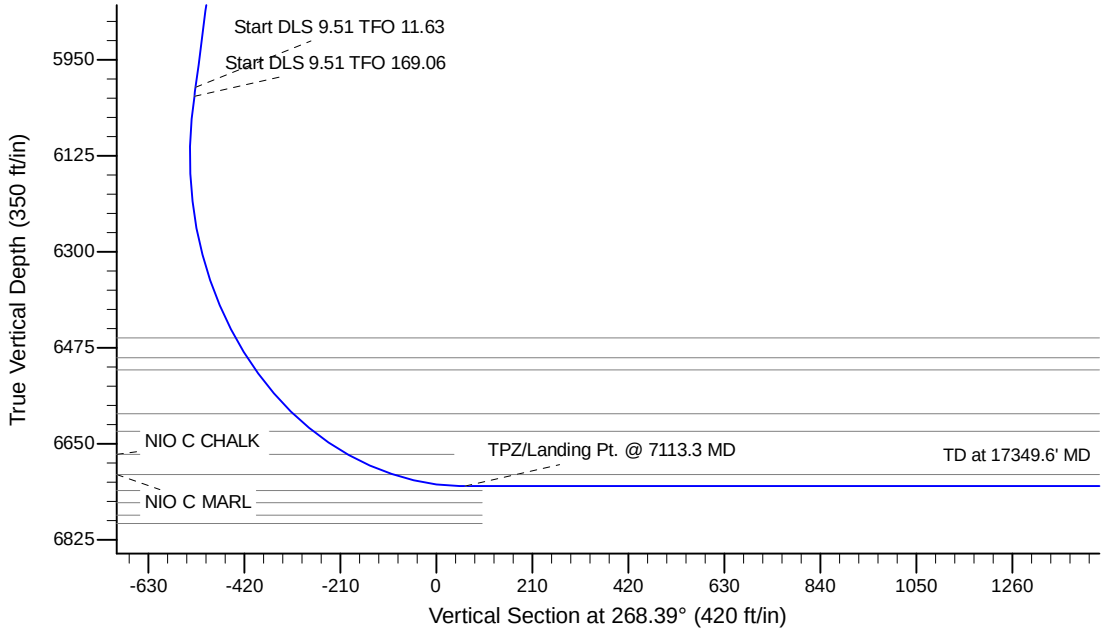
Project: Wells Ranch
Site: AA Section 24-T6N-R64W Weld County, CO
Well: Larson A23-627
Wellbore: Original Drilling
Design: APD - Rev 0

