

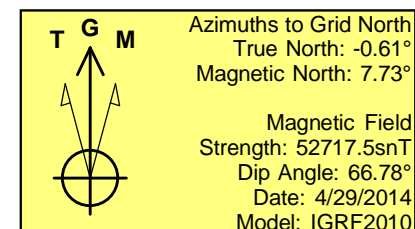
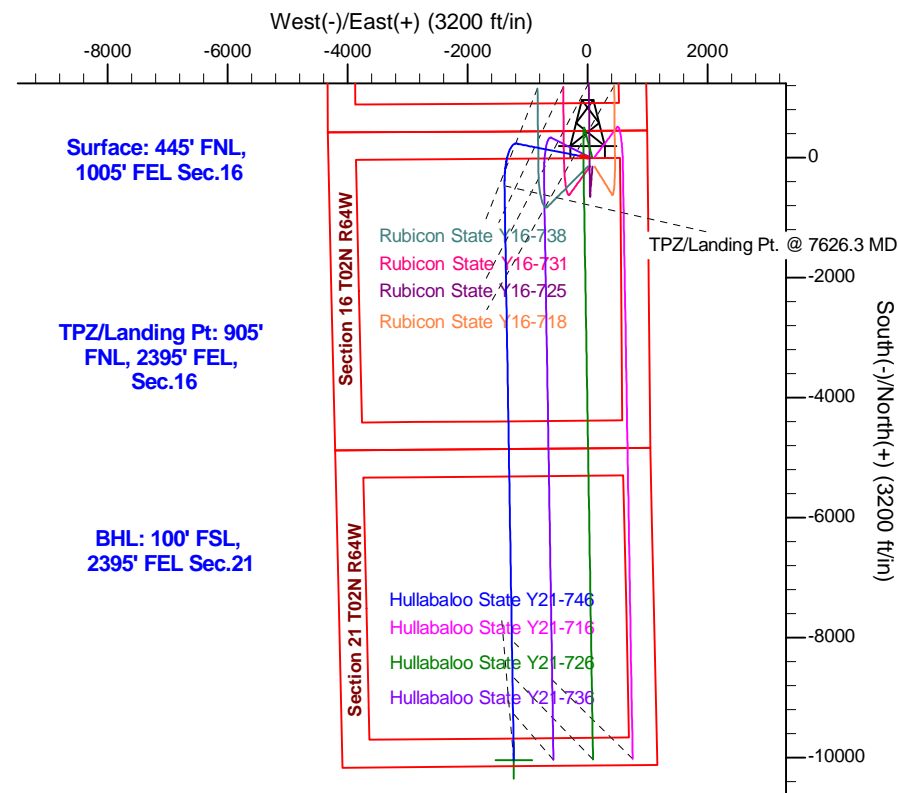
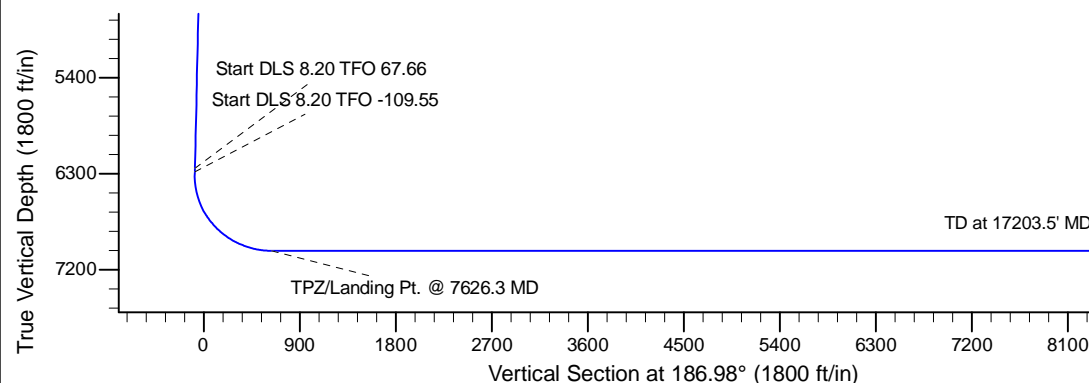
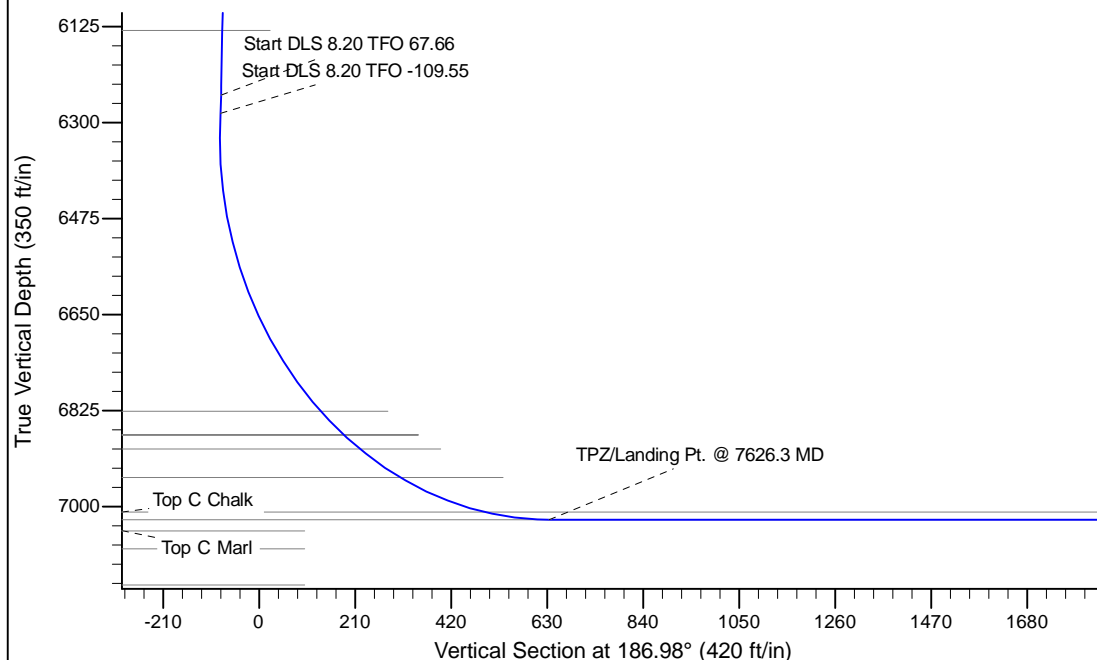
Project: Mustang
 Site: Y Section 16-T2N-R64W Weld County, CO
 Well: Hullabaloo State Y21-746
 Wellbore: Wellbore #1
 Design: Design #1

