

## 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 541-25-198	Wellbore No.	OH
Well Name	FEDERAL RGU 541-25-198	Common Name	RGU 541-25-198
Project	RG 25-01S-098W	Site	RGU 31-25-198 Pad
Vertical Section Azimuth	123.59 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	5/13/2011	UWI	RGU 541-25-198
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	
Date Started	5/13/2011	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 (°)
5/13/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/13/2011	NORMAL	84.0	0.50	115.00	84.00	-0.15	0.33	0.36	0.60	0.60	0.00	115.00
	NORMAL	176.0	2.50	150.00	175.96	-2.06	1.70	2.56	2.29	2.17	38.04	42.81
	NORMAL	268.0	3.00	130.00	267.86	-5.35	4.55	6.75	1.17	0.54	-21.74	287.29
	NORMAL	402.0	4.40	124.80	401.58	-10.54	11.45	15.37	1.07	1.04	-3.88	343.92
	NORMAL	493.0	5.70	122.40	492.22	-14.95	18.14	23.38	1.45	1.43	-2.64	349.57
	NORMAL	585.0	7.20	128.50	583.64	-20.99	26.51	33.69	1.79	1.63	6.63	27.60
	NORMAL	677.0	8.80	125.10	674.74	-28.62	36.78	46.47	1.81	1.74	-3.70	341.84
	NORMAL	769.0	10.40	122.90	765.45	-37.18	49.51	61.81	1.78	1.74	-2.39	346.00
	NORMAL	862.0	12.00	122.90	856.68	-46.99	64.67	79.87	1.72	1.72	0.00	0.00
	NORMAL	956.0	12.90	123.40	948.46	-58.08	81.64	100.14	0.96	0.96	0.53	7.07
	NORMAL	1,051.0	12.90	121.90	1,041.07	-69.52	99.49	121.34	0.35	0.00	-1.58	269.27
	NORMAL	1,145.0	13.50	120.40	1,132.58	-80.61	117.87	142.78	0.73	0.64	-1.60	329.55
	NORMAL	1,240.0	13.90	121.90	1,224.88	-92.26	137.12	165.26	0.56	0.42	1.58	42.34
5/14/2011	NORMAL	1,334.0	14.50	121.80	1,316.01	-104.42	156.71	188.31	0.64	0.64	-0.11	357.61
	NORMAL	1,428.0	14.10	121.40	1,407.10	-116.59	176.48	211.51	0.44	-0.43	-0.43	193.68
	NORMAL	1,523.0	13.20	122.00	1,499.41	-128.37	195.56	233.92	0.96	-0.95	0.63	171.35
	NORMAL	1,617.0	12.70	122.70	1,591.02	-139.64	213.35	254.98	0.56	-0.53	0.74	162.92
	NORMAL	1,712.0	12.80	126.20	1,683.68	-151.49	230.63	275.93	0.82	0.11	3.68	84.33
	NORMAL	1,803.0	12.40	126.90	1,772.49	-163.31	246.58	295.76	0.47	-0.44	0.77	159.45

