

# Noble Energy

Garfield County, CO

Sec. 20-T7S-R94W

Rulison Federal 20-32D

Plan #1

Plan: Plan #1 Proposal

## Sperry Drilling Services

# Proposal Report

22 January, 2009

Well Coordinates: 589,013.27 N, 1,317,924.03 E (39° 25' 32.70" N, 107° 54' 53.29" W)

Ground Level: 7,906.00 ft

Local Coordinate Origin: Centered on Well Rulison Federal 20-32D

Viewing Datum: RKB 25' @ 7931.00ft (Original Well Elev)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 42

**HALLIBURTON**

## Plan Report for Rulison Federal 20-32D - Plan #1 Proposal

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
0.00	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	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
225.00	0.00	0.00	225.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Kickoff at 225.00ft</b>										
300.00	1.50	95.66	299.99	-0.10	0.98	0.98	2.00	2.00	0.00	95.66
400.00	3.50	95.66	399.89	-0.53	5.32	5.34	2.00	2.00	0.00	0.00
500.00	5.50	95.66	499.58	-1.30	13.12	13.19	2.00	2.00	0.00	0.00
600.00	7.50	95.66	598.93	-2.42	24.39	24.51	2.00	2.00	0.00	0.00
700.00	9.50	95.66	697.83	-3.87	39.10	39.29	2.00	2.00	0.00	0.00
800.00	11.50	95.66	796.15	-5.67	57.23	57.51	2.00	2.00	0.00	0.00
845.00	12.40	95.66	840.17	-6.59	66.50	66.82	2.00	2.00	0.00	0.00
<b>Build Rate = 2.00°/100ft</b>										
900.00	13.50	95.66	893.77	-7.80	78.77	79.15	2.00	2.00	0.00	0.00
1,000.00	15.50	95.66	990.58	-10.27	103.68	104.18	2.00	2.00	0.00	0.00
1,100.00	17.50	95.66	1,086.46	-13.07	131.95	132.58	2.00	2.00	0.00	0.00
1,200.00	19.50	95.66	1,181.29	-16.20	163.52	164.30	2.00	2.00	0.00	0.00
1,300.00	21.50	95.66	1,274.95	-19.65	198.37	199.32	2.00	2.00	0.00	0.00
1,400.00	23.50	95.66	1,367.33	-23.42	236.45	237.58	2.00	2.00	0.00	0.00
1,463.42	24.77	95.66	1,425.21	-25.98	262.25	263.51	2.00	2.00	0.00	0.00
<b>End Build at 1463.42ft</b>										
1,500.00	24.77	95.66	1,458.42	-27.49	277.50	278.84	0.00	0.00	0.00	0.00
1,600.00	24.77	95.66	1,549.22	-31.62	319.19	320.73	0.00	0.00	0.00	0.00
1,700.00	24.77	95.66	1,640.02	-35.75	360.89	362.62	0.00	0.00	0.00	0.00
1,800.00	24.77	95.66	1,730.82	-39.88	402.58	404.51	0.00	0.00	0.00	0.00
1,900.00	24.77	95.66	1,821.63	-44.01	444.27	446.40	0.00	0.00	0.00	0.00
2,000.00	24.77	95.66	1,912.43	-48.14	485.96	488.29	0.00	0.00	0.00	0.00
