



Ursa Operating Company, LLC

Rockies Region

Monument Ridge B

Monument Ridge B 34D-08-07-95

Wellbore #1

Design: Actual

End of Well Report

18 November, 2016



Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 34D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN)
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN)
Well:	Monument Ridge B 34D-08-07-95	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		Using geodetic scale factor

Site	Monument Ridge B		
Site Position:		Northing:	1,596,716.56 usft
From:	Lat/Long	Easting:	2,287,433.43 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.444583700
		Longitude:	-108.023518100
		Grid Convergence:	-1.59 °

Well	Monument Ridge B 34D-08-07-95, SHL: 39.447613266 -108.012276374		
Well Position	+N/-S	0.0 usft	Northing: 1,597,731.63 usft
	+E/-W	0.0 usft	Easting: 2,290,637.46 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: 5,718.8 usft
			Latitude: 39.447613266
			Longitude: -108.012276374
			Ground Level: 5,701.8 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	11/18/2016	9.76
			Dip Angle (°)
			65.55
			Field Strength (nT)
			51,567

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)
	0.0	0.0	0.0
			Direction (°)
			243.28

Survey Program	Date 11/18/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
110.0	7,485.0	Surface (Wellbore #1)	MWD
			Description
			MWD - Standard

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 34D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN
Well:	Monument Ridge B 34D-08-07-95	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	
110.0	1.20	350.06	110.0	-0.3	1.1	-0.2	1.09	1.09	0.00	
141.0	0.83	359.20	141.0	-0.5	1.7	-0.3	1.30	-1.19	29.48	
171.0	0.70	2.50	171.0	-0.7	2.1	-0.3	0.46	-0.43	11.00	
201.0	0.40	263.22	201.0	-0.7	2.2	-0.3	2.87	-1.00	-330.93	
230.0	1.23	232.77	230.0	-0.3	2.0	-0.7	3.13	2.86	-105.00	
260.0	1.19	238.88	260.0	0.3	1.7	-1.2	0.45	-0.13	20.37	
291.0	1.41	242.79	291.0	1.0	1.4	-1.8	0.76	0.71	12.61	
322.0	1.54	228.64	322.0	1.8	0.9	-2.5	1.24	0.42	-45.65	
352.0	1.32	201.26	351.9	2.5	0.3	-2.9	2.37	-0.73	-91.27	
383.0	1.27	177.62	382.9	2.9	-0.4	-3.0	1.72	-0.16	-76.26	
413.0	1.36	170.59	412.9	3.1	-1.0	-3.0	0.62	0.30	-23.43	
444.0	1.45	168.12	443.9	3.3	-1.8	-2.8	0.35	0.29	-7.97	
474.0	1.35	166.90	473.9	3.5	-2.5	-2.7	0.35	-0.33	-4.07	
505.0	0.66	173.57	504.9	3.7	-3.0	-2.6	2.25	-2.23	21.52	
535.0	0.44	170.23	534.9	3.7	-3.3	-2.5	0.74	-0.73	-11.13	
566.0	0.26	176.87	565.9	3.8	-3.5	-2.5	0.59	-0.58	21.42	
597.0	0.30	240.00	596.9	3.9	-3.6	-2.6	0.95	0.13	203.65	
627.0	0.66	265.86	626.9	4.2	-3.7	-2.8	1.37	1.20	86.20	
658.0	1.42	256.82	657.9	4.7	-3.8	-3.4	2.50	2.45	-29.16	
688.0	2.30	249.34	687.9	5.7	-4.1	-4.3	3.04	2.93	-24.93	
718.0	2.81	241.43	717.9	7.0	-4.6	-5.5	2.06	1.70	-26.37	
749.0	3.30	240.90	748.8	8.6	-5.4	-6.9	1.58	1.58	-1.71	
779.0	4.11	241.71	778.7	10.6	-6.4	-8.6	2.71	2.70	2.70	
810.0	5.01	242.04	809.6	13.0	-7.5	-10.8	2.90	2.90	1.06	
840.0	6.06	241.87	839.5	15.9	-8.9	-13.4	3.50	3.50	-0.57	
883.0	7.78	240.50	882.2	21.1	-11.4	-17.9	4.02	4.00	-3.19	

