

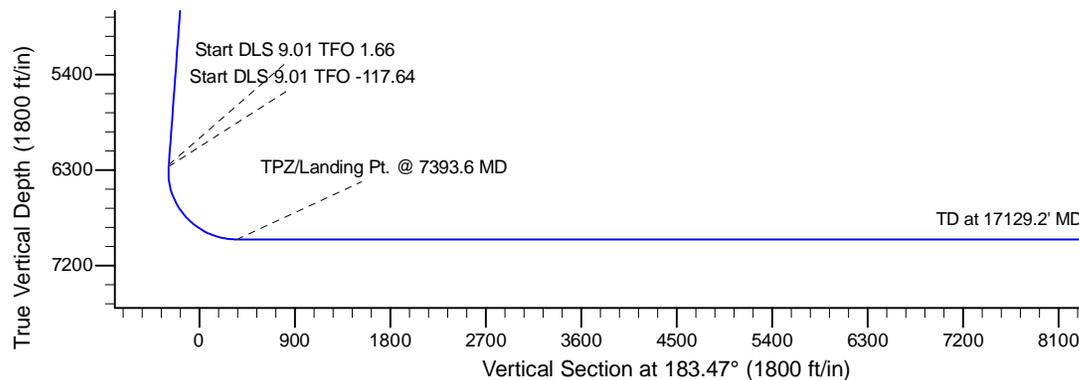
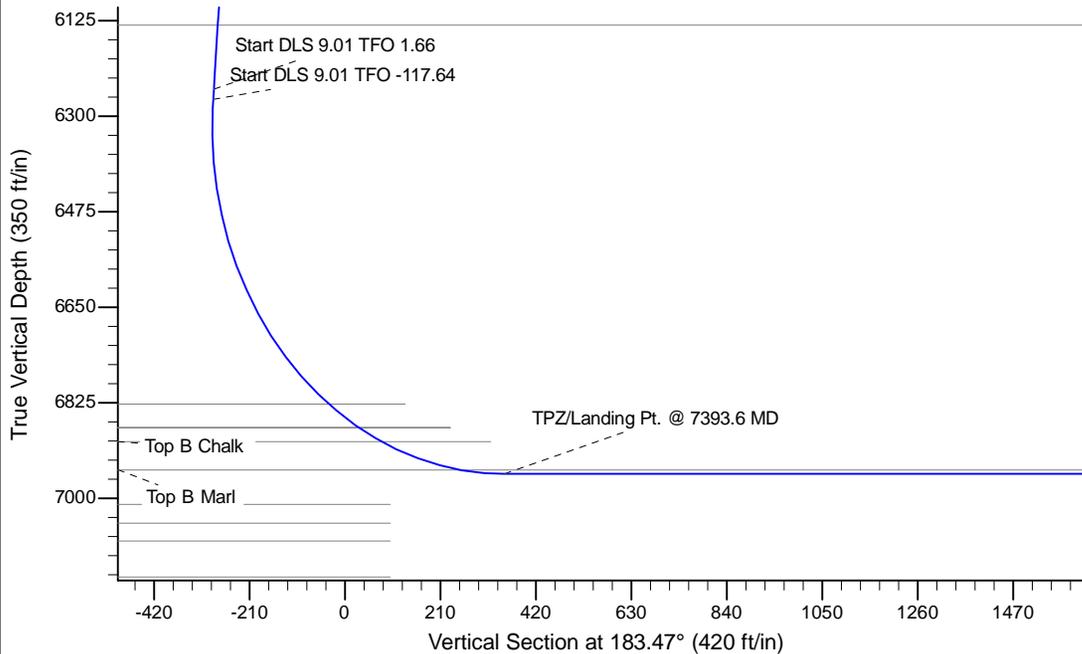
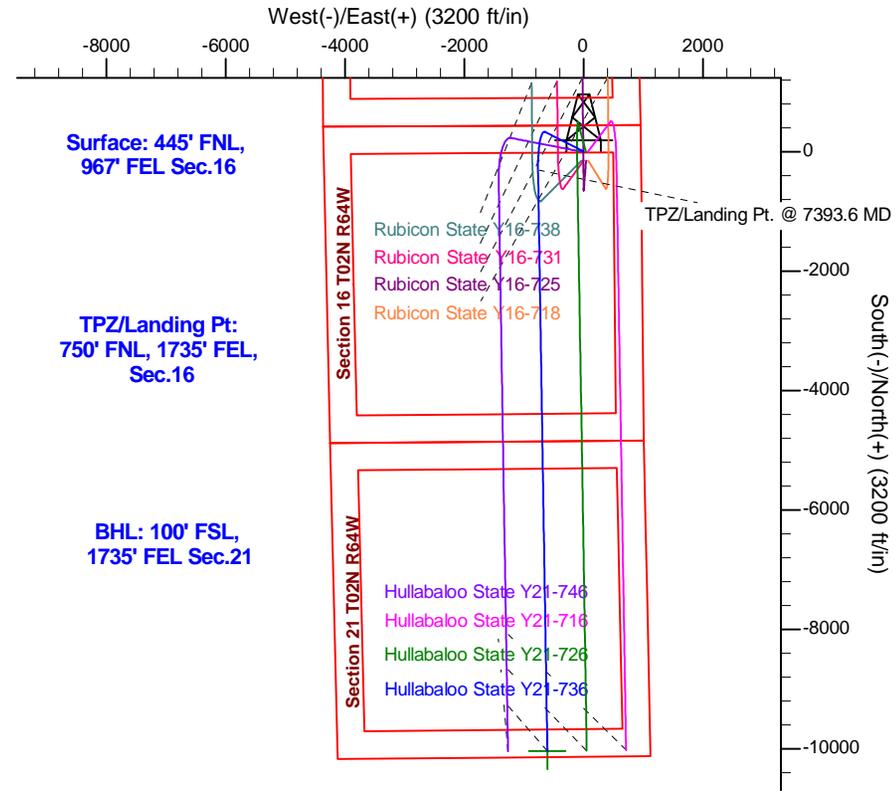
Project: Mustang
 Site: Y Section 16-T2N-R64W Weld County, CO
 Well: Hullabaloo State Y21-736
 Wellbore: Wellbore #1
 Design: Design #1

