



Ursa Operating Company, LLC

Rockies Region

Speakman A

BAT 12C-24-07-96

Wellbore #1

Design: Actual

End of Well Report

18 February, 2014



Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well BAT 12C-24-07-96
Project:	Rockies Region	TVD Reference:	BAT 12C-24-07-96 @ 5197.9usft (XTREME 15)
Site:	Speakman A	MD Reference:	BAT 12C-24-07-96 @ 5197.9usft (XTREME 15)
Well:	BAT 12C-24-07-96	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM 5000.1 Single User Db

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	Speakman A					
Site Position:			Northing:	1,588,429.06 usft	Latitude:	39° 25' 15.663 N
From:	Lat/Long		Easting:	2,276,734.73 usft	Longitude:	108° 3' 38.016 W
Position Uncertainty:	0.0 usft		Slot Radius:	13-3/16 "	Grid Convergence:	-1.61 °

Well		BAT 12C-24-07-96, SHL LAT: 39.421059384 LONG: -108.060501543				
Well Position	+N/-S	0.0 usft	Northing:	1,588,443.82 usft	Latitude:	39° 25' 15.814 N
	+E/-W	0.0 usft	Easting:	2,276,751.69 usft	Longitude:	108° 3' 37.806 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,197.9 usft	Ground Level:	5,182.5 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/13/2013	10.08	65.63	52,047

Design	Actual			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	306.34

Survey Program		Date	2/18/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
182.0	6,165.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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Well:	BAT 12C-24-07-96	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
182.0	0.60	320.00	182.0	0.9	0.7	-0.6	0.33	0.33	0.00	
278.0	1.10	303.30	278.0	2.3	1.6	-1.7	0.58	0.52	-17.40	
370.0	3.70	315.10	369.9	6.2	4.2	-4.5	2.86	2.83	12.83	
463.0	5.50	311.60	462.6	13.6	9.3	-10.0	1.96	1.94	-3.76	
557.0	8.10	307.30	555.9	24.7	16.3	-18.6	2.82	2.77	-4.57	
649.0	10.60	306.80	646.7	39.6	25.3	-30.6	2.72	2.72	-0.54	
742.0	14.20	306.20	737.5	59.6	37.2	-46.6	3.87	3.87	-0.65	
835.0	17.00	308.00	827.1	84.6	52.3	-66.5	3.06	3.01	1.94	
927.0	18.90	309.90	914.6	112.9	70.1	-88.6	2.16	2.07	2.07	
1,032.0	22.90	311.30	1,012.7	150.2	94.5	-117.0	3.84	3.81	1.33	
1,117.0	25.80	311.40	1,090.1	185.1	117.7	-143.3	3.41	3.41	0.12	
1,202.0	30.10	309.50	1,165.2	224.9	143.5	-173.6	5.17	5.06	-2.24	
1,288.0	33.80	309.50	1,238.1	270.3	172.4	-208.7	4.30	4.30	0.00	
1,373.0	36.30	308.30	1,307.7	319.1	203.0	-246.7	3.05	2.94	-1.41	
1,458.0	38.50	305.30	1,375.2	370.7	233.9	-288.1	3.36	2.59	-3.53	
1,543.0	38.60	304.10	1,441.7	423.6	264.1	-331.6	0.89	0.12	-1.41	
1,628.0	38.60	303.30	1,508.1	476.6	293.5	-375.7	0.59	0.00	-0.94	
1,713.0	39.30	303.20	1,574.2	529.9	322.8	-420.4	0.83	0.82	-0.12	
1,798.0	39.90	304.80	1,639.7	584.1	353.1	-465.3	1.39	0.71	1.88	
1,841.0	40.00	305.40	1,672.7	611.7	369.0	-487.9	0.93	0.23	1.40	
1,907.0	40.00	304.40	1,723.3	654.1	393.3	-522.7	0.97	0.00	-1.52	
1,992.0	38.50	305.90	1,789.1	707.9	424.2	-566.7	2.09	-1.76	1.76	
2,077.0	39.30	306.00	1,855.2	761.2	455.5	-609.9	0.94	0.94	0.12	
2,162.0	38.80	306.30	1,921.2	814.8	487.1	-653.1	0.63	-0.59	0.35	
2,247.0	38.80	306.00	1,987.5	868.0	518.6	-696.2	0.22	0.00	-0.35	
2,332.0	38.20	306.10	2,054.0	921.0	549.7	-738.9	0.71	-0.71	0.12	

