

# EOG Resources, Inc.

Weld County, CO

Sec. 36-T12N-R63W

Longhorn G4-36H - A1

Plan #1

Plan: Plan #1 Proposal

## Sperry Drilling Services

### Proposal Report

10 February, 2010

Well Coordinates: 594,690.20 N, 2,309,045.52 E (40° 57' 37.66" N, 104° 22' 52.00" W)

Ground Level: 5,343.00 ft

Local Coordinate Origin:

Centered on Well Longhorn G4-36H - Slot A1

Viewing Datum:

RKB 20' @ 5363.00ft (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: 431

**HALLIBURTON**

**Plan Report for Longhorn G4-36H - 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
300.00	0.00	0.00	300.00	0.00	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	0.00
500.00	0.00	0.00	500.00	0.00	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	0.00
700.00	0.00	0.00	700.00	0.00	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	0.00
900.00	0.00	0.00	900.00	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	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,425.00	0.00	0.00	1,425.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8" Casing Pt.</b>										
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge at 1500.00ft</b>										
1,550.00	0.50	245.00	1,550.00	-0.09	-0.20	0.01	1.00	1.00	0.00	245.00
1,600.00	0.50	245.00	1,600.00	-0.28	-0.59	0.02	0.00	0.00	0.00	0.00
1,700.00	0.50	245.00	1,699.99	-0.65	-1.38	0.05	0.00	0.00	0.00	0.00
1,800.00	0.50	245.00	1,799.99	-1.01	-2.17	0.08	0.00	0.00	0.00	0.00
1,900.00	0.50	245.00	1,899.99	-1.38	-2.97	0.11	0.00	0.00	0.00	0.00
2,000.00	0.50	245.00	1,999.98	-1.75	-3.76	0.13	0.00	0.00	0.00	0.00
2,100.00	0.50	245.00	2,099.98	-2.12	-4.55	0.16	0.00	0.00	0.00	0.00
2,200.00	0.50	245.00	2,199.97	-2.49	-5.34	0.19	0.00	0.00	0.00	0.00
2,300.00	0.50	245.00	2,299.97	-2.86	-6.13	0.22	0.00	0.00	0.00	0.00
2,400.00	0.50	245.00	2,399.97	-3.23	-6.92	0.25	0.00	0.00	0.00	0.00
2,500.00	0.50	245.00	2,499.96	-3.60	-7.71	0.28	0.00	0.00	0.00	0.00
2,600.00	0.50	245.00	2,599.96	-3.96	-8.50	0.31	0.00	0.00	0.00	0.00
2,700.00	0.50	245.00	2,699.96	-4.33	-9.29	0.33	0.00	0.00	0.00	0.00
2,800.00	0.50	245.00	2,799.95	-4.70	-10.08	0.36	0.00	0.00	0.00	0.00
2,900.00	0.50	245.00	2,899.95	-5.07	-10.87	0.39	0.00	0.00	0.00	0.00
3,000.00	0.50	245.00	2,999.94	-5.44	-11.67	0.42	0.00	0.00	0.00	0.00
3,100.00	0.50	245.00	3,099.94	-5.81	-12.46	0.45	0.00	0.00	0.00	0.00
3,200.00	0.50	245.00	3,199.94	-6.18	-13.25	0.48	0.00	0.00	0.00	0.00
3,300.00	0.50	245.00	3,299.93	-6.55	-14.04	0.50	0.00	0.00	0.00	0.00
3,400.00	0.50	245.00	3,399.93	-6.91	-14.83	0.53	0.00	0.00	0.00	0.00
3,500.00	0.50	245.00	3,499.93	-7.28	-15.62	0.56	0.00	0.00	0.00	0.00
3,600.00	0.50	245.00	3,599.92	-7.65	-16.41	0.59	0.00	0.00	0.00	0.00
3,700.00	0.50	245.00	3,699.92	-8.02	-17.20	0.62	0.00	0.00	0.00	0.00
3,800.00	0.50	245.00	3,799.91	-8.39	-17.99	0.65	0.00	0.00	0.00	0.00
3,900.00	0.50	245.00	3,899.91	-8.76	-18.78	0.67	0.00	0.00	0.00	0.00
4,000.00	0.50	245.00	3,999.91	-9.13	-19.57	0.70	0.00	0.00	0.00	0.00
4,100.00	0.50	245.00	4,099.90	-9.50	-20.37	0.73	0.00	0.00	0.00	0.00
4,200.00	0.50	245.00	4,199.90	-9.87	-21.16	0.76	0.00	0.00	0.00	0.00
4,300.00	0.50	245.00	4,299.89	-10.23	-21.95	0.79	0.00	0.00	0.00	0.00
4,400.00	0.50	245.00	4,399.89	-10.60	-22.74	0.82	0.00	0.00	0.00	0.00
4,500.00	0.50	245.00	4,499.89	-10.97	-23.53	0.85	0.00	0.00	0.00	0.00
<b>0.50 Inclination</b>										
4,600.00	0.50	245.00	4,599.88	-11.34	-24.32	0.87	0.00	0.00	0.00	0.00
4,700.00	0.50	245.00	4,699.88	-11.71	-25.11	0.90	0.00	0.00	0.00	0.00
4,800.00	0.50	245.00	4,799.88	-12.08	-25.90	0.93	0.00	0.00	0.00	0.00
4,900.00	0.50	245.00	4,899.87	-12.45	-26.69	0.96	0.00	0.00	0.00	0.00
5,000.00	0.50	245.00	4,999.87	-12.82	-27.48	0.99	0.00	0.00	0.00	0.00
5,100.00	0.50	245.00	5,099.86	-13.18	-28.27	1.02	0.00	0.00	0.00	0.00
5,200.00	0.50	245.00	5,199.86	-13.55	-29.07	1.04	0.00	0.00	0.00	0.00