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	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	
3	2512.5	10.25	297.00	2509.8	20.8	-40.7	2.00	297.00	-18.3	
4	6313.4	10.25	297.00	6250.0	327.8	-643.4	0.00	0.00	-288.3	
5	6332.7	11.99	297.24	6269.0	329.5	-646.7	9.01	1.66	-289.8	
6	7393.6	90.00	179.08	6955.0	-305.0	-765.0	9.01	-117.64	350.7	Hullabaloo State Y21-736 BHL100'FSL, 1735'FEL
7	17129.2	90.00	179.08	6955.0	-10039.3	-608.5	0.00	0.00	10057.8	



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Azimuths to Grid North
 True North: -0.61°
 Magnetic North: 7.73°

Magnetic Field
 Strength: 52717.5snT
 Dip Angle: 66.78°
 Date: 4/29/2014
 Model: IGRF2010

WELL DETAILS: Hullabaloo State Y21-736			
Ground Level: 4945.0	Northing	Easting	Latitude
0.0	1296913.4017000	3265453.8274497	40.1445200
	Longitude		
	-104.5504400		
Plan: Design #1 (Hullabaloo State Y21-736/Wellbore #1)			
Created By: Shailey Jewell		Date: 10:14, April 11 2017	
OK to submit with 2A as per Noble Drilling			
4/11/2017 10:21			

Northern Region - DJ Basin

Mustang

Y Section 16

Hullabaloo State Y21-736

Wellbore #1

Design #1

Anticollision Summary Report

11 April, 2017

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Hullabaloo State Y21-736
Project:	Mustang	TVD Reference:	WELL @ 4975.0ft (Original Well Elev)
Reference Site:	Y Section 16	MD Reference:	WELL @ 4975.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hullabaloo State Y21-736	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	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	17,129.2	Design #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

