



Ursa Operating Company, LLC

Rockies Region

Yater

YATER 11B-17-07-95

Wellbore #1

Plan: Design #1

Standard Planning Report

06 February, 2015



Database:	MasterDB	Local Co-ordinate Reference:	Well YATER 11B-17-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	YATER 11B-17-07-95 @ 5532.0usft (PAD Est KB)
Project:	Rockies Region	MD Reference:	YATER 11B-17-07-95 @ 5532.0usft (PAD Est KB)
Site:	Yater	North Reference:	True
Well:	YATER 11B-17-07-95	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 11B-17-07-95, 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	2/5/2015	9.89	65.58	51,849

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	350.68

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	
1,491.1	41.69	350.68	1,388.7	409.0	-67.2	3.50	3.50	0.00	350.68	
4,953.3	41.69	350.68	3,974.3	2,681.2	-440.2	0.00	0.00	0.00	0.00	
6,144.4	0.00	0.00	5,063.0	3,090.3	-507.3	3.50	-3.50	0.00	180.00	
7,842.4	0.00	0.00	6,761.0	3,090.3	-507.3	0.00	0.00	0.00	0.00	

Database:	MasterDB	Local Co-ordinate Reference:	Well YATER 11B-17-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	YATER 11B-17-07-95 @ 5532.0usft (PAD Est KB)
Project:	Rockies Region	MD Reference:	YATER 11B-17-07-95 @ 5532.0usft (PAD Est KB)
Site:	Yater	North Reference:	True
Well:	YATER 11B-17-07-95	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	350.68	399.9	3.0	-0.5	3.1	3.50	3.50	0.00
500.0	7.00	350.68	499.5	12.0	-2.0	12.2	3.50	3.50	0.00
600.0	10.50	350.68	598.3	27.1	-4.4	27.4	3.50	3.50	0.00
700.0	14.00	350.68	696.0	48.0	-7.9	48.6	3.50	3.50	0.00
800.0	17.50	350.68	792.3	74.8	-12.3	75.8	3.50	3.50	0.00
900.0	21.00	350.68	886.7	107.3	-17.6	108.7	3.50	3.50	0.00
1,000.0	24.50	350.68	978.9	145.4	-23.9	147.4	3.50	3.50	0.00
1,100.0	28.00	350.68	1,068.5	189.1	-31.0	191.6	3.50	3.50	0.00
1,200.0	31.50	350.68	1,155.3	238.0	-39.1	241.2	3.50	3.50	0.00
1,300.0	35.00	350.68	1,239.0	292.1	-48.0	296.1	3.50	3.50	0.00
1,400.0	38.50	350.68	1,319.1	351.2	-57.7	355.9	3.50	3.50	0.00
1,491.1	41.69	350.68	1,388.7	409.0	-67.2	414.5	3.50	3.50	0.00
Start 3462.2 hold at 1491.1 MD									
1,500.0	41.69	350.68	1,395.4	414.9	-68.1	420.5	0.00	0.00	0.00
1,600.0	41.69	350.68	1,470.1	480.5	-78.9	487.0	0.00	0.00	0.00
1,700.0	41.69	350.68	1,544.8	546.2	-89.7	553.5	0.00	0.00	0.00
1,800.0	41.69	350.68	1,619.4	611.8	-100.4	620.0	0.00	0.00	0.00
1,900.0	41.69	350.68	1,694.1	677.4	-111.2	686.5	0.00	0.00	0.00
1,907.9	41.69	350.68	1,700.0	682.6	-112.1	691.7	0.00	0.00	0.00
Surface Casing									
2,000.0	41.69	350.68	1,768.8	743.0	-122.0	753.0	0.00	0.00	0.00
2,100.0	41.69	350.68	1,843.5	808.7	-132.8	819.5	0.00	0.00	0.00
2,200.0	41.69	350.68	1,918.1	874.3	-143.5	886.0	0.00	0.00	0.00
2,300.0	41.69	350.68	1,992.8	939.9	-154.3	952.5	0.00	0.00	0.00
2,400.0	41.69	350.68	2,067.5	1,005.6	-165.1	1,019.0	0.00	0.00	0.00
2,500.0	41.69	350.68	2,142.2	1,071.2	-175.9	1,085.5	0.00	0.00	0.00
2,600.0	41.69	350.68	2,216.9	1,136.8	-186.6	1,152.0	0.00	0.00	0.00
2,700.0	41.69	350.68	2,291.5	1,202.4	-197.4	1,218.5	0.00	0.00	0.00
2,800.0	41.69	350.68	2,366.2	1,268.1	-208.2	1,285.0	0.00	0.00	0.00
2,900.0	41.69	350.68	2,440.9	1,333.7	-219.0	1,351.6	0.00	0.00	0.00
3,000.0	41.69	350.68	2,515.6	1,399.3	-229.7	1,418.1	0.00	0.00	0.00
3,100.0	41.69	350.68	2,590.3	1,465.0	-240.5	1,484.6	0.00	0.00	0.00
3,200.0	41.69	350.68	2,664.9	1,530.6	-251.3	1,551.1	0.00	0.00	0.00
3,300.0	41.69	350.68	2,739.6	1,596.2	-262.0	1,617.6	0.00	0.00	0.00
3,400.0	41.69	350.68	2,814.3	1,661.8	-272.8	1,684.1	0.00	0.00	0.00
3,500.0	41.69	350.68	2,889.0	1,727.5	-283.6	1,750.6	0.00	0.00	0.00
3,600.0	41.69	350.68	2,963.6	1,793.1	-294.4	1,817.1	0.00	0.00	0.00
3,700.0	41.69	350.68	3,038.3	1,858.7	-305.1	1,883.6	0.00	0.00	0.00
3,800.0	41.69	350.68	3,113.0	1,924.4	-315.9	1,950.1	0.00	0.00	0.00
3,900.0	41.69	350.68	3,187.7	1,990.0	-326.7	2,016.6	0.00	0.00	0.00
4,000.0	41.69	350.68	3,262.4	2,055.6	-337.5	2,083.1	0.00	0.00	0.00
4,100.0	41.69	350.68	3,337.0	2,121.2	-348.2	2,149.6	0.00	0.00	0.00
4,200.0	41.69	350.68	3,411.7	2,186.9	-359.0	2,216.1	0.00	0.00	0.00
4,300.0	41.69	350.68	3,486.4	2,252.5	-369.8	2,282.6	0.00	0.00	0.00
4,342.3	41.69	350.68	3,518.0	2,280.3	-374.3	2,310.8	0.00	0.00	0.00
Williams Fork									
4,400.0	41.69	350.68	3,561.1	2,318.1	-380.6	2,349.2	0.00	0.00	0.00

