

# **Ursa Operating Company, LLC**

**Rockies Region**

**McLin C**

**McLin C15**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**24 June, 2013**



# Payzone Directional

## Planning Report



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well McLin C15
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	McLin C15 @ 5741.4ft (Original Well Elev)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	McLin C15 @ 5741.4ft (Original Well Elev)
<b>Site:</b>	McLin C	<b>North Reference:</b>	True
<b>Well:</b>	McLin C15	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	Rockies Region		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		

Site		McLin C			
Site Position:		Northing:	494,718.69 m	Latitude:	39° 31' 30.857 N
From:	Lat/Long	Easting:	733,248.01 m	Longitude:	107° 36' 25.703 W
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.33 °

Well	McLin C15, SHL LAT: 39.525238172 LONG: -107.607139686					
Well Position	+N/-S	0.0 ft	Northing:	494,718.69 m	Latitude:	39° 31' 30.857 N
	+E/-W	0.0 ft	Easting:	733,248.01 m	Longitude:	107° 36' 25.703 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	5,741.4 ft	Ground Level:	5,726.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	6/24/2013	9.88	65.79	52,153

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	286.46

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,655.1	15.93	286.46	1,649.2	17.8	-60.3	3.50	3.50	0.00	286.46	
4,298.1	15.93	286.46	4,190.8	223.3	-755.9	0.00	0.00	0.00	0.00	
4,753.2	0.00	0.00	4,640.0	241.1	-816.1	3.50	-3.50	0.00	180.00	C15 TGT
7,350.2	0.00	0.00	7,237.0	241.1	-816.1	0.00	0.00	0.00	0.00	C15 TGT BHL

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	McLin C15 @ 5741.4ft (Original Well Elev)
<b>Site:</b>	McLin C	<b>North Reference:</b>	True
<b>Well:</b>	McLin C15	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 3.50									
1,300.0	3.50	286.46	1,299.9	0.9	-2.9	3.1	3.50	3.50	0.00
1,400.0	7.00	286.46	1,399.5	3.5	-11.7	12.2	3.50	3.50	0.00
1,500.0	10.50	286.46	1,498.3	7.8	-26.3	27.4	3.50	3.50	0.00
1,600.0	14.00	286.46	1,596.0	13.8	-46.6	48.6	3.50	3.50	0.00
1,655.1	15.93	286.46	1,649.2	17.8	-60.3	62.9	3.50	3.50	0.00
Start 2643.0 hold at 1655.1 MD									
1,700.0	15.93	286.46	1,692.4	21.3	-72.1	75.2	0.00	0.00	0.00
1,800.0	15.93	286.46	1,788.6	29.1	-98.4	102.6	0.00	0.00	0.00
1,900.0	15.93	286.46	1,884.8	36.8	-124.7	130.1	0.00	0.00	0.00
2,000.0	15.93	286.46	1,980.9	44.6	-151.1	157.5	0.00	0.00	0.00
2,100.0	15.93	286.46	2,077.1	52.4	-177.4	184.9	0.00	0.00	0.00
2,200.0	15.93	286.46	2,173.2	60.2	-203.7	212.4	0.00	0.00	0.00
2,300.0	15.93	286.46	2,269.4	67.9	-230.0	239.8	0.00	0.00	0.00
2,400.0	15.93	286.46	2,365.6	75.7	-256.3	267.3	0.00	0.00	0.00
2,500.0	15.93	286.46	2,461.7	83.5	-282.6	294.7	0.00	0.00	0.00
2,600.0	15.93	286.46	2,557.9	91.3	-309.0	322.2	0.00	0.00	0.00
2,700.0	15.93	286.46	2,654.0	99.0	-335.3	349.6	0.00	0.00	0.00
2,800.0	15.93	286.46	2,750.2	106.8	-361.6	377.0	0.00	0.00	0.00
2,900.0	15.93	286.46	2,846.4	114.6	-387.9	404.5	0.00	0.00	0.00
3,000.0	15.93	286.46	2,942.5	122.4	-414.2	431.9	0.00	0.00	0.00
3,100.0	15.93	286.46	3,038.7	130.1	-440.6	459.4	0.00	0.00	0.00
3,200.0	15.93	286.46	3,134.8	137.9	-466.9	486.8	0.00	0.00	0.00
3,300.0	15.93	286.46	3,231.0	145.7	-493.2	514.3	0.00	0.00	0.00
3,385.3	15.93	286.46	3,313.0	152.3	-515.6	537.7	0.00	0.00	0.00
WF									
3,400.0	15.93	286.46	3,327.2	153.5	-519.5	541.7	0.00	0.00	0.00
3,500.0	15.93	286.46	3,423.3	161.2	-545.8	569.2	0.00	0.00	0.00
3,600.0	15.93	286.46	3,519.5	169.0	-572.2	596.6	0.00	0.00	0.00
3,700.0	15.93	286.46	3,615.7	176.8	-598.5	624.0	0.00	0.00	0.00
3,800.0	15.93	286.46	3,711.8	184.6	-624.8	651.5	0.00	0.00	0.00
3,900.0	15.93	286.46	3,808.0	192.3	-651.1	678.9	0.00	0.00	0.00
4,000.0	15.93	286.46	3,904.1	200.1	-677.4	706.4	0.00	0.00	0.00
4,100.0	15.93	286.46	4,000.3	207.9	-703.7	733.8	0.00	0.00	0.00
4,200.0	15.93	286.46	4,096.5	215.7	-730.1	761.3	0.00	0.00	0.00
4,298.1	15.93	286.46	4,190.8	223.3	-755.9	788.2	0.00	0.00	0.00
Start Drop -3.50									
4,300.0	15.86	286.46	4,192.6	223.4	-756.4	788.7	3.50	-3.50	0.00
4,400.0	12.36	286.46	4,289.6	230.3	-779.8	813.1	3.50	-3.50	0.00
4,500.0	8.86	286.46	4,387.9	235.6	-797.4	831.5	3.50	-3.50	0.00
4,600.0	5.36	286.46	4,487.1	239.1	-809.3	843.9	3.50	-3.50	0.00