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Site:	Speakman A	MD Reference:	BAT 12C-24-07-96 @ 5197.9usft (XTREME 15)
Well:	BAT 12C-24-07-96	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
2,417.0	37.90	306.10	2,120.9	973.3	580.6	-781.3	0.35	-0.35	0.00	
2,502.0	37.10	305.70	2,188.4	1,025.1	610.9	-823.2	0.98	-0.94	-0.47	
2,588.0	37.70	305.00	2,256.7	1,077.3	641.1	-865.8	0.86	0.70	-0.81	
2,673.0	37.50	304.60	2,324.0	1,129.2	670.7	-908.4	0.37	-0.24	-0.47	
2,758.0	37.10	304.90	2,391.7	1,180.6	700.1	-950.7	0.52	-0.47	0.35	
2,843.0	36.50	304.40	2,459.7	1,231.5	729.0	-992.6	0.79	-0.71	-0.59	
2,928.0	35.10	306.30	2,528.7	1,281.2	757.8	-1,033.1	2.10	-1.65	2.24	
3,013.0	33.70	306.10	2,598.8	1,329.3	786.1	-1,071.9	1.65	-1.65	-0.24	
3,099.0	32.30	304.90	2,670.9	1,376.1	813.3	-1,110.0	1.80	-1.63	-1.40	
3,184.0	31.10	307.30	2,743.2	1,420.8	839.6	-1,146.1	2.05	-1.41	2.82	
3,269.0	29.00	306.80	2,816.8	1,463.3	865.3	-1,180.1	2.49	-2.47	-0.59	
3,354.0	26.80	307.00	2,891.9	1,503.1	889.2	-1,211.9	2.59	-2.59	0.24	
3,439.0	24.00	309.60	2,968.7	1,539.5	911.7	-1,240.5	3.55	-3.29	3.06	
3,524.0	20.20	307.90	3,047.4	1,571.5	931.8	-1,265.4	4.53	-4.47	-2.00	
3,609.0	17.20	307.80	3,128.0	1,598.7	948.5	-1,286.9	3.53	-3.53	-0.12	
3,694.0	14.10	308.10	3,209.8	1,621.6	962.6	-1,305.0	3.65	-3.65	0.35	
3,779.0	11.40	303.80	3,292.7	1,640.4	973.7	-1,320.1	3.36	-3.18	-5.06	
3,865.0	8.70	306.80	3,377.4	1,655.4	982.3	-1,332.4	3.20	-3.14	3.49	
3,950.0	5.60	311.10	3,461.7	1,665.9	988.9	-1,340.7	3.70	-3.65	5.06	
4,035.0	2.60	313.70	3,546.5	1,672.0	992.9	-1,345.2	3.54	-3.53	3.06	
4,120.0	0.50	193.60	3,631.4	1,673.7	993.9	-1,346.7	3.39	-2.47	-141.29	
4,205.0	0.40	193.70	3,716.4	1,673.5	993.2	-1,346.8	0.12	-0.12	0.12	
4,291.0	0.80	206.60	3,802.4	1,673.3	992.4	-1,347.2	0.49	0.47	15.00	
4,376.0	0.70	233.70	3,887.4	1,673.3	991.6	-1,347.9	0.43	-0.12	31.88	
4,461.0	0.90	255.90	3,972.4	1,673.9	991.1	-1,348.9	0.43	0.24	26.12	
4,546.0	0.80	11.40	4,057.4	1,674.6	991.5	-1,349.5	1.69	-0.12	135.88	
4,631.0	1.00	2.10	4,142.4	1,675.2	992.8	-1,349.3	0.29	0.24	-10.94	

