

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 8-T3N-R66W

Eisenach Federal 30C-8HZ

Plan B Rev 0

Plan: Plan B Rev 0 - PERMIT

Sperry Drilling Services

Proposal Report

14 May, 2013

Well Coordinates: 1,331,662.78 N, 3,197,363.25 E (40° 14' 29.95" N, 104° 47' 34.82" W)

Ground Level: 4,825.00 ft

Local Coordinate Origin: Centered on Well Eisenach Federal 30C-8HZ

Viewing Datum: RKB=17 @ 4842.00ft (Drilling Rig)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Project: Weld County, CO (NAD 83)
Site: Sec. 8-T3N-R66W
Well: Eisenach Federal 30C-8HZ
Wellbore: Plan B Rev 0
Design: Plan B Rev 0 - PERMIT

Anadarko Petroleum Corp.

HALLIBURTON
Sperry Drilling

SECTION DETAILS

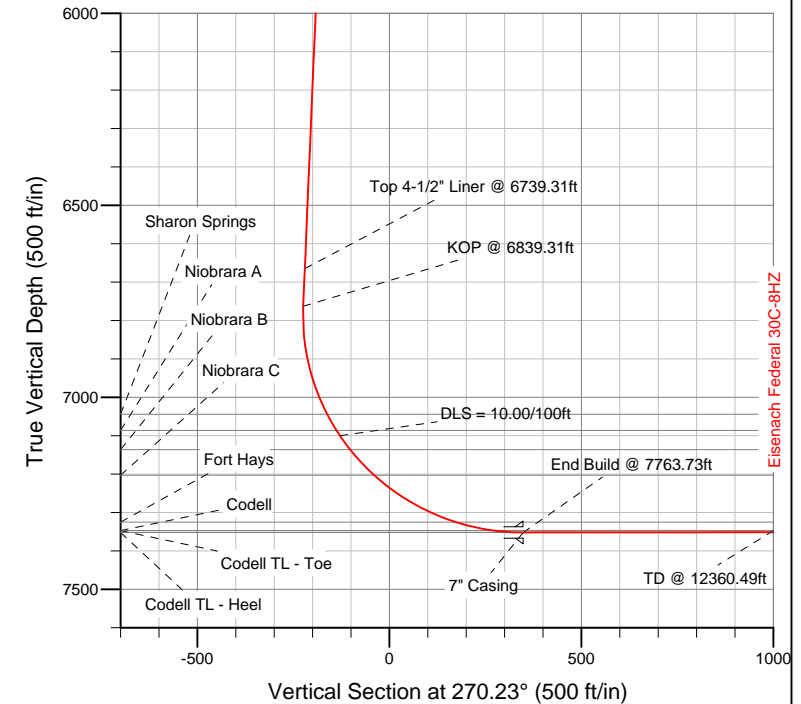
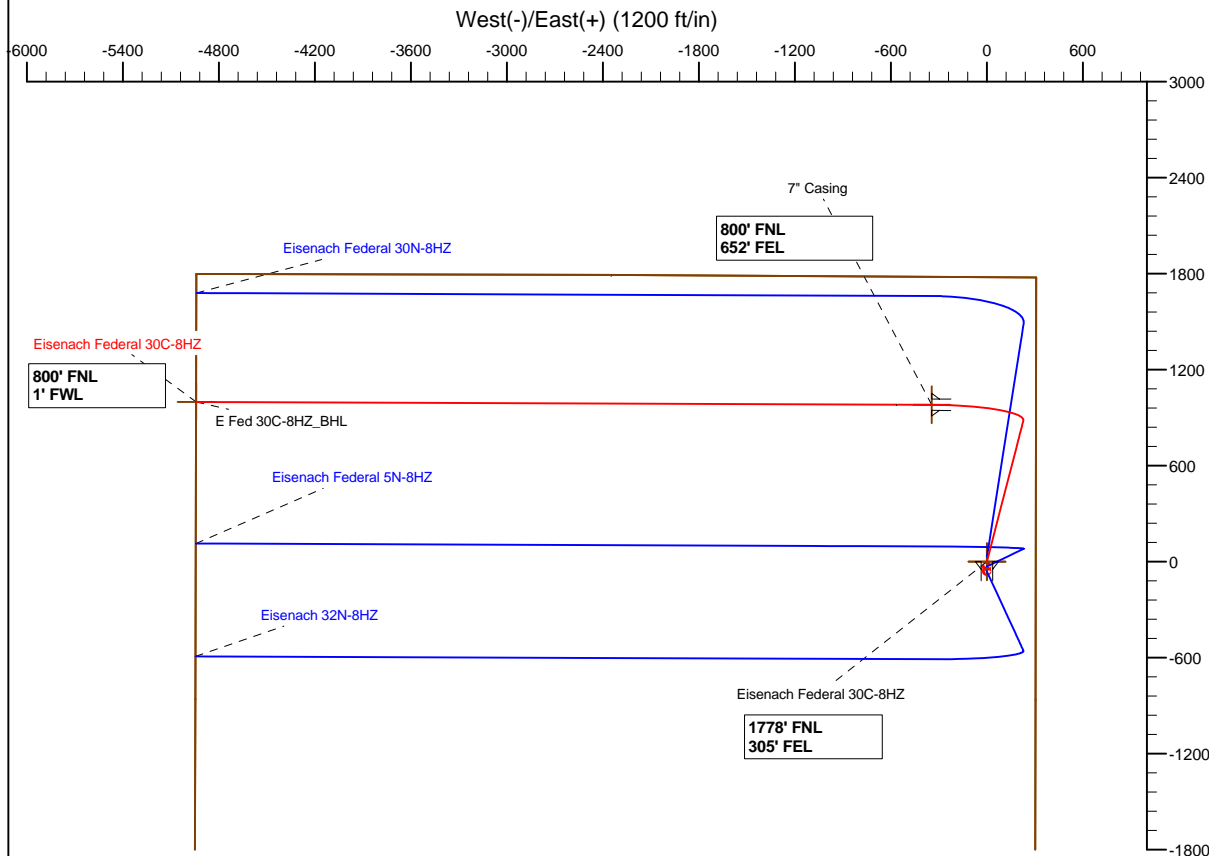
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00	
3	1685.08	9.70	14.50	1682.76	39.67	10.26	2.00	14.50	-10.10	
4	6839.31	9.70	14.50	6763.29	880.58	227.69	0.00	0.00	-224.15	
5	7763.73	90.06	270.23	7352.00	980.50	-345.00	10.00	-104.06	348.93	E Fed 30C-8HZ_CP
6	12360.49	90.06	270.23	7347.00	998.68	-4941.72	0.00	0.00	4945.69	E Fed 30C-8HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
E Fed 30C-8HZ_Sec	0.00	0.00	0.00	40.241653	-104.793005	Polygon
E Fed 30C-8HZ_SHL	0.00	0.00	0.00	40.241653	-104.793005	Point
E Fed 30C-8HZ_BHL	7347.00	998.68	-4941.72	40.244393	-104.810707	Point
E Fed 30C-8HZ_CP	7352.00	980.50	-345.00	40.244344	-104.794241	Point

MD TVD

6739.31 6664.71 Top 4-1/2" Liner @ 6739.31ft
6839.31 6763.28 KOP @ 6839.31ft



WELL DETAILS: Eisenach Federal 30C-8HZ

Ground Level: 4825.00
RKB=17 @ 4842.00ft (Drilling Rig)

