



Ursa Operating Company, LLC

Rockies Region

Yater

YATER 42B-18-07-95

Wellbore #1

Plan: Design #1

Standard Planning Report

14 January, 2015



Database:	MasterDB	Local Co-ordinate Reference:	Well YATER 42B-18-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	YATER 42B-18-07-95 @ 5532.0usft (PAD Est KB)
Project:	Rockies Region	MD Reference:	YATER 42B-18-07-95 @ 5532.0usft (PAD Est KB)
Site:	Yater	North Reference:	True
Well:	YATER 42B-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 42B-18-07-95, SHL LAT: 39.435400391 LONG: -108.026403313					
Well Position	+N/-S	37.5 usft	Northing:	1,593,395.61 usft	Latitude:	39° 26' 7.441 N
	+E/-W	-0.9 usft	Easting:	2,286,525.94 usft	Longitude:	108° 1' 35.052 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	311.83

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	
1,247.5	33.16	311.83	1,195.5	177.8	-198.7	3.50	3.50	0.00	311.83	
4,699.9	33.16	311.83	4,085.5	1,437.3	-1,605.9	0.00	0.00	0.00	0.00	
5,647.3	0.00	0.00	4,981.0	1,615.1	-1,804.5	3.50	-3.50	0.00	180.00	
7,345.3	0.00	0.00	6,679.0	1,615.1	-1,804.5	0.00	0.00	0.00	0.00	

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Project:	Rockies Region	MD Reference:	YATER 42B-18-07-95 @ 5532.0usft (PAD Est KB)
Site:	Yater	North Reference:	True
Well:	YATER 42B-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	
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	
Start Build 3.50										
400.0	3.50	311.83	399.9	2.0	-2.3	3.1	3.50	3.50	0.00	
500.0	7.00	311.83	499.5	8.1	-9.1	12.2	3.50	3.50	0.00	
600.0	10.50	311.83	598.3	18.3	-20.4	27.4	3.50	3.50	0.00	
700.0	14.00	311.83	696.0	32.4	-36.2	48.6	3.50	3.50	0.00	
800.0	17.50	311.83	792.3	50.5	-56.5	75.8	3.50	3.50	0.00	
900.0	21.00	311.83	886.7	72.5	-81.0	108.7	3.50	3.50	0.00	
1,000.0	24.50	311.83	978.9	98.3	-109.8	147.4	3.50	3.50	0.00	
1,100.0	28.00	311.83	1,068.5	127.8	-142.8	191.6	3.50	3.50	0.00	
1,200.0	31.50	311.83	1,155.3	160.9	-179.8	241.2	3.50	3.50	0.00	
1,247.5	33.16	311.83	1,195.5	177.8	-198.7	266.6	3.50	3.50	0.00	
Start 3452.4 hold at 1247.5 MD										
1,300.0	33.16	311.83	1,239.4	197.0	-220.1	295.4	0.00	0.00	0.00	
1,400.0	33.16	311.83	1,323.1	233.5	-260.8	350.1	0.00	0.00	0.00	
1,500.0	33.16	311.83	1,406.9	269.9	-301.6	404.8	0.00	0.00	0.00	
1,600.0	33.16	311.83	1,490.6	306.4	-342.4	459.5	0.00	0.00	0.00	
1,700.0	33.16	311.83	1,574.3	342.9	-383.1	514.2	0.00	0.00	0.00	
1,800.0	33.16	311.83	1,658.0	379.4	-423.9	568.9	0.00	0.00	0.00	
1,850.2	33.16	311.83	1,700.0	397.7	-444.3	596.3	0.00	0.00	0.00	
Surface Casing										
1,900.0	33.16	311.83	1,741.7	415.9	-464.6	623.6	0.00	0.00	0.00	
2,000.0	33.16	311.83	1,825.4	452.3	-505.4	678.3	0.00	0.00	0.00	
2,100.0	33.16	311.83	1,909.1	488.8	-546.2	733.0	0.00	0.00	0.00	
2,200.0	33.16	311.83	1,992.8	525.3	-586.9	787.7	0.00	0.00	0.00	
2,300.0	33.16	311.83	2,076.6	561.8	-627.7	842.4	0.00	0.00	0.00	
2,400.0	33.16	311.83	2,160.3	598.3	-668.4	897.1	0.00	0.00	0.00	
2,500.0	33.16	311.83	2,244.0	634.7	-709.2	951.8	0.00	0.00	0.00	
2,600.0	33.16	311.83	2,327.7	671.2	-750.0	1,006.5	0.00	0.00	0.00	
2,700.0	33.16	311.83	2,411.4	707.7	-790.7	1,061.2	0.00	0.00	0.00	
2,800.0	33.16	311.83	2,495.1	744.2	-831.5	1,115.9	0.00	0.00	0.00	
2,900.0	33.16	311.83	2,578.8	780.7	-872.2	1,170.6	0.00	0.00	0.00	
3,000.0	33.16	311.83	2,662.5	817.1	-913.0	1,225.3	0.00	0.00	0.00	
3,100.0	33.16	311.83	2,746.3	853.6	-953.8	1,280.0	0.00	0.00	0.00	
3,200.0	33.16	311.83	2,830.0	890.1	-994.5	1,334.7	0.00	0.00	0.00	
3,300.0	33.16	311.83	2,913.7	926.6	-1,035.3	1,389.4	0.00	0.00	0.00	
3,400.0	33.16	311.83	2,997.4	963.1	-1,076.0	1,444.1	0.00	0.00	0.00	
3,500.0	33.16	311.83	3,081.1	999.6	-1,116.8	1,498.8	0.00	0.00	0.00	
3,600.0	33.16	311.83	3,164.8	1,036.0	-1,157.6	1,553.5	0.00	0.00	0.00	
3,700.0	33.16	311.83	3,248.5	1,072.5	-1,198.3	1,608.2	0.00	0.00	0.00	
3,800.0	33.16	311.83	3,332.2	1,109.0	-1,239.1	1,662.9	0.00	0.00	0.00	
3,900.0	33.16	311.83	3,416.0	1,145.5	-1,279.8	1,717.6	0.00	0.00	0.00	
3,923.9	33.16	311.83	3,436.0	1,154.2	-1,289.6	1,730.7	0.00	0.00	0.00	
Williams Fork										
4,000.0	33.16	311.83	3,499.7	1,182.0	-1,320.6	1,772.3	0.00	0.00	0.00	
4,100.0	33.16	311.83	3,583.4	1,218.4	-1,361.4	1,827.0	0.00	0.00	0.00	
4,200.0	33.16	311.83	3,667.1	1,254.9	-1,402.1	1,881.7	0.00	0.00	0.00	
4,300.0	33.16	311.83	3,750.8	1,291.4	-1,442.9	1,936.4	0.00	0.00	0.00	
4,400.0	33.16	311.83	3,834.5	1,327.9	-1,483.6	1,991.1	0.00	0.00	0.00	