2,100.00	24.77	95.66	2,003.23	-52.27	527.65	530.18	0.00	0.00	0.00	0.00
2,200.00	24.77	95.66	2,094.03	-56.40	569.34	572.08	0.00	0.00	0.00	0.00
2,300.00	24.77	95.66	2,184.83	-60.53	611.03	613.97	0.00	0.00	0.00	0.00
2,400.00	24.77	95.66	2,275.63	-64.66	652.72	655.86	0.00	0.00	0.00	0.00
2,500.00	24.77	95.66	2,366.43	-68.78	694.42	697.75	0.00	0.00	0.00	0.00
<b>8 5/8" Casing Pt.</b>										
2,600.00	24.77	95.66	2,457.23	-72.91	736.11	739.64	0.00	0.00	0.00	0.00
2,700.00	24.77	95.66	2,548.03	-77.04	777.80	781.53	0.00	0.00	0.00	0.00
2,800.00	24.77	95.66	2,638.83	-81.17	819.49	823.42	0.00	0.00	0.00	0.00
2,900.00	24.77	95.66	2,729.63	-85.30	861.18	865.32	0.00	0.00	0.00	0.00
3,000.00	24.77	95.66	2,820.43	-89.43	902.87	907.21	0.00	0.00	0.00	0.00
3,100.00	24.77	95.66	2,911.23	-93.56	944.56	949.10	0.00	0.00	0.00	0.00
3,200.00	24.77	95.66	3,002.04	-97.69	986.25	990.99	0.00	0.00	0.00	0.00
3,300.00	24.77	95.66	3,092.84	-101.82	1,027.95	1,032.88	0.00	0.00	0.00	0.00
<b>24.77 Inclination</b>										
3,400.00	24.77	95.66	3,183.64	-105.95	1,069.64	1,074.77	0.00	0.00	0.00	0.00
3,500.00	24.77	95.66	3,274.44	-110.08	1,111.33	1,116.66	0.00	0.00	0.00	0.00
3,600.00	24.77	95.66	3,365.24	-114.21	1,153.02	1,158.56	0.00	0.00	0.00	0.00
3,700.00	24.77	95.66	3,456.04	-118.34	1,194.71	1,200.45	0.00	0.00	0.00	0.00
3,800.00	24.77	95.66	3,546.84	-122.47	1,236.40	1,242.34	0.00	0.00	0.00	0.00
3,900.00	24.77	95.66	3,637.64	-126.60	1,278.09	1,284.23	0.00	0.00	0.00	0.00
4,000.00	24.77	95.66	3,728.44	-130.73	1,319.78	1,326.12	0.00	0.00	0.00	0.00
4,100.00	24.77	95.66	3,819.24	-134.86	1,361.48	1,368.01	0.00	0.00	0.00	0.00
4,200.00	24.77	95.66	3,910.04	-138.99	1,403.17	1,409.90	0.00	0.00	0.00	0.00
4,300.00	24.77	95.66	4,000.84	-143.12	1,444.86	1,451.80	0.00	0.00	0.00	0.00
4,400.00	24.77	95.66	4,091.65	-147.25	1,486.55	1,493.69	0.00	0.00	0.00	0.00
4,500.00	24.77	95.66	4,182.45	-151.38	1,528.24	1,535.58	0.00	0.00	0.00	0.00
4,600.00	24.77	95.66	4,273.25	-155.51	1,569.93	1,577.47	0.00	0.00	0.00	0.00
4,700.00	24.77	95.66	4,364.05	-159.64	1,611.62	1,619.36	0.00	0.00	0.00	0.00
4,800.00	24.77	95.66	4,454.85	-163.77	1,653.31	1,661.25	0.00	0.00	0.00	0.00
4,900.00	24.77	95.66	4,545.65	-167.90	1,695.01	1,703.14	0.00	0.00	0.00	0.00

