

Conoco Phillips Company

Arapahoe County, Colorado

Sec. 12-T5S-R65W

State Blanca-1H

Plan A

Plan: Rev A1

Sperry Drilling Services

Proposal Report

02 November, 2013

Well Coordinates: 1,657,802.44 N, 3,249,905.78 E (39° 38' 10.00" N, 104° 36' 45.57" W)

Ground Level: 5,862.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well State Blanca-1H

KB 24 ft @ 5886.00usft (H&P 280)

N

True

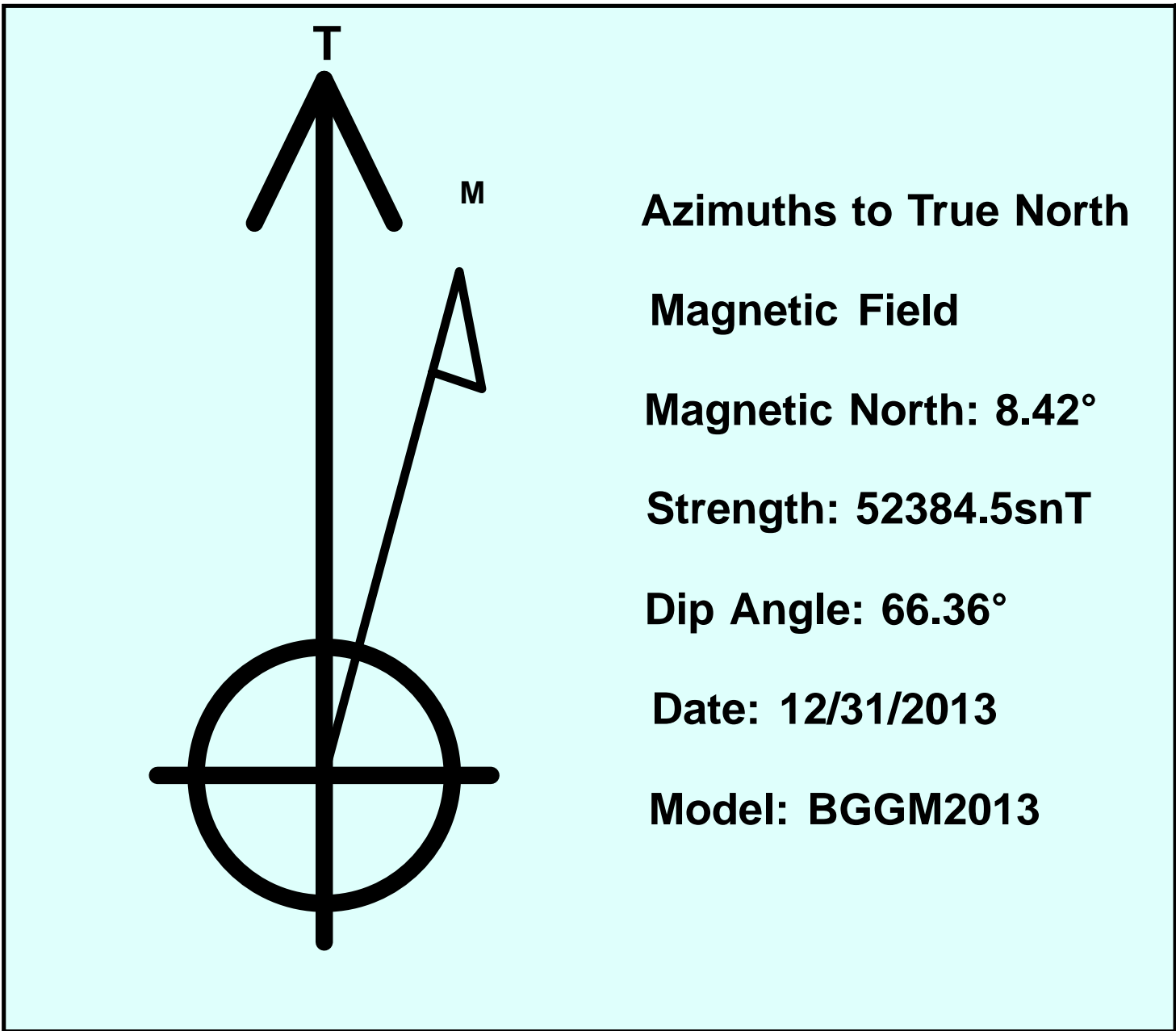
