



Ursa Operating Company, LLC

Rockies Region

Monument Ridge B

Monument Ridge B 34B-08-07-95

Wellbore #1

Design: Actual

End Of Well Report

27 October, 2016



Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 34B-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 34B-08-07-95 @ 5718.8usft (PLAN
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 34B-08-07-95 @ 5718.8usft (PLAN
Well:	Monument Ridge B 34B-08-07-95	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	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		Monument Ridge B			
Site Position:		Northing:		Latitude:	
From:	Lat/Long	Easting:		Longitude:	
Position Uncertainty:	0.0 usft	Slot Radius:		Grid Convergence:	
		1,596,716.56 usft		39.4445837	
		2,287,433.43 usft		-108.0235181	
		13-3/16 "		-1.59 °	

Well		Monument Ridge B 34B-08-07-95, SHL: 39.447777917 -108.012276387				
Well Position	+N-S	0.0 usft	Northing:	1,597,791.57 usft	Latitude:	39.4477779
	+E-W	0.0 usft	Easting:	2,290,639.12 usft	Longitude:	-108.0122764
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,718.8 usft	Ground Level:	5,701.8 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/1/2016	9.79	65.56	51,600

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	252.72

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Survey Program		Date 10/27/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
112.0	1,793.0	Surface (Wellbore #1)	MWD	MWD - Standard
1,828.0	7,410.0	Production (Wellbore #1)	MWD	MWD - Standard

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	0.00
112.0	0.22	167.20	112.0	0.0	-0.2	0.0	0.20	0.20	0.00	0.00
142.0	0.26	140.66	142.0	0.0	-0.3	0.1	0.39	0.13	-88.47	
173.0	0.26	181.79	173.0	0.0	-0.4	0.1	0.59	0.00	132.68	
203.0	0.53	218.93	203.0	0.1	-0.6	0.1	1.20	0.90	123.80	
232.0	0.70	238.17	232.0	0.4	-0.8	-0.2	0.91	0.59	66.34	
262.0	0.97	256.76	262.0	0.8	-1.0	-0.6	1.26	0.90	61.97	
293.0	0.90	269.02	293.0	1.3	-1.0	-1.1	0.68	-0.23	39.55	
323.0	0.79	277.55	323.0	1.8	-1.0	-1.5	0.56	-0.37	28.43	
354.0	0.48	277.46	354.0	2.1	-1.0	-1.9	1.00	-1.00	-0.29	
384.0	0.18	295.48	384.0	2.2	-0.9	-2.0	1.05	-1.00	60.07	
415.0	0.18	348.48	415.0	2.2	-0.9	-2.1	0.52	0.00	170.97	
445.0	0.18	22.58	445.0	2.2	-0.8	-2.1	0.35	0.00	113.67	
476.0	0.09	5.04	476.0	2.2	-0.7	-2.1	0.32	-0.29	-56.58	
507.0	0.00	158.41	507.0	2.2	-0.7	-2.1	0.29	-0.29	0.00	
537.0	0.62	248.11	537.0	2.3	-0.7	-2.2	2.07	2.07	0.00	
568.0	1.23	232.55	568.0	2.8	-1.0	-2.6	2.11	1.97	-50.19	
599.0	2.11	225.34	599.0	3.6	-1.6	-3.3	2.91	2.84	-23.26	
Magnetic Influence										
629.0	3.34	224.46	628.9	4.9	-2.6	-4.3	4.10	4.10	-2.93	
660.0	4.53	222.92	659.9	6.7	-4.2	-5.8	3.85	3.84	-4.97	

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Design:	Actual	Database:	MasterDB

