

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 424-25-198	Wellbore No.	OH
Well Name	FEDERAL RGU 424-25-198	Common Name	RGU 424-25-198
Project	RG 25-01S-098W	Site	RGU 24-25-198 Pad
Vertical Section Azimuth	63.00 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	11/17/2011	UWI	RGU 424-25-198
Active Datum	KB @6,707.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	11/17/2011	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 (°)
11/17/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/2011	NORMAL	243.0	2.20	74.10	242.94	1.28	4.49	4.58	0.91	0.91	0.00	74.10
	NORMAL	335.0	3.60	74.00	334.82	2.56	8.96	9.15	1.52	1.52	-0.11	359.74
	NORMAL	426.0	4.70	79.20	425.58	4.04	15.37	15.53	1.28	1.21	5.71	21.49
	NORMAL	518.0	5.50	77.10	517.22	5.73	23.37	23.43	0.89	0.87	-2.28	345.82
	NORMAL	610.0	4.70	66.40	608.85	8.23	31.12	31.47	1.35	-0.87	-11.63	224.69
	NORMAL	701.0	5.10	65.50	699.52	11.40	38.22	39.23	0.45	0.44	-0.99	348.67
	NORMAL	793.0	5.20	65.40	791.15	14.83	45.73	47.48	0.11	0.11	-0.11	354.82
	NORMAL	888.0	5.10	63.20	885.77	18.53	53.41	56.00	0.23	-0.11	-2.32	242.05
	NORMAL	983.0	5.30	62.10	980.37	22.48	61.06	64.61	0.24	0.21	-1.16	332.96
	NORMAL	1,078.0	5.70	61.00	1,074.94	26.82	69.06	73.71	0.44	0.42	-1.16	344.69
	NORMAL	1,174.0	6.10	59.40	1,170.43	31.73	77.62	83.57	0.45	0.42	-1.67	336.85
	NORMAL	1,268.0	6.40	58.40	1,263.87	37.02	86.39	93.78	0.34	0.32	-1.06	339.56
	NORMAL	1,363.0	3.80	67.10	1,358.49	41.02	93.80	102.19	2.85	-2.74	9.16	167.74
	NORMAL	1,457.0	3.20	71.50	1,452.31	43.06	99.15	107.90	0.70	-0.64	4.68	158.07
	NORMAL	1,553.0	2.60	80.60	1,548.19	44.27	103.84	112.62	0.79	-0.63	9.48	146.99
	NORMAL	1,647.0	3.40	78.90	1,642.06	45.15	108.68	117.34	0.86	0.85	-1.81	352.80
11/18/2011	NORMAL	1,713.0	3.20	78.40	1,707.95	45.90	112.41	120.99	0.31	-0.30	-0.76	187.94
	NORMAL	1,741.0	3.30	79.60	1,735.90	46.20	113.96	122.52	0.43	0.36	4.29	34.83
	NORMAL	1,837.0	3.60	60.20	1,831.73	48.20	119.30	128.18	1.25	0.31	-20.21	274.60