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 34D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN
Well:	Monument Ridge B 34D-08-07-95	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)	
925.0	9.40	242.26	923.7	27.4	-14.4	-23.4	3.91	3.86	4.19	
968.0	10.81	246.66	966.1	34.9	-17.6	-30.2	3.74	3.28	10.23	
1,011.0	12.26	248.76	1,008.2	43.5	-20.9	-38.2	3.51	3.37	4.88	
1,054.0	13.71	247.36	1,050.1	53.1	-24.5	-47.1	3.45	3.37	-3.26	
1,096.0	15.12	246.00	1,090.8	63.5	-28.6	-56.7	3.45	3.36	-3.24	
1,139.0	16.90	243.63	1,132.1	75.4	-33.7	-67.5	4.41	4.14	-5.51	
1,182.0	18.78	242.34	1,173.0	88.6	-39.7	-79.2	4.47	4.37	-3.00	
1,225.0	20.21	244.24	1,213.6	102.9	-46.1	-92.0	3.64	3.33	4.42	
1,267.0	21.31	244.37	1,252.8	117.8	-52.6	-105.4	2.62	2.62	0.31	
1,310.0	22.59	243.58	1,292.7	133.9	-59.6	-119.9	3.05	2.98	-1.84	
1,353.0	23.95	243.05	1,332.2	150.9	-67.3	-135.0	3.20	3.16	-1.23	
1,395.0	25.62	242.79	1,370.3	168.5	-75.3	-150.7	3.98	3.98	-0.62	
1,438.0	26.67	244.11	1,408.9	187.4	-83.7	-167.7	2.79	2.44	3.07	
1,481.0	27.95	244.94	1,447.1	207.1	-92.2	-185.5	3.11	2.98	1.93	
1,524.0	29.71	245.16	1,484.8	227.9	-101.0	-204.3	4.10	4.09	0.51	
1,567.0	31.42	243.58	1,521.8	249.7	-110.4	-224.0	4.39	3.98	-3.67	
1,609.0	33.22	242.79	1,557.3	272.2	-120.6	-244.0	4.40	4.29	-1.88	
1,651.0	34.45	243.01	1,592.2	295.6	-131.2	-264.8	2.94	2.93	0.52	
1,694.0	34.33	242.29	1,627.7	319.8	-142.4	-286.4	0.99	-0.28	-1.67	
1,737.0	34.37	241.84	1,663.2	344.1	-153.7	-307.9	0.60	0.09	-1.05	
Last PZD Surface Survey										
1,829.0	35.37	242.66	1,738.7	396.7	-178.2	-354.4	1.20	1.09	0.89	
1,915.0	34.94	243.67	1,809.0	446.2	-200.6	-398.6	0.84	-0.50	1.17	
2,000.0	33.66	242.26	1,879.2	494.1	-222.3	-441.3	1.77	-1.51	-1.66	
2,086.0	33.90	243.96	1,950.7	541.9	-244.0	-483.9	1.13	0.28	1.98	
2,171.0	34.94	244.57	2,020.8	590.0	-264.8	-527.2	1.29	1.22	0.72	
2,256.0	34.45	244.19	2,090.7	638.3	-285.7	-570.8	0.63	-0.58	-0.45	