## 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 (°)
5/14/2011	NORMAL	1,897.0	12.20	127.20	1,864.33	-175.38	262.56	315.75	0.22	-0.21	0.32	162.43
	NORMAL	1,991.0	12.00	127.60	1,956.24	-187.35	278.22	335.41	0.23	-0.21	0.43	157.45
	NORMAL	2,085.0	13.10	125.20	2,047.99	-199.45	294.66	355.80	1.29	1.17	-2.55	333.46
	NORMAL	2,554.0	15.20	129.40	2,502.75	-269.12	385.62	470.12	0.50	0.45	0.90	28.10
	NORMAL	2,649.0	14.90	129.40	2,594.49	-284.78	404.68	494.66	0.32	-0.32	0.00	180.00
	NORMAL	2,743.0	15.30	130.40	2,685.25	-300.49	423.46	519.00	0.51	0.43	1.06	33.56
	NORMAL	2,838.0	15.00	126.50	2,776.95	-315.92	442.89	543.72	1.12	-0.32	-4.11	251.72
	NORMAL	2,934.0	15.40	127.10	2,869.59	-331.00	463.04	568.85	0.45	0.42	0.63	21.76
	NORMAL	3,026.0	15.00	122.40	2,958.37	-344.75	482.84	592.95	1.41	-0.43	-5.11	249.76
	NORMAL	3,120.0	15.50	121.70	3,049.06	-357.87	503.80	617.66	0.57	0.53	-0.74	339.45
	NORMAL	3,215.0	13.70	120.80	3,140.99	-370.30	524.26	641.59	1.91	-1.89	-0.95	186.75
	NORMAL	3,309.0	12.70	119.70	3,232.51	-381.12	542.80	663.02	1.10	-1.06	-1.17	193.57
	NORMAL	3,405.0	12.30	119.40	3,326.23	-391.37	560.87	683.74	0.42	-0.42	-0.31	189.07
	NORMAL	3,498.0	12.50	120.20	3,417.06	-401.29	578.20	703.67	0.28	0.22	0.86	41.05
	NORMAL	3,593.0	13.00	119.40	3,509.72	-411.71	596.40	724.59	0.56	0.53	-0.84	340.16
	NORMAL	3,686.0	13.50	119.70	3,600.24	-422.22	614.94	745.85	0.54	0.54	0.32	7.98
5/15/2011	NORMAL	3,780.0	14.20	120.30	3,691.51	-433.48	634.43	768.31	0.76	0.74	0.64	11.89
	NORMAL	3,874.0	14.70	120.70	3,782.54	-445.38	654.64	791.73	0.54	0.53	0.43	11.48
	NORMAL	3,968.0	15.20	120.50	3,873.35	-457.73	675.51	815.95	0.53	0.53	-0.21	354.01
	NORMAL	4,062.0	15.40	120.90	3,964.02	-470.39	696.84	840.72	0.24	0.21	0.43	28.02
	NORMAL	4,151.0	16.00	120.00	4,049.70	-482.59	717.60	864.77	0.73	0.67	-1.01	337.47
5/17/2011	NORMAL	4,258.0	14.50	118.50	4,152.93	-496.36	742.14	892.83	1.45	-1.40	-1.40	194.01
	NORMAL	4,354.0	12.30	118.90	4,246.31	-507.04	761.66	914.99	2.29	-2.29	0.42	177.78
	NORMAL	4,447.0	11.00	119.40	4,337.39	-516.18	778.06	933.71	1.40	-1.40	0.54	175.80
