

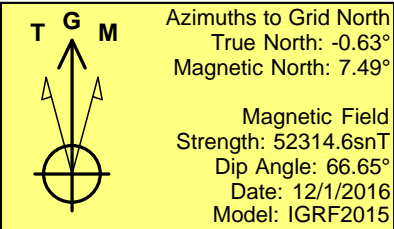
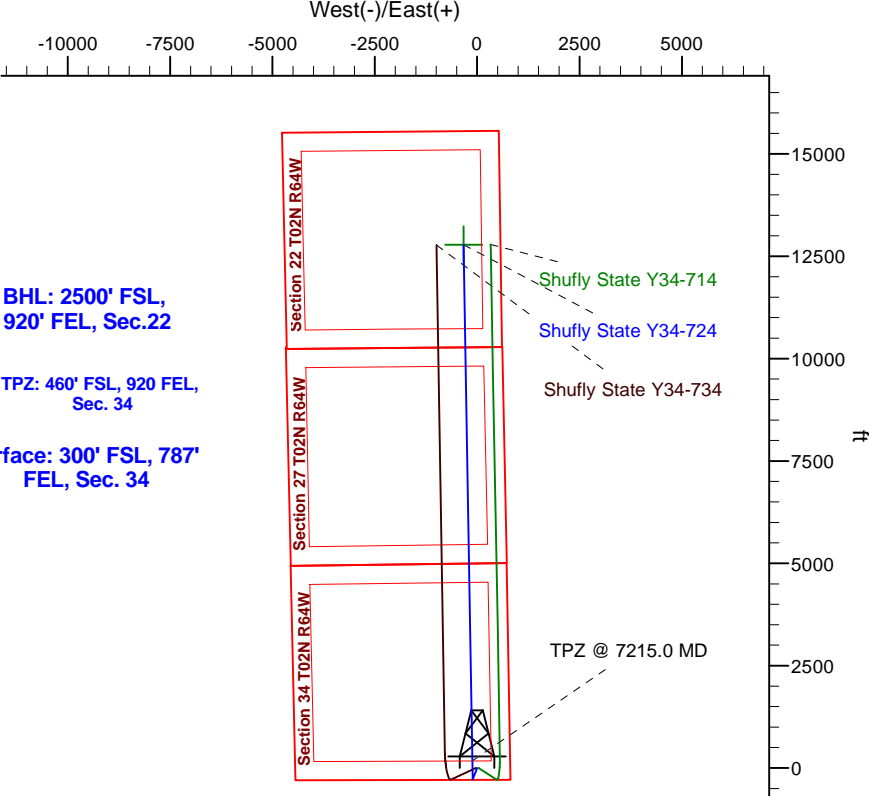
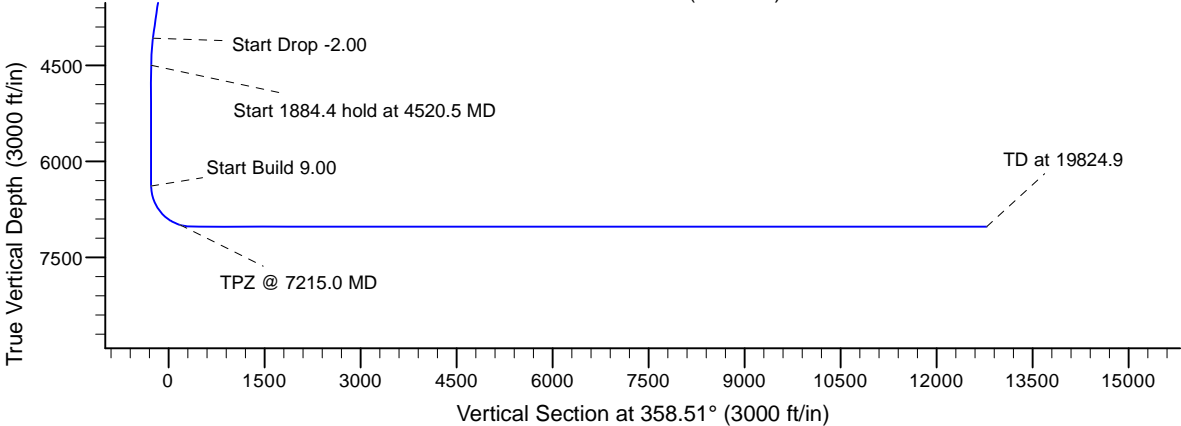
