

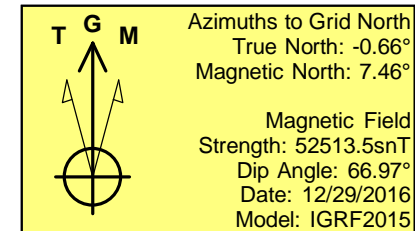
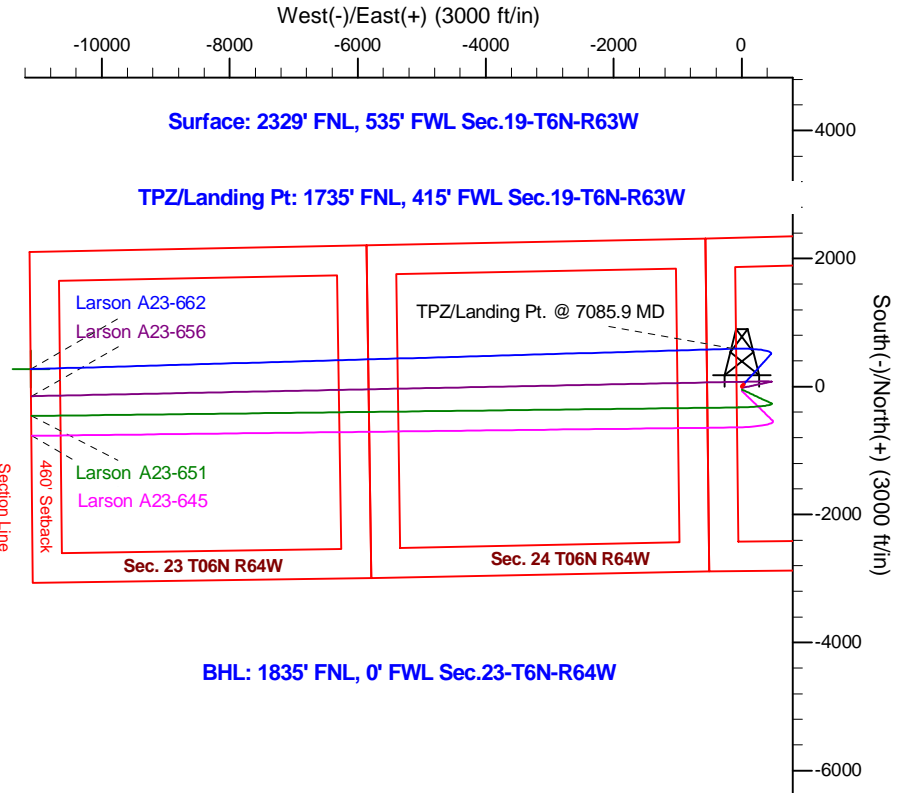
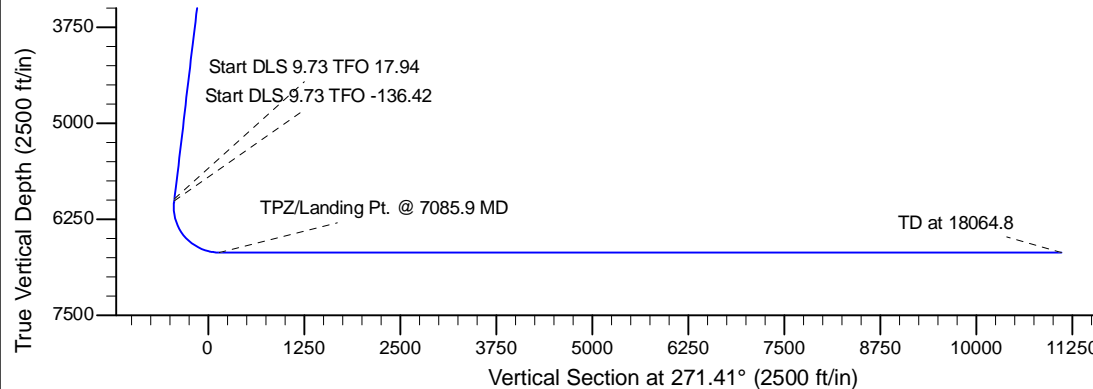
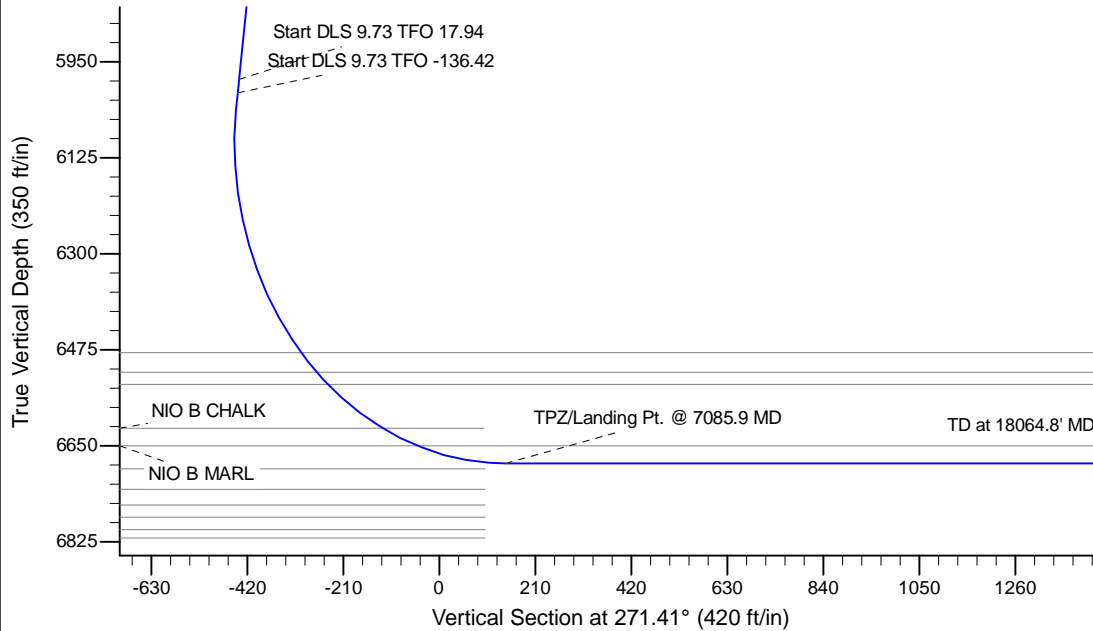
Project: Wells Ranch
 Site: AA Section 19-T6N-R63W Weld County, CO
 Well: Larson A23-662
 Wellbore: Original Drilling
 Design: APD - Rev 0

