

BILL BARRETT CORPORATION

WELD COUNTY, COLORADO

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

70 RANCH 4-63-3-3225CH - Slot PROP HZ 4-63-3-3225CH

JOB # 2009-254

22 January, 2014

Survey: FINAL SURVEYS

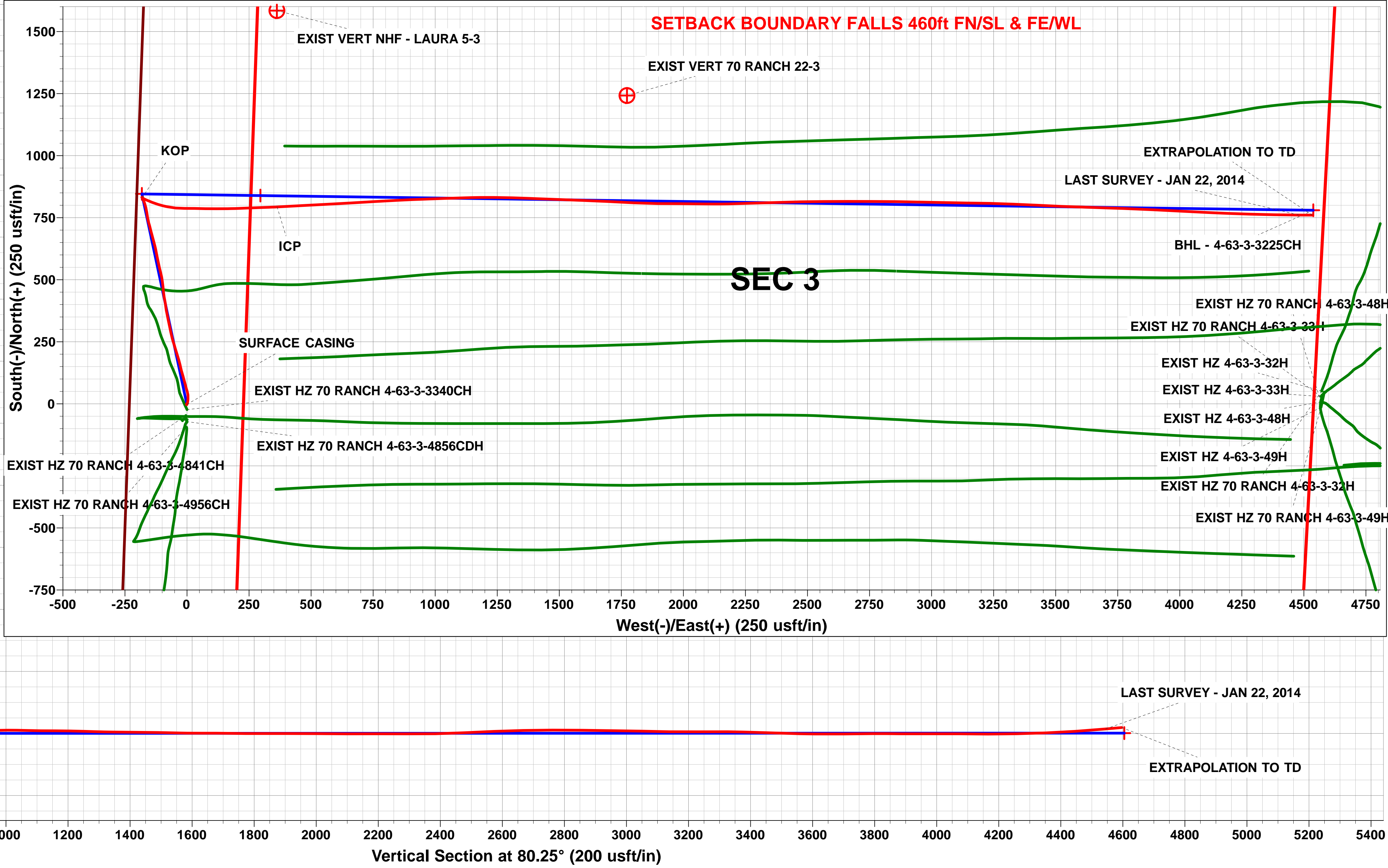
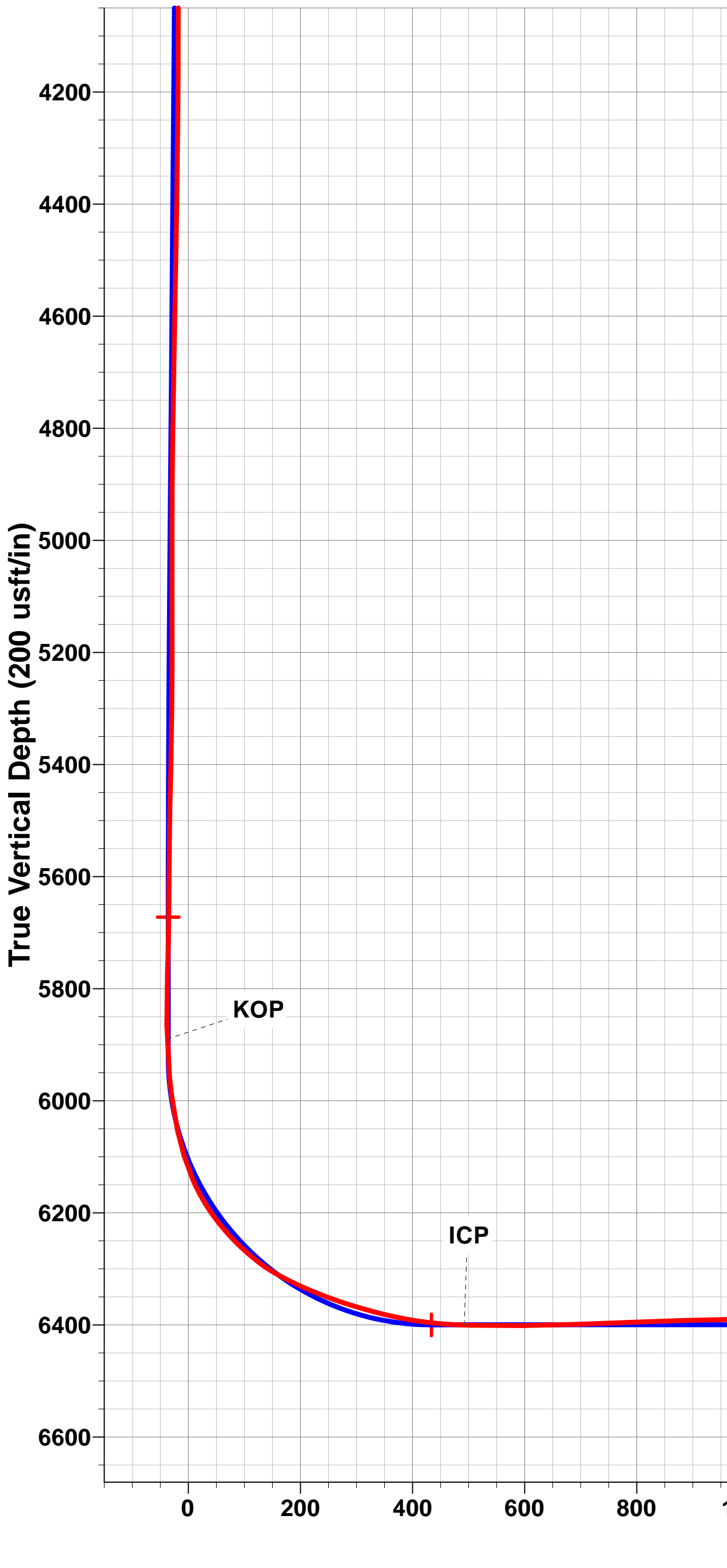
