

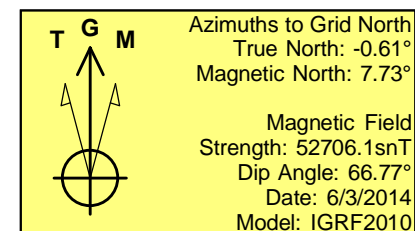
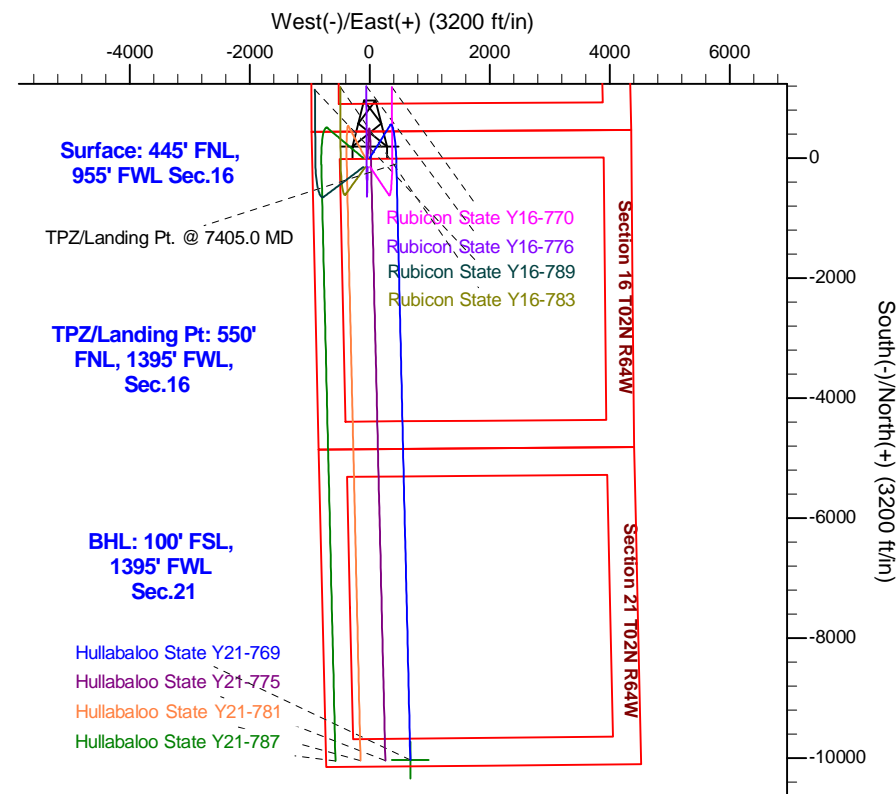
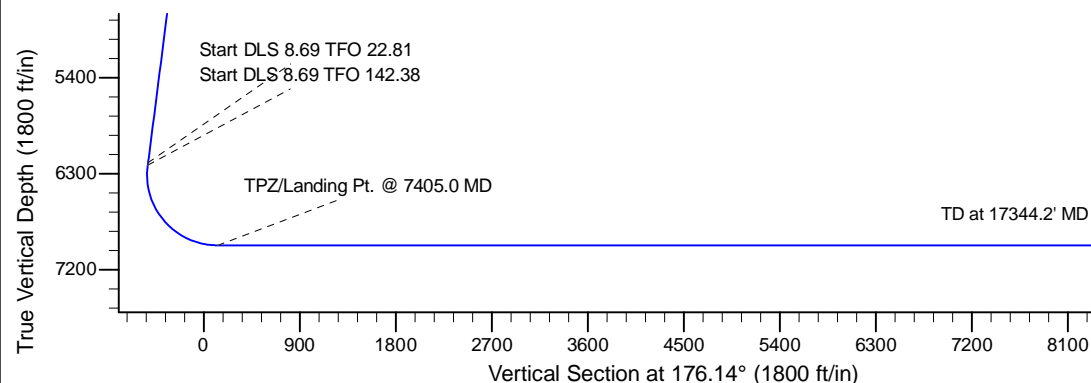
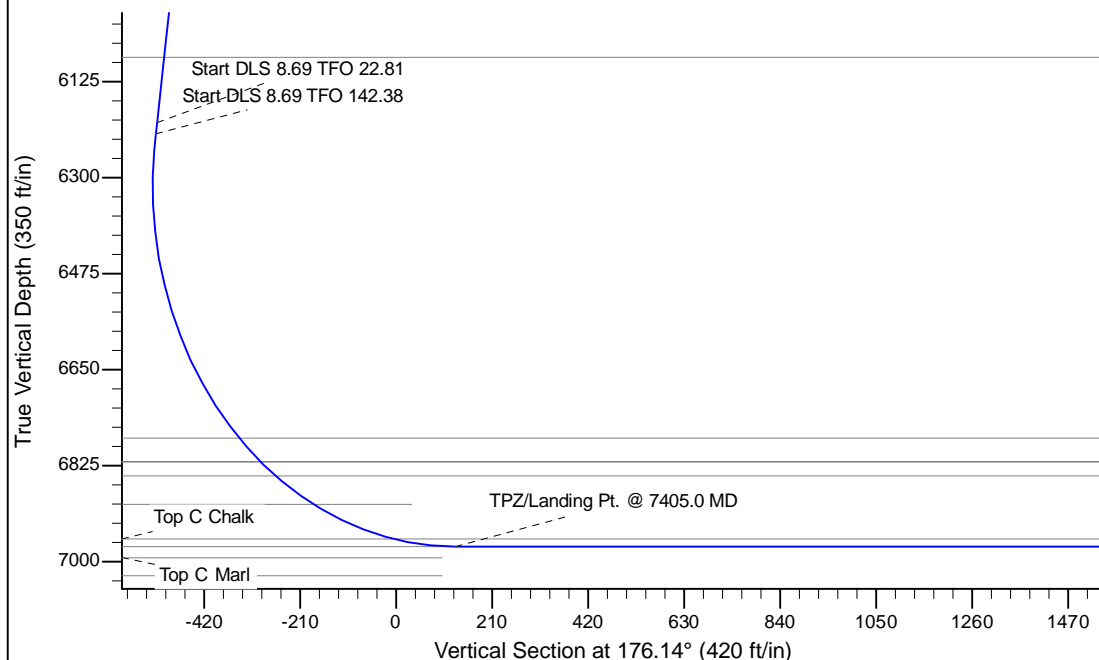
Project: Mustang  
 Site: Y Section 16-T2N-R64W Weld County, CO  
 Well: Hullabaloo State Y21-769  
 Wellbore: Original Drilling  
 Design: APD - Rev 0

