

BILL BARRETT CORPORATION

WELD COUNTY, COLORADO (NAD 83)

SW NW SEC 27 T6N R62W 6th P.M.

PAPPENHEIM 6-62-27-1724BH2

JOB # 2009-272

01 June, 2014

Survey: FINAL SURVEYS

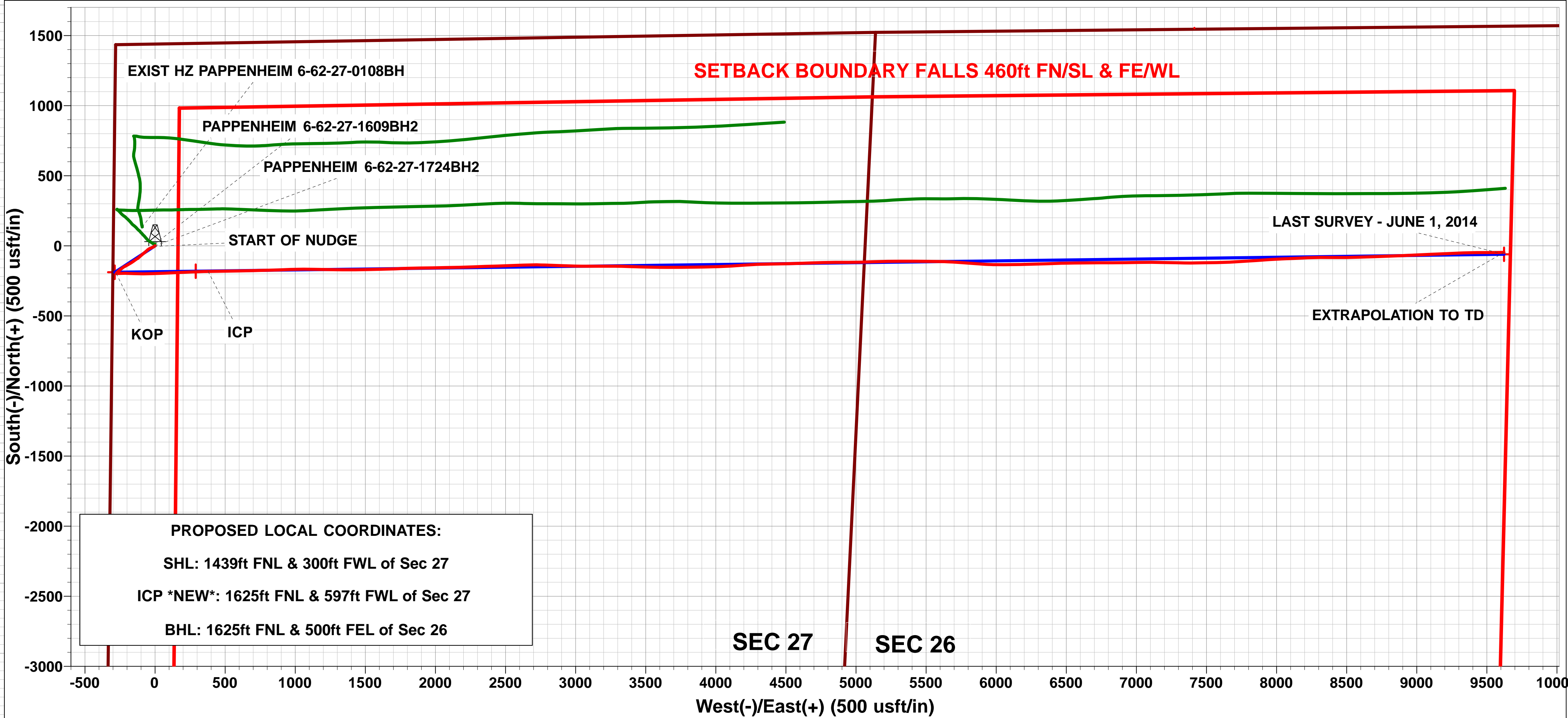
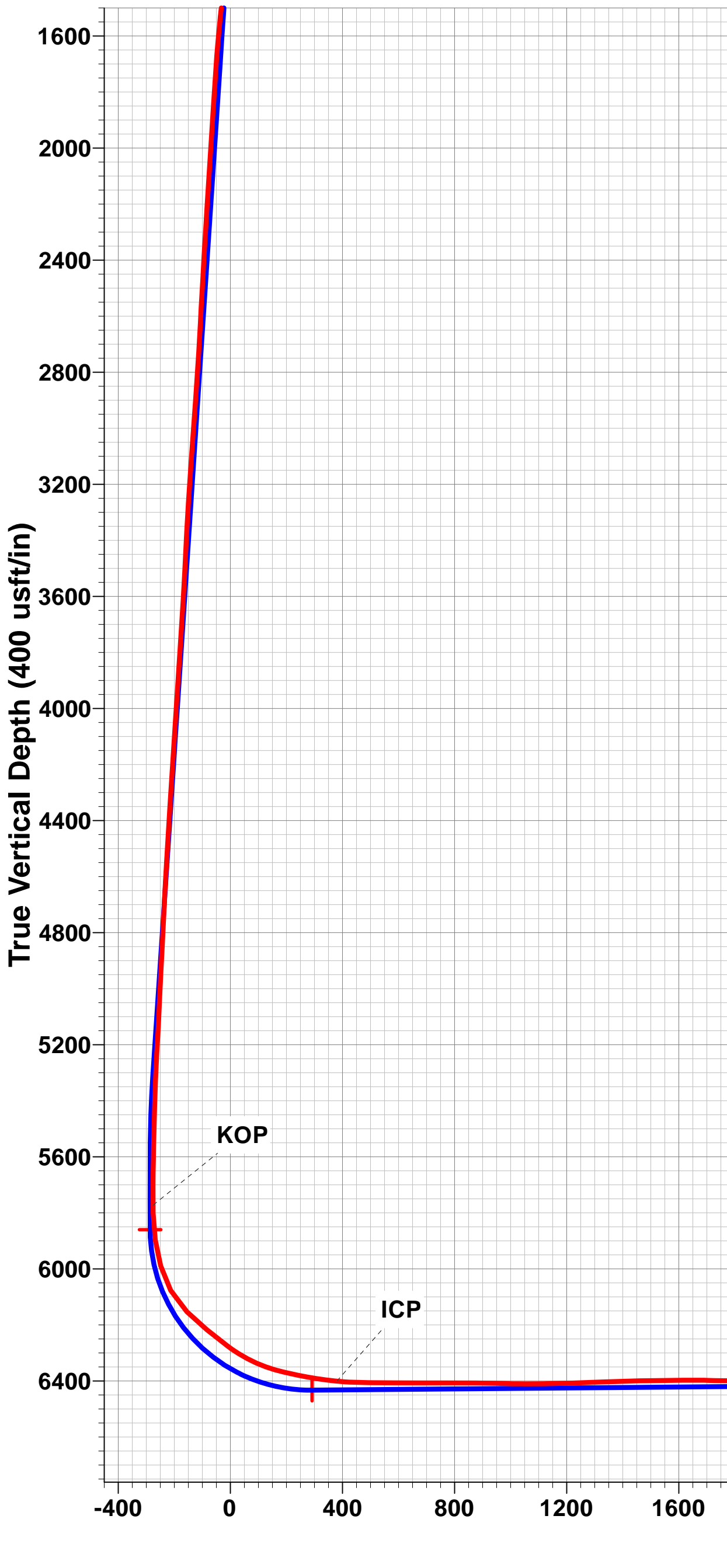
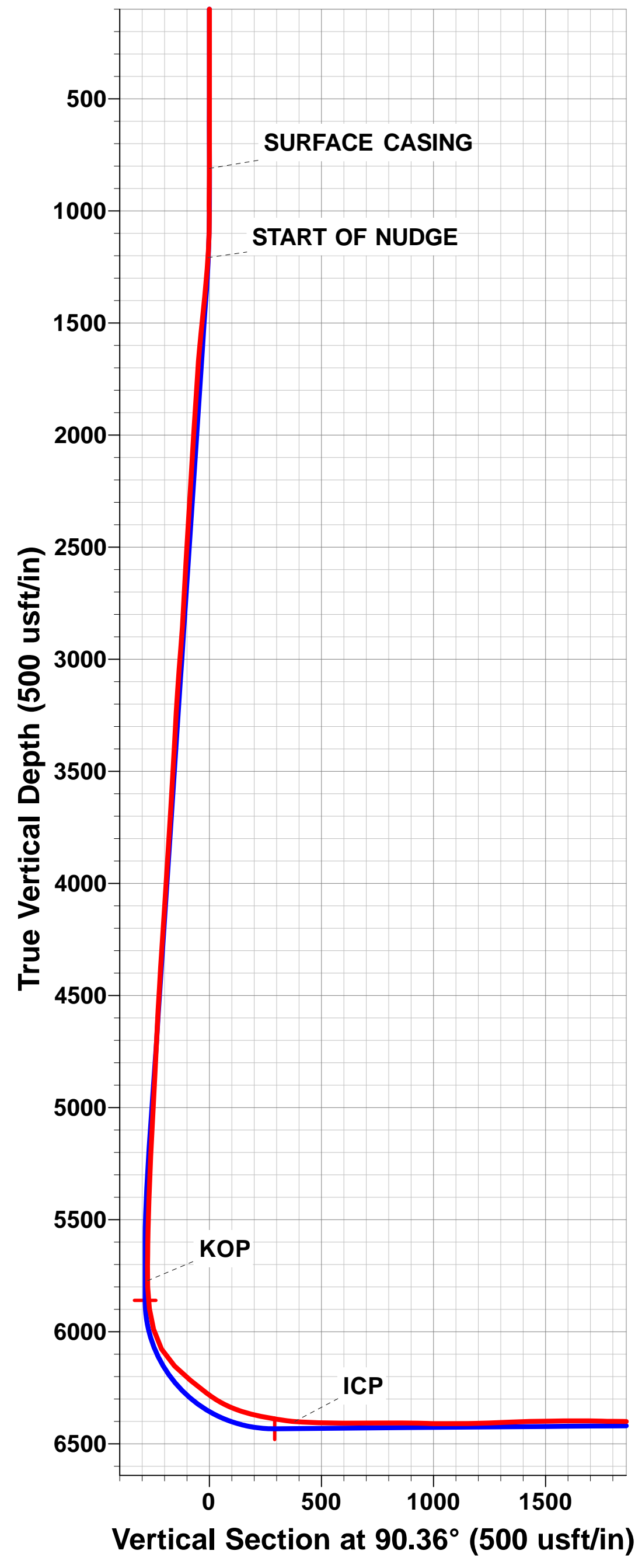
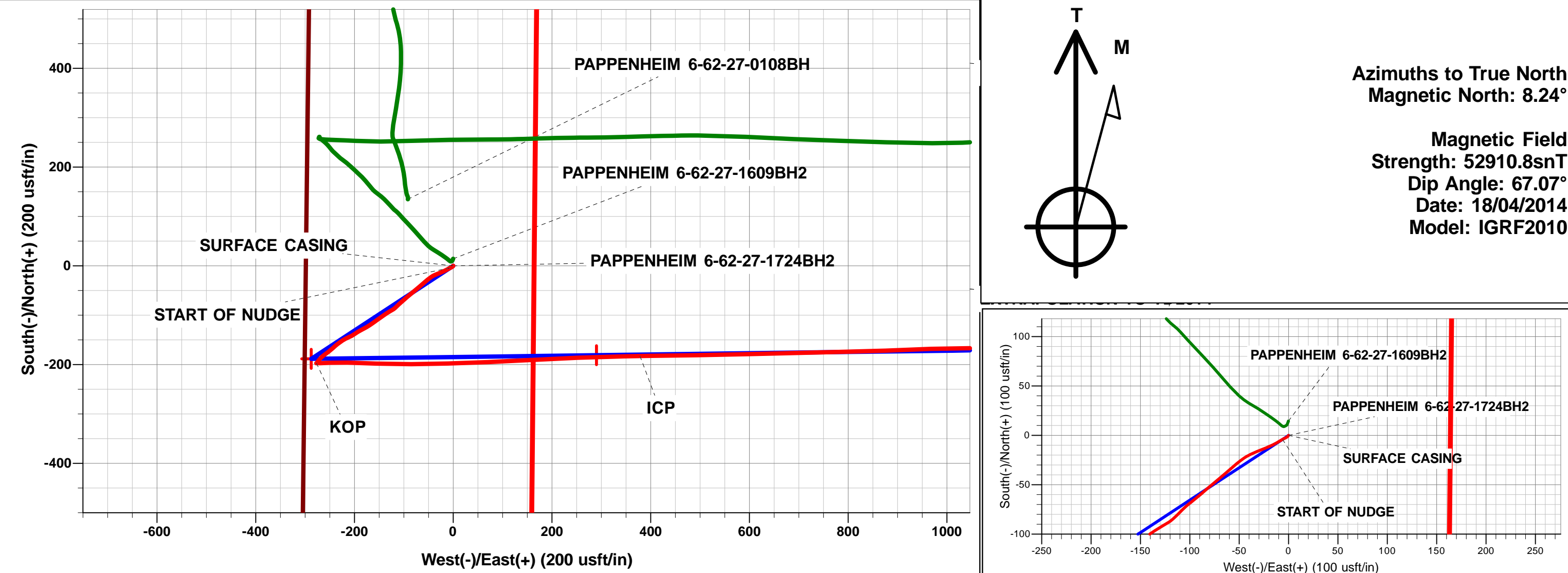




