



Ursa Operating Company, LLC

Rockies Region

Monument Ridge B

Monument Ridge B 32D-08-07-95

Wellbore #1

Design: Production

End of Well Report

16 December, 2015



Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 32D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Well:	Monument Ridge B 32D-08-07-95	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Production	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	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° 26' 40.501 N
		Longitude:	108° 1' 24.665 W
		Grid Convergence:	-1.59 °

Well	Monument Ridge B 32D-08-07-95, SHL: 39.447873959 -108.012356034		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	5,718.8 usft
		Latitude:	39° 26' 52.346 N
		Longitude:	108° 0' 44.482 W
		Ground Level:	5,701.8 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/17/2015	9.78	65.57	51,778

Design	Production			
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	311.70

Survey Program	Date	12/16/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
86.0	7,680.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 32D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Well:	Monument Ridge B 32D-08-07-95	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Production	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	
86.0	0.13	1.83	86.0	0.1	0.1	0.0	0.15	0.15	0.00	
115.0	0.31	52.93	115.0	0.1	0.2	0.1	0.86	0.62	176.21	
146.0	0.44	63.09	146.0	0.0	0.3	0.2	0.47	0.42	32.77	
176.0	0.70	75.17	176.0	-0.1	0.4	0.5	0.95	0.87	40.27	
206.0	0.97	78.16	206.0	-0.4	0.5	0.9	0.91	0.90	9.97	
235.0	1.05	76.18	235.0	-0.7	0.6	1.4	0.30	0.28	-6.83	
266.0	0.75	56.93	266.0	-0.9	0.8	1.9	1.36	-0.97	-62.10	
297.0	0.62	31.75	297.0	-0.9	1.0	2.1	1.05	-0.42	-81.23	
327.0	0.66	345.17	327.0	-0.7	1.3	2.2	1.69	0.13	-155.27	
358.0	1.23	323.99	358.0	-0.3	1.8	1.9	2.13	1.84	-68.32	
389.0	2.44	310.36	389.0	0.7	2.5	1.2	4.12	3.90	-43.97	
419.0	3.65	307.51	418.9	2.3	3.5	0.0	4.06	4.03	-9.50	
449.0	5.14	311.16	448.8	4.6	4.9	-1.8	5.05	4.97	12.17	
480.0	6.55	310.76	479.7	7.8	7.0	-4.1	4.55	4.55	-1.29	
511.0	7.73	311.16	510.4	11.6	9.5	-7.1	3.81	3.81	1.29	
541.0	8.75	312.83	540.1	15.9	12.4	-10.3	3.49	3.40	5.57	
572.0	9.71	313.40	570.7	20.9	15.8	-13.9	3.11	3.10	1.84	
603.0	10.72	314.23	601.2	26.4	19.6	-17.8	3.29	3.26	2.68	
633.0	11.78	312.26	630.6	32.2	23.6	-22.1	3.76	3.53	-6.57	
664.0	12.92	313.05	660.9	38.8	28.1	-27.0	3.72	3.68	2.55	
695.0	14.28	310.94	691.1	46.1	33.0	-32.4	4.67	4.39	-6.81	
725.0	15.34	310.85	720.1	53.8	38.0	-38.2	3.53	3.53	-0.30	
755.0	16.35	311.03	748.9	62.0	43.4	-44.4	3.37	3.37	0.60	
785.0	17.40	311.64	777.6	70.7	49.1	-50.9	3.55	3.50	2.03	
816.0	18.50	310.94	807.1	80.3	55.4	-58.1	3.62	3.55	-2.26	
847.0	19.78	310.72	836.4	90.4	62.1	-65.8	4.14	4.13	-0.71	

