

# **BILL BARRETT CORPORATION**

**WELD COUNTY, COLORADO**

**NW SW SEC 3 T4N R63W 6th P.M.**

**70 RANCH 4-63-3-3225CDH**

**JOB # 2009-257**

**30 January, 2014**

**Survey: FINAL SURVEYS**





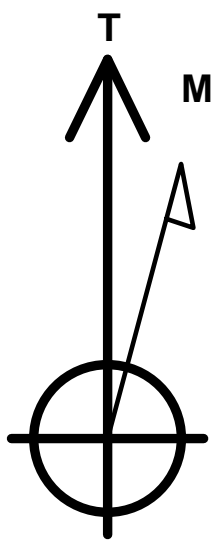
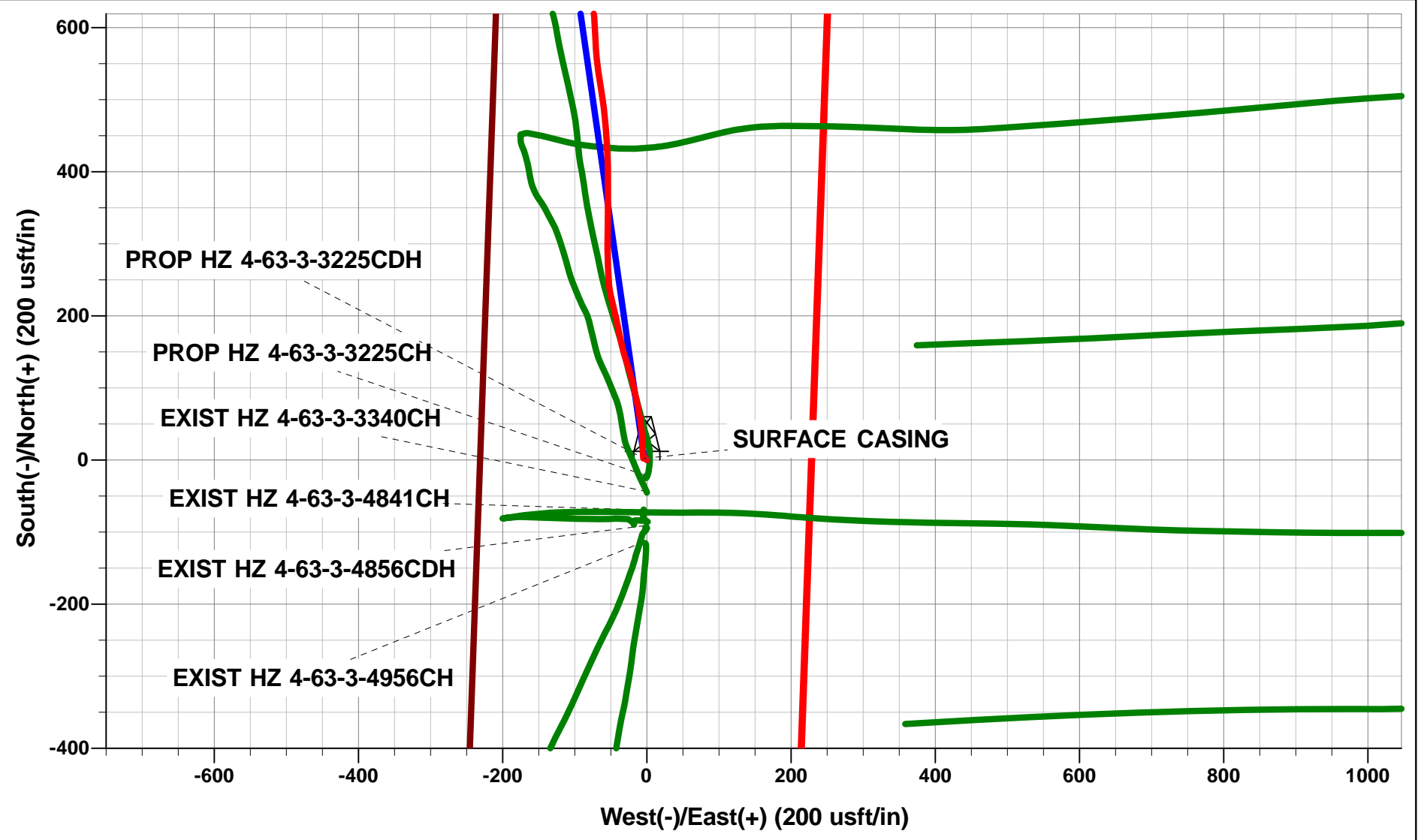
Project: WELD COUNTY, COLORADO  
Site: NW SW SEC 3 T4N R63W 6th P.M.  
Well: 70 RANCH 4-63-3-3225CDH  
Wellbore: JOB # 2009-257  
Design: FINAL SURVEYS