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 34D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN
Well:	Monument Ridge B 34D-08-07-95	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)	
2,342.0	34.98	244.50	2,161.4	687.3	-306.9	-615.0	0.65	0.62	0.36	
2,427.0	33.97	243.27	2,231.5	735.4	-328.1	-658.2	1.44	-1.19	-1.45	
2,513.0	34.94	243.27	2,302.4	784.1	-350.0	-701.6	1.13	1.13	0.00	
2,598.0	34.01	243.36	2,372.5	832.2	-371.6	-744.6	1.10	-1.09	0.11	
2,684.0	33.75	242.83	2,443.8	880.1	-393.3	-787.3	0.46	-0.30	-0.62	
2,769.0	33.21	243.06	2,514.7	927.0	-414.6	-829.1	0.65	-0.64	0.27	
2,854.0	33.49	243.97	2,585.7	973.7	-435.5	-870.9	0.67	0.33	1.07	
2,940.0	34.09	243.29	2,657.2	1,021.6	-456.7	-913.8	0.82	0.70	-0.79	
3,025.0	33.31	245.42	2,727.9	1,068.7	-477.1	-956.3	1.67	-0.92	2.51	
3,111.0	33.62	245.51	2,799.7	1,116.1	-496.8	-999.4	0.37	0.36	0.10	
3,196.0	33.31	243.80	2,870.6	1,162.9	-516.9	-1,041.8	1.17	-0.36	-2.01	
3,281.0	33.57	243.23	2,941.5	1,209.8	-537.8	-1,083.7	0.48	0.31	-0.67	
3,367.0	33.93	243.97	3,013.0	1,257.6	-559.0	-1,126.5	0.64	0.42	0.86	
3,452.0	34.23	243.40	3,083.4	1,305.2	-580.1	-1,169.2	0.52	0.35	-0.67	
3,537.0	33.49	243.18	3,154.0	1,352.5	-601.4	-1,211.5	0.88	-0.87	-0.26	
3,623.0	33.57	242.88	3,225.7	1,400.1	-623.0	-1,253.8	0.21	0.09	-0.35	
3,708.0	33.49	243.27	3,296.6	1,447.0	-644.2	-1,295.7	0.27	-0.09	0.46	
3,793.0	33.13	245.78	3,367.6	1,493.7	-664.3	-1,337.8	1.68	-0.42	2.95	
3,878.0	33.71	244.37	3,438.5	1,540.5	-684.0	-1,380.3	1.14	0.68	-1.66	
3,964.0	33.97	243.80	3,510.0	1,588.3	-705.0	-1,423.4	0.48	0.30	-0.66	
4,049.0	33.90	243.55	3,580.5	1,635.8	-726.0	-1,465.9	0.18	-0.08	-0.29	
4,135.0	32.70	242.17	3,652.4	1,683.0	-747.5	-1,507.9	1.65	-1.40	-1.60	
4,220.0	30.28	243.32	3,724.9	1,727.4	-767.9	-1,547.4	2.93	-2.85	1.35	
4,305.0	27.77	244.72	3,799.2	1,768.6	-786.0	-1,584.4	3.06	-2.95	1.65	
4,391.0	26.02	246.08	3,875.9	1,807.5	-802.2	-1,619.8	2.16	-2.03	1.58	
4,476.0	23.91	247.27	3,952.9	1,843.3	-816.4	-1,652.7	2.55	-2.48	1.40	
4,562.0	21.06	246.88	4,032.4	1,876.1	-829.2	-1,683.0	3.32	-3.31	-0.45	