# 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	1900.0	0.00	0.00	1900.0	0.0	0.0	0.00	0.00	0.0	
3	2350.0	9.00	32.00	2348.2	29.9	18.7	2.00	32.00	-28.6	
4	6249.9	9.00	32.00	6200.0	547.3	342.0	0.00	0.00	-523.0	
5	6270.8	10.70	35.79	6220.6	550.2	344.0	8.69	22.81	-525.9	
6	7405.0	90.00	178.66	6973.0	-100.0	445.0	8.69	142.38	129.7	
7	17344.2	90.00	178.67	6973.0	-10036.6	676.7	0.00	90.00	10059.4	Hullabaloo State Y21-769 BHL 100'FSL, 1395'FWL



## WELL DETAILS: Hullabaloo State Y21-769

	Northing	Easting	Latitude	Longitude
0.0	1296891.8034203	3262054.4174328	40.1445600	-104.5626000

Plan: APD - Rev 0 (Hullabaloo State Y21-769/Original Drilling)

Created By: Shailey Jewell Date: 12:30, April 13 2017

**OK to submit with 2A as per Noble Drilling**  
**4/13/2017 12:34**

# **Northern Region - DJ Basin**

**Mustang**

**Y Section 16**

**Hullabaloo State Y21-769**

**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 Y21-769
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	WELL @ 4923.0ft (Original Well Elev)
<b>Reference Site:</b>	Y Section 16	<b>MD Reference:</b>	WELL @ 4923.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hullabaloo State Y21-769	<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	17,344.2	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
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	17,344.7	17,189.3	1,454.2	1,279.5	8.321	CC, ES, SF
Hullabaloo State Y21-756 - Original Drilling - APD - Rev	17,344.7	17,137.2	828.3	653.3	4.733	CC, ES, SF
Hullabaloo State Y21-763 - Original Drilling - APD - Rev 0	17,344.7	17,534.7	429.6	253.6	2.441	CC, ES, SF
Hullabaloo State Y21-775 - Original Drilling - APD - Rev	1,900.0	1,901.0	36.3	23.2	2.762	CC, ES
Hullabaloo State Y21-775 - Original Drilling - APD - Rev	17,339.3	17,216.2	422.5	248.0	2.421	SF
Hullabaloo State Y21-781 - Original Drilling - APD - Rev	1,900.0	1,901.0	72.7	59.5	5.523	CC, ES
Hullabaloo State Y21-781 - Original Drilling - APD - Rev	17,344.7	17,328.6	830.6	654.9	4.726	SF
Hullabaloo State Y21-787 - Original Drilling - APD - Rev	1,900.0	1,955.0	111.9	98.5	8.379	CC, ES
Hullabaloo State Y21-787 - Original Drilling - APD - Rev	17,344.7	17,336.1	1,249.3	978.2	4.609	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	7,913.5	6,987.7	1,658.9	1,608.7	33.038	CC, ES
Rubicon State Y16-744 - Original Drilling - APD - Rev 0	8,100.0	6,879.6	1,664.8	1,614.3	32.977	SF
Rubicon State Y16-751 - Original Drilling - APD - Rev 0	7,500.0	7,186.6	1,206.1	1,156.8	24.475	SF
Rubicon State Y16-751 - Original Drilling - APD - Rev 0	7,533.7	7,157.4	1,206.0	1,156.7	24.476	CC, ES
Rubicon State Y16-757 - Original Drilling - APD - Rev 0	7,590.4	7,287.1	782.6	732.7	15.680	CC, ES
Rubicon State Y16-757 - Original Drilling - APD - Rev 0	7,600.0	7,278.7	782.6	732.7	15.678	SF
Rubicon State Y16-763 - Original Drilling - APD - Rev 0	7,396.0	7,384.1	355.7	305.5	7.084	CC, ES, SF
Rubicon State Y16-770 - Wellbore #1 - Design #1	7,089.8	7,521.3	56.9	7.5	1.151	Level 2, CC, ES, SF
Rubicon State Y16-776 - Wellbore #1 - Design #1	1,900.0	1,907.0	153.1	139.9	11.614	CC, ES
Rubicon State Y16-776 - Wellbore #1 - Design #1	7,200.0	7,501.6	490.2	440.8	9.923	SF
Rubicon State Y16-783 - Wellbore #1 - Design #1	1,900.0	1,907.0	166.1	152.9	12.602	CC, ES
Rubicon State Y16-783 - Wellbore #1 - Design #1	2,100.0	2,106.8	173.0	158.4	11.843	SF
Rubicon State Y16-789 - Wellbore #1 - Design #1	1,900.0	1,906.0	184.9	171.7	14.033	CC, ES
Rubicon State Y16-789 - Wellbore #1 - Design #1	2,100.0	2,099.4	193.6	179.1	13.296	SF
State 01 - Original Drilling - Original Drilling - As Drilled						Out of range
State 21 (PA) - Original Drilling - Original Drilling - As Dril	10,831.1	6,977.0	230.5	51.6	1.288	Level 3, CC, ES, SF
State Y16-05D - Wellbore #1 - Wellbore #1 - As Drilled	8,783.6	6,961.8	695.0	642.5	13.251	CC, ES
State Y16-05D - Wellbore #1 - Wellbore #1 - As Drilled	8,800.0	6,961.5	695.2	642.7	13.248	SF

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 Y21-769
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	WELL @ 4923.0ft (Original Well Elev)
<b>Reference Site:</b>	Y Section 16	<b>MD Reference:</b>	WELL @ 4923.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hullabaloo State Y21-769	<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 Produccion
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

