

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 442-25-198	Wellbore No.	
Well Name	FEDERAL RGU 442-25-198	Common Name	RGU 442-25-198
Project	RG 25-01S-098W	Site	RGU 32-25-198 Pad
Vertical Section Azimuth	84.04 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	1/27/2012	UWI	RGU 442-25-198
Active Datum	KB @6,691.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Scientific
Date Started	1/27/2012	Ended	
Tool Name	MWD	Engineer	Lou Cadera

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 (°)
1/27/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/27/2012	NORMAL	251.0	2.15	83.18	250.94	0.56	4.68	4.71	0.86	0.86	0.00	83.18
	NORMAL	343.0	4.04	81.84	342.80	1.22	9.60	9.67	2.06	2.05	-1.46	357.14
	NORMAL	435.0	5.90	83.29	434.45	2.24	17.50	17.64	2.03	2.02	1.58	4.59
	NORMAL	527.0	7.19	82.12	525.85	3.58	27.90	28.12	1.41	1.40	-1.27	353.52
	NORMAL	620.0	8.37	82.69	617.99	5.24	40.38	40.71	1.27	1.27	0.61	4.02
	NORMAL	712.0	9.52	84.82	708.87	6.78	54.60	55.01	1.30	1.25	2.32	17.12
	NORMAL	804.0	10.28	83.46	799.50	8.40	70.33	70.82	0.86	0.83	-1.48	342.23
	NORMAL	896.0	9.05	87.64	890.20	9.63	85.72	86.26	1.54	-1.34	4.54	152.34
	NORMAL	991.0	8.35	88.08	984.10	10.17	100.08	100.59	0.74	-0.74	0.46	174.79
	NORMAL	1,085.0	9.00	87.42	1,077.03	10.73	114.24	114.74	0.70	0.69	-0.70	350.97
	NORMAL	1,178.0	8.08	86.66	1,169.00	11.44	128.04	128.53	1.00	-0.99	-0.82	186.62
	NORMAL	1,272.0	8.17	88.19	1,262.05	12.03	141.31	141.79	0.25	0.10	1.63	68.16
	NORMAL	1,366.0	8.33	89.57	1,355.08	12.30	154.79	155.23	0.27	0.17	1.47	51.75
	NORMAL	1,460.0	7.95	87.37	1,448.13	12.65	168.10	168.50	0.52	-0.40	-2.34	218.26
	NORMAL	1,555.0	7.73	86.16	1,542.24	13.37	181.03	181.44	0.29	-0.23	-1.27	216.28
	NORMAL	1,648.0	8.77	86.93	1,634.28	14.17	194.35	194.77	1.12	1.12	0.83	6.45
1/28/2012	NORMAL	1,742.0	8.77	81.66	1,727.18	15.60	208.60	209.09	0.85	0.00	-5.61	267.40
	NORMAL	1,835.0	8.76	81.07	1,819.10	17.72	222.61	223.25	0.10	-0.01	-0.63	263.36
	NORMAL	1,933.0	9.09	83.06	1,915.91	19.82	237.67	238.44	0.46	0.34	2.03	44.08