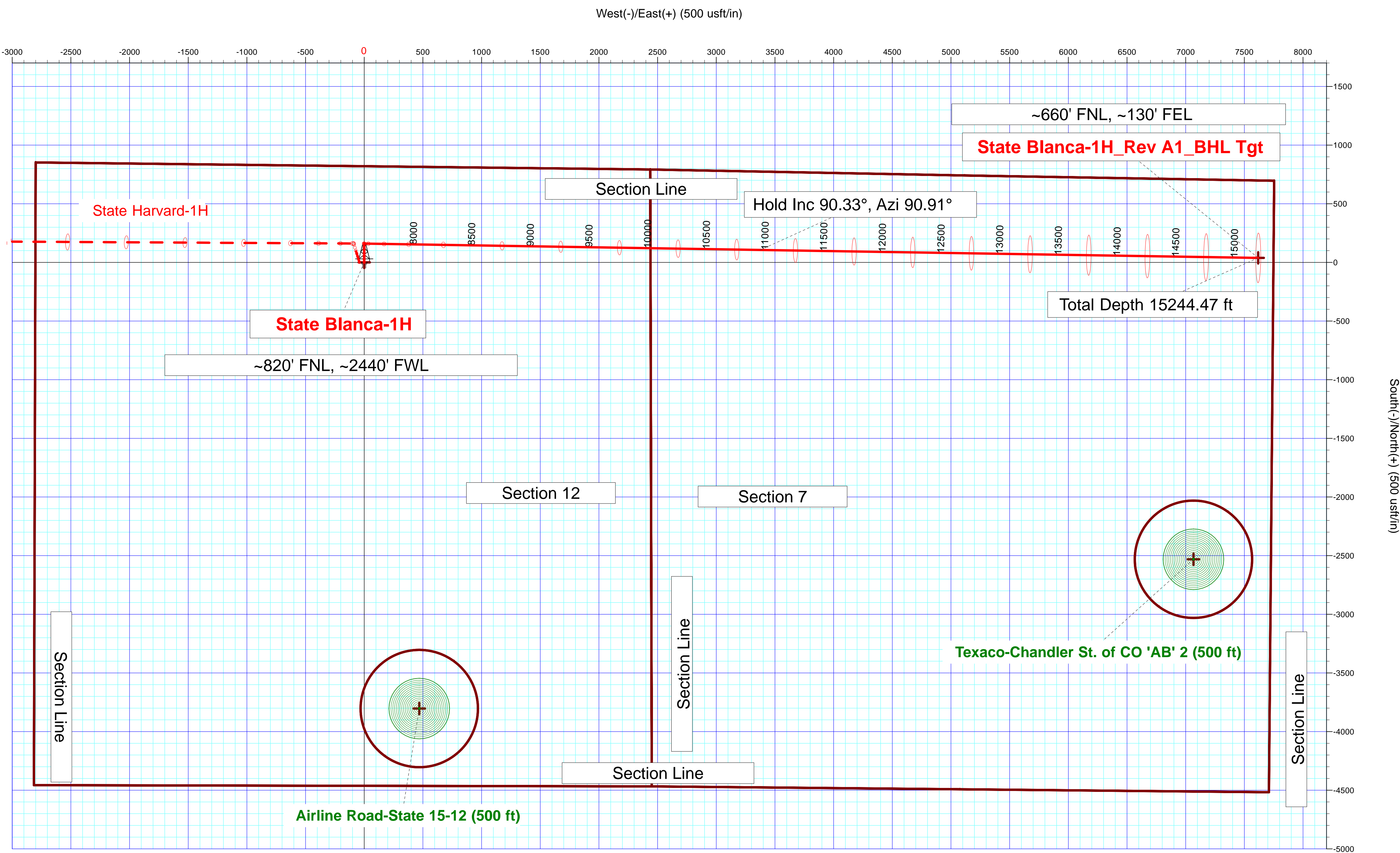
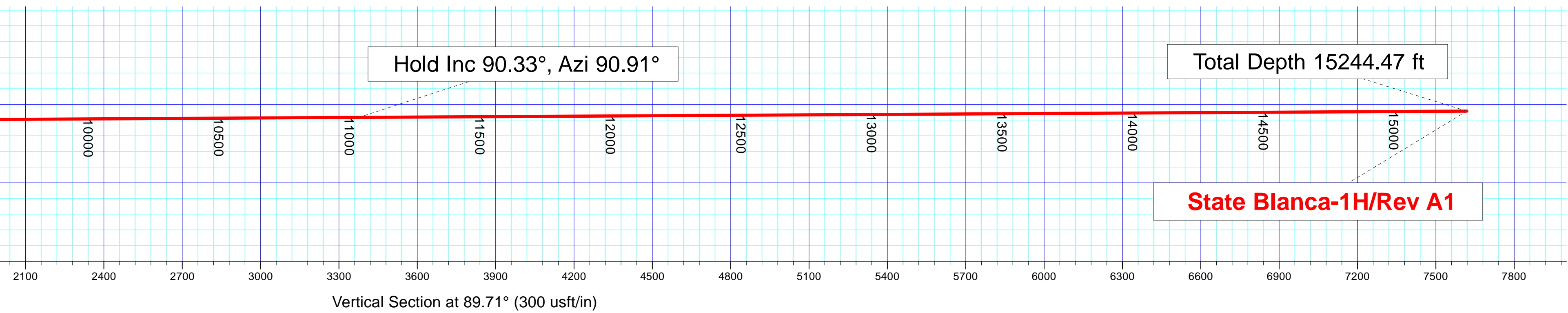
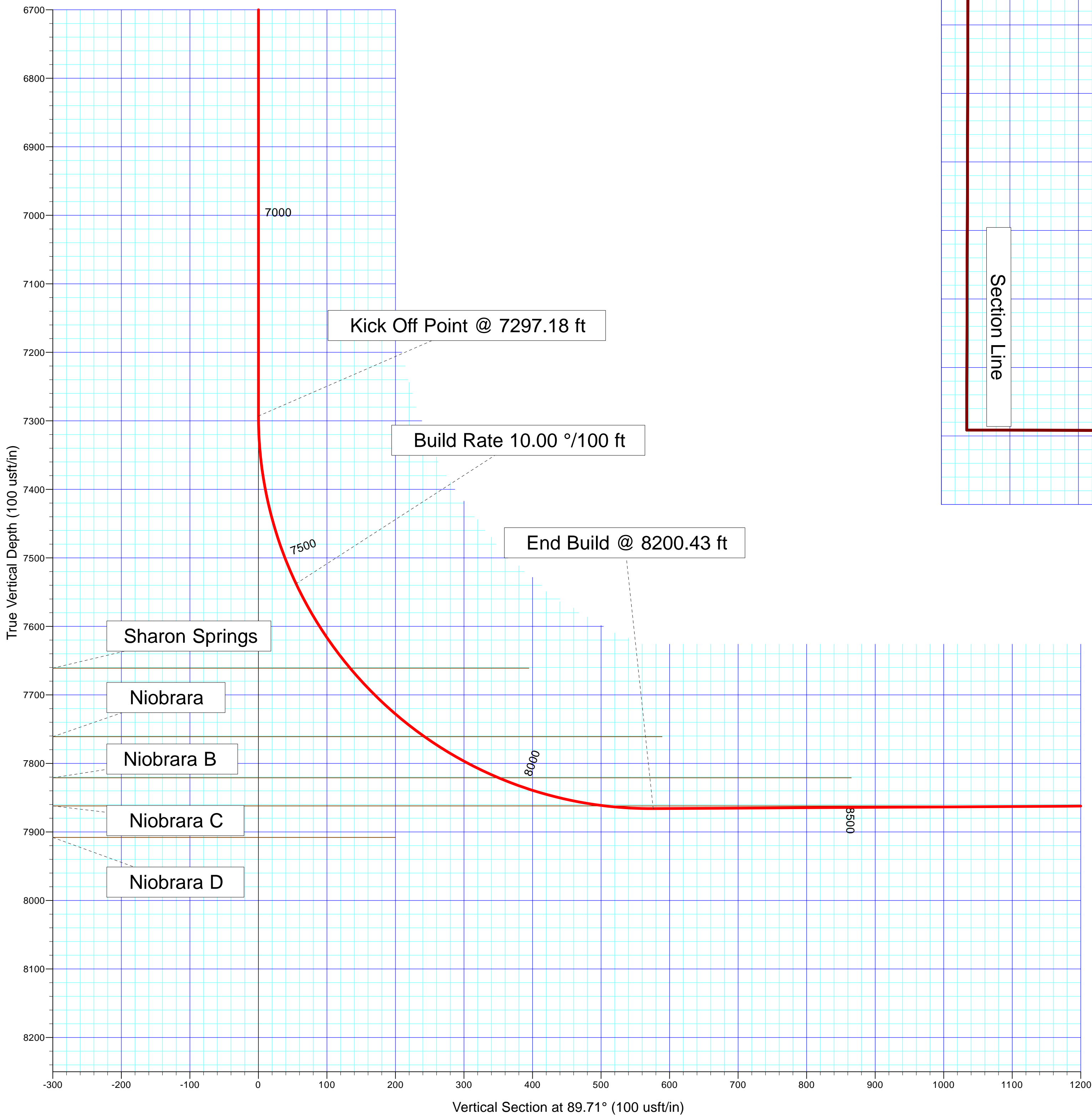
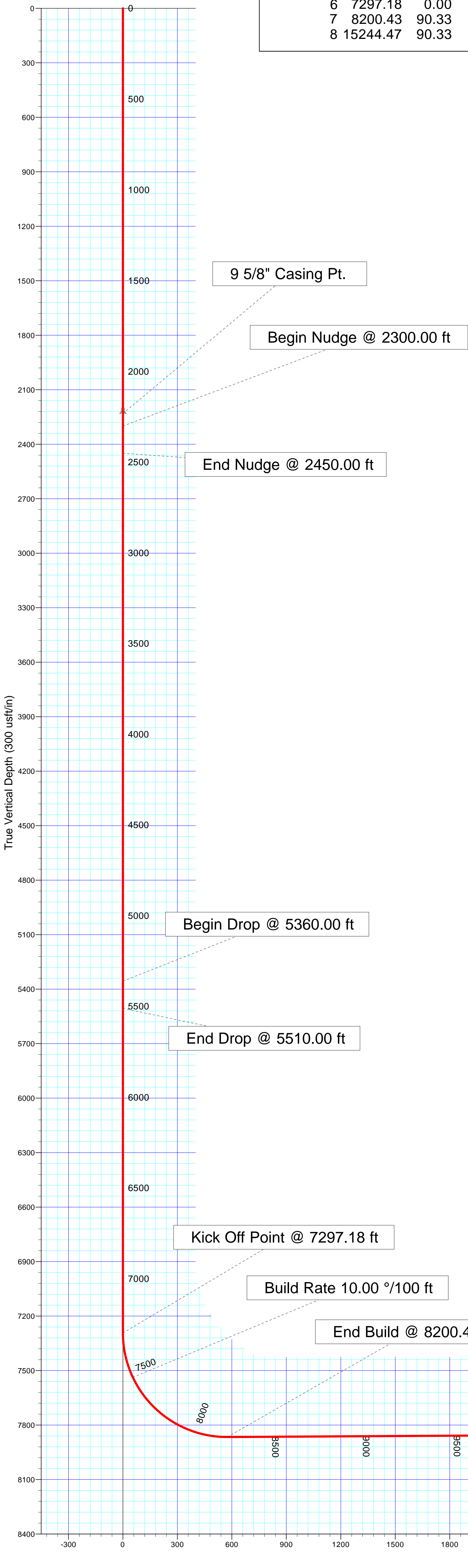
API - US Survey Feet - Custom

