



Ursa Operating Company, LLC

Rockies Region

Yater

YATER 42C-18-07-95

Wellbore #1

Plan: Design #1

Standard Planning Report

14 January, 2015



Database:	MasterDB	Local Co-ordinate Reference:	Well YATER 42C-18-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	YATER 42C-18-07-95 @ 5532.0usft (PAD Est KB)
Project:	Rockies Region	MD Reference:	YATER 42C-18-07-95 @ 5532.0usft (PAD Est KB)
Site:	Yater	North Reference:	True
Well:	YATER 42C-18-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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

Site	Yater				
Site Position:		Northing:	1,593,358.13 usft	Latitude:	39° 26' 7.071 N
From:	Lat/Long	Easting:	2,286,525.77 usft	Longitude:	108° 1' 35.041 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.59 °

Well	YATER 42C-18-07-95, SHL LAT: 39.435366098 LONG: -108.026402283					
Well Position	+N/-S	25.0 usft	Northing:	1,593,383.11 usft	Latitude:	39° 26' 7.318 N
	+E/-W	-0.6 usft	Easting:	2,286,525.88 usft	Longitude:	108° 1' 35.048 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	5,532.0 usft	Ground Level:	5,519.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/14/2015	9.90	65.59	51,856

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	305.76

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,173.0	30.55	305.76	1,132.2	132.8	-184.5	3.50	3.50	0.00	305.76	
4,647.0	30.55	305.76	4,123.8	1,164.9	-1,617.5	0.00	0.00	0.00	0.00	
5,520.0	0.00	0.00	4,956.0	1,297.8	-1,802.0	3.50	-3.50	0.00	180.00	
7,218.0	0.00	0.00	6,654.0	1,297.8	-1,802.0	0.00	0.00	0.00	0.00	