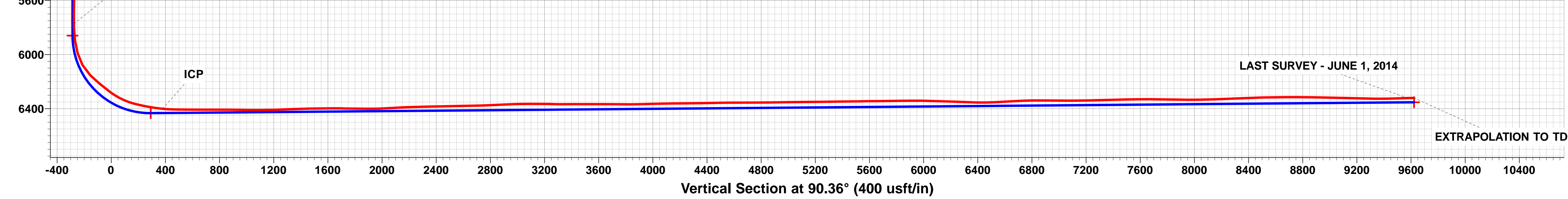
Project: WELD COUNTY, COLORADO (NAD 83)
Site: SW NW SEC 27 T6N R62W 6th P.M.
Well: PAPPENHEIM 6-62-27-1724BH2
Wellbore: JOB # 2009-272
Design: FINAL SURVEYS

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation	
811.0	811.0	0.00	0.00	0.0	0.0	0.0	0.0	SURFACE CASING	
1208.8	1209.0	4.27	241.11	-4.0	-6.0	-6.0	7.9	START OF NUDGE	
5772.8	5786.0	0.55	73.91	-197.1	-276.8	-275.6	343.3	KOP	
6401.1	6801.0	84.74	88.86	-182.7	378.5	379.6	999.1	ICP	
6321.9	16005.0	91.80	89.40	-47.2	9575.2	9575.3	10200.5	LAST SURVEY - JUNE 1, 2014	
6320.4	16052.0	91.80	89.40	-46.7	9622.2	9622.3	10247.4	EXTRAPOLATION TO TD	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
7" ICP - PAPPENHEIM 6-62-27-1724BH2 (P2)	6433.0	-180.9	290.4	40° 27' 39.792 N	104° 18' 57.803 W
BHL - PAPPENHEIM 6-62-27-1724BH2 (P2)	6353.0	-60.0	9622.5	40° 27' 40.968 N	104° 16' 57.072 W
KOP - PAPPENHEIM 6-62-27-1724BH2 (P2)	5860.1	-188.4	-287.4	40° 27' 39.718 N	104° 19' 5.278 W



PROPOSED LOCAL COORDINATES:
SHL: 1439ft FNL & 300ft FWL of Sec 27
ICP *NEW*: 1625ft FNL & 597ft FWL of Sec 27
BHL: 1625ft FNL & 500ft FEL of Sec 26



Survey Report



Company:	BILL BARRETT CORPORATION	Local Co-ordinate Reference:	Well PAPPENHEIM 6-62-27-1724BH2
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4773.0usft (Original Well Elev)
Site:	SW NW SEC 27 T6N R62W 6th P.M.	MD Reference:	KB-EST @ 4773.0usft (Original Well Elev)
Well:	PAPPENHEIM 6-62-27-1724BH2	North Reference:	True
Wellbore:	JOB # 2009-272	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Project	WELD COUNTY, COLORADO (NAD 83)		
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	SW NW SEC 27 T6N R62W 6th P.M.		
Site Position:		Northing:	1,413,192.95 usft
From:	Lat/Long	Easting:	3,329,140.83 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	40° 27' 41.724 N
		Longitude:	104° 19' 1.560 W
		Grid Convergence:	0.76 °