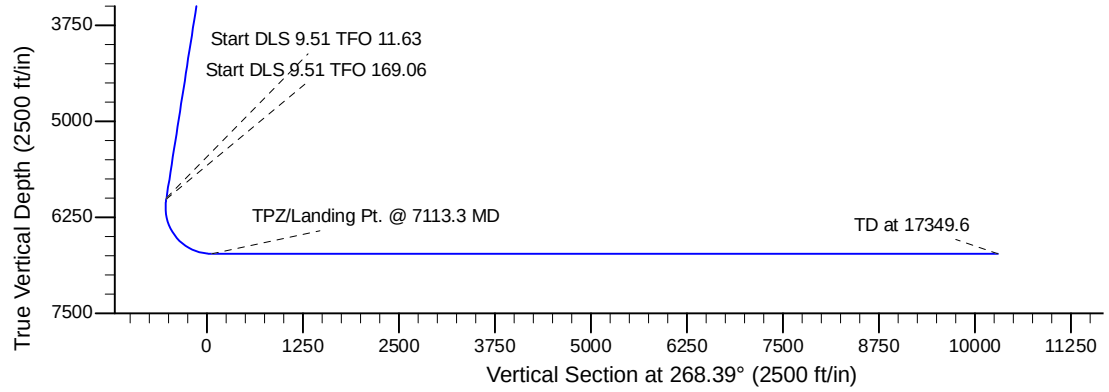
Northern Region - DJ Basin

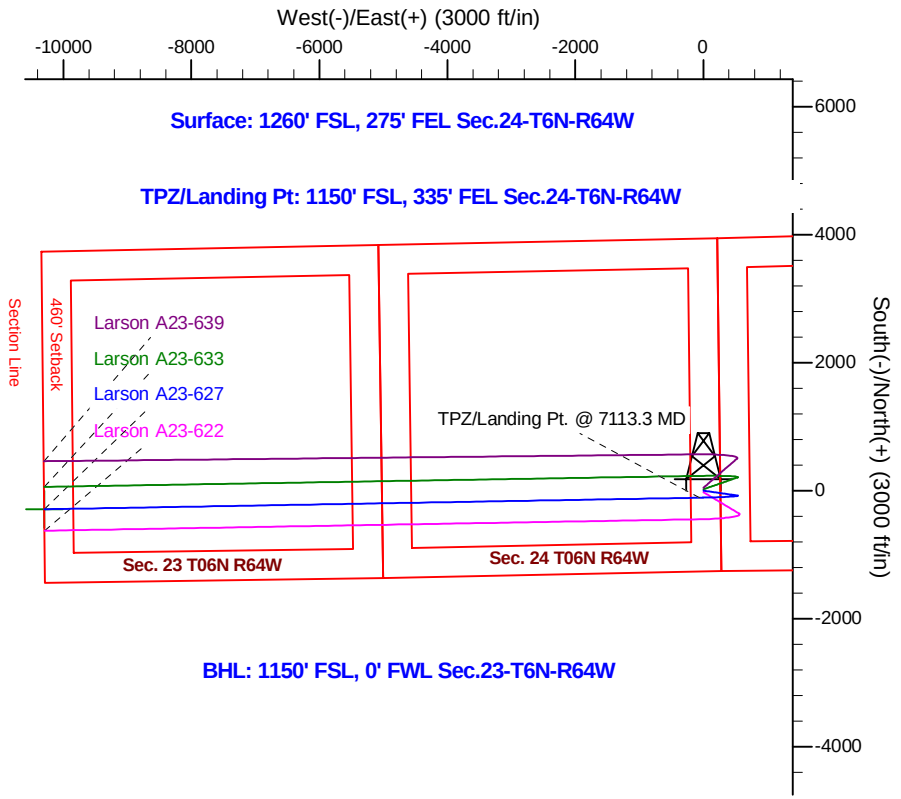
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2400.0	0.00	0.00	2400.0	0.0	0.0	0.00	0.00	0.0	
3	2850.0	9.00	98.00	2848.2	-4.9	34.9	2.00	98.00	-34.8	
4	6041.1	9.00	98.00	6000.0	-74.4	529.3	0.00	0.00	-527.0	
5	6057.9	10.56	99.75	6016.5	-74.8	532.1	9.51	11.63	-529.8	
6	7113.3	90.00	268.99	6727.0	-110.0	-60.0	9.51	169.06	63.1	
7	17349.6	90.00	268.99	6727.0	-290.0	-10294.8	0.00	0.00	10298.8	Larson A23-627 BHL 1150'FSL, 0'FWL







Azimuths to Grid North
True North: -0.65°
Magnetic North: 7.46°

Magnetic Field
Strength: 52508.4snT
Dip Angle: 66.96°
Date: 1/6/2017
Model: IGRF2015

WELL DETAILS: Larson A23-627

Ground Elevation: 4646.0

		Northing	Easting	Latitude	Longitude
0.0	0.0	1415014.01	3281073.09	40.4682200	-104.4897600

Plan: APD - Rev 0 (Larson A23-627/Original Drilling)