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 32D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Well:	Monument Ridge B 32D-08-07-95	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Production	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)	
890.0	21.40	311.38	876.7	105.5	72.0	-77.2	3.81	3.77	1.53	
933.0	23.12	311.20	916.5	121.8	82.8	-89.4	4.00	4.00	-0.42	
975.0	24.57	311.33	954.9	138.8	93.9	-102.2	3.45	3.45	0.31	
1,018.0	25.97	311.82	993.7	157.2	106.1	-115.9	3.29	3.26	1.14	
1,061.0	27.38	312.39	1,032.2	176.5	119.1	-130.3	3.33	3.28	1.33	
1,103.0	28.96	312.52	1,069.2	196.3	132.5	-144.9	3.76	3.76	0.31	
1,146.0	29.97	312.78	1,106.6	217.4	146.8	-160.4	2.37	2.35	0.60	
1,189.0	30.91	312.75	1,143.7	239.2	161.6	-176.4	2.19	2.19	-0.07	
1,232.0	31.11	312.52	1,180.6	261.4	176.6	-192.7	0.54	0.47	-0.53	
1,274.0	31.73	312.83	1,216.4	283.3	191.4	-208.8	1.53	1.48	0.74	
1,317.0	32.30	313.31	1,252.9	306.0	207.0	-225.5	1.45	1.33	1.12	
1,360.0	32.83	313.40	1,289.1	329.2	222.9	-242.3	1.24	1.23	0.21	
1,402.0	33.22	312.87	1,324.3	352.1	238.5	-259.0	1.16	0.93	-1.26	
1,445.0	33.66	312.96	1,360.2	375.8	254.7	-276.4	1.03	1.02	0.21	
1,488.0	34.23	312.26	1,395.9	399.8	270.9	-294.0	1.61	1.33	-1.63	
1,530.0	34.40	312.66	1,430.6	423.4	286.9	-311.5	0.67	0.40	0.95	
1,573.0	34.94	312.26	1,465.9	447.9	303.4	-329.5	1.36	1.26	-0.93	
1,616.0	35.29	312.83	1,501.1	472.6	320.1	-347.8	1.12	0.81	1.33	
1,658.0	35.60	312.39	1,535.3	497.0	336.6	-365.7	0.96	0.74	-1.05	
1,701.0	36.17	312.08	1,570.2	522.2	353.6	-384.4	1.39	1.33	-0.72	
1,744.0	36.43	310.45	1,604.8	547.6	370.4	-403.5	2.32	0.60	-3.79	
1,786.0	37.09	308.92	1,638.5	572.8	386.4	-422.8	2.69	1.57	-3.64	
1,825.0	37.88	308.78	1,669.4	596.5	401.3	-441.3	2.04	2.03	-0.36	
1,891.0	38.54	308.78	1,721.3	637.2	426.9	-473.1	1.00	1.00	0.00	
1,977.0	37.40	311.60	1,789.1	690.1	461.0	-513.6	2.41	-1.33	3.28	
2,062.0	36.51	311.63	1,857.0	741.2	494.9	-551.8	1.05	-1.05	0.04	
2,148.0	36.01	311.52	1,926.3	792.1	528.7	-589.8	0.59	-0.58	-0.13	

