

Noble Energy

Garfield County, CO

Sec. 20-T7S-R94W

Rulison Federal 20-32A

Plan #1

Plan: Plan #1 Proposal

Sperry Drilling Services

Proposal Report

22 January, 2009

Well Coordinates: 589,022.77 N, 1,317,916.53 E (39° 25' 32.79" N, 107° 54' 53.39" W)

Ground Level: 7,906.00 ft

Local Coordinate Origin:

Centered on Well Rulison Federal 20-32A

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 20-32A - 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
Kickoff at 225.00ft										
300.00	1.50	65.00	299.99	0.41	0.89	0.97	2.00	2.00	0.00	65.00
400.00	3.50	65.00	399.89	2.26	4.84	5.30	2.00	2.00	0.00	0.00
500.00	5.50	65.00	499.58	5.57	11.95	13.08	2.00	2.00	0.00	0.00
600.00	7.50	65.00	598.93	10.36	22.21	24.31	2.00	2.00	0.00	0.00
700.00	9.50	65.00	697.83	16.60	35.61	38.98	2.00	2.00	0.00	0.00
800.00	11.50	65.00	796.15	24.31	52.12	57.05	2.00	2.00	0.00	0.00
870.00	12.90	65.00	864.56	30.56	65.53	71.73	2.00	2.00	0.00	0.00
Build Rate = 2.00°/100ft										
900.00	13.50	65.00	893.77	33.45	71.74	78.52	2.00	2.00	0.00	0.00
1,000.00	15.50	65.00	990.58	44.03	94.43	103.36	2.00	2.00	0.00	0.00
1,100.00	17.50	65.00	1,086.46	56.04	120.17	131.53	2.00	2.00	0.00	0.00
1,200.00	19.50	65.00	1,181.29	69.44	148.92	163.01	2.00	2.00	0.00	0.00
1,300.00	21.50	65.00	1,274.95	84.24	180.66	197.75	2.00	2.00	0.00	0.00
1,400.00	23.50	65.00	1,367.33	100.42	215.34	235.71	2.00	2.00	0.00	0.00
1,500.00	25.50	65.00	1,458.32	117.94	252.93	276.85	2.00	2.00	0.00	0.00
1,528.50	26.07	65.00	1,483.99	123.18	264.16	289.14	2.00	2.00	0.00	0.00
End Build / Begin Turn at 1528.50ft										
1,600.00	26.02	67.44	1,548.23	135.84	292.88	320.36	1.50	-0.07	3.41	93.70
1,640.00	26.01	68.81	1,584.17	142.37	309.17	337.86	1.50	-0.02	3.42	91.51
Turn Rate = 1.50°/100ft										
1,700.00	26.02	70.86	1,638.09	151.45	333.87	364.15	1.50	0.02	3.42	90.28
1,769.56	26.07	73.23	1,700.59	160.86	362.92	394.69	1.50	0.07	3.41	88.44
End Turn at 1769.56ft										
1,800.00	26.07	73.23	1,727.93	164.72	375.73	408.06	0.00	0.00	0.00	0.00
