



## **Ursa Operating Company, LLC**

**Rockies Region**

**Monument Ridge B**

**Monument Ridge B 24D-08-07-95**

**Wellbore #1**

**Design: Actual**

## **End of Well Report**

**15 November, 2016**



<b>Company:</b>	Ursa Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Monument Ridge B 24D-08-07-95
<b>Project:</b>	Rockies Region	<b>TVD Reference:</b>	Monument Ridge B 24D-08-07-95 @ 5718.8usft (PLAN)
<b>Site:</b>	Monument Ridge B	<b>MD Reference:</b>	Monument Ridge B 24D-08-07-95 @ 5718.8usft (PLAN)
<b>Well:</b>	Monument Ridge B 24D-08-07-95	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Actual	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Rockies Region		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		Using geodetic scale factor

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

<b>Well</b>	Monument Ridge B 24D-08-07-95, SHL: 39.447640707 -108.012276376		
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b> 1,597,741.62 usft
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b> 2,290,637.74 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	5,718.8 usft
		<b>Ground Level:</b>	5,701.8 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	11/15/2016	9.76	65.55	51,568

<b>Design</b>	Actual			
<b>Audit Notes:</b>				
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b> 0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	257.10

<b>Survey Program</b>	<b>Date</b>	11/15/2016		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
110.0	8,095.0	Production (Wellbore #1)	MWD	MWD - Standard

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<b>Site:</b>	Monument Ridge B	<b>MD Reference:</b>	Monument Ridge B 24D-08-07-95 @ 5718.8usft (PLAN
<b>Well:</b>	Monument Ridge B 24D-08-07-95	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Actual	<b>Database:</b>	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	1.36	359.77	110.0	-0.3	1.3	0.0	1.24	1.24	0.00	
140.0	1.45	352.83	140.0	-0.4	2.0	-0.1	0.64	0.30	-23.13	
171.0	1.10	323.69	171.0	-0.3	2.7	-0.3	2.34	-1.13	-94.00	
201.0	1.14	293.02	201.0	0.0	3.0	-0.7	1.98	0.13	-102.23	
229.0	1.49	279.88	229.0	0.6	3.2	-1.3	1.64	1.25	-46.93	
260.0	1.89	279.31	259.9	1.4	3.3	-2.2	1.29	1.29	-1.84	
291.0	2.50	284.76	290.9	2.5	3.6	-3.4	2.08	1.97	17.58	
321.0	2.94	284.32	320.9	3.8	4.0	-4.8	1.47	1.47	-1.47	
352.0	3.08	279.04	351.8	5.3	4.3	-6.4	1.00	0.45	-17.03	
382.0	3.47	276.98	381.8	6.9	4.5	-8.1	1.36	1.30	-6.87	
413.0	3.70	275.73	412.7	8.7	4.7	-10.0	0.78	0.74	-4.03	
443.0	3.74	267.92	442.7	10.6	4.8	-11.9	1.69	0.13	-26.03	
474.0	3.81	261.73	473.6	12.6	4.6	-14.0	1.33	0.23	-19.97	
505.0	4.44	261.73	504.5	14.8	4.3	-16.2	2.03	2.03	0.00	
535.0	4.96	263.02	534.4	17.3	4.0	-18.6	1.77	1.73	4.30	
566.0	5.69	261.57	565.3	20.1	3.6	-21.5	2.39	2.35	-4.68	
596.0	6.46	259.97	595.1	23.3	3.1	-24.6	2.63	2.57	-5.33	
627.0	7.43	259.79	625.9	27.0	2.4	-28.3	3.13	3.13	-0.58	
658.0	8.48	260.76	656.6	31.3	1.7	-32.5	3.41	3.39	3.13	
688.0	9.58	260.59	686.2	36.0	0.9	-37.2	3.67	3.67	-0.57	
718.0	10.72	256.46	715.8	41.3	-0.1	-42.3	4.51	3.80	-13.77	
749.0	11.82	257.47	746.2	47.4	-1.5	-48.2	3.60	3.55	3.26	
779.0	12.70	261.20	775.5	53.7	-2.7	-54.5	3.95	2.93	12.43	
810.0	13.71	259.22	805.7	60.8	-3.9	-61.5	3.57	3.26	-6.39	
840.0	14.63	258.96	834.7	68.1	-5.3	-68.7	3.07	3.07	-0.87	
882.0	16.25	255.66	875.2	79.3	-7.8	-79.6	4.39	3.86	-7.86	