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 32D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Well:	Monument Ridge B 32D-08-07-95	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Production	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)	
2,233.0	34.91	310.59	1,995.6	841.4	561.1	-627.0	1.44	-1.29	-1.09	
2,318.0	35.62	312.98	2,065.0	890.5	593.8	-663.6	1.83	0.84	2.81	
2,404.0	36.69	312.91	2,134.4	941.2	628.3	-700.7	1.25	1.24	-0.08	
2,489.0	35.65	312.78	2,203.0	991.3	662.5	-737.5	1.23	-1.22	-0.15	
2,575.0	35.21	312.14	2,273.1	1,041.2	696.1	-774.3	0.67	-0.51	-0.74	
2,660.0	35.86	313.05	2,342.3	1,090.6	729.5	-810.6	0.99	0.76	1.07	
2,746.0	36.74	313.00	2,411.6	1,141.5	764.3	-847.9	1.02	1.02	-0.06	
2,831.0	35.60	312.04	2,480.2	1,191.6	798.2	-884.8	1.50	-1.34	-1.13	
2,917.0	36.08	312.39	2,549.9	1,242.0	832.0	-922.1	0.61	0.56	0.41	
3,002.0	37.13	312.17	2,618.1	1,292.7	866.1	-959.6	1.24	1.24	-0.26	
3,087.0	35.73	311.51	2,686.5	1,343.1	899.8	-997.2	1.71	-1.65	-0.78	
3,173.0	36.43	310.10	2,756.0	1,393.8	932.9	-1,035.6	1.26	0.81	-1.64	
3,258.0	35.11	309.31	2,825.0	1,443.4	964.6	-1,073.8	1.65	-1.55	-0.93	
3,344.0	35.33	309.88	2,895.3	1,493.0	996.2	-1,112.0	0.46	0.26	0.66	
3,429.0	36.39	311.55	2,964.2	1,542.8	1,028.7	-1,149.7	1.70	1.25	1.96	
3,514.0	36.87	311.77	3,032.4	1,593.5	1,062.4	-1,187.6	0.59	0.56	0.26	
3,600.0	36.12	311.68	3,101.5	1,644.6	1,096.5	-1,225.8	0.87	-0.87	-0.10	
3,685.0	35.29	311.90	3,170.5	1,694.2	1,129.5	-1,262.8	0.99	-0.98	0.26	
3,771.0	35.95	312.26	3,240.4	1,744.3	1,163.1	-1,300.0	0.81	0.77	0.42	
3,856.0	37.31	312.91	3,308.6	1,795.0	1,197.4	-1,337.3	1.66	1.60	0.76	
3,941.0	36.39	312.12	3,376.7	1,846.0	1,231.9	-1,374.9	1.22	-1.08	-0.93	
4,027.0	35.82	311.68	3,446.1	1,896.7	1,265.7	-1,412.6	0.73	-0.66	-0.51	
4,112.0	34.38	308.85	3,515.7	1,945.5	1,297.3	-1,449.9	2.56	-1.69	-3.33	
4,198.0	34.01	310.54	3,586.8	1,993.8	1,328.2	-1,487.0	1.19	-0.43	1.97	
4,283.0	33.05	310.89	3,657.7	2,040.8	1,358.8	-1,522.6	1.15	-1.13	0.41	
4,368.0	31.25	310.85	3,729.6	2,086.0	1,388.4	-1,556.8	2.12	-2.12	-0.05	
4,454.0	30.06	309.57	3,803.6	2,129.8	1,416.7	-1,590.3	1.58	-1.38	-1.49	