	NORMAL	4,542.0	11.70	122.50	4,430.54	-525.80	794.08	952.38	0.98	0.74	3.26	42.60
	NORMAL	4,636.0	11.60	126.20	4,522.60	-536.51	809.75	971.35	0.80	-0.11	3.94	99.43
	NORMAL	4,731.0	11.80	125.10	4,615.63	-547.73	825.40	990.61	0.32	0.21	-1.16	311.34
	NORMAL	4,825.0	13.00	124.00	4,707.43	-559.17	842.03	1,010.79	1.30	1.28	-1.17	348.33
	NORMAL	4,920.0	13.50	124.90	4,799.90	-571.49	859.98	1,032.56	0.57	0.53	0.95	22.86
	NORMAL	5,014.0	13.00	125.00	4,891.40	-583.83	877.64	1,054.10	0.53	-0.53	0.11	177.42
	NORMAL	5,108.0	13.10	123.60	4,982.97	-595.79	895.18	1,075.32	0.35	0.11	-1.49	286.87
	NORMAL	5,202.0	12.70	125.10	5,074.60	-607.63	912.50	1,096.30	0.55	-0.43	1.60	140.79
	NORMAL	5,297.0	12.20	123.00	5,167.37	-619.10	929.47	1,116.78	0.71	-0.53	-2.21	221.14
	NORMAL	5,391.0	12.70	127.00	5,259.16	-630.73	946.05	1,137.02	1.06	0.53	4.26	61.86
	NORMAL	5,486.0	13.10	127.20	5,351.76	-643.52	962.96	1,158.19	0.42	0.42	0.21	6.47
	NORMAL	5,581.0	13.30	126.40	5,444.25	-656.52	980.33	1,179.85	0.29	0.21	-0.84	317.20
	NORMAL	5,677.0	12.90	123.60	5,537.75	-669.00	998.15	1,201.60	0.78	-0.42	-2.92	236.42
	NORMAL	5,770.0	12.80	122.00	5,628.42	-680.21	1,015.53	1,222.28	0.40	-0.11	-1.72	253.52
	NORMAL	5,830.0	12.00	119.60	5,687.03	-686.81	1,026.59	1,235.14	1.59	-1.33	-4.00	211.62
	NORMAL	5,960.0	11.90	120.70	5,814.21	-700.33	1,049.87	1,262.01	0.19	-0.08	0.85	114.24
	NORMAL	6,053.0	12.00	122.00	5,905.19	-710.34	1,066.31	1,281.25	0.31	0.11	1.40	70.26
	NORMAL	6,147.0	11.30	122.30	5,997.26	-720.44	1,082.38	1,300.23	0.75	-0.74	0.32	175.20
	NORMAL	6,242.0	9.80	121.30	6,090.65	-729.62	1,097.16	1,317.61	1.59	-1.58	-1.05	186.47
	NORMAL	6,336.0	9.30	121.00	6,183.34	-737.69	1,110.51	1,333.19	0.53	-0.53	-0.32	185.54
	NORMAL	6,432.0	9.30	126.70	6,278.08	-746.32	1,123.37	1,348.69	0.96	0.00	5.94	92.81
	NORMAL	6,527.0	8.60	127.80	6,371.93	-755.26	1,135.14	1,363.44	0.76	-0.74	1.16	166.81
	NORMAL	6,630.0	8.60	121.00	6,473.77	-763.95	1,147.83	1,378.81	0.99	0.00	-6.60	266.64
5/18/2011	NORMAL	6,714.0	8.50	113.80	6,556.84	-769.69	1,158.89	1,391.20	1.28	-0.12	-8.57	261.11
