



**Weatherford®**

## **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_Kunzman 35-5HZ Pad**

**Kunzman Federal 35N-8HZ**

**Wellbore #1**

**Plan: Permit**

## **Standard Planning Report**

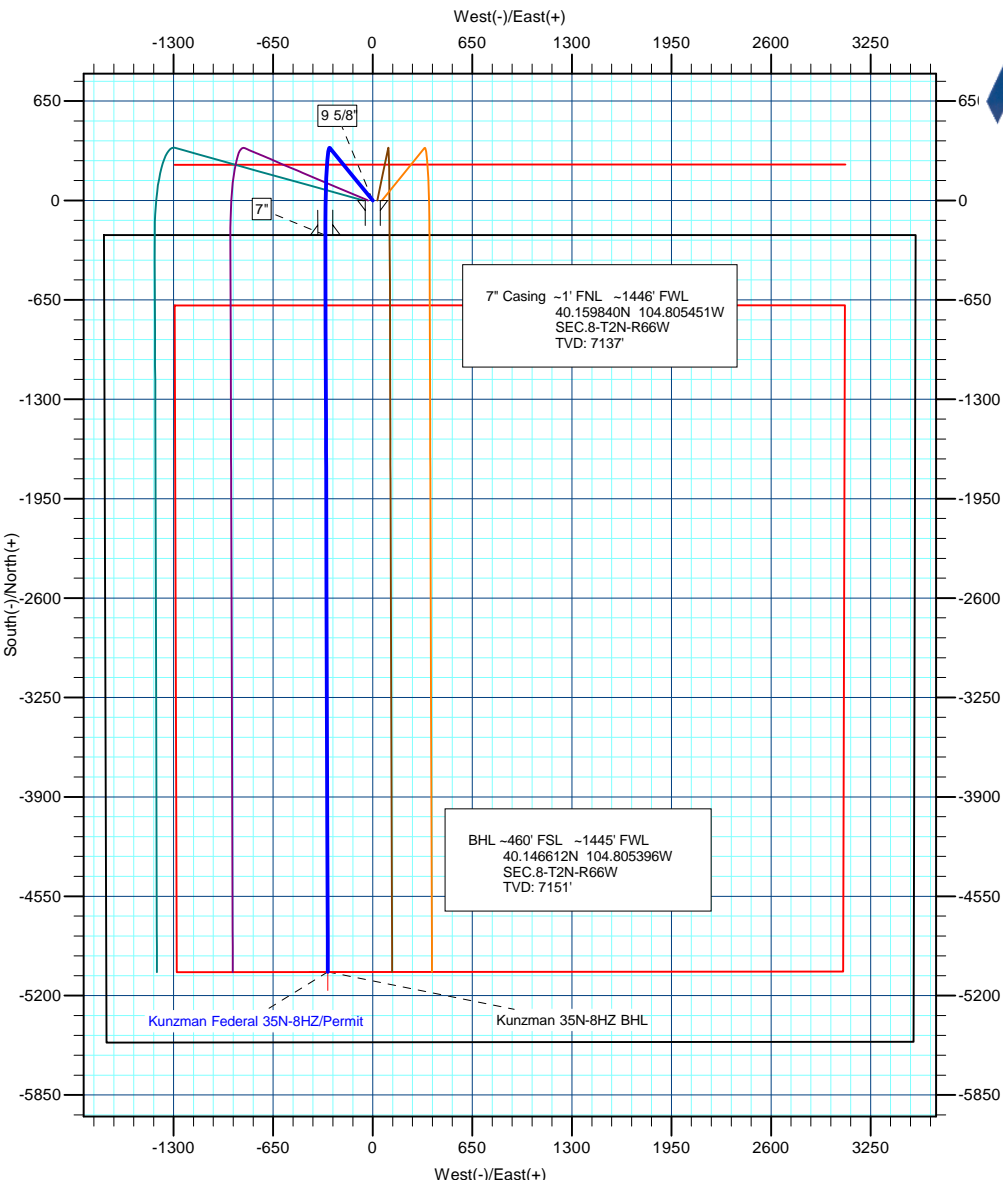
**06 March, 2013**





**Weatherford**

Project: COLORADO NORTHERN ZONE - 83  
 Site: WELD\_Kunzman 35-5HZ Pad  
 Well: Kunzman Federal 35N-8HZ  
 Wellbore: Wellbore #1  
 Section: Sec. 5-T2N-R66W  
 SHL: 226' FSL 1754' FWL SEC. 5  
 Design: Permit  
 Latitude: 40.160463  
 Longitude: -104.804345  
 GL: 4858.00  
 KB: rkb + gl @ 4875.00ft