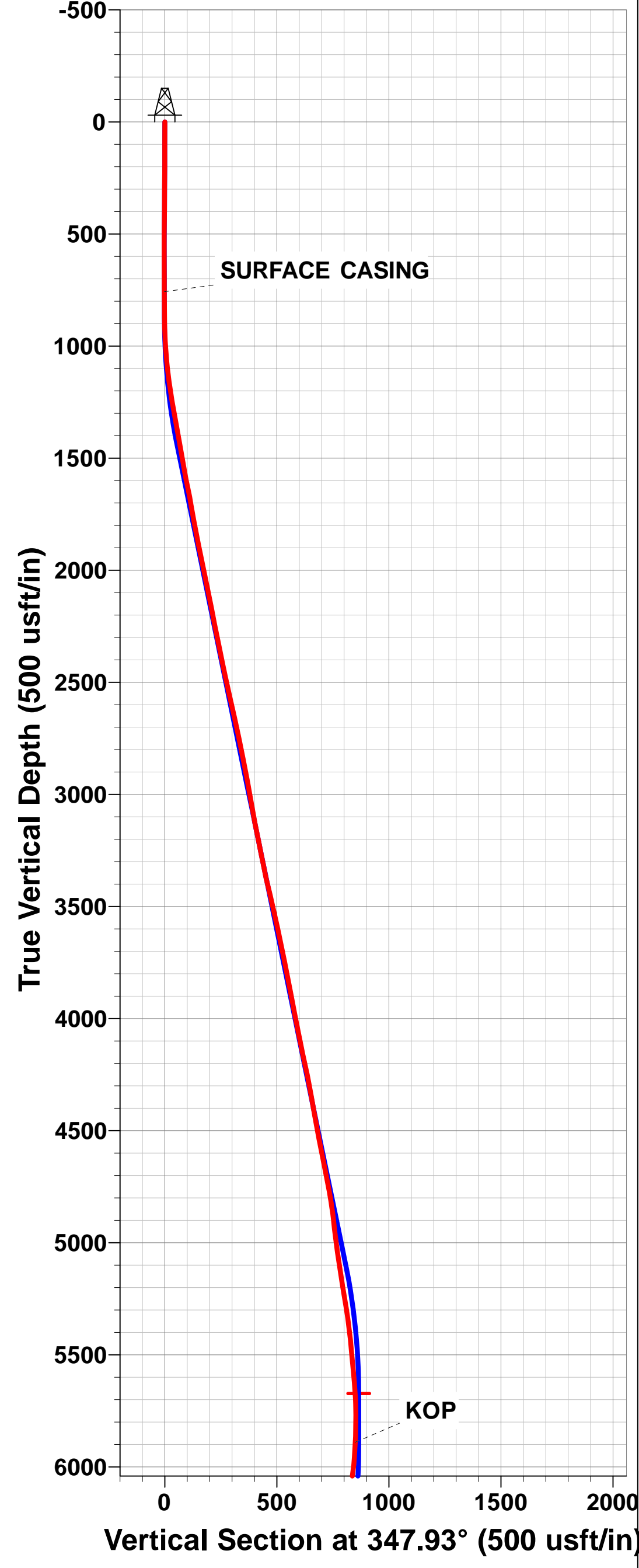
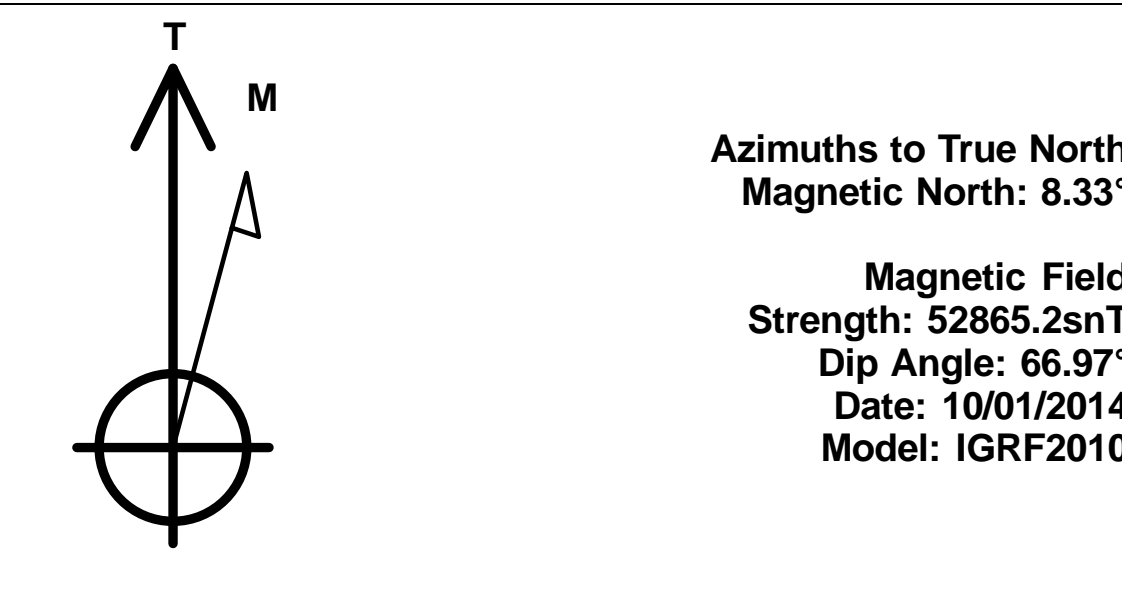
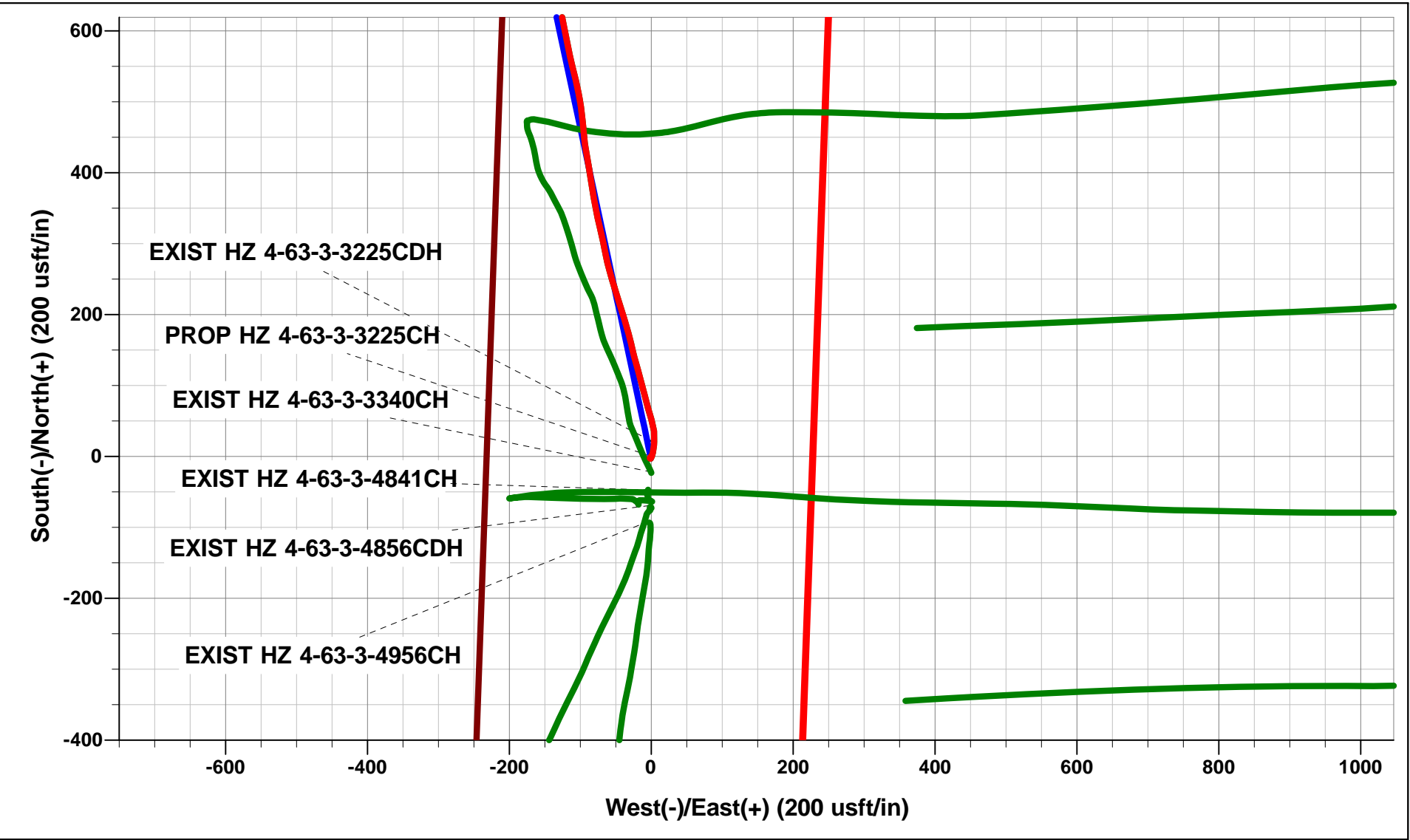