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 34D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN
Well:	Monument Ridge B 34D-08-07-95	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)	
4,647.0	18.59	246.00	4,112.3	1,904.9	-840.7	-1,709.4	2.93	-2.91	-1.04	
4,733.0	16.92	242.70	4,194.2	1,931.1	-852.0	-1,733.1	2.27	-1.94	-3.84	
4,818.0	15.25	241.87	4,275.9	1,954.7	-863.0	-1,753.9	1.98	-1.96	-0.98	
4,903.0	13.10	240.55	4,358.3	1,975.5	-873.0	-1,772.2	2.56	-2.53	-1.55	
4,989.0	10.33	239.45	4,442.5	1,992.9	-881.7	-1,787.3	3.23	-3.22	-1.28	
5,074.0	7.42	240.04	4,526.5	2,006.0	-888.3	-1,798.6	3.43	-3.42	0.69	
5,159.0	5.10	235.54	4,611.0	2,015.2	-893.2	-1,806.5	2.79	-2.73	-5.29	
5,244.0	3.16	235.27	4,695.8	2,021.3	-896.6	-1,811.5	2.28	-2.28	-0.32	
5,265.1	2.69	239.66	4,716.8	2,022.3	-897.2	-1,812.5	2.45	-2.21	20.81	
Monument Ridge B 34D-08-07-95 TGT										
5,330.0	1.49	269.59	4,781.7	2,024.6	-898.0	-1,814.6	2.45	-1.86	46.13	
5,415.0	1.48	266.20	4,866.7	2,026.6	-898.1	-1,816.8	0.10	-0.01	-3.99	
5,501.0	1.12	259.73	4,952.6	2,028.4	-898.3	-1,818.8	0.45	-0.42	-7.52	
5,586.0	0.79	244.06	5,037.6	2,029.8	-898.7	-1,820.1	0.49	-0.39	-18.44	
5,671.0	0.97	212.73	5,122.6	2,031.0	-899.6	-1,821.0	0.60	0.21	-36.86	
5,757.0	0.94	226.33	5,208.6	2,032.3	-900.7	-1,821.9	0.27	-0.03	15.81	
5,842.0	0.53	302.25	5,293.6	2,033.2	-900.9	-1,822.8	1.13	-0.48	89.32	
5,927.0	0.66	354.50	5,378.6	2,033.2	-900.2	-1,823.1	0.63	0.15	61.47	
6,013.0	0.22	343.82	5,464.6	2,033.0	-899.6	-1,823.2	0.52	-0.51	-12.42	
6,098.0	0.48	294.95	5,549.6	2,033.2	-899.3	-1,823.6	0.44	0.31	-57.49	
6,183.0	0.97	241.38	5,634.6	2,034.1	-899.5	-1,824.5	0.93	0.58	-63.02	
6,268.0	0.18	282.47	5,719.6	2,035.0	-899.8	-1,825.3	0.99	-0.93	48.34	
6,354.0	0.22	358.01	5,805.6	2,035.0	-899.6	-1,825.4	0.29	0.05	87.84	
6,439.0	0.32	243.11	5,890.6	2,035.2	-899.5	-1,825.7	0.54	0.12	-135.18	
6,525.0	0.75	242.13	5,976.6	2,036.0	-899.9	-1,826.4	0.50	0.50	-1.14	
6,610.0	0.97	213.65	6,061.6	2,037.2	-900.8	-1,827.3	0.56	0.26	-33.51	
6,696.0	0.53	122.77	6,147.6	2,037.6	-901.6	-1,827.3	1.29	-0.51	-105.67	

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 34D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 34D-08-07-95 @ 5718.8usft (PLAN
Well:	Monument Ridge B 34D-08-07-95	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)	
6,781.0	0.44	127.95	6,232.5	2,037.3	-902.0	-1,826.7	0.12	-0.11	6.09	
6,866.0	0.22	94.30	6,317.5	2,037.0	-902.2	-1,826.3	0.33	-0.26	-39.59	
6,952.0	0.57	185.35	6,403.5	2,037.1	-902.7	-1,826.2	0.71	0.41	105.87	
7,037.0	1.45	204.34	6,488.5	2,038.1	-904.1	-1,826.7	1.09	1.04	22.34	
7,122.0	1.71	245.16	6,573.5	2,040.2	-905.6	-1,828.3	1.33	0.31	48.02	
7,208.0	4.44	246.26	6,659.4	2,044.8	-907.5	-1,832.5	3.18	3.17	1.28	
7,293.0	5.01	240.90	6,744.1	2,051.8	-910.6	-1,838.7	0.85	0.67	-6.31	
7,378.0	4.61	238.09	6,828.8	2,058.9	-914.2	-1,844.9	0.55	-0.47	-3.31	
7,430.0	3.96	235.41	6,880.6	2,062.8	-916.3	-1,848.1	1.31	-1.25	-5.15	
Last PZD Survey										
7,485.0	3.96	235.41	6,935.5	2,066.6	-918.5	-1,851.3	0.00	0.00	0.00	
Straightline Projection to TD										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,737.0	1,663.2	-153.7	-307.9	Last PZD Surface Survey
7,430.0	6,880.6	-916.3	-1,848.1	Last PZD Survey
7,485.0	6,935.5	-918.5	-1,851.3	Straightline Projection to TD

