

Conoco Phillips Company

Arapahoe County, Colorado

Sec. 35-T5S-R65W

Beaver 5-65 34-35 2H

Plan B (Lateral)

Plan: Rev B0

Sperry Drilling Services

Proposal Report

02 February, 2015

Well Coordinates: 1,636,075.51 N, 3,244,848.99 E (39° 34' 35.76" N, 104° 37' 52.86" W)

Ground Level: 6,086.60 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 73

Centered on Well Beaver 5-65 34-35 2H

KB 24 ft @ 6110.60usft (H&P 280)

N

True

API - US Survey Feet - Custom

HALLIBURTON

Project: Arapahoe County, Colorado
Site: Sec. 35-T5S-R65W
Well: Beaver 5-65 34-35 2H
Wellbore: Plan B (Lateral)
Plan: Rev B0

Conoco Phillips Company

HALLIBURTON
Sperry Drilling

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	0.00		
3	3453.33	12.80	195.57	3446.25	-91.44	-25.48	1.50	195.57	35.02		
4	6543.88	12.80	195.57	6460.00	-751.02	-209.26	0.00	0.00	287.61		
5	7397.22	0.00	0.00	7306.25	-842.46	-234.74	1.50	180.00	322.62		
6	7609.00	0.00	0.00	7518.04	-842.46	-234.74	0.00	0.00	322.62		
7	8507.36	89.84	270.11	8091.00	-841.40	-806.06	10.00	270.11	890.61		
8	15482.42	89.84	270.11	8111.00	-828.51	-7781.08	0.00	0.00	7825.06	Beaver 5-65 34-35 2H_Lateral_(Rev B0)_BHL	