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	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1900.0	0.00	0.00	1900.0	0.0	0.0	0.00	0.00	0.0	
3	2737.5	16.75	281.00	2725.6	23.2	-119.3	2.00	281.00	-8.5	
4	6418.0	16.75	281.00	6250.0	225.6	-1160.5	0.00	0.00	-82.9	
5	6452.8	18.02	289.54	6283.2	228.3	-1170.5	8.20	67.66	-84.5	
6	7626.3	90.00	179.07	7024.0	-470.0	-1385.0	8.20	-109.55	634.8	
7	17203.5	90.00	179.07	7024.0	-10046.0	-1229.4	0.00	0.00	10120.9	Hullabaloo State Y21-746 BHL 100'FSL, 2395'FEL



WELL DETAILS: Hullabaloo State Y21-746

Ground Level: 4944.0			
Northing	Easting	Latitude	Longitude
0.0 1296912.9784601	3265414.6913518	40.1445199	-104.5505800

Plan: Design #1 (Hullabaloo State Y21-746/Wellbore #1)

Created By: Shailey Jewell

Date: 7:05, April 13 2017

OK to submit with 2A as per Noble Drilling
4/13/2017 7:09

Northern Region - DJ Basin

Mustang

Y Section 16

Hullabaloo State Y21-746

Wellbore #1

Design #1

Anticollision Summary Report

13 April, 2017

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Hullabaloo State Y21-746
Project:	Mustang	TVD Reference:	WELL @ 4974.0ft (Original Well Elev)
Reference Site:	Y Section 16	MD Reference:	WELL @ 4974.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hullabaloo State Y21-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Produccction
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,740.1 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	4/11/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	17,367.8	Design #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
Y Section 09						
Perkins 34-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,500.0	6,311.5	866.2	819.8	18.662	CC, ES
Perkins 34-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,600.0	6,403.1	877.1	830.0	18.613	SF
Perkins USX Y09-23 - Original Drilling - Original Drilling -	4,574.9	4,467.7	1,558.4	1,526.2	48.442	CC
Perkins USX Y09-23 - Original Drilling - Original Drilling -	4,600.0	4,488.6	1,558.5	1,526.1	48.183	ES
Perkins USX Y09-23 - Original Drilling - Original Drilling -	6,600.0	6,421.9	1,671.2	1,624.2	35.540	SF
Y Section 16						
Hullabaloo State Y21-716 - Original Drilling - APD - Rev	1,900.0	1,902.0	111.8	98.7	8.495	CC, ES
Hullabaloo State Y21-716 - Original Drilling - APD - Rev	2,000.0	2,002.0	113.5	99.7	8.184	SF
Hullabaloo State Y21-726 - Wellbore #1 - Design #1	1,900.0	1,901.0	75.5	62.3	5.736	CC, ES
Hullabaloo State Y21-726 - Wellbore #1 - Design #1	2,000.0	2,001.0	77.2	63.3	5.566	SF
Hullabaloo State Y21-736 - Wellbore #1 - Design #1	1,900.0	1,901.0	39.1	26.0	2.974	CC, ES
Hullabaloo State Y21-736 - Wellbore #1 - Design #1	2,000.0	2,001.0	40.8	27.0	2.945	SF
