original Drilling - Original Drilling - As Drilled	6,600.0	6,467.5	7,977.7	7,940.4	214.179	SF
J&L Farms 08-20 - Original Drilling - Original Drilling - As Drilled	6,165.4	6,100.3	8,846.1	8,655.9	46.492	CC
J&L Farms 08-20 - Original Drilling - Original Drilling - As Drilled	6,200.0	6,134.5	8,847.1	8,655.8	46.242	ES
J&L Farms 08-20 - Original Drilling - Original Drilling - As Drilled	6,700.0	6,567.1	9,065.4	8,861.1	44.388	SF
J&L Farms 11-20 - Original Drilling - Original Drilling - As Drilled	6,109.0	5,885.6	5,230.0	5,195.4	151.125	CC, ES
J&L Farms 11-20 - Original Drilling - Original Drilling - As Drilled	6,500.0	6,473.1	5,329.9	5,293.0	144.557	SF
J&L Farms 12-20 - Original Drilling - Original Drilling - As Drilled	6,157.3	6,061.4	4,625.8	4,590.7	131.788	CC, ES
J&L Farms 12-20 - Original Drilling - Original Drilling - As Drilled	6,450.0	6,352.4	4,693.8	4,657.4	128.943	SF
J&L Farms 22-20 - Original Drilling - Original Drilling - As Drilled	6,159.1	6,062.5	6,177.6	6,142.8	177.397	CC, ES
J&L Farms 22-20 - Original Drilling - Original Drilling - As Drilled	6,500.0	6,368.1	6,270.0	6,233.7	172.810	SF
J&L Farms 32-20 - Original Drilling - Original Drilling - As Drilled	6,173.8	6,228.6	7,567.5	7,532.4	215.236	CC, ES
J&L Farms 32-20 - Original Drilling - Original Drilling - As Drilled	6,550.0	6,477.8	7,681.6	7,645.1	210.294	SF
Wells Ranch 13-20 - Original Drilling - Original Drilling - A	6,186.9	6,126.1	4,835.3	4,800.6	139.507	CC, ES
Wells Ranch 13-20 - Original Drilling - Original Drilling - A	6,500.0	6,432.1	4,913.9	4,877.8	136.171	SF
Wells Ranch 14-20 - Original Drilling - Original Drilling - A	6,216.2	6,194.2	5,158.4	5,123.8	149.286	CC, ES
Wells Ranch 14-20 - Original Drilling - Original Drilling - A	6,550.0	6,435.6	5,243.8	5,207.9	146.260	SF
Wells Ranch 23-20 - Original Drilling - Original Drilling - A	6,178.2	6,055.6	6,297.6	6,262.8	180.816	CC, ES
Wells Ranch 23-20 - Original Drilling - Original Drilling - A	6,500.0	6,321.6	6,381.5	6,345.4	176.689	SF
Wells Ranch 24-20 - Original Drilling - Original Drilling - A	6,200.7	6,105.0	6,215.1	6,180.6	179.970	CC, ES
Wells Ranch 24-20 - Original Drilling - Original Drilling - A	6,600.0	6,412.8	6,339.2	6,303.1	175.868	SF