Created By: Shailey Jewell Date: 6:48, January 09 2017

OK to submit with 2A as per Noble Drilling
1/9/2017 6:51

Northern Region - DJ Basin

Wells Ranch
AA Section 19
Larson A23-627

Original Drilling
APD - Rev 0

Anticollision Summary Report

09 January, 2017

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Larson A23-627
Project:	Wells Ranch	**TVD Reference:**	WELL @ 4676.0ft (Original Well Elev.)
Reference Site:	AA Section 19	**MD Reference:**	WELL @ 4676.0ft (Original Well Elev.)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Larson A23-627	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.79 sigma
Reference Wellbore	Original Drilling	**Database:**	EDM Producction
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	17,349.6	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
A Section 23						
Cecil 23-13 - Original Drilling - Original Drilling - As Drille	14,319.4	6,724.3	2,287.1	1,973.2	7.286	CC
Cecil 23-13 - Original Drilling - Original Drilling - As Drille	14,400.0	6,723.6	2,288.5	1,971.7	7.224	ES
Cecil 23-13 - Original Drilling - Original Drilling - As Drille	14,600.0	6,721.7	2,304.2	1,981.8	7.147	SF
Champlin 23-02 (PA) - Original Drilling - Original Drilling -	16,732.9	6,735.0	857.9	278.0	1.479	Level 3, CC, ES, SF
Champlin 23-03 - Original Drilling - Original Drilling - As D	15,609.2	6,709.9	423.1	58.8	1.162	Level 2, CC, ES, SF
Champlin Amoco A 1 #308 - Original Drilling - Original Dr	15,773.5	6,710.0	478.2	-63.6	0.883	Level 1, CC, ES, SF
Cooper 23-1-17 - Orignal Drilling - Orignal Drilling - As Dr	13,389.6	6,702.0	3,728.8	3,451.3	13.437	CC
Cooper 23-1-17 - Orignal Drilling - Orignal Drilling - As Dr	13,500.0	6,702.6	3,730.4	3,448.7	13.245	ES
Cooper 23-1-17 - Orignal Drilling - Orignal Drilling - As Dr	14,300.0	6,706.6	3,838.3	3,534.0	12.613	SF
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	14,526.2	6,667.1	2,900.7	2,578.9	9.013	CC
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	14,600.0	6,666.1	2,901.6	2,577.0	8.940	ES
Cooper 23-1-19 - Original Drilling - Original Drilling - As D	15,000.0	6,660.9	2,939.1	2,603.2	8.750	SF
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	13,991.7	6,725.0	3,372.7	3,071.5	11.198	CC
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	14,100.0	6,724.2	3,374.5	3,069.2	11.055	ES
Cooper 23-12 - Original Drilling - Original Drilling - As Dri	14,700.0	6,719.9	3,446.3	3,124.3	10.703	SF
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	14,521.1	6,714.0	1,551.5	1,229.6	4.819	CC
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	14,600.0	6,713.4	1,553.6	1,229.0	4.786	ES
Cooper 23-1-20 - Original Drilling - Original Drilling - As D	14,700.0	6,712.5	1,561.8	1,235.1	4.780	SF
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	13,341.7	6,623.7	2,823.0	2,547.0	10.230	CC
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	13,400.0	6,623.6	2,823.6	2,545.4	10.152	ES
Cooper 23-15 - Original Drilling - Original Drilling - As Dri	13,900.0	6,622.2	2,877.6	2,585.4	9.847	SF
Foss 41-23D - Original Drilling - Original Drilling - As Drill	12,692.8	6,946.7	3,388.7	3,135.9	13.402	CC
Foss 41-23D - Original Drilling - Original Drilling - As Drill	12,800.0	6,945.3	3,390.4	3,133.6	13.200	ES
Foss 41-23D - Original Drilling - Original Drilling - As Drill	13,600.0	6,935.1	3,508.1	3,229.3	12.584	SF
Foss 42-23 - Original Drilling - Original Drilling - As Drille	12,910.0	6,709.3	1,945.1	1,686.3	7.515	CC
Foss 42-23 - Original Drilling - Original Drilling - As Drille	13,000.0	6,708.9	1,947.2	1,685.2	7.432	ES
Foss 42-23 - Original Drilling - Original Drilling - As Drille	13,200.0	6,708.1	1,966.6	1,699.4	7.361	SF
J&L Farms 23-11 - Original Drilling - Original Drilling - As	16,797.5	6,726.3	3,427.3	3,016.5	8.342	CC
J&L Farms 23-11 - Original Drilling - Original Drilling - As	16,900.0	6,726.8	3,428.8	3,014.2	8.270	ES
J&L Farms 23-11 - Original Drilling - Original Drilling - As	17,349.6	6,728.7	3,471.1	3,044.2	8.130	SF
J&L Farms 23-12 - Original Drilling - Original Drilling - As	16,911.2	6,666.7	1,940.1	1,525.0	4.674	CC
J&L Farms 23-12 - Original Drilling - Original Drilling - As	17,000.0	6,671.7	1,942.2	1,524.0	4.644	ES
J&L Farms 23-12 - Original Drilling - Original Drilling - As	17,100.0	6,676.8	1,949.3	1,528.7	4.635	SF
J&L Farms 23-21 - Original Drilling - Original Drilling - As	15,179.3	6,678.0	3,638.8	3,291.4	10.475	CC
J&L Farms 23-21 - Original Drilling - Original Drilling - As	15,300.0	6,676.4	3,640.8	3,289.0	10.347	ES
J&L Farms 23-21 - Original Drilling - Original Drilling - As	15,900.0	6,668.9	3,709.5	3,341.1	10.068	SF
J&L Farms 23-22 - Original Drilling - Original Drilling - As	15,426.0	6,656.6	2,156.9	1,799.7	6.040	CC