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Survey									
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925.0	17.41	254.55	916.4	91.7	-11.0	-91.6	2.80	2.70	-2.58
968.0	18.50	252.72	957.3	105.0	-14.7	-104.3	2.85	2.53	-4.26
1,011.0	19.42	253.95	998.0	118.9	-18.7	-117.7	2.33	2.14	2.86
1,053.0	20.52	254.96	1,037.4	133.2	-22.5	-131.5	2.74	2.62	2.40
1,096.0	21.62	254.87	1,077.6	148.7	-26.6	-146.5	2.56	2.56	-0.21
1,139.0	22.98	255.27	1,117.3	165.0	-30.8	-162.2	3.18	3.16	0.93
1,182.0	24.74	254.96	1,156.7	182.4	-35.2	-179.0	4.10	4.09	-0.72
1,224.0	26.54	255.05	1,194.5	200.5	-39.9	-196.6	4.29	4.29	0.21
1,267.0	27.77	255.14	1,232.8	220.2	-45.0	-215.5	2.86	2.86	0.21
1,310.0	29.36	256.98	1,270.5	240.7	-49.9	-235.5	4.23	3.70	4.28
1,353.0	30.88	257.92	1,307.7	262.3	-54.6	-256.6	3.70	3.53	2.19
1,395.0	32.68	258.37	1,343.4	284.4	-59.2	-278.2	4.32	4.29	1.07
1,438.0	34.54	257.95	1,379.3	308.2	-64.0	-301.5	4.36	4.33	-0.98
1,481.0	36.87	256.54	1,414.2	333.3	-69.6	-326.0	5.75	5.42	-3.28
1,523.0	38.50	256.06	1,447.4	359.0	-75.7	-350.9	3.94	3.88	-1.14
1,566.0	40.25	255.80	1,480.6	386.2	-82.3	-377.4	4.09	4.07	-0.60
1,609.0	41.92	255.97	1,513.1	414.5	-89.2	-404.8	3.89	3.88	0.40
1,651.0	43.77	255.84	1,543.8	443.0	-96.1	-432.5	4.41	4.40	-0.31
1,694.0	45.70	255.80	1,574.4	473.3	-103.6	-461.8	4.49	4.49	-0.09
1,736.0	46.19	256.46	1,603.6	503.5	-110.8	-491.1	1.62	1.17	1.57
1,779.0	46.19	256.41	1,633.4	534.5	-118.1	-521.3	0.08	0.00	-0.12
1,825.0	46.14	256.19	1,665.2	567.7	-125.9	-553.5	0.36	-0.11	-0.48
Last PZD Surface Survey									
1,957.0	45.14	256.40	1,757.5	662.0	-148.3	-645.2	0.77	-0.76	0.16
2,042.0	44.47	258.04	1,817.8	721.9	-161.5	-703.6	1.57	-0.79	1.93
2,127.0	44.56	256.41	1,878.4	781.5	-174.7	-761.7	1.35	0.11	-1.92
2,213.0	45.53	255.31	1,939.2	842.4	-189.6	-820.8	1.45	1.13	-1.28