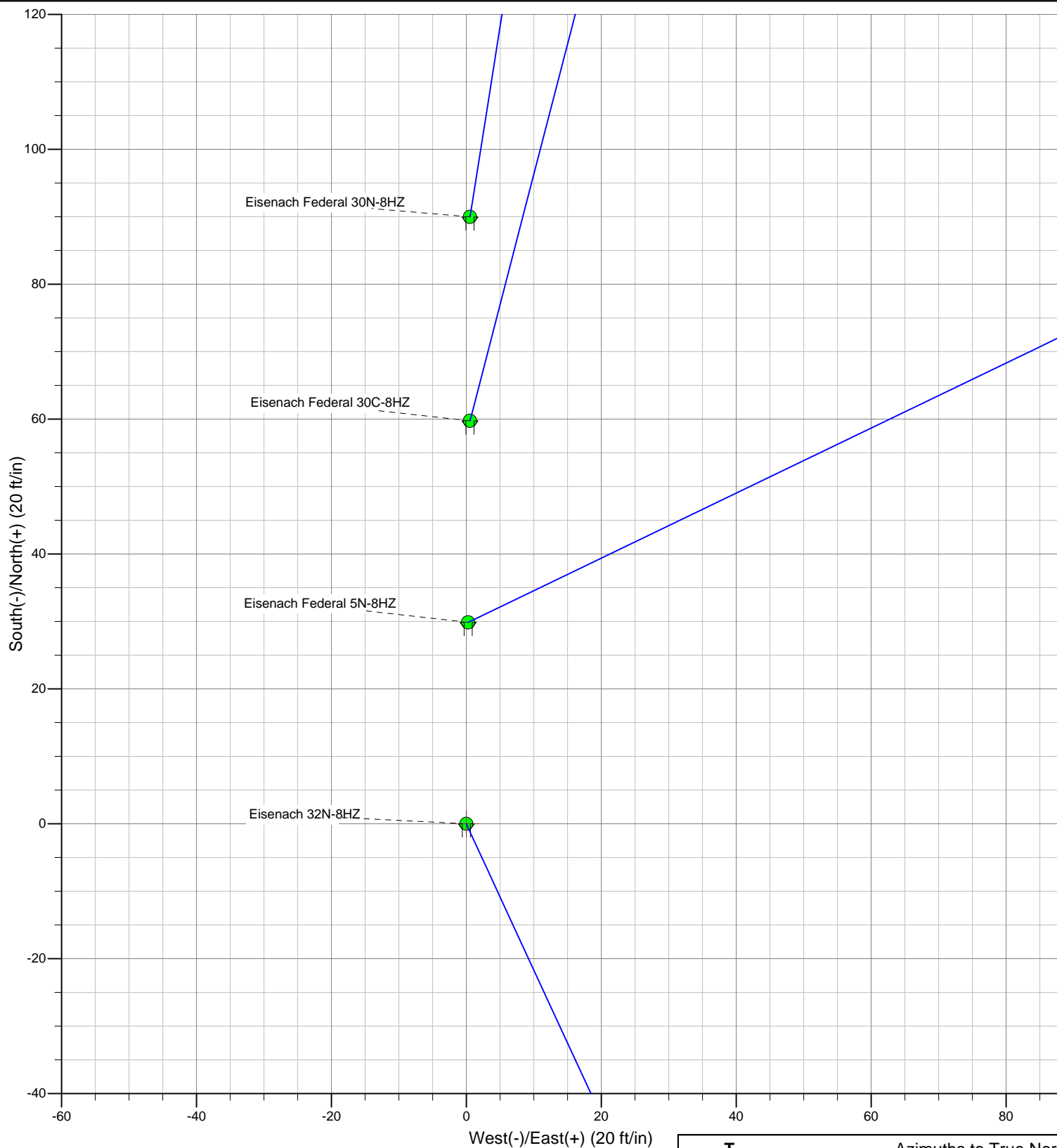
Plan: Plan B Rev 0 - PERMIT (Eisenach Federal 30C-8HZ/Plan B Rev 0)

Created By: Fred Hartmann Date: 05/14/2013
Reviewed: _____ Date: _____

Project: Weld County, CO (NAD 83)
Site: Sec. 8-T3N-R66W
Pad: Eisenach 8-8HZ Pad

Anadarko Petroleum Corp.