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	2512.5	10.25	42.00	2509.8	34.0	30.6	2.00	42.00	-29.7	
4	6041.0	10.25	42.00	5982.0	500.6	450.7	0.00	0.00	-438.3	
5	6066.2	12.60	45.45	6006.6	504.2	454.2	9.73	17.94	-441.7	
6	7085.9	90.00	268.34	6682.0	590.0	-130.0	9.73	-136.42	144.4	
7	18064.8	90.00	268.35	6682.0	272.8	-11104.3	0.00	90.00	11107.7	Larson A23-662 BHL 1835'FNL, 0'FWL



WELL DETAILS: Larson A23-662					
		Ground Elevation: 4649.0			
	Northing	Easting	Latitude	Longitude	
0.0	0.0	1416644.25	3281861.38	40.4726700	-104.4868600
Plan: APD - Rev 0 (Larson A23-662/Original Drilling)					
Created By: Shailey Jewell			Date: 9:27, January 06 2017		
OK to submit with 2A as per Noble Drilling 1/6/2016 9:39					

Northern Region - DJ Basin

Wells Ranch

AA Section 19

Larson A23-662

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 A23-662
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 A23-662	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	18,064.8	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	15,052.0	6,660.5	60.5	-115.8	0.343	Level 1, CC, ES, SF
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	17,480.5	6,687.0	1,342.2	949.4	3.417	CC
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	17,500.0	6,687.0	1,342.3	949.3	3.415	ES, SF
Champlin 23-03 - Original Drilling - Original Drilling - As D	16,371.9	6,647.5	2,635.4	2,434.2	13.097	CC
Champlin 23-03 - Original Drilling - Original Drilling - As D	16,400.0	6,647.4	2,635.6	2,433.9	13.067	ES
Champlin 23-03 - Original Drilling - Original Drilling - As D	16,700.0	6,645.9	2,655.8	2,450.3	12.927	SF
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	16,536.2	6,662.0	2,688.9	2,314.8	7.186	CC
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	16,600.0	6,662.0	2,689.7	2,314.5	7.168	ES
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	16,800.0	6,662.0	2,701.8	2,324.0	7.151	SF
Cooper 23-1-17 - Original Drilling - Original Drilling - As Dr	14,105.3	6,656.5	1,490.9	1,332.4	9.406	CC, ES
Cooper 23-1-17 - Original Drilling - Original Drilling - As Dr	14,300.0	6,656.0	1,503.5	1,342.0	9.306	SF
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	15,251.3	6,648.1	675.3	495.1	3.748	CC, ES
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	15,300.0	6,647.4	677.0	496.0	3.741	SF
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	14,711.6	6,673.2	1,141.8	971.7	6.713	CC, ES
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	14,800.0	6,672.5	1,145.2	973.5	6.671	SF
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	15,261.6	6,632.2	672.4	492.0	3.727	CC, ES, SF
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	14,067.4	6,638.9	584.2	425.8	3.688	CC, ES
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	14,100.0	6,638.7	585.1	426.0	3.678	SF
Foss 41-23D - Original Drilling - Original Drilling - As Drill	13,412.5	6,917.2	1,142.8	994.6	7.715	CC, ES
Foss 41-23D - Original Drilling - Original Drilling - As Drill	13,500.0	6,916.2	1,146.1	996.4	7.656	SF
Foss 42-23 - Original Drilling - Original Drilling - As Drille	13,645.8	6,661.4	298.0	148.1	1.988	CC, ES, SF
J&L Farms 23-11 - Original Drilling - Original Drilling - As	17,516.1	6,684.3	1,227.6	1,004.6	5.505	CC, ES
J&L Farms 23-11 - Original Drilling - Original Drilling - As	17,600.0	6,684.6	1,230.5	1,006.1	5.482	SF
J&L Farms 23-12 - Original Drilling - Original Drilling - As	17,648.5	6,711.9	258.1	32.2	1.142	Level 2, CC, ES, SF
J&L Farms 23-21 - Original Drilling - Original Drilling - As	15,896.0	6,660.6	1,420.7	1,228.3	7.386	CC
J&L Farms 23-21 - Original Drilling - Original Drilling - As	15,900.0	6,660.5	1,420.7	1,228.3	7.383	ES
J&L Farms 23-21 - Original Drilling - Original Drilling - As	16,000.0	6,659.2	1,424.5	1,230.3	7.336	SF
J&L Farms 23-22 - Original Drilling - Original Drilling - As	16,159.7	6,679.2	58.4	-139.3	0.295	Level 1, CC, ES, SF
McIntosh 33-23 - Original Drilling - Original Drilling - As D	14,778.5	6,573.4	1,609.2	1,438.5	9.430	CC
McIntosh 33-23 - Original Drilling - Original Drilling - As D	14,800.0	6,574.3	1,609.3	1,438.3	9.412	ES
McIntosh 33-23 - Original Drilling - Original Drilling - As D	14,900.0	6,578.2	1,613.7	1,441.5	9.371	SF
McIntosh 34-23 - Original Drilling - Original Drilling - As D	14,670.7	6,609.3	2,729.7	2,560.8	16.153	CC
McIntosh 34-23 - Original Drilling - Original Drilling - As D	14,700.0	6,609.5	2,729.9	2,560.4	16.107	ES
McIntosh 34-23 - Original Drilling - Original Drilling - As D	15,100.0	6,612.5	2,763.3	2,588.8	15.834	SF
McIntosh 43-23 - Original Drilling - Original Drilling - As D	13,291.6	6,628.8	1,354.5	1,211.4	9.464	CC
McIntosh 43-23 - Original Drilling - Original Drilling - As D	13,300.0	6,628.7	1,354.5	1,211.3	9.456	ES
McIntosh 43-23 - Original Drilling - Original Drilling - As D	13,400.0	6,628.6	1,358.8	1,214.4	9.410	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 A23-662
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 A23-662	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