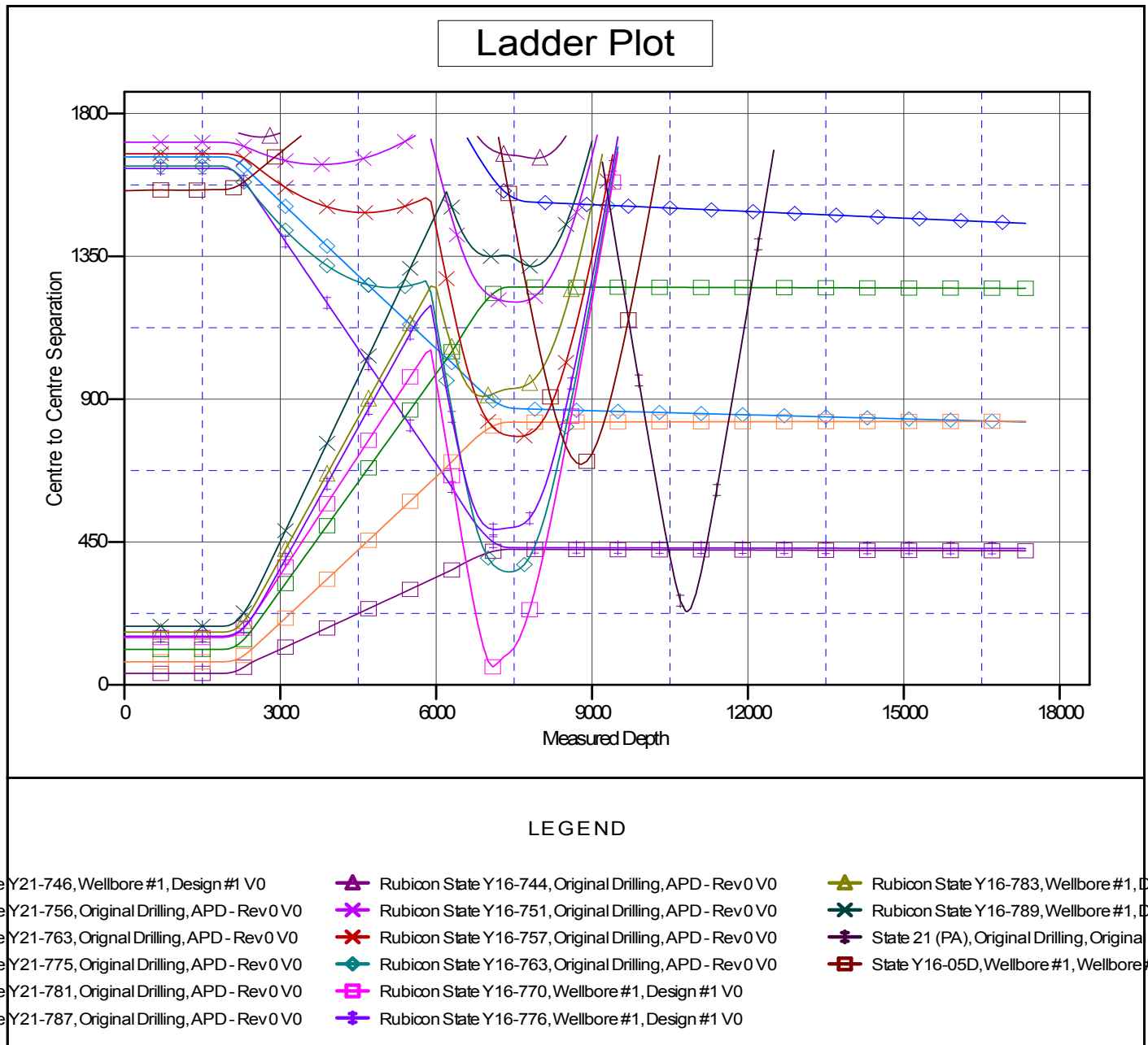
Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Y Section 21						
Gerkin 33-21 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Mcintosh 42-21 (SI) - Wellbore #1 - Wellbore #1 - As Dril						Out of range
Mcintosh 44-21 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Mcintosh USX Y21-01 - Wellbore #1 - Wellbore #1 - As D						Out of range

## Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Hullabaloo State Y21-769
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	WELL @ 4923.0ft (Original Well Elev)
<b>Reference Site:</b>	Y Section 16	<b>MD Reference:</b>	WELL @ 4923.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hullabaloo State Y21-769	<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 @ 4923.0ft (Original Well Elev)  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.5000000

Coordinates are relative to: Hullabaloo State Y21-769  
 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 Y21-769
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	WELL @ 4923.0ft (Original Well Elev)
<b>Reference Site:</b>	Y Section 16	<b>MD Reference:</b>	WELL @ 4923.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hullabaloo State Y21-769	<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 @ 4923.0ft (Original Well Elev)  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.5000000

Coordinates are relative to: Hullabaloo State Y21-769  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: 0.61°