Project: WELD COUNTY, COLORADO
Site: NW SW SEC 3 T4N R63W 6th P.M.
Well: 70 RANCH 4-63-3-3225CH
Wellbore: JOB # 2009-254
Design: FINAL SURVEYS

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation	
758.0	758.0	0.17	20.54	-2.2	-0.4	-0.7	6.0	SURFACE CASING	
5890.2	5970.0	3.43	138.50	830.5	-181.1	-37.8	872.4	KOP	
6400.4	6816.0	87.84	87.28	793.5	363.1	492.3	1423.5	ICP	
6385.8	10937.0	95.00	90.30	761.0	4480.3	4544.5	5543.4	LAST SURVEY - JAN 22, 2014	
6381.2	10990.0	95.00	90.30	760.7	4533.1	4596.5	5596.2	EXTRAPOLATION TO TD	

WELLBORE TARGET DETAILS (LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
BTV - 4-63-3-3225CH (P2)	5672.5	846.0	-181.7	40° 20' 30.236 N	104° 26' 0.391 W	Point
LANDING PNT - 4-63-3-3225CH (P2)	6400.0	839.3	295.8	40° 20' 30.170 N	104° 25' 54.224 W	Point



Survey Report



Company:	BILL BARRETT CORPORATION	Local Co-ordinate Reference:	Well 70 RANCH 4-63-3-3225CH - Slot PROP HZ 4-63-
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB @ 4582.0usft (NABORS M57)
Site:	NW SW SEC 3 T4N R63W 6th P.M.	MD Reference:	KB @ 4582.0usft (NABORS M57)
Well:	70 RANCH 4-63-3-3225CH	North Reference:	True
Wellbore:	JOB # 2009-254	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Project	WELD COUNTY, COLORADO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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
From:	Lat/Long	Easting:	3,297,487.50 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	40° 20' 21.876 N
		Longitude:	104° 25' 58.044 W
		Grid Convergence:	0.69 °

Well	70 RANCH 4-63-3-3225CH - Slot PROP HZ 4-63-3-3225CH		
Well Position	+N-S	0.0 usft	Northing: 1,368,277.95 usft
	+E-W	0.0 usft	Easting: 3,297,487.50 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	40° 20' 21.876 N
		Longitude:	104° 25' 58.044 W
		Ground Level:	4,560.0 usft

Wellbore	JOB # 2009-254				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/01/2014	8.33	66.97	52,865

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	80.25	

Survey Program	Date	22/01/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	10,990.0	FINAL SURVEYS (JOB # 2009-254)	MWD	MWD - Standard	

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)
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	0.36	256.62	100.0	4,482.0	-0.1	-0.3	-0.3	0.36	0.36	0.00
200.0	0.78	217.98	200.0	4,382.0	-0.7	-1.0	-1.1	0.55	0.42	-38.64
300.0	0.61	216.69	300.0	4,282.0	-1.6	-1.8	-2.0	0.17	-0.17	-1.29
400.0	0.45	164.58	400.0	4,182.0	-2.5	-2.0	-2.4	0.49	-0.16	-52.11
500.0	0.39	111.90	500.0	4,082.0	-3.0	-1.6	-2.0	0.38	-0.06	-52.68
600.0	0.39	83.83	600.0	3,982.0	-3.0	-0.9	-1.4	0.19	0.00	-28.07
700.0	0.52	13.66	700.0	3,882.0	-2.6	-0.5	-0.9	0.53	0.13	-70.17
SURFACE CASING										
758.0	0.17	20.54	758.0	3,824.0	-2.2	-0.4	-0.7	0.61	-0.60	11.86
887.0	1.10	36.00	887.0	3,695.0	-1.1	0.4	0.2	0.73	0.72	11.98
979.0	3.40	13.40	978.9	3,603.1	2.3	1.6	1.9	2.63	2.50	-24.57
1,072.0	5.70	10.20	1,071.6	3,510.4	9.5	3.0	4.6	2.49	2.47	-3.44