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 (°)
11/18/2011	NORMAL	1,933.0	4.40	64.30	1,927.50	51.29	125.23	134.87	0.88	0.83	4.27	21.73
	NORMAL	2,027.0	4.80	55.20	2,021.20	55.10	131.71	142.37	0.88	0.43	-9.68	294.14
	NORMAL	2,120.0	5.10	56.20	2,113.85	59.62	138.34	150.33	0.34	0.32	1.08	16.54
	NORMAL	2,215.0	4.70	59.80	2,208.50	63.93	145.21	158.41	0.53	-0.42	3.79	144.23
	NORMAL	2,310.0	4.90	67.60	2,303.17	67.43	152.33	166.34	0.72	0.21	8.21	76.87
	NORMAL	2,405.0	5.00	62.90	2,397.82	70.87	159.77	174.52	0.44	0.11	-4.95	281.50
	NORMAL	2,499.0	4.70	55.50	2,491.48	74.91	166.59	182.44	0.74	-0.32	-7.87	240.73
	NORMAL	2,593.0	4.90	57.70	2,585.15	79.24	173.15	190.25	0.29	0.21	2.34	43.73
	NORMAL	2,689.0	5.00	61.00	2,680.79	83.46	180.28	198.52	0.31	0.10	3.44	72.30
	NORMAL	2,783.0	4.90	64.70	2,774.44	87.16	187.49	206.62	0.36	-0.11	3.94	109.23
11/19/2011	NORMAL	2,878.0	5.10	59.30	2,869.08	91.05	194.79	214.89	0.54	0.21	-5.68	290.32
	NORMAL	2,974.0	5.20	62.70	2,964.69	95.22	202.32	223.50	0.33	0.10	3.54	73.56
	NORMAL	3,068.0	4.40	49.70	3,058.37	99.51	208.86	231.27	1.43	-0.85	-13.83	227.31
	NORMAL	3,163.0	4.40	56.10	3,153.09	103.90	214.66	238.44	0.52	0.00	6.74	93.19
	NORMAL	3,257.0	4.00	55.50	3,246.84	107.77	220.36	245.27	0.43	-0.43	-0.64	185.97
	NORMAL	3,353.0	4.00	65.70	3,342.60	111.04	226.17	251.93	0.74	0.00	10.63	95.09
	NORMAL	3,448.0	4.80	57.20	3,437.32	114.56	232.53	259.19	1.08	0.84	-8.95	316.53
	NORMAL	3,542.0	5.40	56.50	3,530.95	119.13	239.52	267.50	0.64	0.64	-0.74	353.73
	NORMAL	3,556.0	5.40	57.20	3,544.89	119.85	240.63	268.81	0.47	0.00	5.00	90.35
	NORMAL	3,638.0	5.10	57.10	3,626.54	123.92	246.93	276.28	0.37	-0.37	-0.12	181.70
	NORMAL	3,733.0	5.10	56.80	3,721.17	128.53	254.01	284.67	0.03	0.00	-0.32	269.85
	NORMAL	3,828.0	4.90	58.10	3,815.81	132.98	260.99	292.91	0.24	-0.21	1.37	151.11
	NORMAL	3,865.0	4.40	58.10	3,852.68	134.57	263.53	295.90	1.35	-1.35	0.00	180.00
	NORMAL	3,936.0	4.10	59.90	3,923.49	137.28	268.04	301.15	0.46	-0.42	2.54	156.92