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Company:	Ursa Operating Company, LLC	TVD Reference:	YATER 42C-18-07-95 @ 5532.0usft (PAD Est KB)
Project:	Rockies Region	MD Reference:	YATER 42C-18-07-95 @ 5532.0usft (PAD Est KB)
Site:	Yater	North Reference:	True
Well:	YATER 42C-18-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	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	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	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	0.00
Start Build 3.50										
400.0	3.50	305.76	399.9	1.8	-2.5	3.1	3.50	3.50	0.00	0.00
500.0	7.00	305.76	499.5	7.1	-9.9	12.2	3.50	3.50	0.00	0.00
600.0	10.50	305.76	598.3	16.0	-22.2	27.4	3.50	3.50	0.00	0.00
700.0	14.00	305.76	696.0	28.4	-39.5	48.6	3.50	3.50	0.00	0.00
800.0	17.50	305.76	792.3	44.3	-61.5	75.8	3.50	3.50	0.00	0.00
900.0	21.00	305.76	886.7	63.5	-88.2	108.7	3.50	3.50	0.00	0.00
1,000.0	24.50	305.76	978.9	86.1	-119.6	147.4	3.50	3.50	0.00	0.00
1,100.0	28.00	305.76	1,068.5	112.0	-155.5	191.6	3.50	3.50	0.00	0.00
1,173.0	30.55	305.76	1,132.2	132.8	-184.5	227.3	3.50	3.50	0.00	0.00
Start 3474.0 hold at 1173.0 MD										
1,200.0	30.55	305.76	1,155.5	140.9	-195.6	241.0	0.00	0.00	0.00	0.00
1,300.0	30.55	305.76	1,241.6	170.6	-236.8	291.9	0.00	0.00	0.00	0.00
1,400.0	30.55	305.76	1,327.7	200.3	-278.1	342.7	0.00	0.00	0.00	0.00
1,500.0	30.55	305.76	1,413.8	230.0	-319.4	393.5	0.00	0.00	0.00	0.00
1,600.0	30.55	305.76	1,499.9	259.7	-360.6	444.4	0.00	0.00	0.00	0.00
1,700.0	30.55	305.76	1,586.0	289.4	-401.9	495.2	0.00	0.00	0.00	0.00
1,800.0	30.55	305.76	1,672.1	319.1	-443.1	546.1	0.00	0.00	0.00	0.00
1,832.3	30.55	305.76	1,700.0	328.7	-456.5	562.5	0.00	0.00	0.00	0.00
Surface Casing										
1,900.0	30.55	305.76	1,758.3	348.8	-484.4	596.9	0.00	0.00	0.00	0.00
2,000.0	30.55	305.76	1,844.4	378.5	-525.6	647.7	0.00	0.00	0.00	0.00
2,100.0	30.55	305.76	1,930.5	408.2	-566.9	698.6	0.00	0.00	0.00	0.00
2,200.0	30.55	305.76	2,016.6	438.0	-608.1	749.4	0.00	0.00	0.00	0.00
2,300.0	30.55	305.76	2,102.7	467.7	-649.4	800.2	0.00	0.00	0.00	0.00
2,400.0	30.55	305.76	2,188.8	497.4	-690.6	851.1	0.00	0.00	0.00	0.00
2,500.0	30.55	305.76	2,274.9	527.1	-731.9	901.9	0.00	0.00	0.00	0.00
2,600.0	30.55	305.76	2,361.1	556.8	-773.1	952.7	0.00	0.00	0.00	0.00
2,700.0	30.55	305.76	2,447.2	586.5	-814.4	1,003.6	0.00	0.00	0.00	0.00
2,800.0	30.55	305.76	2,533.3	616.2	-855.6	1,054.4	0.00	0.00	0.00	0.00
2,900.0	30.55	305.76	2,619.4	645.9	-896.9	1,105.3	0.00	0.00	0.00	0.00
3,000.0	30.55	305.76	2,705.5	675.6	-938.1	1,156.1	0.00	0.00	0.00	0.00
3,100.0	30.55	305.76	2,791.6	705.3	-979.4	1,206.9	0.00	0.00	0.00	0.00
3,200.0	30.55	305.76	2,877.7	735.0	-1,020.6	1,257.8	0.00	0.00	0.00	0.00
3,300.0	30.55	305.76	2,963.9	764.8	-1,061.9	1,308.6	0.00	0.00	0.00	0.00
3,400.0	30.55	305.76	3,050.0	794.5	-1,103.1	1,359.4	0.00	0.00	0.00	0.00
3,500.0	30.55	305.76	3,136.1	824.2	-1,144.4	1,410.3	0.00	0.00	0.00	0.00
3,600.0	30.55	305.76	3,222.2	853.9	-1,185.6	1,461.1	0.00	0.00	0.00	0.00
3,700.0	30.55	305.76	3,308.3	883.6	-1,226.9	1,511.9	0.00	0.00	0.00	0.00
3,800.0	30.55	305.76	3,394.4	913.3	-1,268.1	1,562.8	0.00	0.00	0.00	0.00
3,819.2	30.55	305.76	3,411.0	919.0	-1,276.1	1,572.6	0.00	0.00	0.00	0.00
Williams Fork										
3,900.0	30.55	305.76	3,480.5	943.0	-1,309.4	1,613.6	0.00	0.00	0.00	0.00
4,000.0	30.55	305.76	3,566.7	972.7	-1,350.6	1,664.5	0.00	0.00	0.00	0.00
4,100.0	30.55	305.76	3,652.8	1,002.4	-1,391.9	1,715.3	0.00	0.00	0.00	0.00
4,200.0	30.55	305.76	3,738.9	1,032.1	-1,433.1	1,766.1	0.00	0.00	0.00	0.00
4,300.0	30.55	305.76	3,825.0	1,061.8	-1,474.4	1,817.0	0.00	0.00	0.00	0.00
4,400.0	30.55	305.76	3,911.1	1,091.5	-1,515.7	1,867.8	0.00	0.00	0.00	0.00