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
690.0	5.84	224.51	689.7	9.1	-6.1	-7.6	4.39	4.37	5.30	
720.0	7.16	221.96	719.5	12.1	-8.6	-10.0	4.50	4.40	-8.50	
751.0	8.26	218.93	750.3	15.6	-11.8	-12.6	3.78	3.55	-9.77	
781.0	9.27	216.82	779.9	19.3	-15.4	-15.5	3.53	3.37	-7.03	
812.0	10.33	216.46	810.5	23.6	-19.6	-18.6	3.43	3.42	-1.16	
842.0	11.38	217.61	839.9	28.2	-24.1	-22.0	3.57	3.50	3.83	
885.0	12.70	220.24	882.0	35.6	-31.1	-27.6	3.32	3.07	6.12	
928.0	13.67	221.30	923.8	44.0	-38.5	-34.1	2.32	2.26	2.47	
970.0	14.46	226.66	964.6	52.9	-45.8	-41.1	3.63	1.88	12.76	
1,013.0	15.10	230.64	1,006.2	62.9	-53.1	-49.4	2.79	1.49	9.26	
1,056.0	15.86	233.78	1,047.6	73.7	-60.1	-58.5	2.63	1.77	7.30	
1,099.0	16.57	239.89	1,088.9	85.2	-66.7	-68.5	4.30	1.65	14.21	
1,142.0	17.01	244.24	1,130.1	97.4	-72.5	-79.5	3.10	1.02	10.12	
1,184.0	17.75	249.20	1,170.1	109.9	-77.4	-91.0	3.94	1.76	11.81	
1,227.0	18.50	254.79	1,211.0	123.2	-81.5	-103.7	4.40	1.74	13.00	
1,270.0	19.93	259.73	1,251.6	137.3	-84.6	-117.5	5.03	3.33	11.49	
1,312.0	21.53	263.93	1,290.9	152.0	-86.7	-132.2	5.20	3.81	10.00	
1,355.0	23.52	265.00	1,330.6	168.1	-88.3	-148.6	4.72	4.63	2.49	
1,398.0	25.53	263.79	1,369.7	185.6	-90.0	-166.4	4.82	4.67	-2.81	
1,441.0	27.38	263.97	1,408.2	204.4	-92.1	-185.4	4.31	4.30	0.42	
1,484.0	29.18	264.50	1,446.1	224.3	-94.1	-205.7	4.23	4.19	1.23	
1,526.0	30.23	263.93	1,482.6	244.7	-96.2	-226.4	2.59	2.50	-1.36	
1,569.0	30.45	263.88	1,519.7	266.0	-98.5	-248.0	0.51	0.51	-0.12	
1,612.0	30.85	262.74	1,556.7	287.6	-101.1	-269.7	1.64	0.93	-2.65	
1,654.0	31.33	262.48	1,592.7	309.0	-103.9	-291.3	1.19	1.14	-0.62	
1,697.0	31.55	262.08	1,629.3	331.1	-106.9	-313.5	0.71	0.51	-0.93	
1,740.0	31.70	261.66	1,666.0	353.3	-110.1	-335.8	0.62	0.35	-0.98	