1,900.00	26.07	73.23	1,817.76	177.39	417.80	452.00	0.00	0.00	0.00	0.00
2,000.00	26.07	73.23	1,907.59	190.07	459.88	495.94	0.00	0.00	0.00	0.00
2,100.00	26.07	73.23	1,997.41	202.75	501.96	539.88	0.00	0.00	0.00	0.00
2,200.00	26.07	73.23	2,087.24	215.43	544.04	583.82	0.00	0.00	0.00	0.00
2,300.00	26.07	73.23	2,177.06	228.10	586.12	627.76	0.00	0.00	0.00	0.00
2,400.00	26.07	73.23	2,266.89	240.78	628.20	671.70	0.00	0.00	0.00	0.00
2,500.00	26.07	73.23	2,356.72	253.46	670.27	715.64	0.00	0.00	0.00	0.00
8 5/8" Casing Pt.										
2,600.00	26.07	73.23	2,446.54	266.14	712.35	759.58	0.00	0.00	0.00	0.00
2,700.00	26.07	73.23	2,536.37	278.81	754.43	803.52	0.00	0.00	0.00	0.00
2,800.00	26.07	73.23	2,626.19	291.49	796.51	847.46	0.00	0.00	0.00	0.00
2,900.00	26.07	73.23	2,716.02	304.17	838.59	891.40	0.00	0.00	0.00	0.00
3,000.00	26.07	73.23	2,805.85	316.85	880.67	935.34	0.00	0.00	0.00	0.00
3,100.00	26.07	73.23	2,895.67	329.52	922.74	979.28	0.00	0.00	0.00	0.00
3,200.00	26.07	73.23	2,985.50	342.20	964.82	1,023.22	0.00	0.00	0.00	0.00
3,300.00	26.07	73.23	3,075.32	354.88	1,006.90	1,067.16	0.00	0.00	0.00	0.00
3,400.00	26.07	73.23	3,165.15	367.55	1,048.98	1,111.10	0.00	0.00	0.00	0.00
3,500.00	26.07	73.23	3,254.98	380.23	1,091.06	1,155.04	0.00	0.00	0.00	0.00
26.07 Inclination										
3,600.00	26.07	73.23	3,344.80	392.91	1,133.14	1,198.98	0.00	0.00	0.00	0.00
3,700.00	26.07	73.23	3,434.63	405.59	1,175.21	1,242.92	0.00	0.00	0.00	0.00
3,800.00	26.07	73.23	3,524.45	418.26	1,217.29	1,286.86	0.00	0.00	0.00	0.00
3,900.00	26.07	73.23	3,614.28	430.94	1,259.37	1,330.80	0.00	0.00	0.00	0.00
4,000.00	26.07	73.23	3,704.11	443.62	1,301.45	1,374.74	0.00	0.00	0.00	0.00
4,100.00	26.07	73.23	3,793.93	456.30	1,343.53	1,418.68	0.00	0.00	0.00	0.00
4,200.00	26.07	73.23	3,883.76	468.97	1,385.60	1,462.62	0.00	0.00	0.00	0.00
4,300.00	26.07	73.23	3,973.58	481.65	1,427.68	1,506.56	0.00	0.00	0.00	0.00
4,400.00	26.07	73.23	4,063.41	494.33	1,469.76	1,550.50	0.00	0.00	0.00	0.00