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	6,457.4	6,376.7	783.0	737.6	17.250	CC, ES
Perkins 34-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,500.0	6,418.3	784.4	738.7	17.167	SF
Perkins USX Y09-23 - Original Drilling - Original Drilling -	6,400.0	6,337.6	1,341.4	1,296.2	29.722	CC, ES
Perkins USX Y09-23 - Original Drilling - Original Drilling -	6,500.0	6,433.0	1,352.3	1,306.5	29.515	SF
Y Section 16						
Hullabaloo State Y21-716 - Original Drilling - APD - Rev	2,000.0	2,001.0	72.7	58.8	5.238	CC, ES
Hullabaloo State Y21-716 - Original Drilling - APD - Rev	2,100.0	2,099.4	75.3	60.7	5.166	SF
Hullabaloo State Y21-726 - Wellbore #1 - Design #1	2,000.0	2,000.0	36.3	22.5	2.620	CC, ES
Hullabaloo State Y21-726 - Wellbore #1 - Design #1	2,100.0	2,100.3	37.5	22.9	2.569	SF
Hullabaloo State Y21-746 - Wellbore #1 - Design #1	1,900.0	1,899.0	39.1	28.4	3.658	CC, ES
Hullabaloo State Y21-746 - Wellbore #1 - Design #1	17,129.2	17,206.2	663.8	385.2	2.383	SF
Hullabaloo State Y21-756 - Wellbore #1 - Design #1	17,117.1	17,146.6	1,286.9	1,113.3	7.413	CC, ES
Hullabaloo State Y21-756 - Wellbore #1 - Design #1	17,129.2	17,146.6	1,287.1	1,113.4	7.409	SF
Hullabaloo State Y21-763 - Wellbore #1 - Design #1	17,078.4	17,509.5	1,710.1	1,537.1	9.883	CC
Hullabaloo State Y21-763 - Wellbore #1 - Design #1	17,129.2	17,536.6	1,710.5	1,536.7	9.844	ES, SF
Hullabaloo State Y21-769 - Wellbore #1 - Design #1						Out of range
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						Out of range
Rubicon State Y16-718 - Wellbore #1 - Design #1	1,900.0	1,901.0	170.6	159.9	15.937	CC, ES
Rubicon State Y16-718 - Wellbore #1 - Design #1	2,100.0	2,089.4	178.6	166.9	15.201	SF
Rubicon State Y16-725 - Wellbore #1 - Design #1	2,000.0	2,001.0	157.9	144.0	11.381	CC, ES
Rubicon State Y16-725 - Wellbore #1 - Design #1	2,300.0	2,300.5	168.8	152.8	10.547	SF
Rubicon State Y16-731 - Wellbore #1 - Design #1	2,000.0	2,000.0	149.4	135.5	10.766	CC, ES
Rubicon State Y16-731 - Wellbore #1 - Design #1	7,275.3	7,239.6	339.5	289.5	6.801	SF
Rubicon State Y16-738 - Wellbore #1 - Design #1	7,459.3	7,277.9	91.3	40.5	1.796	CC, ES, SF
Rubicon State Y16-744 - Wellbore #1 - Design #1	7,527.8	7,159.9	523.3	473.6	10.519	CC, ES
Rubicon State Y16-744 - Wellbore #1 - Design #1	7,600.0	7,096.9	524.4	474.4	10.493	SF
Rubicon State Y16-751 - Wellbore #1 - Design #1	7,277.0	7,028.6	982.7	933.8	20.075	CC, ES
Rubicon State Y16-751 - Wellbore #1 - Design #1	7,300.0	7,011.8	982.9	933.9	20.070	SF
Rubicon State Y16-757 - Wellbore #1 - Design #1	7,681.1	6,857.4	1,385.0	1,335.2	27.781	CC, ES
Rubicon State Y16-757 - Wellbore #1 - Design #1	7,800.0	6,799.3	1,388.8	1,338.7	27.761	SF
Rubicon State Y16-763 - Wellbore #1 - Design #1						Out of range
Rubicon State Y16-770 - Wellbore #1 - Design #1						Out of range
Rubicon State Y16-776 - Wellbore #1 - Design #1						Out of range
Rubicon State Y16-783 - Wellbore #1 - Design #1						Out of range