## Plan Report for Rulison Federal 20-32D - Plan #1 Proposal

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
5,000.00	24.77	95.66	4,636.45	-172.03	1,736.70	1,745.04	0.00	0.00	0.00	0.00
5,100.00	24.77	95.66	4,727.25	-176.16	1,778.39	1,786.93	0.00	0.00	0.00	0.00
5,200.00	24.77	95.66	4,818.05	-180.29	1,820.08	1,828.82	0.00	0.00	0.00	0.00
5,300.00	24.77	95.66	4,908.85	-184.42	1,861.77	1,870.71	0.00	0.00	0.00	0.00
5,352.71	24.77	95.66	4,956.71	-186.59	1,883.75	1,892.79	0.00	0.00	0.00	0.00
<b>Begin Drop at 5352.71ft</b>										
5,400.00	24.06	95.66	4,999.77	-188.52	1,903.20	1,912.33	1.50	-1.50	0.00	180.00
5,500.00	22.56	95.66	5,091.61	-192.42	1,942.57	1,951.90	1.50	-1.50	0.00	180.00
5,600.00	21.06	95.66	5,184.45	-196.08	1,979.54	1,989.05	1.50	-1.50	0.00	180.00
5,700.00	19.56	95.66	5,278.23	-199.50	2,014.08	2,023.75	1.50	-1.50	0.00	180.00
5,800.00	18.06	95.66	5,372.89	-202.68	2,046.16	2,055.99	1.50	-1.50	0.00	180.00
5,900.00	16.56	95.66	5,468.36	-205.61	2,075.77	2,085.74	1.50	-1.50	0.00	180.00
6,000.00	15.06	95.66	5,564.57	-208.30	2,102.88	2,112.98	1.50	-1.50	0.00	180.00
6,075.00	13.93	95.66	5,637.18	-210.15	2,121.56	2,131.75	1.50	-1.50	0.00	180.00
<b>Drop Rate = 1.50°/100ft</b>										
6,100.00	13.56	95.66	5,661.47	-210.74	2,127.48	2,137.69	1.50	-1.50	0.00	-180.00
6,200.00	12.06	95.66	5,758.97	-212.92	2,149.54	2,159.86	1.50	-1.50	0.00	180.00
6,300.00	10.56	95.66	5,857.03	-214.85	2,169.05	2,179.47	1.50	-1.50	0.00	180.00
6,400.00	9.06	95.66	5,955.57	-216.53	2,186.01	2,196.50	1.50	-1.50	0.00	180.00
6,500.00	7.56	95.66	6,054.51	-217.96	2,200.39	2,210.95	1.50	-1.50	0.00	180.00
6,600.00	6.06	95.66	6,153.80	-219.13	2,212.18	2,222.81	1.50	-1.50	0.00	180.00
6,700.00	4.56	95.66	6,253.37	-220.04	2,221.39	2,232.06	1.50	-1.50	0.00	180.00
6,800.00	3.06	95.66	6,353.15	-220.69	2,228.00	2,238.70	1.50	-1.50	0.00	180.00
6,900.00	1.56	95.66	6,453.07	-221.09	2,232.01	2,242.73	1.50	-1.50	0.00	180.00
7,000.00	0.06	95.66	6,553.05	-221.23	2,233.42	2,244.14	1.50	-1.50	0.00	180.00
7,003.95	0.00	0.00	6,557.00	-221.23	2,233.42	2,244.14	1.50	-1.50	0.00	-180.00
<b>End Drop at 7003.95ft - Williams Fork - Rulison Federal 20-32D Plan #1 Driller's Tgt</b>										
7,100.00	0.08	243.44	6,653.05	-221.26	2,233.36	2,244.09	0.08	0.08	0.00	243.44