HALLIBURTON
Sperry Drilling



Azimuths to True North
Magnetic North: 8.66°

Magnetic Field
Strength: 52744.4snT
Dip Angle: 66.82°
Date: 05-14-2013
Model: BGGM2012

Plan Report for Eisenach Federal 30C-8HZ - Plan B Rev 0 - PERMIT

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
636.00	0.00	0.00	636.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8" Casing										
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
Begin Nudge @ 1200.00ft										
1,300.00	2.00	14.50	1,299.98	1.69	0.44	-0.43	2.00	2.00	0.00	14.50
1,400.00	4.00	14.50	1,399.84	6.76	1.75	-1.72	2.00	2.00	0.00	0.00
1,500.00	6.00	14.50	1,499.45	15.19	3.93	-3.87	2.00	2.00	0.00	0.00
1,600.00	8.00	14.50	1,598.70	26.99	6.98	-6.87	2.00	2.00	0.00	0.00
1,685.08	9.70	14.50	1,682.77	39.67	10.26	-10.10	2.00	2.00	0.00	0.00
End Nudge @ 1685.08ft										
1,700.00	9.70	14.50	1,697.47	42.10	10.89	-10.72	0.00	0.00	0.00	0.00
1,800.00	9.70	14.50	1,796.04	58.41	15.10	-14.87	0.00	0.00	0.00	0.00
1,900.00	9.70	14.50	1,894.61	74.73	19.32	-19.02	0.00	0.00	0.00	0.00
2,000.00	9.70	14.50	1,993.18	91.05	23.54	-23.18	0.00	0.00	0.00	0.00
2,100.00	9.70	14.50	2,091.75	107.36	27.76	-27.33	0.00	0.00	0.00	0.00
2,200.00	9.70	14.50	2,190.32	123.68	31.98	-31.48	0.00	0.00	0.00	0.00
2,300.00	9.70	14.50	2,288.89	139.99	36.20	-35.63	0.00	0.00	0.00	0.00
2,400.00	9.70	14.50	2,387.46	156.31	40.41	-39.79	0.00	0.00	0.00	0.00
2,500.00	9.70	14.50	2,486.03	172.62	44.63	-43.94	0.00	0.00	0.00	0.00
2,600.00	9.70	14.50	2,584.60	188.94	48.85	-48.09	0.00	0.00	0.00	0.00
2,700.00	9.70	14.50	2,683.17	205.25	53.07	-52.25	0.00	0.00	0.00	0.00
2,800.00	9.70	14.50	2,781.74	221.57	57.29	-56.40	0.00	0.00	0.00	0.00
2,900.00	9.70	14.50	2,880.31	237.88	61.51	-60.55	0.00	0.00	0.00	0.00
3,000.00	9.70	14.50	2,978.88	254.20	65.73	-64.71	0.00	0.00	0.00	0.00
3,100.00	9.70	14.50	3,077.45	270.51	69.94	-68.86	0.00	0.00	0.00	0.00
3,200.00	9.70	14.50	3,176.02	286.83	74.16	-73.01	0.00	0.00	0.00	0.00
3,300.00	9.70	14.50	3,274.59	303.14	78.38	-77.16	0.00	0.00	0.00	0.00
3,400.00	9.70	14.50	3,373.16	319.46	82.60	-81.32	0.00	0.00	0.00	0.00
3,500.00	9.70	14.50	3,471.73	335.77	86.82	-85.47	0.00	0.00	0.00	0.00
3,600.00	9.70	14.50	3,570.30	352.09	91.04	-89.62	0.00	0.00	0.00	0.00
3,700.00	9.70	14.50	3,668.87	368.40	95.26	-93.78	0.00	0.00	0.00	0.00
3,800.00	9.70	14.50	3,767.44	384.72	99.47	-97.93	0.00	0.00	0.00	0.00
3,872.60	9.70	14.50	3,839.00	396.56	102.54	-100.94	0.00	0.00	0.00	0.00
Parkman										
3,900.00	9.70	14.50	3,866.01	401.03	103.69	-102.08	0.00	0.00	0.00	0.00
4,000.00	9.70	14.50	3,964.58	417.35	107.91	-106.23	0.00	0.00	0.00	0.00
4,100.00	9.70	14.50	4,063.15	433.66	112.13	-110.39	0.00	0.00	0.00	0.00
4,200.00	9.70	14.50	4,161.72	449.98	116.35	-114.54	0.00	0.00	0.00	0.00
4,300.00	9.70	14.50	4,260.29	466.29	120.57	-118.69	0.00	0.00	0.00	0.00
4,349.42	9.70	14.50	4,309.00	474.36	122.65	-120.75	0.00	0.00	0.00	0.00
Sussex										
4,400.00	9.70	14.50	4,358.86	482.61	124.79	-122.85	0.00	0.00	0.00	0.00
4,500.00	9.70	14.50	4,457.43	498.92	129.00	-127.00	0.00	0.00	0.00	0.00
4,600.00	9.70	14.50	4,556.00	515.24	133.22	-131.15	0.00	0.00	0.00	0.00
4,700.00	9.70	14.50	4,654.57	531.55	137.44	-135.31	0.00	0.00	0.00	0.00
4,800.00	9.70	14.50	4,753.14	547.87	141.66	-139.46	0.00	0.00	0.00	0.00