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation
728.0	728.0	0.24	225.96	2.5	-3.6	-3.0	5.5	SURFACE CASING
6503.0	11101.0	92.20	92.40	1067.4	4502.5	4627.2	5794.0	LAST SURVEY - JAN 30, 2014
6501.1	11150.0	92.20	92.40	1065.3	4551.4	4674.4	5843.0	EXTRAPOLATION TO TD

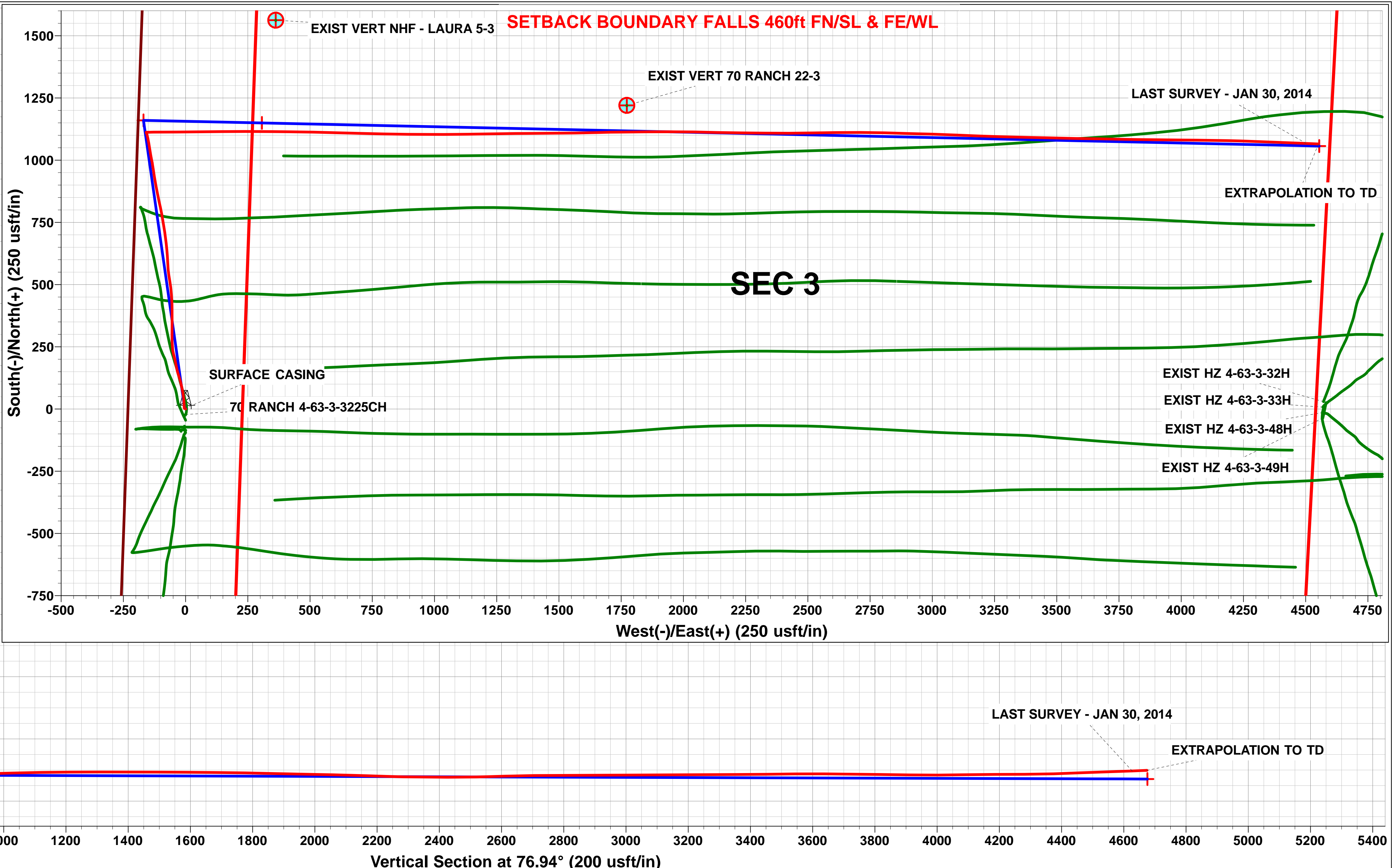
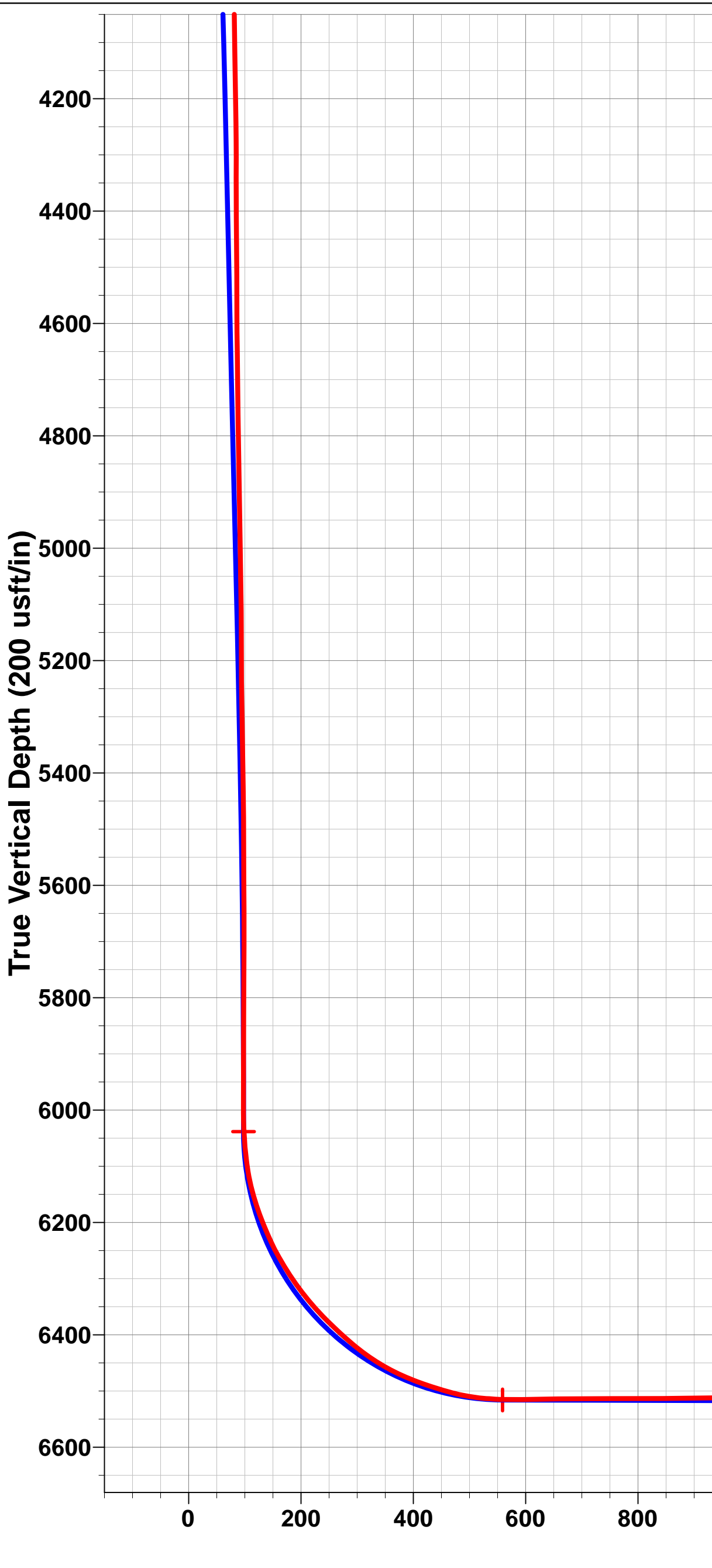