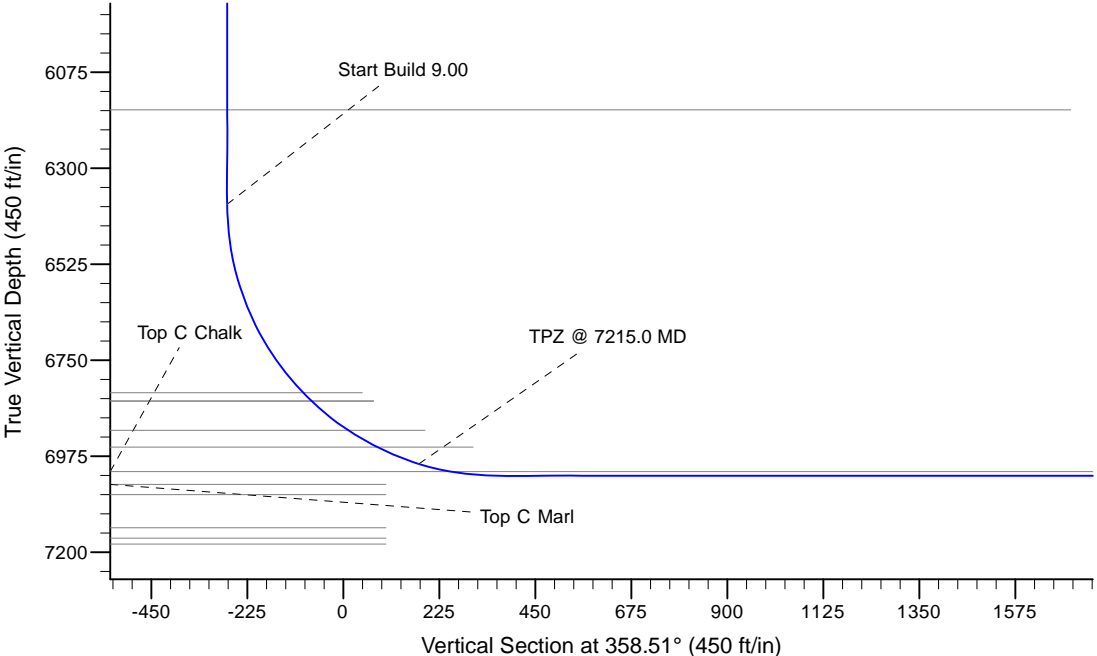
Project: Mustang
 Site: Y Section 34
 Well: Shufly State Y34-724
 Wellbore: Original Drilling
 Design: APD - Rev 0