	NORMAL	6,809.0	10.10	111.20	6,650.59	-775.53	1,173.08	1,406.26	1.74	1.68	-2.74	344.00
	NORMAL	6,904.0	8.40	113.60	6,744.35	-781.32	1,187.21	1,421.23	1.83	-1.79	2.53	168.40
	NORMAL	6,998.0	8.10	112.70	6,837.38	-786.63	1,199.61	1,434.49	0.35	-0.32	-0.96	202.85
	NORMAL	7,093.0	7.80	114.60	6,931.47	-791.89	1,211.65	1,447.43	0.42	-0.32	2.00	139.72
	NORMAL	7,187.0	7.40	116.30	7,024.64	-797.23	1,222.87	1,459.74	0.49	-0.43	1.81	151.50
	NORMAL	7,282.0	7.00	119.80	7,118.89	-802.82	1,233.38	1,471.58	0.62	-0.42	3.68	134.09
	NORMAL	7,375.0	7.20	120.20	7,211.18	-808.57	1,243.33	1,483.06	0.22	0.22	0.43	14.08
	NORMAL	7,468.0	6.80	122.80	7,303.48	-814.48	1,253.00	1,494.38	0.55	-0.43	2.80	142.90
	NORMAL	7,561.0	6.50	124.50	7,395.86	-820.44	1,261.97	1,505.15	0.39	-0.32	1.83	147.57

## 2.1.2 Survey Stations (Continued)

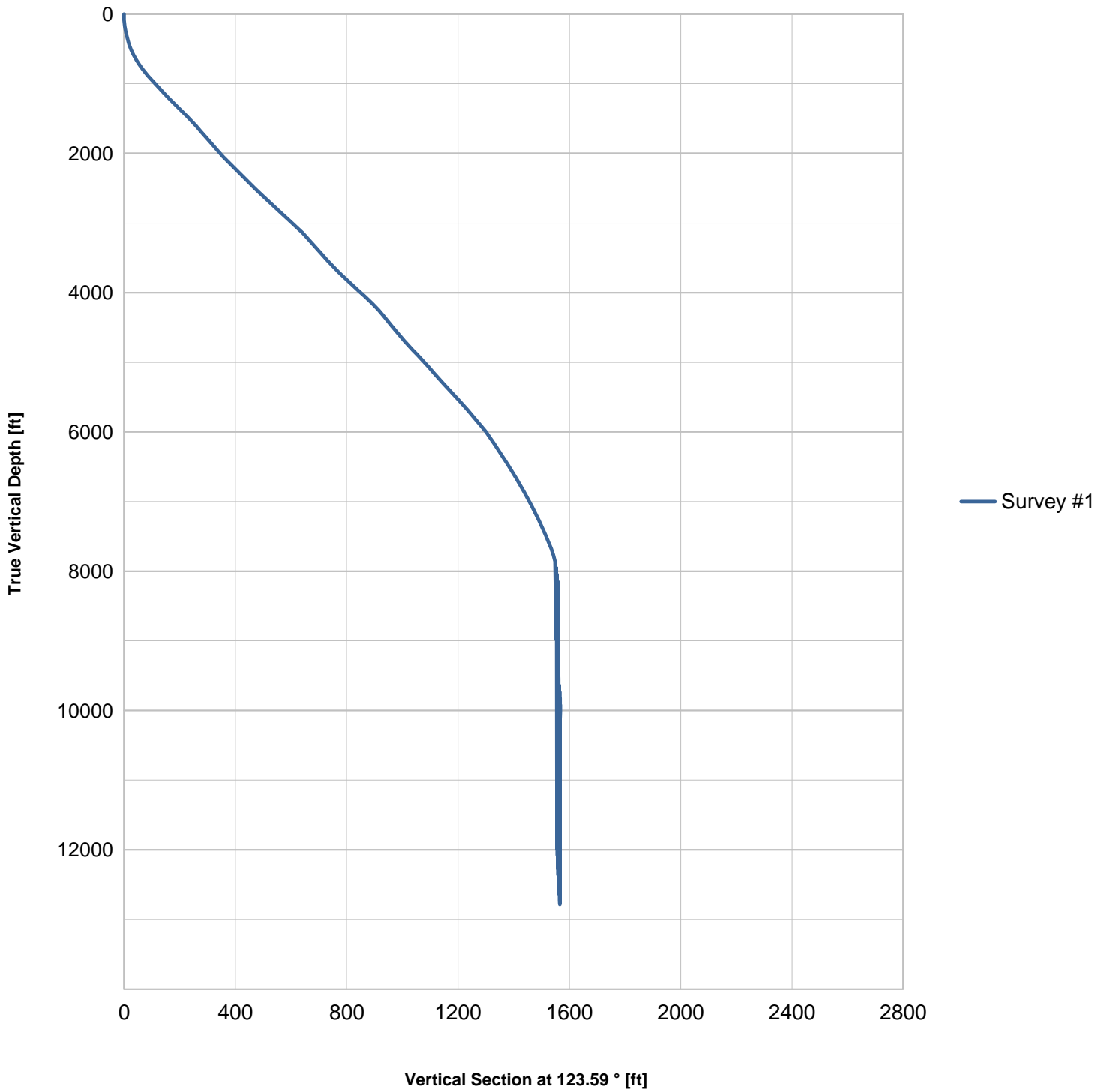
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
5/18/2011	NORMAL	7,656.0	6.20	125.50	7,490.28	-826.47	1,270.57	1,515.65	0.34	-0.32	1.05	160.26
	NORMAL	7,752.0	5.90	126.70	7,585.74	-832.43	1,278.75	1,525.76	0.34	-0.31	1.25	157.74
	NORMAL	7,842.0	5.60	133.20	7,675.29	-838.20	1,285.66	1,534.71	0.80	-0.33	7.22	117.94
	NORMAL	7,935.0	4.40	132.70	7,767.93	-843.72	1,291.59	1,542.70	1.29	-1.29	-0.54	181.83
5/19/2011	NORMAL	8,028.0	3.20	131.30	7,860.73	-847.86	1,296.16	1,548.80	1.29	-1.29	-1.51	183.72
	NORMAL	8,121.0	2.20	135.10	7,953.62	-850.83	1,299.37	1,553.12	1.09	-1.08	4.09	171.75
	NORMAL	8,214.0	1.40	162.30	8,046.58	-853.18	1,300.98	1,555.76	1.24	-0.86	29.25	146.17
	NORMAL	8,308.0	0.40	192.30	8,140.57	-854.60	1,301.26	1,556.77	1.14	-1.06	31.91	169.25
	NORMAL	8,402.0	0.60	94.10	8,234.56	-854.95	1,301.68	1,557.32	0.82	0.21	-104.47	230.73
	NORMAL	8,496.0	0.90	339.10	8,328.56	-854.30	1,301.90	1,557.15	1.36	0.32	-122.34	219.76
	NORMAL	8,589.0	1.00	307.50	8,421.55	-853.12	1,301.00	1,555.74	0.57	0.11	-33.98	264.74
	NORMAL	8,682.0	0.70	333.60	8,514.54	-852.12	1,300.10	1,554.44	0.52	-0.32	28.06	140.33
	NORMAL	8,775.0	0.30	17.70	8,607.53	-851.38	1,299.93	1,553.88	0.57	-0.43	47.42	156.69
