

1 General

1.1 Customer Information

Company	PICEANCE HL
Representative	Eric Kolstad
Address	1515 Arapahoe St., Suite 1000 Denver, CO 80202

1.2 Well Information

Well	RGU 321-25-198	Wellbore No.	OH
Well Name	FEDERAL RGU 321-25-198	Common Name	RGU 321-25-198
Project	RG 25-01S-098W	Site	RGU 31-25-198 Pad
Vertical Section Azimuth	255.72 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	10/26/2010	UWI	RGU 321-25-198
Active Datum	KELLY BUSHING @6,661.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Cathedral
Date Started	10/26/2010	Ended	
Tool Name	MWD	Engineer	

2.1.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
0.0	0.00	0.00	0.00	0.00	0.00

2.1.2 Survey Stations

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
10/26/2010	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/26/2010	NORMAL	211.0	1.20	286.60	210.98	0.63	-2.12	1.90	0.57	0.57	0.00	286.60
	NORMAL	303.0	2.10	280.60	302.95	1.22	-4.70	4.25	0.99	0.98	-6.52	346.13
	NORMAL	395.0	3.00	272.80	394.85	1.64	-8.76	8.08	1.05	0.98	-8.48	334.99
	NORMAL	488.0	4.60	261.50	487.65	1.21	-14.88	14.12	1.89	1.72	-12.15	329.21
	NORMAL	580.0	6.20	255.70	579.24	-0.56	-23.34	22.76	1.84	1.74	-6.30	338.26
	NORMAL	674.0	7.70	257.50	672.54	-3.18	-34.41	34.13	1.61	1.60	1.91	9.16
10/27/2010	NORMAL	764.0	9.60	253.80	761.52	-6.58	-47.50	47.66	2.20	2.11	-4.11	341.84
	NORMAL	857.0	10.70	251.40	853.06	-11.49	-63.13	64.02	1.27	1.18	-2.58	337.78
	NORMAL	949.0	11.00	250.90	943.42	-17.09	-79.52	81.28	0.34	0.33	-0.54	342.34
	NORMAL	1,043.0	11.90	247.40	1,035.54	-23.75	-96.94	99.81	1.21	0.96	-3.72	320.61
	NORMAL	1,138.0	10.90	253.20	1,128.67	-30.11	-114.59	118.47	1.60	-1.05	6.11	133.92
	NORMAL	1,232.0	11.10	257.90	1,220.95	-34.58	-131.94	136.39	0.98	0.21	5.00	79.74
	NORMAL	1,327.0	11.70	256.30	1,314.07	-38.77	-150.24	155.16	0.71	0.63	-1.68	331.42
	NORMAL	1,421.0	12.50	256.80	1,405.98	-43.35	-169.41	174.87	0.86	0.85	0.53	7.71
	NORMAL	1,515.0	12.70	255.90	1,497.72	-48.19	-189.33	195.37	0.30	0.21	-0.96	315.09
	NORMAL	1,610.0	11.30	250.30	1,590.64	-53.88	-208.22	215.08	1.92	-1.47	-5.89	217.03
	NORMAL	1,704.0	9.80	257.80	1,683.06	-58.67	-224.72	232.24	2.16	-1.60	7.98	141.17
	NORMAL	1,799.0	9.80	257.50	1,776.67	-62.13	-240.51	248.41	0.05	0.00	-0.32	269.85
	NORMAL	1,893.0	10.20	254.50	1,869.24	-66.09	-256.34	264.72	0.70	0.43	-3.19	306.03