Plan Report for Rulison Federal 20-32A - 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 (°)
4,500.00	26.07	73.23	4,153.24	507.00	1,511.84	1,594.44	0.00	0.00	0.00	0.00
4,600.00	26.07	73.23	4,243.06	519.68	1,553.92	1,638.38	0.00	0.00	0.00	0.00
4,700.00	26.07	73.23	4,332.89	532.36	1,596.00	1,682.32	0.00	0.00	0.00	0.00
4,800.00	26.07	73.23	4,422.71	545.04	1,638.07	1,726.26	0.00	0.00	0.00	0.00
4,900.00	26.07	73.23	4,512.54	557.71	1,680.15	1,770.20	0.00	0.00	0.00	0.00
5,000.00	26.07	73.23	4,602.37	570.39	1,722.23	1,814.14	0.00	0.00	0.00	0.00
5,100.00	26.07	73.23	4,692.19	583.07	1,764.31	1,858.08	0.00	0.00	0.00	0.00
5,200.00	26.07	73.23	4,782.02	595.75	1,806.39	1,902.02	0.00	0.00	0.00	0.00
5,300.00	26.07	73.23	4,871.84	608.42	1,848.47	1,945.96	0.00	0.00	0.00	0.00
5,357.36	26.07	73.23	4,923.37	615.69	1,872.60	1,971.16	0.00	0.00	0.00	0.00
Begin Drop at 5357.36ft										
5,400.00	25.43	73.23	4,961.77	621.04	1,890.34	1,989.68	1.50	-1.50	0.00	180.00
5,500.00	23.93	73.23	5,052.64	633.08	1,930.32	2,031.43	1.50	-1.50	0.00	180.00
5,600.00	22.43	73.23	5,144.56	644.44	1,968.01	2,070.79	1.50	-1.50	0.00	180.00
5,700.00	20.93	73.23	5,237.48	655.09	2,003.38	2,107.72	1.50	-1.50	0.00	180.00
5,800.00	19.43	73.23	5,331.34	665.05	2,036.41	2,142.22	1.50	-1.50	0.00	180.00
5,900.00	17.93	73.23	5,426.07	674.28	2,067.07	2,174.24	1.50	-1.50	0.00	180.00
6,000.00	16.43	73.23	5,521.61	682.81	2,095.35	2,203.77	1.50	-1.50	0.00	180.00
6,100.00	14.93	73.23	5,617.88	690.60	2,121.23	2,230.79	1.50	-1.50	0.00	180.00
6,200.00	13.43	73.23	5,714.83	697.67	2,144.69	2,255.28	1.50	-1.50	0.00	180.00
6,225.00	13.06	73.23	5,739.17	699.32	2,150.17	2,261.01	1.50	-1.50	0.00	-180.00
Drop Rate = 1.50°/100ft										
6,300.00	11.93	73.23	5,812.39	704.00	2,165.70	2,277.23	1.50	-1.50	0.00	180.00
6,400.00	10.43	73.23	5,910.49	709.59	2,184.27	2,296.62	1.50	-1.50	0.00	180.00
6,500.00	8.93	73.23	6,009.06	714.44	2,200.37	2,313.43	1.50	-1.50	0.00	-180.00
6,600.00	7.43	73.23	6,108.04	718.55	2,213.99	2,327.66	1.50	-1.50	0.00	180.00
6,700.00	5.93	73.23	6,207.36	721.90	2,225.13	2,339.29	1.50	-1.50	0.00	180.00
6,800.00	4.43	73.23	6,306.95	724.51	2,233.77	2,348.31	1.50	-1.50	0.00	180.00
6,900.00	2.93	73.23	6,406.74	726.36	2,239.92	2,354.73	1.50	-1.50	0.00	180.00