Hullabaloo State Y21-756 - Original Drilling - APD - Rev	17,195.6	17,149.1	626.9	452.4	3.593	CC
Hullabaloo State Y21-756 - Original Drilling - APD - Rev	17,200.0	17,146.6	627.0	452.3	3.590	ES
Hullabaloo State Y21-756 - Original Drilling - APD - Rev	17,203.5	17,146.6	627.2	452.5	3.590	SF
Hullabaloo State Y21-763 - Original Drilling - APD - Rev 0	17,161.1	17,509.7	1,046.4	873.7	6.062	CC
Hullabaloo State Y21-763 - Original Drilling - APD - Rev 0	17,200.0	17,536.6	1,046.5	873.2	6.040	ES
Hullabaloo State Y21-763 - Original Drilling - APD - Rev 0	17,203.5	17,536.6	1,046.7	873.4	6.040	SF
Hullabaloo State Y21-769 - Wellbore #1 - Design #1	17,191.1	17,344.7	1,454.0	1,279.2	8.319	CC
Hullabaloo State Y21-769 - Wellbore #1 - Design #1	17,200.0	17,344.7	1,454.1	1,279.2	8.314	ES
Hullabaloo State Y21-769 - Wellbore #1 - Design #1	17,203.5	17,344.7	1,454.3	1,279.4	8.314	SF
Hullabaloo State Y21-775 - Wellbore #1 - Design #1						Out of range
Hullabaloo State Y21-781 - Wellbore #1 - Design #1						Out of range
Hullabaloo State Y21-787 - Original Drilling - Prelim - Re	7,875.4	7,324.4	1,456.4	1,428.9	52.991	CC
Hullabaloo State Y21-787 - Original Drilling - Prelim - Re	7,900.0	7,346.5	1,456.4	1,428.9	52.895	ES
Hullabaloo State Y21-787 - Original Drilling - Prelim - Re	14,600.0	13,850.3	1,520.1	1,451.7	22.229	SF
Rubicon State Y16-718 - Original Drilling - APD - Rev 0	1,900.0	1,902.0	191.2	178.0	14.523	CC, ES
Rubicon State Y16-718 - Original Drilling - APD - Rev 0	2,100.0	2,088.7	203.0	188.6	14.041	SF
Rubicon State Y16-725 - Original Drilling - APD - Rev 0	1,900.0	1,902.0	171.9	158.7	13.056	CC, ES
Rubicon State Y16-725 - Original Drilling - APD - Rev 0	2,200.0	2,201.5	182.1	166.8	11.914	SF
Rubicon State Y16-731 - Original Drilling - APD - Rev 0	1,900.0	1,901.0	154.4	141.2	11.733	CC, ES
Rubicon State Y16-731 - Original Drilling - APD - Rev 0	2,300.0	2,299.7	168.6	152.6	10.547	SF
Rubicon State Y16-738 - Original Drilling - APD - Rev 0	1,900.0	1,900.0	149.4	136.2	11.354	CC
Rubicon State Y16-738 - Original Drilling - APD - Rev 0	2,000.0	2,000.0	149.8	135.9	10.801	ES
Rubicon State Y16-738 - Original Drilling - APD - Rev 0	7,100.0	7,665.8	527.6	475.5	10.132	SF
Rubicon State Y16-744 - Original Drilling - APD - Rev 0	7,500.0	7,264.6	140.1	88.6	2.721	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 Hullabaloo State Y21-746
Project:	Mustang	TVD Reference:	WELL @ 4974.0ft (Original Well Elev)
Reference Site:	Y Section 16	MD Reference:	WELL @ 4974.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hullabaloo State Y21-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Produccction
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