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
10/27/2010	NORMAL	1,988.0	10.10	254.90	1,962.76	-70.50	-272.49	281.46	0.13	-0.11	0.42	145.02
	NORMAL	2,082.0	10.30	256.00	2,055.27	-74.68	-288.60	298.11	0.30	0.21	1.17	44.79
	NORMAL	2,175.0	10.70	255.40	2,146.71	-78.87	-305.02	315.05	0.45	0.43	-0.65	344.42
	NORMAL	2,269.0	11.10	255.50	2,239.02	-83.34	-322.23	332.83	0.43	0.43	0.11	2.76
	NORMAL	2,364.0	11.10	257.00	2,332.24	-87.68	-339.99	351.12	0.30	0.00	1.58	90.74
	NORMAL	2,458.0	11.30	256.80	2,424.45	-91.82	-357.78	369.37	0.22	0.21	-0.21	348.91
10/28/2010	NORMAL	2,550.0	11.80	256.90	2,514.59	-96.01	-375.71	387.79	0.54	0.54	0.11	2.34
	NORMAL	2,645.0	11.60	257.30	2,607.61	-100.31	-394.49	407.05	0.23	-0.21	0.42	158.12
	NORMAL	2,739.0	11.70	257.60	2,699.68	-104.44	-413.02	426.02	0.12	0.11	0.32	31.35
	NORMAL	2,834.0	12.00	258.80	2,792.65	-108.42	-432.12	445.51	0.41	0.32	1.26	39.99
	NORMAL	2,928.0	11.70	257.40	2,884.65	-112.40	-451.00	464.79	0.44	-0.32	-1.49	223.10
	NORMAL	3,023.0	11.80	258.60	2,977.66	-116.42	-469.93	484.12	0.28	0.11	1.26	68.33
	NORMAL	3,117.0	11.50	256.00	3,069.72	-120.59	-488.44	503.09	0.64	-0.32	-2.77	238.99
	NORMAL	3,211.0	11.70	252.20	3,161.80	-125.77	-506.61	521.98	0.84	0.21	-4.04	282.80
	NORMAL	3,305.0	11.40	253.50	3,253.90	-131.32	-524.59	540.77	0.42	-0.32	1.38	139.69
	NORMAL	3,400.0	12.00	250.90	3,346.93	-137.22	-542.92	559.99	0.84	0.63	-2.74	317.41
	NORMAL	3,494.0	12.10	250.00	3,438.86	-143.79	-561.41	579.53	0.23	0.11	-0.96	297.58
	NORMAL	3,588.0	11.90	249.70	3,530.80	-150.52	-579.76	598.98	0.22	-0.21	-0.32	197.17
	NORMAL	3,682.0	12.10	256.00	3,622.75	-156.27	-598.41	618.47	1.41	0.21	6.70	84.41
	NORMAL	3,777.0	12.40	254.00	3,715.59	-161.49	-617.88	638.62	0.55	0.32	-2.11	304.28
	NORMAL	3,871.0	12.50	255.00	3,807.38	-166.90	-637.41	658.88	0.25	0.11	1.06	65.60
10/29/2010	NORMAL	3,935.0	12.50	255.50	3,869.86	-170.43	-650.80	672.73	0.17	0.00	0.78	90.24
	NORMAL	3,995.0	12.50	255.50	3,928.44	-173.68	-663.37	685.72	0.00	0.00	0.00	0.00
10/31/2010	NORMAL	4,054.0	10.10	251.30	3,986.55	-177.00	-673.16	696.02	2.13	-2.02	-3.53	196.88
	NORMAL	4,149.0	8.70	250.20	4,080.27	-182.10	-687.81	711.47	1.49	-1.47	-1.16	186.77
	NORMAL	4,243.0	7.70	251.10	4,173.31	-186.55	-700.45	724.83	1.07	-1.06	0.96	173.13
	NORMAL	4,338.0	8.50	257.80	4,267.36	-190.10	-713.34	738.19	1.30	0.84	7.05	53.07
	NORMAL	4,432.0	9.10	260.50	4,360.26	-192.79	-727.46	752.54	0.77	0.64	2.87	35.88