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 32D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Well:	Monument Ridge B 32D-08-07-95	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Production	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)	
4,540.0	30.32	312.17	3,878.0	2,173.1	1,445.0	-1,623.0	1.55	0.30	3.02	
4,625.0	28.83	311.29	3,951.9	2,215.0	1,472.9	-1,654.3	1.83	-1.75	-1.04	
4,710.0	28.04	310.76	4,026.6	2,255.5	1,499.5	-1,684.8	0.98	-0.93	-0.62	
4,796.0	24.30	311.64	4,103.8	2,293.4	1,524.5	-1,713.4	4.37	-4.35	1.02	
4,881.0	21.40	311.11	4,182.1	2,326.4	1,546.3	-1,738.1	3.42	-3.41	-0.62	
4,966.0	18.54	311.29	4,262.0	2,355.4	1,565.4	-1,760.0	3.37	-3.36	0.21	
5,051.0	15.42	310.89	4,343.3	2,380.3	1,581.7	-1,778.7	3.67	-3.67	-0.47	
5,137.0	12.08	314.28	4,426.8	2,400.7	1,595.5	-1,793.8	3.99	-3.88	3.94	
5,222.0	9.27	317.15	4,510.3	2,416.4	1,606.7	-1,804.8	3.36	-3.31	3.38	
5,308.0	6.94	325.31	4,595.5	2,428.3	1,616.1	-1,812.5	3.02	-2.71	9.49	
5,393.0	4.35	331.55	4,680.1	2,436.4	1,623.1	-1,816.9	3.13	-3.05	7.34	
5,479.0	2.46	351.10	4,765.9	2,440.8	1,627.8	-1,818.8	2.55	-2.20	22.73	
5,564.0	1.93	343.85	4,850.8	2,443.5	1,631.0	-1,819.5	0.70	-0.62	-8.53	
5,649.0	1.67	336.38	4,935.8	2,445.8	1,633.5	-1,820.3	0.41	-0.31	-8.79	
5,735.0	1.27	331.15	5,021.8	2,447.8	1,635.5	-1,821.3	0.49	-0.47	-6.08	
5,820.0	1.05	339.99	5,106.7	2,449.4	1,637.1	-1,822.0	0.33	-0.26	10.40	
5,906.0	1.23	333.26	5,192.7	2,451.0	1,638.6	-1,822.7	0.26	0.21	-7.83	
5,991.0	0.79	326.05	5,277.7	2,452.4	1,639.9	-1,823.5	0.54	-0.52	-8.48	
6,076.0	0.23	330.95	5,362.7	2,453.1	1,640.6	-1,823.9	0.66	-0.66	5.76	
6,162.0	0.22	127.07	5,448.7	2,453.1	1,640.6	-1,823.8	0.51	-0.01	181.53	
6,247.0	0.88	127.95	5,533.7	2,452.3	1,640.1	-1,823.2	0.78	0.78	1.04	
6,333.0	0.75	0.95	5,619.7	2,452.0	1,640.3	-1,822.6	1.70	-0.15	-147.67	
6,418.0	0.57	350.31	5,704.7	2,452.7	1,641.2	-1,822.7	0.26	-0.21	-12.52	
6,503.0	0.54	279.64	5,789.7	2,453.4	1,641.7	-1,823.2	0.76	-0.04	-83.14	
6,589.0	0.57	253.98	5,875.7	2,453.9	1,641.7	-1,824.0	0.29	0.03	-29.84	
6,674.0	0.66	243.22	5,960.7	2,454.4	1,641.3	-1,824.8	0.17	0.11	-12.66	
6,760.0	0.64	250.46	6,046.7	2,454.8	1,641.0	-1,825.7	0.10	-0.02	8.42	

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Monument Ridge B 32D-08-07-95
Project:	Rockies Region	TVD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Site:	Monument Ridge B	MD Reference:	Monument Ridge B 32D-08-07-95 @ 5718.8usft (Capst:
Well:	Monument Ridge B 32D-08-07-95	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Production	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)	
6,845.0	0.88	237.37	6,131.7	2,455.2	1,640.4	-1,826.7	0.35	0.28	-15.40	
6,931.0	0.79	255.04	6,217.7	2,455.7	1,639.9	-1,827.8	0.32	-0.10	20.55	
7,016.0	0.88	268.71	6,302.7	2,456.5	1,639.8	-1,829.1	0.26	0.11	16.08	
7,101.0	0.75	255.61	6,387.6	2,457.3	1,639.6	-1,830.3	0.27	-0.15	-15.41	
7,187.0	0.26	198.96	6,473.6	2,457.5	1,639.3	-1,830.9	0.75	-0.57	-65.87	
7,272.0	0.70	232.80	6,558.6	2,457.5	1,638.8	-1,831.3	0.59	0.52	39.81	
7,357.0	1.05	248.58	6,643.6	2,458.0	1,638.2	-1,832.5	0.50	0.41	18.56	
7,443.0	0.98	268.13	6,729.6	2,458.9	1,637.9	-1,833.9	0.41	-0.08	22.73	
7,528.0	0.91	249.81	6,814.6	2,459.7	1,637.6	-1,835.3	0.36	-0.08	-21.55	
7,625.0	0.75	253.94	6,911.6	2,460.4	1,637.2	-1,836.6	0.18	-0.16	4.26	
Straightline projection to bit										
7,680.0	0.75	253.94	6,966.6	2,460.8	1,637.0	-1,837.3	0.00	0.00	0.00	

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,625.0	6,911.6	1,637.2	-1,836.6	Straightline projection to bit