**Plan Report for Longhorn G4-36H - 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 (°)
5,300.00	0.50	245.00	5,299.86	-13.92	-29.86	1.07	0.00	0.00	0.00	0.00
5,400.00	0.50	245.00	5,399.85	-14.29	-30.65	1.10	0.00	0.00	0.00	0.00
5,500.00	0.50	245.00	5,499.85	-14.66	-31.44	1.13	0.00	0.00	0.00	0.00
5,600.00	0.50	245.00	5,599.85	-15.03	-32.23	1.16	0.00	0.00	0.00	0.00
5,700.00	0.50	245.00	5,699.84	-15.40	-33.02	1.19	0.00	0.00	0.00	0.00
5,800.00	0.50	245.00	5,799.84	-15.77	-33.81	1.21	0.00	0.00	0.00	0.00
5,900.00	0.50	245.00	5,899.83	-16.13	-34.60	1.24	0.00	0.00	0.00	0.00
6,000.00	0.50	245.00	5,999.83	-16.50	-35.39	1.27	0.00	0.00	0.00	0.00
6,100.00	0.50	245.00	6,099.83	-16.87	-36.18	1.30	0.00	0.00	0.00	0.00
6,200.00	0.50	245.00	6,199.82	-17.24	-36.97	1.33	0.00	0.00	0.00	0.00
6,300.00	0.50	245.00	6,299.82	-17.61	-37.77	1.36	0.00	0.00	0.00	0.00
6,400.00	0.50	245.00	6,399.81	-17.98	-38.56	1.39	0.00	0.00	0.00	0.00
6,500.00	0.50	245.00	6,499.81	-18.35	-39.35	1.41	0.00	0.00	0.00	0.00
6,600.00	0.50	245.00	6,599.81	-18.72	-40.14	1.44	0.00	0.00	0.00	0.00
6,700.00	0.50	245.00	6,699.80	-19.09	-40.93	1.47	0.00	0.00	0.00	0.00
6,800.00	0.50	245.00	6,799.80	-19.45	-41.72	1.50	0.00	0.00	0.00	0.00
6,900.00	0.50	245.00	6,899.80	-19.82	-42.51	1.53	0.00	0.00	0.00	0.00
7,000.00	0.50	245.00	6,999.79	-20.19	-43.30	1.56	0.00	0.00	0.00	0.00
7,100.00	0.50	245.00	7,099.79	-20.56	-44.09	1.58	0.00	0.00	0.00	0.00
7,200.00	0.50	245.00	7,199.78	-20.93	-44.88	1.61	0.00	0.00	0.00	0.00
7,300.00	0.50	245.00	7,299.78	-21.30	-45.67	1.64	0.00	0.00	0.00	0.00
7,347.20	0.50	245.00	7,346.98	-21.47	-46.05	1.65	0.00	0.00	0.00	0.00
<b>Kickoff at 7347.20ft</b>										
7,400.00	6.37	329.39	7,399.67	-19.05	-47.75	4.59	12.00	11.11	159.83	88.87
7,500.00	18.35	332.37	7,497.17	-0.26	-57.91	25.94	12.00	11.99	2.98	4.51
7,600.00	30.35	333.02	7,588.11	36.33	-76.74	67.09	12.00	12.00	0.65	1.59
7,700.00	42.35	333.33	7,668.51	89.14	-103.42	126.25	12.00	12.00	0.31	0.99
7,720.00	44.75	333.37	7,683.00	101.45	-109.60	140.03	12.00	12.00	0.22	0.74
<b>Build Rate = 12.00°/100ft</b>										
7,800.00	54.35	333.51	7,734.85	155.84	-136.78	200.84	12.00	12.00	0.18	0.71