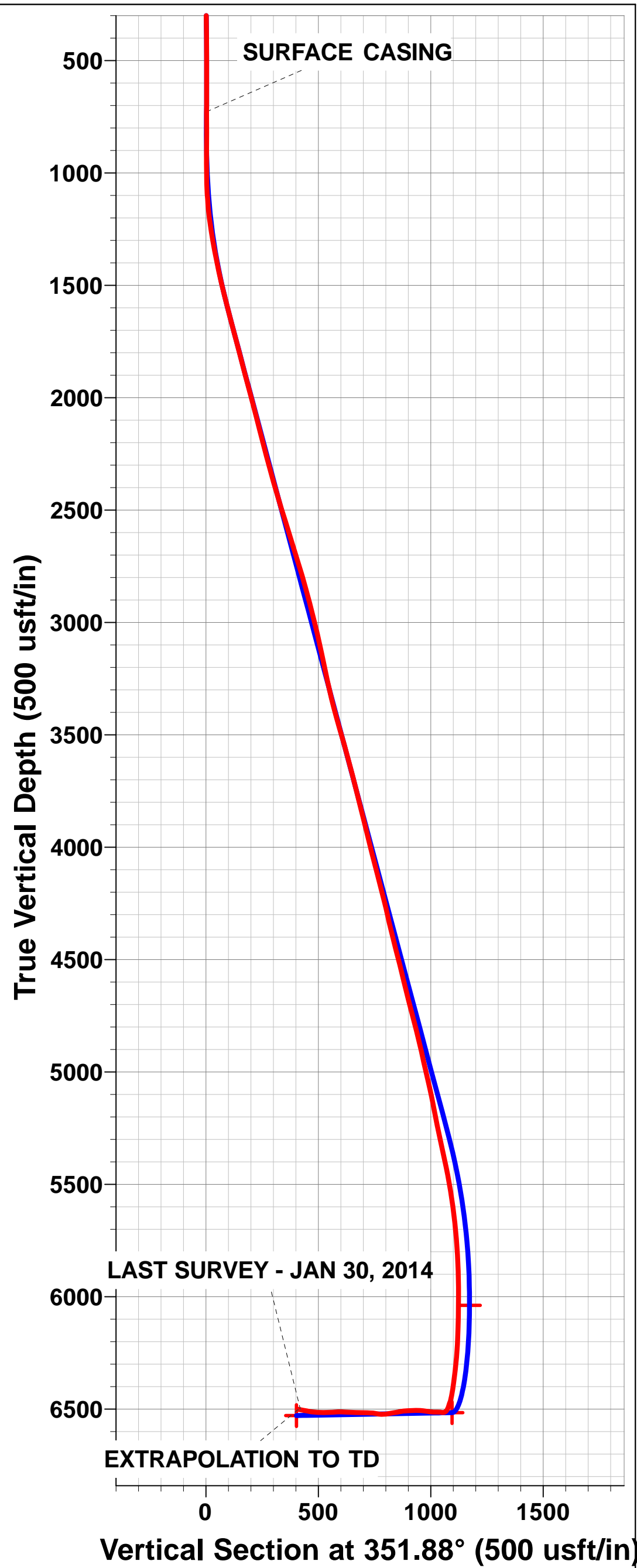
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
BTV - 4-63-3-3225CDH	6038.5	1160.2	-168.9	40° 20' 33.557 N	104° 26' 0.225 W	Point
LANDING PNT - 4-63-3-3225CDH *NEW*	6516.0	1149.8	307.0	40° 20' 33.454 N	104° 25' 54.079 W	Point
BHL - 4-63-3-3225CDH	6529.0	1056.9	4554.9	40° 20' 32.532 N	104° 24' 59.220 W	Point