Well	PAPPENHEIM 6-62-27-1724BH2		
Well Position	+N-S	0.0 usft	Northing:
	+E-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	JOB # 2009-272				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	18/04/2014	8.24	67.07	52,911

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	90.36

Survey Program	Date	01/06/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
811.0	16,052.0	FINAL SURVEYS (JOB # 2009-272)	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	4,773.0	0.0	0.0	0.0	0.00	0.00	0.00
SURFACE CASING										
811.0	0.00	0.00	811.0	3,962.0	0.0	0.0	0.0	0.00	0.00	0.00
887.0	0.40	221.50	887.0	3,886.0	-0.2	-0.2	-0.2	0.53	0.53	0.00
976.0	0.40	217.30	976.0	3,797.0	-0.7	-0.6	-0.6	0.03	0.00	-4.72
1,069.0	0.40	213.00	1,069.0	3,704.0	-1.2	-0.9	-0.9	0.03	0.00	-4.62
1,162.0	3.10	243.30	1,161.9	3,611.1	-2.6	-3.4	-3.4	2.97	2.90	32.58
START OF NUDGE										
1,209.0	4.27	241.11	1,208.8	3,564.2	-4.0	-6.0	-6.0	2.51	2.50	-4.67
1,254.0	5.40	239.90	1,253.7	3,519.3	-5.9	-9.3	-9.3	2.51	2.50	-2.68
1,347.0	5.90	244.50	1,346.2	3,426.8	-10.2	-17.4	-17.4	0.72	0.54	4.95
1,439.0	6.30	247.50	1,437.7	3,335.3	-14.1	-26.4	-26.3	0.56	0.43	3.26

Survey Report



Company:	BILL BARRETT CORPORATION	Local Co-ordinate Reference:	Well PAPPENHEIM 6-62-27-1724BH2
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4773.0usft (Original Well Elev)
Site:	SW NW SEC 27 T6N R62W 6th P.M.	MD Reference:	KB-EST @ 4773.0usft (Original Well Elev)
Well:	PAPPENHEIM 6-62-27-1724BH2	North Reference:	True
Wellbore:	JOB # 2009-272	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)
1,534.0	6.10	248.30	1,532.2	3,240.8	-18.0	-35.9	-35.8	0.23	-0.21	0.84
1,628.0	6.30	235.30	1,625.6	3,147.4	-22.8	-44.8	-44.6	1.51	0.21	-13.83
1,723.0	4.90	230.20	1,720.2	3,052.8	-28.3	-52.2	-52.0	1.56	-1.47	-5.37
1,818.0	4.80	228.40	1,814.8	2,958.2	-33.6	-58.2	-58.0	0.19	-0.11	-1.89
1,913.0	4.80	229.30	1,909.5	2,863.5	-38.8	-64.2	-64.0	0.08	0.00	0.95
2,007.0	4.80	230.40	2,003.2	2,769.8	-43.9	-70.2	-70.0	0.10	0.00	1.17
2,102.0	4.80	230.30	2,097.8	2,675.2	-48.9	-76.4	-76.1	0.01	0.00	-0.11
2,196.0	4.70	229.10	2,191.5	2,581.5	-54.0	-82.3	-82.0	0.15	-0.11	-1.28
2,291.0	4.50	229.60	2,286.2	2,486.8	-58.9	-88.1	-87.7	0.21	-0.21	0.53
2,386.0	4.30	231.00	2,380.9	2,392.1	-63.6	-93.7	-93.3	0.24	-0.21	1.47
2,480.0	4.30	230.30	2,474.6	2,298.4	-68.1	-99.1	-98.7	0.06	0.00	-0.74
2,576.0	4.40	229.20	2,570.4	2,202.6	-72.8	-104.7	-104.2	0.14	0.10	-1.15
2,671.0	4.30	225.80	2,665.1	2,107.9	-77.6	-110.0	-109.5	0.29	-0.11	-3.58
2,765.0	4.40	222.80	2,758.8	2,014.2	-82.7	-115.0	-114.5	0.26	0.11	-3.19
2,861.0	4.90	238.10	2,854.5	1,918.5	-87.6	-121.0	-120.4	1.39	0.52	15.94