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Site:	Yater	North Reference:	True
Well:	YATER 11B-17-07-95	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	41.69	350.68	3,635.8	2,383.7	-391.3	2,415.7	0.00	0.00	0.00
4,600.0	41.69	350.68	3,710.4	2,449.4	-402.1	2,482.2	0.00	0.00	0.00
4,700.0	41.69	350.68	3,785.1	2,515.0	-412.9	2,548.7	0.00	0.00	0.00
4,800.0	41.69	350.68	3,859.8	2,580.6	-423.7	2,615.2	0.00	0.00	0.00
4,900.0	41.69	350.68	3,934.5	2,646.3	-434.4	2,681.7	0.00	0.00	0.00
4,953.3	41.69	350.68	3,974.3	2,681.2	-440.2	2,717.1	0.00	0.00	0.00
Start Drop -3.50									
5,000.0	40.05	350.68	4,009.6	2,711.4	-445.1	2,747.7	3.50	-3.50	0.00
5,100.0	36.55	350.68	4,088.0	2,772.5	-455.2	2,809.7	3.50	-3.50	0.00
5,200.0	33.05	350.68	4,170.1	2,828.9	-464.4	2,866.7	3.50	-3.50	0.00
5,300.0	29.55	350.68	4,255.6	2,880.1	-472.8	2,918.7	3.50	-3.50	0.00
5,400.0	26.05	350.68	4,344.0	2,926.1	-480.4	2,965.3	3.50	-3.50	0.00
5,500.0	22.55	350.68	4,435.1	2,966.8	-487.0	3,006.5	3.50	-3.50	0.00
5,572.8	20.00	350.68	4,503.0	2,992.8	-491.3	3,032.9	3.50	-3.50	0.00
Top of Gas									
5,600.0	19.05	350.68	4,528.6	3,001.8	-492.8	3,042.0	3.50	-3.50	0.00
5,700.0	15.55	350.68	4,624.1	3,031.1	-497.6	3,071.7	3.50	-3.50	0.00
5,800.0	12.05	350.68	4,721.2	3,054.7	-501.5	3,095.6	3.50	-3.50	0.00
5,900.0	8.55	350.68	4,819.5	3,072.3	-504.4	3,113.4	3.50	-3.50	0.00
6,000.0	5.05	350.68	4,918.8	3,084.0	-506.3	3,125.3	3.50	-3.50	0.00
6,100.0	1.55	350.68	5,018.6	3,089.7	-507.2	3,131.1	3.50	-3.50	0.00
6,144.4	0.00	0.00	5,063.0	3,090.3	-507.3	3,131.7	3.50	-3.50	0.00
Start 1698.0 hold at 6144.4 MD - Back to Vertical									
6,200.0	0.00	0.00	5,118.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
6,300.0	0.00	0.00	5,218.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
6,400.0	0.00	0.00	5,318.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
6,500.0	0.00	0.00	5,418.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
6,600.0	0.00	0.00	5,518.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
6,700.0	0.00	0.00	5,618.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
6,800.0	0.00	0.00	5,718.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
6,900.0	0.00	0.00	5,818.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
7,000.0	0.00	0.00	5,918.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
7,031.4	0.00	0.00	5,950.0	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
Cameo									
7,100.0	0.00	0.00	6,018.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
7,200.0	0.00	0.00	6,118.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
7,300.0	0.00	0.00	6,218.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
7,400.0	0.00	0.00	6,318.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
7,500.0	0.00	0.00	6,418.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
7,542.4	0.00	0.00	6,461.0	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
Rollins									
7,600.0	0.00	0.00	6,518.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
7,700.0	0.00	0.00	6,618.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
7,800.0	0.00	0.00	6,718.6	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
7,842.4	0.00	0.00	6,761.0	3,090.3	-507.3	3,131.7	0.00	0.00	0.00
TD at 7842.4									

Database:	MasterDB	Local Co-ordinate Reference:	Well YATER 11B-17-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	YATER 11B-17-07-95 @ 5532.0usft (PAD Est KB)
Project:	Rockies Region	MD Reference:	YATER 11B-17-07-95 @ 5532.0usft (PAD Est KB)
Site:	Yater	North Reference:	True
Well:	YATER 11B-17-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
11B-17-07-95 TGT	0.00	0.00	4,503.0	3,090.3	-507.3	1,596,486.31	2,286,104.68	39° 26' 37.861 N	108° 1' 41.515 W
- plan misses target center by 93.2usft at 5602.2usft MD (4530.7 TVD, 3002.5 N, -492.9 E)									
- Rectangle (sides W100.0 H40.0 D2,258.0)									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,342.3	3,518.0	Williams Fork		0.00	
5,572.8	4,503.0	Top of Gas		0.00	
7,031.4	5,950.0	Cameo		0.00	
7,542.4	6,461.0	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
1,491.1	1,388.7	409.0	-67.2	Start 3462.2 hold at 1491.1 MD
1,907.9	1,700.0	682.6	-112.1	Surface Casing
4,953.3	3,974.3	2,681.2	-440.2	Start Drop -3.50
6,144.4	5,063.0	3,090.3	-507.3	Start 1698.0 hold at 6144.4 MD
6,144.4	5,063.0	3,090.3	-507.3	Back to Vertical
7,842.4	6,761.0	3,090.3	-507.3	TD at 7842.4



Well Name: YATER 11B-17-07-95
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 1593383.11 2286525.88 39° 26' 7.318 N 108° 1' 35.048 W
PAD Est KB YATER 11B-17-07-95 @ 5532.0usft (PAD Est KB)



Azimuths to True North
Magnetic North: 9.89°
Magnetic Field
Strength: 51849.5snT
Dip Angle: 65.58°
Date: 2/5/2015
Model: IGRF2010

Yater
YATER 11B-17-07-95
Design #1
9:35, February 06 2015

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
11B-17-07-95 TGT4503.0		3090.3	-507.3	1596486.31	2286104.68	39° 26' 37.861 N	108° 1' 41.515 W	Rectangle (Sides: L40.0 W100.0)

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	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1491.1	41.69	350.68	1388.7	409.0	-67.2	3.50	350.68	414.5	
4	4953.3	41.69	350.68	3974.3	2681.2	-440.2	0.00	0.00	2717.1	
5	6144.4	0.00	0.00	5063.0	3090.3	-507.3	3.50	180.00	3131.7	
6	7842.4	0.00	0.00	6761.0	3090.3	-507.3	0.00	0.00	3131.7	

ANNOTATIONS

TVD	MD	Annotation
300.0	300.0	Start Build 3.50
1388.7	1491.1	Start 3462.2 hold at 1491.1 MD
1700.0	1907.9	Surface Casing
3974.3	4953.3	Start Drop -3.50
5063.0	6144.4	Start 1698.0 hold at 6144.4 MD
5063.0	6144.4	Back to Vertical
6761.0	7842.4	TD at 7842.4

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3518.0	4342.3	Williams Fork	0.00	
4503.0	5572.8	Top of Gas	0.00	
5950.0	7031.4	Cameo	0.00	
6461.0	7542.4	Rollins	0.00	

