

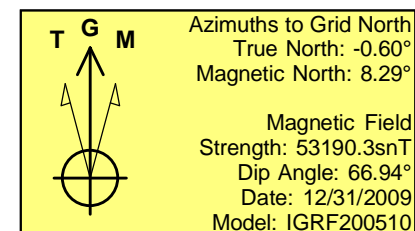
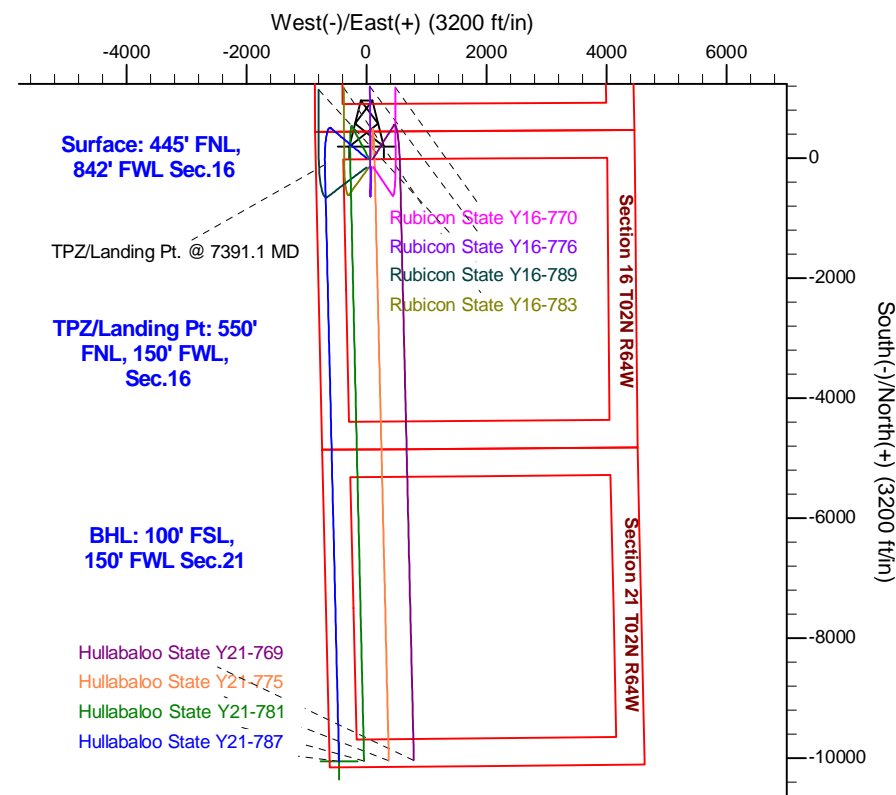
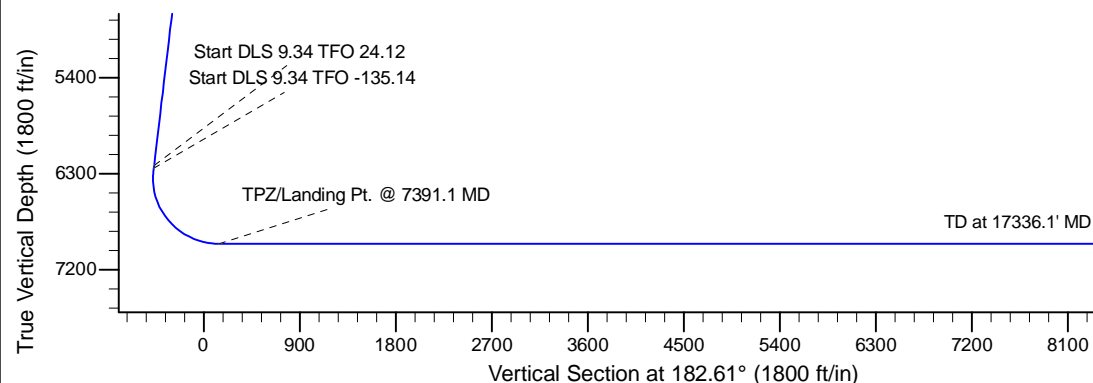
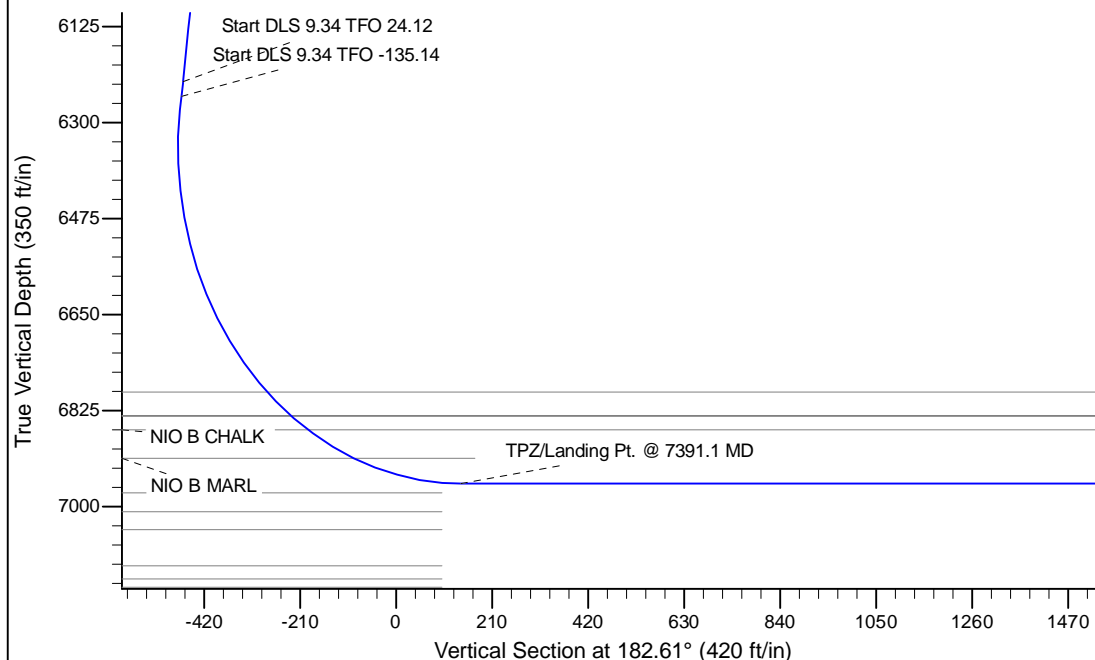
Project: Mustang  
 Site: Y Section 16-T2N-R64W Weld County, CO  
 Well: Hullabaloo State Y21-787  
 Wellbore: Original Drilling  
 Design: APD - Rev 0