2,956.0	5.10	239.30	2,949.2	1,823.8	-91.9	-128.0	-127.5	0.24	0.21	1.26
3,051.0	5.10	236.50	3,043.8	1,729.2	-96.4	-135.2	-134.6	0.26	0.00	-2.95
3,147.0	4.80	234.50	3,139.4	1,633.6	-101.1	-142.0	-141.4	0.36	-0.31	-2.08
3,242.0	4.40	234.00	3,234.1	1,538.9	-105.5	-148.2	-147.5	0.42	-0.42	-0.53
3,336.0	3.70	235.70	3,327.9	1,445.1	-109.4	-153.6	-152.9	0.76	-0.74	1.81
3,431.0	3.80	235.40	3,422.7	1,350.3	-112.9	-158.8	-158.0	0.11	0.11	-0.32
3,526.0	3.70	234.50	3,517.5	1,255.5	-116.4	-163.8	-163.1	0.12	-0.11	-0.95
3,622.0	4.00	236.00	3,613.3	1,159.7	-120.1	-169.1	-168.4	0.33	0.31	1.56
3,717.0	4.20	240.10	3,708.0	1,065.0	-123.7	-174.9	-174.1	0.37	0.21	4.32
3,812.0	4.30	242.00	3,802.7	970.3	-127.1	-181.1	-180.3	0.18	0.11	2.00
3,908.0	4.40	241.40	3,898.5	874.5	-130.6	-187.5	-186.7	0.11	0.10	-0.62
4,003.0	4.30	238.70	3,993.2	779.8	-134.1	-193.7	-192.9	0.24	-0.11	-2.84
4,097.0	4.10	234.50	4,086.9	686.1	-137.9	-199.5	-198.6	0.39	-0.21	-4.47
4,192.0	4.20	244.10	4,181.7	591.3	-141.4	-205.4	-204.5	0.74	0.11	10.11
4,288.0	4.30	244.60	4,277.4	495.6	-144.5	-211.8	-210.9	0.11	0.10	0.52
4,382.0	4.20	242.60	4,371.2	401.8	-147.6	-218.0	-217.1	0.19	-0.11	-2.13
4,478.0	3.80	238.40	4,466.9	306.1	-150.9	-223.8	-222.9	0.52	-0.42	-4.37
4,573.0	4.00	233.90	4,561.7	211.3	-154.5	-229.2	-228.2	0.38	0.21	-4.74
4,668.0	3.90	231.90	4,656.5	116.5	-158.4	-234.4	-233.4	0.18	-0.11	-2.11
4,763.0	3.80	229.70	4,751.3	21.7	-162.5	-239.4	-238.3	0.19	-0.11	-2.32
4,859.0	3.60	225.60	4,847.1	-74.1	-166.6	-243.9	-242.9	0.35	-0.21	-4.27
4,955.0	4.10	232.80	4,942.9	-169.9	-170.8	-248.8	-247.8	0.72	0.52	7.50
5,051.0	3.20	228.10	5,038.7	-265.7	-174.7	-253.6	-252.5	0.99	-0.94	-4.90
5,147.0	4.00	235.50	5,134.5	-361.5	-178.4	-258.3	-257.2	0.96	0.83	7.71
5,243.0	3.90	230.40	5,230.3	-457.3	-182.3	-263.6	-262.4	0.38	-0.10	-5.31
5,338.0	3.30	224.10	5,325.1	-552.1	-186.4	-268.0	-266.8	0.76	-0.63	-6.63
5,434.0	2.60	218.60	5,420.9	-647.9	-190.0	-271.3	-270.1	0.79	-0.73	-5.73
5,529.0	2.60	214.00	5,515.8	-742.8	-193.5	-273.8	-272.6	0.22	0.00	-4.84
5,624.0	1.50	223.30	5,610.8	-837.8	-196.2	-275.9	-274.6	1.21	-1.16	9.79
5,719.0	0.30	262.50	5,705.8	-932.8	-197.1	-277.0	-275.7	1.35	-1.26	41.26
KOP										
5,786.0	0.55	73.91	5,772.8	-999.8	-197.1	-276.8	-275.6	1.26	0.37	255.83
5,814.0	0.90	75.10	5,800.8	-1,027.8	-197.0	-276.5	-275.3	1.26	1.26	4.26
5,910.0	7.90	91.80	5,896.4	-1,123.4	-197.0	-269.2	-267.9	7.34	7.29	17.40
6,005.0	15.50	86.10	5,989.4	-1,216.4	-196.3	-249.9	-248.7	8.08	8.00	-6.00
6,100.0	28.80	90.90	6,077.2	-1,304.2	-195.8	-214.2	-213.0	14.12	14.00	5.05
6,196.0	45.80	92.70	6,153.3	-1,380.3	-197.8	-156.3	-155.1	17.74	17.71	1.87
6,292.0	50.30	89.40	6,217.4	-1,444.4	-199.1	-85.0	-83.7	5.34	4.69	-3.44