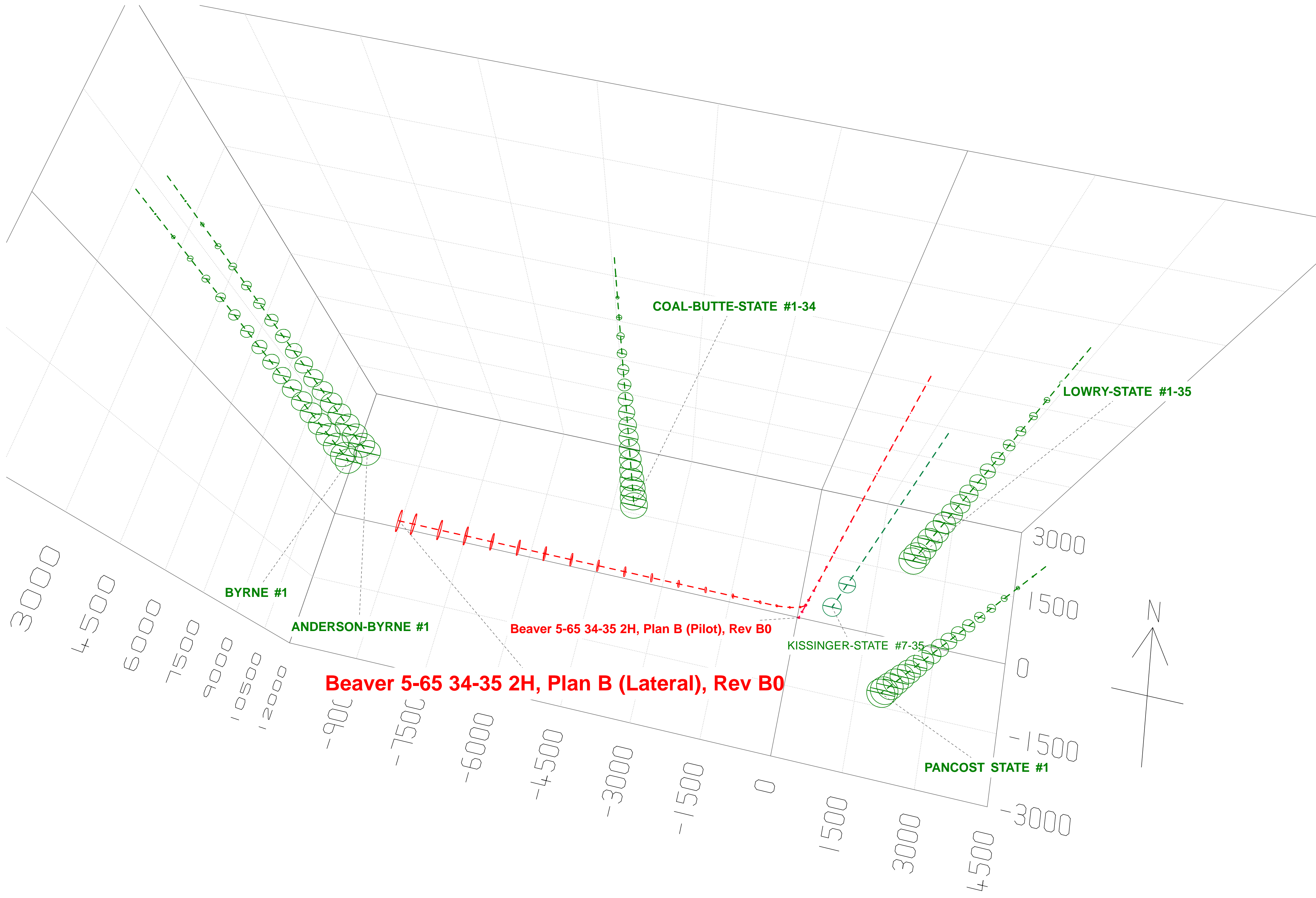
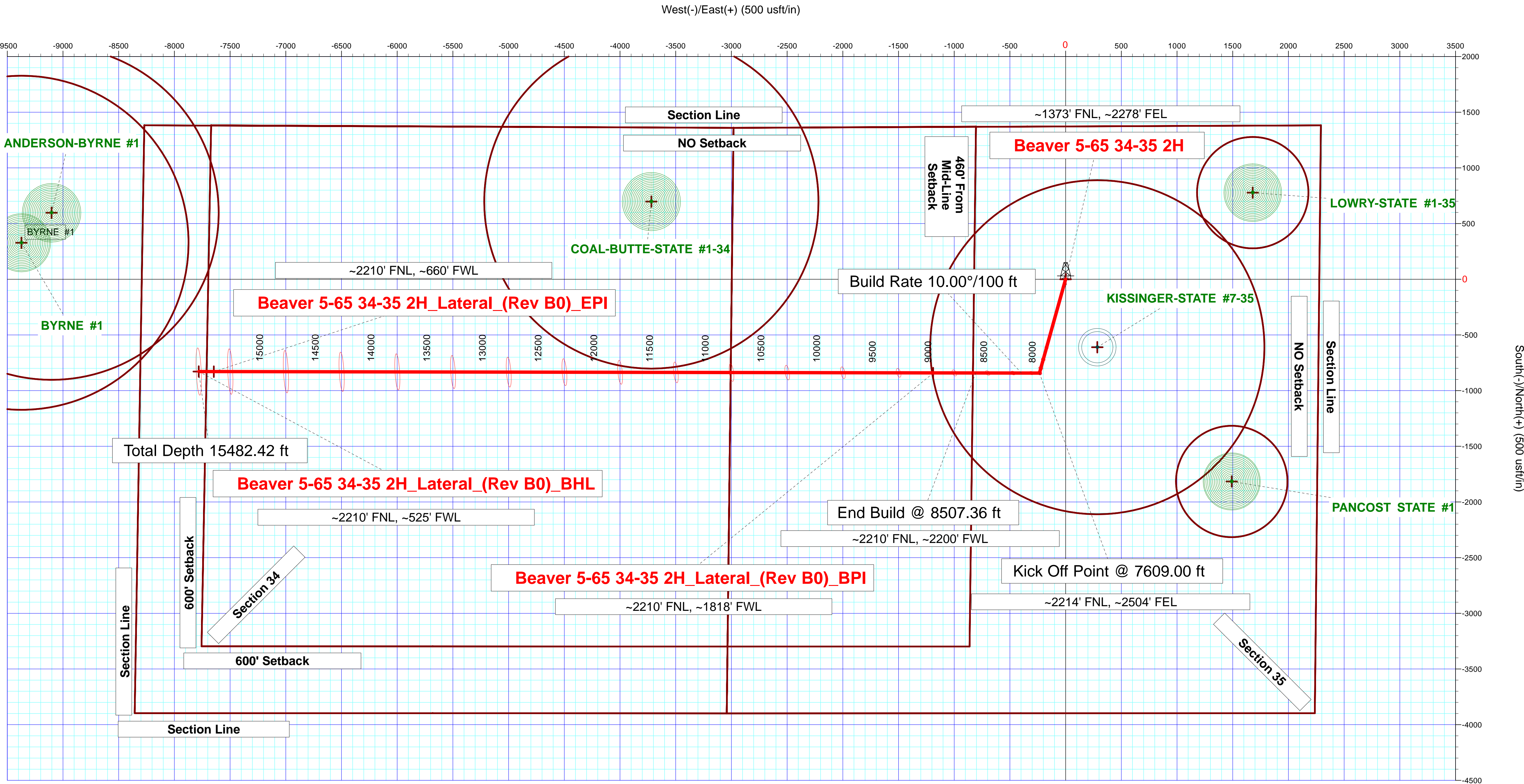