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	2100.0	0.00	0.00	2100.0	0.0	0.0	0.00	0.00	0.0	
3	2527.1	8.54	201.80	2525.5	-29.5	-11.8	2.00	201.80	-29.2	
4	4093.5	8.54	201.80	4074.5	-245.5	-98.2	0.00	0.00	-242.9	
5	4520.5	0.00	0.00	4500.0	-275.0	-110.0	2.00	180.00	-272.0	
6	6404.9	0.00	0.00	6384.4	-275.0	-110.0	0.00	0.00	-272.0	
7	7404.9	90.00	359.02	7021.0	361.5	-120.9	9.00	359.02	364.5	
8	19824.9	90.00	359.02	7021.0	12779.7	-332.7	0.00	0.00	12784.0	Shufly State Y34-724 BHL 2500'FSL, 920'FEL



WELL DETAILS: Shufly State Y34-724			
Northing	Ground Elevation: 5041.0	Latitude	Longitude
0.0 0.0 1276553.0714573	3271214.8226178	40.0884599	-104.5306300
Plan: APD - Rev 0 (Shufly State Y34-724/Original Drilling)			
Created By: -Amanda Borowski Date: 10:54, May 01 2017			
OK to submit with 2A as per Noble Drilling 5/8/2017 9:19			

Northern Region - DJ Basin

Mustang

Y Section 34

Shufly State Y34-724

Original Drilling

APD - Rev 0

Anticollision Summary Report

25 May, 2017

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Shufly State Y34-724
Project:	Mustang	TVD Reference:	WELL @ 5071.0ft
Reference Site:	Y Section 34	MD Reference:	WELL @ 5071.0ft
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Shufly State Y34-724	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDMP
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:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,933.6 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	5/25/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	19,824.9	APD - Rev 0 (Original Drilling)	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
Offset Well - Wellbore - Design						
Y Section 10						
Oscar Y10-72-1HC - Original Drilling - APD - Rev 1						Out of range
Oscar Y10-72-1HC - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-72-1HN - Original Drilling - APD - Rev 0						Out of range
Oscar Y10-72-1HN - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-72HN - Original Drilling - APD - Rev 1						Out of range
Oscar Y10-72HN - Original Drilling - Original Drilling - As						Out of range
Oscar Y10-73-1HC - Original Drilling - APD - Rev 1						Out of range
Oscar Y10-73-1HC - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-73-1HN - Original Drilling - APD - Rev 1						Out of range
Oscar Y10-73-1HN - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-73HN - Original Drilling - APD - Rev 0						Out of range
Oscar Y10-73HN - Original Drilling - Original Drilling - As						Out of range
Oscar Y10-74-1HC - Original Drilling - APD - Rev 1						Out of range
Oscar Y10-74-1HC - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-74-1HC - Original Drilling - Target Change						Out of range
Oscar Y10-74-1HN - Original Drilling - APD - Rev 0						Out of range
Oscar Y10-74-1HN - Original Drilling - Baxter						Out of range
Oscar Y10-74-1HN - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-74HN - Original Drilling - APD - Rev 1						Out of range
Oscar Y10-74HN - Original Drilling - Original Drilling - As						Out of range
Oscar Y10-75-1HC - Original Drilling - APD - Rev 1						Out of range
Oscar Y10-75-1HC - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-75-1HN - Original Drilling - APD - Rev 1						Out of range
Oscar Y10-75-1HN - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-75HN - Original Drilling - APD - Rev 0						Out of range
Oscar Y10-75HN - Original Drilling - Original Drilling - As						Out of range
Oscar Y10-76-1HC - Original Drilling - APD - Rev 0						Out of range
Oscar Y10-76-1HN - Original Drilling - APD - Rev 2						Out of range
Oscar Y10-76-1HN - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-76HN - Original Drilling - APD - Rev 2						Out of range
Oscar Y10-76HN - Original Drilling - Original Drilling - As						Out of range
Oscar Y10-77-1HC - Original Drilling - APD - Rev 2						Out of range
Oscar Y10-77-1HC - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-77-1HN - Original Drilling - APD 0 Rev 0						Out of range
Oscar Y10-77HN - Original Drilling - APD - Rev 2						Out of range
Oscar Y10-77HN - Original Drilling - Original Drilling - As						Out of range
Oscar Y10-78-1HC - Original Drilling - APD - Rev 2						Out of range

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

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Anticollision Summary Report