11/1/2010	NORMAL	4,527.0	10.40	260.00	4,453.88	-195.52	-743.31	768.58	1.37	1.37	-0.53	356.03
	NORMAL	4,622.0	9.70	252.60	4,547.43	-199.40	-759.40	785.12	1.54	-0.74	-7.79	237.93
	NORMAL	4,717.0	10.70	255.80	4,640.92	-203.96	-775.58	801.93	1.21	1.05	3.37	31.12
	NORMAL	4,811.0	11.00	255.10	4,733.24	-208.41	-792.71	819.62	0.35	0.32	-0.74	335.94
	NORMAL	4,905.0	10.10	255.50	4,825.65	-212.78	-809.36	836.83	0.96	-0.96	0.43	175.54
	NORMAL	5,000.0	10.30	256.30	4,919.15	-216.87	-825.67	853.66	0.26	0.21	0.84	35.71
	NORMAL	5,094.0	10.50	254.70	5,011.61	-221.12	-842.10	870.62	0.37	0.21	-1.70	303.91
	NORMAL	5,188.0	10.20	252.20	5,104.08	-225.93	-858.29	887.49	0.57	-0.32	-2.66	235.03
	NORMAL	5,282.0	9.80	253.00	5,196.65	-230.81	-873.86	903.79	0.45	-0.43	0.85	161.24
	NORMAL	5,377.0	10.30	249.90	5,290.19	-236.09	-889.57	920.32	0.78	0.53	-3.26	311.21
	NORMAL	5,471.0	10.80	258.10	5,382.61	-240.80	-906.08	937.48	1.68	0.53	8.72	75.64
	NORMAL	5,566.0	9.90	253.90	5,476.06	-244.90	-922.64	954.53	1.24	-0.95	-4.42	217.92
	NORMAL	5,661.0	10.80	256.90	5,569.52	-249.18	-939.15	971.60	1.10	0.95	3.16	32.40
	NORMAL	5,755.0	11.90	258.60	5,661.68	-253.09	-957.23	990.08	1.22	1.17	1.81	17.75
	NORMAL	5,850.0	11.60	259.90	5,754.69	-256.70	-976.23	1,009.39	0.42	-0.32	1.37	139.21
	NORMAL	5,949.0	11.30	258.40	5,851.72	-260.40	-995.53	1,029.00	0.43	-0.30	-1.52	224.05
	NORMAL	6,039.0	11.70	255.90	5,939.91	-264.40	-1,013.02	1,046.94	0.71	0.44	-2.78	307.52
	NORMAL	6,133.0	11.00	254.70	6,032.07	-269.08	-1,030.92	1,065.44	0.79	-0.74	-1.28	198.06
11/2/2010	NORMAL	6,227.0	11.20	250.60	6,124.32	-274.48	-1,048.18	1,083.50	0.87	0.21	-4.36	282.20
	NORMAL	6,322.0	10.10	249.30	6,217.68	-280.49	-1,064.67	1,100.96	1.19	-1.16	-1.37	191.68
	NORMAL	6,416.0	9.40	247.90	6,310.32	-286.29	-1,079.50	1,116.76	0.79	-0.74	-1.49	198.02
	NORMAL	6,510.0	8.10	250.00	6,403.22	-291.45	-1,092.83	1,130.95	1.42	-1.38	2.23	167.23
	NORMAL	6,605.0	7.80	250.20	6,497.31	-295.92	-1,105.19	1,144.03	0.32	-0.32	0.21	174.83
	NORMAL	6,700.0	8.80	249.90	6,591.32	-300.60	-1,118.08	1,157.68	1.05	1.05	-0.32	357.37
	NORMAL	6,794.0	7.70	256.00	6,684.34	-304.60	-1,130.94	1,171.13	1.49	-1.17	6.49	144.48
	NORMAL	6,889.0	8.10	257.90	6,778.44	-307.54	-1,143.66	1,184.18	0.50	0.42	2.00	34.08
	NORMAL	6,984.0	8.20	260.40	6,872.48	-310.07	-1,156.88	1,197.62	0.39	0.11	2.63	75.48
	NORMAL	7,078.0	7.80	260.80	6,965.57	-312.21	-1,169.79	1,210.66	0.43	-0.43	0.43	172.27
	NORMAL	7,173.0	7.70	264.70	7,059.70	-313.83	-1,182.49	1,223.36	0.56	-0.11	4.11	102.69