11/22/2011	NORMAL	4,016.0	3.10	54.70	4,003.33	139.96	272.28	306.15	1.31	-1.25	-6.50	195.50
	NORMAL	4,111.0	3.40	60.50	4,098.18	142.84	276.83	311.50	0.47	0.32	6.11	50.54
	NORMAL	4,206.0	3.70	69.80	4,193.00	145.28	282.16	317.36	0.68	0.32	9.79	67.17
	NORMAL	4,302.0	2.90	71.00	4,288.84	147.14	287.36	322.84	0.84	-0.83	1.25	175.66
	NORMAL	4,398.0	4.00	57.10	4,384.66	149.75	292.47	328.58	1.43	1.15	-14.48	315.68
	NORMAL	4,493.0	4.20	66.10	4,479.42	152.96	298.43	335.35	0.71	0.21	9.47	77.26
	NORMAL	4,588.0	3.80	64.90	4,574.19	155.70	304.46	341.97	0.43	-0.42	-1.26	191.22
	NORMAL	4,683.0	4.20	66.90	4,668.96	158.41	310.51	348.58	0.45	0.42	2.11	20.23
	NORMAL	4,776.0	3.30	66.60	4,761.76	160.80	316.10	354.65	0.97	-0.97	-0.32	181.10
	NORMAL	4,872.0	3.70	64.40	4,857.58	163.24	321.43	360.51	0.44	0.42	-2.29	340.34
	NORMAL	4,966.0	4.60	61.80	4,951.33	166.33	327.49	367.31	0.98	0.96	-2.77	346.89
	NORMAL	5,060.0	3.60	63.70	5,045.09	169.42	333.46	374.03	1.07	-1.06	2.02	173.21
	NORMAL	5,155.0	3.60	63.80	5,139.90	172.06	338.81	379.99	0.01	0.00	0.11	90.05
	NORMAL	5,249.0	3.90	54.60	5,233.70	175.21	344.06	386.11	0.71	0.32	-9.79	291.86
	NORMAL	5,344.0	4.10	65.20	5,328.47	178.51	349.78	392.70	0.81	0.21	11.16	80.19
	NORMAL	5,438.0	3.80	62.10	5,422.25	181.38	355.58	399.17	0.39	-0.32	-3.30	213.90
	NORMAL	5,533.0	5.10	62.90	5,516.96	184.77	362.12	406.54	1.37	1.37	0.84	3.13
	NORMAL	5,628.0	4.60	67.60	5,611.62	188.15	369.40	414.56	0.67	-0.53	4.95	143.85
	NORMAL	5,722.0	3.80	66.80	5,705.37	190.81	375.75	421.42	0.85	-0.85	-0.85	183.79
	NORMAL	5,817.0	4.10	54.10	5,800.14	194.04	381.40	427.92	0.97	0.32	-13.37	282.52
11/23/2011	NORMAL	5,911.0	4.70	64.90	5,893.87	197.65	387.61	435.09	1.09	0.64	11.49	59.56
	NORMAL	6,004.0	3.90	68.30	5,986.60	200.43	393.99	442.05	0.90	-0.86	3.66	164.02
	NORMAL	6,097.0	3.20	72.50	6,079.42	202.38	399.41	447.76	0.80	-0.75	4.52	161.71
	NORMAL	6,190.0	3.60	57.00	6,172.26	204.75	404.33	453.22	1.07	0.43	-16.67	285.65
	NORMAL	6,283.0	2.80	49.70	6,265.12	207.81	408.51	458.33	0.96	-0.86	-7.85	203.38