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Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Shufly State Y34-724	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDMP
Reference Design:	APD - Rev 0	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 10						
Oscar Y10-78-1HC - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-78-1HN - Original Drilling - APD - Rev 2						Out of range
Oscar Y10-78-1HN - Original Drilling - Original Drilling - As						Out of range
Oscar Y10-78HN - Original Drilling - APD - Rev 2						Out of range
Oscar Y10-78HN - Original Drilling - Original Drilling - As						Out of range
Oscar Y10-79-1HC - Original Drilling - APD - Rev 2						Out of range
Oscar Y10-79-1HC - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-79-1HN - Original Drilling - APD - Rev 2						Out of range
Oscar Y10-79-1HN - Original Drilling - Original Drilling - A						Out of range
Oscar Y10-79HN - Original Drilling - APD - Rev 2						Out of range
Oscar Y10-79HN - Original Drilling - Original Drilling - As						Out of range
Oscar Y10-79HN - Original Drilling - ST01 - ST01 - As Dr						Out of range
Oscar Y11-79HN - Original Drilling - APD - Rev 1						Out of range
Oscar Y11-79HN - Original Drilling - Original Drilling - As						Out of range
Oscar Y11-79HN - ST01 Original Drilling - ST01 Original						Out of range
Y Section 11						
Marolff 14-11 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Marolff 34-11 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Waste Management 12-11 - Wellbore #1 - Wellbore #1 -						Out of range
Waste Management Y23-712 - Original Drilling - APD - R						Out of range
Waste Management Y23-720 - Original Drilling - APD - R						Out of range
Waste Management Y23-728 - Original Drilling - APD - R						Out of range
Waste Management Y23-736 - Original Drilling - APD - R						Out of range
Waste Management Y23-744 - Original Drilling - APD - R						Out of range
Waste Management Y23-752 - Original Drilling - APD - R						Out of range
Waste Management Y23-760 - Original Drilling - APD - R						Out of range
Waste Management Y23-768 - Original Drilling - APD - R						Out of range
Waste Management Y23-776 - Original Drilling - APD - R						Out of range
Waste Management Y23-784 - Original Drilling - APD - R	19,824.9	19,429.6	1,506.1	1,405.4	14.944	CC, ES, SF
Y Section 22						
Acco-Terra-Bodeker 40 - Original Drilling - Original Drilling						Out of range
Goetz #1 (PA) - Original Drilling - Original Drilling - As Dr	19,824.9	6,970.0	1,790.8	1,619.8	10.472	CC, ES, SF
Goetz #2 (PA) - Original Drilling - Original Drilling - As Dr						Out of range
Goetz Y22-06 - Original Drilling - Original Drilling - As Dri						Out of range
Y Section 27						
Champlin 246 Amoco A 1 - Wellbore #1 - Wellbore #1 - A						Out of range
Y Section 34						
Barnes 2-34 - Wellbore #1 - Wellbore #1 - As Drilled	11,046.1	6,943.0	731.4	550.9	4.051	CC, ES, SF
Fritzler 12-34 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Shufly State Y34-714 - Original Drilling - APD - Rev 0	1,900.0	1,898.0	36.4	23.2	2.766	CC, ES
Shufly State Y34-714 - Original Drilling - APD - Rev 0	2,000.0	1,996.9	37.8	23.9	2.728	SF
Shufly State Y34-734 - Original Drilling - APD - Rev 0	1,900.0	1,901.0	36.4	23.2	2.764	CC, ES
Shufly State Y34-734 - Original Drilling - APD - Rev 0	2,000.0	1,999.8	38.0	24.1	2.742	SF
Shufly State Y34-744 - Original Drilling - APD - Rev 0	19,824.9	19,868.4	1,320.1	1,102.5	6.066	CC, ES, SF
Shufly State Y34-754 - Original Drilling - APD - Rev 0	1,802.4	1,832.4	1,373.8	1,361.2	109.346	CC
Shufly State Y34-754 - Original Drilling - APD - Rev 0	1,900.0	1,920.7	1,373.9	1,360.7	103.868	ES
Shufly State Y34-754 - Original Drilling - APD - Rev 0	5,900.0	5,650.1	1,927.5	1,887.1	47.667	SF
Shufly State Y34-764 - Original Drilling - APD - Rev 0						Out of range
Shufly State Y34-774 - Original Drilling - APD - Rev 0						Out of range
Shufly State Y34-784 - Original Drilling - APD - Rev 0						Out of range