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 44-23 - Original Drilling - Original Drilling - As D	13,250.7	6,575.2	2,931.3	2,789.1	20.618	CC
McIntosh 44-23 - Original Drilling - Original Drilling - As D	13,300.0	6,577.1	2,931.7	2,788.7	20.500	ES
McIntosh 44-23 - Original Drilling - Original Drilling - As D	13,800.0	6,593.0	2,982.3	2,832.8	19.952	SF
Schroeder 23-31 - Original Drilling - Original Drilling - As	15,940.7	6,634.6	1,653.9	1,461.0	8.571	CC, ES
Schroeder 23-31 - Original Drilling - Original Drilling - As	16,100.0	6,633.8	1,661.6	1,466.8	8.532	SF
Schroeder 23-33 - Original Drilling - Original Drilling - As	17,622.3	6,670.0	2,931.7	2,706.5	13.021	CC
Schroeder 23-33 - Original Drilling - Original Drilling - As	17,700.0	6,669.4	2,932.7	2,706.3	12.952	ES
Schroeder 23-33 - Original Drilling - Original Drilling - As	18,000.0	6,667.0	2,955.9	2,725.9	12.853	SF
A Section 24						
Larson Farms 01-24 - Original Drilling - Original Drilling -	8,161.1	6,816.6	1,093.8	1,020.8	14.983	CC, ES
Larson Farms 01-24 - Original Drilling - Original Drilling -	8,200.0	6,816.1	1,094.5	1,021.3	14.957	SF
Larson Farms 02-24 - Original Drilling - Original Drilling -	8,100.0	6,866.1	219.9	145.8	2.968	SF
Larson Farms 02-24 - Original Drilling - Original Drilling -	8,130.7	6,865.6	217.8	144.7	2.980	CC, ES
Larson Farms 03-24 - Original Drilling - Original Drilling -	9,473.4	6,766.9	1,492.0	1,405.2	17.194	CC
Larson Farms 03-24 - Original Drilling - Original Drilling -	9,500.0	6,766.8	1,492.2	1,405.2	17.138	ES
Larson Farms 03-24 - Original Drilling - Original Drilling -	9,600.0	6,766.3	1,497.4	1,409.3	17.012	SF
Larson Farms 04-24 - Original Drilling - Original Drilling -	8,183.7	7,197.4	1,514.0	1,413.0	14.986	CC
Larson Farms 04-24 - Original Drilling - Original Drilling -	8,200.0	7,197.4	1,514.1	1,413.0	14.970	ES
Larson Farms 04-24 - Original Drilling - Original Drilling -	8,300.0	7,197.9	1,518.5	1,416.8	14.936	SF
Larson Farms 05-24 - Original Drilling - Original Drilling -	8,886.7	7,033.6	2,122.7	2,030.1	22.914	CC
Larson Farms 05-24 - Original Drilling - Original Drilling -	8,900.0	7,033.4	2,122.8	2,030.1	22.897	ES
Larson Farms 05-24 - Original Drilling - Original Drilling -	9,000.0	7,032.2	2,125.8	2,032.6	22.813	SF
Larson Farms 06-24 - Original Drilling - Original Drilling -	8,320.4	6,947.0	2,792.2	2,693.0	28.136	CC, ES
Larson Farms 06-24 - Original Drilling - Original Drilling -	8,400.0	6,939.2	2,793.3	2,694.0	28.128	SF
Larson Farms 07-24 - Original Drilling - Original Drilling -	9,499.6	7,093.6	2,819.6	2,728.8	31.036	CC
Larson Farms 07-24 - Original Drilling - Original Drilling -	9,500.0	7,093.6	2,819.6	2,728.8	31.035	ES
Larson Farms 07-24 - Original Drilling - Original Drilling -	10,000.0	7,086.2	2,863.7	2,769.8	30.517	SF
Peppler 24-32 - Original Drilling - Original Drilling - As Dr	12,296.0	6,667.4	1,270.0	1,145.3	10.185	CC
Peppler 24-32 - Original Drilling - Original Drilling - As Dr	12,300.0	6,667.2	1,270.0	1,145.3	10.180	ES
Peppler 24-32 - Original Drilling - Original Drilling - As Dr	12,400.0	6,662.9	1,274.2	1,148.3	10.121	SF
Roth 24-21 - Original Drilling - Original Drilling - As Drilled	10,830.4	6,637.9	1,050.9	953.4	10.777	CC, ES
Roth 24-21 - Original Drilling - Original Drilling - As Drilled	11,000.0	6,641.9	1,064.5	964.2	10.611	SF