	NORMAL	6,377.0	2.70	53.40	6,359.01	210.62	412.04	462.75	0.22	-0.11	3.94	121.23
	NORMAL	6,471.0	2.10	64.90	6,452.93	212.67	415.38	466.66	0.82	-0.64	12.23	146.90
	NORMAL	6,566.0	3.80	46.20	6,547.80	215.59	419.23	471.41	2.03	1.79	-19.68	320.93
	NORMAL	6,660.0	2.30	48.80	6,641.66	218.99	422.90	476.22	1.60	-1.60	2.77	176.03
	NORMAL	6,753.0	3.00	53.70	6,734.56	221.66	426.26	480.43	0.79	0.75	5.27	20.39
	NORMAL	6,847.0	3.60	44.80	6,828.41	225.21	430.32	485.66	0.84	0.64	-9.47	315.01
	NORMAL	6,940.0	3.00	52.00	6,921.25	228.78	434.30	490.83	0.78	-0.65	7.74	148.92
	NORMAL	7,033.0	2.50	57.30	7,014.15	231.37	437.92	495.23	0.60	-0.54	5.70	155.67

2.1.2 Survey Stations (Continued)

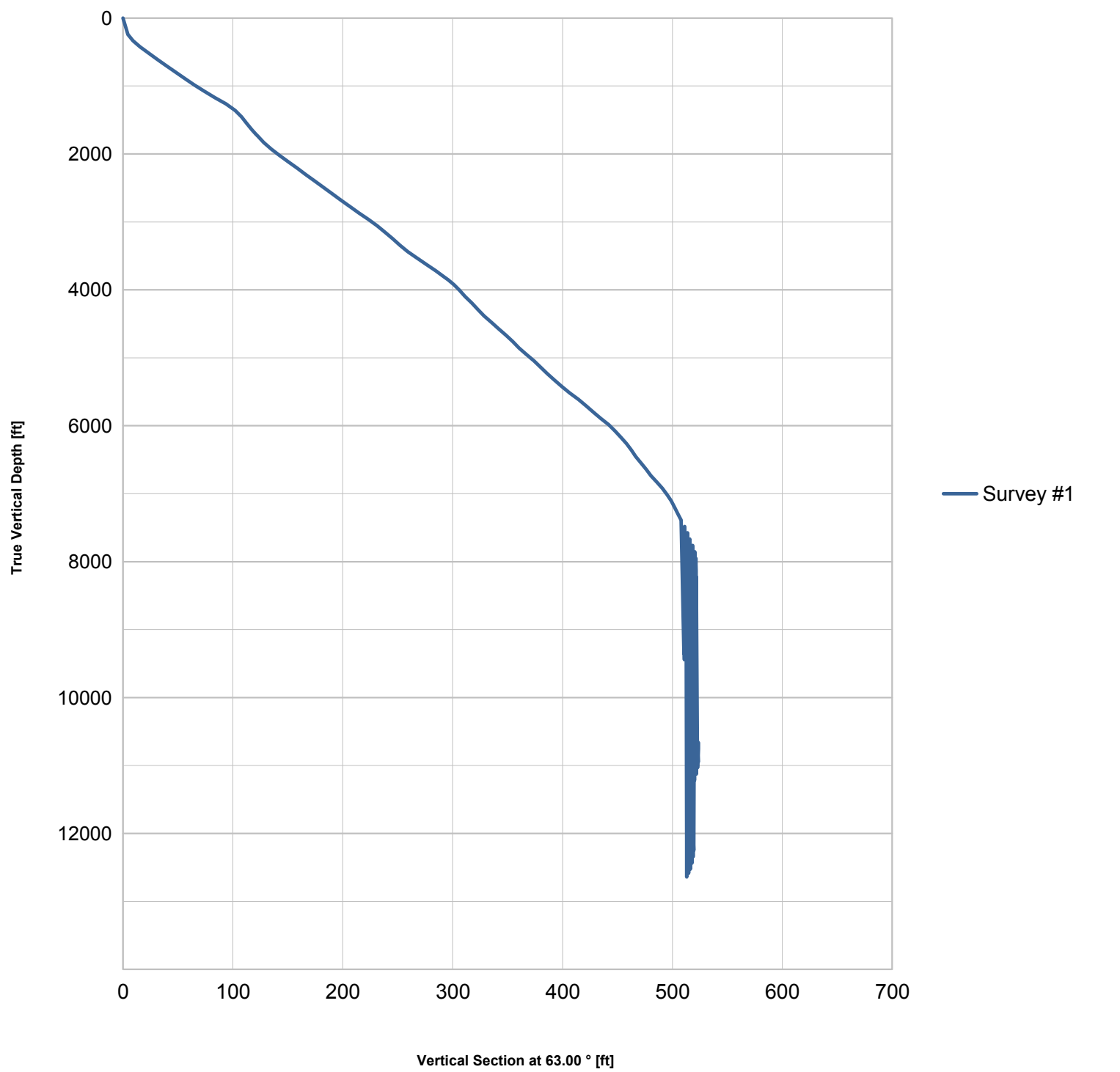
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
11/23/2011	NORMAL	7,126.0	2.20	56.80	7,107.07	233.44	441.12	499.03	0.32	-0.32	-0.54	183.66
11/24/2011	NORMAL	7,220.0	1.50	66.10	7,201.02	234.93	443.76	502.05	0.81	-0.74	9.89	161.39
	NORMAL	7,314.0	2.00	48.10	7,294.98	236.52	446.10	504.86	0.78	0.53	-19.15	303.06
	NORMAL	7,407.0	1.90	62.50	7,387.92	238.32	448.68	507.97	0.54	-0.11	15.48	108.67
	NORMAL	7,501.0	1.90	61.00	7,481.87	239.79	451.42	511.09	0.05	0.00	-1.60	269.25
	NORMAL	7,594.0	1.30	46.80	7,574.83	241.26	453.54	513.64	0.77	-0.65	-15.27	206.50
	NORMAL	7,687.0	1.50	70.20	7,667.81	242.40	455.46	515.86	0.65	0.22	25.16	82.66
	NORMAL	7,781.0	1.80	91.70	7,761.77	242.77	458.09	518.38	0.73	0.32	22.87	75.16
	NORMAL	7,874.0	0.90	82.10	7,854.74	242.83	460.27	520.35	0.99	-0.97	-10.32	189.34
	NORMAL	7,968.0	0.40	115.70	7,948.74	242.79	461.30	521.24	0.65	-0.53	35.74	158.67
	NORMAL	8,062.0	0.30	194.80	8,042.73	242.41	461.53	521.28	0.48	-0.11	84.15	139.36
	NORMAL	8,156.0	0.60	14.80	8,136.73	242.65	461.60	521.44	0.96	0.32	191.49	180.00
	NORMAL	8,249.0	0.50	339.00	8,229.73	243.50	461.57	521.81	0.38	-0.11	-38.49	236.38
11/25/2011	NORMAL	8,343.0	0.70	334.00	8,323.72	244.39	461.18	521.86	0.22	0.21	-5.32	342.82