	NORMAL	8,869.0	0.40	348.80	8,701.53	-850.82	1,299.94	1,553.58	0.21	0.11	-30.74	284.55
	NORMAL	8,962.0	0.40	299.20	8,794.53	-850.34	1,299.59	1,553.03	0.36	0.00	-53.33	245.20
	NORMAL	9,056.0	0.60	26.80	8,888.53	-849.74	1,299.53	1,552.65	0.75	0.21	93.19	122.02
	NORMAL	9,151.0	1.00	74.50	8,983.52	-849.08	1,300.55	1,553.13	0.78	0.42	50.21	84.36
	NORMAL	9,243.0	1.30	82.50	9,075.50	-848.73	1,302.36	1,554.44	0.37	0.33	8.70	32.19
5/20/2011	NORMAL	9,337.0	1.20	106.60	9,169.48	-848.87	1,304.36	1,556.19	0.56	-0.11	25.64	112.66
	NORMAL	9,429.0	1.00	123.20	9,261.46	-849.59	1,305.95	1,557.91	0.41	-0.22	18.04	130.23
	NORMAL	9,523.0	1.40	171.20	9,355.44	-851.17	1,306.81	1,559.51	1.11	0.43	51.06	93.47
	NORMAL	9,617.0	1.30	192.30	9,449.42	-853.35	1,306.76	1,560.67	0.54	-0.11	22.45	111.80
	NORMAL	9,711.0	1.30	194.80	9,543.39	-855.42	1,306.26	1,561.40	0.06	0.00	2.66	91.25
	NORMAL	9,805.0	1.40	151.40	9,637.37	-857.46	1,306.54	1,562.76	1.07	0.11	-46.17	253.62
	NORMAL	9,898.0	1.40	111.90	9,730.34	-858.88	1,308.14	1,564.87	1.02	0.00	-42.47	250.26
5/21/2011	NORMAL	9,993.0	0.70	121.50	9,825.33	-859.61	1,309.71	1,566.59	0.76	-0.74	10.11	170.66
	NORMAL	10,087.0	0.50	100.60	9,919.32	-859.99	1,310.60	1,567.54	0.31	-0.21	-22.23	217.45
	NORMAL	10,181.0	1.00	250.80	10,013.32	-860.34	1,310.23	1,567.42	1.55	0.53	159.79	160.03
	NORMAL	10,275.0	0.90	239.50	10,107.31	-860.98	1,308.82	1,566.60	0.23	-0.11	-12.02	236.34
	NORMAL	10,369.0	1.80	283.10	10,201.28	-861.02	1,306.75	1,564.90	1.39	0.96	46.38	71.99
	NORMAL	10,463.0	1.30	279.20	10,295.25	-860.52	1,304.26	1,562.55	0.54	-0.53	-4.15	189.97
	NORMAL	10,557.0	1.20	299.70	10,389.22	-859.86	1,302.35	1,560.59	0.48	-0.11	21.81	112.72
	NORMAL	10,650.0	1.00	298.80	10,482.21	-858.98	1,300.79	1,558.81	0.22	-0.22	-0.97	184.49
	NORMAL	10,744.0	0.40	294.60	10,576.20	-858.45	1,299.77	1,557.67	0.64	-0.64	-4.47	182.79
	NORMAL	10,837.0	0.20	307.70	10,669.20	-858.22	1,299.35	1,557.19	0.23	-0.22	14.09	167.54
	NORMAL	10,933.0	0.40	52.00	10,765.20	-857.91	1,299.48	1,557.13	0.51	0.21	108.65	127.63
	NORMAL	11,028.0	0.50	76.40	10,860.19	-857.61	1,300.15	1,557.51	0.23	0.11	25.68	75.00