2.1.2 Survey Stations (Continued)

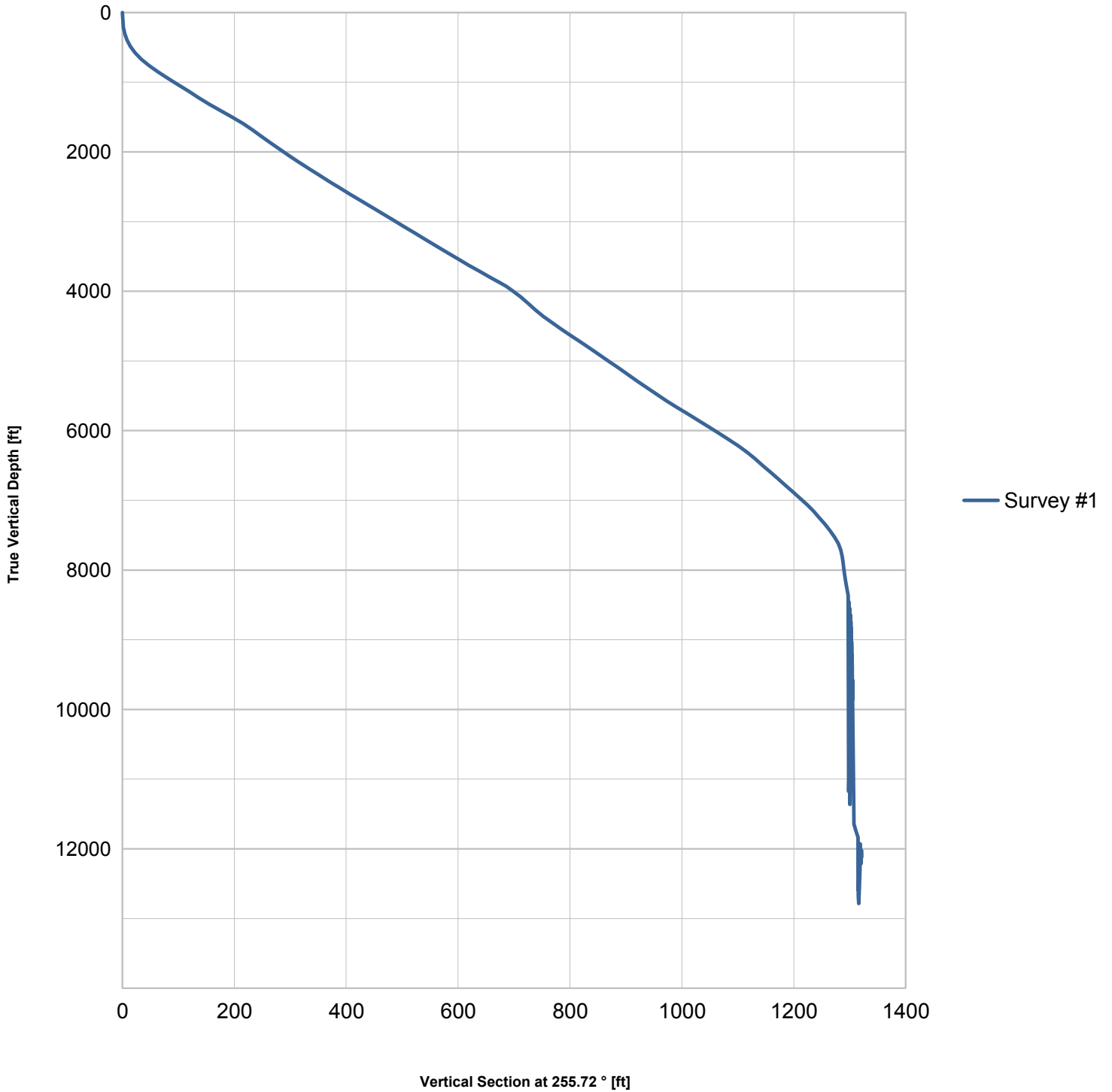
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
11/2/2010	NORMAL	7,267.0	6.70	263.90	7,152.96	-314.99	-1,194.21	1,235.01	1.07	-1.06	-0.85	185.33
	NORMAL	7,361.0	6.20	265.40	7,246.36	-315.98	-1,204.73	1,245.44	0.56	-0.53	1.60	162.12
11/3/2010	NORMAL	7,456.0	6.00	265.40	7,340.82	-316.79	-1,214.79	1,255.39	0.21	-0.21	0.00	180.00
	NORMAL	7,549.0	5.40	269.80	7,433.36	-317.20	-1,224.01	1,264.43	0.80	-0.65	4.73	146.11
	NORMAL	7,643.0	5.10	268.00	7,526.97	-317.36	-1,232.61	1,272.80	0.36	-0.32	-1.91	207.87
	NORMAL	7,736.0	3.40	268.40	7,619.71	-317.58	-1,239.50	1,279.53	1.83	-1.83	0.43	179.20
	NORMAL	7,829.0	1.90	259.70	7,712.61	-317.93	-1,243.77	1,283.76	1.67	-1.61	-9.35	190.69
	NORMAL	7,923.0	1.20	249.60	7,806.57	-318.55	-1,246.23	1,286.29	0.80	-0.74	-10.74	196.32
	NORMAL	8,016.0	1.10	224.30	7,899.56	-319.53	-1,247.76	1,288.02	0.55	-0.11	-27.20	246.39
	NORMAL	8,109.0	1.00	233.40	7,992.54	-320.65	-1,249.04	1,289.54	0.21	-0.11	9.78	125.45
	NORMAL	8,202.0	1.10	228.00	8,085.53	-321.74	-1,250.35	1,291.08	0.15	0.11	-5.81	312.58
	NORMAL	8,295.0	1.40	232.80	8,178.50	-323.02	-1,251.92	1,292.91	0.34	0.32	5.16	21.65
	NORMAL	8,389.0	1.70	230.90	8,272.47	-324.59	-1,253.92	1,295.24	0.32	0.32	-2.02	349.33
11/4/2010	NORMAL	8,483.0	0.70	257.90	8,366.45	-325.59	-1,255.56	1,297.08	1.19	-1.06	28.72	163.55
	NORMAL	8,577.0	1.00	237.20	8,460.44	-326.16	-1,256.81	1,298.43	0.45	0.32	-22.02	303.67
	NORMAL	8,670.0	1.10	249.30	8,553.42	-326.91	-1,258.33	1,300.09	0.26	0.11	13.01	71.85
	NORMAL	8,763.0	0.60	232.70	8,646.41	-327.52	-1,259.55	1,301.42	0.59	-0.54	-17.85	198.08
	NORMAL	8,856.0	0.30	262.60	8,739.41	-327.85	-1,260.18	1,302.11	0.40	-0.32	32.15	156.25
11/5/2010	NORMAL	8,950.0	0.30	266.20	8,833.41	-327.90	-1,260.67	1,302.60	0.02	0.00	3.83	91.80