HALLIBURTON

Project: Arapahoe County, Colorado
Site: Sec. 12-T5S-R65W
Well: State Blanca-1H
Wellbore: Plan A
Plan: Rev A1

Conoco Phillips Company

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	2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	0.00	0.00	
3	2450.00	3.00	359.75	2449.93	3.93	-0.02	2.00	359.75	0.00	
4	5360.00	3.00	359.75	5355.94	156.22	-0.68	0.00	0.00	0.11	
5	5510.00	0.00	0.00	5505.87	180.15	-0.70	2.00	180.00	0.11	
6	7297.18	0.00	0.00	7293.05	180.15	-0.70	0.00	0.00	0.11	
7	8200.43	90.33	90.91	7866.00	150.96	575.44	10.00	90.91	576.20	
8	15244.47	90.33	90.91	7826.00	38.58	7618.47	0.00	0.00	7618.57	State Blanca-1H_Rev A1_BHL Tgt



Plan: Rev A1 (State Blanca-1H/Plan A)	
Created By: Kansa B. Becker	Date: 13:53, November 02 2013
Checked: _____	Date: _____
Reviewed: _____	Date: _____
Approved: _____	Date: _____

Plan Report for State Blanca-1H - Rev A1

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
1,881.00	0.00	0.00	1,881.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills										
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
2,031.00	0.00	0.00	2,031.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Shale										
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
2,231.00	0.00	0.00	2,231.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8" Casing Pt.										
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 2300.00 ft										
2,400.00	2.00	359.75	2,399.98	1.75	-0.01	0.00	2.00	2.00	0.00	359.75
2,450.00	3.00	359.75	2,449.93	3.93	-0.02	0.00	2.00	2.00	0.00	0.00
End Nudge @ 2450.00 ft										
2,500.00	3.00	359.75	2,499.86	6.54	-0.03	0.00	0.00	0.00	0.00	0.00
2,600.00	3.00	359.75	2,599.73	11.78	-0.05	0.01	0.00	0.00	0.00	0.00
2,700.00	3.00	359.75	2,699.59	17.01	-0.07	0.01	0.00	0.00	0.00	0.00
2,800.00	3.00	359.75	2,799.45	22.24	-0.10	0.02	0.00	0.00	0.00	0.00
2,900.00	3.00	359.75	2,899.31	27.48	-0.12	0.02	0.00	0.00	0.00	0.00
3,000.00	3.00	359.75	2,999.18	32.71	-0.14	0.02	0.00	0.00	0.00	0.00
3,100.00	3.00	359.75	3,099.04	37.94	-0.17	0.03	0.00	0.00	0.00	0.00
3,200.00	3.00	359.75	3,198.90	43.18	-0.19	0.03	0.00	0.00	0.00	0.00
3,300.00	3.00	359.75	3,298.77	48.41	-0.21	0.03	0.00	0.00	0.00	0.00
3,400.00	3.00	359.75	3,398.63	53.64	-0.23	0.04	0.00	0.00	0.00	0.00
3,500.00	3.00	359.75	3,498.49	58.88	-0.26	0.04	0.00	0.00	0.00	0.00
3,600.00	3.00	359.75	3,598.36	64.11	-0.28	0.04	0.00	0.00	0.00	0.00
3,700.00	3.00	359.75	3,698.22	69.35	-0.30	0.05	0.00	0.00	0.00	0.00
3,800.00	3.00	359.75	3,798.08	74.58	-0.33	0.05	0.00	0.00	0.00	0.00
3,900.00	3.00	359.75	3,897.94	79.81	-0.35	0.06	0.00	0.00	0.00	0.00
4,000.00	3.00	359.75	3,997.81	85.05	-0.37	0.06	0.00	0.00	0.00	0.00
4,100.00	3.00	359.75	4,097.67	90.28	-0.39	0.06	0.00	0.00	0.00	0.00
4,200.00	3.00	359.75	4,197.53	95.51	-0.42	0.07	0.00	0.00	0.00	0.00
4,300.00	3.00	359.75	4,297.40	100.75	-0.44	0.07	0.00	0.00	0.00	0.00
4,400.00	3.00	359.75	4,397.26	105.98	-0.46	0.07	0.00	0.00	0.00	0.00
4,500.00	3.00	359.75	4,497.12	111.21	-0.49	0.08	0.00	0.00	0.00	0.00
4,600.00	3.00	359.75	4,596.98	116.45	-0.51	0.08	0.00	0.00	0.00	0.00
4,700.00	3.00	359.75	4,696.85	121.68	-0.53	0.09	0.00	0.00	0.00	0.00
4,800.00	3.00	359.75	4,796.71	126.91	-0.55	0.09	0.00	0.00	0.00	0.00