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 A23-627
Project:	Wells Ranch	**TVD Reference:**	WELL @ 4676.0ft (Original Well Elev.)
Reference Site:	AA Section 19	**MD Reference:**	WELL @ 4676.0ft (Original Well Elev.)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Larson A23-627	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.79 sigma
Reference Wellbore	Original Drilling	**Database:**	EDM Producction
Reference Design:	APD - Rev 0	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
A Section 23						
J&L Farms 23-22 - Original Drilling - Original Drilling - As	15,500.0	6,658.6	2,158.1	1,798.4	5.999	ES
J&L Farms 23-22 - Original Drilling - Original Drilling - As	15,700.0	6,663.8	2,174.2	1,809.3	5.959	SF
McIntosh 33-23 - Original Drilling - Original Drilling - As D	14,037.2	6,750.2	614.1	312.3	2.035	CC, ES, SF
McIntosh 34-23 - Original Drilling - Original Drilling - As D	13,908.1	6,680.0	498.5	200.8	1.674	CC, ES, SF
McIntosh 43-23 - Original Drilling - Original Drilling - As D	12,543.5	6,704.4	891.9	647.4	3.648	CC, ES
McIntosh 43-23 - Original Drilling - Original Drilling - As D	12,600.0	6,703.7	893.7	647.5	3.630	SF
McIntosh 44-23 - Original Drilling - Original Drilling - As D	12,487.5	6,671.9	685.3	443.1	2.829	CC
McIntosh 44-23 - Original Drilling - Original Drilling - As D	12,500.0	6,672.0	685.4	442.7	2.824	ES, SF
Schroeder 23-31 - Original Drilling - Original Drilling - As	15,189.2	6,738.6	561.6	213.7	1.614	CC
Schroeder 23-31 - Original Drilling - Original Drilling - As	15,200.0	6,738.6	561.7	213.4	1.613	ES, SF
Schroeder 23-33 - Original Drilling - Original Drilling - As	16,856.5	6,773.0	733.3	319.9	1.774	CC, ES
Schroeder 23-33 - Original Drilling - Original Drilling - As	16,900.0	6,773.5	734.6	320.1	1.772	SF
A Section 24						
Larson Farms 01-24 - Original Drilling - Original Drilling -	1,727.2	1,725.3	2,963.6	2,951.4	243.536	CC
Larson Farms 01-24 - Original Drilling - Original Drilling -	1,800.0	1,773.0	2,963.9	2,951.1	232.100	ES
Larson Farms 01-24 - Original Drilling - Original Drilling -	9,600.0	6,558.0	4,022.2	3,898.9	32.628	SF
Larson Farms 02-24 - Original Drilling - Original Drilling -	7,392.5	7,054.2	2,082.4	2,008.8	28.300	CC
Larson Farms 02-24 - Original Drilling - Original Drilling -	7,500.0	7,051.3	2,085.2	2,008.0	27.025	ES
Larson Farms 02-24 - Original Drilling - Original Drilling -	8,400.0	7,026.5	2,313.2	2,210.3	22.474	SF
Larson Farms 03-24 - Original Drilling - Original Drilling -	8,724.3	6,817.8	798.2	687.3	7.195	CC, ES
Larson Farms 03-24 - Original Drilling - Original Drilling -	8,900.0	6,817.3	817.3	701.3	7.046	SF
Larson Farms 04-24 - Original Drilling - Original Drilling -	7,435.1	7,262.9	790.4	688.8	7.779	CC, ES
Larson Farms 04-24 - Original Drilling - Original Drilling -	7,600.0	7,264.1	807.4	701.1	7.597	SF
Larson Farms 05-24 - Original Drilling - Original Drilling -	8,130.2	7,077.9	174.2	69.0	1.656	CC, ES, SF
Larson Farms 06-24 - Original Drilling - Original Drilling -	7,400.0	7,291.6	529.2	424.6	5.058	SF
Larson Farms 06-24 - Original Drilling - Original Drilling -	7,500.0	7,271.9	518.0	415.8	5.070	ES
Larson Farms 06-24 - Original Drilling - Original Drilling -	7,510.6	7,269.8	517.9	416.1	5.088	CC
Larson Farms 07-24 - Original Drilling - Original Drilling -	8,735.3	7,115.7	529.2	414.1	4.598	CC, ES, SF
Peppler 24-32 - Original Drilling - Original Drilling - As Dr	11,549.1	6,675.4	988.9	783.2	4.808	CC
Peppler 24-32 - Original Drilling - Original Drilling - As Dr	11,600.0	6,673.2	990.2	782.9	4.776	ES, SF
Roth 24-21 - Original Drilling - Original Drilling - As Drilled	10,110.8	6,666.0	3,326.1	3,176.1	22.178	CC
Roth 24-21 - Original Drilling - Original Drilling - As Drilled	10,200.0	6,668.6	3,327.2	3,173.9	21.698	ES
Roth 24-21 - Original Drilling - Original Drilling - As Drilled	11,400.0	6,708.2	3,567.0	3,379.6	19.041	SF