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Larson A23-662
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 A23-662	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	6,215.6	6,143.4	2,368.3	2,333.4	67.915	CC, ES
J&L Farms 31-19 - Original Drilling - Original Drilling - As	6,700.0	6,552.1	2,536.3	2,497.8	65.757	SF
J&L Farms 32-19 - Original Drilling - Original Drilling - As	6,152.5	6,108.4	1,904.3	1,869.3	54.451	CC, ES
J&L Farms 32-19 - Original Drilling - Original Drilling - As	6,300.0	6,266.5	1,921.7	1,886.0	53.746	SF
J&L Farms 41-19 - Original Drilling - Original Drilling - As	6,196.8	6,114.2	3,578.4	3,543.6	102.899	CC
J&L Farms 41-19 - Original Drilling - Original Drilling - As	6,200.0	6,117.9	3,578.4	3,543.6	102.846	ES
J&L Farms 41-19 - Original Drilling - Original Drilling - As	6,450.0	6,328.4	3,629.6	3,593.7	101.017	SF
J&L Farms 42-19 - Original Drilling - Original Drilling - As	6,144.3	6,019.4	3,684.3	3,649.5	106.103	CC
J&L Farms 42-19 - Original Drilling - Original Drilling - As	6,150.0	6,024.3	3,684.3	3,649.5	106.011	ES
J&L Farms 42-19 - Original Drilling - Original Drilling - As	6,400.0	6,236.7	3,739.8	3,703.9	104.075	SF
Larson A23-645 - Original Drilling - APD - Rev 0	2,000.0	2,000.0	69.3	57.1	5.709	CC, ES
Larson A23-645 - Original Drilling - APD - Rev 0	18,064.8	18,109.0	1,042.5	608.0	2.399	SF
Larson A23-651 - Original Drilling - APD - Rev 0	2,000.0	2,000.0	47.4	35.3	3.910	CC, ES
Larson A23-651 - Original Drilling - APD - Rev 0	18,064.8	18,048.7	732.4	298.0	1.686	SF
Larson A23-656 - Original Drilling - APD - Rev 0	2,000.0	2,000.0	21.9	9.7	1.801	CC
Larson A23-656 - Original Drilling - APD - Rev 0	18,064.8	18,064.3	424.5	-9.4	0.978	Level 1, ES, SF
Larson A23-668 - Original Drilling - APD - Rev 0	7,712.2	7,120.0	277.9	226.4	5.397	CC
Larson A23-668 - Original Drilling - APD - Rev 0	18,064.8	17,469.6	372.8	-44.7	0.893	Level 1, ES, SF
Larson A23-672 - Original Drilling - APD - Rev 0	7,600.6	7,001.3	592.9	543.9	12.103	CC
Larson A23-672 - Original Drilling - APD - Rev 0	18,064.8	17,459.2	731.6	343.7	1.886	ES, SF
Larson A23-678 - Original Drilling - APD - Rev 0	7,849.1	6,981.6	940.8	888.8	18.085	CC
Larson A23-678 - Original Drilling - APD - Rev 0	18,064.8	17,179.6	1,035.0	617.0	2.476	ES, SF
Larson A23-683 - Original Drilling - APD - Rev 0	7,563.2	6,839.3	1,246.4	1,197.6	25.559	CC
Larson A23-683 - Original Drilling - APD - Rev 0	18,064.8	17,320.2	1,344.9	926.4	3.213	ES, SF
Larson USX AA19-03 - Original Drilling - Original Drilling	6,256.8	6,201.8	1,438.1	1,402.9	40.934	CC, ES
Larson USX AA19-03 - Original Drilling - Original Drilling	6,400.0	6,339.2	1,451.4	1,415.6	40.549	SF