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	McLin C15 @ 5741.4ft (Original Well Elev)
<b>Site:</b>	McLin C	<b>North Reference:</b>	True
<b>Well:</b>	McLin C15	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,700.0	1.86	286.46	4,586.9	240.8	-815.3	850.2	3.50	-3.50	0.00
4,753.2	0.00	0.00	4,640.0	241.1	-816.1	851.0	3.50	-3.50	138.37
Start 2597.0 hold at 4753.2 MD - Top of Gas									
4,800.0	0.00	0.00	4,686.8	241.1	-816.1	851.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,786.8	241.1	-816.1	851.0	0.00	0.00	0.00
5,000.0	0.00	0.00	4,886.8	241.1	-816.1	851.0	0.00	0.00	0.00
5,100.0	0.00	0.00	4,986.8	241.1	-816.1	851.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,086.8	241.1	-816.1	851.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,186.8	241.1	-816.1	851.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,286.8	241.1	-816.1	851.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,386.8	241.1	-816.1	851.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,486.8	241.1	-816.1	851.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,586.8	241.1	-816.1	851.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,686.8	241.1	-816.1	851.0	0.00	0.00	0.00
5,873.2	0.00	0.00	5,760.0	241.1	-816.1	851.0	0.00	0.00	0.00
Cameo									
5,900.0	0.00	0.00	5,786.8	241.1	-816.1	851.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,886.8	241.1	-816.1	851.0	0.00	0.00	0.00
6,100.0	0.00	0.00	5,986.8	241.1	-816.1	851.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,086.8	241.1	-816.1	851.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,186.8	241.1	-816.1	851.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,286.8	241.1	-816.1	851.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,386.8	241.1	-816.1	851.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,486.8	241.1	-816.1	851.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,586.8	241.1	-816.1	851.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,686.8	241.1	-816.1	851.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,786.8	241.1	-816.1	851.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,886.8	241.1	-816.1	851.0	0.00	0.00	0.00
7,050.2	0.00	0.00	6,937.0	241.1	-816.1	851.0	0.00	0.00	0.00
Rollins									
7,100.0	0.00	0.00	6,986.8	241.1	-816.1	851.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,086.8	241.1	-816.1	851.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,186.8	241.1	-816.1	851.0	0.00	0.00	0.00
7,350.2	0.00	0.00	7,237.0	241.1	-816.1	851.0	0.00	0.00	0.00
TD at 7350.2									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,385.3	3,313.0	WF		0.00	
4,753.2	4,640.0	Top of Gas		0.00	
5,873.2	5,760.0	Cameo		0.00	
7,050.2	6,937.0	Rollins		0.00	

# Payzone Directional

## Planning Report



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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	McLin C15 @ 5741.4ft (Original Well Elev)
<b>Site:</b>	McLin C	<b>North Reference:</b>	True
<b>Well:</b>	McLin C15	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,200.0	1,200.0	0.0	0.0	Start Build 3.50
1,655.1	1,649.2	17.8	-60.3	Start 2643.0 hold at 1655.1 MD
4,298.1	4,190.8	223.3	-755.9	Start Drop -3.50
4,753.2	4,640.0	241.1	-816.1	Start 2597.0 hold at 4753.2 MD
7,350.2	7,237.0	241.1	-816.1	TD at 7350.2



Well Name: McLin C15  
Surface Location: McLin C  
North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
Ground Elevation: 5726.0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 494718.69 733248.01 39° 31' 30.857 N 107° 36' 25.703 W  
Original Well Elev McLin C15 @ 5741.4ft (Original Well Elev)



Azimuths to True North  
Magnetic North: 9.88°  
Magnetic Field  
Strength: 52152.5snT  
Dip Angle: 65.79°  
Date: 6/24/2013  
Model: IGRF200510

McLin C  
McLin C15  
Design #1  
21:26, June 24 2013

#### WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
C15 TGT	4640.0	241.1	-816.1	494797.92	733001.01	39° 31' 33.240 N	107° 36' 36.119 W	Point
C15 TGT BHL	7237.0	241.1	-816.1	494797.92	733001.01	39° 31' 33.240 N	107° 36' 36.119 W	Point

#### 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	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1655.1	15.93	286.46	1649.2	17.8	-60.3	3.50	286.46	62.9	
4	4298.1	15.93	286.46	4190.8	223.3	-755.9	0.00	0.00	788.2	
5	4753.2	0.00	0.00	4640.0	241.1	-816.1	3.50	180.00	851.0	C15 TGT
6	7350.2	0.00	0.00	7237.0	241.1	-816.1	0.00	0.00	851.0	C15 TGT BHL

#### ANNOTATIONS

TVD	MD	Annotation
1200.0	1200.0	Start Build 3.50
1649.2	1655.1	Start 2643.0 hold at 1655.1 MD
4190.8	4298.1	Start Drop -3.50
4640.0	4753.2	Start 2597.0 hold at 4753.2 MD
7237.0	7350.2	TD at 7350.2

#### FORMATION TOP DETAILS

TVDP	MDP	Path	Formation
3313.0	3385.3		WF
4640.0	4753.2		Top of Gas
5760.0	5873.2		Cameo
6937.0	7050.2		Rollins