Plan Report for Eisenach Federal 30C-8HZ - Plan B Rev 0 - PERMIT

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 (°)
4,900.00	9.70	14.50	4,851.71	564.18	145.88	-143.61	0.00	0.00	0.00	0.00
5,000.00	9.70	14.50	4,950.28	580.50	150.10	-147.76	0.00	0.00	0.00	0.00
5,100.00	9.70	14.50	5,048.85	596.81	154.31	-151.92	0.00	0.00	0.00	0.00
5,200.00	9.70	14.50	5,147.42	613.13	158.53	-156.07	0.00	0.00	0.00	0.00
5,300.00	9.70	14.50	5,245.99	629.44	162.75	-160.22	0.00	0.00	0.00	0.00
5,400.00	9.70	14.50	5,344.56	645.76	166.97	-164.38	0.00	0.00	0.00	0.00
5,500.00	9.70	14.50	5,443.13	662.07	171.19	-168.53	0.00	0.00	0.00	0.00
5,600.00	9.70	14.50	5,541.70	678.39	175.41	-172.68	0.00	0.00	0.00	0.00
5,700.00	9.70	14.50	5,640.27	694.70	179.63	-176.84	0.00	0.00	0.00	0.00
5,800.00	9.70	14.50	5,738.84	711.02	183.84	-180.99	0.00	0.00	0.00	0.00
5,900.00	9.70	14.50	5,837.41	727.33	188.06	-185.14	0.00	0.00	0.00	0.00
6,000.00	9.70	14.50	5,935.98	743.65	192.28	-189.29	0.00	0.00	0.00	0.00
6,100.00	9.70	14.50	6,034.55	759.97	196.50	-193.45	0.00	0.00	0.00	0.00
6,200.00	9.70	14.50	6,133.12	776.28	200.72	-197.60	0.00	0.00	0.00	0.00
6,300.00	9.70	14.50	6,231.69	792.60	204.94	-201.75	0.00	0.00	0.00	0.00
6,400.00	9.70	14.50	6,330.26	808.91	209.16	-205.91	0.00	0.00	0.00	0.00
6,500.00	9.70	14.50	6,428.83	825.23	213.37	-210.06	0.00	0.00	0.00	0.00
6,600.00	9.70	14.50	6,527.40	841.54	217.59	-214.21	0.00	0.00	0.00	0.00
6,700.00	9.70	14.50	6,625.97	857.86	221.81	-218.37	0.00	0.00	0.00	0.00
6,739.31	9.70	14.50	6,664.71	864.27	223.47	-220.00	0.00	0.00	0.00	0.00
Top 4-1/2" Liner @ 6739.31ft										
6,800.00	9.70	14.50	6,724.54	874.17	226.03	-222.52	0.00	0.00	0.00	0.00
6,839.31	9.70	14.50	6,763.28	880.58	227.69	-224.15	0.00	0.00	0.00	0.00
KOP @ 6839.31ft										
6,900.00	10.10	338.71	6,823.13	890.50	227.03	-223.46	10.00	0.66	-58.97	-104.06
7,000.00	16.56	304.10	6,920.52	906.70	212.01	-208.37	10.00	6.46	-34.61	-68.77
7,100.00	25.39	290.67	7,013.86	922.30	180.07	-176.37	10.00	8.83	-13.43	-35.00