Larson USX AA19-04 - Original Drilling - Original Drilling	6,749.8	6,597.6	969.0	931.4	25.801	CC
Larson USX AA19-04 - Original Drilling - Original Drilling	6,750.0	6,597.6	969.0	931.4	25.801	ES
Larson USX AA19-04 - Original Drilling - Original Drilling	6,850.0	6,631.9	975.2	937.2	25.678	SF
Larson USX AA19-05 - Original Drilling - Original Drilling	3,446.4	3,398.1	172.7	153.8	9.120	CC
Larson USX AA19-05 - Original Drilling - Original Drilling	3,500.0	3,451.1	172.9	153.6	8.984	ES
Larson USX AA19-05 - Original Drilling - Original Drilling	6,853.2	6,595.8	326.4	288.6	8.621	SF
Larson USX AA19-06 - Original Drilling - Original Drilling	6,159.8	6,079.6	777.8	742.9	22.342	CC, ES
Larson USX AA19-06 - Original Drilling - Original Drilling	6,250.0	6,169.1	784.8	749.5	22.233	SF
Thrall USX AA19-11 - Original Drilling - Original Drilling -	3,327.7	3,287.2	1,847.5	1,829.3	101.214	CC
Thrall USX AA19-11 - Original Drilling - Original Drilling -	4,100.0	4,059.4	1,849.9	1,827.0	80.880	ES
Thrall USX AA19-11 - Original Drilling - Original Drilling -	6,300.0	6,233.3	1,931.8	1,895.7	53.520	SF
Thrall USX AA19-12 - Original Drilling - Original Drilling -	469.4	437.4	804.1	801.9	363.616	CC
Thrall USX AA19-12 - Original Drilling - Original Drilling -	2,000.8	1,969.0	808.3	797.5	75.117	ES
Thrall USX AA19-12 - Original Drilling - Original Drilling -	7,400.0	6,645.5	1,424.6	1,383.5	34.705	SF
Thrall USX AA19-13 - Original Drilling - Original Drilling -	100.0	61.6	2,230.4	2,230.2	10,000.000	CC
Thrall USX AA19-13 - Original Drilling - Original Drilling -	2,025.0	2,005.0	2,232.9	2,221.9	203.400	ES
Thrall USX AA19-13 - Original Drilling - Original Drilling -	8,500.0	6,657.0	3,278.9	3,228.3	64.779	SF
Thrall USX AA19-14 - Original Drilling - Original Drilling -	156.4	125.4	2,691.1	2,690.7	5,643.650	CC
Thrall USX AA19-14 - Original Drilling - Original Drilling -	2,004.7	1,975.6	2,695.6	2,684.8	249.361	ES
Thrall USX AA19-14 - Original Drilling - Original Drilling -	6,450.0	6,300.0	3,107.8	3,071.3	85.047	SF
Thrall USX AA19-25 - Original Drilling - Original Drilling -	164.5	132.5	1,388.9	1,388.4	2,693.207	CC
Thrall USX AA19-25 - Original Drilling - Original Drilling -	2,000.0	1,967.8	1,392.5	1,381.8	129.606	ES
Thrall USX AA19-25 - Original Drilling - Original Drilling -	6,650.0	6,484.9	1,893.9	1,856.8	50.950	SF
Wells Ranch USX AA19-09 - Original Drilling - Original D	6,121.6	6,022.6	3,749.3	3,714.4	107.462	CC, ES
Wells Ranch USX AA19-09 - Original Drilling - Original D	6,400.0	6,311.7	3,808.3	3,772.0	104.921	SF
Wells Ranch USX AA19-10 - Original Drilling - Original D	6,101.0	6,013.9	2,585.7	2,550.8	74.114	CC, ES
Wells Ranch USX AA19-10 - Original Drilling - Original D	6,350.0	6,267.6	2,628.4	2,592.3	72.692	SF

