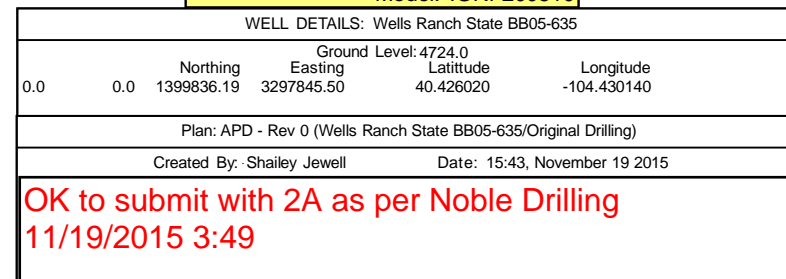


Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level



Northern Region Drilling - Working

Wattenberg Field

BB (05N-63W)

Wells Ranch State BB05-635

Original Drilling

APD - Rev 1

Anticollision Summary Report

25 July, 2016

Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch State BB05-635
Project:	Wattenberg Field	TVD Reference:	WELL @ 4748.0ft (Original Well Elev)
Reference Site:	BB (05N-63W)	MD Reference:	WELL @ 4748.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Wells Ranch State BB05-635	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM01P
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Reference	APD - Rev 1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.0ft	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:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	7/15/2016		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	17,067.0	APD - Rev 1 (Original Drilling)	MWD	MWD - Standard

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						
BB (05N-63W)						
State 23-04 - Original Drilling - Original Drilling - As Drille	10,380.3	6,680.2	204.5	83.0	1.683	Level 3, CC, ES, SF
Wells Ranch State BB05-630 - Original Drilling - APD - R	1,500.0	1,500.0	40.1	33.6	6.200	CC
Wells Ranch State BB05-630 - Original Drilling - APD - R	16,207.6	16,150.5	346.0	-191.9	0.643	Level 1, ES, SF
Wells Ranch State BB05-644 - Original Drilling - APD - R	1,500.0	1,499.0	36.4	30.0	5.638	CC, ES
Wells Ranch State BB05-644 - Original Drilling - APD - R	17,067.3	16,973.1	634.4	44.3	1.075	Level 2, SF
Wells Ranch State BB05-650 - Original Drilling - APD - R	1,200.0	1,199.0	72.9	67.7	14.247	CC, ES
Wells Ranch State BB05-650 - Original Drilling - APD - R	17,067.3	17,092.7	961.7	367.3	1.618	Level 3, SF

Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch State BB05-635
Project:	Wattenberg Field	TVD Reference:	WELL @ 4748.0ft (Original Well Elev)
Reference Site:	BB (05N-63W)	MD Reference:	WELL @ 4748.0ft (Original Well Elev)
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Reference Well:	Wells Ranch State BB05-635	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM01P
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4748.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

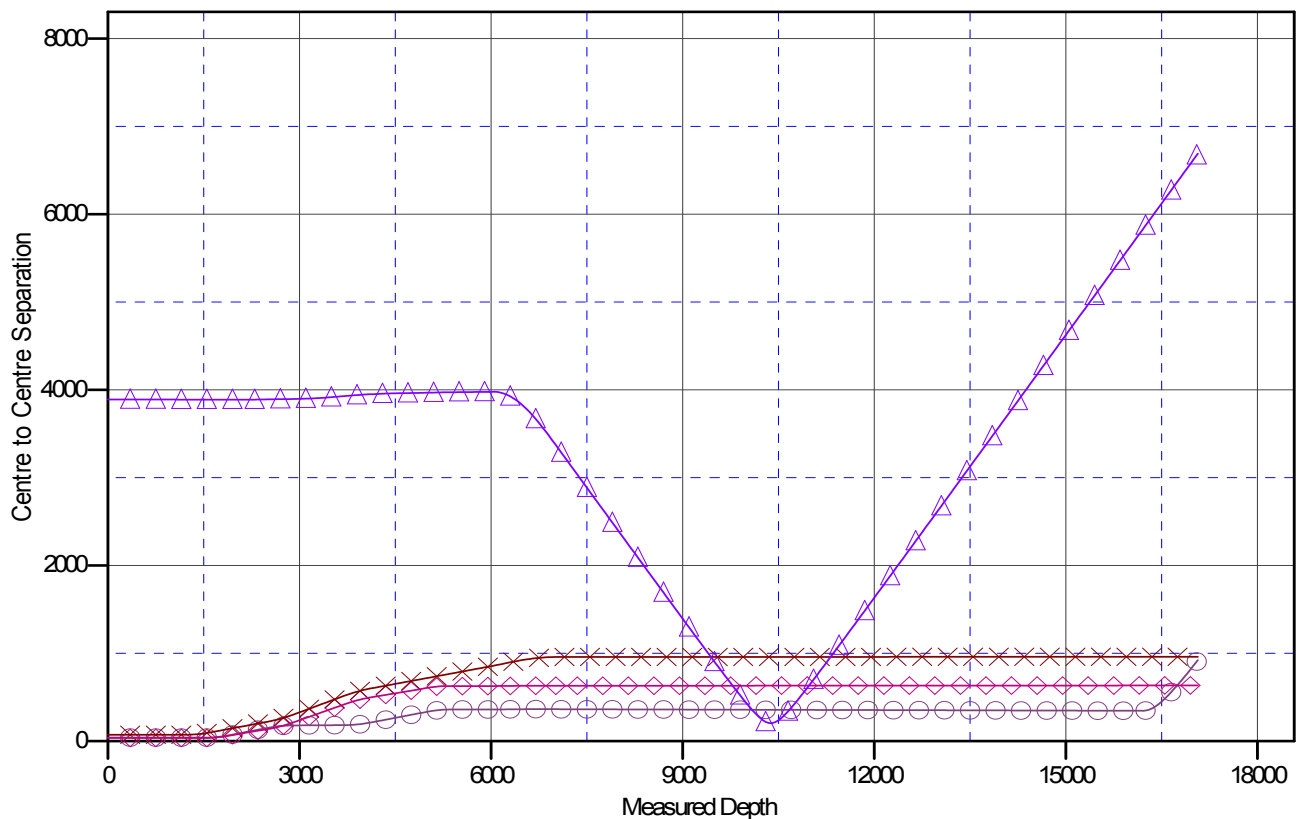
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch State BB05-635

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.69°

Ladder Plot



LEGEND

● Wells Ranch State BB05-630, Original Drilling, APD - Rev 1 V0
 × Wells Ranch State BB05-650, Original Drilling, APD - Rev 1 V0
▲ State 23-04, Original Drilling, Original Drilling - As Drilled V0

Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch State BB05-635
Project:	Wattenberg Field	TVD Reference:	WELL @ 4748.0ft (Original Well Elev)
Reference Site:	BB (05N-63W)	MD Reference:	WELL @ 4748.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Wells Ranch State BB05-635	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM01P
Reference Design:	APD - Rev 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4748.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch State BB05-635
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.69°