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

Anticollision Summary Report

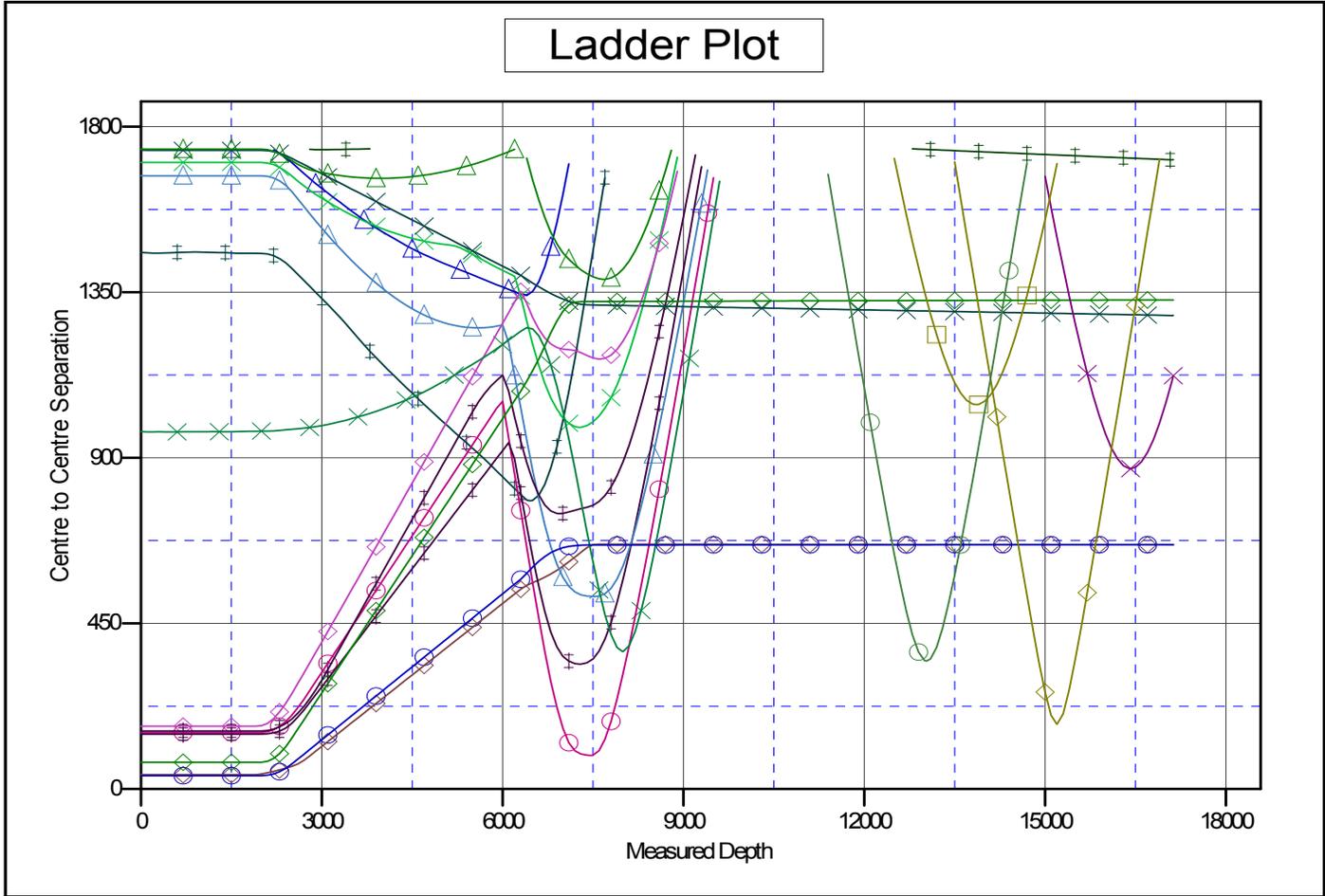
Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Hullabaloo State Y21-736
Project:	Mustang	TVD Reference:	WELL @ 4975.0ft (Original Well Elev)
Reference Site:	Y Section 16	MD Reference:	WELL @ 4975.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hullabaloo State Y21-736	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