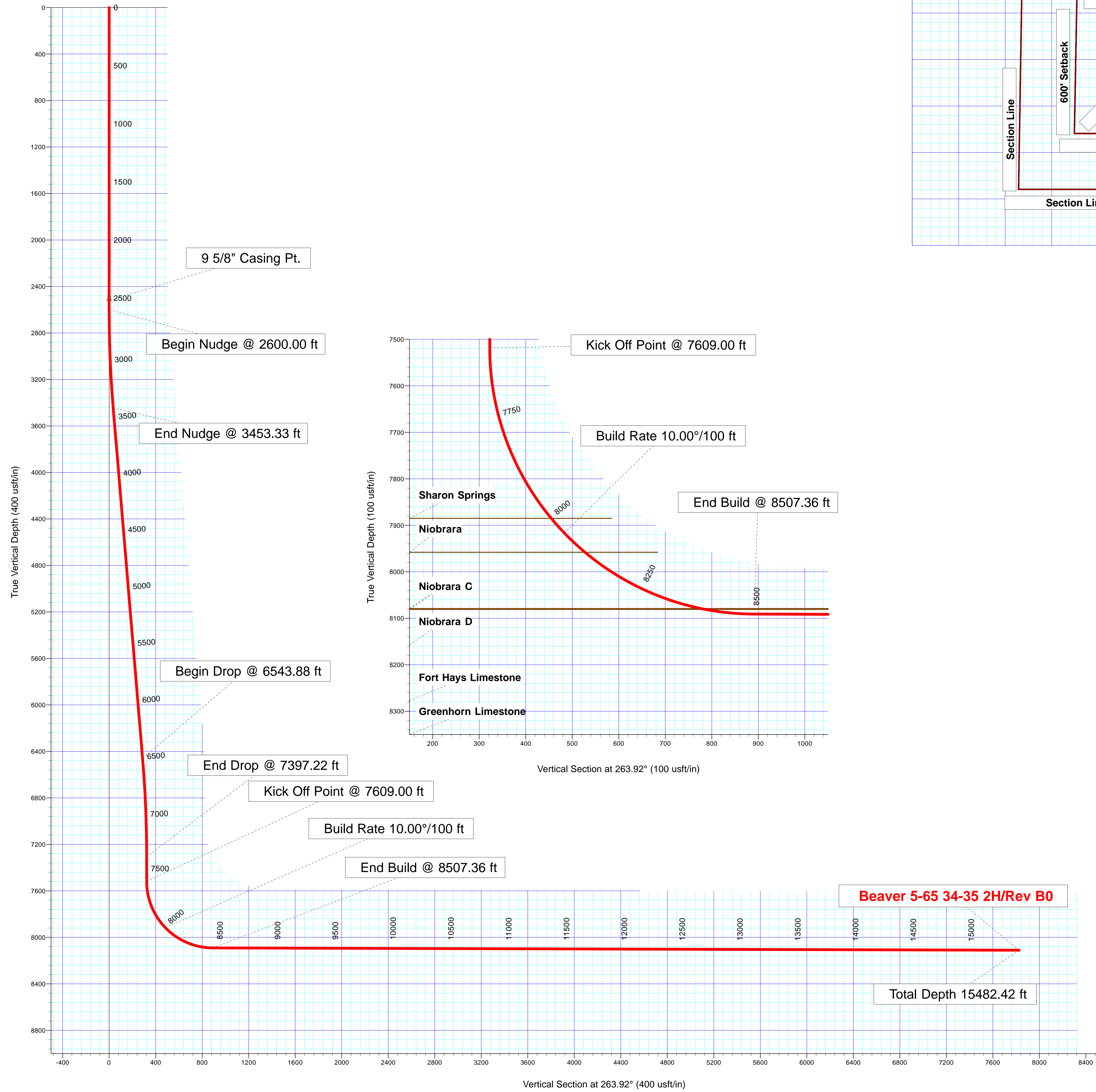
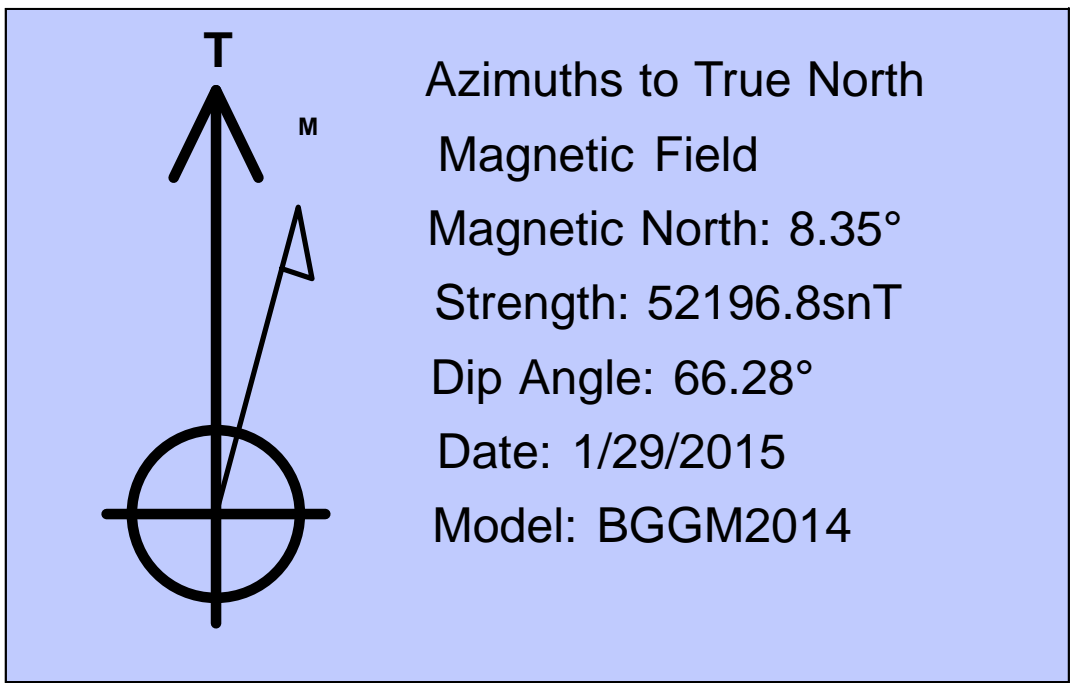
Plan: Rev B0 (Beaver 5-65 34-35 2H/Plan B (Lateral))