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Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
2,298.0	46.93	254.70	1,998.0	903.7	-205.5	-880.0	1.73	1.65	-0.72	
2,383.0	47.99	254.48	2,055.5	966.3	-222.1	-940.4	1.26	1.25	-0.26	
2,468.0	47.77	254.17	2,112.5	1,029.2	-239.2	-1,001.1	0.37	-0.26	-0.36	
2,554.0	47.02	253.95	2,170.7	1,092.5	-256.5	-1,062.0	0.89	-0.87	-0.26	
2,639.0	45.19	256.24	2,229.6	1,153.7	-272.3	-1,121.2	2.90	-2.15	2.69	
2,724.0	43.81	255.53	2,290.2	1,213.2	-286.8	-1,178.9	1.73	-1.62	-0.84	
2,810.0	43.96	255.44	2,352.2	1,272.8	-301.8	-1,236.7	0.19	0.17	-0.10	
2,895.0	43.48	254.46	2,413.7	1,331.5	-317.0	-1,293.4	0.98	-0.56	-1.15	
2,981.0	43.46	254.70	2,476.1	1,390.6	-332.8	-1,350.4	0.19	-0.02	0.28	
3,066.0	43.86	254.39	2,537.6	1,449.2	-348.4	-1,407.0	0.53	0.47	-0.36	
3,151.0	44.21	255.09	2,598.7	1,508.3	-363.9	-1,464.0	0.71	0.41	0.82	
3,237.0	44.12	254.71	2,660.4	1,568.2	-379.6	-1,521.8	0.33	-0.10	-0.44	
3,322.0	43.90	256.28	2,721.5	1,627.2	-394.4	-1,579.0	1.31	-0.26	1.85	
3,407.0	43.99	256.24	2,782.7	1,686.2	-408.4	-1,636.3	0.11	0.11	-0.05	
3,493.0	44.09	256.09	2,844.5	1,745.9	-422.7	-1,694.3	0.17	0.12	-0.17	
3,578.0	44.52	255.66	2,905.4	1,805.3	-437.1	-1,751.9	0.62	0.51	-0.51	
3,664.0	44.74	256.06	2,966.6	1,865.7	-451.9	-1,810.5	0.41	0.26	0.47	
3,749.0	44.84	256.46	3,026.9	1,925.6	-466.1	-1,868.7	0.35	0.12	0.47	
3,834.0	45.09	255.66	3,087.0	1,985.6	-480.6	-1,927.0	0.73	0.29	-0.94	
3,920.0	45.35	255.18	3,147.6	2,046.6	-496.0	-1,986.1	0.50	0.30	-0.56	
4,005.0	46.14	257.38	3,206.9	2,107.5	-510.4	-2,045.2	2.07	0.93	2.59	
4,090.0	45.66	258.21	3,266.1	2,168.6	-523.3	-2,104.8	0.90	-0.56	0.98	
4,176.0	44.74	256.41	3,326.7	2,229.6	-536.7	-2,164.4	1.83	-1.07	-2.09	
4,261.0	45.32	255.95	3,386.7	2,289.7	-551.1	-2,222.8	0.78	0.68	-0.54	
4,346.0	44.87	256.54	3,446.8	2,349.9	-565.4	-2,281.2	0.72	-0.53	0.69	
4,432.0	43.81	255.84	3,508.3	2,410.0	-579.7	-2,339.6	1.36	-1.23	-0.81	
4,517.0	44.17	254.79	3,569.4	2,469.0	-594.7	-2,396.7	0.96	0.42	-1.24	