Survey Report



Company:	BILL BARRETT CORPORATION	Local Co-ordinate Reference:	Well 70 RANCH 4-63-3-3225CH - Slot PROP HZ 4-63-
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB @ 4582.0usft (NABORS M57)
Site:	NW SW SEC 3 T4N R63W 6th P.M.	MD Reference:	KB @ 4582.0usft (NABORS M57)
Well:	70 RANCH 4-63-3-3225CH	North Reference:	True
Wellbore:	JOB # 2009-254	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	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)
1,165.0	8.50	2.80	1,163.9	3,418.1	21.0	4.2	7.7	3.16	3.01	-7.96
1,258.0	9.90	355.60	1,255.7	3,326.3	35.8	3.9	9.9	1.95	1.51	-7.74
1,351.0	10.20	340.70	1,347.3	3,234.7	51.5	0.6	9.3	2.81	0.32	-16.02
1,444.0	10.60	345.80	1,438.7	3,143.3	67.6	-4.2	7.3	1.08	0.43	5.48
1,539.0	9.40	344.80	1,532.3	3,049.7	83.6	-8.4	5.9	1.28	-1.26	-1.05
1,635.0	11.80	345.90	1,626.6	2,955.4	100.7	-12.9	4.4	2.51	2.50	1.15
1,730.0	10.50	342.80	1,719.9	2,862.1	118.3	-17.8	2.5	1.51	-1.37	-3.26
1,827.0	9.90	345.30	1,815.3	2,766.7	134.9	-22.5	0.6	0.77	-0.62	2.58
1,923.0	12.20	347.10	1,909.5	2,672.5	152.7	-26.9	-0.6	2.42	2.40	1.87
2,018.0	11.70	345.40	2,002.5	2,579.5	171.8	-31.6	-2.0	0.64	-0.53	-1.79
2,115.0	11.20	343.10	2,097.5	2,484.5	190.4	-36.8	-4.0	0.70	-0.52	-2.37
2,211.0	10.90	340.80	2,191.8	2,390.2	207.9	-42.5	-6.6	0.56	-0.31	-2.40
2,306.0	12.00	345.10	2,284.9	2,297.1	225.9	-48.0	-9.0	1.46	1.16	4.53
2,402.0	11.20	341.40	2,378.9	2,203.1	244.4	-53.5	-11.3	1.14	-0.83	-3.85
2,498.0	12.40	344.70	2,472.9	2,109.1	263.1	-59.2	-13.8	1.43	1.25	3.44
2,593.0	12.80	349.20	2,565.6	2,016.4	283.3	-63.9	-14.9	1.12	0.42	4.74
2,689.0	12.40	347.20	2,659.3	1,922.7	303.8	-68.1	-15.7	0.62	-0.42	-2.08
2,784.0	11.70	348.20	2,752.2	1,829.8	323.2	-72.4	-16.6	0.77	-0.74	1.05
2,879.0	11.20	347.50	2,845.3	1,736.7	341.6	-76.3	-17.4	0.55	-0.53	-0.74
2,975.0	10.50	349.40	2,939.6	1,642.4	359.3	-80.0	-17.9	0.82	-0.73	1.98
3,070.0	10.00	349.70	3,033.1	1,548.9	376.0	-83.0	-18.1	0.53	-0.53	0.32
3,165.0	10.60	352.70	3,126.5	1,455.5	392.7	-85.6	-17.8	0.85	0.63	3.16
3,261.0	12.00	350.90	3,220.7	1,361.3	411.3	-88.3	-17.4	1.50	1.46	-1.87
3,356.0	10.90	348.50	3,313.8	1,268.2	429.9	-91.7	-17.5	1.26	-1.16	-2.53
3,451.0	13.20	355.30	3,406.7	1,175.3	449.5	-94.3	-16.8	2.84	2.42	7.16
3,547.0	13.40	353.60	3,500.1	1,081.9	471.5	-96.5	-15.2	0.46	0.21	-1.77
3,643.0	12.60	352.30	3,593.7	988.3	492.9	-99.1	-14.2	0.89	-0.83	-1.35
3,740.0	11.40	348.50	3,688.5	893.5	512.8	-102.5	-14.1	1.48	-1.24	-3.92
3,836.0	10.60	347.10	3,782.8	799.2	530.7	-106.3	-14.9	0.88	-0.83	-1.46
3,930.0	11.50	344.90	3,875.0	707.0	548.2	-110.7	-16.2	1.06	0.96	-2.34
4,026.0	10.70	349.30	3,969.2	612.8	566.2	-114.8	-17.3	1.21	-0.83	4.58
4,123.0	11.20	347.90	4,064.5	517.5	584.2	-118.5	-17.8	0.58	0.52	-1.44
4,218.0	12.30	349.40	4,157.5	424.5	603.2	-122.3	-18.3	1.20	1.16	1.58
4,315.0	11.60	348.70	4,252.4	329.6	622.9	-126.1	-18.7	0.74	-0.72	-0.72
4,410.0	9.90	345.10	4,345.7	236.3	640.2	-130.1	-19.7	1.92	-1.79	-3.79
4,506.0	10.40	344.10	4,440.2	141.8	656.5	-134.6	-21.4	0.55	0.52	-1.04
4,603.0	10.80	346.00	4,535.5	46.5	673.7	-139.2	-23.0	0.55	0.41	1.96
4,699.0	11.40	344.50	4,629.7	-47.7	691.6	-143.9	-24.6	0.69	0.62	-1.56
4,795.0	10.80	346.30	4,724.0	-142.0	709.5	-148.5	-26.2	0.72	-0.62	1.87
4,891.0	9.40	343.00	4,818.5	-236.5	725.7	-153.0	-27.8	1.58	-1.46	-3.44
4,987.0	5.80	349.10	4,913.6	-331.6	738.0	-156.2	-28.9	3.84	-3.75	6.35
5,083.0	7.80	348.60	5,008.9	-426.9	749.1	-158.4	-29.2	2.08	2.08	-0.52
5,179.0	8.30	352.70	5,104.0	-522.0	762.4	-160.5	-29.1	0.79	0.52	4.27
5,275.0	10.00	349.20	5,198.8	-616.8	777.5	-163.0	-28.9	1.86	1.77	-3.65
5,370.0	8.70	346.40	5,292.5	-710.5	792.5	-166.2	-29.6	1.45	-1.37	-2.95
5,465.0	7.00	342.90	5,386.6	-804.6	805.1	-169.6	-30.8	1.86	-1.79	-3.68
5,561.0	5.40	334.30	5,482.0	-900.0	814.7	-173.3	-32.8	1.92	-1.67	-8.96
5,657.0	5.10	346.80	5,577.6	-995.6	822.9	-176.2	-34.3	1.23	-0.31	13.02
5,753.0	3.90	342.10	5,673.3	-1,091.3	830.2	-178.2	-35.0	1.31	-1.25	-4.90
5,849.0	2.00	276.20	5,769.2	-1,187.2	833.5	-180.9	-37.1	3.73	-1.98	-68.65
5,944.0	2.60	161.50	5,864.2	-1,282.2	831.6	-181.8	-38.3	4.09	0.63	-120.74
KOP										
5,970.0	3.43	138.50	5,890.2	-1,308.2	830.5	-181.1	-37.8	5.59	3.20	-88.47