Created By: Kansa B. BeckerDate: 11:01, February 03 2015

Checked: _____Date: _____

Reviewed: _____Date: _____

Approved: _____Date: _____



Plan Report for Beaver 5-65 34-35 2H - Rev B0

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	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
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,054.00	0.00	0.00	2,054.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills										
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,321.00	0.00	0.00	2,321.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Shale										
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,521.00	0.00	0.00	2,521.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Casing - 9 5/8" Casing Pt.										
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 2600.00 ft										
2,700.00	1.50	195.57	2,699.99	-1.26	-0.35	0.48	1.50	1.50	0.00	195.57
2,800.00	3.00	195.57	2,799.91	-5.04	-1.41	1.93	1.50	1.50	0.00	0.00
2,900.00	4.50	195.57	2,899.69	-11.34	-3.16	4.34	1.50	1.50	0.00	0.00
3,000.00	6.00	195.57	2,999.27	-20.16	-5.62	7.72	1.50	1.50	0.00	0.00
3,100.00	7.50	195.57	3,098.57	-31.48	-8.77	12.06	1.50	1.50	0.00	0.00
3,200.00	9.00	195.57	3,197.54	-45.30	-12.62	17.35	1.50	1.50	0.00	0.00
3,300.00	10.50	195.57	3,296.09	-61.61	-17.17	23.60	1.50	1.50	0.00	0.00
3,400.00	12.00	195.57	3,394.16	-80.41	-22.40	30.79	1.50	1.50	0.00	0.00
3,453.33	12.80	195.57	3,446.25	-91.44	-25.48	35.02	1.50	1.50	0.00	0.00
End Nudge @ 3453.33 ft										
3,500.00	12.80	195.57	3,491.76	-101.40	-28.25	38.83	0.00	0.00	0.00	0.00
3,600.00	12.80	195.57	3,589.27	-122.74	-34.20	47.00	0.00	0.00	0.00	0.00
3,700.00	12.80	195.57	3,686.79	-144.08	-40.15	55.18	0.00	0.00	0.00	0.00
3,800.00	12.80	195.57	3,784.30	-165.42	-46.09	63.35	0.00	0.00	0.00	0.00
3,900.00	12.80	195.57	3,881.82	-186.77	-52.04	71.52	0.00	0.00	0.00	0.00
4,000.00	12.80	195.57	3,979.33	-208.11	-57.99	79.70	0.00	0.00	0.00	0.00
4,100.00	12.80	195.57	4,076.85	-229.45	-63.93	87.87	0.00	0.00	0.00	0.00
4,200.00	12.80	195.57	4,174.36	-250.79	-69.88	96.04	0.00	0.00	0.00	0.00
4,300.00	12.80	195.57	4,271.88	-272.13	-75.83	104.21	0.00	0.00	0.00	0.00
4,400.00	12.80	195.57	4,369.39	-293.48	-81.77	112.39	0.00	0.00	0.00	0.00
4,500.00	12.80	195.57	4,466.91	-314.82	-87.72	120.56	0.00	0.00	0.00	0.00
4,600.00	12.80	195.57	4,564.42	-336.16	-93.67	128.73	0.00	0.00	0.00	0.00
4,700.00	12.80	195.57	4,661.94	-357.50	-99.61	136.91	0.00	0.00	0.00	0.00
4,800.00	12.80	195.57	4,759.45	-378.84	-105.56	145.08	0.00	0.00	0.00	0.00