# 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	2550.0	11.00	310.00	2546.6	33.8	-40.3	2.00	310.00	-32.0	
4	6297.2	11.00	310.00	6225.0	493.4	-588.0	0.00	0.00	-466.1	
5	6325.0	13.41	314.57	6252.1	497.4	-592.4	9.34	24.12	-469.9	
6	7391.1	90.00	178.64	6958.0	-110.0	-695.0	9.34	-135.14	141.6	
7	17336.1	90.00	178.64	6958.0	-10052.2	-458.7	0.00	0.00	10062.7	Hullabaloo State Y21-787 BHL 100'FSL, 150'FEL



## WELL DETAILS: Hullabaloo State Y21-787

	Ground Level: 4948.0		
Northing	Easting	Latitude	Longitude
0.0	1296894.2641791	3261942.5612917	40.1445700

Plan: APD - Rev 0 (Hullabaloo State Y21-787/Original Drilling)

Created By: Shailey Jewell Date: 10:37, April 13 2017

**OK to submit with 2A as per Noble Drilling**  
**4/13/2017 10:47**

# **Northern Region - DJ Basin**

**Mustang**

**Y Section 16**

**Hullabaloo State Y21-787**

**Original Drilling**

**APD - Rev 0**

## **Anticollision Summary Report**

**13 April, 2017**

# Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Hullabaloo State Y21-787
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	WELL @ 4978.0ft (Original Well Elev)
<b>Reference Site:</b>	Y Section 16	<b>MD Reference:</b>	WELL @ 4978.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hullabaloo State Y21-787	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Original Drilling	<b>Database:</b>	EDM Produccction
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	APD - Rev 0		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,740.1 ft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	4/13/2017		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	17,336.1	APD - Rev 0 (Original Drilling)	2_MWD	A001Mb/ISC4: BGGM declination correction only