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 Y16-789 - Wellbore #1 - Design #1						Out of range
State 01 - Original Drilling - Original Drilling - As Drilled	7,991.2	6,904.0	373.8	318.2	6.728	CC, ES, SF
State 21 (PA) - Original Drilling - Original Drilling - As Dril						Out of range
State Y16-05D - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Y Section 21						
Gerkin 33-21 - Wellbore #1 - Wellbore #1 - As Drilled	15,196.3	6,961.2	176.1	80.9	1.850	CC
Gerkin 33-21 - Wellbore #1 - Wellbore #1 - As Drilled	15,200.0	6,961.3	176.1	80.8	1.848	ES, SF
Mcintosh 42-21 (SI) - Wellbore #1 - Wellbore #1 - As Dril	13,858.8	6,940.4	1,044.5	958.9	12.210	CC, ES
Mcintosh 42-21 (SI) - Wellbore #1 - Wellbore #1 - As Dril	13,900.0	6,940.5	1,045.3	959.6	12.203	SF
Mcintosh 44-21 - Wellbore #1 - Wellbore #1 - As Drilled	16,419.2	6,932.1	870.7	765.4	8.273	CC, ES, SF
Mcintosh USX Y21-01 - Wellbore #1 - Wellbore #1 - As D	13,034.4	6,926.6	347.5	268.1	4.376	CC, ES, SF

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Reference Site:	Y Section 16	MD Reference:	WELL @ 4975.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hullabaloo State Y21-736	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 @ 4975.0ft (Original Well Elev) Coordinates are relative to: Hullabaloo State Y21-736
 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: 0.61°



LEGEND

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> #1 Wellbore #1 - As Drilled V0 Original Drilling, Original Drilling - As Drilled V0 3, Wellbore #1, Design #1 V0 Wellbore #1, Design #1 V0 3, Wellbore #1, Design #1 V0 Wellbore #1, Design #1 V0 Wellbore #1, Design #1 V0 | <ul style="list-style-type: none"> ▲ Rubicon State Y16-744, Wellbore #1, Design #1 V0 ◆ Rubicon State Y16-725, Wellbore #1, Design #1 V0 ✕ Hullabaloo State Y21-756, Wellbore #1, Design #1 V0 ◆ Rubicon State Y16-718, Wellbore #1, Design #1 V0 ▲ Rubicon State Y16-757, Wellbore #1, Design #1 V0 ✕ State 01, Original Drilling, Original Drilling - As Drilled V0 ◆ Hullabaloo State Y21-716, Original Drilling, APD - Rev0 V0 | <ul style="list-style-type: none"> ○ Hullabaloo State Y21-726, Wellbore #1, Design #1 V0 ✕ McIntosh 44-21, Wellbore #1, Wellbore #1, Design #1 V0 ◆ Gerkin 33-21, Wellbore #1, Wellbore #1, Design #1 V0 ○ McIntosh USX Y21-01, Wellbore #1, Wellbore #1, Design #1 V0 ■ McIntosh 42-21 (SI), Wellbore #1, Wellbore #1, Design #1 V0 |
|---|--|--|