7,000.00	1.43	73.23	6,506.67	727.46	2,243.56	2,358.53	1.50	-1.50	0.00	180.00
7,095.34	0.00	0.00	6,602.00	727.80	2,244.70	2,359.72	1.50	-1.50	0.00	-180.00
End Drop at 7095.34ft - Williams Fork - Rulison Federal 20-32A Plan #1 Driller's Tgt										
7,100.00	0.00	243.41	6,606.66	727.80	2,244.70	2,359.72	0.08	0.08	0.00	243.41
7,200.00	0.08	243.41	6,706.66	727.77	2,244.63	2,359.65	0.08	0.08	0.00	0.00
7,300.00	0.16	243.41	6,806.66	727.67	2,244.44	2,359.44	0.08	0.08	0.00	0.00
7,400.00	0.24	243.41	6,906.66	727.51	2,244.12	2,359.08	0.08	0.08	0.00	0.00
7,500.00	0.32	243.41	7,006.66	727.29	2,243.68	2,358.59	0.08	0.08	0.00	0.00
7,600.00	0.40	243.41	7,106.65	727.00	2,243.11	2,357.97	0.08	0.08	0.00	0.00
7,700.00	0.48	243.41	7,206.65	726.66	2,242.42	2,357.20	0.08	0.08	0.00	0.00
7,800.00	0.56	243.41	7,306.65	726.25	2,241.60	2,356.30	0.08	0.08	0.00	0.00
7,900.00	0.64	243.41	7,406.64	725.78	2,240.66	2,355.26	0.08	0.08	0.00	0.00
7,913.36	0.65	243.41	7,420.00	725.71	2,240.52	2,355.11	0.08	0.08	0.00	0.00
Top of Gas										
8,000.00	0.72	243.41	7,506.63	725.24	2,239.59	2,354.08	0.08	0.08	0.00	0.00
8,100.00	0.80	243.41	7,606.62	724.65	2,238.40	2,352.76	0.08	0.08	0.00	0.00
8,200.00	0.88	243.41	7,706.61	723.99	2,237.08	2,351.31	0.08	0.08	0.00	0.00
8,300.00	0.96	243.41	7,806.60	723.26	2,235.64	2,349.71	0.08	0.08	0.00	0.00
8,400.00	1.04	243.41	7,906.59	722.48	2,234.07	2,347.98	0.08	0.08	0.00	0.00
8,500.00	1.12	243.41	8,006.57	721.63	2,232.38	2,346.11	0.08	0.08	0.00	0.00
8,600.00	1.20	243.41	8,106.55	720.72	2,230.57	2,344.11	0.08	0.08	0.00	0.00
8,700.00	1.28	243.41	8,206.52	719.75	2,228.63	2,341.96	0.08	0.08	0.00	0.00
8,800.00	1.36	243.41	8,306.50	718.72	2,226.56	2,339.68	0.08	0.08	0.00	0.00
8,900.00	1.44	243.41	8,406.47	717.62	2,224.37	2,337.26	0.08	0.08	0.00	0.00
9,000.00	1.52	243.41	8,506.43	716.46	2,222.05	2,334.70	0.08	0.08	0.00	0.00
9,100.00	1.60	243.41	8,606.40	715.24	2,219.61	2,332.00	0.08	0.08	0.00	0.00
9,120.76	1.62	243.41	8,627.15	714.98	2,219.09	2,331.43	0.08	0.08	0.00	0.00
9,200.00	1.55	243.41	8,706.36	714.00	2,217.13	2,329.26	0.08	-0.08	0.00	180.00
9,300.00	1.47	243.41	8,806.32	712.82	2,214.77	2,326.65	0.08	-0.08	0.00	180.00
9,400.00	1.39	243.41	8,906.29	711.70	2,212.54	2,324.19	0.08	-0.08	0.00	180.00