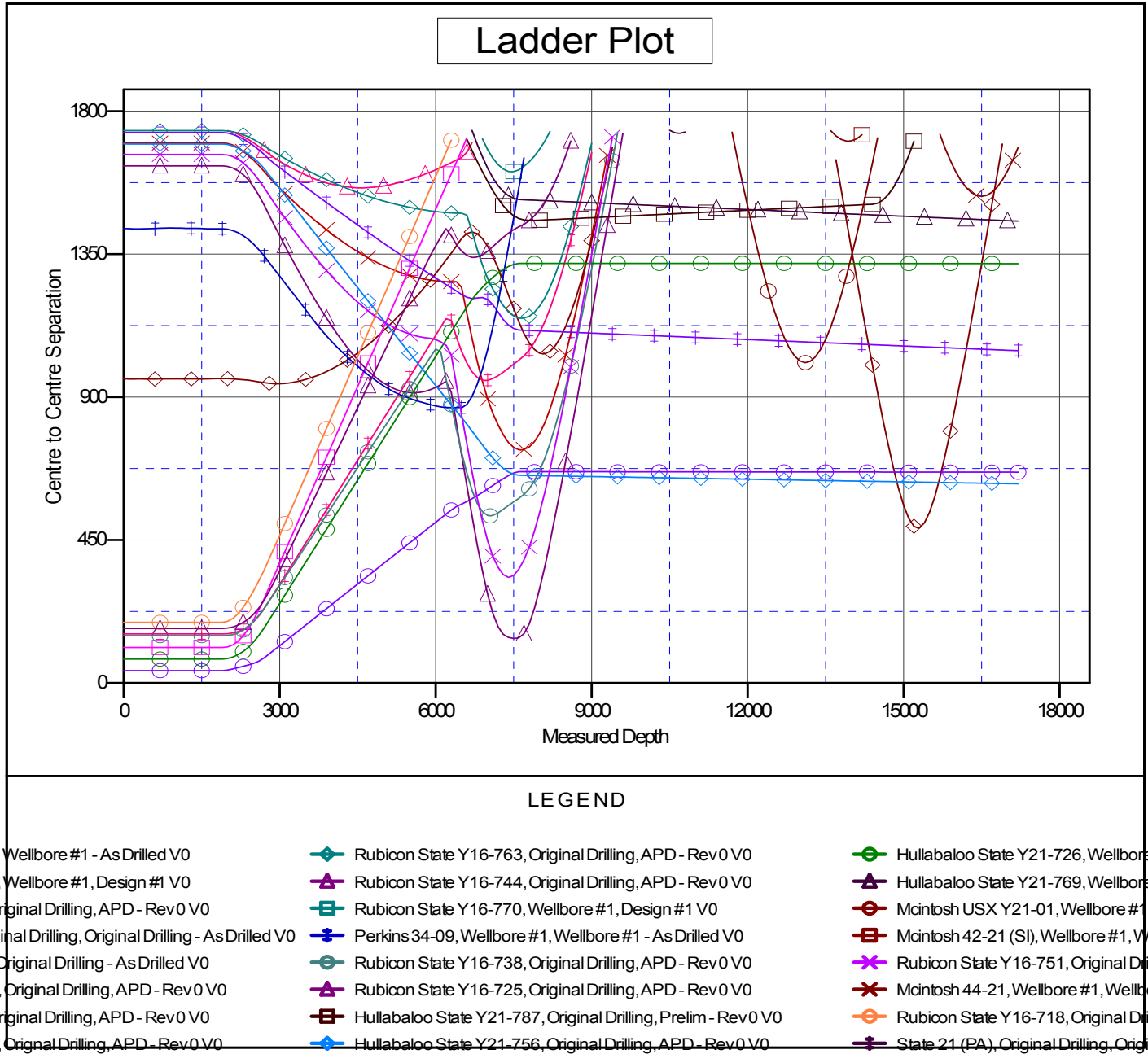
Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Y Section 16						
Rubicon State Y16-744 - Original Drilling - APD - Rev 0	7,514.4	7,251.0	140.0	88.5	2.721	CC, ES
Rubicon State Y16-751 - Original Drilling - APD - Rev 0	7,407.0	7,137.0	332.6	281.7	6.542	CC, ES, SF
Rubicon State Y16-757 - Original Drilling - APD - Rev 0	7,642.0	7,042.5	733.9	682.3	14.222	CC, ES
Rubicon State Y16-757 - Original Drilling - APD - Rev 0	7,700.0	7,000.7	735.3	683.6	14.210	SF
Rubicon State Y16-763 - Original Drilling - APD - Rev 0	7,654.2	6,898.7	1,148.1	1,096.2	22.103	CC, ES
Rubicon State Y16-763 - Original Drilling - APD - Rev 0	7,700.0	6,870.5	1,148.9	1,096.9	22.093	SF
Rubicon State Y16-770 - Wellbore #1 - Design #1	7,461.2	7,096.6	1,609.3	1,558.5	31.678	CC, ES
Rubicon State Y16-770 - Wellbore #1 - Design #1	7,500.0	7,072.9	1,609.8	1,558.9	31.652	SF
Rubicon State Y16-776 - Wellbore #1 - Design #1						Out of range
Rubicon State Y16-783 - Wellbore #1 - Design #1						Out of range
Rubicon State Y16-789 - Wellbore #1 - Design #1						Out of range
State 01 - Original Drilling - Original Drilling - As Drilled	2,944.4	2,886.5	941.9	921.7	46.564	CC