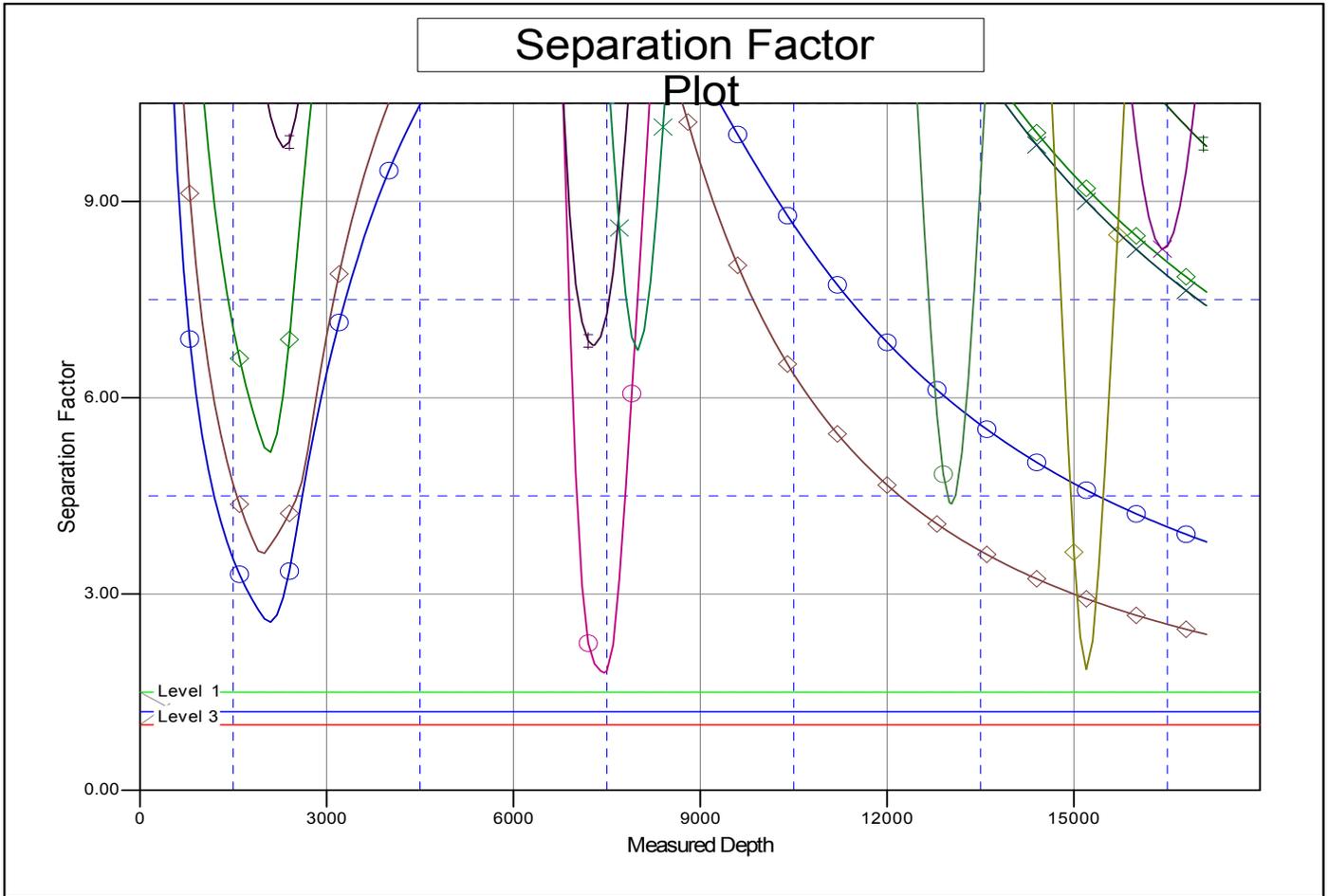
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Summary Report

Company: Northern Region - DJ Basin	Local Co-ordinate Reference: Well Hullabaloo State Y21-736	
Project: Mustang	TVD Reference: WELL @ 4975.0ft (Original Well Elev)	
Reference Site: Y Section 16	MD Reference: WELL @ 4975.0ft (Original Well Elev)	
Site Error: 0.0 ft	North Reference: Grid	
Reference Well: Hullabaloo State Y21-736	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 @ 4975.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.5000000

Coordinates are relative to: Hullabaloo State Y21-736
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.61°



LEGEND

#1 Wellbore #1 - As Drilled V0	▲ Rubicon State Y16-744, Wellbore #1, Design #1 V0	● Hullabaloo State Y21-726, Wellbore #1, Design #1 V0
Original Drilling, Original Drilling - As Drilled V0	◆ Rubicon State Y16-725, Wellbore #1, Design #1 V0	✕ Mcintosh 44-21, Wellbore #1, Design #1 V0
Level 3, Wellbore #1, Design #1 V0	✕ Hullabaloo State Y21-756, Wellbore #1, Design #1 V0	◆ Gerkin 33-21, Wellbore #1, Design #1 V0
Level 1, Wellbore #1, Design #1 V0	◆ Rubicon State Y16-718, Wellbore #1, Design #1 V0	● Mcintosh USX Y21-01, Wellbore #1, Design #1 V0
Level 3, Wellbore #1, Design #1 V0	▲ Rubicon State Y16-757, Wellbore #1, Design #1 V0	■ Mcintosh 42-21 (SI), Wellbore #1, Design #1 V0
Level 1, Wellbore #1, Design #1 V0	✕ State 01, Original Drilling, Original Drilling - As Drilled V0	
Level 3, Wellbore #1, Design #1 V0	◆ Hullabaloo State Y21-716, Original Drilling, APD - Rev 0 V0	

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