Azimuths to True North  
Magnetic North: 8.33°

Magnetic Field  
Strength: 52864.4snT  
Dip Angle: 66.97°  
Date: 13/01/2014  
Model: IGRF2010



## Survey Report



<b>Company:</b>	BILL BARRETT CORPORATION	<b>Local Co-ordinate Reference:</b>	Well 70 RANCH 4-63-3-3225CDH
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	WELL @ 4582.0usft (Original Well Elev)
<b>Site:</b>	NW SW SEC 3 T4N R63W 6th P.M.	<b>MD Reference:</b>	WELL @ 4582.0usft (Original Well Elev)
<b>Well:</b>	70 RANCH 4-63-3-3225CDH	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB # 2009-257	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	WELD COUNTY, COLORADO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	NW SW SEC 3 T4N R63W 6th P.M.				
Site Position:		Northing:	1,368,277.95 usft	Latitude:	40° 20' 21.876 N
From:	Lat/Long	Easting:	3,297,487.50 usft	Longitude:	104° 25' 58.044 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.69 °

Well	70 RANCH 4-63-3-3225CDH					
Well Position	+N/-S	0.0 usft	Northing:	1,368,299.80 usft	Latitude:	40° 20' 22.092 N
	+E/-W	0.0 usft	Easting:	3,297,487.24 usft	Longitude:	104° 25' 58.044 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,559.0 usft

<b>Wellbore</b>	JOB # 2009-257				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	13/01/2014	8.33	66.97	52,864

Design	FINAL SURVEYS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)		+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0		0.0	0.0	76.94

<b>Survey Program</b>	<b>Date</b>	30/01/2014			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.0	11,150.0	FINAL SURVEYS (JOB # 2009-257)	MWD	MWD - Standard	

<b>Survey</b>											
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>Subsea Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.0	0.00	0.00	0.0	4,582.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.41	5.38	100.0	4,482.0	0.4	0.0	0.1	0.41	0.41	0.00	
200.0	0.47	331.23	200.0	4,382.0	1.1	-0.1	0.1	0.26	0.06	-34.15	
300.0	0.62	311.20	300.0	4,282.0	1.8	-0.7	-0.3	0.24	0.15	-20.03	
400.0	0.75	302.10	400.0	4,182.0	2.5	-1.7	-1.1	0.17	0.13	-9.10	
500.0	0.33	283.63	500.0	4,082.0	2.9	-2.5	-1.8	0.45	-0.42	-18.47	
600.0	0.32	243.74	600.0	3,982.0	2.9	-3.1	-2.3	0.22	-0.01	-39.89	
700.0	0.33	232.66	700.0	3,882.0	2.6	-3.5	-2.9	0.06	0.01	-11.08	
<b>SURFACE CASING</b>											
728.0	0.24	225.96	728.0	3,854.0	2.5	-3.6	-3.0	0.34	-0.32	-23.93	
886.0	0.20	269.90	886.0	3,696.0	2.2	-4.2	-3.5	0.11	-0.03	27.81	
978.0	0.30	243.10	978.0	3,604.0	2.1	-4.5	-3.9	0.16	0.11	-29.13	
1,071.0	2.60	351.80	1,070.9	3,511.1	4.1	-5.1	-4.0	2.92	2.47	116.88	