Checked By: _____ Approved By: _____ Date: _____

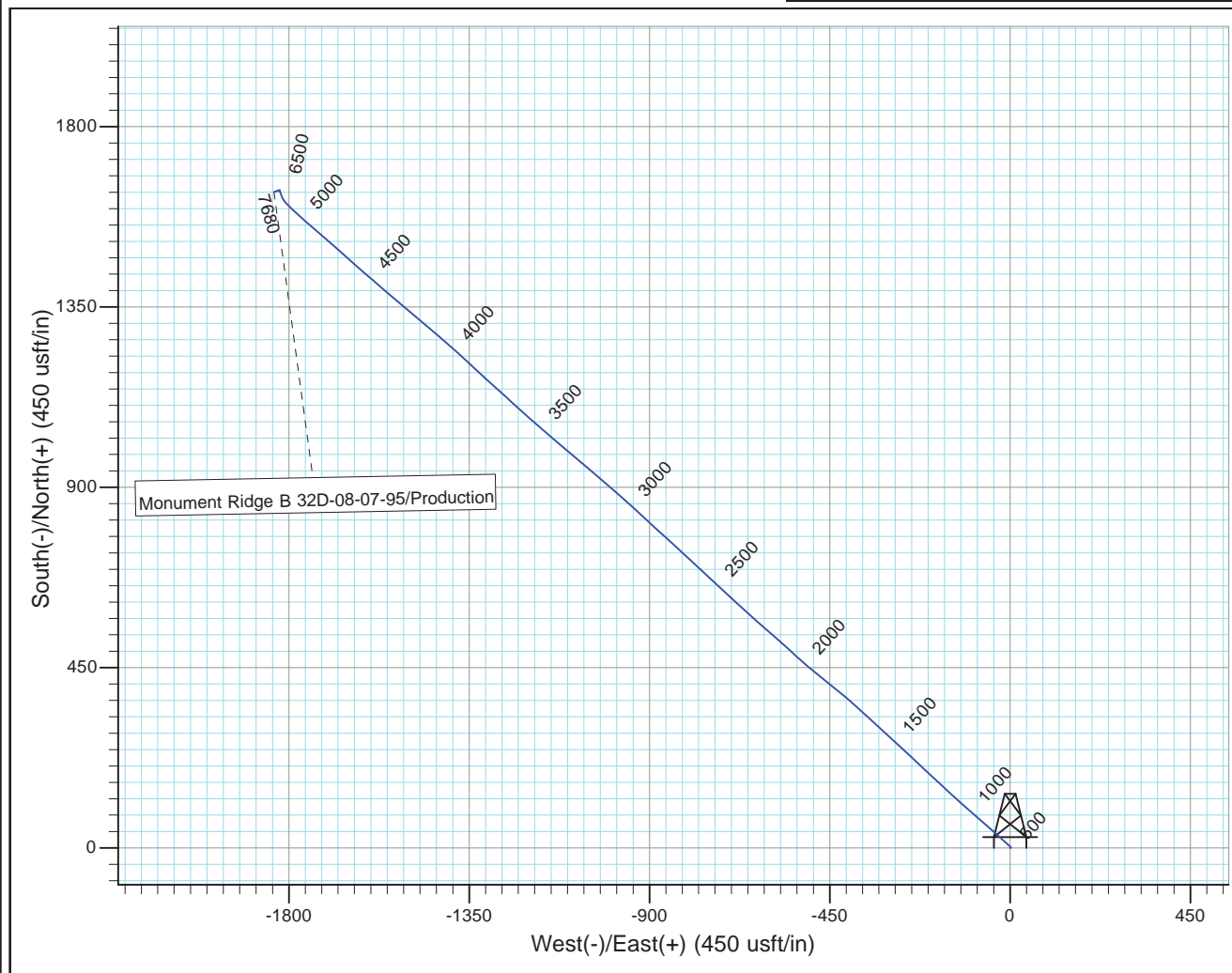
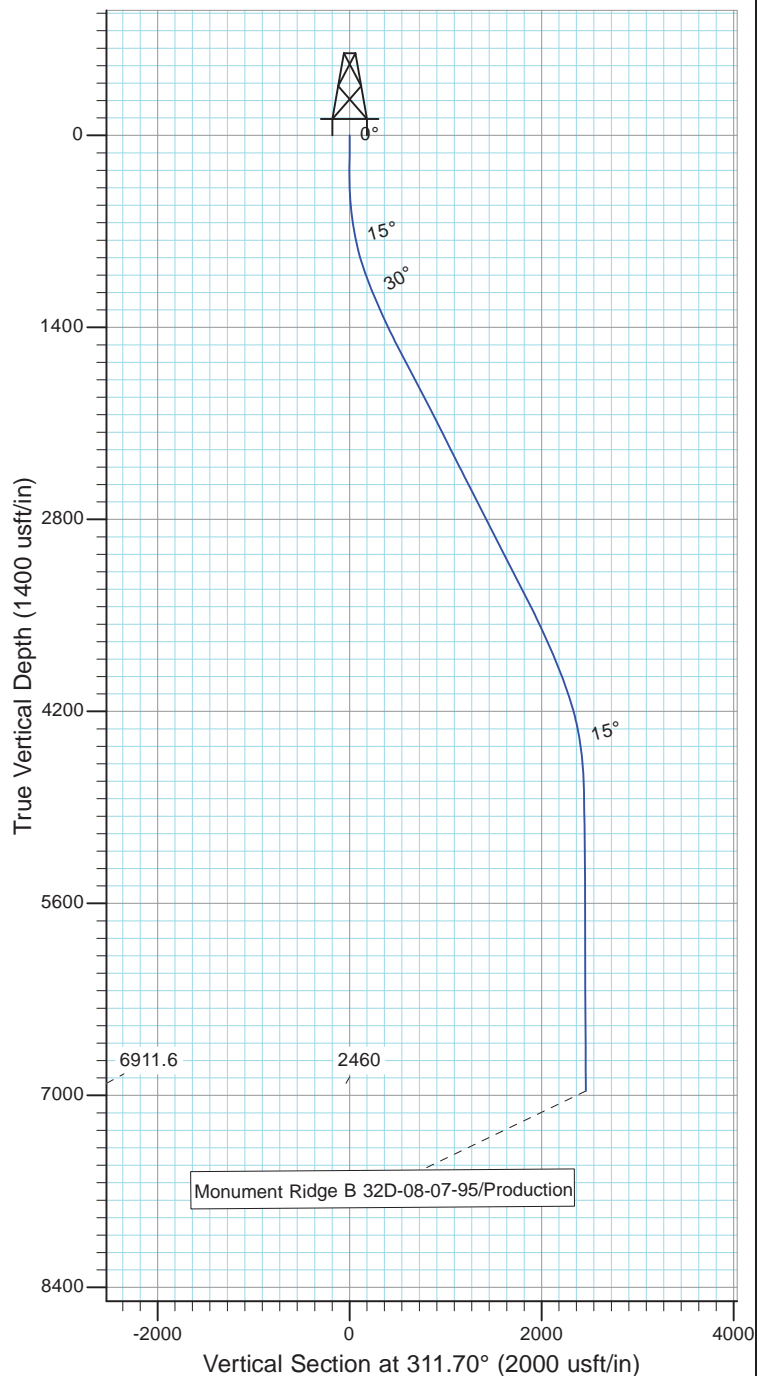


Project: Rockies Region
Site: Monument Ridge B
Well: Monument Ridge B 32D-08-07-95
Wellbore: Wellbore #1
Design: Production



Azimuths to True North
Magnetic North: 9.78°

Magnetic Field
Strength: 51778.0nT
Dip Angle: 65.57°
Date: 11/17/2015
Model: IGRF2010



Design: Production (Monument Ridge B 32D-08-07-95/Wellbore #1)

Created By: Matthew Linton

Date: 9:26, December 16 20

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