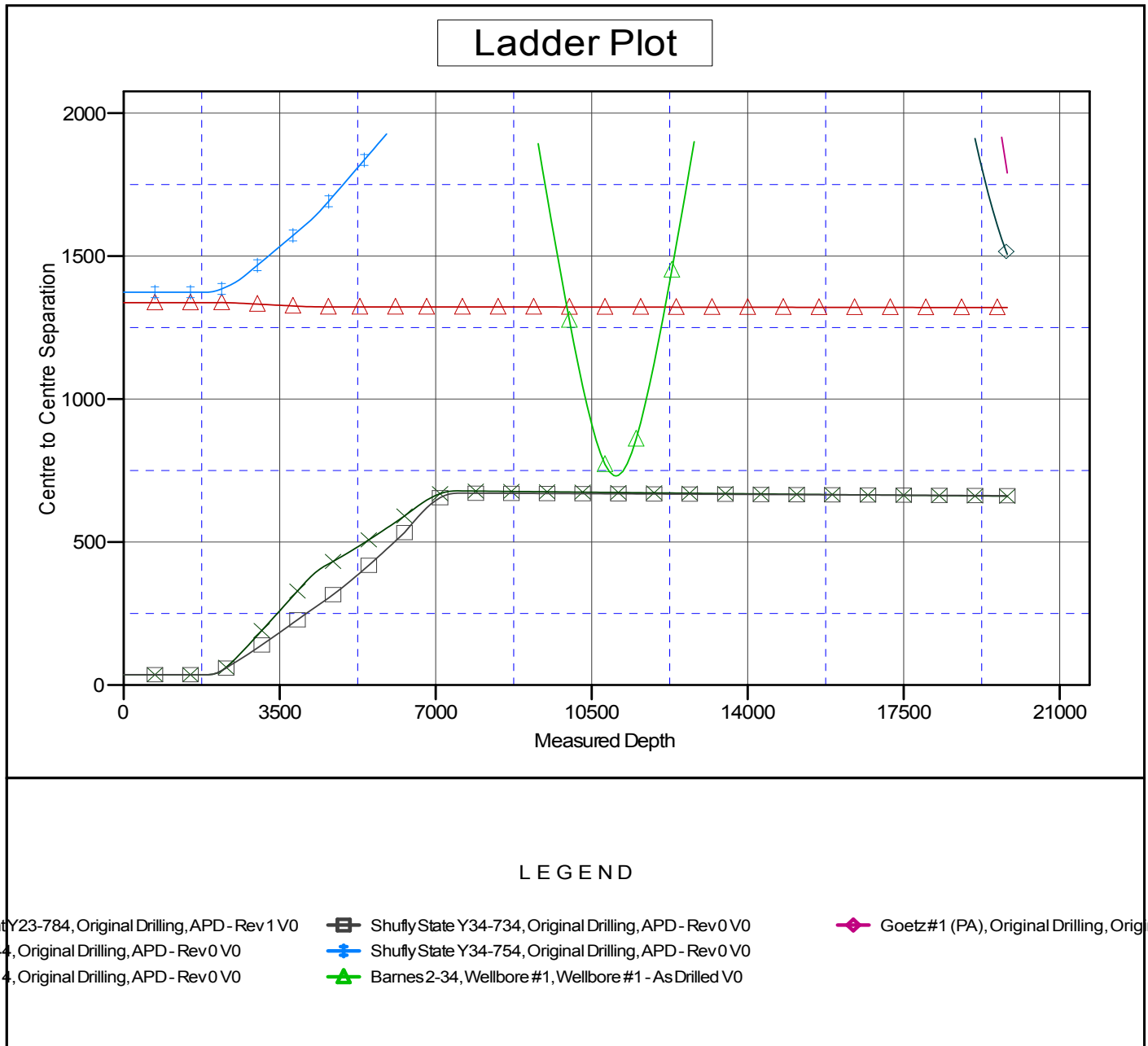
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Reference Wellbore	Original Drilling	Database:	EDMP
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5071.0ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Shufly State Y34-724
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.63°



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