7,200.00	0.16	243.44	6,753.05	-221.35	2,233.18	2,243.92	0.08	0.08	0.00	0.00
7,300.00	0.24	243.44	6,853.05	-221.50	2,232.87	2,243.63	0.08	0.08	0.00	0.00
7,400.00	0.32	243.44	6,953.05	-221.72	2,232.44	2,243.23	0.08	0.08	0.00	0.00
7,500.00	0.40	243.44	7,053.05	-222.00	2,231.88	2,242.70	0.08	0.08	0.00	0.00
7,600.00	0.48	243.44	7,153.05	-222.34	2,231.20	2,242.06	0.08	0.08	0.00	0.00
7,700.00	0.56	243.44	7,253.04	-222.74	2,230.39	2,241.31	0.08	0.08	0.00	0.00
7,800.00	0.64	243.44	7,353.04	-223.21	2,229.46	2,240.43	0.08	0.08	0.00	0.00
7,821.97	0.65	243.44	7,375.00	-223.32	2,229.24	2,240.23	0.08	0.08	0.00	0.00
<b>Top of Gas</b>										
7,900.00	0.72	243.44	7,453.03	-223.74	2,228.41	2,239.44	0.08	0.08	0.00	0.00
8,000.00	0.80	243.44	7,553.02	-224.33	2,227.22	2,238.33	0.08	0.08	0.00	0.00
8,100.00	0.88	243.44	7,653.01	-224.98	2,225.92	2,237.11	0.08	0.08	0.00	0.00
8,200.00	0.96	243.44	7,753.00	-225.70	2,224.49	2,235.77	0.08	0.08	0.00	0.00
8,300.00	1.04	243.44	7,852.98	-226.47	2,222.93	2,234.31	0.08	0.08	0.00	0.00
8,400.00	1.12	243.44	7,952.96	-227.31	2,221.25	2,232.73	0.08	0.08	0.00	0.00
8,500.00	1.20	243.44	8,052.94	-228.22	2,219.44	2,231.04	0.08	0.08	0.00	0.00
8,600.00	1.28	243.44	8,152.92	-229.18	2,217.51	2,229.23	0.08	0.08	0.00	0.00
8,700.00	1.36	243.44	8,252.89	-230.21	2,215.46	2,227.30	0.08	0.08	0.00	0.00
8,800.00	1.44	243.44	8,352.86	-231.30	2,213.28	2,225.26	0.08	0.08	0.00	0.00
8,900.00	1.52	243.44	8,452.83	-232.45	2,210.97	2,223.10	0.08	0.08	0.00	0.00
9,000.00	1.60	243.44	8,552.79	-233.67	2,208.54	2,220.82	0.08	0.08	0.00	0.00
9,031.30	1.62	243.44	8,584.08	-234.06	2,207.76	2,220.08	0.08	0.08	0.00	0.00
9,100.00	1.56	243.44	8,652.76	-234.91	2,206.05	2,218.48	0.08	-0.08	0.00	180.00
9,200.00	1.48	243.44	8,752.72	-236.10	2,203.67	2,216.25	0.08	-0.08	0.00	180.00
9,300.00	1.40	243.44	8,852.69	-237.22	2,201.43	2,214.15	0.08	-0.08	0.00	180.00
9,400.00	1.31	243.44	8,952.66	-238.28	2,199.32	2,212.17	0.08	-0.08	0.00	180.00
9,500.00	1.23	243.44	9,052.64	-239.27	2,197.34	2,210.31	0.08	-0.08	0.00	180.00
9,595.38	1.15	243.44	9,148.00	-240.15	2,195.57	2,208.65	0.08	-0.08	0.00	-180.00
<b>Cameo</b>										
9,600.00	1.14	243.44	9,152.61	-240.19	2,195.49	2,208.58	0.08	-0.08	0.00	180.00
9,700.00	1.06	243.44	9,252.60	-241.05	2,193.77	2,206.97	0.08	-0.08	0.00	180.00