Plan Report for Beaver 5-65 34-35 2H - Rev B0

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
4,900.00	12.80	195.57	4,856.97	-400.18	-111.51	153.25	0.00	0.00	0.00	0.00
5,000.00	12.80	195.57	4,954.48	-421.53	-117.45	161.42	0.00	0.00	0.00	0.00
5,100.00	12.80	195.57	5,052.00	-442.87	-123.40	169.60	0.00	0.00	0.00	0.00
5,200.00	12.80	195.57	5,149.51	-464.21	-129.35	177.77	0.00	0.00	0.00	0.00
5,300.00	12.80	195.57	5,247.03	-485.55	-135.29	185.94	0.00	0.00	0.00	0.00
5,400.00	12.80	195.57	5,344.54	-506.89	-141.24	194.12	0.00	0.00	0.00	0.00
5,500.00	12.80	195.57	5,442.06	-528.24	-147.19	202.29	0.00	0.00	0.00	0.00
5,600.00	12.80	195.57	5,539.57	-549.58	-153.13	210.46	0.00	0.00	0.00	0.00
5,700.00	12.80	195.57	5,637.09	-570.92	-159.08	218.64	0.00	0.00	0.00	0.00
5,800.00	12.80	195.57	5,734.60	-592.26	-165.03	226.81	0.00	0.00	0.00	0.00
5,900.00	12.80	195.57	5,832.12	-613.60	-170.97	234.98	0.00	0.00	0.00	0.00
6,000.00	12.80	195.57	5,929.63	-634.94	-176.92	243.15	0.00	0.00	0.00	0.00
6,100.00	12.80	195.57	6,027.15	-656.29	-182.87	251.33	0.00	0.00	0.00	0.00
6,200.00	12.80	195.57	6,124.66	-677.63	-188.81	259.50	0.00	0.00	0.00	0.00
6,300.00	12.80	195.57	6,222.18	-698.97	-194.76	267.67	0.00	0.00	0.00	0.00
6,400.00	12.80	195.57	6,319.69	-720.31	-200.71	275.85	0.00	0.00	0.00	0.00
6,500.00	12.80	195.57	6,417.21	-741.65	-206.65	284.02	0.00	0.00	0.00	0.00
6,543.88	12.80	195.57	6,460.00	-751.02	-209.26	287.61	0.00	0.00	0.00	0.00
Begin Drop @ 6543.88 ft										
6,600.00	11.96	195.57	6,514.81	-762.61	-212.49	292.04	1.50	-1.50	0.00	-180.00
6,700.00	10.46	195.57	6,612.90	-781.33	-217.71	299.21	1.50	-1.50	0.00	180.00
6,800.00	8.96	195.57	6,711.47	-797.58	-222.24	305.43	1.50	-1.50	0.00	180.00
6,900.00	7.46	195.57	6,810.44	-811.33	-226.07	310.70	1.50	-1.50	0.00	-180.00
7,000.00	5.96	195.57	6,909.75	-822.58	-229.20	315.01	1.50	-1.50	0.00	180.00
7,100.00	4.46	195.57	7,009.34	-831.32	-231.64	318.36	1.50	-1.50	0.00	180.00
7,200.00	2.96	195.57	7,109.12	-837.55	-233.38	320.74	1.50	-1.50	0.00	180.00
7,300.00	1.46	195.57	7,209.05	-841.27	-234.41	322.17	1.50	-1.50	0.00	180.00
7,397.22	0.00	0.00	7,306.25	-842.46	-234.74	322.62	1.50	-1.50	0.00	180.00
End Drop @ 7397.22 ft										
7,400.00	0.00	0.00	7,309.04	-842.46	-234.74	322.62	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,409.04	-842.46	-234.74	322.62	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,509.04	-842.46	-234.74	322.62	0.00	0.00	0.00	0.00
7,609.00	0.00	0.00	7,518.04	-842.46	-234.74	322.62	0.00	0.00	0.00	0.00
Kick Off Point @ 7609.00 ft										
7,700.00	9.10	270.11	7,608.65	-842.44	-241.95	329.79	10.00	10.00	0.00	270.11
7,800.00	19.10	270.11	7,705.52	-842.40	-266.28	353.98	10.00	10.00	0.00	0.00
7,900.00	29.10	270.11	7,796.69	-842.32	-307.06	394.52	10.00	10.00	0.00	0.00
8,000.00	39.10	270.11	7,879.39	-842.22	-363.06	450.19	10.00	10.00	0.00	0.00
8,007.27	39.83	270.11	7,885.00	-842.21	-367.68	454.78	10.00	10.00	0.00	0.00
Sharon Springs										
8,050.00	44.10	270.11	7,916.77	-842.16	-396.24	483.18	10.00	10.00	0.00	0.00
Build Rate 10.00°/100 ft										
8,100.00	49.10	270.11	7,951.11	-842.09	-432.56	519.29	10.00	10.00	0.00	0.00
8,110.64	50.16	270.11	7,958.00	-842.08	-440.66	527.35	10.00	10.00	0.00	0.00
Niobrara										
8,200.00	59.10	270.11	8,009.67	-841.94	-513.46	599.72	10.00	10.00	0.00	0.00
8,300.00	69.10	270.11	8,053.30	-841.78	-603.30	689.04	10.00	10.00	0.00	0.00
8,391.54	78.25	270.11	8,079.00	-841.61	-691.06	776.29	10.00	10.00	0.00	0.00
Niobrara B										
8,400.00	79.10	270.11	8,080.66	-841.60	-699.35	784.53	10.00	10.00	0.00	0.00
8,401.81	79.28	270.11	8,081.00	-841.60	-701.13	786.30	10.00	10.00	0.00	0.00
Niobrara C										
8,500.00	89.10	270.11	8,090.93	-841.42	-798.70	883.30	10.00	10.00	0.00	0.00
8,507.36	89.84	270.11	8,091.00	-841.40	-806.06	890.61	10.00	10.00	0.00	0.00
End Build @ 8507.36 ft										
8,600.00	89.84	270.11	8,091.26	-841.23	-898.70	982.71	0.00	0.00	0.00	0.00
8,700.00	89.84	270.11	8,091.55	-841.05	-998.70	1,082.13	0.00	0.00	0.00	0.00
8,800.00	89.84	270.11	8,091.83	-840.86	-1,098.70	1,181.55	0.00	0.00	0.00	0.00