**WELL DETAILS: Kunzman Federal 35N-8HZ**

+N/-S	+E/-W	Northing	Ground Level: Easting	4858.00 Latitude	Longitude	Slot
0.00	0.00	1302062.48	3194429.69	40.160463	-104.804345	

**ANNOTATIONS**

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
1000.00	1000.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1233.57	1233.83	4.68	320.84	7.40	-6.02	-7.03	9.54	Start 5312.64 hold at 1233.83 MD
6528.53	6546.48	4.68	320.84	343.24	-279.58	-326.41	442.69	Start DLS 10.00 TFO -140.93
7137.00	7481.15	89.83	179.82	-227.00	-309.00	244.58	1019.82	Start 4818.70 hold at 7481.15 MD
7151.00	12299.85	89.83	179.82	-5045.65	-293.81	5054.20	5838.50	TD at 12299.85

**WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)**

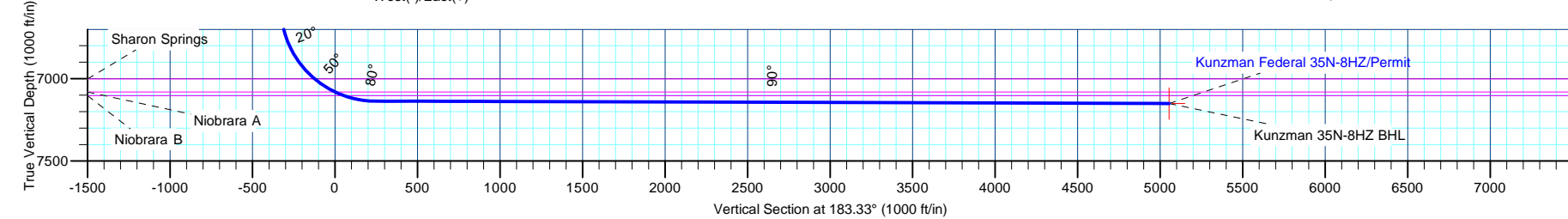
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Kunzman 35N-8HZ BHL	7151.00	-5045.65	-293.81	40.146612	-104.805396	Point

**FORMATION TOP DETAILS**

TVDPath	MDPath	Formation
3931.00	3940.27	Parkman
4331.00	4341.61	Sussex
7002.00	7081.06	Sharon Springs
7081.00	7227.21	Niobrara A
7104.00	7287.28	Niobrara B

**CASING DETAILS**

TVD	MD	Name	Size
839.00	839.00	9 5/8"	9-5/8
7137.00	7481.15	7"	7



<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Kunzman Federal 35N-8HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4875.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4875.00ft
<b>Site:</b>	WELD_Kunzman 35-5HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Kunzman Federal 35N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permit		

<b>Project</b>	COLORADO NORTHERN ZONE - 83		
<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 Northern Zone		

<b>Site</b>	WELD_Kunzman 35-5HZ Pad, Sec. 5-T2N-R66W				
<b>Site Position:</b>		<b>Northing:</b>	1,302,062.73 usft	<b>Latitude:</b>	40.160463
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,194,459.59 usft	<b>Longitude:</b>	-104.804238
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.45 °

<b>Well</b>	Kunzman Federal 35N-8HZ					
<b>Well Position</b>	<b>+N/-S</b>	-0.01 ft	<b>Northing:</b>	1,302,062.48 usft	<b>Latitude:</b>	40.160463
	<b>+E/-W</b>	-29.91 ft	<b>Easting:</b>	3,194,429.69 usft	<b>Longitude:</b>	-104.804345
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,858.00 ft

<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>
	IGRF2010	7/17/2012	8.72	66.81	52,886

<b>Design</b>	Permit				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	183.33	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,233.83	4.68	320.84	1,233.57	7.40	-6.02	2.00	2.00	0.00	320.84	
6,546.48	4.68	320.84	6,528.53	343.24	-279.58	0.00	0.00	0.00	0.00	
7,481.15	89.83	179.82	7,137.00	-227.00	-309.00	10.00	9.11	-15.09	-140.93	
12,299.85	89.83	179.82	7,151.00	-5,045.65	-293.81	0.00	0.00	0.00	0.00	Kunzman 35N-8HZ B