	NORMAL	8,436.0	0.40	308.50	8,416.72	245.11	460.67	521.74	0.41	-0.32	-27.42	206.93
	NORMAL	8,529.0	0.80	293.30	8,509.71	245.57	459.82	521.19	0.46	0.43	-16.34	330.59
	NORMAL	8,623.0	0.80	266.20	8,603.71	245.78	458.57	520.17	0.40	0.00	-28.83	256.45
	NORMAL	8,714.0	0.80	258.10	8,694.70	245.61	457.31	518.97	0.12	0.00	-8.90	265.95
	NORMAL	8,807.0	1.30	242.70	8,787.68	244.99	455.74	517.29	0.61	0.54	-16.56	322.71
	NORMAL	8,900.0	0.90	254.20	8,880.66	244.31	454.10	515.52	0.49	-0.43	12.37	156.77
	NORMAL	8,994.0	1.00	242.70	8,974.65	243.73	452.66	513.97	0.23	0.11	-12.23	291.85
11/26/2011	NORMAL	9,087.0	0.80	249.10	9,067.64	243.13	451.33	512.52	0.24	-0.22	6.88	156.49
	NORMAL	9,181.0	0.70	259.50	9,161.63	242.79	450.15	511.31	0.18	-0.11	11.06	131.42
	NORMAL	9,275.0	0.10	284.00	9,255.63	242.70	449.51	510.70	0.65	-0.64	26.06	176.10
	NORMAL	9,369.0	0.20	214.00	9,349.63	242.59	449.34	510.49	0.20	0.11	-74.47	260.46
	NORMAL	9,463.0	0.60	65.10	9,443.63	242.66	449.69	510.84	0.83	0.43	-158.40	203.47
	NORMAL	9,556.0	1.70	68.60	9,536.61	243.37	451.42	512.70	1.18	1.18	3.76	5.40
	NORMAL	9,650.0	1.30	53.90	9,630.58	244.50	453.58	515.14	0.59	-0.43	-15.64	216.70
	NORMAL	9,744.0	0.80	31.20	9,724.56	245.69	454.78	516.75	0.68	-0.53	-24.15	208.78
	NORMAL	9,838.0	0.70	321.00	9,818.55	246.70	454.76	517.19	0.92	-0.11	-74.68	229.48
11/27/2011	NORMAL	9,932.0	0.30	1.10	9,912.55	247.39	454.40	517.19	0.54	-0.43	42.66	157.67
	NORMAL	9,973.0	0.40	207.60	9,953.55	247.37	454.34	517.12	1.66	0.24	-374.39	195.18
	NORMAL	10,028.0	1.10	157.40	10,008.54	246.72	454.45	516.93	1.63	1.27	-91.27	289.79
	NORMAL	10,121.0	0.90	123.40	10,101.53	245.49	455.40	517.22	0.66	-0.22	-36.56	234.89
	NORMAL	10,214.0	1.80	121.30	10,194.50	244.33	457.26	518.35	0.97	0.97	-2.26	355.80
	NORMAL	10,308.0	1.50	122.00	10,288.47	242.91	459.57	519.76	0.32	-0.32	0.74	176.51
11/28/2011	NORMAL	10,402.0	1.10	152.00	10,382.44	241.46	461.03	520.40	0.83	-0.43	31.91	134.86
	NORMAL	10,495.0	1.10	100.50	10,475.43	240.51	462.33	521.13	1.03	0.00	-55.38	244.25