7,133.82	28.54	287.97	7,044.00	927.35	165.60	-161.87	10.00	9.33	-7.98	-22.41
Sharon Springs										
7,182.76	33.18	284.92	7,086.00	934.41	141.52	-137.77	10.00	9.48	-6.25	-20.01
Niobrara A										
7,200.00	34.83	284.01	7,100.29	936.82	132.19	-128.42	10.00	9.56	-5.23	-17.38
DLS = 10.00/100ft										
7,244.71	39.13	281.99	7,136.00	942.84	105.99	-102.20	10.00	9.62	-4.53	-16.63
Niobrara B										
7,300.00	44.49	279.95	7,177.20	949.82	69.81	-66.00	10.00	9.69	-3.69	-15.01
7,337.36	48.13	278.78	7,203.00	954.21	43.16	-39.33	10.00	9.74	-3.13	-13.49
Niobrara C										
7,400.00	54.25	277.09	7,242.24	960.91	-5.17	9.02	10.00	9.78	-2.70	-12.68
7,500.00	64.07	274.86	7,293.44	969.75	-90.46	94.35	10.00	9.82	-2.23	-11.62
7,585.30	72.47	273.24	7,325.00	975.30	-169.42	173.34	10.00	9.84	-1.90	-10.47
Fort Hays										
7,600.00	73.92	272.98	7,329.25	976.06	-183.48	187.39	10.00	9.85	-1.78	-9.87
7,686.84	82.48	271.49	7,347.00	979.35	-268.33	272.26	10.00	9.86	-1.71	-9.80
Codell										
7,700.00	83.77	271.27	7,348.58	979.67	-281.40	285.33	10.00	9.86	-1.66	-9.49
7,763.73	90.06	270.23	7,352.00	980.50	-345.00	348.93	10.00	9.86	-1.64	-9.46
End Build @ 7763.73ft - Codell TL - Heel - 7" Casing - E Fed 30C-8HZ_CP										
7,800.00	90.06	270.23	7,351.96	980.64	-381.27	385.20	0.00	0.00	0.00	-9.41
7,900.00	90.06	270.23	7,351.85	981.04	-481.26	485.20	0.00	0.00	0.00	0.00
8,000.00	90.06	270.23	7,351.74	981.43	-581.26	585.20	0.00	0.00	0.00	0.00
8,100.00	90.06	270.23	7,351.63	981.83	-681.26	685.20	0.00	0.00	0.00	0.00
8,200.00	90.06	270.23	7,351.53	982.23	-781.26	785.20	0.00	0.00	0.00	0.00
8,300.00	90.06	270.23	7,351.42	982.62	-881.26	885.20	0.00	0.00	0.00	0.00
8,400.00	90.06	270.23	7,351.31	983.02	-981.26	985.20	0.00	0.00	0.00	0.00
8,500.00	90.06	270.23	7,351.20	983.41	-1,081.26	1,085.20	0.00	0.00	0.00	0.00
8,600.00	90.06	270.23	7,351.09	983.81	-1,181.26	1,185.20	0.00	0.00	0.00	0.00
8,700.00	90.06	270.23	7,350.98	984.20	-1,281.26	1,285.20	0.00	0.00	0.00	0.00