Plan Report for Rulison Federal 20-32A - 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 (°)
9,500.00	1.30	243.41	9,006.26	710.65	2,210.45	2,321.87	0.08	-0.08	0.00	180.00
9,600.00	1.22	243.41	9,106.24	709.67	2,208.48	2,319.70	0.08	-0.08	0.00	180.00
9,686.78	1.14	243.41	9,193.00	708.87	2,206.89	2,317.94	0.08	-0.08	0.00	180.00
Cameo										
9,700.00	1.13	243.41	9,206.22	708.75	2,206.65	2,317.68	0.08	-0.08	0.00	-180.00
9,800.00	1.05	243.41	9,306.20	707.90	2,204.95	2,315.80	0.08	-0.08	0.00	180.00
9,900.00	0.96	243.41	9,406.18	707.11	2,203.38	2,314.06	0.08	-0.08	0.00	180.00
10,000.00	0.88	243.41	9,506.17	706.39	2,201.94	2,312.47	0.08	-0.08	0.00	180.00
10,100.00	0.80	243.41	9,606.16	705.74	2,200.63	2,311.03	0.08	-0.08	0.00	180.00
10,146.84	0.76	243.41	9,653.00	705.45	2,200.06	2,310.40	0.08	-0.08	0.00	-180.00
Rollins										
10,200.00	0.71	243.41	9,706.15	705.15	2,199.46	2,309.73	0.08	-0.08	0.00	180.00
10,300.00	0.63	243.41	9,806.15	704.63	2,198.41	2,308.57	0.08	-0.08	0.00	180.00
10,400.00	0.54	243.41	9,906.14	704.17	2,197.50	2,307.56	0.08	-0.08	0.00	180.00
10,485.86	0.47	243.41	9,992.00	703.83	2,196.82	2,306.81	0.08	-0.08	0.00	-180.00
Cozzette										
10,500.00	0.46	243.41	10,006.14	703.78	2,196.72	2,306.70	0.08	-0.08	0.00	180.00
10,600.00	0.37	243.41	10,106.13	703.45	2,196.07	2,305.98	0.08	-0.08	0.00	180.00
10,700.00	0.29	243.41	10,206.13	703.19	2,195.55	2,305.41	0.08	-0.08	0.00	180.00
10,764.87	0.24	243.41	10,271.00	703.06	2,195.28	2,305.11	0.08	-0.08	0.00	180.00
Corcoran										
10,800.00	0.21	243.41	10,306.13	703.00	2,195.16	2,304.98	0.08	-0.08	0.00	-180.00
10,894.87	0.13	243.41	10,401.00	702.87	2,194.91	2,304.71	0.08	-0.08	0.00	-180.00
Mancos										
10,900.00	0.12	243.41	10,406.13	702.87	2,194.90	2,304.70	0.08	-0.08	0.00	180.00
11,000.00	0.04	243.41	10,506.13	702.81	2,194.78	2,304.56	0.08	-0.08	0.00	180.00
11,044.87	0.00	0.00	10,551.00	702.80	2,194.77	2,304.54	0.08	-0.08	0.00	180.00
Rulison Federal 20-32A Plan #1 BH Tgt										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
225.00	225.00	0.00	0.00	Kickoff at 225.00ft
870.00	864.56	30.56	65.53	Build Rate = 2.00°/100ft
1,528.50	1,483.99	123.18	264.16	End Build / Begin Turn at 1528.50ft
1,640.00	1,584.17	142.37	309.17	Turn Rate = 1.50°/100ft
1,769.56	1,700.59	160.86	362.92	End Turn at 1769.56ft
3,500.00	3,254.98	380.23	1,091.06	26.07 Inclination
5,357.36	4,923.37	615.69	1,872.60	Begin Drop at 5357.36ft
6,225.00	5,739.17	699.32	2,150.17	Drop Rate = 1.50°/100ft
7,095.34	6,602.00	727.80	2,244.70	End Drop at 7095.34ft
11,044.87	10,551.00	702.80	2,194.77	Total Depth = 11044.87ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	Origin +E/-W (ft)	Start TVD (ft)
Target	Rulison Federal 20-32A Plan #1 BH Tgt	72.24	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	11,044.87	Plan #1 Proposal	MWD