Plan Report for State Blanca-1H - Rev A1

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	3.00	359.75	4,896.57	132.15	-0.58	0.09	0.00	0.00	0.00	0.00
5,000.00	3.00	359.75	4,996.44	137.38	-0.60	0.10	0.00	0.00	0.00	0.00
5,100.00	3.00	359.75	5,096.30	142.62	-0.62	0.10	0.00	0.00	0.00	0.00
5,200.00	3.00	359.75	5,196.16	147.85	-0.65	0.10	0.00	0.00	0.00	0.00
5,300.00	3.00	359.75	5,296.03	153.08	-0.67	0.11	0.00	0.00	0.00	0.00
5,360.00	3.00	359.75	5,355.94	156.22	-0.68	0.11	0.00	0.00	0.00	0.00
Begin Drop @ 5360.00 ft										
5,400.00	2.20	359.75	5,395.90	158.04	-0.69	0.11	2.00	-2.00	0.00	180.00
5,500.00	0.20	359.75	5,495.87	160.13	-0.70	0.11	2.00	-2.00	0.00	180.00
5,510.00	0.00	0.00	5,505.87	160.15	-0.70	0.11	2.00	-2.00	0.00	180.00
End Drop @ 5510.00 ft										
5,600.00	0.00	0.00	5,595.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,695.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,795.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,895.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,995.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,095.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,195.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,295.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,395.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,495.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,595.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,695.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,795.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,895.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	6,995.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,095.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,195.87	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
7,297.18	0.00	0.00	7,293.05	160.15	-0.70	0.11	0.00	0.00	0.00	0.00
Kick Off Point @ 7297.18 ft										
7,300.00	0.28	90.91	7,295.87	160.15	-0.69	0.12	10.00	10.00	0.00	90.91
7,400.00	10.28	90.91	7,395.32	160.00	8.50	9.31	10.00	10.00	0.00	0.00
7,500.00	20.28	90.91	7,491.67	159.58	34.82	35.63	10.00	10.00	0.00	0.00
7,550.00	25.28	90.91	7,537.75	159.27	54.18	54.98	10.00	10.00	0.00	0.00
Build Rate 10.00 °/100 ft										
7,600.00	30.28	90.91	7,581.97	158.90	77.47	78.28	10.00	10.00	0.00	0.00
7,696.73	39.96	90.91	7,661.00	158.01	133.05	133.84	10.00	10.00	0.00	0.00
Sharon Springs										
7,700.00	40.28	90.91	7,663.50	157.98	135.15	135.95	10.00	10.00	0.00	0.00
7,800.00	50.28	90.91	7,733.77	156.85	206.11	206.90	10.00	10.00	0.00	0.00
7,844.76	54.76	90.91	7,761.00	156.28	241.62	242.41	10.00	10.00	0.00	0.00
Niobrara										
7,900.00	60.28	90.91	7,790.65	155.54	288.19	288.98	10.00	10.00	0.00	0.00
7,968.56	67.14	90.91	7,821.00	154.56	349.62	350.40	10.00	10.00	0.00	0.00
Niobrara B										
8,000.00	70.28	90.91	7,832.41	154.09	378.90	379.68	10.00	10.00	0.00	0.00
8,100.00	80.28	90.91	7,857.79	152.55	475.49	476.25	10.00	10.00	0.00	0.00
8,129.37	83.22	90.91	7,862.00	152.09	504.54	505.31	10.00	10.00	0.00	0.00
Niobrara C										
8,200.00	90.28	90.91	7,866.00	150.96	575.01	575.77	10.00	10.00	0.00	0.00
8,200.43	90.33	90.91	7,866.00	150.96	575.44	576.20	10.00	10.00	0.00	0.00
End Build @ 8200.43 ft										
8,300.00	90.33	90.91	7,865.43	149.37	675.00	675.74	0.00	0.00	0.00	0.00
8,400.00	90.33	90.91	7,864.87	147.77	774.98	775.72	0.00	0.00	0.00	0.00
8,500.00	90.33	90.91	7,864.30	146.18	874.97	875.70	0.00	0.00	0.00	0.00
8,600.00	90.33	90.91	7,863.73	144.58	974.95	975.67	0.00	0.00	0.00	0.00
8,700.00	90.33	90.91	7,863.16	142.99	1,074.94	1,075.65	0.00	0.00	0.00	0.00
8,800.00	90.33	90.91	7,862.59	141.39	1,174.92	1,175.63	0.00	0.00	0.00	0.00