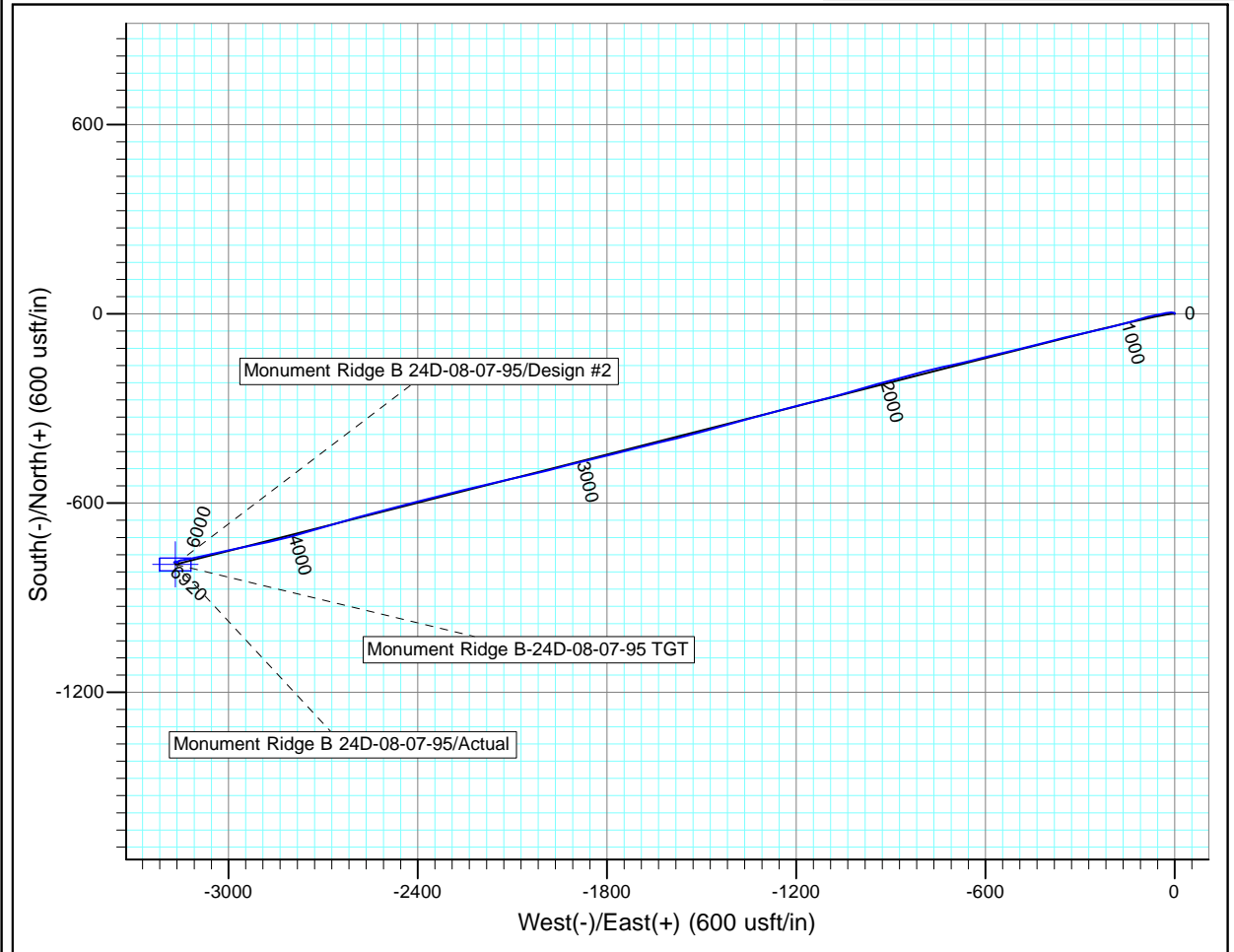
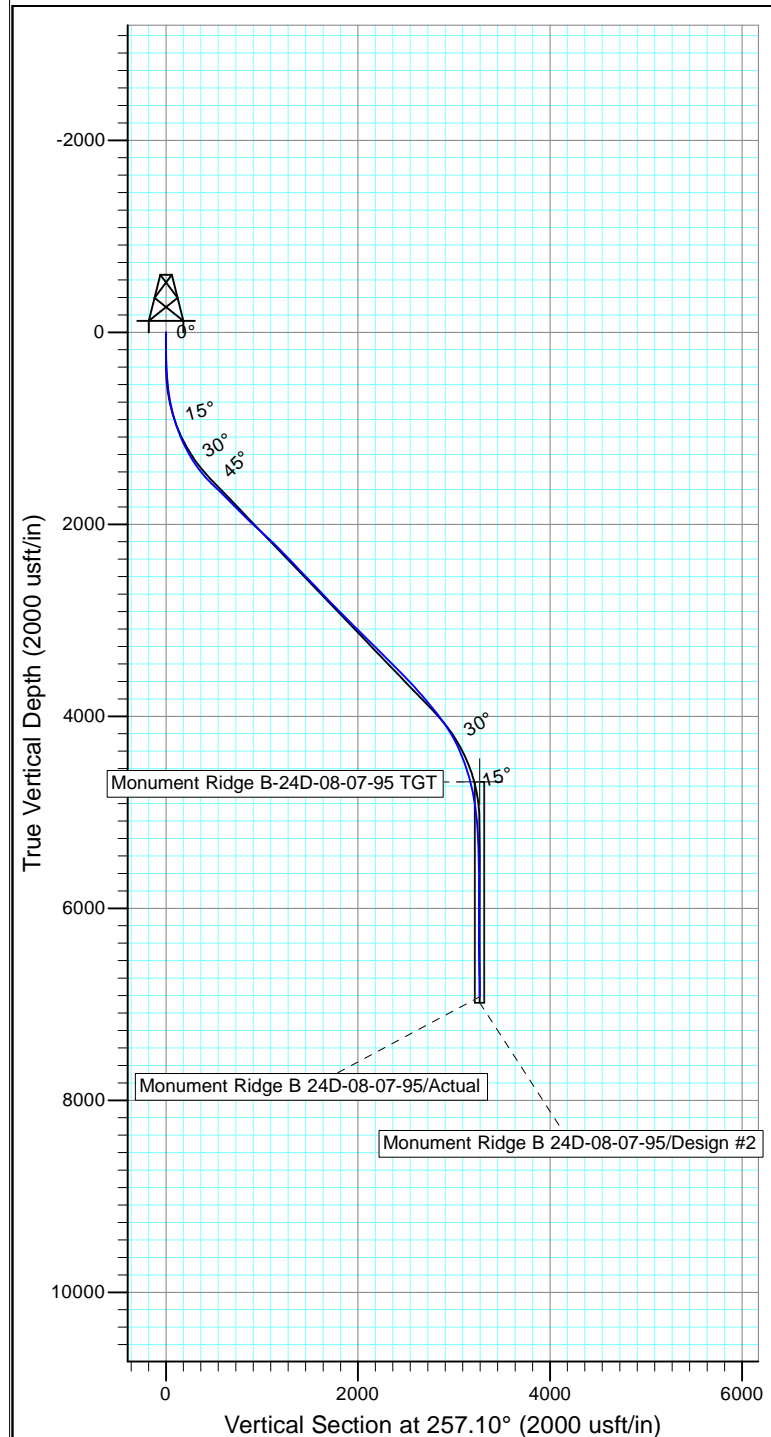
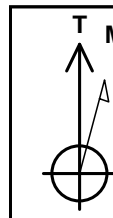
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Survey										
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4,603.0	43.55	256.15	3,631.4	2,528.6	-609.6	-2,454.4	1.31	-0.72	1.58	
4,688.0	42.42	256.24	3,693.6	2,586.5	-623.5	-2,510.7	1.33	-1.33	0.11	
4,773.0	42.14	254.65	3,756.5	2,643.7	-637.8	-2,566.0	1.30	-0.33	-1.87	
4,859.0	39.68	253.20	3,821.5	2,699.9	-653.4	-2,620.1	3.07	-2.86	-1.69	
4,944.0	39.55	253.86	3,887.0	2,754.0	-668.8	-2,672.1	0.52	-0.15	0.78	
5,030.0	38.72	254.26	3,953.7	2,808.2	-683.7	-2,724.3	1.01	-0.97	0.47	
5,115.0	36.83	253.86	4,020.9	2,860.2	-698.0	-2,774.4	2.24	-2.22	-0.47	
5,201.0	34.88	255.92	4,090.6	2,910.5	-711.1	-2,823.0	2.67	-2.27	2.40	
5,286.0	31.03	256.72	4,161.9	2,956.7	-722.1	-2,867.9	4.56	-4.53	0.94	
5,370.0	27.82	258.71	4,235.0	2,998.0	-730.9	-2,908.2	3.99	-3.82	2.37	
5,456.0	25.58	258.39	4,311.8	3,036.6	-738.6	-2,946.1	2.61	-2.60	-0.37	
5,542.0	22.81	258.74	4,390.3	3,071.8	-745.6	-2,980.6	3.23	-3.22	0.41	