Plan Report for Beaver 5-65 34-35 2H - Rev B0

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
8,900.00	89.84	270.11	8,092.12	-840.68	-1,198.69	1,280.97	0.00	0.00	0.00	0.00
9,000.00	89.84	270.11	8,092.41	-840.49	-1,298.69	1,380.38	0.00	0.00	0.00	0.00
9,100.00	89.84	270.11	8,092.70	-840.31	-1,398.69	1,479.80	0.00	0.00	0.00	0.00
9,200.00	89.84	270.11	8,092.98	-840.12	-1,498.69	1,579.22	0.00	0.00	0.00	0.00
9,300.00	89.84	270.11	8,093.27	-839.94	-1,598.69	1,678.64	0.00	0.00	0.00	0.00
9,400.00	89.84	270.11	8,093.56	-839.75	-1,698.69	1,778.06	0.00	0.00	0.00	0.00
9,500.00	89.84	270.11	8,093.84	-839.57	-1,798.69	1,877.47	0.00	0.00	0.00	0.00
9,600.00	89.84	270.11	8,094.13	-839.38	-1,898.69	1,976.89	0.00	0.00	0.00	0.00
9,700.00	89.84	270.11	8,094.42	-839.20	-1,998.69	2,076.31	0.00	0.00	0.00	0.00
9,800.00	89.84	270.11	8,094.70	-839.01	-2,098.69	2,175.73	0.00	0.00	0.00	0.00
9,900.00	89.84	270.11	8,094.99	-838.83	-2,198.69	2,275.14	0.00	0.00	0.00	0.00
10,000.00	89.84	270.11	8,095.28	-838.64	-2,298.69	2,374.56	0.00	0.00	0.00	0.00
10,100.00	89.84	270.11	8,095.56	-838.46	-2,398.69	2,473.98	0.00	0.00	0.00	0.00
10,200.00	89.84	270.11	8,095.85	-838.27	-2,498.69	2,573.40	0.00	0.00	0.00	0.00
10,300.00	89.84	270.11	8,096.14	-838.09	-2,598.69	2,672.82	0.00	0.00	0.00	0.00
10,400.00	89.84	270.11	8,096.42	-837.90	-2,698.69	2,772.23	0.00	0.00	0.00	0.00
10,500.00	89.84	270.11	8,096.71	-837.72	-2,798.69	2,871.65	0.00	0.00	0.00	0.00
10,600.00	89.84	270.11	8,097.00	-837.53	-2,898.68	2,971.07	0.00	0.00	0.00	0.00
10,700.00	89.84	270.11	8,097.28	-837.35	-2,998.68	3,070.49	0.00	0.00	0.00	0.00
10,800.00	89.84	270.11	8,097.57	-837.17	-3,098.68	3,169.90	0.00	0.00	0.00	0.00
10,900.00	89.84	270.11	8,097.86	-836.98	-3,198.68	3,269.32	0.00	0.00	0.00	0.00
11,000.00	89.84	270.11	8,098.14	-836.80	-3,298.68	3,368.74	0.00	0.00	0.00	0.00
11,100.00	89.84	270.11	8,098.43	-836.61	-3,398.68	3,468.16	0.00	0.00	0.00	0.00
11,200.00	89.84	270.11	8,098.72	-836.43	-3,498.68	3,567.58	0.00	0.00	0.00	0.00
11,300.00	89.84	270.11	8,099.00	-836.24	-3,598.68	3,666.99	0.00	0.00	0.00	0.00
11,400.00	89.84	270.11	8,099.29	-836.06	-3,698.68	3,766.41	0.00	0.00	0.00	0.00
11,500.00	89.84	270.11	8,099.58	-835.87	-3,798.68	3,865.83	0.00	0.00	0.00	0.00
11,600.00	89.84	270.11	8,099.87	-835.69	-3,898.68	3,965.25	0.00	0.00	0.00	0.00
11,700.00	89.84	270.11	8,100.15	-835.50	-3,998.68	4,064.66	0.00	0.00	0.00	0.00
11,800.00	89.84	270.11	8,100.44	-835.32	-4,098.68	4,164.08	0.00	0.00	0.00	0.00
11,900.00	89.84	270.11	8,100.73	-835.13	-4,198.68	4,263.50	0.00	0.00	0.00	0.00
12,000.00	89.84	270.11	8,101.01	-834.95	-4,298.68	4,362.92	0.00	0.00	0.00	0.00
12,100.00	89.84	270.11	8,101.30	-834.76	-4,398.68	4,462.34	0.00	0.00	0.00	0.00
12,200.00	89.84	270.11	8,101.59	-834.58	-4,498.68	4,561.75	0.00	0.00	0.00	0.00
12,300.00	89.84	270.11	8,101.87	-834.39	-4,598.67	4,661.17	0.00	0.00	0.00	0.00
12,400.00	89.84	270.11	8,102.16	-834.21	-4,698.67	4,760.59	0.00	0.00	0.00	0.00
12,500.00	89.84	270.11	8,102.45	-834.02	-4,798.67	4,860.01	0.00	0.00	0.00	0.00
12,600.00	89.84	270.11	8,102.73	-833.84	-4,898.67	4,959.42	0.00	0.00	0.00	0.00
12,700.00	89.84	270.11	8,103.02	-833.65	-4,998.67	5,058.84	0.00	0.00	0.00	0.00
12,800.00	89.84	270.11	8,103.31	-833.47	-5,098.67	5,158.26	0.00	0.00	0.00	0.00
12,900.00	89.84	270.11	8,103.59	-833.28	-5,198.67	5,257.68	0.00	0.00	0.00	0.00
13,000.00	89.84	270.11	8,103.88	-833.10	-5,298.67	5,357.09	0.00	0.00	0.00	0.00
13,100.00	89.84	270.11	8,104.17	-832.91	-5,398.67	5,456.51	0.00	0.00	0.00	0.00
13,200.00	89.84	270.11	8,104.45	-832.73	-5,498.67	5,555.93	0.00	0.00	0.00	0.00
13,300.00	89.84	270.11	8,104.74	-832.54	-5,598.67	5,655.35	0.00	0.00	0.00	0.00
13,400.00	89.84	270.11	8,105.03	-832.36	-5,698.67	5,754.77	0.00	0.00	0.00	0.00
13,500.00	89.84	270.11	8,105.31	-832.17	-5,798.67	5,854.18	0.00	0.00	0.00	0.00
13,600.00	89.84	270.11	8,105.60	-831.99	-5,898.67	5,953.60	0.00	0.00	0.00	0.00
13,700.00	89.84	270.11	8,105.89	-831.81	-5,998.67	6,053.02	0.00	0.00	0.00	0.00
13,800.00	89.84	270.11	8,106.17	-831.62	-6,098.67	6,152.44	0.00	0.00	0.00	0.00
13,900.00	89.84	270.11	8,106.46	-831.44	-6,198.67	6,251.85	0.00	0.00	0.00	0.00
14,000.00	89.84	270.11	8,106.75	-831.25	-6,298.67	6,351.27	0.00	0.00	0.00	0.00
14,100.00	89.84	270.11	8,107.04	-831.07	-6,398.66	6,450.69	0.00	0.00	0.00	0.00
14,200.00	89.84	270.11	8,107.32	-830.88	-6,498.66	6,550.11	0.00	0.00	0.00	0.00
14,300.00	89.84	270.11	8,107.61	-830.70	-6,598.66	6,649.53	0.00	0.00	0.00	0.00
14,400.00	89.84	270.11	8,107.90	-830.51	-6,698.66	6,748.94	0.00	0.00	0.00	0.00
14,500.00	89.84	270.11	8,108.18	-830.33	-6,798.66	6,848.36	0.00	0.00	0.00	0.00
14,600.00	89.84	270.11	8,108.47	-830.14	-6,898.66	6,947.78	0.00	0.00	0.00	0.00
14,700.00	89.84	270.11	8,108.76	-829.96	-6,998.66	7,047.20	0.00	0.00	0.00	0.00
14,800.00	89.84	270.11	8,109.04	-829.77	-7,098.66	7,146.61	0.00	0.00	0.00	0.00