Plan Report for State Blanca-1H - Rev A1

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	90.33	90.91	7,862.03	139.80	1,274.91	1,275.60	0.00	0.00	0.00	0.00
9,000.00	90.33	90.91	7,861.46	138.20	1,374.90	1,375.58	0.00	0.00	0.00	0.00
9,100.00	90.33	90.91	7,860.89	136.60	1,474.88	1,475.55	0.00	0.00	0.00	0.00
9,200.00	90.33	90.91	7,860.32	135.01	1,574.87	1,575.53	0.00	0.00	0.00	0.00
9,300.00	90.33	90.91	7,859.75	133.41	1,674.85	1,675.51	0.00	0.00	0.00	0.00
9,400.00	90.33	90.91	7,859.19	131.82	1,774.84	1,775.48	0.00	0.00	0.00	0.00
9,500.00	90.33	90.91	7,858.62	130.22	1,874.82	1,875.46	0.00	0.00	0.00	0.00
9,600.00	90.33	90.91	7,858.05	128.63	1,974.81	1,975.44	0.00	0.00	0.00	0.00
9,700.00	90.33	90.91	7,857.48	127.03	2,074.80	2,075.41	0.00	0.00	0.00	0.00
9,800.00	90.33	90.91	7,856.92	125.44	2,174.78	2,175.39	0.00	0.00	0.00	0.00
9,900.00	90.33	90.91	7,856.35	123.84	2,274.77	2,275.36	0.00	0.00	0.00	0.00
10,000.00	90.33	90.91	7,855.78	122.25	2,374.75	2,375.34	0.00	0.00	0.00	0.00
10,100.00	90.33	90.91	7,855.21	120.65	2,474.74	2,475.32	0.00	0.00	0.00	0.00
10,200.00	90.33	90.91	7,854.64	119.06	2,574.72	2,575.29	0.00	0.00	0.00	0.00
10,300.00	90.33	90.91	7,854.08	117.46	2,674.71	2,675.27	0.00	0.00	0.00	0.00
10,400.00	90.33	90.91	7,853.51	115.87	2,774.70	2,775.25	0.00	0.00	0.00	0.00
10,500.00	90.33	90.91	7,852.94	114.27	2,874.68	2,875.22	0.00	0.00	0.00	0.00
10,600.00	90.33	90.91	7,852.37	112.68	2,974.67	2,975.20	0.00	0.00	0.00	0.00
10,700.00	90.33	90.91	7,851.81	111.08	3,074.65	3,075.18	0.00	0.00	0.00	0.00
10,800.00	90.33	90.91	7,851.24	109.48	3,174.64	3,175.15	0.00	0.00	0.00	0.00
10,900.00	90.33	90.91	7,850.67	107.89	3,274.62	3,275.13	0.00	0.00	0.00	0.00
11,000.00	90.33	90.91	7,850.10	106.29	3,374.61	3,375.10	0.00	0.00	0.00	0.00
Hold Inc 90.33°, Azi 90.91°										
11,100.00	90.33	90.91	7,849.53	104.70	3,474.59	3,475.08	0.00	0.00	0.00	0.00
11,200.00	90.33	90.91	7,848.97	103.10	3,574.58	3,575.06	0.00	0.00	0.00	0.00
11,300.00	90.33	90.91	7,848.40	101.51	3,674.57	3,675.03	0.00	0.00	0.00	0.00
11,400.00	90.33	90.91	7,847.83	99.91	3,774.55	3,775.01	0.00	0.00	0.00	0.00
11,500.00	90.33	90.91	7,847.26	98.32	3,874.54	3,874.99	0.00	0.00	0.00	0.00
11,600.00	90.33	90.91	7,846.69	96.72	3,974.52	3,974.96	0.00	0.00	0.00	0.00