Survey Report



Company:	BILL BARRETT CORPORATION	Local Co-ordinate Reference:	Well PAPPENHEIM 6-62-27-1724BH2
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4773.0usft (Original Well Elev)
Site:	SW NW SEC 27 T6N R62W 6th P.M.	MD Reference:	KB-EST @ 4773.0usft (Original Well Elev)
Well:	PAPPENHEIM 6-62-27-1724BH2	North Reference:	True
Wellbore:	JOB # 2009-272	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)
6,387.0	53.30	88.40	6,276.2	-1,503.2	-197.6	-10.3	-9.1	3.26	3.16	-1.05
6,482.0	63.20	87.80	6,326.1	-1,553.1	-194.9	70.3	71.5	10.43	10.42	-0.63
6,577.0	74.40	86.60	6,360.4	-1,587.4	-190.6	158.6	159.8	11.85	11.79	-1.26
6,673.0	79.40	87.90	6,382.2	-1,609.2	-186.1	252.0	253.2	5.37	5.21	1.35
6,768.0	82.20	88.80	6,397.3	-1,624.3	-183.4	345.7	346.9	3.09	2.95	0.95
ICP										
6,801.0	84.74	88.86	6,401.1	-1,628.1	-182.7	378.5	379.6	7.69	7.69	0.19
6,820.0	86.20	88.90	6,402.6	-1,629.6	-182.4	397.4	398.6	7.69	7.69	0.19
6,916.0	89.60	89.30	6,406.1	-1,633.1	-180.9	493.3	494.5	3.57	3.54	0.42
7,013.0	89.30	88.30	6,407.1	-1,634.1	-178.8	590.3	591.4	1.08	-0.31	-1.03
7,110.0	90.20	89.00	6,407.5	-1,634.5	-176.5	687.3	688.4	1.18	0.93	0.72
7,206.0	90.00	88.30	6,407.3	-1,634.3	-174.3	783.3	784.3	0.76	-0.21	-0.73
7,298.0	89.70	88.40	6,407.5	-1,634.5	-171.6	875.2	876.3	0.34	-0.33	0.11
7,391.0	88.30	87.20	6,409.2	-1,636.2	-168.1	968.1	969.2	1.98	-1.51	-1.29
7,482.0	90.20	90.80	6,410.4	-1,637.4	-166.5	1,059.1	1,060.1	4.47	2.09	3.96
7,575.0	90.70	90.60	6,409.6	-1,636.6	-167.6	1,152.1	1,153.1	0.58	0.54	-0.22
7,668.0	92.50	91.40	6,407.0	-1,634.0	-169.2	1,245.0	1,246.1	2.12	1.94	0.86
7,760.0	91.90	90.30	6,403.5	-1,630.5	-170.6	1,337.0	1,338.0	1.36	-0.65	-1.20
7,852.0	91.90	89.70	6,400.5	-1,627.5	-170.6	1,428.9	1,429.9	0.65	0.00	-0.65
7,944.0	89.80	87.70	6,399.1	-1,626.1	-168.5	1,520.9	1,521.9	3.15	-2.28	-2.17
8,037.0	91.70	90.20	6,397.9	-1,624.9	-166.8	1,613.8	1,614.8	3.38	2.04	2.69
8,128.0	88.00	86.30	6,398.1	-1,625.1	-164.0	1,704.7	1,705.7	5.91	-4.07	-4.29
8,221.0	89.90	88.80	6,399.8	-1,626.8	-160.1	1,797.6	1,798.6	3.38	2.04	2.69
8,314.0	88.90	88.90	6,400.8	-1,627.8	-158.2	1,890.6	1,891.6	1.08	-1.08	0.11
8,406.0	92.20	89.10	6,399.9	-1,626.9	-156.6	1,982.6	1,983.5	3.59	3.59	0.22
8,498.0	93.70	88.80	6,395.2	-1,622.2	-154.9	2,074.4	2,075.4	1.66	1.63	-0.33
8,591.0	92.80	88.90	6,389.9	-1,616.9	-153.0	2,167.3	2,168.2	0.97	-0.97	0.11
8,685.0	91.40	87.60	6,386.5	-1,613.5	-150.2	2,261.2	2,262.1	2.03	-1.49	-1.38
8,778.0	90.80	87.70	6,384.7	-1,611.7	-146.4	2,354.1	2,354.9	0.65	-0.65	0.11
8,870.0	91.00	88.80	6,383.2	-1,610.2	-143.5	2,446.0	2,446.9	1.22	0.22	1.20
8,963.0	91.90	88.00	6,380.9	-1,607.9	-140.9	2,538.9	2,539.8	1.29	0.97	-0.86
9,054.0	90.90	87.10	6,378.6	-1,605.6	-137.1	2,629.8	2,630.6	1.48	-1.10	-0.99
9,146.0	90.80	90.90	6,377.3	-1,604.3	-135.5	2,721.8	2,722.6	4.13	-0.11	4.13
9,239.0	93.40	92.30	6,373.9	-1,600.9	-138.0	2,814.7	2,815.5	3.17	2.80	1.51
9,331.0	92.40	91.70	6,369.2	-1,596.2	-141.3	2,906.5	2,907.3	1.27	-1.09	-0.65
9,424.0	91.70	91.80	6,365.9	-1,592.9	-144.1	2,999.4	3,000.2	0.76	-0.75	0.11
9,517.0	90.10	89.70	6,364.4	-1,591.4	-145.3	3,092.4	3,093.2	2.84	-1.72	-2.26
9,611.0	89.40	90.20	6,364.8	-1,591.8	-145.2	3,186.4	3,187.2	0.92	-0.74	0.53
9,704.0	88.30	90.10	6,366.7	-1,593.7	-145.5	3,279.3	3,280.2	1.19	-1.18	-0.11
9,797.0	91.00	92.00	6,367.3	-1,594.3	-147.2	3,372.3	3,373.2	3.55	2.90	2.04
9,890.0	90.30	91.60	6,366.2	-1,593.2	-150.1	3,465.3	3,466.1	0.87	-0.75	-0.43
9,982.0	89.40	91.20	6,366.5	-1,593.5	-152.3	3,557.2	3,558.1	1.07	-0.98	-0.43
10,075.0	90.00	90.10	6,366.9	-1,593.9	-153.4	3,650.2	3,651.1	1.35	0.65	-1.18
10,166.0	89.40	89.90	6,367.4	-1,594.4	-153.4	3,741.2	3,742.1	0.70	-0.66	-0.22
10,258.0	89.80	88.60	6,368.1	-1,595.1	-152.2	3,833.2	3,834.1	1.48	0.43	-1.41
10,351.0	92.00	89.30	6,366.6	-1,593.6	-150.5	3,926.2	3,927.0	2.48	2.37	0.75
10,443.0	91.40	87.90	6,363.9	-1,590.9	-148.2	4,018.1	4,019.0	1.65	-0.65	-1.52
10,536.0	90.70	86.30	6,362.2	-1,589.2	-143.5	4,111.0	4,111.8	1.88	-0.75	-1.72
10,629.0	90.30	85.90	6,361.4	-1,588.4	-137.2	4,203.8	4,204.5	0.61	-0.43	-0.43
10,722.0	90.90	87.60	6,360.4	-1,587.4	-131.9	4,296.6	4,297.3	1.94	0.65	1.83
10,814.0	91.30	89.50	6,358.6	-1,585.6	-129.6	4,388.5	4,389.3	2.11	0.43	2.07
10,907.0	91.00	88.80	6,356.8	-1,583.8	-128.2	4,481.5	4,482.2	0.82	-0.32	-0.75
10,999.0	90.30	87.80	6,355.7	-1,582.7	-125.5	4,573.5	4,574.2	1.33	-0.76	-1.09