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Kunzman Federal 35N-8HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4875.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4875.00ft
<b>Site:</b>	WELD_Kunzman 35-5HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Kunzman Federal 35N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permit		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
839.00	0.00	0.00	839.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8"</b>									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
1,100.00	2.00	320.84	1,099.98	1.35	-1.10	-1.29	2.00	2.00	0.00
1,200.00	4.00	320.84	1,199.84	5.41	-4.41	-5.15	2.00	2.00	0.00
1,233.83	4.68	320.84	1,233.57	7.40	-6.02	-7.03	2.00	2.00	0.00
<b>Start 5312.64 hold at 1233.83 MD</b>									
1,300.00	4.68	320.84	1,299.52	11.58	-9.43	-11.01	0.00	0.00	0.00
1,400.00	4.68	320.84	1,399.19	17.90	-14.58	-17.02	0.00	0.00	0.00
1,500.00	4.68	320.84	1,498.85	24.22	-19.73	-23.03	0.00	0.00	0.00
1,600.00	4.68	320.84	1,598.52	30.54	-24.88	-29.04	0.00	0.00	0.00
1,700.00	4.68	320.84	1,698.19	36.86	-30.03	-35.06	0.00	0.00	0.00
1,800.00	4.68	320.84	1,797.86	43.19	-35.18	-41.07	0.00	0.00	0.00
1,900.00	4.68	320.84	1,897.52	49.51	-40.32	-47.08	0.00	0.00	0.00
2,000.00	4.68	320.84	1,997.19	55.83	-45.47	-53.09	0.00	0.00	0.00
2,100.00	4.68	320.84	2,096.86	62.15	-50.62	-59.10	0.00	0.00	0.00
2,200.00	4.68	320.84	2,196.52	68.47	-55.77	-65.11	0.00	0.00	0.00
2,300.00	4.68	320.84	2,296.19	74.79	-60.92	-71.13	0.00	0.00	0.00
2,400.00	4.68	320.84	2,395.86	81.12	-66.07	-77.14	0.00	0.00	0.00
2,500.00	4.68	320.84	2,495.53	87.44	-71.22	-83.15	0.00	0.00	0.00
2,600.00	4.68	320.84	2,595.19	93.76	-76.37	-89.16	0.00	0.00	0.00
2,700.00	4.68	320.84	2,694.86	100.08	-81.52	-95.17	0.00	0.00	0.00
2,800.00	4.68	320.84	2,794.53	106.40	-86.67	-101.18	0.00	0.00	0.00
2,900.00	4.68	320.84	2,894.19	112.72	-91.82	-107.20	0.00	0.00	0.00
3,000.00	4.68	320.84	2,993.86	119.05	-96.96	-113.21	0.00	0.00	0.00
3,100.00	4.68	320.84	3,093.53	125.37	-102.11	-119.22	0.00	0.00	0.00
3,200.00	4.68	320.84	3,193.19	131.69	-107.26	-125.23	0.00	0.00	0.00
3,300.00	4.68	320.84	3,292.86	138.01	-112.41	-131.24	0.00	0.00	0.00
3,400.00	4.68	320.84	3,392.53	144.33	-117.56	-137.25	0.00	0.00	0.00
3,500.00	4.68	320.84	3,492.20	150.65	-122.71	-143.27	0.00	0.00	0.00
3,600.00	4.68	320.84	3,591.86	156.98	-127.86	-149.28	0.00	0.00	0.00
3,700.00	4.68	320.84	3,691.53	163.30	-133.01	-155.29	0.00	0.00	0.00
3,800.00	4.68	320.84	3,791.20	169.62	-138.16	-161.30	0.00	0.00	0.00
3,900.00	4.68	320.84	3,890.86	175.94	-143.31	-167.31	0.00	0.00	0.00
3,940.27	4.68	320.84	3,931.00	178.49	-145.38	-169.73	0.00	0.00	0.00
<b>Parkman</b>									
4,000.00	4.68	320.84	3,990.53	182.26	-148.46	-173.32	0.00	0.00	0.00
4,100.00	4.68	320.84	4,090.20	188.58	-153.60	-179.34	0.00	0.00	0.00
4,200.00	4.68	320.84	4,189.87	194.90	-158.75	-185.35	0.00	0.00	0.00
4,300.00	4.68	320.84	4,289.53	201.23	-163.90	-191.36	0.00	0.00	0.00
4,341.61	4.68	320.84	4,331.00	203.86	-166.04	-193.86	0.00	0.00	0.00
<b>Sussex</b>									
4,400.00	4.68	320.84	4,389.20	207.55	-169.05	-197.37	0.00	0.00	0.00