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Project:	Rockies Region	MD Reference:	YATER 42B-18-07-95 @ 5532.0usft (PAD Est KB)
Site:	Yater	North Reference:	True
Well:	YATER 42B-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	33.16	311.83	3,918.2	1,364.4	-1,524.4	2,045.8	0.00	0.00	0.00	
4,600.0	33.16	311.83	4,001.9	1,400.8	-1,565.2	2,100.5	0.00	0.00	0.00	
4,699.9	33.16	311.83	4,085.5	1,437.3	-1,605.9	2,155.1	0.00	0.00	0.00	
Start Drop -3.50										
4,800.0	29.66	311.83	4,171.0	1,472.1	-1,644.7	2,207.3	3.50	-3.50	0.00	
4,900.0	26.16	311.83	4,259.3	1,503.3	-1,679.6	2,254.1	3.50	-3.50	0.00	
5,000.0	22.66	311.83	4,350.4	1,530.8	-1,710.4	2,295.4	3.50	-3.50	0.00	
5,075.8	20.00	311.83	4,421.0	1,549.2	-1,730.9	2,323.0	3.50	-3.50	0.00	
Top of Gas										
5,100.0	19.16	311.83	4,443.8	1,554.6	-1,737.0	2,331.1	3.50	-3.50	0.00	
5,200.0	15.66	311.83	4,539.2	1,574.6	-1,759.3	2,361.0	3.50	-3.50	0.00	
5,300.0	12.16	311.83	4,636.3	1,590.6	-1,777.2	2,385.0	3.50	-3.50	0.00	
5,400.0	8.66	311.83	4,734.6	1,602.6	-1,790.6	2,403.1	3.50	-3.50	0.00	
5,500.0	5.16	311.83	4,833.9	1,610.7	-1,799.6	2,415.1	3.50	-3.50	0.00	
5,600.0	1.66	311.83	4,933.7	1,614.6	-1,804.0	2,421.1	3.50	-3.50	0.00	
5,647.3	0.00	0.00	4,981.0	1,615.1	-1,804.5	2,421.7	3.50	-3.50	101.74	
Back to Vertical - Start 1698.0 hold at 5647.3 MD										
5,700.0	0.00	0.00	5,033.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,133.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,233.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,333.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
6,100.0	0.00	0.00	5,433.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
6,200.0	0.00	0.00	5,533.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
6,300.0	0.00	0.00	5,633.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
6,400.0	0.00	0.00	5,733.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
6,500.0	0.00	0.00	5,833.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
6,534.3	0.00	0.00	5,868.0	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
Cameo										
6,600.0	0.00	0.00	5,933.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,033.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,133.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,233.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,333.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
7,045.3	0.00	0.00	6,379.0	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
Rollins										
7,100.0	0.00	0.00	6,433.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
7,200.0	0.00	0.00	6,533.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
7,300.0	0.00	0.00	6,633.7	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
7,345.3	0.00	0.00	6,679.0	1,615.1	-1,804.5	2,421.7	0.00	0.00	0.00	
TD at 7345.3										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
42B-18-07-95 TGT	0.00	0.00	4,421.0	1,615.1	-1,804.5	1,595,060.25	2,284,767.02	39° 26' 23.404 N	108° 1' 58.054 W	
- hit/miss target										
- Shape										
- plan misses target center by 93.2usft at 5105.4usft MD (4448.9 TVD, 1555.8 N, -1738.3 E) - Rectangle (sides W100.0 H40.0 D2,258.0)										