## Plan Report for Rulison Federal 20-32D - Plan #1 Proposal

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
9,800.00	0.97	243.44	9,352.58	-241.85	2,192.19	2,205.48	0.08	-0.08	0.00	180.00
9,900.00	0.89	243.44	9,452.57	-242.57	2,190.73	2,204.12	0.08	-0.08	0.00	180.00
10,000.00	0.80	243.44	9,552.56	-243.23	2,189.41	2,202.88	0.08	-0.08	0.00	180.00
10,055.45	0.76	243.44	9,608.00	-243.57	2,188.74	2,202.24	0.08	-0.08	0.00	180.00
<b>Rollins</b>										
10,100.00	0.72	243.44	9,652.55	-243.83	2,188.22	2,201.76	0.08	-0.08	0.00	-180.00
10,200.00	0.64	243.44	9,752.54	-244.36	2,187.16	2,200.77	0.08	-0.08	0.00	180.00
10,300.00	0.55	243.44	9,852.54	-244.82	2,186.24	2,199.90	0.08	-0.08	0.00	180.00
10,394.47	0.47	243.44	9,947.00	-245.20	2,185.48	2,199.19	0.08	-0.08	0.00	180.00
<b>Cozzette</b>										
10,400.00	0.47	243.44	9,952.53	-245.22	2,185.44	2,199.16	0.08	-0.08	0.00	-180.00
10,500.00	0.38	243.44	10,052.53	-245.55	2,184.78	2,198.53	0.08	-0.08	0.00	180.00
10,600.00	0.30	243.44	10,152.53	-245.81	2,184.25	2,198.04	0.08	-0.08	0.00	180.00
10,673.47	0.24	243.44	10,226.00	-245.97	2,183.94	2,197.75	0.08	-0.08	0.00	-180.00
<b>Corcoran</b>										
10,700.00	0.21	243.44	10,252.53	-246.01	2,183.85	2,197.66	0.08	-0.08	0.00	180.00
10,800.00	0.13	243.44	10,352.53	-246.15	2,183.58	2,197.41	0.08	-0.08	0.00	180.00
10,803.47	0.13	243.44	10,356.00	-246.15	2,183.57	2,197.40	0.09	-0.09	0.00	-180.00
<b>Mancos</b>										
10,900.00	0.05	243.44	10,452.52	-246.22	2,183.44	2,197.28	0.08	-0.08	0.00	180.00
10,953.48	0.00	0.00	10,506.00	-246.23	2,183.42	2,197.26	0.08	-0.08	0.00	180.00
<b>Rulison Federal 20-32D Plan #1 BH Tgt</b>										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
225.00	225.00	0.00	0.00	Kickoff at 225.00ft
845.00	840.17	-6.59	66.50	Build Rate = 2.00°/100ft
1,463.42	1,425.21	-25.98	262.25	End Build at 1463.42ft
3,300.00	3,092.84	-101.82	1,027.95	24.77 Inclination
5,352.71	4,956.71	-186.59	1,883.75	Begin Drop at 5352.71ft
6,075.00	5,637.18	-210.15	2,121.56	Drop Rate = 1.50°/100ft
7,003.95	6,557.00	-221.23	2,233.42	End Drop at 7003.95ft
10,953.48	10,506.00	-246.23	2,183.42	Total Depth = 10953.48ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	+N/-S (ft)	+E/-W (ft)	Start TVD (ft)
Target	Rulison Federal 20-32D Plan #1 BH Tgt	96.43	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	10,953.48	Plan #1 Proposal	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,500.00	2,366.43	8 5/8" Casing Pt.	8-5/8	11

## Plan Report for Rulison Federal 20-32D - Plan #1 Proposal

**Formation Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,003.95	6,557.00	Williams Fork		0.00	
7,821.97	7,375.00	Top of Gas		0.00	
9,595.38	9,148.00	Cameo		0.00	
10,055.45	9,608.00	Rollins		0.00	
10,394.47	9,947.00	Cozzette		0.00	
10,673.47	10,226.00	Corcoran		0.00	
10,803.47	10,356.00	Mancos		0.00	

**Targets associated with this wellbore**

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Rulison Federal 20-32D Plan #1 BH Tgt	10,506.00	-246.23	2,183.42	Point
Rulison Federal 20-32D Plan #1 Zone Tgt	7,375.00	-246.23	2,183.42	Rectangle
Rulison Federal 20-32D Plan #1 Driller's Tgt	6,557.00	-221.23	2,233.42	Rectangle
Rulison Federal 20-32D Hardline	0.00	0.00	0.00	Polygon

## North Reference Sheet for Sec. 20-T7S-R94W - Rulison Federal 20-32D - Plan #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to RKB 25' @ 7931.00ft (Original Well Elev). Northing and Easting are relative to Rulison Federal 20-32D

Coordinate System is US State Plane 1927 (Exact solution), Colorado Central 502 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.50°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:39° 45' 0.000 N°

False Easting: 2,000,000.00ft, False Northing: 0.00ft, Scale Reduction: 0.99995193

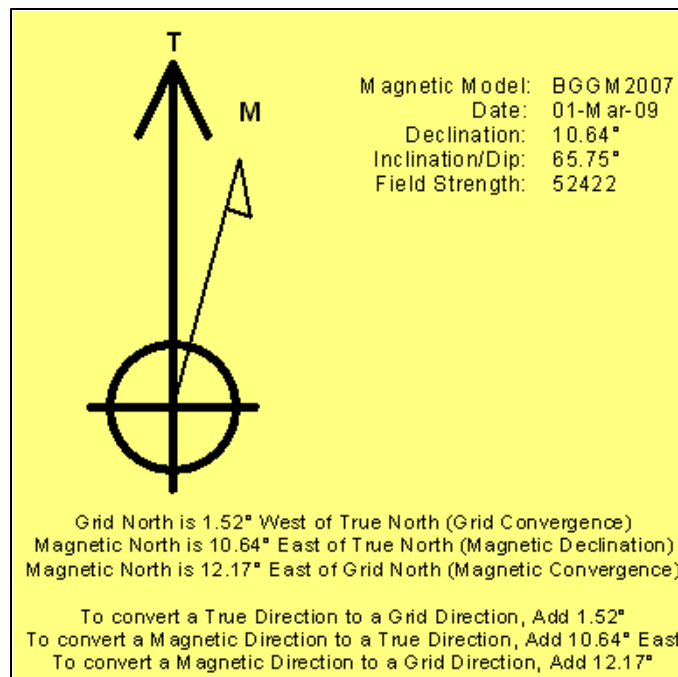
Grid Coordinates of Well: 589,013.27 ft N, 1,317,924.03 ft E