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						Out of range
Perkins USX Y09-23 - Original Drilling - Original Drilling -						Out of range
Y Section 16						
Hullabaloo State Y21-716 - Original Drilling - APD - Rev						Out of range
Hullabaloo State Y21-726 - Wellbore #1 - Design #1						Out of range
Hullabaloo State Y21-736 - Wellbore #1 - Design #1						Out of range
Hullabaloo State Y21-746 - Wellbore #1 - Design #1						Out of range
Hullabaloo State Y21-756 - Original Drilling - APD - Rev						Out of range
Hullabaloo State Y21-763 - Original Drilling - APD - Rev 0	6,378.3	6,628.0	1,671.5	1,623.4	34.732	CC
Hullabaloo State Y21-763 - Original Drilling - APD - Rev 0	17,336.1	17,530.1	1,671.5	1,400.0	6.157	ES, SF
Hullabaloo State Y21-769 - Wellbore #1 - Design #1	1,909.5	1,854.5	111.9	98.9	8.589	CC
Hullabaloo State Y21-769 - Wellbore #1 - Design #1	2,000.0	1,944.1	112.1	98.4	8.197	ES
Hullabaloo State Y21-769 - Wellbore #1 - Design #1	17,336.1	17,328.4	1,249.2	978.3	4.612	SF
Hullabaloo State Y21-775 - Wellbore #1 - Design #1	2,000.0	1,946.0	75.6	61.9	5.524	CC, ES
Hullabaloo State Y21-775 - Wellbore #1 - Design #1	17,336.1	17,204.8	830.6	559.7	3.067	SF
Hullabaloo State Y21-781 - Wellbore #1 - Design #1	2,000.0	1,946.0	39.3	25.6	2.874	CC, ES
Hullabaloo State Y21-781 - Wellbore #1 - Design #1	17,336.1	17,325.4	422.5	152.7	1.566	SF
Rubicon State Y16-718 - Original Drilling - APD - Rev 0						Out of range
Rubicon State Y16-725 - Original Drilling - APD - Rev 0						Out of range
Rubicon State Y16-731 - Original Drilling - APD - Rev 0						Out of range
Rubicon State Y16-738 - Original Drilling - APD - Rev 0						Out of range
Rubicon State Y16-744 - Original Drilling - APD - Rev 0						Out of range
Rubicon State Y16-751 - Original Drilling - APD - Rev 0						Out of range
Rubicon State Y16-757 - Original Drilling - APD - Rev 0						Out of range
Rubicon State Y16-763 - Original Drilling - APD - Rev 0	6,971.0	7,755.0	1,606.7	1,555.3	31.244	CC, ES
Rubicon State Y16-763 - Original Drilling - APD - Rev 0	7,900.0	7,077.3	1,637.8	1,584.6	30.787	SF
Rubicon State Y16-770 - Wellbore #1 - Design #1	2,000.0	1,952.0	191.2	177.5	13.953	CC, ES
Rubicon State Y16-770 - Wellbore #1 - Design #1	2,200.0	2,148.5	198.4	183.3	13.137	SF
Rubicon State Y16-776 - Wellbore #1 - Design #1	2,000.0	1,952.0	171.9	158.2	12.544	CC, ES
Rubicon State Y16-776 - Wellbore #1 - Design #1	2,200.0	2,151.8	178.3	163.2	11.790	SF
Rubicon State Y16-783 - Wellbore #1 - Design #1	2,000.0	1,952.0	157.9	144.2	11.527	CC, ES
Rubicon State Y16-783 - Wellbore #1 - Design #1	7,204.1	7,405.5	321.8	271.5	6.391	SF
Rubicon State Y16-789 - Wellbore #1 - Design #1	7,750.0	7,038.1	73.0	20.1	1.381	Level 3, CC, ES, SF
State 01 - Original Drilling - Original Drilling - As Drilled						Out of range
State 21 (PA) - Original Drilling - Original Drilling - As Dril	10,839.3	6,907.0	1,019.9	811.1	4.885	CC, ES
State 21 (PA) - Original Drilling - Original Drilling - As Dril	10,900.0	6,907.0	1,021.7	812.5	4.883	SF

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

## Anticollision Summary Report

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<b>Reference Well:</b>	Hullabaloo State Y21-787	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Original Drilling	<b>Database:</b>	EDM Producction
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