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Site:	Yater	North Reference:	True
Well:	YATER 42C-18-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,500.0	30.55	305.76	3,997.2	1,121.3	-1,556.9	1,918.6	0.00	0.00	0.00	
4,600.0	30.55	305.76	4,083.3	1,151.0	-1,598.2	1,969.5	0.00	0.00	0.00	
4,647.0	30.55	305.76	4,123.8	1,164.9	-1,617.5	1,993.4	0.00	0.00	0.00	
Start Drop -3.50										
4,700.0	28.70	305.76	4,169.9	1,180.2	-1,638.8	2,019.6	3.50	-3.50	0.00	
4,800.0	25.20	305.76	4,259.0	1,206.7	-1,675.6	2,064.9	3.50	-3.50	0.00	
4,900.0	21.70	305.76	4,350.7	1,230.0	-1,707.9	2,104.7	3.50	-3.50	0.00	
4,948.4	20.00	305.76	4,396.0	1,240.0	-1,721.8	2,121.9	3.50	-3.50	0.00	
Top of Gas										
5,000.0	18.20	305.76	4,444.7	1,249.9	-1,735.5	2,138.8	3.50	-3.50	0.00	
5,100.0	14.70	305.76	4,540.6	1,266.5	-1,758.5	2,167.1	3.50	-3.50	0.00	
5,200.0	11.20	305.76	4,638.1	1,279.5	-1,776.7	2,189.5	3.50	-3.50	0.00	
5,300.0	7.70	305.76	4,736.7	1,289.1	-1,790.0	2,205.9	3.50	-3.50	0.00	
5,400.0	4.20	305.76	4,836.1	1,295.2	-1,798.4	2,216.3	3.50	-3.50	0.00	
5,500.0	0.70	305.76	4,936.0	1,297.7	-1,801.9	2,220.5	3.50	-3.50	0.00	
5,520.0	0.00	0.00	4,956.0	1,297.8	-1,802.0	2,220.7	3.50	-3.50	271.55	
Back to Vertical - Start 1698.0 hold at 5520.0 MD										
5,600.0	0.00	0.00	5,036.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,136.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,236.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,336.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,436.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,100.0	0.00	0.00	5,536.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,200.0	0.00	0.00	5,636.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,300.0	0.00	0.00	5,736.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,400.0	0.00	0.00	5,836.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,407.0	0.00	0.00	5,843.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
Cameo										
6,500.0	0.00	0.00	5,936.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,036.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,136.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,236.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,336.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
6,918.0	0.00	0.00	6,354.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
Rollins										
7,000.0	0.00	0.00	6,436.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,536.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
7,200.0	0.00	0.00	6,636.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
7,218.0	0.00	0.00	6,654.0	1,297.8	-1,802.0	2,220.7	0.00	0.00	0.00	
TD at 7218.0										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
42C-18-07-95 TGT	0.00	0.00	4,396.0	1,297.8	-1,802.0	1,594,730.48	2,284,760.67	39° 26' 20.144 N	108° 1' 58.017 W	
- hit/miss target										
- Shape										
- plan misses target center by 93.1usft at 4980.8usft MD (4426.5 TVD, 1246.3 N, -1730.6 E)										
- Rectangle (sides W100.0 H40.0 D2,258.0)										

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Project:	Rockies Region	MD Reference:	YATER 42C-18-07-95 @ 5532.0usft (PAD Est KB)
Site:	Yater	North Reference:	True
Well:	YATER 42C-18-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,819.2	3,411.0	Williams Fork		0.00		
4,948.4	4,396.0	Top of Gas		0.00		
6,407.0	5,843.0	Cameo		0.00		
6,918.0	6,354.0	Rollins		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
300.0	300.0	0.0	0.0	Start Build 3.50	
1,173.0	1,132.2	132.8	-184.5	Start 3474.0 hold at 1173.0 MD	
1,832.3	1,700.0	328.7	-456.5	Surface Casing	
4,647.0	4,123.8	1,164.9	-1,617.5	Start Drop -3.50	
5,520.0	4,956.0	1,297.8	-1,802.0	Back to Vertical	
5,520.0	4,956.0	1,297.8	-1,802.0	Start 1698.0 hold at 5520.0 MD	
7,218.0	6,654.0	1,297.8	-1,802.0	TD at 7218.0	



Well Name: YATER 42C-18-07-95
 Surface Location: Yater
 North American Datum 1983 US State Plane 1983 Colorado Central Zone
 Ground Elevation: 5519.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1593383.12 2286525.88 39° 26' 7.318 N 108° 1' 35.048 W
 PAD Est KB YATER 42C-18-07-95 @ 5532.0usft (PAD Est KB)



Azimuths to True North
 Magnetic North: 9.90°
 Magnetic Field
 Strength: 51855.5snT
 Dip Angle: 65.59°
 Date: 1/14/2015
 Model: IGRF2010

Yater
 YATER 42C-18-07-95
 Design #1
 10:16, January 14 2015

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
42C-18-07-95 TGT4396.0		1297.8	-1802.0	1594730.49	2284760.67	39° 26' 20.144 N	108° 1' 58.017 W	Rectangle (Sides: L40.0 W100.0)

ANNOTATIONS

TVD	MD	Annotation
300.0	300.0	Start Build 3.50
1132.2	1173.0	Start 3474.0 hold at 1173.0 MD
1700.0	1832.3	Surface Casing
4123.8	4647.0	Start Drop -3.50
4956.0	5520.0	Back to Vertical
4956.0	5520.0	Start 1698.0 hold at 5520.0 MD
6654.0	7218.0	TD at 7218.0

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1173.0	30.55	305.76	1132.2	132.8	-184.5	3.50	305.76	227.3	
4	4647.0	30.55	305.76	4123.8	1164.9	-1617.5	0.00	0.00	1993.4	
5	5520.0	0.00	0.00	4956.0	1297.8	-1802.0	3.50	180.00	2220.7	
6	7218.0	0.00	0.00	6654.0	1297.8	-1802.0	0.00	0.00	2220.7	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3411.0	3819.2	Williams Fork	0.00	
4396.0	4948.4	Top of Gas	0.00	
5843.0	6407.0	Cameo	0.00	
6354.0	6918.0	Rollins	0.00	