Geographical Coordinates of Well: 39° 25' 32.70" N, 107° 54' 53.29" W

Grid Convergence at Surface is: -1.52°

Based upon Minimum Curvature type calculations, at a Measured Depth of 10,953.48ft  
the Bottom Hole Displacement is 2,197.26ft in the Direction of 96.43° (True).

Magnetic Convergence at surface is: -12.17° ( 1 March 2009, , BGGM2007)



Project: Garfield County, CO  
Site: Sec. 20-T7S-R94W  
Well: Rulison Federal 20-32D  
Wellbore: Plan #1  
Plan: Plan #1 Proposal

# Noble Energy

HALLIBURTON

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	225.00	0.00	0.00	225.00	0.00	0.00	0.00	0.00	0.00	
3	1463.42	24.77	95.66	1425.21	-25.98	262.25	2.00	95.66	263.51	
4	5352.71	24.77	95.66	4956.72	-186.59	1883.75	0.00	0.00	1892.79	Rulison Federal 20-32D Plan #1 Driller's Tgt
5	7003.95	0.00	0.00	6557.00	-221.23	2233.42	1.50	180.00	2244.14	
6	9031.30	1.62	243.44	8584.08	-234.06	2207.76	0.08	243.44	2220.08	
7	10953.48	0.00	0.00	10506.00	-246.23	2183.42	0.08	180.00	2197.26	Rulison Federal 20-32D Plan #1 BH Tgt

## WELL DETAILS: Rulison Federal 20-32D

Northing	Easting	Ground Level:	Latitude	Longitude
589013.27	1317924.03	7906.00	39°25'32.701 N	107°54'53.290 W

## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
6557.00	7003.95	Williams Fork
7375.00	7821.97	Top of Gas
9148.00	9595.38	Cameo
9608.00	10055.45	Rollins
9947.00	10394.47	Cozzette
10226.00	10673.47	Corcoran
10356.00	10803.47	Mancos