	NORMAL	9,043.0	0.00	187.80	8,926.41	-327.91	-1,260.91	1,302.84	0.32	-0.32	0.00	180.00
	NORMAL	9,137.0	0.30	241.30	9,020.41	-328.03	-1,261.13	1,303.07	0.32	0.32	0.00	241.30
	NORMAL	9,230.0	0.40	209.40	9,113.40	-328.43	-1,261.50	1,303.53	0.23	0.11	-34.30	280.61
	NORMAL	9,324.0	0.10	280.70	9,207.40	-328.70	-1,261.74	1,303.84	0.40	-0.32	75.85	165.56
	NORMAL	9,417.0	0.40	303.60	9,300.40	-328.51	-1,262.09	1,304.13	0.33	0.32	24.62	30.10
	NORMAL	9,510.0	0.30	228.10	9,393.40	-328.49	-1,262.54	1,304.56	0.47	-0.11	-81.18	221.80
	NORMAL	9,604.0	0.10	124.40	9,487.40	-328.70	-1,262.66	1,304.72	0.36	-0.21	-110.32	196.71
	NORMAL	9,698.0	0.30	204.40	9,581.40	-328.97	-1,262.69	1,304.82	0.32	0.21	85.11	99.21
	NORMAL	9,791.0	0.50	183.50	9,674.40	-329.60	-1,262.82	1,305.10	0.26	0.22	-22.47	313.13
11/6/2010	NORMAL	9,885.0	0.10	100.70	9,768.40	-330.02	-1,262.76	1,305.15	0.53	-0.43	-88.09	191.50
	NORMAL	9,979.0	0.60	22.30	9,862.40	-329.58	-1,262.50	1,304.78	0.63	0.53	-83.40	272.01
	NORMAL	10,073.0	1.10	45.10	9,956.38	-328.49	-1,261.67	1,303.71	0.63	0.53	24.26	45.83
	NORMAL	10,167.0	0.70	38.20	10,050.37	-327.40	-1,260.68	1,302.48	0.44	-0.43	-7.34	191.73
	NORMAL	10,261.0	0.20	85.80	10,144.37	-326.94	-1,260.16	1,301.86	0.62	-0.53	50.64	165.35
	NORMAL	10,356.0	0.40	207.70	10,239.37	-327.22	-1,260.15	1,301.92	0.56	0.21	128.32	140.46
	NORMAL	10,450.0	0.50	219.30	10,333.37	-327.83	-1,260.56	1,302.47	0.14	0.11	12.34	48.23
	NORMAL	10,543.0	0.30	280.60	10,426.36	-328.10	-1,261.06	1,303.02	0.48	-0.22	65.91	143.52
	NORMAL	10,637.0	0.70	287.60	10,520.36	-327.88	-1,261.84	1,303.73	0.43	0.43	7.45	12.19
	NORMAL	10,731.0	0.70	75.40	10,614.36	-327.56	-1,261.84	1,303.64	1.43	0.00	157.23	163.90
	NORMAL	10,824.0	1.10	65.80	10,707.35	-327.05	-1,260.47	1,302.20	0.46	0.43	-10.32	334.50