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Kunzman Federal 35N-8HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4875.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4875.00ft
<b>Site:</b>	WELD_Kunzman 35-5HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Kunzman Federal 35N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permit		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,500.00	4.68	320.84	4,488.87	213.87	-174.20	-203.38	0.00	0.00	0.00
4,600.00	4.68	320.84	4,588.53	220.19	-179.35	-209.39	0.00	0.00	0.00
4,700.00	4.68	320.84	4,688.20	226.51	-184.50	-215.40	0.00	0.00	0.00
4,800.00	4.68	320.84	4,787.87	232.83	-189.65	-221.42	0.00	0.00	0.00
4,900.00	4.68	320.84	4,887.53	239.16	-194.80	-227.43	0.00	0.00	0.00
5,000.00	4.68	320.84	4,987.20	245.48	-199.95	-233.44	0.00	0.00	0.00
5,100.00	4.68	320.84	5,086.87	251.80	-205.10	-239.45	0.00	0.00	0.00
5,200.00	4.68	320.84	5,186.54	258.12	-210.24	-245.46	0.00	0.00	0.00
5,300.00	4.68	320.84	5,286.20	264.44	-215.39	-251.47	0.00	0.00	0.00
5,400.00	4.68	320.84	5,385.87	270.76	-220.54	-257.49	0.00	0.00	0.00
5,500.00	4.68	320.84	5,485.54	277.09	-225.69	-263.50	0.00	0.00	0.00
5,600.00	4.68	320.84	5,585.20	283.41	-230.84	-269.51	0.00	0.00	0.00
5,700.00	4.68	320.84	5,684.87	289.73	-235.99	-275.52	0.00	0.00	0.00
5,800.00	4.68	320.84	5,784.54	296.05	-241.14	-281.53	0.00	0.00	0.00
5,900.00	4.68	320.84	5,884.21	302.37	-246.29	-287.54	0.00	0.00	0.00
6,000.00	4.68	320.84	5,983.87	308.69	-251.44	-293.56	0.00	0.00	0.00
6,100.00	4.68	320.84	6,083.54	315.02	-256.59	-299.57	0.00	0.00	0.00
6,200.00	4.68	320.84	6,183.21	321.34	-261.73	-305.58	0.00	0.00	0.00
6,300.00	4.68	320.84	6,282.87	327.66	-266.88	-311.59	0.00	0.00	0.00
6,400.00	4.68	320.84	6,382.54	333.98	-272.03	-317.60	0.00	0.00	0.00
6,500.00	4.68	320.84	6,482.21	340.30	-277.18	-323.61	0.00	0.00	0.00
6,546.48	4.68	320.84	6,528.53	343.24	-279.58	-326.41	0.00	0.00	0.00
<b>Start DLS 10.00 TFO -140.93</b>									
6,550.00	4.41	317.95	6,532.04	343.45	-279.76	-326.61	10.00	-7.61	-82.02
6,600.00	3.41	239.54	6,581.96	344.13	-282.33	-327.13	10.00	-2.00	-156.82
6,650.00	7.33	203.38	6,631.74	340.44	-284.88	-323.30	10.00	7.85	-72.32
6,700.00	12.08	193.72	6,681.01	332.43	-287.39	-315.16	10.00	9.49	-19.31
6,750.00	16.97	189.52	6,729.40	320.14	-289.83	-302.75	10.00	9.78	-8.41
6,800.00	21.91	187.16	6,776.54	303.68	-292.21	-286.18	10.00	9.88	-4.71
6,850.00	26.87	185.64	6,822.06	283.17	-294.48	-265.57	10.00	9.92	-3.04
6,900.00	31.84	184.56	6,865.63	258.76	-296.64	-241.08	10.00	9.94	-2.15
6,950.00	36.82	183.75	6,906.91	230.65	-298.67	-212.89	10.00	9.96	-1.62
7,000.00	41.80	183.11	6,945.58	199.04	-300.56	-181.23	10.00	9.97	-1.28
7,050.00	46.79	182.58	6,981.36	164.17	-302.28	-146.32	10.00	9.97	-1.06
7,081.06	49.89	182.30	7,002.00	140.99	-303.27	-123.12	10.00	9.98	-0.92
<b>Sharon Springs</b>									
7,100.00	51.78	182.13	7,013.96	126.32	-303.84	-108.44	10.00	9.98	-0.86
7,150.00	56.77	181.74	7,043.15	85.77	-305.20	-67.88	10.00	9.98	-0.78
7,200.00	61.76	181.39	7,068.70	42.82	-306.38	-24.94	10.00	9.98	-0.70
7,227.21	64.48	181.22	7,081.00	18.55	-306.93	-0.68	10.00	9.98	-0.65
<b>Niobrara A</b>									
7,250.00	66.75	181.08	7,090.41	-2.19	-307.35	20.06	10.00	9.98	-0.62
7,287.28	70.47	180.86	7,104.00	-36.89	-307.93	54.73	10.00	9.98	-0.59
<b>Niobrara B</b>									
7,300.00	71.74	180.78	7,108.12	-48.93	-308.10	66.76	10.00	9.99	-0.57
7,350.00	76.74	180.51	7,121.70	-97.03	-308.64	114.81	10.00	9.99	-0.56
7,400.00	81.73	180.24	7,131.03	-146.13	-308.96	163.85	10.00	9.99	-0.53
7,450.00	86.72	179.98	7,136.06	-195.86	-309.05	213.50	10.00	9.99	-0.52
7,481.15	89.83	179.82	7,137.00	-227.00	-309.00	244.57	10.00	9.99	-0.51
<b>Start 4818.70 hold at 7481.15 MD - 7"</b>									
7,500.00	89.83	179.82	7,137.05	-245.85	-308.94	263.39	0.00	0.00	0.00
7,600.00	89.83	179.82	7,137.35	-345.84	-308.63	363.20	0.00	0.00	0.00
7,700.00	89.83	179.82	7,137.64	-445.84	-308.31	463.01	0.00	0.00	0.00