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Larson A23-627
Project:	Wells Ranch	**TVD Reference:**	WELL @ 4676.0ft (Original Well Elev.)
Reference Site:	AA Section 19	**MD Reference:**	WELL @ 4676.0ft (Original Well Elev.)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Larson A23-627	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.79 sigma
Reference Wellbore	Original Drilling	**Database:**	EDM Producction
Reference Design:	APD - Rev 0	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
AA Section 19						
J&L Farms 31-19 - Original Drilling - Original Drilling - As	6,149.2	6,131.3	4,428.2	4,390.7	117.883	CC
J&L Farms 31-19 - Original Drilling - Original Drilling - As	6,150.0	6,132.0	4,428.2	4,390.7	117.870	ES
J&L Farms 31-19 - Original Drilling - Original Drilling - As	10,100.0	6,738.2	7,241.8	7,156.6	84.952	SF
J&L Farms 32-19 - Original Drilling - Original Drilling - As	6,172.0	6,193.8	3,162.6	3,126.2	86.847	CC, ES
J&L Farms 32-19 - Original Drilling - Original Drilling - As	6,350.0	6,356.3	3,184.7	3,147.6	85.923	SF
J&L Farms 41-19 - Original Drilling - Original Drilling - As	6,140.7	6,033.8	5,425.7	5,389.1	148.342	CC
J&L Farms 41-19 - Original Drilling - Original Drilling - As	6,150.0	6,045.3	5,425.8	5,389.1	148.122	ES
J&L Farms 41-19 - Original Drilling - Original Drilling - As	11,100.0	6,535.9	9,370.4	9,285.9	110.885	SF
J&L Farms 42-19 - Original Drilling - Original Drilling - As	6,154.8	6,073.2	4,797.1	4,761.9	136.327	CC, ES
J&L Farms 42-19 - Original Drilling - Original Drilling - As	6,400.0	6,293.1	4,843.1	4,807.0	134.056	SF
Larson A23-622 - Original Drilling - APD - Rev 0	2,000.0	2,000.0	21.9	9.7	1.802	CC
Larson A23-622 - Original Drilling - APD - Rev 0	17,349.6	17,336.4	338.0	-488.1	0.409	Level 1, ES, SF
Larson A23-633 - Original Drilling - APD - Rev 0	2,200.0	2,200.0	21.9	8.5	1.632	CC
Larson A23-633 - Original Drilling - APD - Rev 0	17,349.6	17,305.4	352.7	-473.5	0.427	Level 1, ES, SF
Larson A23-639 - Original Drilling - APD - Rev 0	2,000.0	2,000.0	43.7	31.6	3.602	CC
Larson A23-639 - Original Drilling - APD - Rev 0	17,349.6	17,357.2	750.5	-81.9	0.902	Level 1, ES, SF
Larson A23-645 - Original Drilling - APD - Rev 0	6,836.2	7,606.6	1,089.7	1,039.2	21.548	CC
Larson A23-645 - Original Drilling - APD - Rev 0	17,349.6	18,106.2	1,151.3	517.9	1.818	ES, SF
Larson A23-651 - Original Drilling - APD - Rev 0	6,772.1	7,506.2	1,400.3	1,351.1	28.446	CC
Larson A23-651 - Original Drilling - APD - Rev 0	17,349.6	18,051.9	1,461.2	828.0	2.308	ES, SF
Larson A23-656 - Original Drilling - APD - Rev 0	17,349.6	18,069.1	1,770.5	1,137.0	2.795	CC, ES, SF
Larson A23-662 - Original Drilling - APD - Rev 0	2,000.0	2,003.0	1,810.8	1,798.7	149.116	CC
Larson A23-662 - Original Drilling - APD - Rev 0	17,349.6	18,064.8	2,193.6	1,560.2	3.463	ES, SF
Larson A23-668 - Original Drilling - APD - Rev 0	17,349.6	17,466.4	2,564.8	1,947.4	4.155	CC, ES, SF
Larson A23-672 - Original Drilling - APD - Rev 0	17,349.6	17,459.1	2,865.2	2,250.7	4.663	CC, ES, SF
Larson A23-678 - Original Drilling - APD - Rev 0	17,349.6	17,179.6	3,227.8	2,610.6	5.230	CC, ES, SF
Larson A23-683 - Original Drilling - APD - Rev 0	2,000.0	2,006.0	3,307.9	3,295.7	272.183	CC
Larson A23-683 - Original Drilling - APD - Rev 0	17,349.6	17,320.2	3,538.5	2,921.3	5.733	ES, SF
Larson USX AA19-03 - Original Drilling - Original Drilling	6,193.0	6,193.0	3,677.8	3,639.6	96.153	CC
Larson USX AA19-03 - Original Drilling - Original Drilling	6,200.0	6,314.3	3,677.9	3,639.4	95.403	ES
Larson USX AA19-03 - Original Drilling - Original Drilling	12,200.0	12,200.0	8,149.5	8,034.1	70.611	SF
Larson USX AA19-04 - Original Drilling - Original Drilling	6,141.4	6,166.4	3,312.2	3,273.7	86.167	CC
Larson USX AA19-04 - Original Drilling - Original Drilling	6,150.0	6,173.7	3,312.2	3,273.7	86.072	ES
Larson USX AA19-04 - Original Drilling - Original Drilling	9,600.0	6,636.5	4,914.1	4,821.4	53.043	SF
Larson USX AA19-05 - Original Drilling - Original Drilling	6,110.5	6,077.7	2,011.7	1,973.6	52.685	CC, ES
Larson USX AA19-05 - Original Drilling - Original Drilling	8,100.0	6,805.5	2,779.1	2,718.4	45.796	SF
Larson USX AA19-06 - Original Drilling - Original Drilling	6,194.7	6,277.7	2,657.8	2,619.7	69.757	CC
Larson USX AA19-06 - Original Drilling - Original Drilling	6,200.0	6,283.8	2,657.8	2,619.7	69.713	ES
Larson USX AA19-06 - Original Drilling - Original Drilling	6,350.0	6,457.9	2,668.5	2,629.9	69.153	SF
Thrall USX AA19-11 - Original Drilling - Original Drilling -	6,161.5	6,099.0	1,834.2	1,799.2	52.409	CC, ES
Thrall USX AA19-11 - Original Drilling - Original Drilling -	6,300.0	6,235.2	1,849.3	1,813.7	51.915	SF
Thrall USX AA19-12 - Original Drilling - Original Drilling -	6,059.4	5,990.3	914.9	877.1	24.222	CC, ES
Thrall USX AA19-12 - Original Drilling - Original Drilling -	6,250.0	6,177.0	920.7	882.0	23.796	SF
Thrall USX AA19-13 - Original Drilling - Original Drilling -	6,187.5	6,114.5	693.8	658.3	19.532	CC, ES
Thrall USX AA19-13 - Original Drilling - Original Drilling -	6,250.0	6,178.3	695.9	660.2	19.474	SF
Thrall USX AA19-14 - Original Drilling - Original Drilling -	6,171.8	6,088.6	1,655.0	1,620.7	48.232	CC, ES
Thrall USX AA19-14 - Original Drilling - Original Drilling -	6,300.0	6,215.7	1,667.1	1,632.2	47.814	SF
Thrall USX AA19-25 - Original Drilling - Original Drilling -	6,156.7	6,086.5	858.2	822.7	24.128	CC, ES
Thrall USX AA19-25 - Original Drilling - Original Drilling -	6,250.0	6,180.2	864.6	828.6	24.019	SF
Wells Ranch USX AA19-09 - Original Drilling - Original D	6,156.9	6,054.7	4,311.8	4,277.5	125.629	CC, ES
Wells Ranch USX AA19-09 - Original Drilling - Original D	6,450.0	6,356.4	4,380.0	4,344.4	123.103	SF
Wells Ranch USX AA19-10 - Original Drilling - Original D	6,162.2	6,106.3	3,027.5	2,992.7	87.023	CC, ES
Wells Ranch USX AA19-10 - Original Drilling - Original D	6,350.0	6,303.8	3,055.4	3,019.8	85.772	SF