Survey Report



Company:	BILL BARRETT CORPORATION	Local Co-ordinate Reference:	Well 70 RANCH 4-63-3-3225CH - Slot PROP HZ 4-63-
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB @ 4582.0usft (NABORS M57)
Site:	NW SW SEC 3 T4N R63W 6th P.M.	MD Reference:	KB @ 4582.0usft (NABORS M57)
Well:	70 RANCH 4-63-3-3225CH	North Reference:	True
Wellbore:	JOB # 2009-254	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	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)
6,038.0	6.70	115.10	5,957.9	-1,375.9	827.3	-176.2	-33.5	5.59	4.80	-34.41
6,070.0	9.00	115.10	5,989.6	-1,407.6	825.4	-172.2	-29.9	7.19	7.19	0.00
6,134.0	13.70	112.90	6,052.3	-1,470.3	820.4	-160.7	-19.4	7.37	7.34	-3.44
6,183.0	20.30	112.20	6,099.1	-1,517.1	814.9	-147.5	-7.3	13.48	13.47	-1.43
6,230.0	26.50	109.80	6,142.3	-1,560.3	808.2	-130.0	8.7	13.34	13.19	-5.11
6,279.0	34.20	105.60	6,184.5	-1,602.5	800.8	-106.5	30.7	16.29	15.71	-8.57
6,326.0	41.50	101.60	6,221.6	-1,639.6	794.1	-78.4	57.2	16.38	15.53	-8.51
6,374.0	46.10	95.80	6,256.3	-1,674.3	789.2	-45.6	88.7	12.71	9.58	-12.08
6,422.0	52.80	89.40	6,287.5	-1,705.5	787.6	-9.2	124.3	17.24	13.96	-13.33
6,470.0	62.70	91.30	6,313.1	-1,731.1	787.3	31.3	164.2	20.89	20.62	3.96
6,518.0	66.30	91.20	6,333.7	-1,751.7	786.4	74.6	206.7	7.50	7.50	-0.21
6,565.0	70.10	89.80	6,351.2	-1,769.2	786.0	118.2	249.7	8.54	8.09	-2.98
6,613.0	73.20	89.10	6,366.3	-1,784.3	786.5	163.8	294.6	6.60	6.46	-1.46
6,661.0	75.80	87.80	6,379.1	-1,797.1	787.7	210.0	340.4	6.01	5.42	-2.71
6,709.0	79.30	87.50	6,389.4	-1,807.4	789.6	256.8	386.9	7.32	7.29	-0.62
6,767.0	85.00	88.40	6,397.4	-1,815.4	791.7	314.2	443.8	9.95	9.83	1.55
ICP										
6,816.0	87.84	87.28	6,400.4	-1,818.4	793.5	363.1	492.3	6.22	5.79	-2.28
6,824.0	88.30	87.10	6,400.7	-1,818.7	793.9	371.1	500.2	6.22	5.79	-2.27
6,920.0	90.90	86.70	6,401.4	-1,819.4	799.1	466.9	595.6	2.74	2.71	-0.42
7,016.0	91.70	87.20	6,399.2	-1,817.2	804.2	562.8	690.9	0.98	0.83	0.52
7,111.0	92.40	86.70	6,395.8	-1,813.8	809.3	657.6	785.2	0.91	0.74	-0.53
7,206.0	91.80	86.60	6,392.3	-1,810.3	814.8	752.4	879.5	0.64	-0.63	-0.11
7,302.0	90.90	87.00	6,390.0	-1,808.0	820.2	848.2	974.9	1.03	-0.94	0.42