11,700.00	90.33	90.91	7,846.13	95.13	4,074.51	4,074.94	0.00	0.00	0.00	0.00
11,800.00	90.33	90.91	7,845.56	93.53	4,174.49	4,174.91	0.00	0.00	0.00	0.00
11,900.00	90.33	90.91	7,844.99	91.94	4,274.48	4,274.89	0.00	0.00	0.00	0.00
12,000.00	90.33	90.91	7,844.42	90.34	4,374.47	4,374.87	0.00	0.00	0.00	0.00
12,100.00	90.33	90.91	7,843.86	88.75	4,474.45	4,474.84	0.00	0.00	0.00	0.00
12,200.00	90.33	90.91	7,843.29	87.15	4,574.44	4,574.82	0.00	0.00	0.00	0.00
12,300.00	90.33	90.91	7,842.72	85.55	4,674.42	4,674.80	0.00	0.00	0.00	0.00
12,400.00	90.33	90.91	7,842.15	83.96	4,774.41	4,774.77	0.00	0.00	0.00	0.00
12,500.00	90.33	90.91	7,841.58	82.36	4,874.39	4,874.75	0.00	0.00	0.00	0.00
12,600.00	90.33	90.91	7,841.02	80.77	4,974.38	4,974.72	0.00	0.00	0.00	0.00
12,700.00	90.33	90.91	7,840.45	79.17	5,074.37	5,074.70	0.00	0.00	0.00	0.00
12,800.00	90.33	90.91	7,839.88	77.58	5,174.35	5,174.68	0.00	0.00	0.00	0.00
12,900.00	90.33	90.91	7,839.31	75.98	5,274.34	5,274.65	0.00	0.00	0.00	0.00
13,000.00	90.33	90.91	7,838.74	74.39	5,374.32	5,374.63	0.00	0.00	0.00	0.00
13,100.00	90.33	90.91	7,838.18	72.79	5,474.31	5,474.61	0.00	0.00	0.00	0.00
13,200.00	90.33	90.91	7,837.61	71.20	5,574.29	5,574.58	0.00	0.00	0.00	0.00
13,300.00	90.33	90.91	7,837.04	69.60	5,674.28	5,674.56	0.00	0.00	0.00	0.00
13,400.00	90.33	90.91	7,836.47	68.01	5,774.27	5,774.54	0.00	0.00	0.00	0.00
13,500.00	90.33	90.91	7,835.91	66.41	5,874.25	5,874.51	0.00	0.00	0.00	0.00
13,600.00	90.33	90.91	7,835.34	64.82	5,974.24	5,974.49	0.00	0.00	0.00	0.00
13,700.00	90.33	90.91	7,834.77	63.22	6,074.22	6,074.46	0.00	0.00	0.00	0.00
13,800.00	90.33	90.91	7,834.20	61.62	6,174.21	6,174.44	0.00	0.00	0.00	0.00
13,900.00	90.33	90.91	7,833.63	60.03	6,274.19	6,274.42	0.00	0.00	0.00	0.00
14,000.00	90.33	90.91	7,833.07	58.43	6,374.18	6,374.39	0.00	0.00	0.00	0.00
14,100.00	90.33	90.91	7,832.50	56.84	6,474.16	6,474.37	0.00	0.00	0.00	0.00
14,200.00	90.33	90.91	7,831.93	55.24	6,574.15	6,574.35	0.00	0.00	0.00	0.00
14,300.00	90.33	90.91	7,831.36	53.65	6,674.14	6,674.32	0.00	0.00	0.00	0.00
14,400.00	90.33	90.91	7,830.80	52.05	6,774.12	6,774.30	0.00	0.00	0.00	0.00
14,500.00	90.33	90.91	7,830.23	50.46	6,874.11	6,874.27	0.00	0.00	0.00	0.00
14,600.00	90.33	90.91	7,829.66	48.86	6,974.09	6,974.25	0.00	0.00	0.00	0.00