7,900.00	66.35	333.65	7,784.23	233.53	-175.37	287.58	12.00	12.00	0.14	0.62
8,000.00	78.35	333.77	7,814.50	318.82	-217.49	382.69	12.00	12.00	0.12	0.55
8,090.70	89.23	333.87	7,824.30	399.61	-257.22	472.72	12.00	12.00	0.11	0.51
<b>Target</b>										
8,093.78	89.60	333.87	7,824.33	402.38	-258.57	475.80	12.00	12.00	0.10	0.50
<b>End Build at 8093.78ft - 7" Casing Pt.</b>										
8,100.00	89.60	333.87	7,824.38	407.96	-261.31	482.01	0.01	0.01	-0.01	-38.15
8,132.40	89.60	333.87	7,824.60	437.05	-275.58	514.42	0.01	0.00	-0.01	-110.61
8,200.00	89.60	333.87	7,825.07	497.74	-305.35	582.00	0.00	0.00	0.00	0.00
8,300.00	89.60	333.87	7,825.77	587.51	-349.40	681.99	0.00	0.00	0.00	0.00
8,400.00	89.60	333.87	7,826.47	677.29	-393.44	781.98	0.00	0.00	0.00	0.00
8,500.00	89.60	333.87	7,827.17	767.06	-437.48	881.97	0.00	0.00	0.00	0.00
8,600.00	89.60	333.87	7,827.87	856.84	-481.53	981.96	0.00	0.00	0.00	0.00
8,700.00	89.60	333.87	7,828.57	946.62	-525.57	1,081.95	0.00	0.00	0.00	0.00
8,800.00	89.60	333.87	7,829.27	1,036.39	-569.61	1,181.94	0.00	0.00	0.00	0.00
8,900.00	89.60	333.87	7,829.97	1,126.17	-613.65	1,281.93	0.00	0.00	0.00	0.00
9,000.00	89.60	333.87	7,830.67	1,215.94	-657.70	1,381.92	0.00	0.00	0.00	0.00
9,100.00	89.60	333.87	7,831.37	1,305.72	-701.74	1,481.91	0.00	0.00	0.00	0.00
9,200.00	89.60	333.87	7,832.07	1,395.50	-745.78	1,581.90	0.00	0.00	0.00	0.00
9,300.00	89.60	333.87	7,832.77	1,485.27	-789.83	1,681.89	0.00	0.00	0.00	0.00
9,400.00	89.60	333.87	7,833.47	1,575.05	-833.87	1,781.88	0.00	0.00	0.00	0.00
9,500.00	89.60	333.87	7,834.17	1,664.82	-877.91	1,881.87	0.00	0.00	0.00	0.00
9,600.00	89.60	333.87	7,834.87	1,754.60	-921.96	1,981.85	0.00	0.00	0.00	0.00
9,700.00	89.60	333.87	7,835.57	1,844.37	-966.00	2,081.84	0.00	0.00	0.00	0.00
9,800.00	89.60	333.87	7,836.27	1,934.15	-1,010.04	2,181.83	0.00	0.00	0.00	0.00
9,900.00	89.60	333.87	7,836.97	2,023.93	-1,054.09	2,281.82	0.00	0.00	0.00	0.00
10,000.00	89.60	333.87	7,837.67	2,113.70	-1,098.13	2,381.81	0.00	0.00	0.00	0.00
<b>Hold Angle at 89.60°</b>										
10,100.00	89.60	333.87	7,838.37	2,203.48	-1,142.17	2,481.80	0.00	0.00	0.00	0.00