	NORMAL	10,588.0	1.20	106.70	10,568.41	240.07	464.14	522.54	0.17	0.11	6.67	54.34
	NORMAL	10,682.0	0.50	112.90	10,662.40	239.63	465.46	523.52	0.75	-0.74	6.60	175.61
	NORMAL	10,775.0	0.90	175.70	10,755.39	238.74	465.89	523.50	0.87	0.43	67.53	96.31
	NORMAL	10,869.0	1.10	357.10	10,849.39	238.90	465.90	523.58	2.13	0.21	-190.00	180.77
	NORMAL	10,962.0	1.20	318.00	10,942.37	240.52	465.20	523.69	0.83	0.11	-42.04	257.43
	NORMAL	11,054.0	1.30	296.00	11,034.35	241.69	463.62	522.81	0.53	0.11	-23.91	270.63
	NORMAL	11,147.0	0.60	261.40	11,127.34	242.08	462.19	521.72	0.94	-0.75	-37.20	202.91
	NORMAL	11,240.0	1.60	267.60	11,220.32	241.96	460.41	520.07	1.08	1.08	6.67	9.89
	NORMAL	11,334.0	1.10	200.00	11,314.30	241.05	458.79	518.22	1.66	-0.53	-71.91	220.74
	NORMAL	11,427.0	1.50	219.10	11,407.27	239.27	457.72	516.46	0.63	0.43	20.54	57.10
11/29/2011	NORMAL	11,521.0	0.70	89.70	11,501.26	238.32	457.52	515.84	2.15	-0.85	-137.66	195.55
	NORMAL	11,614.0	0.40	76.00	11,594.26	238.40	458.40	516.67	0.35	-0.32	-14.73	196.92
	NORMAL	11,708.0	0.90	100.50	11,688.25	238.34	459.44	517.57	0.60	0.53	26.06	41.69
	NORMAL	11,802.0	0.40	228.90	11,782.25	237.99	459.92	517.84	1.27	-0.53	136.60	164.73
	NORMAL	11,896.0	0.60	319.10	11,876.25	238.15	459.35	517.40	0.77	0.21	95.96	123.83
	NORMAL	12,174.0	1.30	13.50	12,154.21	242.32	459.14	519.10	0.38	0.25	19.57	81.56
	NORMAL	12,268.0	0.90	311.10	12,248.20	243.84	458.83	519.52	1.27	-0.43	-66.38	222.09
	NORMAL	12,362.0	0.90	299.80	12,342.18	244.69	457.63	518.84	0.19	0.00	-12.02	264.35
	NORMAL	12,456.0	0.80	252.20	12,436.18	244.86	456.37	517.79	0.74	-0.11	-50.64	238.61

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 (°)
11/30/2011	NORMAL	12,547.0	1.20	245.10	12,527.16	244.26	454.90	516.21	0.46	0.44	-7.80	339.22
	NORMAL	12,605.0	1.70	247.90	12,585.14	243.68	453.55	514.74	0.87	0.86	4.83	9.47
	NORMAL	12,660.0	1.90	247.90	12,640.12	243.03	451.95	513.02	0.36	0.36	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