## Survey Report



<b>Company:</b>	BILL BARRETT CORPORATION	<b>Local Co-ordinate Reference:</b>	Well 70 RANCH 4-63-3-3225CDH
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	WELL @ 4582.0usft (Original Well Elev)
<b>Site:</b>	NW SW SEC 3 T4N R63W 6th P.M.	<b>MD Reference:</b>	WELL @ 4582.0usft (Original Well Elev)
<b>Well:</b>	70 RANCH 4-63-3-3225CDH	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB # 2009-257	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,164.0	5.70	359.00	1,163.7	3,418.3	10.8	-5.4	-2.9	3.37	3.33	7.74
1,257.0	8.90	355.80	1,255.9	3,326.1	22.6	-6.0	-0.8	3.47	3.44	-3.44
1,350.0	10.80	355.90	1,347.5	3,234.5	38.5	-7.2	1.7	2.04	2.04	0.11
1,443.0	12.00	351.00	1,438.7	3,143.3	56.7	-9.3	3.7	1.66	1.29	-5.27
1,538.0	13.70	348.40	1,531.3	3,050.7	77.5	-13.1	4.7	1.89	1.79	-2.74
1,634.0	15.30	347.60	1,624.3	2,957.7	101.0	-18.1	5.2	1.68	1.67	-0.83
1,730.0	14.70	342.20	1,717.0	2,865.0	125.0	-24.6	4.3	1.58	-0.62	-5.62
1,826.0	14.70	343.30	1,809.9	2,772.1	148.2	-31.8	2.5	0.29	0.00	1.15
1,922.0	15.00	350.20	1,902.7	2,679.3	172.1	-37.4	2.5	1.87	0.31	7.19
2,017.0	14.90	347.10	1,994.4	2,587.6	196.2	-42.2	3.2	0.85	-0.11	-3.26
2,114.0	14.40	345.20	2,088.3	2,493.7	220.0	-48.1	2.9	0.71	-0.52	-1.96
2,210.0	14.60	354.90	2,181.3	2,400.7	243.6	-52.2	4.2	2.54	0.21	10.10
2,401.0	15.80	359.80	2,365.6	2,216.4	293.6	-54.5	13.3	0.92	0.63	2.57
2,593.0	17.80	1.20	2,549.4	2,032.6	349.0	-53.9	26.4	1.06	1.04	0.73
2,783.0	17.00	358.50	2,730.7	1,851.3	405.8	-54.1	39.1	0.60	-0.42	-1.42
2,974.0	14.90	355.60	2,914.3	1,667.7	458.2	-56.7	48.4	1.18	-1.10	-1.52
3,260.0	11.30	349.40	3,192.8	1,389.2	522.5	-64.7	55.1	1.35	-1.26	-2.17
3,546.0	16.20	357.50	3,470.6	1,111.4	589.9	-71.6	63.6	1.84	1.71	2.83
3,835.0	14.30	353.10	3,749.4	832.6	665.6	-77.6	74.9	0.77	-0.66	-1.52
3,930.0	13.40	351.50	3,841.6	740.4	688.2	-80.6	77.0	1.03	-0.95	-1.68
4,026.0	13.90	353.00	3,934.9	647.1	710.6	-83.7	79.1	0.64	0.52	1.56
4,122.0	14.60	350.30	4,028.0	554.0	734.0	-87.1	81.0	1.01	0.73	-2.81
4,218.0	14.00	349.60	4,121.0	461.0	757.3	-91.3	82.3	0.65	-0.62	-0.73
4,313.0	14.90	351.20	4,213.0	369.0	780.7	-95.2	83.7	1.04	0.95	1.68
4,408.0	12.50	346.90	4,305.3	276.7	802.8	-99.4	84.6	2.74	-2.53	-4.53
4,504.0	13.80	347.70	4,398.8	183.2	824.1	-104.2	84.8	1.37	1.35	0.83
4,600.0	14.90	349.30	4,491.8	90.2	847.4	-108.9	85.4	1.22	1.15	1.67
4,696.0	12.80	347.20	4,585.0	-3.0	869.9	-113.6	86.0	2.25	-2.19	-2.19
4,792.0	15.30	350.80	4,678.1	-96.1	892.8	-118.0	86.9	2.76	2.60	3.75
4,888.0	14.00	348.60	4,771.0	-189.0	916.7	-122.3	88.1	1.47	-1.35	-2.29
4,982.0	13.40	351.90	4,862.3	-280.3	938.6	-126.1	89.4	1.05	-0.64	3.51
5,078.0	12.90	351.60	4,955.8	-373.8	960.2	-129.2	91.2	0.53	-0.52	-0.31
5,174.0	13.10	350.80	5,049.3	-467.3	981.6	-132.5	92.8	0.28	0.21	-0.83
5,270.0	10.60	347.40	5,143.3	-561.3	1,000.9	-136.2	93.6	2.70	-2.60	-3.54
5,366.0	11.60	350.00	5,237.5	-655.5	1,019.1	-139.8	94.2	1.16	1.04	2.71
5,462.0	12.40	351.50	5,331.4	-749.4	1,038.8	-143.0	95.5	0.89	0.83	1.56
5,557.0	12.00	350.80	5,424.2	-842.2	1,058.6	-146.1	97.0	0.45	-0.42	-0.74
5,653.0	9.40	349.20	5,518.6	-936.6	1,076.1	-149.1	98.0	2.73	-2.71	-1.67
5,748.0	7.40	347.90	5,612.5	-1,030.5	1,089.8	-151.9	98.4	2.11	-2.11	-1.37
5,844.0	5.10	346.40	5,708.0	-1,126.0	1,099.9	-154.2	98.5	2.40	-2.40	-1.56
5,940.0	4.10	340.10	5,803.6	-1,221.6	1,107.3	-156.3	98.0	1.17	-1.04	-6.56
6,034.0	1.00	346.40	5,897.5	-1,315.5	1,111.3	-157.7	97.6	3.31	-3.30	6.70
6,130.0	0.50	319.60	5,993.5	-1,411.5	1,112.4	-158.1	97.4	0.62	-0.52	-27.92
6,226.0	7.00	93.70	6,089.3	-1,507.3	1,112.4	-152.6	102.8	7.66	6.77	139.69
6,274.0	13.90	88.20	6,136.5	-1,554.5	1,112.3	-143.9	111.3	14.51	14.37	-11.46
6,323.0	20.40	88.10	6,183.3	-1,601.3	1,112.8	-129.4	125.4	13.27	13.27	-0.20
6,370.0	24.40	89.80	6,226.7	-1,644.7	1,113.1	-111.5	143.0	8.62	8.51	3.62
6,418.0	31.40	90.10	6,269.1	-1,687.1	1,113.1	-89.1	164.8	14.59	14.58	0.62
6,466.0	35.60	90.20	6,309.1	-1,727.1	1,113.1	-62.6	190.6	8.75	8.75	0.21
6,514.0	42.10	89.50	6,346.5	-1,764.5	1,113.2	-32.5	219.9	13.57	13.54	-1.46
6,561.0	46.30	88.80	6,380.2	-1,798.2	1,113.6	0.2	252.0	9.00	8.94	-1.49
6,609.0	49.70	89.40	6,412.3	-1,830.3	1,114.2	35.9	286.8	7.14	7.08	1.25
6,657.0	56.20	89.80	6,441.2	-1,859.2	1,114.5	74.2	324.2	13.56	13.54	0.83