**Plan Report for Longhorn G4-36H - 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 (°)
10,200.00	89.60	333.87	7,839.06	2,293.25	-1,186.22	2,581.79	0.00	0.00	0.00	0.00
10,300.00	89.60	333.87	7,839.76	2,383.03	-1,230.26	2,681.78	0.00	0.00	0.00	0.00
10,400.00	89.60	333.87	7,840.46	2,472.81	-1,274.30	2,781.77	0.00	0.00	0.00	0.00
10,500.00	89.60	333.87	7,841.16	2,562.58	-1,318.35	2,881.76	0.00	0.00	0.00	0.00
10,600.00	89.60	333.87	7,841.86	2,652.36	-1,362.39	2,981.75	0.00	0.00	0.00	0.00
10,700.00	89.60	333.87	7,842.56	2,742.13	-1,406.43	3,081.74	0.00	0.00	0.00	0.00
10,800.00	89.60	333.87	7,843.26	2,831.91	-1,450.48	3,181.73	0.00	0.00	0.00	0.00
10,900.00	89.60	333.87	7,843.96	2,921.69	-1,494.52	3,281.72	0.00	0.00	0.00	0.00
11,000.00	89.60	333.87	7,844.66	3,011.46	-1,538.56	3,381.71	0.00	0.00	0.00	0.00
11,100.00	89.60	333.87	7,845.36	3,101.24	-1,582.60	3,481.70	0.00	0.00	0.00	0.00
11,200.00	89.60	333.87	7,846.06	3,191.01	-1,626.65	3,581.68	0.00	0.00	0.00	0.00
11,300.00	89.60	333.87	7,846.76	3,280.79	-1,670.69	3,681.67	0.00	0.00	0.00	0.00
11,400.00	89.60	333.87	7,847.46	3,370.56	-1,714.73	3,781.66	0.00	0.00	0.00	0.00
11,500.00	89.60	333.87	7,848.16	3,460.34	-1,758.78	3,881.65	0.00	0.00	0.00	0.00
11,600.00	89.60	333.87	7,848.86	3,550.12	-1,802.82	3,981.64	0.00	0.00	0.00	0.00
11,700.00	89.60	333.87	7,849.56	3,639.89	-1,846.86	4,081.63	0.00	0.00	0.00	0.00
11,800.00	89.60	333.87	7,850.26	3,729.67	-1,890.91	4,181.62	0.00	0.00	0.00	0.00
11,900.00	89.60	333.87	7,850.96	3,819.44	-1,934.95	4,281.61	0.00	0.00	0.00	0.00
11,906.23	89.60	333.87	7,851.00	3,825.03	-1,937.69	4,287.84	0.00	0.00	0.00	0.00