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 A23-627
Project:	Wells Ranch	**TVD Reference:**	WELL @ 4676.0ft (Original Well Elev.)
Reference Site:	AA Section 19	**MD Reference:**	WELL @ 4676.0ft (Original Well Elev.)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Larson A23-627	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.79 sigma
Reference Wellbore	Original Drilling	**Database:**	EDM Producction
Reference Design:	APD - Rev 0	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
AA Section 19						
Wells Ranch USX AA19-15 - Original Drilling - Original D	6,183.0	6,227.7	2,789.1	2,753.8	79.043	CC, ES
Wells Ranch USX AA19-15 - Original Drilling - Original D	6,700.0	6,626.3	2,994.2	2,952.4	71.646	SF
Wells Ranch USX AA19-16 - Original Drilling - Original D	6,152.9	5,969.0	4,318.0	4,284.6	129.135	CC, ES
Wells Ranch USX AA19-16 - Original Drilling - Original D	6,400.0	6,183.9	4,368.1	4,333.6	126.697	SF
Wells Ranch USX AA19-23 - Original Drilling - Original D	6,180.7	6,202.6	3,581.1	3,546.8	104.461	CC, ES
Wells Ranch USX AA19-23 - Original Drilling - Original D	6,400.0	6,361.8	3,622.2	3,587.0	103.129	SF
AA Section 20						
Cook 20D - Original Drilling - Original Drilling - As Drilled	6,162.3	6,059.4	8,898.3	8,864.2	261.297	CC, ES
Cook 20D - Original Drilling - Original Drilling - As Drilled	6,600.0	6,458.7	9,049.4	9,013.6	253.203	SF
Cook 33-20 - Original Drilling - Original Drilling - As Drille	6,163.5	6,088.9	8,111.1	8,077.0	237.829	CC, ES
Cook 33-20 - Original Drilling - Original Drilling - As Drille	6,550.0	6,438.0	8,230.3	8,194.7	231.279	SF
Cook 34-20 - Orignal Drilling - Orignal Drilling - As Drilled	6,169.1	6,133.4	8,062.1	8,027.9	235.963	CC, ES
Cook 34-20 - Orignal Drilling - Orignal Drilling - As Drilled	6,600.0	6,459.8	8,211.9	8,176.2	230.372	SF
Cook 43-20 - Original Drilling - Original Drilling - As Drille	6,163.5	6,083.4	9,679.4	9,645.4	284.447	CC, ES
Cook 43-20 - Original Drilling - Original Drilling - As Drille	6,600.0	6,450.4	9,830.7	9,795.1	276.054	SF
Cook 44-20 - Original Drilling - Original Drilling - As Drille	6,152.7	5,862.0	9,655.8	9,622.6	290.321	CC, ES
Cook 44-20 - Original Drilling - Original Drilling - As Drille	6,650.0	6,475.9	9,844.0	9,808.5	277.277	SF
J&L Farms 01-20 - Original Drilling - Original Drilling - As						Out of range
J&L Farms 02-20 - Original Drilling - Original Drilling - As	6,157.8	6,106.7	8,931.6	8,895.8	249.594	CC, ES
J&L Farms 02-20 - Original Drilling - Original Drilling - As	6,550.0	6,438.2	9,046.0	9,009.0	243.940	SF
J&L Farms 08-20 - Original Drilling - Original Drilling - As	6,162.3	6,116.3	9,781.2	9,590.7	51.363	CC, ES
J&L Farms 08-20 - Original Drilling - Original Drilling - As	6,650.0	6,553.6	9,963.6	9,760.4	49.018	SF
J&L Farms 11-20 - Original Drilling - Original Drilling - As	6,135.6	5,925.7	6,477.0	6,441.2	180.989	CC, ES
J&L Farms 11-20 - Original Drilling - Original Drilling - As	10,400.0	6,806.1	9,944.9	9,872.9	138.132	SF
J&L Farms 12-20 - Original Drilling - Original Drilling - As	6,156.1	6,070.7	5,657.9	5,622.7	160.627	CC, ES
J&L Farms 12-20 - Original Drilling - Original Drilling - As	6,450.0	6,370.0	5,723.6	5,687.2	157.445	SF
J&L Farms 22-20 - Original Drilling - Original Drilling - As	6,157.4	6,069.4	7,172.8	7,138.0	205.950	CC, ES
J&L Farms 22-20 - Original Drilling - Original Drilling - As	8,700.0	8,700.0	9,298.1	9,251.0	197.420	SF
J&L Farms 32-20 - Original Drilling - Original Drilling - As	6,171.0	6,250.4	8,525.3	8,490.3	243.542	CC, ES
J&L Farms 32-20 - Original Drilling - Original Drilling - As	6,500.0	6,469.5	8,611.9	8,575.8	238.808	SF
Wells Ranch 13-20 - Original Drilling - Original Drilling - A	6,165.8	6,119.1	5,592.5	5,558.3	163.406	CC, ES
Wells Ranch 13-20 - Original Drilling - Original Drilling - A	6,450.0	6,415.4	5,657.7	5,622.3	159.493	SF
Wells Ranch 14-20 - Original Drilling - Original Drilling - A	6,176.1	6,192.5	5,593.3	5,559.2	163.961	CC, ES
Wells Ranch 14-20 - Original Drilling - Original Drilling - A	6,450.0	6,400.0	5,654.5	5,619.3	160.803	SF
Wells Ranch 23-20 - Original Drilling - Original Drilling - A	6,159.9	6,042.6	7,054.5	7,020.2	205.692	CC, ES
Wells Ranch 23-20 - Original Drilling - Original Drilling - A	6,500.0	6,333.1	7,148.1	7,112.5	201.079	SF
Wells Ranch 24-20 - Original Drilling - Original Drilling - A	6,166.6	6,079.4	6,718.6	6,684.7	198.183	CC, ES
Wells Ranch 24-20 - Original Drilling - Original Drilling - A	6,550.0	6,375.1	6,837.8	6,802.5	194.006	SF