## Survey Report



<b>Company:</b>	BILL BARRETT CORPORATION	<b>Local Co-ordinate Reference:</b>	Well 70 RANCH 4-63-3-3225CDH
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TD Reference:</b>	WELL @ 4582.0usft (Original Well Elev)
<b>Site:</b>	NW SW SEC 3 T4N R63W 6th P.M.	<b>MD Reference:</b>	WELL @ 4582.0usft (Original Well Elev)
<b>Well:</b>	70 RANCH 4-63-3-3225CDH	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB # 2009-257	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,705.0	63.90	89.70	6,465.2	-1,883.2	1,114.6	115.8	364.7	16.04	16.04	-0.21
6,752.0	70.20	89.40	6,483.5	-1,901.5	1,115.0	159.0	406.9	13.42	13.40	-0.64
6,800.0	73.60	89.40	6,498.4	-1,916.4	1,115.5	204.6	451.5	7.08	7.08	0.00
6,838.0	78.60	90.40	6,507.5	-1,925.5	1,115.5	241.5	487.4	13.40	13.16	2.63
6,878.0	85.00	90.10	6,513.2	-1,931.2	1,115.4	281.1	525.9	16.02	16.00	-0.75
6,948.0	91.70	90.60	6,515.2	-1,933.2	1,114.9	351.0	593.9	9.60	9.57	0.71
7,014.0	90.20	90.50	6,514.1	-1,932.1	1,114.3	417.0	658.1	2.28	-2.27	-0.15
7,110.0	90.20	91.20	6,513.8	-1,931.8	1,112.9	513.0	751.2	0.73	0.00	0.73
7,205.0	90.10	91.70	6,513.5	-1,931.5	1,110.5	607.9	843.2	0.54	-0.11	0.53
7,301.0	91.30	91.40	6,512.4	-1,930.4	1,107.9	703.9	936.1	1.29	1.25	-0.31
7,396.0	91.70	91.40	6,509.9	-1,927.9	1,105.6	798.8	1,028.1	0.42	0.42	0.00
7,491.0	90.60	90.20	6,508.0	-1,926.0	1,104.2	893.8	1,120.3	1.71	-1.16	-1.26
7,586.0	90.70	90.60	6,506.9	-1,924.9	1,103.6	988.8	1,212.7	0.43	0.11	0.42
7,682.0	89.80	89.00	6,506.5	-1,924.5	1,103.9	1,084.8	1,306.2	1.91	-0.94	-1.67
7,778.0	89.90	89.20	6,506.7	-1,924.7	1,105.4	1,180.8	1,400.1	0.23	0.10	0.21
7,875.0	90.00	89.30	6,506.8	-1,924.8	1,106.7	1,277.8	1,494.8	0.15	0.10	0.10
7,971.0	89.50	89.60	6,507.2	-1,925.2	1,107.6	1,373.8	1,588.6	0.61	-0.52	0.31
8,067.0	89.40	89.50	6,508.2	-1,926.2	1,108.3	1,469.8	1,682.2	0.15	-0.10	-0.10
8,163.0	89.20	89.20	6,509.3	-1,927.3	1,109.4	1,565.7	1,776.0	0.38	-0.21	-0.31
8,259.0	88.30	88.40	6,511.4	-1,929.4	1,111.4	1,661.7	1,869.9	1.25	-0.94	-0.83
8,353.0	89.10	89.60	6,513.6	-1,931.6	1,113.1	1,755.7	1,961.8	1.53	0.85	1.28
8,448.0	88.80	89.30	6,515.3	-1,933.3	1,114.0	1,850.6	2,054.5	0.45	-0.32	-0.32
8,543.0	88.10	90.20	6,517.9	-1,935.9	1,114.4	1,945.6	2,147.1	1.20	-0.74	0.95