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

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,500.00	2,356.72	8 5/8" Casing Pt.	8-5/8	11

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,095.34	6,602.00	Williams Fork		0.00	
7,913.36	7,420.00	Top of Gas		0.00	
9,686.78	9,193.00	Cameo		0.00	
10,146.84	9,653.00	Rollins		0.00	
10,485.86	9,992.00	Cozzette		0.00	
10,764.87	10,271.00	Corcoran		0.00	
10,894.87	10,401.00	Mancos		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Rulison Federal 20-32A Plan #1 Zone Tgt	7,420.00	702.80	2,194.77	Rectangle
Rulison Federal 20-32A Hardline	0.00	0.00	0.00	Polygon
Rulison Federal 20-32A Plan #1 BH Tgt	10,551.00	702.80	2,194.77	Point
Rulison Federal 20-32A Plan #1 Driller's Tgt	6,602.00	727.80	2,244.70	Rectangle

North Reference Sheet for Sec. 20-T7S-R94W - Rulison Federal 20-32A - 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 20-32A

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

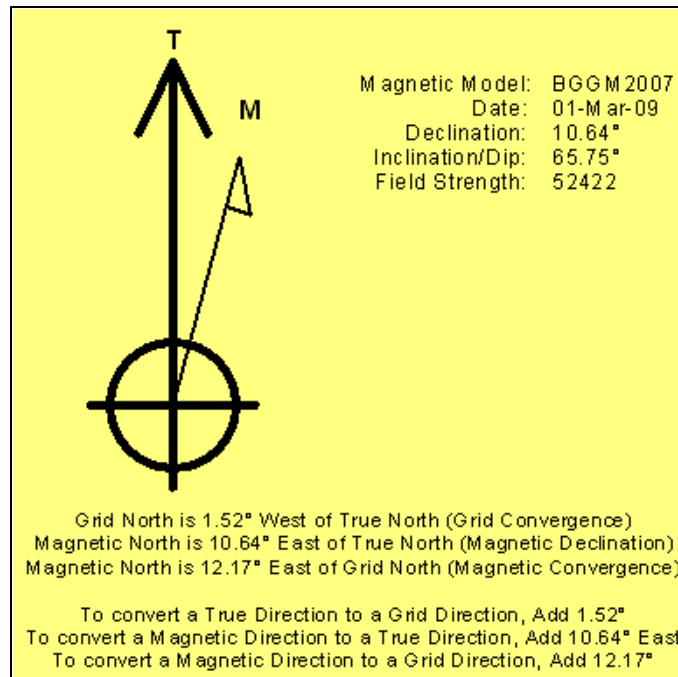
Grid Coordinates of Well: 589,022.77 ft N, 1,317,916.53 ft E

Geographical Coordinates of Well: 39° 25' 32.79" N, 107° 54' 53.39" W

Grid Convergence at Surface is: -1.52°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,044.87ft
the Bottom Hole Displacement is 2,304.54ft in the Direction of 72.24° (True).

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



Project: Garfield County, CO
Site: Sec. 20-T7S-R94W
Well: Rulison Federal 20-32A
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	1528.50	26.07	65.00	1483.99	123.18	264.16	2.00	65.00	289.14
4	1769.56	26.07	73.23	1700.59	160.86	362.92	1.50	93.70	394.68
5	5357.36	26.07	73.23	4923.37	615.69	1872.60	0.00	0.00	1971.16
6	7095.34	0.00	0.00	6602.00	727.80	2244.70	1.50	180.00	2359.72
7	9120.76	1.62	243.41	8627.15	714.98	2219.09	0.08	243.41	2331.43
8	11044.87	0.00	0.00	10551.00	702.80	2194.77	0.08	180.00	2304.54

WELL DETAILS: Rulison Federal 20-32A

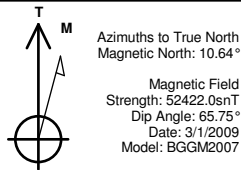
Northing	Easting	Ground Level:	Latitude	Longitude
589022.77	1317916.53	7906.00	39° 25' 32.793 N	107° 54' 53.389 W