State 01 - Original Drilling - Original Drilling - As Drilled	3,000.0	2,940.1	942.1	921.5	45.675	ES
State 01 - Original Drilling - Original Drilling - As Drilled	8,069.7	6,965.8	1,036.2	978.8	18.063	SF
State 21 (PA) - Original Drilling - Original Drilling - As Dril	10,680.4	6,977.0	1,730.5	1,551.8	9.682	CC
State 21 (PA) - Original Drilling - Original Drilling - As Dril	10,700.0	6,977.0	1,730.6	1,551.7	9.673	ES
State 21 (PA) - Original Drilling - Original Drilling - As Dril	10,800.0	6,977.0	1,734.6	1,554.8	9.647	SF
State Y16-05D - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Y Section 21						
Gerkin 33-21 - Wellbore #1 - Wellbore #1 - As Drilled	15,274.3	6,962.5	488.0	393.1	5.143	CC, ES, SF
Mcintosh 42-21 (SI) - Wellbore #1 - Wellbore #1 - As Dril	13,937.2	6,997.6	1,705.8	1,619.9	19.854	CC, ES
Mcintosh 42-21 (SI) - Wellbore #1 - Wellbore #1 - As Dril	14,000.0	6,997.9	1,706.9	1,620.8	19.825	SF
Mcintosh 44-21 - Wellbore #1 - Wellbore #1 - As Drilled	16,497.7	6,987.1	1,531.9	1,426.5	14.527	CC
Mcintosh 44-21 - Wellbore #1 - Wellbore #1 - As Drilled	16,500.0	6,987.1	1,531.9	1,426.5	14.526	ES, SF
Mcintosh USX Y21-01 - Wellbore #1 - Wellbore #1 - As D	13,111.1	6,992.0	1,008.6	928.6	12.620	CC, ES, SF