8,639.0	88.30	90.80	6,520.9	-1,938.9	1,113.6	2,041.6	2,240.4	0.66	0.21	0.62
8,735.0	89.70	91.70	6,522.6	-1,940.6	1,111.5	2,137.5	2,333.4	1.73	1.46	0.94
8,831.0	89.30	90.30	6,523.4	-1,941.4	1,109.8	2,233.5	2,426.5	1.52	-0.42	-1.46
8,927.0	91.80	90.90	6,522.5	-1,940.5	1,108.8	2,329.5	2,519.8	2.68	2.60	0.62
9,023.0	91.30	89.60	6,519.9	-1,937.9	1,108.4	2,425.4	2,613.2	1.45	-0.52	-1.35
9,117.0	91.10	88.80	6,517.9	-1,935.9	1,109.7	2,519.4	2,705.0	0.88	-0.21	-0.85
9,213.0	89.70	89.40	6,517.2	-1,935.2	1,111.2	2,615.4	2,798.9	1.59	-1.46	0.62
9,309.0	90.60	90.00	6,517.0	-1,935.0	1,111.7	2,711.4	2,892.5	1.13	0.94	0.62
9,407.0	90.10	91.90	6,516.4	-1,934.4	1,110.1	2,809.4	2,987.6	2.00	-0.51	1.94
9,503.0	90.30	91.60	6,516.1	-1,934.1	1,107.2	2,905.3	3,080.4	0.38	0.21	-0.31
9,599.0	90.40	91.30	6,515.5	-1,933.5	1,104.7	3,001.3	3,173.3	0.33	0.10	-0.31
9,694.0	90.20	93.00	6,515.0	-1,933.0	1,101.2	3,096.2	3,265.0	1.80	-0.21	1.79
9,790.0	90.30	91.90	6,514.6	-1,932.6	1,097.1	3,192.1	3,357.5	1.15	0.10	-1.15
9,885.0	90.60	91.70	6,513.8	-1,931.8	1,094.1	3,287.1	3,449.3	0.38	0.32	-0.21
9,981.0	90.80	90.90	6,512.6	-1,930.6	1,091.9	3,383.0	3,542.3	0.86	0.21	-0.83
10,077.0	89.30	91.70	6,512.5	-1,930.5	1,089.7	3,479.0	3,635.3	1.77	-1.56	0.83
10,171.0	89.50	91.10	6,513.5	-1,931.5	1,087.4	3,573.0	3,726.3	0.67	0.21	-0.64
10,266.0	89.40	90.90	6,514.4	-1,932.4	1,085.8	3,668.0	3,818.4	0.24	-0.11	-0.21
10,361.0	88.80	91.00	6,515.9	-1,933.9	1,084.2	3,762.9	3,910.6	0.64	-0.63	0.11
10,457.0	90.70	90.70	6,516.4	-1,934.4	1,082.8	3,858.9	4,003.8	2.00	1.98	-0.31
10,552.0	90.80	90.70	6,515.1	-1,933.1	1,081.6	3,953.9	4,096.1	0.11	0.11	0.00
10,648.0	90.40	90.50	6,514.1	-1,932.1	1,080.6	4,049.9	4,189.3	0.47	-0.42	-0.21
10,743.0	89.90	90.70	6,513.9	-1,931.9	1,079.6	4,144.9	4,281.6	0.57	-0.53	0.21
10,839.0	92.00	92.00	6,512.3	-1,930.3	1,077.3	4,240.8	4,374.6	2.57	2.19	1.35
10,934.0	92.00	92.10	6,509.0	-1,927.0	1,073.9	4,335.7	4,466.3	0.11	0.00	0.11
11,031.0	92.00	92.30	6,505.6	-1,923.6	1,070.2	4,432.6	4,559.8	0.21	0.00	0.21
LAST SURVEY - JAN 30, 2014										
11,101.0	92.20	92.40	6,503.0	-1,921.0	1,067.4	4,502.5	4,627.2	0.32	0.29	0.14
EXTRAPOLATION TO TD										
11,150.0	92.20	92.40	6,501.1	-1,919.1	1,065.3	4,551.4	4,674.4	0.00	0.00	0.00