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Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Larson A23-662
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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 19						
Wells Ranch USX AA19-15 - Original Drilling - Original D	4,549.8	4,554.6	3,386.1	3,360.1	130.215	CC
Wells Ranch USX AA19-15 - Original Drilling - Original D	4,600.0	4,587.6	3,386.3	3,360.0	128.907	ES
Wells Ranch USX AA19-15 - Original Drilling - Original D	6,850.0	6,662.7	3,677.9	3,634.1	83.864	SF
Wells Ranch USX AA19-16 - Original Drilling - Original D	3,460.5	3,280.3	4,517.2	4,498.5	241.595	CC
Wells Ranch USX AA19-16 - Original Drilling - Original D	3,500.0	3,309.1	4,517.3	4,498.4	239.005	ES
Wells Ranch USX AA19-16 - Original Drilling - Original D	6,400.0	6,189.3	4,604.7	4,568.5	127.343	SF
Wells Ranch USX AA19-23 - Original Drilling - Original D	6,117.3	6,163.5	3,586.4	3,551.0	101.232	CC, ES
Wells Ranch USX AA19-23 - Original Drilling - Original D	6,350.0	6,328.9	3,623.7	3,587.3	99.488	SF
AA Section 20						
Cook 20D - Original Drilling - Original Drilling - As Drilled	6,133.5	5,980.9	8,352.9	8,318.3	240.930	CC, ES
Cook 20D - Original Drilling - Original Drilling - As Drilled	6,550.0	6,382.0	8,488.9	8,452.3	232.079	SF
Cook 33-20 - Original Drilling - Original Drilling - As Drilled	6,137.1	6,013.5	7,496.9	7,462.2	216.002	CC, ES
Cook 33-20 - Original Drilling - Original Drilling - As Drilled	6,550.0	6,405.5	7,631.5	7,594.9	208.724	SF
Cook 34-20 - Original Drilling - Original Drilling - As Drilled	6,130.5	6,114.6	7,795.0	7,759.4	219.054	CC, ES
Cook 34-20 - Original Drilling - Original Drilling - As Drilled	6,550.0	6,443.5	7,930.7	7,893.5	212.815	SF
Cook 43-20 - Original Drilling - Original Drilling - As Drilled	6,141.3	6,028.2	9,044.5	9,009.8	260.113	CC, ES
Cook 43-20 - Original Drilling - Original Drilling - As Drilled	6,550.0	6,386.5	9,178.5	9,142.0	251.291	SF
Cook 44-20 - Original Drilling - Original Drilling - As Drilled	6,118.8	5,840.2	9,300.0	9,265.7	270.879	CC, ES
Cook 44-20 - Original Drilling - Original Drilling - As Drilled	6,600.0	6,420.2	9,473.4	9,436.7	258.048	SF
J&L Farms 01-20 - Original Drilling - Original Drilling - As Drilled	6,172.3	6,105.2	8,865.5	8,828.0	236.295	CC, ES
J&L Farms 01-20 - Original Drilling - Original Drilling - As Drilled	6,600.0	6,340.1	9,016.0	8,976.8	230.244	SF
J&L Farms 02-20 - Original Drilling - Original Drilling - As Drilled	6,174.8	6,107.2	7,584.2	7,549.0	215.318	CC, ES
J&L Farms 02-20 - Original Drilling - Original Drilling - As Drilled	6,650.0	6,503.9	7,765.0	7,727.8	208.689	SF
J&L Farms 08-20 - Original Drilling - Original Drilling - As Drilled	6,158.7	6,090.7	8,803.6	8,613.6	46.328	CC, ES
J&L Farms 08-20 - Original Drilling - Original Drilling - As Drilled	6,700.0	6,554.4	9,035.5	8,831.4	44.288	SF
J&L Farms 11-20 - Original Drilling - Original Drilling - As Drilled	6,163.6	5,900.0	4,829.4	4,795.2	140.857	CC, ES
J&L Farms 11-20 - Original Drilling - Original Drilling - As Drilled	6,500.0	6,490.3	4,908.9	4,872.5	134.556	SF
J&L Farms 12-20 - Original Drilling - Original Drilling - As Drilled	6,152.6	6,059.5	4,575.3	4,540.2	130.193	CC, ES
J&L Farms 12-20 - Original Drilling - Original Drilling - As Drilled	6,450.0	6,348.9	4,648.7	4,612.2	127.297	SF
J&L Farms 22-20 - Original Drilling - Original Drilling - As Drilled	6,156.1	6,064.0	6,117.5	6,082.7	175.881	CC, ES
J&L Farms 22-20 - Original Drilling - Original Drilling - As Drilled	6,500.0	6,369.1	6,215.3	6,179.0	171.103	SF
J&L Farms 32-20 - Original Drilling - Original Drilling - As Drilled	6,167.8	6,220.6	7,519.6	7,484.5	213.921	CC, ES
J&L Farms 32-20 - Original Drilling - Original Drilling - As Drilled	6,500.0	6,445.9	7,612.6	7,576.1	208.703	SF
Wells Ranch 13-20 - Original Drilling - Original Drilling - A	6,133.5	6,084.5	5,076.3	5,041.3	144.974	CC, ES
Wells Ranch 13-20 - Original Drilling - Original Drilling - A	6,450.0	6,389.2	5,155.2	5,118.7	141.110	SF
Wells Ranch 14-20 - Original Drilling - Original Drilling - A	6,113.6	6,112.6	5,652.7	5,617.6	160.899	CC, ES
Wells Ranch 14-20 - Original Drilling - Original Drilling - A	6,450.0	6,359.9	5,733.8	5,697.3	156.932	SF
Wells Ranch 23-20 - Original Drilling - Original Drilling - A	6,132.6	6,008.5	6,487.2	6,452.1	184.923	CC, ES
Wells Ranch 23-20 - Original Drilling - Original Drilling - A	6,500.0	6,314.4	6,594.9	6,558.3	180.133	SF
Wells Ranch 24-20 - Original Drilling - Original Drilling - A	6,110.4	5,979.0	6,623.4	6,588.5	189.734	CC, ES
Wells Ranch 24-20 - Original Drilling - Original Drilling - A	6,550.0	6,365.8	6,763.4	6,726.7	184.091	SF