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Kunzman Federal 35N-8HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4875.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4875.00ft
<b>Site:</b>	WELD_Kunzman 35-5HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Kunzman Federal 35N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permit		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,800.00	89.83	179.82	7,137.93	-545.84	-307.99	562.82	0.00	0.00	0.00
7,900.00	89.83	179.82	7,138.22	-645.84	-307.68	662.64	0.00	0.00	0.00
8,000.00	89.83	179.82	7,138.51	-745.84	-307.36	762.45	0.00	0.00	0.00
8,100.00	89.83	179.82	7,138.80	-845.84	-307.05	862.26	0.00	0.00	0.00
8,200.00	89.83	179.82	7,139.09	-945.84	-306.73	962.07	0.00	0.00	0.00
8,300.00	89.83	179.82	7,139.38	-1,045.84	-306.42	1,061.88	0.00	0.00	0.00
8,400.00	89.83	179.82	7,139.67	-1,145.84	-306.10	1,161.69	0.00	0.00	0.00
8,500.00	89.83	179.82	7,139.96	-1,245.84	-305.79	1,261.51	0.00	0.00	0.00
8,600.00	89.83	179.82	7,140.25	-1,345.83	-305.47	1,361.32	0.00	0.00	0.00
8,700.00	89.83	179.82	7,140.54	-1,445.83	-305.16	1,461.13	0.00	0.00	0.00
8,800.00	89.83	179.82	7,140.83	-1,545.83	-304.84	1,560.94	0.00	0.00	0.00
8,900.00	89.83	179.82	7,141.12	-1,645.83	-304.53	1,660.75	0.00	0.00	0.00
9,000.00	89.83	179.82	7,141.41	-1,745.83	-304.21	1,760.56	0.00	0.00	0.00
9,100.00	89.83	179.82	7,141.70	-1,845.83	-303.90	1,860.37	0.00	0.00	0.00
9,200.00	89.83	179.82	7,141.99	-1,945.83	-303.58	1,960.19	0.00	0.00	0.00
9,300.00	89.83	179.82	7,142.28	-2,045.83	-303.27	2,060.00	0.00	0.00	0.00
9,400.00	89.83	179.82	7,142.58	-2,145.83	-302.95	2,159.81	0.00	0.00	0.00
9,500.00	89.83	179.82	7,142.87	-2,245.83	-302.64	2,259.62	0.00	0.00	0.00
9,600.00	89.83	179.82	7,143.16	-2,345.83	-302.32	2,359.43	0.00	0.00	0.00
9,700.00	89.83	179.82	7,143.45	-2,445.82	-302.01	2,459.24	0.00	0.00	0.00
9,800.00	89.83	179.82	7,143.74	-2,545.82	-301.69	2,559.06	0.00	0.00	0.00
9,900.00	89.83	179.82	7,144.03	-2,645.82	-301.37	2,658.87	0.00	0.00	0.00
10,000.00	89.83	179.82	7,144.32	-2,745.82	-301.06	2,758.68	0.00	0.00	0.00
10,100.00	89.83	179.82	7,144.61	-2,845.82	-300.74	2,858.49	0.00	0.00	0.00
10,200.00	89.83	179.82	7,144.90	-2,945.82	-300.43	2,958.30	0.00	0.00	0.00
10,300.00	89.83	179.82	7,145.19	-3,045.82	-300.11	3,058.11	0.00	0.00	0.00
10,400.00	89.83	179.82	7,145.48	-3,145.82	-299.80	3,157.93	0.00	0.00	0.00
10,500.00	89.83	179.82	7,145.77	-3,245.82	-299.48	3,257.74	0.00	0.00	0.00
10,600.00	89.83	179.82	7,146.06	-3,345.82	-299.17	3,357.55	0.00	0.00	0.00