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Site:	Speakman A	MD Reference:	BAT 12C-24-07-96 @ 5197.9usft (XTREME 15)
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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
4,716.0	0.40	332.90	4,227.4	1,675.9	993.8	-1,349.4	0.80	-0.71	-34.35	
4,801.0	0.60	312.10	4,312.4	1,676.6	994.4	-1,349.9	0.31	0.24	-24.47	
4,886.0	1.00	268.30	4,397.4	1,677.7	994.7	-1,351.0	0.83	0.47	-51.53	
4,971.0	1.80	261.30	4,482.4	1,679.2	994.5	-1,353.0	0.96	0.94	-8.24	
5,056.0	1.80	251.00	4,567.3	1,680.9	993.8	-1,355.6	0.38	0.00	-12.12	
5,141.0	2.20	188.80	4,652.3	1,680.9	991.8	-1,357.1	2.46	0.47	-73.18	
5,226.0	1.80	121.00	4,737.2	1,678.8	989.5	-1,356.2	2.65	-0.47	-79.76	
5,311.0	2.60	82.80	4,822.2	1,676.1	989.0	-1,353.2	1.91	0.94	-44.94	
5,396.0	2.60	87.80	4,907.1	1,673.2	989.3	-1,349.3	0.27	0.00	5.88	
5,481.0	1.70	97.00	4,992.0	1,670.6	989.3	-1,346.2	1.13	-1.06	10.82	
5,566.0	1.30	111.50	5,077.0	1,668.5	988.8	-1,344.0	0.65	-0.47	17.06	
5,651.0	1.10	112.50	5,162.0	1,666.8	988.1	-1,342.4	0.24	-0.24	1.18	