Plan Report for Beaver 5-65 34-35 2H - Rev B0

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
14,900.00	89.84	270.11	8,109.33	-829.59	-7,198.66	7,246.03	0.00	0.00	0.00	0.00
15,000.00	89.84	270.11	8,109.62	-829.40	-7,298.66	7,345.45	0.00	0.00	0.00	0.00
15,100.00	89.84	270.11	8,109.90	-829.22	-7,398.66	7,444.87	0.00	0.00	0.00	0.00
15,200.00	89.84	270.11	8,110.19	-829.03	-7,498.66	7,544.29	0.00	0.00	0.00	0.00
15,300.00	89.84	270.11	8,110.48	-828.85	-7,598.66	7,643.70	0.00	0.00	0.00	0.00
15,400.00	89.84	270.11	8,110.76	-828.66	-7,698.66	7,743.12	0.00	0.00	0.00	0.00
15,482.42	89.84	270.11	8,111.00	-828.51	-7,781.08	7,825.06	0.00	0.00	0.00	0.00
Total Depth 15482.42 ft										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,600.00	2,600.00	0.00	0.00	Begin Nudge @ 2600.00 ft
3,453.33	3,446.25	-91.44	-25.48	End Nudge @ 3453.33 ft
6,543.88	6,460.00	-751.02	-209.26	Begin Drop @ 6543.88 ft
7,397.22	7,306.25	-842.46	-234.74	End Drop @ 7397.22 ft
7,609.00	7,518.04	-842.46	-234.74	Kick Off Point @ 7609.00 ft
8,050.00	7,916.77	-842.16	-396.24	Build Rate 10.00°/100 ft
8,507.36	8,091.00	-841.40	-806.06	End Build @ 8507.36 ft
15,482.42	8,111.00	-828.51	-7,781.08	Total Depth 15482.42 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/-S (usft)	+E/-W (usft)	
Target	Beaver 5-65 34-35 2H_Lateral_(Rev B0)_BHL	263.92	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	2,521.00	Rev B0	NS-GYRO-MS
2,521.00	15,482.42	Rev B0	MWD

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
2,521.00	2,521.00	9 5/8" Casing Pt.	9-5/8	13-1/2

Plan Report for Beaver 5-65 34-35 2H - Rev B0

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,054.00	2,054.00	Fox Hills			
2,321.00	2,321.00	Pierre Shale			
2,521.00	2,521.00	Surface Casing			
8,007.27	7,885.00	Sharon Springs			
8,110.64	7,958.00	Niobrara			
8,391.54	8,079.00	Niobrara B			
8,401.81	8,081.00	Niobrara C			

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
PANCOST STATE #1_SB	0.00	-1,815.78	1,491.28	Circle
Beaver 5-65 34-35 2H_SB	0.00	0.00	0.00	Polygon
COAL-BUTTE-STATE #1-34_SB	0.00	697.84	-3,718.25	Circle
KISSINGER-STATE #7-35_SB	0.00	-610.12	284.71	Circle
Beaver 5-65 34-35 2H_SL	0.00	0.00	0.00	Polygon
LOWRY-STATE #1-35_SB	0.00	777.76	1,679.99	Circle
ANDERSON-BYRNE #1_SB	0.00	597.19	-9,102.16	Circle
BYRNE #1_SB	0.00	327.74	-9,372.86	Circle
Beaver 5-65 34-35 2H_Lateral_(Rev B0)_BPI	0.00	-842.73	-1,188.54	Point
Beaver 5-65 34-35 2H_Lateral_(Rev B0)_BHL	8,111.00	-828.51	-7,781.08	Point
Beaver 5-65 34-35 2H_Lateral_(Rev B0)_EPI	8,111.00	-829.56	-7,645.61	Point

Directional Difficulty Index

Average Dogleg over Survey:	0.75 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 8,507.36 usft
Net Tortosity applicable to Plans:	0.75 °/100usft	Directional Difficulty Index:	6.367

Audit Info

North Reference Sheet for Sec. 35-T5S-R65W - Beaver 5-65 34-35 2H - Plan B
(Lateral)

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference .
Vertical Depths are relative to KB 24 ft @ 6110.60usft (H&P 280). Northing and Easting are relative to Beaver 5-65 34-35 2H
Coordinate System is US State Plane 1983, Colorado Central 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° 0' 0.000 E°, Latitude Origin:39° 45' 0.000 N°
False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99997030

Grid Coordinates of Well: 1,636,075.51 usft N, 3,244,848.99 usft E
Geographical Coordinates of Well: 39° 34' 35.76" N, 104° 37' 52.86" W
Grid Convergence at Surface is: 0.55°

Based upon Minimum Curvature type calculations, at a Measured Depth of 15,482.42usft
the Bottom Hole Displacement is 7,825.06usft in the Direction of 263.92° (True).
Magnetic Convergence at surface is: -7.80° (29 January 2015, , BGGM2014)