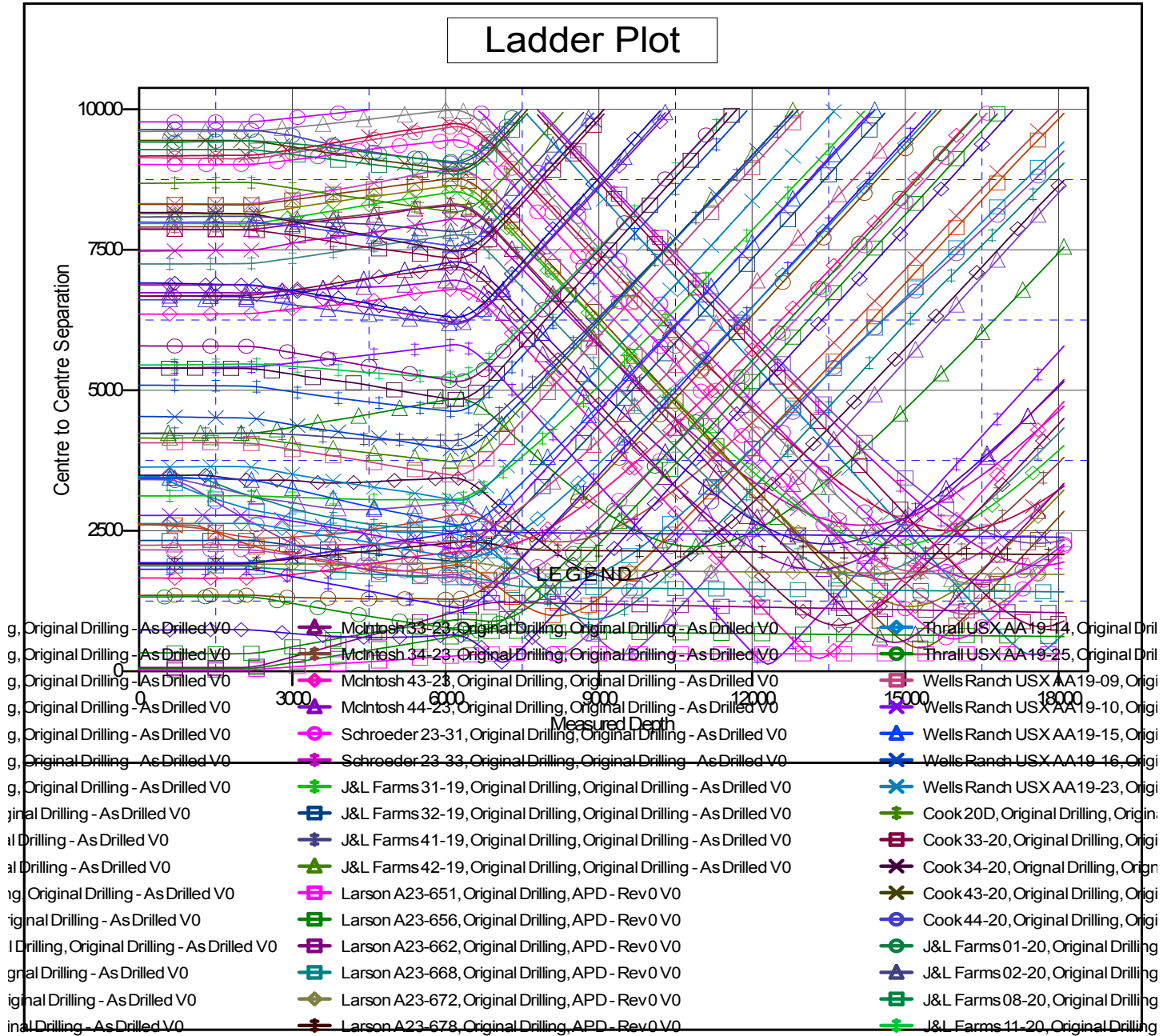
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Larson A23-645
Project:	Wells Ranch	TVD Reference:	WELL @ 4679.0ft (Original Well Elev.)
Reference Site:	AA Section 19	MD Reference:	WELL @ 4679.0ft (Original Well Elev.)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Larson A23-645	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.79 sigma
Reference Wellbore	Original Drilling	Database:	EDM Produccction
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Coordinates are relative to: Larson A23-645