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

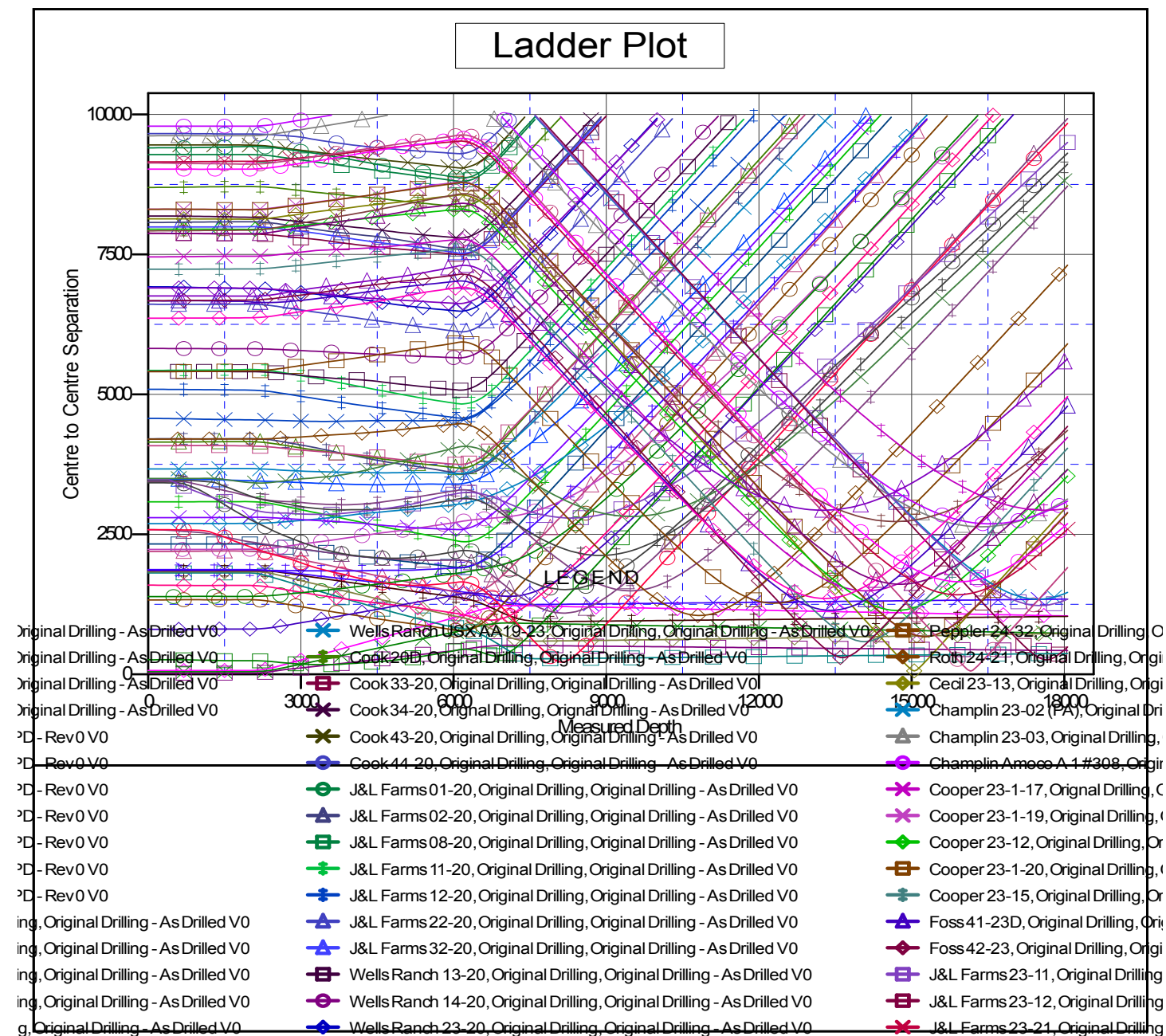
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Larson A23-662
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 A23-662	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