7,393.0	88.50	88.00	6,390.5	-1,808.5	824.1	939.1	1,065.1	2.86	-2.64	1.10
7,488.0	90.00	87.90	6,391.8	-1,809.8	827.5	1,034.0	1,159.2	1.58	1.58	-0.11
7,583.0	88.10	88.40	6,393.3	-1,811.3	830.6	1,128.9	1,253.3	2.07	-2.00	0.53
7,679.0	89.10	90.20	6,395.7	-1,813.7	831.8	1,224.9	1,348.1	2.14	1.04	1.87
7,776.0	89.80	92.00	6,396.6	-1,814.6	829.9	1,321.9	1,443.4	1.99	0.72	1.86
7,872.0	88.40	92.30	6,398.1	-1,816.1	826.3	1,417.8	1,537.3	1.49	-1.46	0.31
7,968.0	90.20	91.70	6,399.3	-1,817.3	823.0	1,513.7	1,631.3	1.98	1.87	-0.62
8,064.0	89.10	92.80	6,399.9	-1,817.9	819.2	1,609.6	1,725.1	1.62	-1.15	1.15
8,160.0	90.10	92.50	6,400.6	-1,818.6	814.8	1,705.5	1,818.9	1.09	1.04	-0.31
8,254.0	90.00	93.30	6,400.5	-1,818.5	810.0	1,799.4	1,910.6	0.86	-0.11	0.85
8,351.0	89.40	90.10	6,401.0	-1,819.0	807.1	1,896.4	2,005.7	3.36	-0.62	-3.30
8,446.0	90.00	90.40	6,401.5	-1,819.5	806.7	1,991.4	2,099.2	0.71	0.63	0.32
8,542.0	90.20	90.90	6,401.3	-1,819.3	805.6	2,087.3	2,193.7	0.56	0.21	0.52
8,638.0	89.60	88.70	6,401.5	-1,819.5	806.0	2,183.3	2,288.3	2.38	-0.62	-2.29
8,735.0	90.80	88.30	6,401.1	-1,819.1	808.5	2,280.3	2,384.3	1.30	1.24	-0.41
8,830.0	93.10	88.10	6,397.9	-1,815.9	811.5	2,375.2	2,478.3	2.43	2.42	-0.21
8,926.0	92.10	88.80	6,393.6	-1,811.6	814.1	2,471.1	2,573.2	1.27	-1.04	0.73
9,021.0	91.70	89.60	6,390.4	-1,808.4	815.4	2,566.0	2,667.0	0.94	-0.42	0.84
9,117.0	89.70	89.90	6,389.2	-1,807.2	815.8	2,662.0	2,761.7	2.11	-2.08	0.31
9,213.0	89.50	90.30	6,389.9	-1,807.9	815.7	2,758.0	2,856.3	0.47	-0.21	0.42
9,308.0	89.10	90.60	6,391.1	-1,809.1	814.9	2,853.0	2,949.8	0.53	-0.42	0.32
9,405.0	89.00	91.40	6,392.7	-1,810.7	813.2	2,949.9	3,045.1	0.83	-0.10	0.82
9,500.0	88.60	91.20	6,394.7	-1,812.7	811.1	3,044.9	3,138.3	0.47	-0.42	-0.21
9,596.0	91.10	90.80	6,394.9	-1,812.9	809.4	3,140.9	3,232.6	2.64	2.60	-0.42
9,692.0	89.20	91.10	6,394.7	-1,812.7	807.8	3,236.9	3,326.9	2.00	-1.98	0.31
9,787.0	88.20	92.60	6,396.8	-1,814.8	804.7	3,331.8	3,419.9	1.90	-1.05	1.58
9,882.0	88.20	92.70	6,399.8	-1,817.8	800.3	3,426.6	3,512.7	0.11	0.00	0.11
9,978.0	89.40	92.50	6,401.8	-1,819.8	796.0	3,522.5	3,606.4	1.27	1.25	-0.21
10,074.0	90.60	91.90	6,401.8	-1,819.8	792.3	3,618.4	3,700.4	1.40	1.25	-0.62