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1,755.0	31.82	261.07	1,678.7	361.1	-111.3	-343.6	2.22	0.80	-3.93	
Last PZD Surface Survey										
1,793.0	31.82	261.07	1,711.0	381.0	-114.4	-363.4	0.00	0.00	0.00	
Casing Shoe Set										
1,828.0	32.39	259.71	1,740.6	399.4	-117.5	-381.7	2.63	1.63	-3.89	
1,913.0	30.72	262.17	1,813.1	443.4	-124.5	-425.7	2.48	-1.96	2.89	
1,999.0	30.15	262.92	1,887.2	486.3	-130.2	-468.8	0.80	-0.66	0.87	
2,084.0	30.32	263.09	1,960.7	528.5	-135.4	-511.3	0.22	0.20	0.20	
2,169.0	31.25	263.05	2,033.7	571.3	-140.6	-554.5	1.09	1.09	-0.05	
2,255.0	31.99	263.53	2,106.9	615.6	-145.9	-599.3	0.91	0.86	0.56	
2,340.0	31.12	263.29	2,179.3	659.3	-151.0	-643.5	1.03	-1.02	-0.28	
2,425.0	31.42	263.05	2,252.0	702.7	-156.2	-687.3	0.38	0.35	-0.28	
2,511.0	31.03	262.21	2,325.5	746.6	-162.0	-731.5	0.68	-0.45	-0.98	
2,596.0	30.89	261.68	2,398.4	789.8	-168.1	-774.8	0.36	-0.16	-0.62	
2,681.0	30.54	262.04	2,471.5	832.6	-174.2	-817.8	0.47	-0.41	0.42	
2,767.0	30.81	263.62	2,545.5	875.8	-179.7	-861.3	0.99	0.31	1.84	
2,852.0	30.01	263.35	2,618.8	918.1	-184.6	-904.1	0.95	-0.94	-0.32	
2,938.0	30.76	263.62	2,693.0	960.8	-189.5	-947.3	0.89	0.87	0.31	
3,023.0	30.12	263.68	2,766.3	1,003.1	-194.3	-990.1	0.75	-0.75	0.07	
3,108.0	31.07	263.53	2,839.4	1,045.6	-199.1	-1,033.1	1.12	1.12	-0.18	
3,194.0	30.50	263.40	2,913.3	1,088.8	-204.1	-1,076.8	0.67	-0.66	-0.15	
3,279.0	29.58	263.22	2,986.9	1,130.7	-209.1	-1,119.1	1.09	-1.08	-0.21	
3,365.0	30.23	262.87	3,061.4	1,172.8	-214.3	-1,161.6	0.78	0.76	-0.41	
3,450.0	30.01	262.74	3,135.0	1,214.8	-219.6	-1,203.9	0.27	-0.26	-0.15	
3,536.0	29.27	262.43	3,209.7	1,256.7	-225.1	-1,246.1	0.88	-0.86	-0.36	
3,621.0	30.19	262.96	3,283.5	1,298.3	-230.4	-1,287.9	1.13	1.08	0.62	
3,706.0	29.75	263.13	3,357.1	1,340.0	-235.6	-1,330.1	0.53	-0.52	0.20	

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3,792.0	29.35	262.89	3,432.0	1,381.8	-240.8	-1,372.2	0.49	-0.47	-0.28
3,877.0	29.75	262.78	3,505.9	1,423.0	-246.0	-1,413.8	0.47	0.47	-0.13
3,962.0	29.36	261.64	3,579.8	1,464.4	-251.7	-1,455.3	0.81	-0.46	-1.34
4,048.0	28.73	261.23	3,655.0	1,505.7	-257.9	-1,496.6	0.77	-0.73	-0.48
4,133.0	27.03	260.28	3,730.2	1,545.0	-264.3	-1,535.8	2.07	-2.00	-1.12
4,219.0	26.10	262.61	3,807.1	1,583.0	-270.0	-1,573.8	1.62	-1.08	2.71
4,304.0	25.14	261.51	3,883.7	1,619.3	-275.1	-1,610.2	1.26	-1.13	-1.29
4,390.0	23.95	261.33	3,961.9	1,654.6	-280.4	-1,645.6	1.39	-1.38	-0.21
4,476.0	22.46	259.79	4,041.0	1,688.2	-285.9	-1,679.0	1.87	-1.73	-1.79
4,561.0	20.13	262.30	4,120.2	1,718.7	-290.8	-1,709.5	2.94	-2.74	2.95
4,646.0	16.74	263.49	4,200.8	1,745.2	-294.1	-1,736.1	4.01	-3.99	1.40
4,731.0	14.02	263.88	4,282.8	1,767.3	-296.6	-1,758.5	3.20	-3.20	0.46
4,817.0	11.34	261.64	4,366.7	1,785.9	-298.9	-1,777.3	3.17	-3.12	-2.60
4,902.0	8.70	263.97	4,450.4	1,800.4	-300.8	-1,791.9	3.14	-3.11	2.74
4,987.0	6.15	269.68	4,534.6	1,811.1	-301.5	-1,802.9	3.12	-3.00	6.72
5,073.0	3.74	282.60	4,620.3	1,817.9	-300.9	-1,810.2	3.07	-2.80	15.02
5,158.0	1.05	314.77	4,705.2	1,820.7	-299.8	-1,813.5	3.42	-3.16	37.85
5,177.0	0.98	315.46	4,724.3	1,820.9	-299.6	-1,813.7	0.36	-0.35	3.62
Monument Ridge B 34B-08-07-95 TGT									
5,244.0	0.75	318.86	4,791.2	1,821.3	-298.8	-1,814.4	0.36	-0.35	5.08
5,329.0	0.70	299.30	4,876.2	1,821.9	-298.1	-1,815.2	0.30	-0.06	-23.01
5,415.0	0.44	272.80	4,962.2	1,822.5	-297.9	-1,816.0	0.42	-0.30	-30.81
5,500.0	0.62	277.15	5,047.2	1,823.3	-297.8	-1,816.8	0.22	0.21	5.12
5,585.0	0.62	243.18	5,132.2	1,824.1	-297.9	-1,817.7	0.43	0.00	-39.96
5,671.0	0.62	246.13	5,218.2	1,825.1	-298.3	-1,818.5	0.04	0.00	3.43
5,756.0	1.23	241.07	5,303.2	1,826.4	-299.0	-1,819.7	0.72	0.72	-5.95
5,841.0	0.18	21.92	5,388.2	1,827.2	-299.3	-1,820.5	1.62	-1.24	165.71