Plan Report for Eisenach Federal 30C-8HZ - Plan B Rev 0 - PERMIT

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 (°)
8,800.00	90.06	270.23	7,350.87	984.60	-1,381.26	1,385.20	0.00	0.00	0.00	0.00
8,900.00	90.06	270.23	7,350.76	984.99	-1,481.26	1,485.20	0.00	0.00	0.00	0.00
9,000.00	90.06	270.23	7,350.66	985.39	-1,581.26	1,585.20	0.00	0.00	0.00	0.00
9,100.00	90.06	270.23	7,350.55	985.78	-1,681.25	1,685.20	0.00	0.00	0.00	0.00
9,200.00	90.06	270.23	7,350.44	986.18	-1,781.25	1,785.20	0.00	0.00	0.00	0.00
9,300.00	90.06	270.23	7,350.33	986.58	-1,881.25	1,885.20	0.00	0.00	0.00	0.00
9,400.00	90.06	270.23	7,350.22	986.97	-1,981.25	1,985.20	0.00	0.00	0.00	0.00
9,500.00	90.06	270.23	7,350.11	987.37	-2,081.25	2,085.20	0.00	0.00	0.00	0.00
9,600.00	90.06	270.23	7,350.00	987.76	-2,181.25	2,185.20	0.00	0.00	0.00	0.00
9,700.00	90.06	270.23	7,349.89	988.16	-2,281.25	2,285.20	0.00	0.00	0.00	0.00
9,800.00	90.06	270.23	7,349.79	988.55	-2,381.25	2,385.20	0.00	0.00	0.00	0.00
9,900.00	90.06	270.23	7,349.68	988.95	-2,481.25	2,485.20	0.00	0.00	0.00	0.00
10,000.00	90.06	270.23	7,349.57	989.34	-2,581.25	2,585.20	0.00	0.00	0.00	0.00
10,100.00	90.06	270.23	7,349.46	989.74	-2,681.25	2,685.20	0.00	0.00	0.00	0.00
10,200.00	90.06	270.23	7,349.35	990.13	-2,781.25	2,785.20	0.00	0.00	0.00	0.00
10,300.00	90.06	270.23	7,349.24	990.53	-2,881.24	2,885.20	0.00	0.00	0.00	0.00
10,400.00	90.06	270.23	7,349.13	990.93	-2,981.24	2,985.20	0.00	0.00	0.00	0.00
10,500.00	90.06	270.23	7,349.02	991.32	-3,081.24	3,085.20	0.00	0.00	0.00	0.00
10,600.00	90.06	270.23	7,348.91	991.72	-3,181.24	3,185.20	0.00	0.00	0.00	0.00
10,700.00	90.06	270.23	7,348.81	992.11	-3,281.24	3,285.20	0.00	0.00	0.00	0.00
10,800.00	90.06	270.23	7,348.70	992.51	-3,381.24	3,385.20	0.00	0.00	0.00	0.00
10,900.00	90.06	270.23	7,348.59	992.90	-3,481.24	3,485.20	0.00	0.00	0.00	0.00
11,000.00	90.06	270.23	7,348.48	993.30	-3,581.24	3,585.20	0.00	0.00	0.00	0.00
11,100.00	90.06	270.23	7,348.37	993.69	-3,681.24	3,685.20	0.00	0.00	0.00	0.00
11,200.00	90.06	270.23	7,348.26	994.09	-3,781.24	3,785.20	0.00	0.00	0.00	0.00
11,300.00	90.06	270.23	7,348.15	994.49	-3,881.24	3,885.20	0.00	0.00	0.00	0.00
11,400.00	90.06	270.23	7,348.04	994.88	-3,981.24	3,985.20	0.00	0.00	0.00	0.00
11,500.00	90.06	270.23	7,347.94	995.28	-4,081.23	4,085.20	0.00	0.00	0.00	0.00
11,600.00	90.06	270.23	7,347.83	995.67	-4,181.23	4,185.20	0.00	0.00	0.00	0.00
11,700.00	90.06	270.23	7,347.72	996.07	-4,281.23	4,285.20	0.00	0.00	0.00	0.00
11,800.00	90.06	270.23	7,347.61	996.46	-4,381.23	4,385.20	0.00	0.00	0.00	0.00
11,900.00	90.06	270.23	7,347.50	996.86	-4,481.23	4,485.20	0.00	0.00	0.00	0.00
12,000.00	90.06	270.23	7,347.39	997.25	-4,581.23	4,585.20	0.00	0.00	0.00	0.00
12,100.00	90.06	270.23	7,347.28	997.65	-4,681.23	4,685.20	0.00	0.00	0.00	0.00
12,200.00	90.06	270.23	7,347.17	998.04	-4,781.23	4,785.20	0.00	0.00	0.00	0.00
12,300.00	90.06	270.23	7,347.07	998.44	-4,881.23	4,885.20	0.00	0.00	0.00	0.00
12,360.48	90.06	270.23	7,347.00	998.68	-4,941.71	4,945.68	0.00	0.00	0.00	0.00
Codell TL - Toe										
12,360.49	90.06	270.23	7,347.00	998.68	-4,941.72	4,945.69	0.00	0.00	0.00	0.00
TD @ 12360.49ft - E Fed 30C-8HZ_BHL										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,200.00	1,200.00	0.00	0.00	Begin Nudge @ 1200.00ft
1,685.08	1,682.77	39.67	10.26	End Nudge @ 1685.08ft
6,739.31	6,664.71	864.27	223.47	Top 4-1/2" Liner @ 6739.31ft
6,839.31	6,763.28	880.58	227.69	KOP @ 6839.31ft
7,200.00	7,100.29	936.82	132.19	DLS = 10.00/100ft
7,763.73	7,352.00	980.50	-345.00	End Build @ 7763.73ft
12,360.49	7,347.00	998.68	-4,941.72	TD @ 12360.49ft