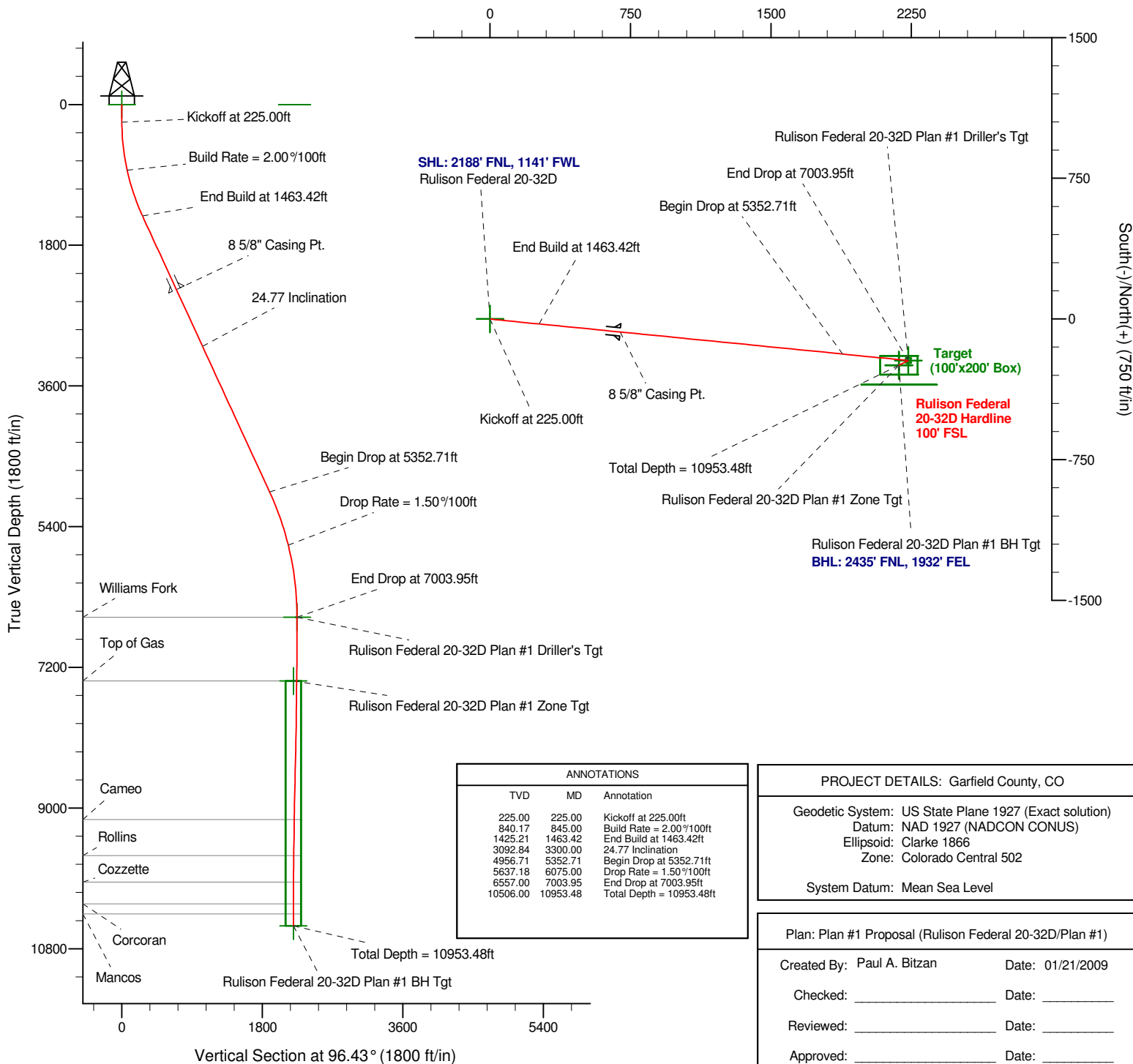
## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
Rulison Federal 20-32D Hardline	0.00	0.00	0.00	Polygon
Rulison Federal 20-32D Plan #1 Driller's Tgt	6557.00	-221.23	2233.42	Rectangle (Sides: L25.00 W25.00)
Rulison Federal 20-32D Plan #1 Zone Tgt	7375.00	-246.23	2183.42	Rectangle (Sides: L100.00 W200.00)
Rulison Federal 20-32D Plan #1 BH Tgt	10506.00	-246.23	2183.42	Point



Azimuths to True North  
Magnetic North: 10.64°  
Magnetic Field  
Strength: 52422.0nT  
Dip Angle: 65.75°  
Date: 3/1/2009  
Model: BGGM2007

West(-)/East(+) (750 ft/in)



## ANNOTATIONS

TVD	MD	Annotation
225.00	225.00	Kickoff at 225.00ft
840.17	845.00	Build Rate = 2.00%/100ft
1425.21	1463.42	End Build at 1463.42ft
3092.84	3300.00	24.77 Inclin
4956.71	5352.71	Begin Drop at 5352.71ft
5637.18	6075.00	Drop Rate = 1.50%/100ft
6557.00	7003.95	End Drop at 7003.95ft
10506.00	10953.48	Total Depth = 10953.48ft

## PROJECT DETAILS: Garfield County, CO

Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: Colorado Central 502

System Datum: Mean Sea Level

Plan: Plan #1 Proposal (Rulison Federal 20-32D/Plan #1)

Created By: Paul A. Bitzan Date: 01/21/2009

Checked: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_

Approved: \_\_\_\_\_ Date: \_\_\_\_\_