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5,927.0	2.24	36.11	5,474.2	1,825.8	-297.8	-1,819.4	2.40	2.40	16.50	
6,012.0	1.67	32.42	5,559.1	1,823.5	-295.4	-1,817.8	0.69	-0.67	-4.34	
6,098.0	0.92	30.53	5,645.1	1,822.0	-293.8	-1,816.8	0.87	-0.87	-2.20	
6,183.0	0.97	14.27	5,730.1	1,821.2	-292.5	-1,816.2	0.32	0.06	-19.13	
6,269.0	0.92	355.86	5,816.1	1,820.6	-291.1	-1,816.1	0.36	-0.06	-21.41	
6,354.0	0.70	337.14	5,901.0	1,820.5	-289.9	-1,816.4	0.40	-0.26	-22.02	
6,439.0	0.48	332.00	5,986.0	1,820.6	-289.1	-1,816.7	0.27	-0.26	-6.05	
6,525.0	0.62	294.25	6,072.0	1,821.1	-288.6	-1,817.3	0.44	0.16	-43.90	
6,610.0	0.44	267.84	6,157.0	1,821.7	-288.4	-1,818.1	0.35	-0.21	-31.07	
6,695.0	1.01	256.85	6,242.0	1,822.8	-288.6	-1,819.1	0.69	0.67	-12.93	
6,781.0	1.27	256.46	6,328.0	1,824.5	-289.0	-1,820.8	0.30	0.30	-0.45	
6,866.0	2.01	257.73	6,413.0	1,826.9	-289.6	-1,823.2	0.87	0.87	1.49	
6,952.0	2.68	248.94	6,498.9	1,830.4	-290.6	-1,826.5	0.88	0.78	-10.22	
7,037.0	2.53	249.28	6,583.8	1,834.3	-292.0	-1,830.1	0.18	-0.18	0.40	
7,122.0	2.29	247.58	6,668.7	1,837.8	-293.3	-1,833.4	0.29	-0.28	-2.00	
7,208.0	2.86	242.57	6,754.7	1,841.7	-294.9	-1,836.9	0.71	0.66	-5.83	
7,293.0	2.86	232.90	6,839.5	1,845.7	-297.2	-1,840.5	0.57	0.00	-11.38	
7,355.0	2.59	235.45	6,901.5	1,848.5	-298.9	-1,842.9	0.48	-0.44	4.11	
7,410.0	2.59	235.45	6,956.4	1,850.9	-300.3	-1,844.9	0.00	0.00	0.00	

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
599.0	599.0	-1.6	-3.3	Magnetic Influence
1,755.0	1,678.7	-111.3	-343.6	Last PZD Surface Survey
1,793.0	1,711.0	-114.4	-363.4	Casing Shoe Set