# Survey Report



<b>Company:</b>	BILL BARRETT CORPORATION	<b>Local Co-ordinate Reference:</b>	Well 70 RANCH 4-63-3-3225CDH
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	WELL @ 4582.0usft (Original Well Elev)
<b>Site:</b>	NW SW SEC 3 T4N R63W 6th P.M.	<b>MD Reference:</b>	WELL @ 4582.0usft (Original Well Elev)
<b>Well:</b>	70 RANCH 4-63-3-3225CDH	<b>North Reference:</b>	True
<b>Wellbore:</b>	JOB # 2009-257	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURVEYS	<b>Database:</b>	EDM 5000.1 Single User Db

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BTV - 4-63-3-3225CDH - survey misses target center by 49.1usft at 6174.3usft MD (6037.8 TVD, 1112.6 N, -157.1 E) - Point	0.00	0.00	6,038.5	1,160.2	-168.9	1,369,457.83	3,297,304.40	40° 20' 33.557 N	104° 26' 0.225 W
EXIST VERT 70 RANCH - survey misses target center by 658.8usft at 8383.2usft MD (6514.1 TVD, 1113.3 N, 1785.8 E) - Circle (radius 30.0)	0.00	0.00	7,164.0	1,220.5	1,772.9	1,369,541.49	3,299,245.24	40° 20' 34.152 N	104° 25' 35.148 W
BHL - 4-63-3-3225CDH - survey misses target center by 29.3usft at 11150.0usft MD (6501.1 TVD, 1065.3 N, 4551.4 E) - Point	0.00	0.00	6,529.0	1,056.9	4,554.9	1,369,411.41	3,302,028.92	40° 20' 32.532 N	104° 24' 59.220 W
LANDING PNT - 4-63-3- - survey misses target center by 34.5usft at 6903.8usft MD (6514.9 TVD, 1115.3 N, 306.8 E) - Point	0.00	0.00	6,516.0	1,149.8	307.0	1,369,453.16	3,297,780.37	40° 20' 33.454 N	104° 25' 54.079 W
EXIST VERT NHF - LAL - survey misses target center by 972.2usft at 6948.0usft MD (6515.2 TVD, 1114.9 N, 351.0 E) - Circle (radius 30.0)	0.00	0.00	7,378.0	1,562.9	362.4	1,369,866.86	3,297,830.77	40° 20' 37.536 N	104° 25' 53.364 W
EXIST VERT 70 RANCH - survey misses target center by 818.6usft at 7778.3usft MD (6506.7 TVD, 1105.4 N, 1181.0 E) - Circle (radius 30.0)	0.00	0.00	6,792.0	1,872.6	1,170.7	1,370,186.24	3,298,635.32	40° 20' 40.596 N	104° 25' 42.924 W

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
728.0	728.0	2.5	-3.6	SURFACE CASING
11,101.0	6,503.0	1,067.4	4,502.5	LAST SURVEY - JAN 30, 2014
11,150.0	6,501.1	1,065.3	4,551.4	EXTRAPOLATION TO TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_