5,736.0	1.20	119.30	5,247.0	1,665.1	987.3	-1,340.8	0.20	0.12	8.00	
5,821.0	1.10	114.80	5,331.9	1,663.4	986.6	-1,339.3	0.16	-0.12	-5.29	
5,906.0	1.00	111.10	5,416.9	1,661.9	986.0	-1,337.9	0.14	-0.12	-4.35	
5,991.0	0.80	149.70	5,501.9	1,660.7	985.2	-1,336.9	0.73	-0.24	45.41	
6,076.0	0.80	168.00	5,586.9	1,659.7	984.1	-1,336.5	0.30	0.00	21.53	
6,110.0	0.60	183.80	5,620.9	1,659.4	983.7	-1,336.4	0.81	-0.59	46.47	
6,165.0	0.60	183.80	5,675.9	1,659.1	983.1	-1,336.5	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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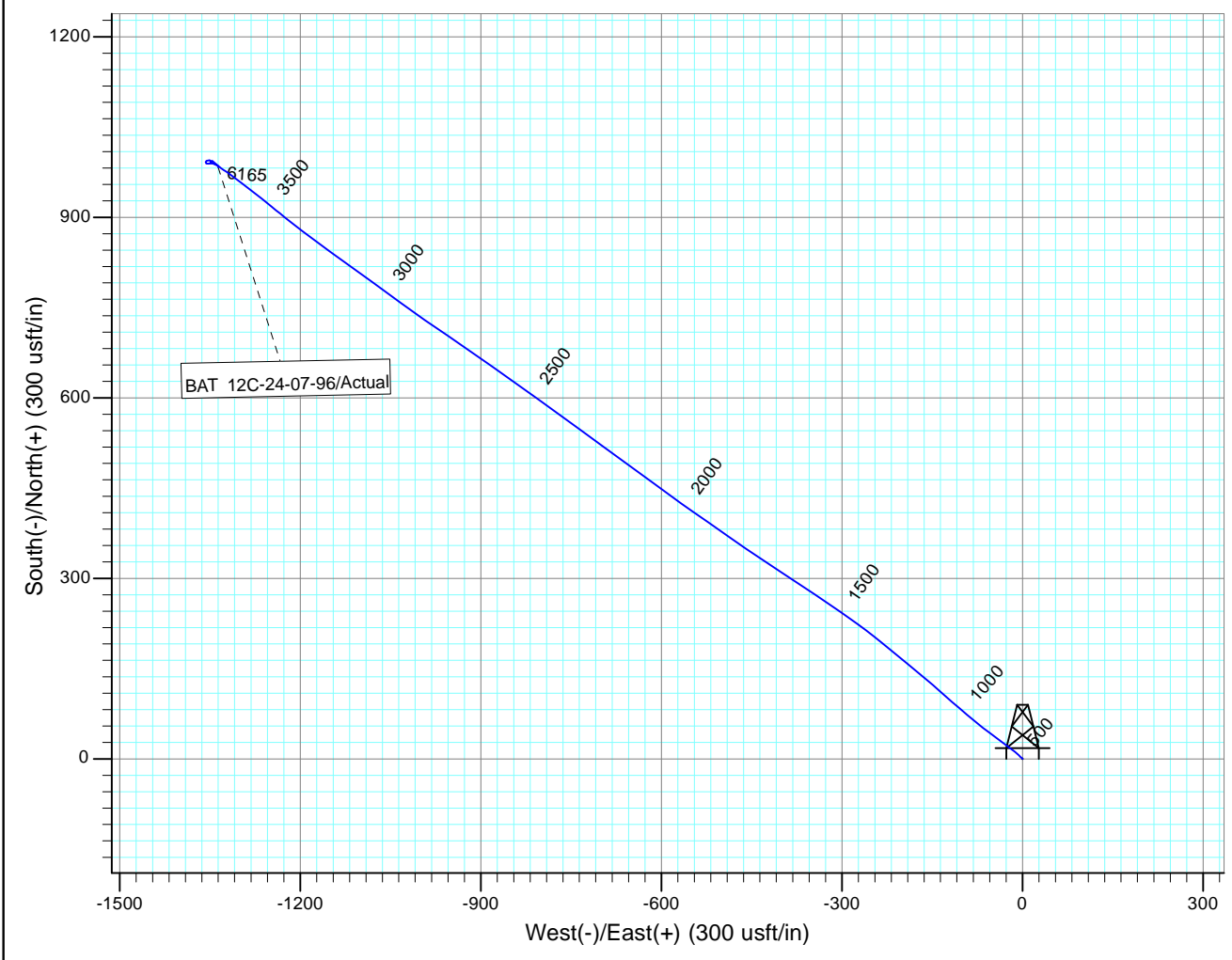
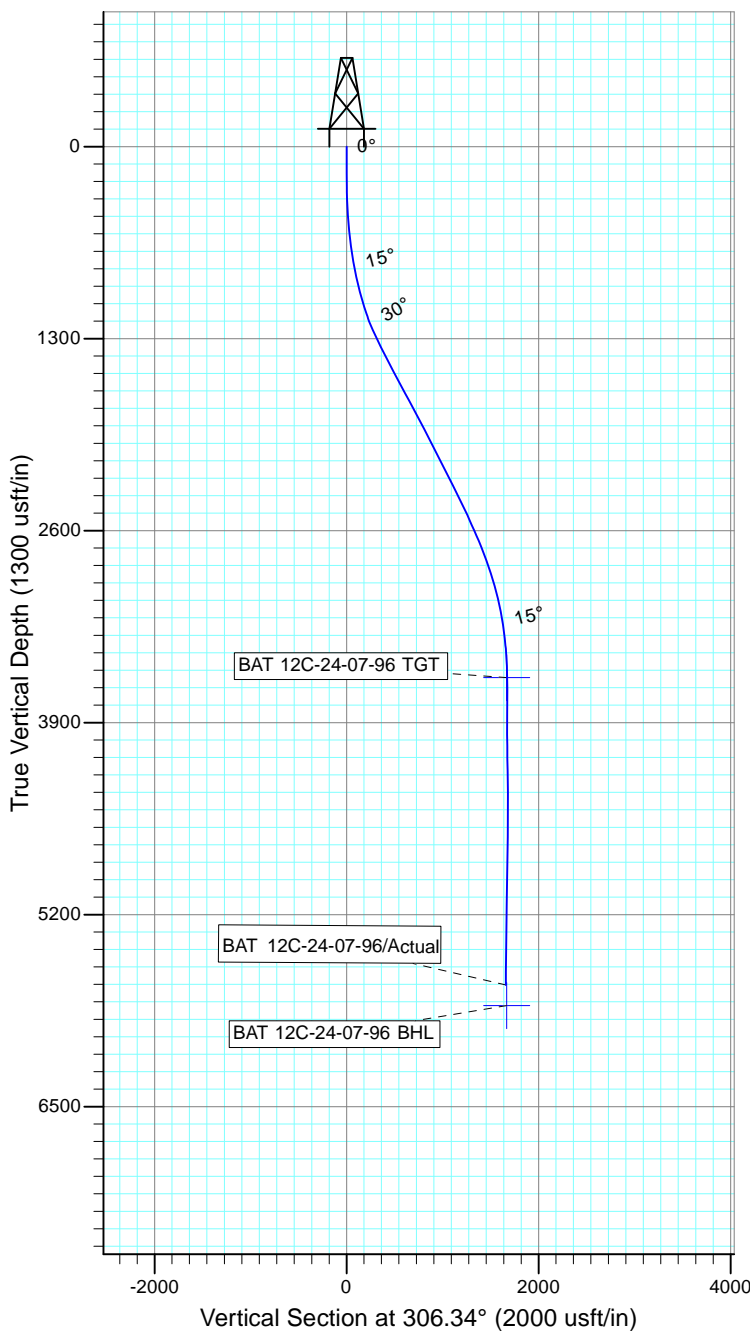


Project: Rockies Region
 Site: Speakman A
 Well: BAT 12C-24-07-96
 Wellbore: Wellbore #1
 Design: Actual



Azimuths to True North
 Magnetic North: 10.09°

Magnetic Field
 Strength: 52046.8snT
 Dip Angle: 65.63°
 Date: 6/13/2013
 Model: IGRF200510



Design: Actual (BAT 12C-24-07-96/Wellbore #1)

Created By: Matthew Linton

Date: 9:30, February 18 2013

THIS SURVEY IS CORRECT TO THE BEST OF
 MY KNOWLEDGE AND IS SUPPORTED
 BY ACTUAL FIELD DATA