5,627.0	20.43	258.12	4,469.3	3,103.1	-751.8	-3,011.3	2.81	-2.80	-0.73	
5,712.0	18.37	256.28	4,549.5	3,131.4	-758.1	-3,038.8	2.53	-2.42	-2.16	
5,798.0	15.51	257.60	4,631.7	3,156.4	-763.7	-3,063.2	3.36	-3.33	1.53	
5,874.4	13.97	257.75	4,705.6	3,175.9	-767.9	-3,082.2	2.01	-2.01	0.20	
Monument Ridge B-24D-08-07-95 TGT										
5,883.0	13.80	257.77	4,714.0	3,177.9	-768.3	-3,084.2	2.01	-2.01	0.22	
5,969.0	11.43	258.17	4,797.9	3,196.7	-772.3	-3,102.6	2.76	-2.76	0.47	
6,054.0	9.18	257.55	4,881.5	3,211.9	-775.4	-3,117.5	2.65	-2.65	-0.73	
6,139.0	7.67	258.24	4,965.6	3,224.4	-778.1	-3,129.6	1.78	-1.78	0.81	
6,224.0	5.67	260.50	5,050.0	3,234.2	-779.9	-3,139.3	2.37	-2.35	2.66	
6,310.0	4.04	261.60	5,135.7	3,241.5	-781.1	-3,146.5	1.90	-1.90	1.28	
6,395.0	3.56	261.64	5,220.5	3,247.1	-781.9	-3,152.1	0.56	-0.56	0.05	
6,480.0	1.71	261.04	5,305.4	3,251.0	-782.5	-3,156.0	2.18	-2.18	-0.71	
6,565.0	2.35	226.02	5,390.4	3,253.8	-783.9	-3,158.5	1.61	0.75	-41.20	
6,651.0	2.68	232.07	5,476.3	3,257.1	-786.3	-3,161.3	0.49	0.38	7.03	