	NORMAL	11,118.0	0.60	114.40	10,950.19	-857.71	1,300.96	1,558.24	0.41	0.11	42.22	94.21
5/22/2011	NORMAL	11,212.0	1.30	143.30	11,044.18	-858.77	1,302.04	1,559.73	0.88	0.74	30.74	49.42
	NORMAL	11,306.0	1.60	236.70	11,138.16	-860.34	1,301.58	1,560.22	2.26	0.32	99.36	131.12
	NORMAL	11,400.0	1.10	246.30	11,232.13	-861.43	1,299.66	1,559.22	0.58	-0.53	10.21	160.41
	NORMAL	11,494.0	0.90	276.50	11,326.12	-861.71	1,298.10	1,558.08	0.59	-0.21	32.13	125.43
	NORMAL	11,588.0	0.70	286.90	11,420.11	-861.45	1,296.82	1,556.87	0.26	-0.21	11.06	149.14
	NORMAL	11,682.0	0.40	258.80	11,514.10	-861.35	1,295.95	1,556.09	0.42	-0.32	-29.89	208.49
	NORMAL	11,776.0	0.30	266.60	11,608.10	-861.43	1,295.38	1,555.66	0.12	-0.11	8.30	158.39
	NORMAL	11,871.0	0.20	265.90	11,703.10	-861.46	1,294.96	1,555.33	0.11	-0.11	-0.74	181.40
	NORMAL	11,964.0	0.10	236.50	11,796.10	-861.51	1,294.74	1,555.17	0.13	-0.11	-31.61	203.50
	NORMAL	12,059.0	0.40	153.50	11,891.10	-861.86	1,294.81	1,555.42	0.42	0.32	-87.37	262.64
	NORMAL	12,153.0	0.60	160.80	11,985.10	-862.61	1,295.12	1,556.10	0.22	0.21	7.77	21.34
5/23/2011	NORMAL	12,247.0	0.60	156.20	12,079.09	-863.53	1,295.48	1,556.90	0.05	0.00	-4.89	267.70
	NORMAL	12,342.0	0.50	130.00	12,174.09	-864.25	1,296.00	1,557.74	0.28	-0.11	-27.58	235.56
	NORMAL	12,436.0	0.60	125.80	12,268.08	-864.80	1,296.71	1,558.63	0.11	0.11	-4.47	335.93
	NORMAL	12,530.0	0.70	123.10	12,362.08	-865.40	1,297.59	1,559.70	0.11	0.11	-2.87	341.62
	NORMAL	12,625.0	0.40	133.70	12,457.07	-865.95	1,298.32	1,560.61	0.33	-0.32	11.16	166.51
	NORMAL	12,718.0	0.90	123.80	12,550.07	-866.58	1,299.16	1,561.66	0.55	0.54	-10.65	342.36
	NORMAL	12,812.0	1.20	120.90	12,644.05	-867.50	1,300.62	1,563.38	0.32	0.32	-3.09	348.50
	NORMAL	12,893.0	1.10	111.00	12,725.03	-868.21	1,302.07	1,564.99	0.27	-0.12	-12.22	238.39

**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 (°)
5/23/2011	NORMAL	12,953.0	1.00	103.70	12,785.02	-868.54	1,303.12	1,566.04	0.28	-0.17	-12.17	229.61

3 Charts

3.1 Vertical Section View



3.2 Plan View