Survey Report



Company:	BILL BARRETT CORPORATION	Local Co-ordinate Reference:	Well PAPPENHEIM 6-62-27-1724BH2
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4773.0usft (Original Well Elev)
Site:	SW NW SEC 27 T6N R62W 6th P.M.	MD Reference:	KB-EST @ 4773.0usft (Original Well Elev)
Well:	PAPPENHEIM 6-62-27-1724BH2	North Reference:	True
Wellbore:	JOB # 2009-272	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)
11,092.0	90.30	88.40	6,355.2	-1,582.2	-122.4	4,666.4	4,667.1	0.65	0.00	0.65
11,185.0	89.80	87.90	6,355.1	-1,582.1	-119.4	4,759.4	4,760.0	0.76	-0.54	-0.54
11,278.0	91.30	90.20	6,354.2	-1,581.2	-117.9	4,852.3	4,853.0	2.95	1.61	2.47
11,372.0	90.60	89.50	6,352.7	-1,579.7	-117.6	4,946.3	4,947.0	1.05	-0.74	-0.74
11,464.0	90.40	88.50	6,351.9	-1,578.9	-116.0	5,038.3	5,038.9	1.11	-0.22	-1.09
11,558.0	90.90	88.00	6,350.8	-1,577.8	-113.2	5,132.3	5,132.9	0.75	0.53	-0.53
11,649.0	90.70	88.80	6,349.5	-1,576.5	-110.6	5,223.2	5,223.8	0.91	-0.22	0.88
11,743.0	90.70	90.00	6,348.4	-1,575.4	-109.6	5,317.2	5,317.8	1.28	0.00	1.28
11,835.0	90.60	90.30	6,347.4	-1,574.4	-109.9	5,409.2	5,409.8	0.34	-0.11	0.33
11,927.0	90.80	90.50	6,346.2	-1,573.2	-110.5	5,501.2	5,501.8	0.31	0.22	0.22
12,019.0	91.10	90.90	6,344.7	-1,571.7	-111.6	5,593.2	5,593.7	0.54	0.33	0.43
12,147.0	90.00	94.10	6,343.5	-1,570.5	-117.2	5,721.0	5,721.6	2.64	-0.86	2.50
12,239.0	90.90	94.30	6,342.8	-1,569.8	-124.0	5,812.8	5,813.4	1.00	0.98	0.22
12,332.0	90.80	93.80	6,341.4	-1,568.4	-130.5	5,905.5	5,906.2	0.55	-0.11	-0.54
12,424.0	88.60	90.40	6,341.9	-1,568.9	-133.9	5,997.4	5,998.2	4.40	-2.39	-3.70
12,517.0	88.30	89.50	6,344.4	-1,571.4	-133.8	6,090.4	6,091.1	1.02	-0.32	-0.97
12,610.0	88.30	88.90	6,347.1	-1,574.1	-132.5	6,183.4	6,184.1	0.64	0.00	-0.65
12,705.0	88.00	88.30	6,350.2	-1,577.2	-130.2	6,278.3	6,279.0	0.71	-0.32	-0.63
12,797.0	87.70	87.80	6,353.7	-1,580.7	-127.1	6,370.2	6,370.8	0.63	-0.33	-0.54
12,890.0	91.40	88.40	6,354.4	-1,581.4	-124.0	6,463.1	6,463.7	4.03	3.98	0.65
12,983.0	92.80	89.50	6,351.0	-1,578.0	-122.3	6,556.0	6,556.6	1.91	1.51	1.18
13,075.0	93.40	89.00	6,346.0	-1,573.0	-121.1	6,647.9	6,648.5	0.85	0.65	-0.54
13,166.0	92.50	90.50	6,341.3	-1,568.3	-120.7	6,738.7	6,739.4	1.92	-0.99	1.65
13,259.0	89.70	89.50	6,339.5	-1,566.5	-120.7	6,831.7	6,832.3	3.20	-3.01	-1.08
13,351.0	90.00	89.40	6,339.8	-1,566.8	-119.8	6,923.7	6,924.3	0.34	0.33	-0.11
13,444.0	89.40	88.40	6,340.3	-1,567.3	-118.0	7,016.7	7,017.3	1.25	-0.65	-1.08
13,536.0	90.30	90.50	6,340.5	-1,567.5	-117.1	7,108.7	7,109.3	2.48	0.98	2.28
13,629.0	90.80	91.20	6,339.6	-1,566.6	-118.5	7,201.7	7,202.3	0.92	0.54	0.75
13,722.0	92.00	91.60	6,337.3	-1,564.3	-120.8	7,294.6	7,295.2	1.36	1.29	0.43
13,815.0	91.30	90.00	6,334.7	-1,561.7	-122.1	7,387.5	7,388.2	1.88	-0.75	-1.72
13,907.0	90.80	88.40	6,333.0	-1,560.0	-120.8	7,479.5	7,480.1	1.82	-0.54	-1.74
14,000.0	91.60	89.80	6,331.0	-1,558.0	-119.3	7,572.5	7,573.1	1.73	0.86	1.51
14,092.0	89.30	86.60	6,330.3	-1,557.3	-116.4	7,664.4	7,665.0	4.28	-2.50	-3.48
14,186.0	89.10	86.40	6,331.6	-1,558.6	-110.7	7,758.2	7,758.8	0.30	-0.21	-0.21
14,287.0	89.20	86.20	6,333.1	-1,560.1	-104.2	7,859.0	7,859.5	0.22	0.10	-0.20
14,372.0	89.30	86.00	6,334.2	-1,561.2	-98.4	7,943.8	7,944.3	0.26	0.12	-0.24
14,465.0	91.10	87.80	6,333.9	-1,560.9	-93.4	8,036.7	8,037.1	2.74	1.94	1.94
14,557.0	91.50	87.20	6,331.8	-1,558.8	-89.4	8,128.6	8,129.0	0.78	0.43	-0.65
14,650.0	92.30	87.10	6,328.7	-1,555.7	-84.7	8,221.4	8,221.8	0.87	0.86	-0.11
14,742.0	92.50	90.30	6,324.9	-1,551.9	-82.7	8,313.3	8,313.6	3.48	0.22	3.48
14,836.0	92.60	90.50	6,320.7	-1,547.7	-83.3	8,407.2	8,407.5	0.24	0.11	0.21
14,928.0	91.10	89.20	6,317.7	-1,544.7	-83.1	8,499.1	8,499.5	2.16	-1.63	-1.41
15,020.0	90.90	88.10	6,316.1	-1,543.1	-80.9	8,591.1	8,591.4	1.22	-0.22	-1.20
15,112.0	90.60	87.80	6,314.9	-1,541.9	-77.6	8,683.0	8,683.3	0.46	-0.33	-0.33
15,205.0	89.30	88.00	6,315.0	-1,542.0	-74.2	8,775.9	8,776.2	1.41	-1.40	0.22
15,298.0	89.20	87.80	6,316.2	-1,543.2	-70.8	8,868.9	8,869.1	0.24	-0.11	-0.22
15,389.0	88.90	87.40	6,317.7	-1,544.7	-67.0	8,959.8	8,960.0	0.55	-0.33	-0.44
15,482.0	88.60	87.40	6,319.7	-1,546.7	-62.8	9,052.7	9,052.9	0.32	-0.32	0.00
15,575.0	88.50	87.30	6,322.1	-1,549.1	-58.5	9,145.5	9,145.7	0.15	-0.11	-0.11
15,669.0	88.70	87.60	6,324.4	-1,551.4	-54.3	9,239.4	9,239.6	0.38	0.21	0.32
15,762.0	88.60	87.60	6,326.6	-1,553.6	-50.4	9,332.3	9,332.4	0.11	-0.11	0.00
15,857.0	91.70	89.90	6,326.3	-1,553.3	-48.3	9,427.3	9,427.4	4.06	3.26	2.42
15,952.0	91.70	89.40	6,323.5	-1,550.5	-47.7	9,522.2	9,522.3	0.53	0.00	-0.53