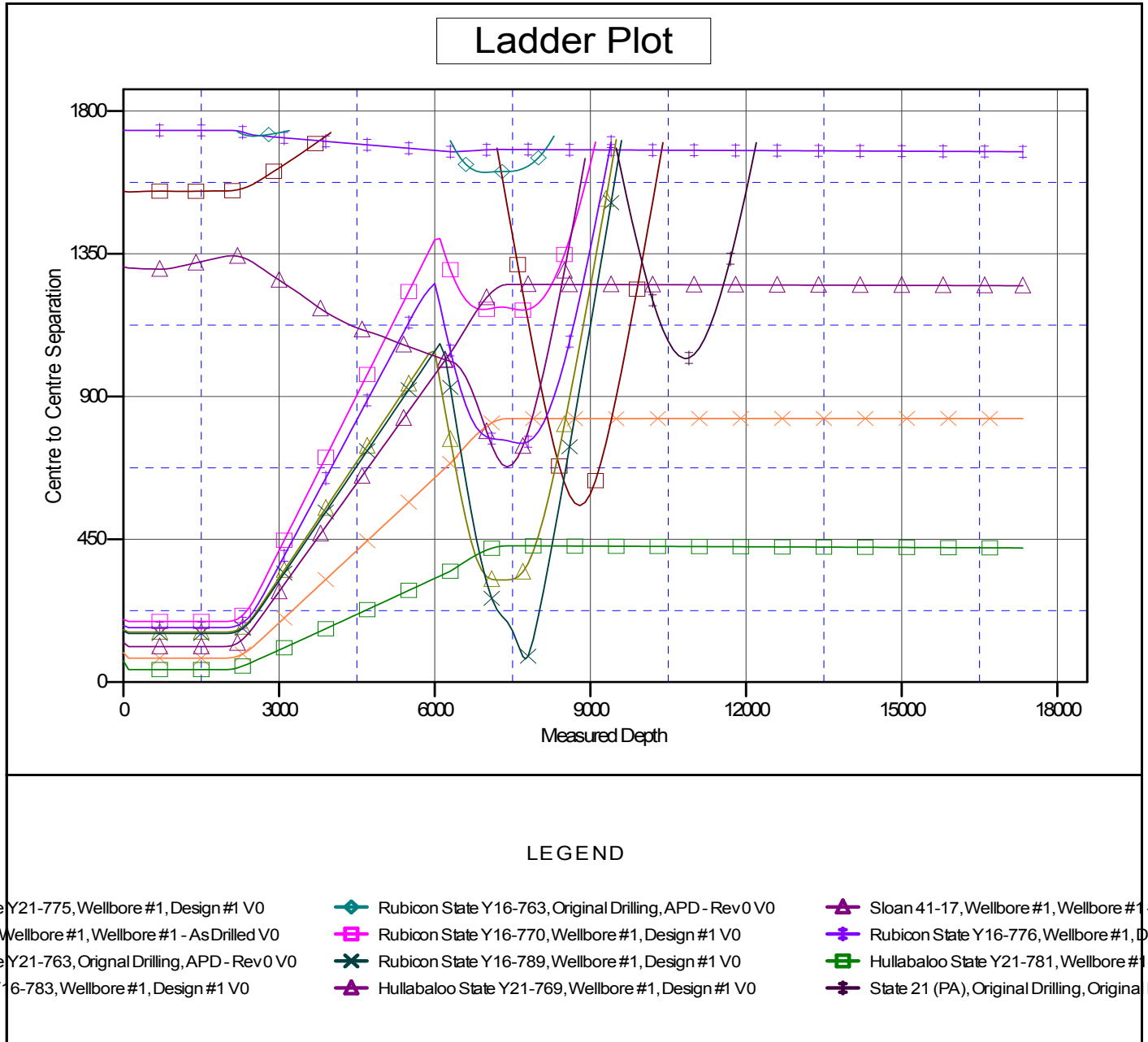
Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Y Section 16						
State Y16-05D - Wellbore #1 - Wellbore #1 - As Drilled	8,793.0	6,892.4	556.2	493.4	8.855	CC, ES
State Y16-05D - Wellbore #1 - Wellbore #1 - As Drilled	8,800.0	6,892.3	556.3	493.4	8.852	SF
Y Section 17						
Sloan 41-17 - Wellbore #1 - Wellbore #1 - As Drilled	7,396.1	6,860.6	678.2	628.5	13.652	CC, ES, SF

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<b>Reference Well:</b>	Hullabaloo State Y21-787	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Original Drilling	<b>Database:</b>	EDM Production
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4978.0ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.5000000

Coordinates are relative to: Hullabaloo State Y21-787  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.61°



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

## Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Hullabaloo State Y21-787
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<b>Reference Well:</b>	Hullabaloo State Y21-787	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Original Drilling	<b>Database:</b>	EDM Production
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4978.0ft (Original Well Elev)  
 Offset Depths are relative to Offset Datum  
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Coordinates are relative to: Hullabaloo State Y21-787  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
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