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 34B-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 34B-08-07-95 @ 5718.8usft (PLAN
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 34B-08-07-95 @ 5718.8usft (PLAN
Well:	Monument Ridge B 34B-08-07-95	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	MasterDB

Checked By: _____
 Approved By: _____
 Date: _____



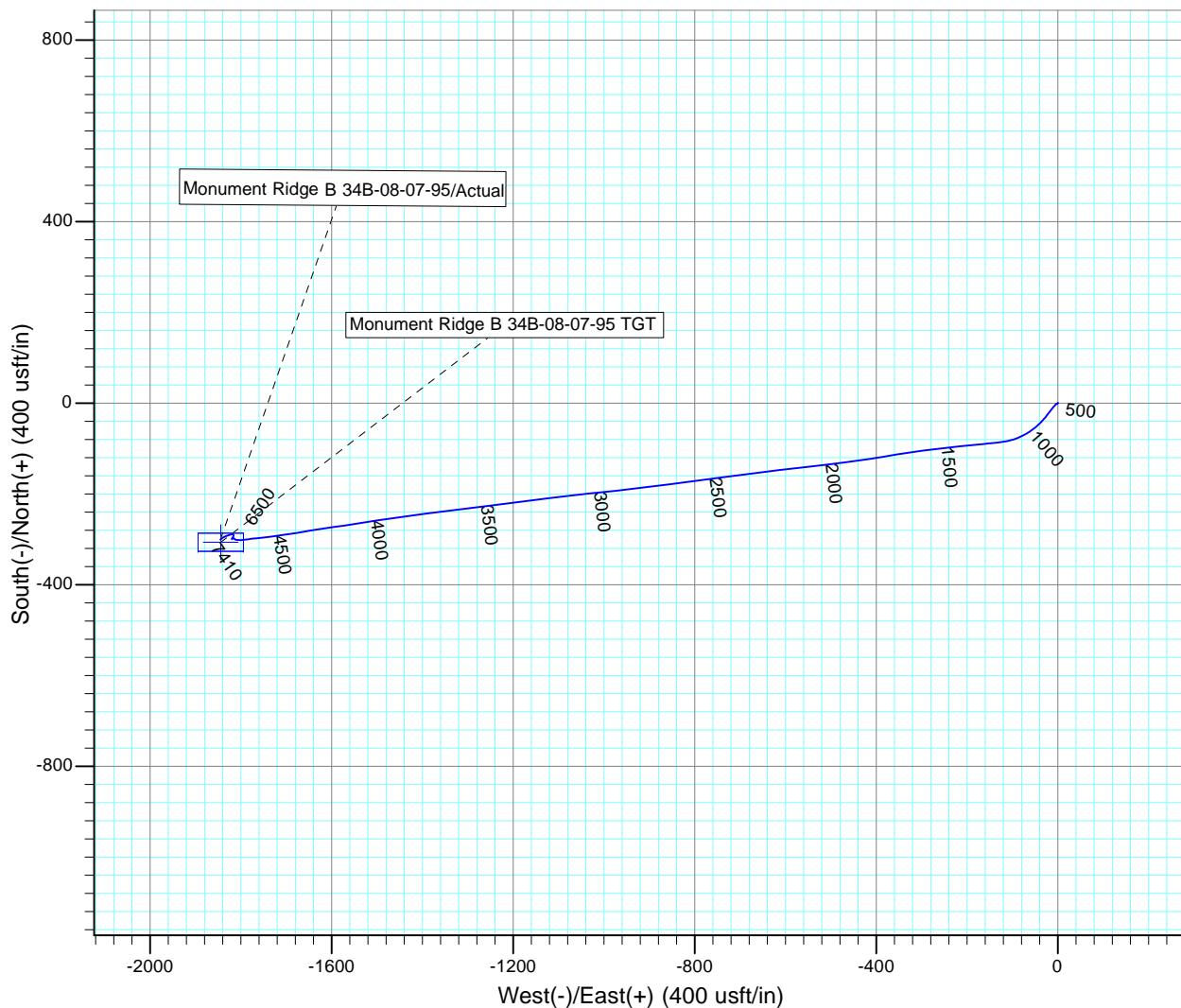
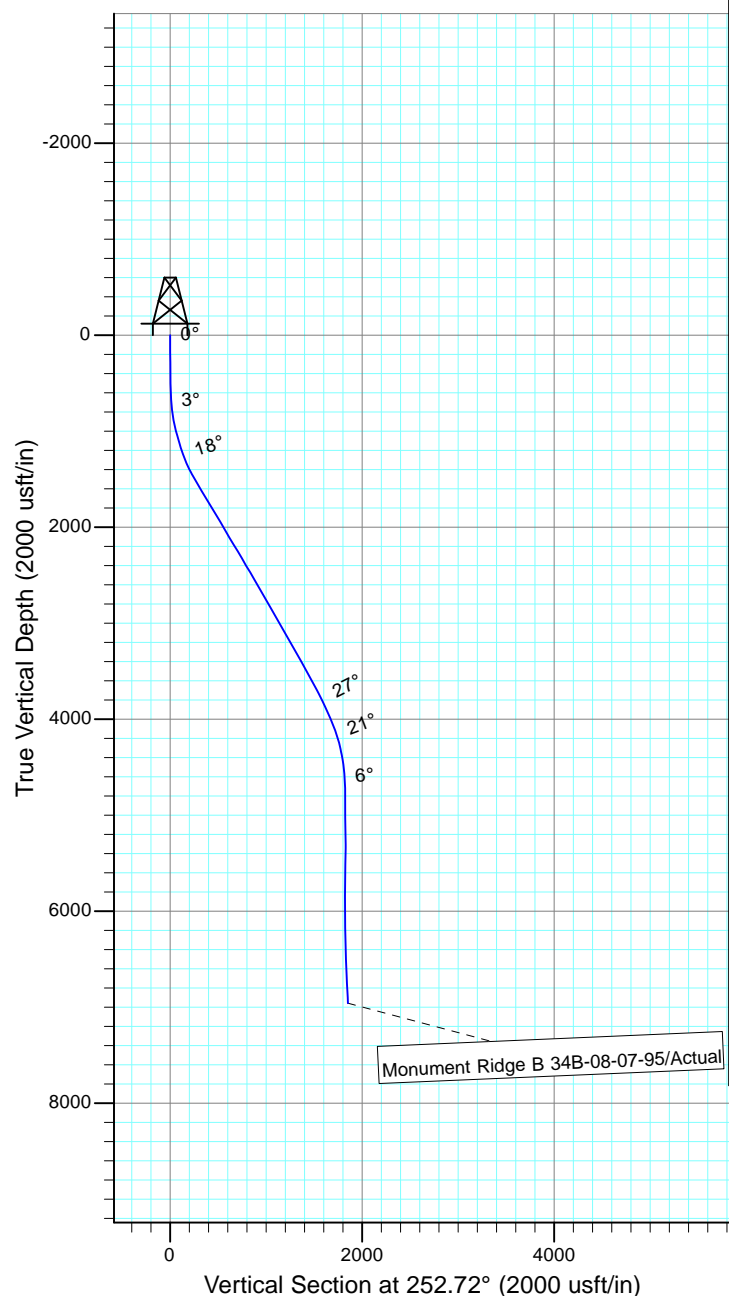
Project: Rockies Region
 Site: Monument Ridge B
 Well: Monument Ridge B 34B-08-07-95
 Wellbore: Wellbore #1
 SURVEY: Actual

FINAL SURVEY REPORT



Azimuths to True North
 Magnetic North: 9.79°

Magnetic Field
 Strength: 51600.4snT
 Dip Angle: 65.56°
 Date: 8/1/2016
 Model: IGRF2015



Design: Actual (Monument Ridge B 34B-08-07-95/Wellbore #1)

Created By: Sarah Webb-Hudson Date: 18:31, October 27 2016
 THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND IS
 SUPPORTED BY ACTUAL FIELD DATA.