Longhorn G4-36H Plan #1 BH Tgt

**Plan Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,500.00	1,500.00	0.00	0.00	Begin Nudge at 1500.00ft
4,500.00	4,499.89	-10.97	-23.53	0.50 Inclination
7,347.20	7,346.98	-21.47	-46.05	Kickoff at 7347.20ft
7,720.00	7,683.00	101.45	-109.60	Build Rate = 12.00°/100ft
8,093.78	7,824.33	402.38	-258.57	End Build at 8093.78ft
10,000.00	7,837.67	2,113.70	-1,098.13	Hold Angle at 89.60°
11,906.23	7,851.00	3,825.04	-1,937.69	Total Depth = 11906.23ft

**Vertical Section Information**

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
Target	Longhorn G4-36H Plan #1 BH Tgt	333.13	Slot	0.00	0.00	0.00

**Survey tool program**

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	11,906.03	Plan #1 Proposal	MWD

**Casing Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,425.00	1,425.00	9 5/8" Casing Pt.	9-5/8	13-1/2
8,093.78	7,824.33	7" Casing Pt.	7	8-3/4
11,906.23	7,851.00	4 1/2" Production Liner Pt.	4-1/2	6-1/4

**Plan Report for Longhorn G4-36H - Plan #1 Proposal****Formation Details**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
8,090.70	7,821.00	Target		0.40	333.13

***Targets associated with this wellbore***

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Longhorn G4-36H S. 600' Setback	0.00	0.00	0.00	Polygon
Longhorn G4-36H N. 600' Setback	0.00	0.00	0.00	Polygon
Longhorn G4-36H E. 600' Setback	0.00	0.00	0.00	Polygon
Longhorn G4-36H Plan #1 BH Tgt	7,851.00	3,825.03	-1,937.69	Point
Longhorn G4-36H E. Section Line	0.00	0.00	0.00	Polygon
Longhorn G4-36H S. Section Line	0.00	0.00	0.00	Polygon
Bevo 4-36M	0.00	2,711.07	-723.81	Circle
Longhorn G4-36H W. 600' Setback	0.00	0.00	0.00	Polygon
Longhorn G4-36H N. Section Line	0.00	0.00	0.00	Polygon
Longhorn G4-36H W. Section Line	0.00	0.00	0.00	Polygon

**North Reference Sheet for Sec. 36-T12N-R63W - Longhorn G4-36H - 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 20' @ 5363.00ft (Original Well Elev). Northing and Easting are relative to Longhorn G4-36H - Slot A1

Coordinate System is US State Plane 1927 (Exact solution), Colorado North 501 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:40° 47' 0.000 N°

False Easting: 2,000,000.00ft, False Northing: 0.00ft, Scale Reduction: 1.00003354

Grid Coordinates of Well: 594,690.20 ft N, 2,309,045.52 ft E

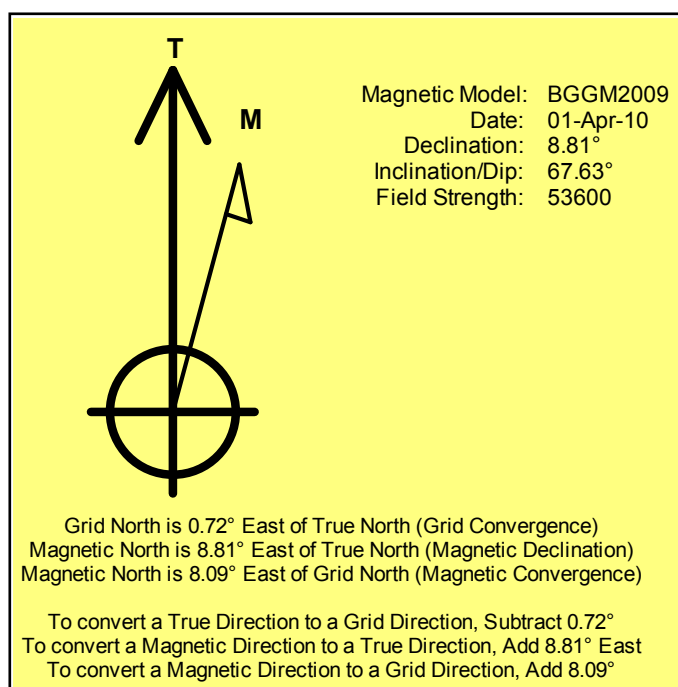
Geographical Coordinates of Well: 40° 57' 37.66" N, 104° 22' 52.00" W

Grid Convergence at Surface is: 0.72°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,906.23ft

the Bottom Hole Displacement is 4,287.84ft in the Direction of 333.13° (True).