FORMATION TOP DETAILS

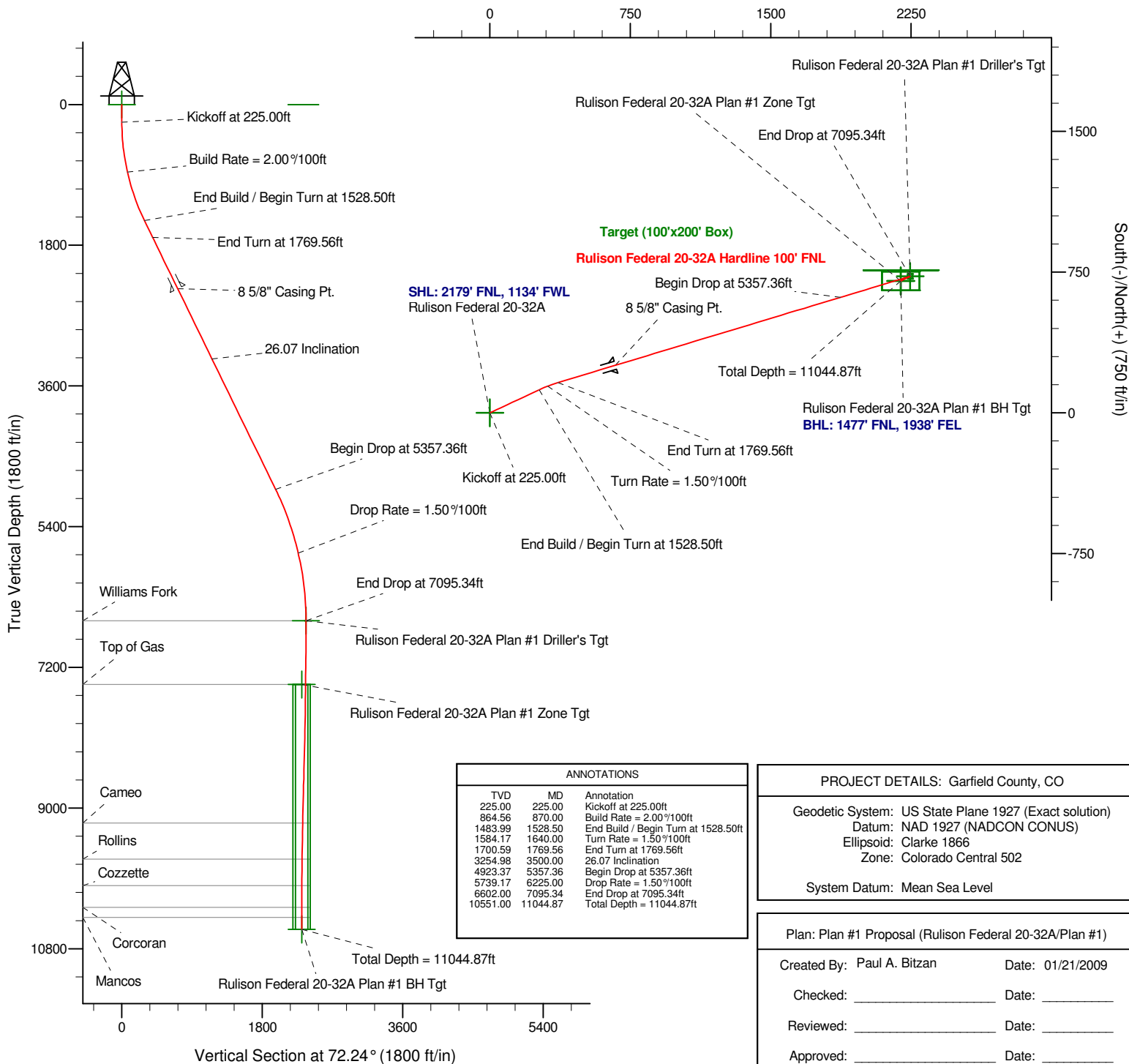
TVDPath	MDPath	Formation
6602.00	7095.34	Williams Fork
7420.00	7913.36	Top of Gas
9193.00	9686.78	Cameo
9653.00	10146.84	Rollins
9992.00	10485.86	Cozzette
10271.00	10764.87	Corcoran
10401.00	10894.87	Mancos

WELLBORE TARGET DETAILS

Name	TVD	+N-/S	+E-/W	Shape
Rulison Federal 20-32A Hardline	0.00	0.00	0.00	Polygon
Rulison Federal 20-32A Plan #1 Driller's Tgt	6602.00	727.80	2244.70	Rectangle (Sides: L25.00 W25.00)
Rulison Federal 20-32A Plan #1 Zone Tgt	7420.00	702.80	2194.77	Rectangle (Sides: L100.00 W200.00)
Rulison Federal 20-32A Plan #1 BH Tgt	10551.00	702.80	2194.77	Point



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



ANNOTATIONS

TVD	MD	Annotation
225.00	225.00	Kickoff at 225.00ft
864.56	870.00	Build Rate = 2.00%/100ft
1483.99	1528.50	End Build / Begin Turn at 1528.50ft
1584.17	1640.00	Turn Rate = 1.50%/100ft
1700.59	1769.56	End Turn at 1769.56ft
3254.98	3500.00	26.07 Inclination
4923.37	5357.36	Begin Drop at 5357.36ft
5739.17	6225.00	Drop Rate = 1.50%/100ft
6602.00	7095.34	End Drop at 7095.34ft
10551.00	11044.87	Total Depth = 11044.87ft

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 20-32A/Plan #1)

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

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____