	NORMAL	10,918.0	0.90	82.00	10,801.33	-326.58	-1,258.92	1,300.57	0.37	-0.21	17.23	133.19
11/7/2010	NORMAL	11,012.0	0.70	83.50	10,895.32	-326.41	-1,257.62	1,299.27	0.21	-0.21	1.60	174.77
	NORMAL	11,105.0	0.40	81.10	10,988.32	-326.30	-1,256.73	1,298.39	0.32	-0.32	-2.58	183.19
	NORMAL	11,199.0	0.30	155.40	11,082.32	-326.47	-1,256.30	1,298.01	0.46	-0.11	79.04	137.83
	NORMAL	11,293.0	0.70	195.00	11,176.31	-327.25	-1,256.35	1,298.25	0.54	0.43	42.13	61.79
11/11/2010	NORMAL	11,480.0	1.00	230.80	11,363.29	-329.38	-1,257.91	1,300.29	0.32	0.16	19.14	79.25
	NORMAL	11,762.0	2.00	242.60	11,645.19	-333.20	-1,264.19	1,307.31	0.37	0.35	4.18	23.12
	NORMAL	11,857.0	2.30	246.80	11,740.13	-334.72	-1,267.41	1,310.81	0.36	0.32	4.42	29.82
	NORMAL	11,951.0	2.40	257.50	11,834.05	-335.89	-1,271.07	1,314.64	0.48	0.11	11.38	82.54
	NORMAL	12,045.0	2.40	272.00	11,927.97	-336.24	-1,274.95	1,318.50	0.64	0.00	15.43	97.24
	NORMAL	12,139.0	0.50	255.70	12,021.93	-336.28	-1,277.32	1,320.80	2.05	-2.02	-17.34	184.18
11/12/2010	NORMAL	12,233.0	0.60	162.30	12,115.93	-336.85	-1,277.57	1,321.18	0.85	0.11	-99.36	228.20
	NORMAL	12,327.0	1.20	104.90	12,209.92	-337.57	-1,276.47	1,320.29	1.08	0.64	-61.06	272.64
	NORMAL	12,422.0	1.50	109.50	12,304.89	-338.24	-1,274.33	1,318.39	0.34	0.32	4.84	22.17
	NORMAL	12,610.0	1.00	126.50	12,492.85	-340.04	-1,270.69	1,315.31	0.33	-0.27	9.04	151.73
	NORMAL	12,704.0	0.70	178.30	12,586.84	-341.10	-1,270.02	1,314.91	0.84	-0.32	55.11	135.87
	NORMAL	12,795.0	0.70	196.00	12,677.83	-342.19	-1,270.15	1,315.31	0.24	0.00	19.45	98.85
11/13/2010	NORMAL	12,853.0	0.80	194.50	12,735.83	-342.92	-1,270.35	1,315.69	0.18	0.17	-2.59	348.14

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
11/13/2010	NORMAL	12,903.0	0.80	194.50	12,785.82	-343.60	-1,270.53	1,316.02	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