Magnetic Convergence at surface is: -8.09° ( 1 April 2010, , BGGM2009)



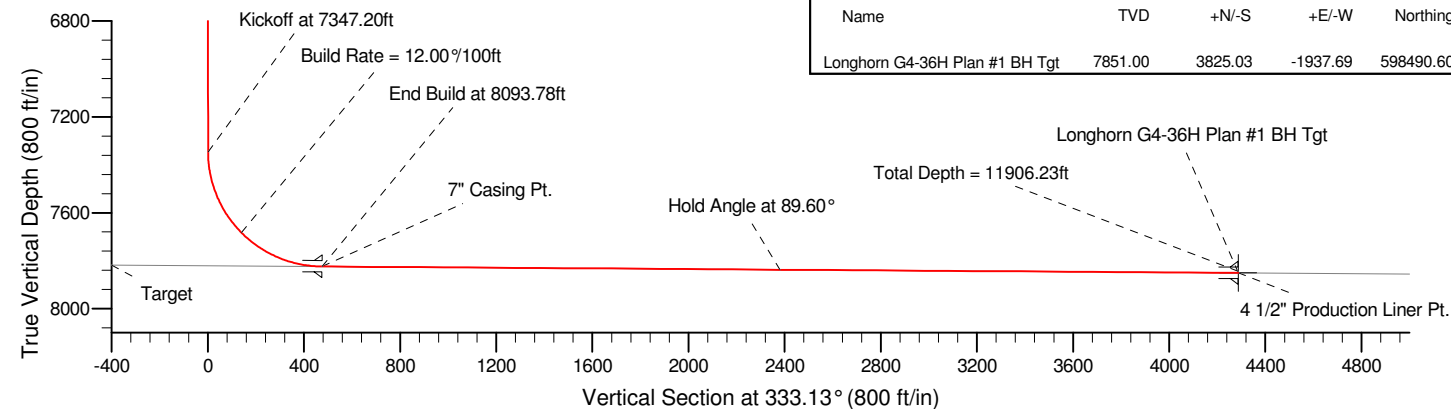
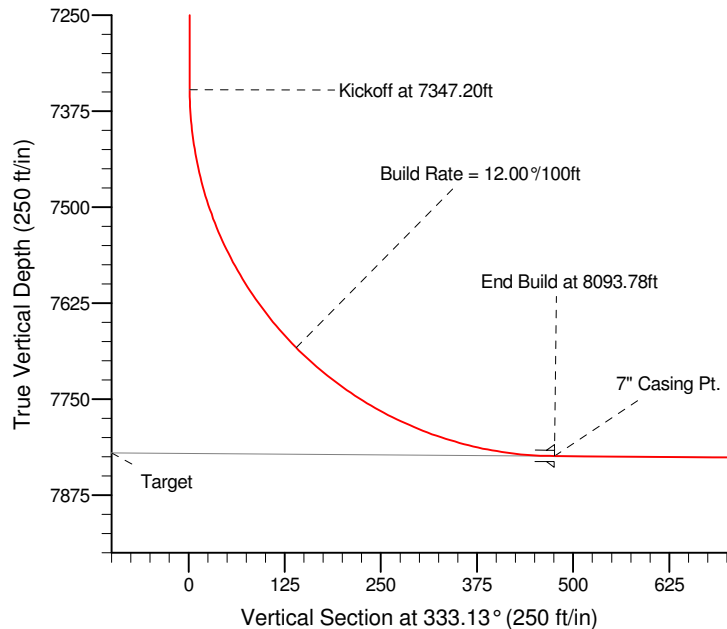
Project: Weld County, CO  
 Site: Sec. 36-T12N-R63W  
 Well: Longhorn G4-36H  
 Wellbore: Plan #1  
 Design: Plan #1 Proposal

# EOG Resources, Inc.

**HALLIBURTON**  
 Sperry Drilling

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	
3	1550.00	0.50	245.00	1550.00	-0.09	-0.20	1.00	245.00	0.01	
4	7347.20	0.50	245.00	7346.98	-21.47	-46.05	0.00	0.00	1.65	
5	8093.78	89.60	333.87	7824.33	402.38	-258.57	12.00	88.87	475.80	
6	8132.40	89.60	333.87	7824.60	437.05	-275.58	0.01	-110.61	514.42	
7	11906.23	89.60	333.87	7851.00	3825.03	-1937.69	0.00	0.00	4287.84	Longhorn G4-36H Plan #1 BH Tgt