Plan Report for State Blanca-1H - Rev A1

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 (°)
14,700.00	90.33	90.91	7,829.09	47.27	7,074.08	7,074.23	0.00	0.00	0.00	0.00
14,800.00	90.33	90.91	7,828.52	45.67	7,174.06	7,174.20	0.00	0.00	0.00	0.00
14,900.00	90.33	90.91	7,827.96	44.08	7,274.05	7,274.18	0.00	0.00	0.00	0.00
15,000.00	90.33	90.91	7,827.39	42.48	7,374.04	7,374.16	0.00	0.00	0.00	0.00
15,100.00	90.33	90.91	7,826.82	40.89	7,474.02	7,474.13	0.00	0.00	0.00	0.00
15,200.00	90.33	90.91	7,826.25	39.29	7,574.01	7,574.11	0.00	0.00	0.00	0.00
15,244.47	90.33	90.91	7,826.00	38.58	7,618.47	7,618.57	0.00	0.00	0.00	0.00
Total Depth 15244.47 ft										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,300.00	2,300.00	0.00	0.00	Begin Nudge @ 2300.00 ft
2,450.00	2,449.93	3.93	-0.02	End Nudge @ 2450.00 ft
5,360.00	5,355.94	156.22	-0.68	Begin Drop @ 5360.00 ft
5,510.00	5,505.87	160.15	-0.70	End Drop @ 5510.00 ft
7,297.18	7,293.05	160.15	-0.70	Kick Off Point @ 7297.18 ft
7,550.00	7,537.75	159.27	54.18	Build Rate 10.00 °/100 ft
8,200.43	7,866.00	150.96	575.44	End Build @ 8200.43 ft
11,000.00	7,850.10	106.29	3,374.61	Hold Inc 90.33°, Azi 90.91°
15,244.47	7,826.00	38.58	7,618.47	Total Depth 15244.47 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
Target	State Blanca-1H_Rev A1_BHL Tgt	89.71	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	2,231.00	Rev A1	NSG-CT_D/P
2,231.00	15,244.47	Rev A1	MWD

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
2,231.00	2,231.00	9 5/8" Casing Pt.	9-5/8	13-1/2

Plan Report for State Blanca-1H - Rev A1

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,881.00	1,881.00	Fox Hills			
2,031.00	2,031.00	Pierre Shale			
7,696.73	7,661.00	Sharon Springs			
7,844.76	7,761.00	Niobrara			
7,968.56	7,821.00	Niobrara B			
8,129.37	7,862.00	Niobrara C			

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Airline Road-State 15-12 (500 ft)	0.00	-3,803.39	469.16	Circle
State Blanca-1H_SL	0.00	0.00	0.00	Polygon
Texaco-Chandler St. of CO 'AB' 2 (500 ft)	0.00	-2,530.74	7,066.53	Circle
State Blanca-1H_Rev A1_BHL Tgt	7,826.00	38.58	7,618.47	Point

Directional Difficulty Index

Average Dogleg over Survey:	0.63 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 8,200.43 usft
Net Tortousity applicable to Plans:	0.63 °/100usft	Directional Difficulty Index:	6.297

Audit Info

North Reference Sheet for Sec. 12-T5S-R65W - State Blanca-1H - Plan A

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 @ 5886.00usft (H&P 280). Northing and Easting are relative to State Blanca-1H
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: 0.99997945

Grid Coordinates of Well: 1,657,802.44 usft N, 3,249,905.78 usft E
Geographical Coordinates of Well: 39° 38' 10.00" N, 104° 36' 45.57" W
Grid Convergence at Surface is: 0.56°

Based upon Minimum Curvature type calculations, at a Measured Depth of 15,244.47usft
the Bottom Hole Displacement is 7,618.57usft in the Direction of 89.71° (True).
Magnetic Convergence at surface is: -7.86° (31 December 2013, , BGGM2013)