Database:	MasterDB	Local Co-ordinate Reference:	Well YATER 42B-18-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	YATER 42B-18-07-95 @ 5532.0usft (PAD Est KB)
Project:	Rockies Region	MD Reference:	YATER 42B-18-07-95 @ 5532.0usft (PAD Est KB)
Site:	Yater	North Reference:	True
Well:	YATER 42B-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 (°)	
3,923.9	3,436.0	Williams Fork		0.00		
5,075.8	4,421.0	Top of Gas		0.00		
6,534.3	5,868.0	Cameo		0.00		
7,045.3	6,379.0	Rollins		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
300.0	300.0	0.0	0.0	Start Build 3.50	
1,247.5	1,195.5	177.8	-198.7	Start 3452.4 hold at 1247.5 MD	
1,850.2	1,700.0	397.7	-444.3	Surface Casing	
4,699.9	4,085.5	1,437.3	-1,605.9	Start Drop -3.50	
5,647.3	4,981.0	1,615.1	-1,804.5	Back to Vertical	
5,647.3	4,981.0	1,615.1	-1,804.5	Start 1698.0 hold at 5647.3 MD	
7,345.3	6,679.0	1,615.1	-1,804.5	TD at 7345.3	



Well Name: YATER 42B-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 1593395.61 2286525.94 39° 26' 7.441 N 108° 1' 35.052 W
PAD Est KB YATER 42B-18-07-95 @ 5532.0usft (PAD Est KB)



Azimuths to True North
Magnetic North: 9.90°
Magnetic Field
Strength: 51855.6snT
Dip Angle: 65.59°
Date: 1/14/2015
Model: IGRF2010

Yater
YATER 42B-18-07-95
Design #1
10:31, January 14 2015

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
42B-18-07-95 TGT	4421.0	1615.1	-1804.5	1595060.25	2284767.02	39° 26' 23.404 N	108° 1' 58.054 W	Rectangle (Sides: L40.0 W100.0)

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	1247.5	33.16	311.83	1195.5	177.8	-198.7	3.50	311.83	266.6	
4	4699.9	33.16	311.83	4085.5	1437.3	-1605.9	0.00	0.00	2155.1	
5	5647.3	0.00	0.00	4981.0	1615.1	-1804.5	3.50	180.00	2421.7	
6	7345.3	0.00	0.00	6679.0	1615.1	-1804.5	0.00	0.00	2421.7	

ANNOTATIONS

TVD	MD	Annotation
300.0	300.0	Start Build 3.50
1195.5	1247.5	Start 3452.4 hold at 1247.5 MD
1700.0	1850.2	Surface Casing
4085.5	4699.9	Start Drop -3.50
4981.0	5647.3	Back to Vertical
4981.0	5647.3	Start 1698.0 hold at 5647.3 MD
6679.0	7345.3	TD at 7345.3

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3436.0	3923.9	Williams Fork	0.00	
4421.0	5075.8	Top of Gas	0.00	
5868.0	6534.3	Cameo	0.00	
6379.0	7045.3	Rollins	0.00	