Plan Report for Eisenach Federal 30C-8HZ - Plan B Rev 0 - PERMIT

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (ft)	Origin +E/-W (ft)	Start TVD (ft)
User	No Target (Freehand)	270.23	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	12,360.49	Plan B Rev 0 - PERMIT	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
636.00	636.00	9 5/8" Casing	9-5/8	13-1/2
7,763.73	7,352.00	7" Casing	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,872.60	3,839.00	Parkman		0.00	
4,349.42	4,309.00	Sussex		0.00	
7,133.82	7,044.00	Sharon Springs		0.00	
7,182.76	7,086.00	Niobrara A		0.00	
7,244.71	7,136.00	Niobrara B		0.00	
7,337.36	7,203.00	Niobrara C		0.00	
7,585.30	7,325.00	Fort Hays		0.00	
7,686.84	7,347.00	Codell		0.00	
7,763.73	7,352.00	Codell TL - Heel		0.00	
12,360.48	7,347.00	Codell TL - Toe		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
E Fed 30C-8HZ_SHL	0.00	0.00	0.00	Point
E Fed 30C-8HZ_BHL	7,347.00	998.68	-4,941.72	Point
E Fed 30C-8HZ_CP	7,352.00	980.50	-345.00	Point
E Fed 30C-8HZ_Sec	0.00	0.00	0.00	Polygon

North Reference Sheet for Sec. 8-T3N-R66W - Eisenach Federal 30C-8HZ - Plan B Rev 0

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

Vertical Depths are relative to RKB=17 @ 4842.00ft (Drilling Rig). Northing and Easting are relative to Eisenach Federal 30C-8HZ

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.50°, Longitude Origin:0.000000°, Latitude Origin:40.783333°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99995686

Grid Coordinates of Well: 1,331,662.78 ft N, 3,197,363.25 ft E

Geographical Coordinates of Well: 40° 14' 29.95" N, 104° 47' 34.82" W

Grid Convergence at Surface is: 0.46°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,360.49ft
the Bottom Hole Displacement is 5,041.62ft in the Direction of 281.43° (True).

Magnetic Convergence at surface is: -8.20° (14 May 2013, , BGGM2012)