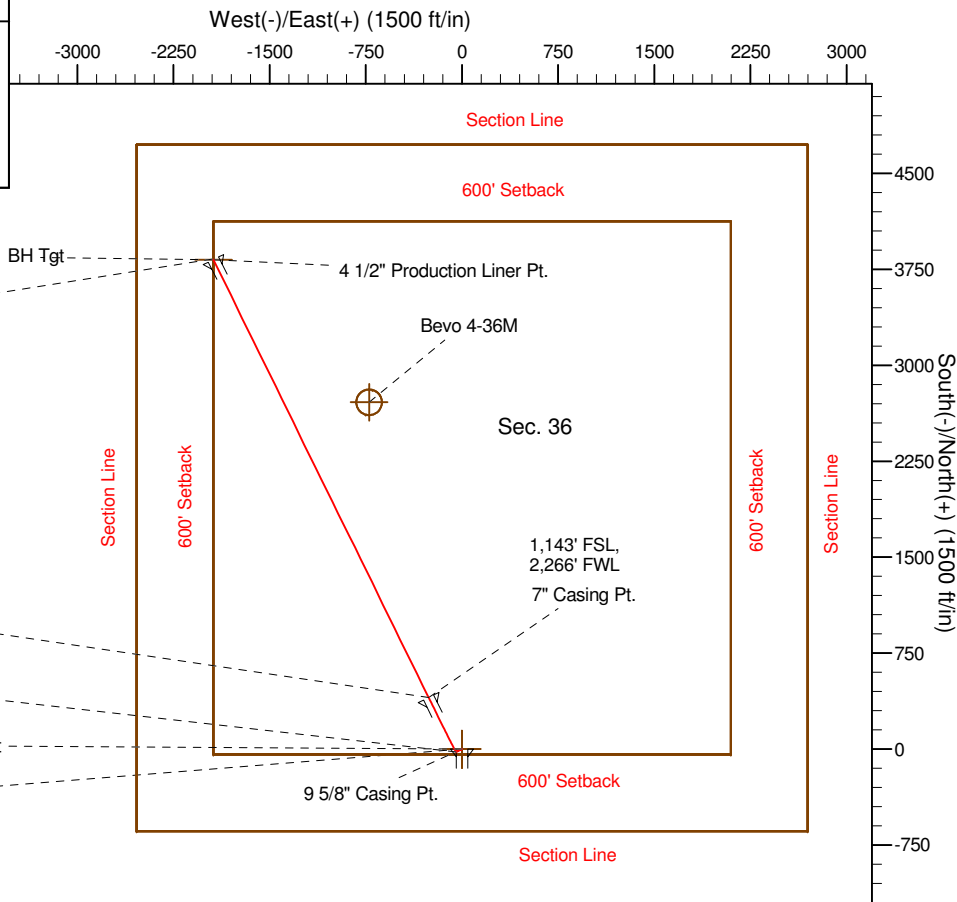
900' FNL, 600' FWL  
 Longhorn G4-36H Plan #1 BH Tgt  
 Total Depth = 11906.23ft

End Build at 8093.78ft

Kickoff at 7347.20ft

Begin Nudge at 1500.00ft

Longhorn G4-36H  
 641 FSL, 2,525' FWL



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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Longhorn G4-36H Plan #1 BH Tgt	7851.00	3825.03	-1937.69	598490.60	2307059.65	40° 58' 15.457 N	104° 23' 17.263 W	Point

## WELL DETAILS: Longhorn G4-36H

Ground Level:	5343.00
Northing	594690.20
Easting	2309045.52
Latitude	40° 57' 37.663 N
Longitude	104° 22' 52.004 W

## Plan: Plan #1 Proposal (Longhorn G4-36H/Plan #1)

Created By: Paul A. Bitzan Date: 02/10/2010

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

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

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