Coordinates are relative to: Larson A23-662

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.65°



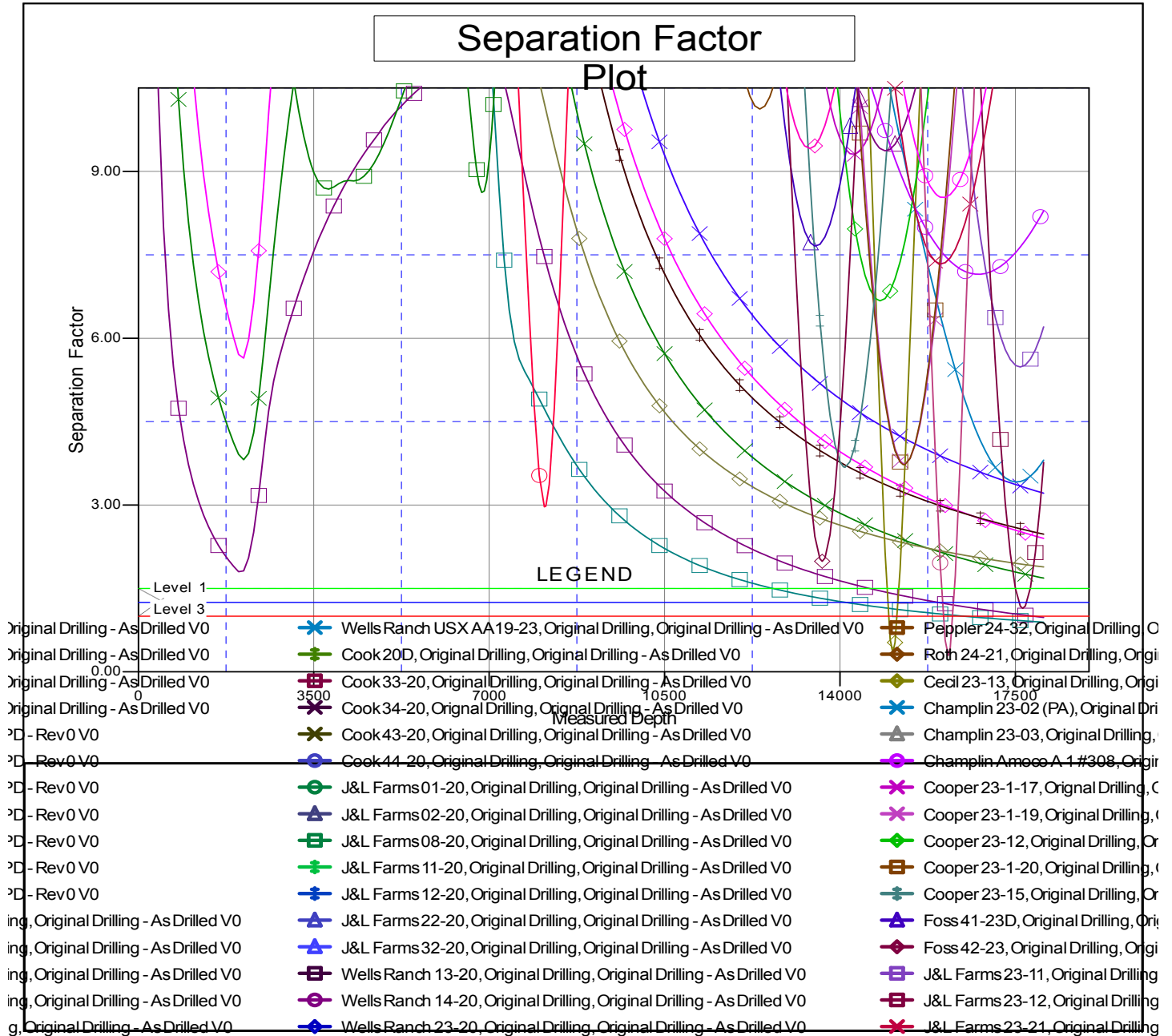
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Anticollision Summary Report

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Reference Wellbore	Original Drilling	Database:	EDM Production
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4679.0ft (Original Well Elev.)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.5000000

Coordinates are relative to: Larson A23-662
 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