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Reference Well:	Hullabaloo State Y21-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Production
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4974.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.5000000

Coordinates are relative to: Hullabaloo State Y21-746
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.61°



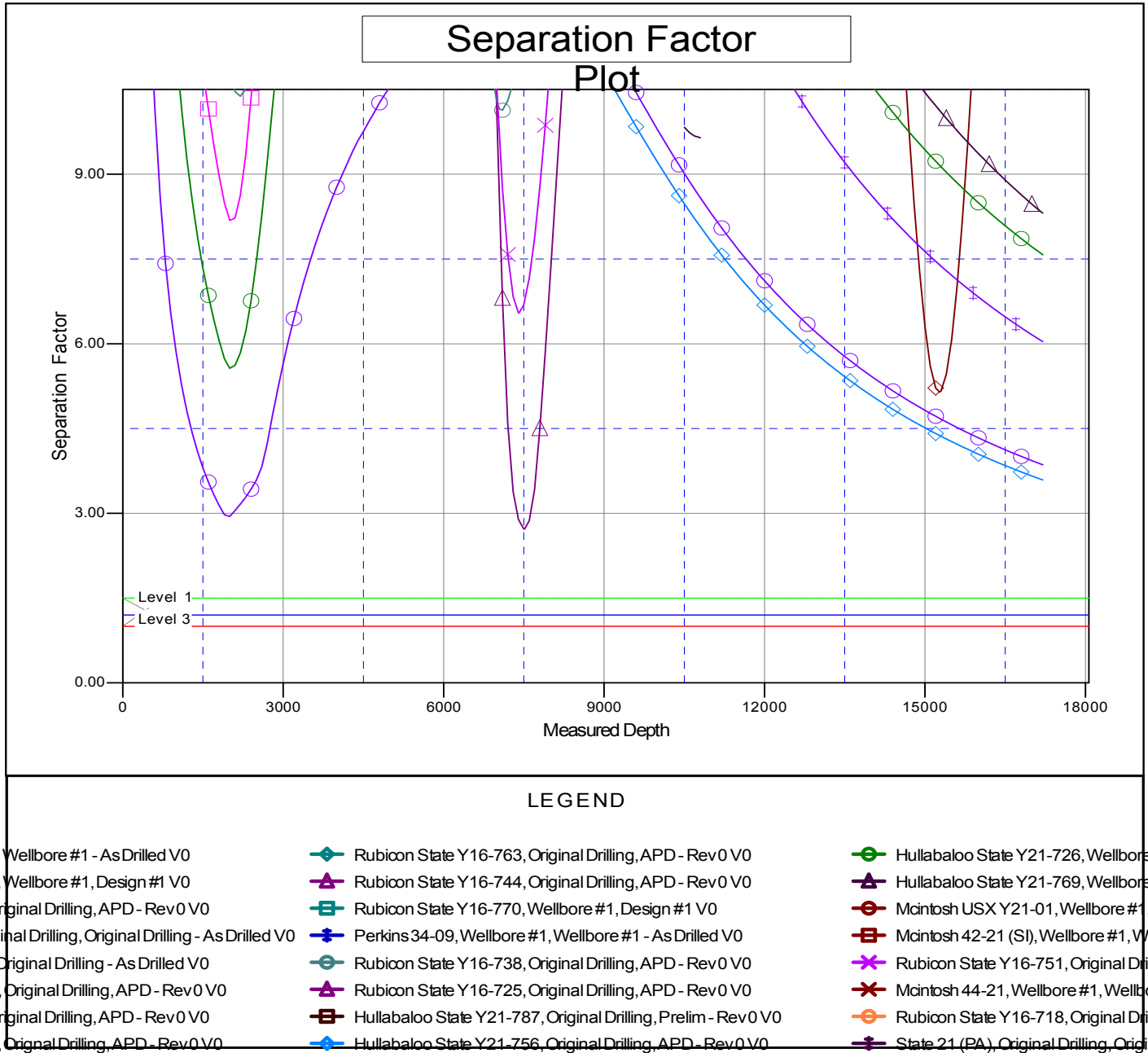
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