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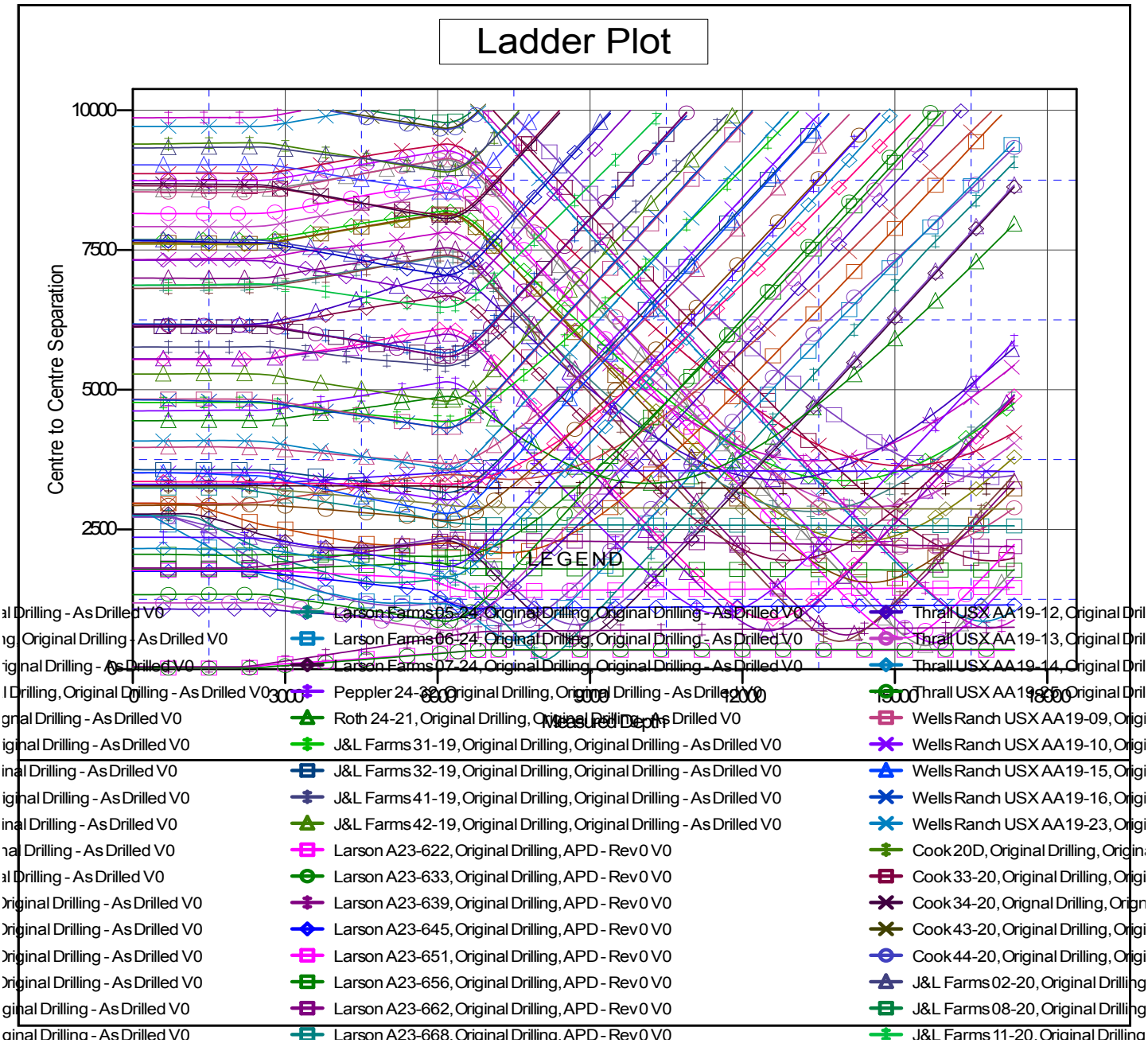
Reference Design:	APD - Rev 0	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4676.0ft (Original Well Elev.	Coordinates are relative to: Larson A23-627
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.5000000	Grid Convergence at Surface is: 0.65°