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.65°



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

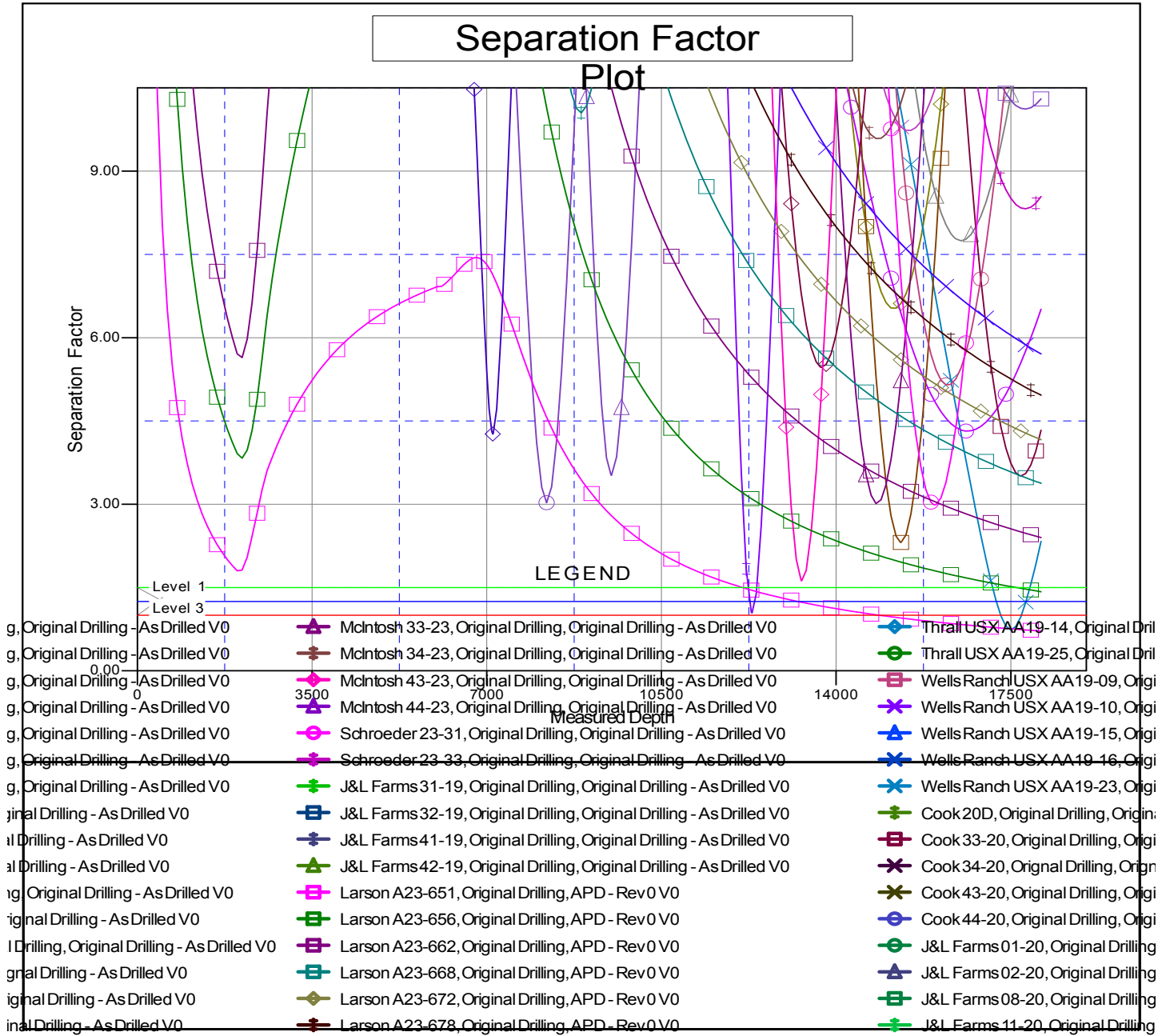
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Larson A23-645
Project:	Wells Ranch	TVD Reference:	WELL @ 4679.0ft (Original Well Elev.)
Reference Site:	AA Section 19	MD Reference:	WELL @ 4679.0ft (Original Well Elev.)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Larson A23-645	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.79 sigma
Reference Wellbore	Original Drilling	Database:	EDM Production
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.65°



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