Survey Report



Company:	BILL BARRETT CORPORATION	Local Co-ordinate Reference:	Well PAPPENHEIM 6-62-27-1724BH2
Project:	WELD COUNTY, COLORADO (NAD 83)	TVD Reference:	KB-EST @ 4773.0usft (Original Well Elev)
Site:	SW NW SEC 27 T6N R62W 6th P.M.	MD Reference:	KB-EST @ 4773.0usft (Original Well Elev)
Well:	PAPPENHEIM 6-62-27-1724BH2	North Reference:	True
Wellbore:	JOB # 2009-272	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)
LAST SURVEY - JUNE 1, 2014										
16,005.0	91.80	89.40	6,321.9	-1,548.9	-47.2	9,575.2	9,575.3	0.19	0.19	0.00
EXTRAPOLATION TO TD										
16,052.0	91.80	89.40	6,320.4	-1,547.4	-46.7	9,622.2	9,622.3	0.00	0.00	0.00

Targets										
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
7" ICP - PAPPENHEIM		0.00	0.00	6,433.0	-180.9	290.4	1,413,001.37	3,329,433.80	40° 27' 39.792 N	104° 18' 57.803 W
- survey misses target center by 43.6usft at 6719.2usft MD (6390.1 TVD, -184.6 N, 297.5 E)										
- Point										
BHL - PAPPENHEIM		0.00	0.00	6,353.0	-60.0	9,622.5	1,413,246.69	3,338,763.14	40° 27' 40.968 N	104° 16' 57.072 W
- survey misses target center by 35.2usft at 16051.2usft MD (6320.5 TVD, -46.7 N, 9621.4 E)										
- Point										
7" ICP - PAPPENHEIM		0.00	0.00	6,416.0	-180.1	354.6	1,413,003.03	3,329,497.98	40° 27' 39.800 N	104° 18' 56.973 W
- survey misses target center by 17.6usft at 6779.0usft MD (6398.8 TVD, -183.2 N, 356.6 E)										
- Point										
KOP - PAPPENHEIM		0.00	0.00	5,860.1	-188.4	-287.4	1,412,986.16	3,328,856.18	40° 27' 39.718 N	104° 19' 5.278 W
- survey misses target center by 16.4usft at 5872.4usft MD (5859.0 TVD, -196.9 N, -273.4 E)										
- Point										
KOP - PAPPENHEIM		0.00	0.00	5,779.4	-188.4	-287.4	1,412,986.16	3,328,856.18	40° 27' 39.718 N	104° 19' 5.278 W
- survey misses target center by 13.7usft at 5792.5usft MD (5779.3 TVD, -197.1 N, -276.8 E)										
- Point										
BHL - PAPPENHEIM		0.00	0.00	6,336.0	-60.0	9,622.5	1,413,246.69	3,338,763.14	40° 27' 40.968 N	104° 16' 57.072 W
- survey misses target center by 20.5usft at 16051.7usft MD (6320.4 TVD, -46.7 N, 9621.9 E)										
- Point										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
811.0	811.0	0.0	0.0	SURFACE CASING	
1,209.0	1,208.8	-4.0	-6.0	START OF NUDGE	
5,786.0	5,772.8	-197.1	-276.8	KOP	
6,801.0	6,401.1	-182.7	378.5	ICP	
16,005.0	6,321.9	-47.2	9,575.2	LAST SURVEY - JUNE 1, 2014	
16,052.0	6,320.4	-46.7	9,622.2	EXTRAPOLATION TO TD	

Checked By: _____ Approved By: _____ Date: _____