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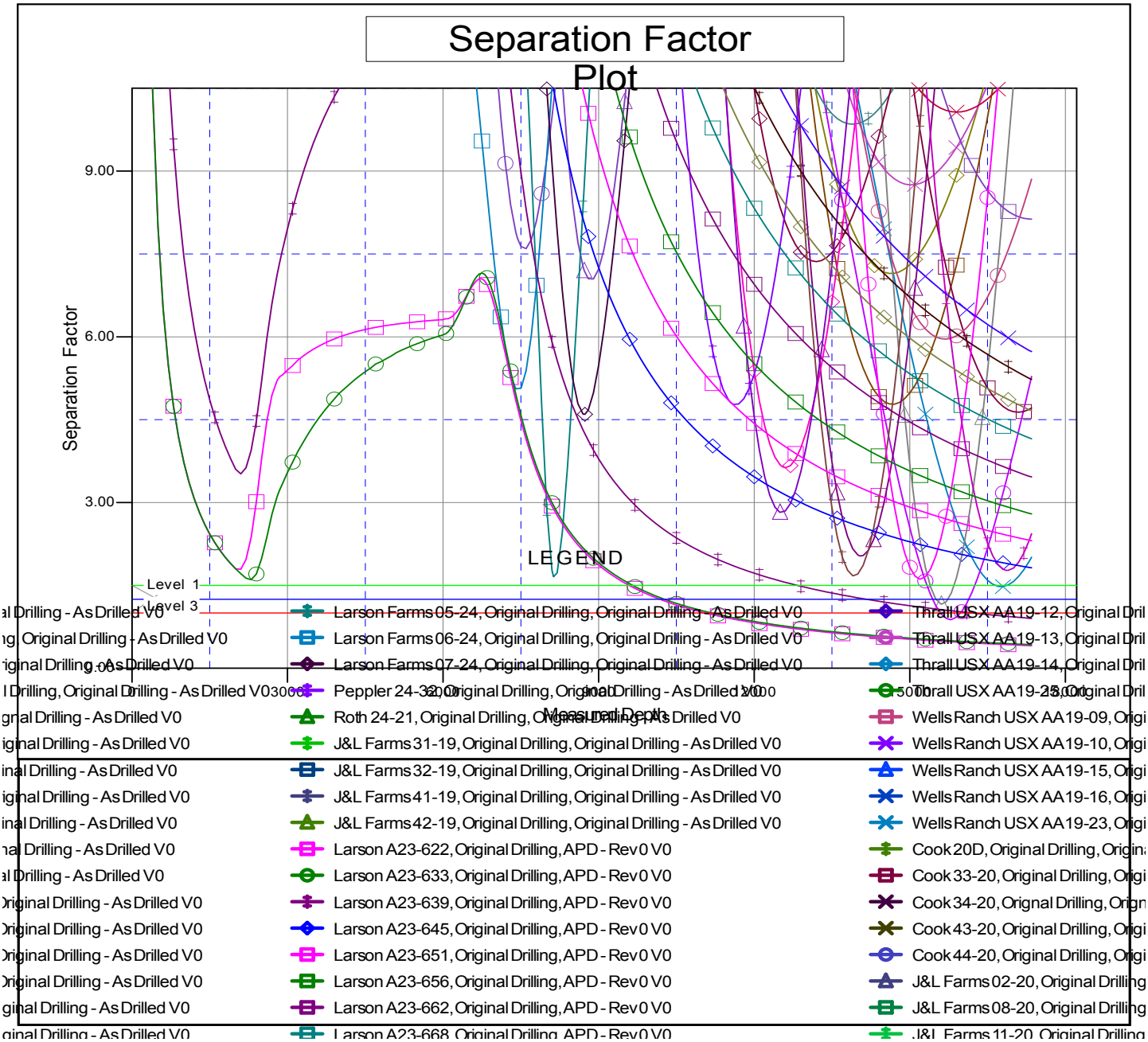

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation