



Ursa Operating Company, LLC

Rockies Region

Yater

YATER 11C-17-07-95

Wellbore #1

Plan: Design #1

Ursa Operating Company LLC Planning Report

28 October, 2014



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

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:	1,593,358.14 usft
From:	Lat/Long	Easting:	2,286,525.77 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39° 26' 7.071 N
		Longitude:	108° 1' 35.041 W
		Grid Convergence:	-1.59 °

Well	YATER 11C-17-07-95, SHL LAT: 39.435297513 LONG: -108.026400223					
Well Position	+N/-S	0.0 usft	Northing:	1,593,358.13 usft	Latitude:	39° 26' 7.071 N
	+E/-W	0.0 usft	Easting:	2,286,525.77 usft	Longitude:	108° 1' 35.041 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	10/23/2014	9.93	65.59	51,878

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	349.91

Survey Tool Program	Date 10/27/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	7,605.7	Design #1 (Wellbore #1)	MWD	MWD - Standard

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

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	-5,532.0	0.0	0.0	0.0	0.00	1,593,358.13	2,286,525.77
100.0	0.00	0.00	100.0	-5,432.0	0.0	0.0	0.0	0.00	1,593,358.13	2,286,525.77
200.0	0.00	0.00	200.0	-5,332.0	0.0	0.0	0.0	0.00	1,593,358.13	2,286,525.77
300.0	0.00	0.00	300.0	-5,232.0	0.0	0.0	0.0	0.00	1,593,358.13	2,286,525.77
Start Build 3.50										
400.0	3.50	349.91	399.9	-5,132.1	3.0	-0.5	3.1	3.50	1,593,361.15	2,286,525.32
500.0	7.00	349.91	499.5	-5,032.5	12.0	-2.1	12.2	3.50	1,593,370.19	2,286,523.96
600.0	10.50	349.91	598.3	-4,933.7	27.0	-4.8	27.4	3.50	1,593,385.24	2,286,521.72
700.0	14.00	349.91	696.0	-4,836.0	47.9	-8.5	48.6	3.50	1,593,406.22	2,286,518.58
800.0	17.50	349.91	792.3	-4,739.7	74.6	-13.3	75.8	3.50	1,593,433.06	2,286,514.57
900.0	21.00	349.91	886.7	-4,645.3	107.0	-19.1	108.7	3.50	1,593,465.66	2,286,509.70
1,000.0	24.50	349.91	978.9	-4,553.1	145.1	-25.8	147.4	3.50	1,593,503.90	2,286,503.99
1,100.0	28.00	349.91	1,068.5	-4,463.5	188.7	-33.6	191.6	3.50	1,593,547.64	2,286,497.45
1,200.0	31.50	349.91	1,155.3	-4,376.7	237.5	-42.3	241.2	3.50	1,593,596.71	2,286,490.12
1,300.0	35.00	349.91	1,239.0	-4,293.0	291.5	-51.9	296.1	3.50	1,593,650.93	2,286,482.02
1,328.6	36.00	349.91	1,262.3	-4,269.7	307.8	-54.8	312.7	3.50	1,593,667.36	2,286,479.56
Start 3749.7 hold at 1328.6 MD										
1,400.0	36.00	349.91	1,320.0	-4,212.0	349.1	-62.1	354.6	0.00	1,593,708.86	2,286,473.36
1,500.0	36.00	349.91	1,400.9	-4,131.1	407.0	-72.4	413.4	0.00	1,593,767.00	2,286,464.68
1,600.0	36.00	349.91	1,481.8	-4,050.2	464.9	-82.7	472.2	0.00	1,593,825.13	2,286,455.99
1,700.0	36.00	349.91	1,562.7	-3,969.3	522.8	-93.0	531.0	0.00	1,593,883.27	2,286,447.30
1,800.0	36.00	349.91	1,643.6	-3,888.4	580.6	-103.3	589.8	0.00	1,593,941.40	2,286,438.62
1,869.7	36.00	349.91	1,700.0	-3,832.0	621.0	-110.5	630.7	0.00	1,593,981.93	2,286,432.56
Surface Casing										
1,900.0	36.00	349.91	1,724.5	-3,807.5	638.5	-113.6	648.5	0.00	1,593,999.54	2,286,429.93
2,000.0	36.00	349.91	1,805.4	-3,726.6	696.4	-123.9	707.3	0.00	1,594,057.68	2,286,421.24
2,100.0	36.00	349.91	1,886.3	-3,645.7	754.2	-134.2	766.1	0.00	1,594,115.81	2,286,412.56
2,200.0	36.00	349.91	1,967.2	-3,564.8	812.1	-144.5	824.9	0.00	1,594,173.95	2,286,403.87

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

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,300.0	36.00	349.91	2,048.1	-3,483.9	870.0	-154.8	883.7	0.00	1,594,232.08	2,286,395.19
2,400.0	36.00	349.91	2,129.0	-3,403.0	927.9	-165.1	942.4	0.00	1,594,290.22	2,286,386.50
2,500.0	36.00	349.91	2,209.9	-3,322.1	985.7	-175.4	1,001.2	0.00	1,594,348.35	2,286,377.81
2,600.0	36.00	349.91	2,290.8	-3,241.2	1,043.6	-185.7	1,060.0	0.00	1,594,406.49	2,286,369.13
2,700.0	36.00	349.91	2,371.7	-3,160.3	1,101.5	-196.0	1,118.8	0.00	1,594,464.62	2,286,360.44
2,800.0	36.00	349.91	2,452.6	-3,079.4	1,159.3	-206.3	1,177.6	0.00	1,594,522.76	2,286,351.76
2,900.0	36.00	349.91	2,533.5	-2,998.5	1,217.2	-216.6	1,236.3	0.00	1,594,580.89	2,286,343.07
3,000.0	36.00	349.91	2,614.4	-2,917.6	1,275.1	-226.9	1,295.1	0.00	1,594,639.03	2,286,334.38
3,100.0	36.00	349.91	2,695.3	-2,836.7	1,333.0	-237.2	1,353.9	0.00	1,594,697.17	2,286,325.70
3,200.0	36.00	349.91	2,776.2	-2,755.8	1,390.8	-247.5	1,412.7	0.00	1,594,755.30	2,286,317.01
3,300.0	36.00	349.91	2,857.1	-2,674.9	1,448.7	-257.8	1,471.5	0.00	1,594,813.44	2,286,308.32
3,400.0	36.00	349.91	2,938.0	-2,594.0	1,506.6	-268.1	1,530.2	0.00	1,594,871.57	2,286,299.64
3,500.0	36.00	349.91	3,018.9	-2,513.1	1,564.4	-278.4	1,589.0	0.00	1,594,929.71	2,286,290.95
3,600.0	36.00	349.91	3,099.8	-2,432.2	1,622.3	-288.7	1,647.8	0.00	1,594,987.84	2,286,282.27
3,700.0	36.00	349.91	3,180.7	-2,351.3	1,680.2	-299.0	1,706.6	0.00	1,595,045.98	2,286,273.58
3,800.0	36.00	349.91	3,261.6	-2,270.4	1,738.1	-309.3	1,765.4	0.00	1,595,104.11	2,286,264.89
3,900.0	36.00	349.91	3,342.5	-2,189.5	1,795.9	-319.6	1,824.1	0.00	1,595,162.25	2,286,256.21
4,000.0	36.00	349.91	3,423.4	-2,108.6	1,853.8	-329.9	1,882.9	0.00	1,595,220.38	2,286,247.52
4,100.0	36.00	349.91	3,504.3	-2,027.7	1,911.7	-340.2	1,941.7	0.00	1,595,278.52	2,286,238.83
4,112.0	36.00	349.91	3,514.0	-2,018.0	1,918.6	-341.5	1,948.8	0.00	1,595,285.49	2,286,237.79
Williams Fork										
4,200.0	36.00	349.91	3,585.2	-1,946.8	1,969.5	-350.5	2,000.5	0.00	1,595,336.65	2,286,230.15
4,300.0	36.00	349.91	3,666.1	-1,865.9	2,027.4	-360.8	2,059.3	0.00	1,595,394.79	2,286,221.46
4,400.0	36.00	349.91	3,747.0	-1,785.0	2,085.3	-371.1	2,118.1	0.00	1,595,452.93	2,286,212.78
4,500.0	36.00	349.91	3,827.9	-1,704.1	2,143.2	-381.4	2,176.8	0.00	1,595,511.06	2,286,204.09
4,600.0	36.00	349.91	3,908.8	-1,623.2	2,201.0	-391.7	2,235.6	0.00	1,595,569.20	2,286,195.40
4,700.0	36.00	349.91	3,989.7	-1,542.3	2,258.9	-402.0	2,294.4	0.00	1,595,627.33	2,286,186.72

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

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
4,800.0	36.00	349.91	4,070.6	-1,461.4	2,316.8	-412.3	2,353.2	0.00	1,595,685.47	2,286,178.03
4,900.0	36.00	349.91	4,151.5	-1,380.5	2,374.6	-422.6	2,412.0	0.00	1,595,743.60	2,286,169.35
5,000.0	36.00	349.91	4,232.4	-1,299.6	2,432.5	-432.9	2,470.7	0.00	1,595,801.74	2,286,160.66
5,078.3	36.00	349.91	4,295.7	-1,236.3	2,477.8	-441.0	2,516.8	0.00	1,595,847.26	2,286,153.86
Start Drop -3.50										
5,100.0	35.24	349.91	4,313.4	-1,218.6	2,490.3	-443.2	2,529.4	3.50	1,595,859.76	2,286,151.99
5,200.0	31.74	349.91	4,396.8	-1,135.2	2,544.6	-452.9	2,584.6	3.50	1,595,914.33	2,286,143.84
5,300.0	28.24	349.91	4,483.4	-1,048.6	2,593.8	-461.6	2,634.6	3.50	1,595,963.76	2,286,136.45
5,317.7	27.62	349.91	4,499.0	-1,033.0	2,602.0	-463.1	2,642.8	3.50	1,595,971.95	2,286,135.23
Top of Gas										
5,400.0	24.74	349.91	4,572.9	-959.1	2,637.7	-469.4	2,679.2	3.50	1,596,007.87	2,286,129.86
11C-17-07-95 TGT										
5,500.0	21.24	349.91	4,664.9	-867.1	2,676.2	-476.3	2,718.2	3.50	1,596,046.49	2,286,124.09
5,600.0	17.74	349.91	4,759.2	-772.8	2,709.0	-482.1	2,751.6	3.50	1,596,079.49	2,286,119.16
5,700.0	14.24	349.91	4,855.3	-676.7	2,736.1	-486.9	2,779.1	3.50	1,596,106.73	2,286,115.09
5,800.0	10.74	349.91	4,952.9	-579.1	2,757.4	-490.7	2,800.7	3.50	1,596,128.12	2,286,111.89
5,900.0	7.24	349.91	5,051.6	-480.4	2,772.8	-493.5	2,816.4	3.50	1,596,143.58	2,286,109.58
6,000.0	3.74	349.91	5,151.2	-380.8	2,782.2	-495.2	2,825.9	3.50	1,596,153.04	2,286,108.17
6,106.9	0.00	0.00	5,258.0	-274.0	2,785.7	-495.8	2,829.4	3.50	1,596,156.49	2,286,107.65
Start 1499.0 hold at 6106.9 MD - Back to Vertical										
6,200.0	0.00	0.00	5,351.1	-180.9	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65
6,300.0	0.00	0.00	5,451.1	-80.9	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65
6,400.0	0.00	0.00	5,551.1	19.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65
6,500.0	0.00	0.00	5,651.1	119.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65
6,600.0	0.00	0.00	5,751.1	219.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65
6,700.0	0.00	0.00	5,851.1	319.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65
6,794.9	0.00	0.00	5,946.0	414.0	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65
Cameo										

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

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
6,800.0	0.00	0.00	5,951.1	419.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65	
6,900.0	0.00	0.00	6,051.1	519.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65	
7,000.0	0.00	0.00	6,151.1	619.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65	
7,100.0	0.00	0.00	6,251.1	719.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65	
7,200.0	0.00	0.00	6,351.1	819.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65	
7,300.0	0.00	0.00	6,451.1	919.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65	
7,305.9	0.00	0.00	6,457.0	925.0	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65	
Rollins											
7,400.0	0.00	0.00	6,551.1	1,019.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65	
7,500.0	0.00	0.00	6,651.1	1,119.1	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65	
7,605.9	0.00	0.00	6,757.0	1,225.0	2,785.7	-495.8	2,829.4	0.00	1,596,156.49	2,286,107.65	
TD at 7605.9											

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
6,794.9	5,946.0	Cameo		0.00		
4,112.0	3,514.0	Williams Fork		0.00		
5,317.7	4,499.0	Top of Gas		0.00		
7,305.9	6,457.0	Rollins		0.00		

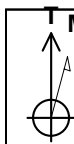
Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well YATER 11C-17-07-95
Project:	Rockies Region	TVD Reference:	YATER 11C-17-07-95 @ 5532.0usft (EST KB)
Site:	Yater	MD Reference:	YATER 11C-17-07-95 @ 5532.0usft (EST KB)
Well:	YATER 11C-17-07-95	North Reference:	True
Wellbore:	Wellbore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

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	
1,328.6	1,262.3	307.8	-54.8	Start 3749.7 hold at 1328.6 MD	
1,869.7	1,700.0	621.0	-110.5	Surface Casing	
5,078.3	4,295.7	2,477.8	-441.0	Start Drop -3.50	
6,106.9	5,258.0	2,785.7	-495.8	Start 1499.0 hold at 6106.9 MD	
6,106.9	5,258.0	2,785.7	-495.8	Back to Vertical	
7,605.9	6,757.0	2,785.7	-495.8	TD at 7605.9	

Checked By: _____ Approved By: _____ Date: _____



Well Name: YATER 11C-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 1593358.13 2286525.77 39° 26' 7.071 N 108° 1' 35.041 W
 EST KB YATER 11C-17-07-95 @ 5532.0usft (EST KB)



Azimuths to True North
 Magnetic North: 9.93°
 Magnetic Field
 Strength: 51878.4snT
 Dip Angle: 65.59°
 Date: 10/23/2014
 Model: IGRF2010

Yater
 YATER 11C-17-07-95
 Design #1
 8:38, October 28 2014

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
11C-17-07-95	TGT4499.0	2785.7	-495.8	1596156.49	2286107.65	39° 26' 34.604 N	108° 1' 41.360 W	Rectangle (Sides: L40.0 W100.0)

ANNOTATIONS

TVD	MD	Annotation
300.0	300.0	Start Build 3.50
1262.3	1328.6	Start 3749.7 hold at 1328.6 MD
1700.0	1869.7	Surface Casing
4295.7	5078.3	Start Drop -3.50
5258.0	6106.9	Start 1499.0 hold at 6106.9 MD
5258.0	6106.9	Back to Vertical
6757.0	7605.9	TD at 7605.9

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	1328.6	36.00	349.91	1262.3	307.8	-54.8	3.50	349.91	312.7	
4	5078.3	36.00	349.91	4295.7	2477.8	-441.0	0.00	0.00	2516.8	
5	6106.9	0.00	0.00	5258.0	2785.7	-495.8	3.50	180.00	2829.4	
6	7605.9	0.00	0.00	6757.0	2785.7	-495.8	0.00	0.00	2829.4	

FORMATION TOP DETAILS

TVDPATH	MDPATH	Formation	DipAngle	DipDir
3514.0	4112.0	Williams Fork	0.00	
4499.0	5317.7	Top of Gas	0.00	
5946.0	6794.9	Cameo	0.00	
6457.0	7305.9	Rollins	0.00	