Checked By: _____ Approved By: _____ Date: _____

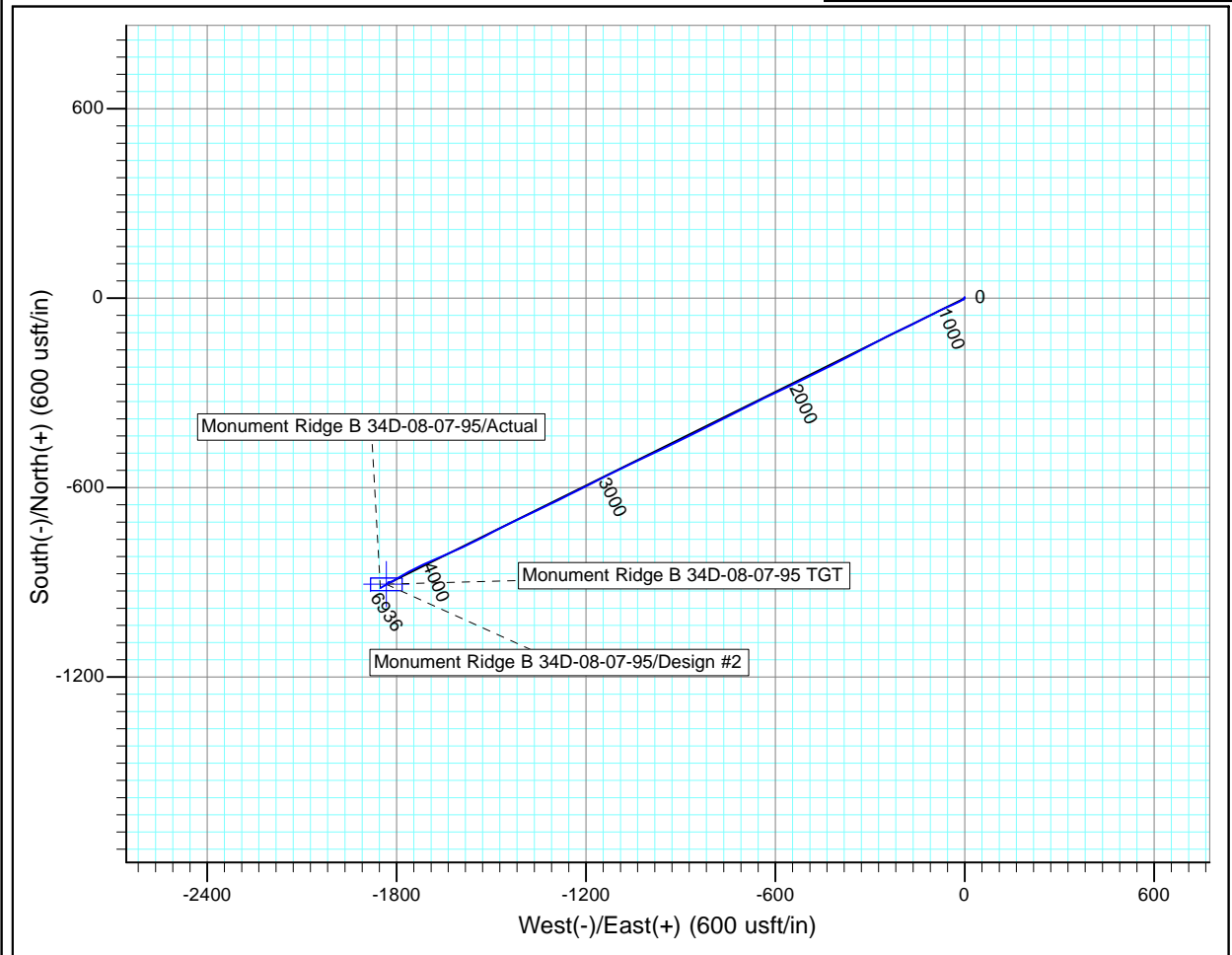
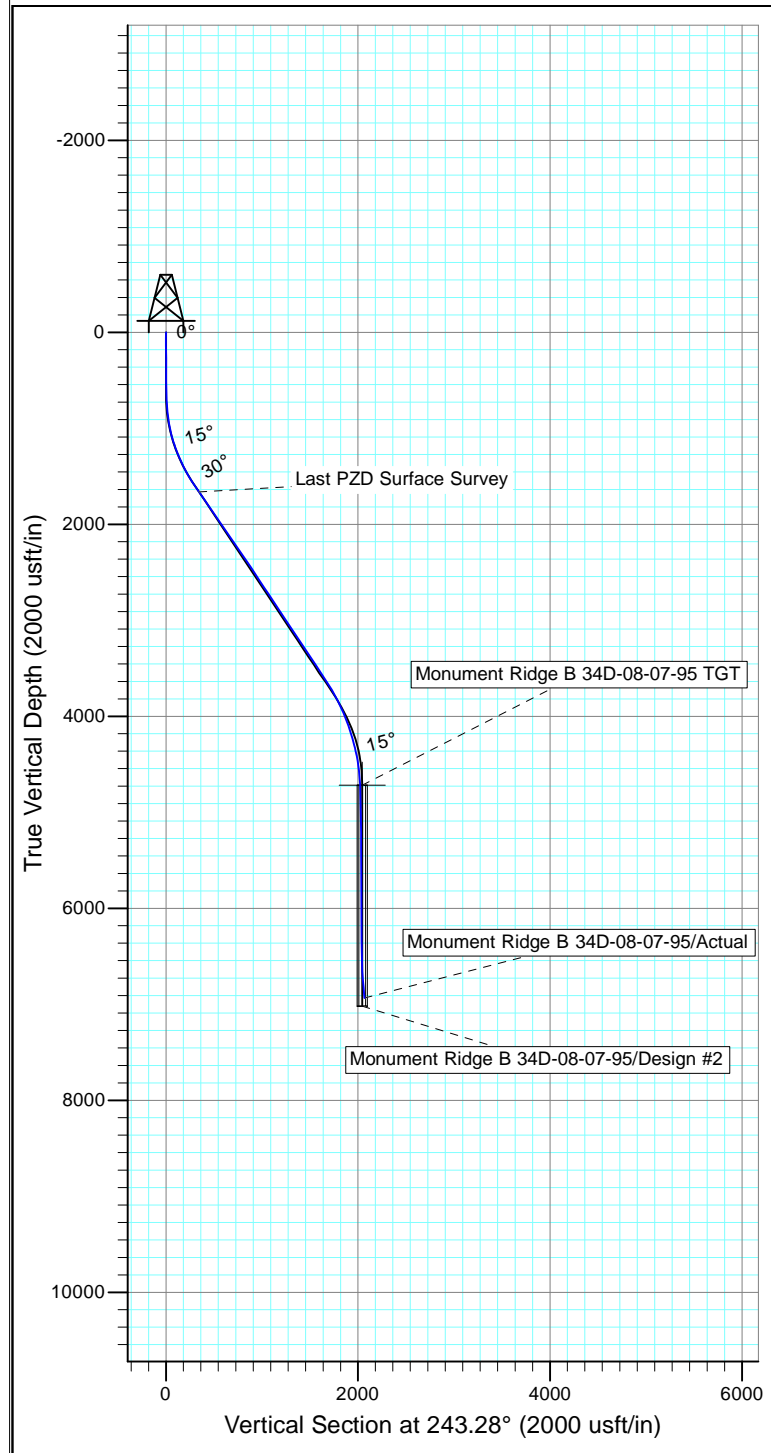


Project: Rockies Region
 Site: Monument Ridge B
 Well: Monument Ridge B 34D-08-07-95
 Wellbore: Wellbore #1
 Design: Actual



Azimuths to True North
 Magnetic North: 9.76°

Magnetic Field
 Strength: 51567.2snT
 Dip Angle: 65.55°
 Date: 11/18/2016
 Model: IGRF2015



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

Created By: Derek Stephens Date: 3:22, November 18 2016

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