10,700.00	89.83	179.82	7,146.35	-3,445.82	-298.85	3,457.36	0.00	0.00	0.00
10,800.00	89.83	179.82	7,146.64	-3,545.81	-298.54	3,557.17	0.00	0.00	0.00
10,900.00	89.83	179.82	7,146.93	-3,645.81	-298.22	3,656.98	0.00	0.00	0.00
11,000.00	89.83	179.82	7,147.22	-3,745.81	-297.91	3,756.80	0.00	0.00	0.00
11,100.00	89.83	179.82	7,147.51	-3,845.81	-297.59	3,856.61	0.00	0.00	0.00
11,200.00	89.83	179.82	7,147.80	-3,945.81	-297.28	3,956.42	0.00	0.00	0.00
11,300.00	89.83	179.82	7,148.10	-4,045.81	-296.96	4,056.23	0.00	0.00	0.00
11,400.00	89.83	179.82	7,148.39	-4,145.81	-296.65	4,156.04	0.00	0.00	0.00
11,500.00	89.83	179.82	7,148.68	-4,245.81	-296.33	4,255.85	0.00	0.00	0.00
11,600.00	89.83	179.82	7,148.97	-4,345.81	-296.02	4,355.67	0.00	0.00	0.00
11,700.00	89.83	179.82	7,149.26	-4,445.81	-295.70	4,455.48	0.00	0.00	0.00
11,800.00	89.83	179.82	7,149.55	-4,545.81	-295.38	4,555.29	0.00	0.00	0.00
11,900.00	89.83	179.82	7,149.84	-4,645.80	-295.07	4,655.10	0.00	0.00	0.00
12,000.00	89.83	179.82	7,150.13	-4,745.80	-294.75	4,754.91	0.00	0.00	0.00
12,100.00	89.83	179.82	7,150.42	-4,845.80	-294.44	4,854.72	0.00	0.00	0.00
12,200.00	89.83	179.82	7,150.71	-4,945.80	-294.12	4,954.54	0.00	0.00	0.00
12,299.85	89.83	179.82	7,151.00	-5,045.65	-293.81	5,054.20	0.00	0.00	0.00
<b>TD at 12299.85 - Kunzman 35N-8HZ BHL</b>									

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well Kunzman Federal 35N-8HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	rkb + gl @ 4875.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	rkb + gl @ 4875.00ft
<b>Site:</b>	WELD_Kunzman 35-5HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	Kunzman Federal 35N-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permit		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Kunzman 35N-8HZ BHL - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	7,151.00	-5,045.65	-293.81	1,297,014.69	3,194,175.47	40.146612	-104.805396

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
839.00	839.00	9 5/8"	9-5/8	12-1/4	
7,481.15	7,137.00	7"	7	7-1/2	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,940.27	3,931.00	Parkman			
4,341.61	4,331.00	Sussex			
7,081.06	7,002.00	Sharon Springs			
7,227.21	7,081.00	Niobrara A			
7,287.28	7,104.00	Niobrara B			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,000.00	1,000.00	0.00	0.00	Start Build 2.00	
1,233.83	1,233.57	7.40	-6.02	Start 5312.64 hold at 1233.83 MD	
6,546.48	6,528.53	343.24	-279.58	Start DLS 10.00 TFO -140.93	
7,481.15	7,137.00	-227.00	-309.00	Start 4818.70 hold at 7481.15 MD	
12,299.85	7,151.00	-5,045.65	-293.81	TD at 12299.85	