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<b>Design:</b>	Actual	<b>Database:</b>	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)	
6,736.0	1.54	260.76	5,561.2	3,260.0	-787.7	-3,164.0	1.79	-1.34	33.75	
6,821.0	0.79	227.50	5,646.2	3,261.7	-788.3	-3,165.6	1.15	-0.88	-39.13	
6,907.0	0.31	158.54	5,732.2	3,262.2	-788.9	-3,165.9	0.86	-0.56	-80.19	
6,992.0	0.04	328.39	5,817.2	3,262.1	-789.1	-3,165.9	0.41	-0.32	199.82	
7,078.0	0.22	59.40	5,903.2	3,262.0	-789.0	-3,165.7	0.26	0.21	105.83	
7,163.0	0.97	107.74	5,988.2	3,261.2	-789.1	-3,164.9	0.99	0.88	56.87	
7,248.0	1.23	112.89	6,073.2	3,259.8	-789.7	-3,163.4	0.33	0.31	6.06	
7,333.0	0.48	354.50	6,158.2	3,259.1	-789.7	-3,162.6	1.79	-0.88	-139.28	
7,419.0	0.83	348.85	6,244.2	3,259.0	-788.7	-3,162.7	0.41	0.41	-6.57	
7,504.0	1.01	340.13	6,329.2	3,259.1	-787.4	-3,163.1	0.27	0.21	-10.26	
7,590.0	1.36	310.86	6,415.1	3,259.8	-786.1	-3,164.1	0.80	0.41	-34.03	
7,675.0	1.58	285.42	6,500.1	3,261.4	-785.1	-3,166.0	0.80	0.26	-29.93	
7,760.0	1.45	261.77	6,585.1	3,263.5	-784.9	-3,168.2	0.75	-0.15	-27.82	
7,846.0	0.75	244.55	6,671.1	3,265.1	-785.3	-3,169.8	0.89	-0.81	-20.02	
7,931.0	1.20	225.78	6,756.1	3,266.4	-786.2	-3,171.0	0.64	0.53	-22.08	
8,012.0	0.88	222.97	6,837.0	3,267.7	-787.2	-3,172.0	0.40	-0.40	-3.47	
<b>Last PZD Survey</b>										
8,095.0	0.88	222.97	6,920.0	3,268.7	-788.2	-3,172.9	0.00	0.00	0.00	
<b>Straightline Projection to TD/Monument Ridge B 24D-08-07-95/Actual</b>										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,825.0	1,665.2	-125.9	-553.5	Last PZD Surface Survey
8,012.0	6,837.0	-787.2	-3,172.0	Last PZD Survey
8,095.0	6,920.0	-788.2	-3,172.9	Straightline Projection to TD/Monument Ridge B 24D-08-07-95/Actual



Design: Actual (Monument Ridge B 24D-08-07-95/Wellbore #1)

Created By: Derek Stephens Date: 11:22, November 15 2016

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