Survey Report



Company:	BILL BARRETT CORPORATION	Local Co-ordinate Reference:	Well 70 RANCH 4-63-3-3225CH - Slot PROP HZ 4-63-
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB @ 4582.0usft (NABORS M57)
Site:	NW SW SEC 3 T4N R63W 6th P.M.	MD Reference:	KB @ 4582.0usft (NABORS M57)
Well:	70 RANCH 4-63-3-3225CH	North Reference:	True
Wellbore:	JOB # 2009-254	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	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)
10,169.0	90.40	91.80	6,401.0	-1,819.0	789.2	3,713.4	3,793.4	0.24	-0.21	-0.11
10,263.0	89.20	92.30	6,401.3	-1,819.3	785.9	3,807.3	3,885.4	1.38	-1.28	0.53
10,358.0	90.80	92.70	6,401.3	-1,819.3	781.7	3,902.2	3,978.3	1.74	1.68	0.42
10,454.0	89.10	93.10	6,401.4	-1,819.4	776.9	3,998.1	4,071.9	1.82	-1.77	0.42
10,550.0	90.00	92.80	6,402.1	-1,820.1	771.9	4,094.0	4,165.6	0.99	0.94	-0.31
10,645.0	91.20	92.30	6,401.2	-1,819.2	767.7	4,188.9	4,258.4	1.37	1.26	-0.53
10,741.0	92.30	91.70	6,398.2	-1,816.2	764.4	4,284.8	4,352.3	1.31	1.15	-0.62
10,837.0	93.60	91.00	6,393.3	-1,811.3	762.1	4,380.6	4,446.4	1.54	1.35	-0.73
LAST SURVEY - JAN 22, 2014										
10,937.0	95.00	90.30	6,385.8	-1,803.8	761.0	4,480.3	4,544.5	1.56	1.40	-0.70
EXTRAPOLATION TO TD										
10,990.0	95.00	90.30	6,381.2	-1,799.2	760.7	4,533.1	4,596.5	0.00	0.00	0.00

Survey Report



Company:	BILL BARRETT CORPORATION	Local Co-ordinate Reference:	Well 70 RANCH 4-63-3-3225CH - Slot PROP HZ 4-63-
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB @ 4582.0usft (NABORS M57)
Site:	NW SW SEC 3 T4N R63W 6th P.M.	MD Reference:	KB @ 4582.0usft (NABORS M57)
Well:	70 RANCH 4-63-3-3225CH	North Reference:	True
Wellbore:	JOB # 2009-254	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
EXIST VERT 70 RAN	0.00	0.00	7,164.0	1,242.3	1,772.9	1,369,541.49	3,299,245.24	40° 20' 34.152 N	104° 25' 35.148 W
- survey misses target center by 876.4usft at 8205.0usft MD (6400.5 TVD, 812.7 N, 1750.5 E)									
- Circle (radius 30.0)									
BTV - 4-63-3-3225CH	0.00	0.00	5,672.5	844.6	-81.7	1,369,121.47	3,297,395.65	40° 20' 30.222 N	104° 25' 59.099 W
- survey misses target center by 97.5usft at 5751.3usft MD (5671.6 TVD, 830.1 N, -178.2 E)									
- Point									
BTV - 4-63-3-3225CH	0.00	0.00	5,672.5	846.0	-181.7	1,369,121.67	3,297,295.64	40° 20' 30.236 N	104° 26' 0.391 W
- survey misses target center by 16.2usft at 5753.0usft MD (5673.3 TVD, 830.2 N, -178.2 E)									
- Point									
LANDING PNT - 4-63-	0.00	0.00	6,400.0	839.3	295.8	1,369,120.72	3,297,773.17	40° 20' 30.170 N	104° 25' 54.224 W
- survey misses target center by 48.3usft at 6750.8usft MD (6395.7 TVD, 791.2 N, 298.1 E)									
- Point									
EXIST VERT NHF - L	0.00	0.00	7,378.0	1,584.7	362.4	1,369,866.86	3,297,830.77	40° 20' 37.536 N	104° 25' 53.364 W
- survey misses target center by 1256.2usft at 6864.9usft MD (6401.5 TVD, 796.1 N, 411.9 E)									
- Circle (radius 30.0)									
BHL - 4-63-3-3225CH	0.00	0.00	6,399.0	780.0	4,538.2	1,369,112.51	3,302,015.84	40° 20' 29.580 N	104° 24' 59.436 W
- survey misses target center by 26.8usft at 10990.0usft MD (6381.2 TVD, 760.7 N, 4533.1 E)									
- Point									
LANDING PNT - 4-63-	0.00	0.00	6,400.0	837.9	395.8	1,369,120.53	3,297,873.21	40° 20' 30.156 N	104° 25' 52.932 W
- survey misses target center by 42.7usft at 6851.1usft MD (6401.3 TVD, 795.3 N, 398.1 E)									
- Point									
EXIST VERT 70 RAN	0.00	0.00	6,792.0	1,894.4	1,170.7	1,370,186.24	3,298,635.32	40° 20' 40.596 N	104° 25' 42.924 W
- survey misses target center by 1134.6usft at 7647.5usft MD (6395.1 TVD, 831.7 N, 1193.4 E)									
- Circle (radius 30.0)									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
758.0	758.0	-2.2	-0.4	SURFACE CASING
5,970.0	5,890.2	830.5	-181.1	KOP
6,816.0	6,400.4	793.5	363.1	ICP
10,937.0	6,385.8	761.0	4,480.3	LAST SURVEY - JAN 22, 2014
10,990.0	6,381.2	760.7	4,533.1	EXTRAPOLATION TO TD

Checked By: _____	Approved By: _____	Date: _____
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