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 (°)
1/28/2012	NORMAL	2,026.0	9.34	82.64	2,007.71	21.67	252.44	253.33	0.28	0.27	-0.45	344.73
	NORMAL	2,120.0	9.94	84.21	2,100.38	23.47	268.08	269.07	0.70	0.64	1.67	24.44
	NORMAL	2,307.0	10.59	85.19	2,284.39	26.54	301.26	302.39	0.36	0.35	0.52	15.52
	NORMAL	2,401.0	10.55	85.35	2,376.79	27.96	318.45	319.63	0.05	-0.04	0.17	143.81
	NORMAL	2,589.0	11.95	89.27	2,561.18	29.60	355.06	356.22	0.85	0.74	2.09	30.58
	NORMAL	2,682.0	12.40	89.84	2,652.09	29.75	374.68	375.74	0.50	0.48	0.61	15.24
	NORMAL	2,776.0	12.40	91.24	2,743.89	29.56	394.86	395.79	0.32	0.00	1.49	90.68
	NORMAL	2,870.0	13.14	91.17	2,835.57	29.13	415.63	416.41	0.79	0.79	-0.07	358.77
	NORMAL	2,964.0	13.62	91.97	2,927.02	28.53	437.38	437.97	0.55	0.51	0.85	21.48
	NORMAL	3,058.0	12.42	88.97	3,018.60	28.33	458.54	459.01	1.46	-1.28	-3.19	207.93
	NORMAL	3,151.0	10.74	78.54	3,109.71	30.23	477.04	477.60	2.88	-1.81	-11.22	226.22
	NORMAL	3,245.0	10.29	76.09	3,202.14	33.99	493.77	494.63	0.67	-0.48	-2.61	223.62
	NORMAL	3,339.0	9.50	75.33	3,294.74	37.97	509.43	510.62	0.85	-0.84	-0.81	189.01
	NORMAL	3,432.0	9.22	75.54	3,386.50	41.78	524.07	525.57	0.30	-0.30	0.23	173.15
	NORMAL	3,527.0	9.58	73.84	3,480.22	45.88	539.03	540.88	0.48	0.38	-1.79	321.52
	NORMAL	3,621.0	9.68	74.71	3,572.90	50.14	554.16	556.38	0.19	0.11	0.93	55.94
	NORMAL	3,715.0	10.20	76.92	3,665.49	54.11	569.90	572.43	0.69	0.55	2.35	37.36
	NORMAL	3,808.0	10.68	78.42	3,756.95	57.70	586.36	589.18	0.59	0.52	1.61	30.26
	NORMAL	3,899.0	10.73	78.70	3,846.36	61.05	602.93	606.01	0.08	0.05	0.31	46.27
	NORMAL	4,005.0	10.44	79.46	3,950.56	64.74	622.04	625.40	0.30	-0.27	0.72	154.67
3/22/2012	NORMAL	4,099.0	8.95	78.59	4,043.21	67.75	637.59	641.17	1.59	-1.59	-0.93	185.19
	NORMAL	4,193.0	9.94	82.62	4,135.94	70.23	652.80	656.56	1.27	1.05	4.29	35.74
	NORMAL	4,288.0	11.25	90.11	4,229.32	71.27	670.20	673.98	2.00	1.38	7.88	50.15
	NORMAL	4,383.0	10.16	89.63	4,322.67	71.31	687.84	691.53	1.15	-1.15	-0.51	184.44
	NORMAL	4,477.0	9.35	76.14	4,415.32	73.19	703.55	707.35	2.57	-0.86	-14.35	243.92
	NORMAL	4,572.0	9.07	83.11	4,509.10	75.94	718.48	722.48	1.21	-0.29	7.34	107.51
	NORMAL	4,667.0	10.12	86.81	4,602.77	77.30	734.25	738.30	1.28	1.11	3.89	32.26
	NORMAL	4,761.0	9.15	88.22	4,695.44	77.99	749.96	754.01	1.06	-1.03	1.50	167.02
	NORMAL	4,856.0	7.47	85.79	4,789.44	78.68	763.67	767.71	1.81	-1.77	-2.56	190.61
	NORMAL	4,949.0	8.35	81.61	4,881.56	80.11	776.38	780.50	1.13	0.95	-4.49	324.75
	NORMAL	5,043.0	8.32	85.53	4,974.57	81.63	789.91	794.12	0.61	-0.03	4.17	94.96
	NORMAL	5,137.0	8.90	85.83	5,067.51	82.69	803.95	808.19	0.62	0.62	0.32	4.58
	NORMAL	5,232.0	7.89	83.48	5,161.49	83.97	817.75	822.05	1.12	-1.06	-2.47	197.60
	NORMAL	5,326.0	7.75	79.52	5,254.61	85.85	830.40	834.82	0.59	-0.15	-4.21	253.48
	NORMAL	5,421.0	8.94	78.12	5,348.61	88.54	843.92	848.55	1.27	1.25	-1.47	349.62
	NORMAL	5,515.0	8.72	78.84	5,441.49	91.42	858.06	862.91	0.26	-0.23	0.77	153.68
	NORMAL	5,609.0	8.51	85.31	5,534.43	93.37	871.98	876.96	1.05	-0.22	6.88	105.41
	NORMAL	5,704.0	9.57	80.29	5,628.25	95.28	886.77	891.87	1.39	1.12	-5.28	320.85
	NORMAL	5,798.0	8.74	80.49	5,721.05	97.77	901.52	906.80	0.88	-0.88	0.21	177.90
	NORMAL	5,893.0	8.46	80.31	5,814.99	100.14	915.52	920.97	0.30	-0.29	-0.19	185.40
3/23/2012	NORMAL	5,987.0	8.93	78.99	5,907.91	102.70	929.50	935.14	0.54	0.50	-1.40	336.34
	NORMAL	6,082.0	10.30	86.86	6,001.57	104.57	945.22	950.97	2.00	1.44	8.28	47.74
	NORMAL	6,177.0	9.15	86.50	6,095.21	105.50	961.24	967.00	1.21	-1.21	-0.38	182.85
	NORMAL	6,272.0	8.33	86.55	6,189.10	106.37	975.65	981.42	0.86	-0.86	0.05	179.49
	NORMAL	6,366.0	7.57	84.02	6,282.20	107.43	988.60	994.42	0.89	-0.81	-2.69	203.47
	NORMAL	6,460.0	7.43	80.77	6,375.40	109.05	1,000.76	1,006.67	0.48	-0.15	-3.46	250.13
	NORMAL	6,555.0	7.17	81.27	6,469.63	110.93	1,012.68	1,018.73	0.28	-0.27	0.53	166.52
	NORMAL	6,648.0	5.95	76.83	6,562.02	112.91	1,023.11	1,029.31	1.42	-1.31	-4.77	200.38
	NORMAL	6,741.0	4.51	81.56	6,654.63	114.55	1,031.43	1,037.74	1.62	-1.55	5.09	165.68
	NORMAL	6,836.0	3.56	86.74	6,749.39	115.26	1,038.06	1,044.42	1.07	-1.00	5.45	161.58
	NORMAL	6,930.0	2.88	91.23	6,843.24	115.38	1,043.34	1,049.68	0.77	-0.72	4.78	161.88
	NORMAL	7,025.0	4.35	85.42	6,938.05	115.62	1,049.32	1,055.65	1.59	1.55	-6.12	343.10
	NORMAL	7,119.0	3.95	86.72	7,031.80	116.09	1,056.10	1,062.45	0.44	-0.43	1.38	167.41
	NORMAL	7,213.0	3.83	83.56	7,125.59	116.62	1,062.45	1,068.82	0.26	-0.13	-3.36	239.19
	NORMAL	7,307.0	2.70	100.89	7,219.43	116.56	1,067.75	1,074.08	1.58	-1.20	18.44	147.30
	NORMAL	7,402.0	2.76	101.39	7,314.33	115.68	1,072.19	1,078.40	0.07	0.06	0.53	21.90
	NORMAL	7,497.0	1.02	100.56	7,409.27	115.08	1,075.26	1,081.40	1.83	-1.83	-0.87	180.49

2.1.2 Survey Stations (Continued)

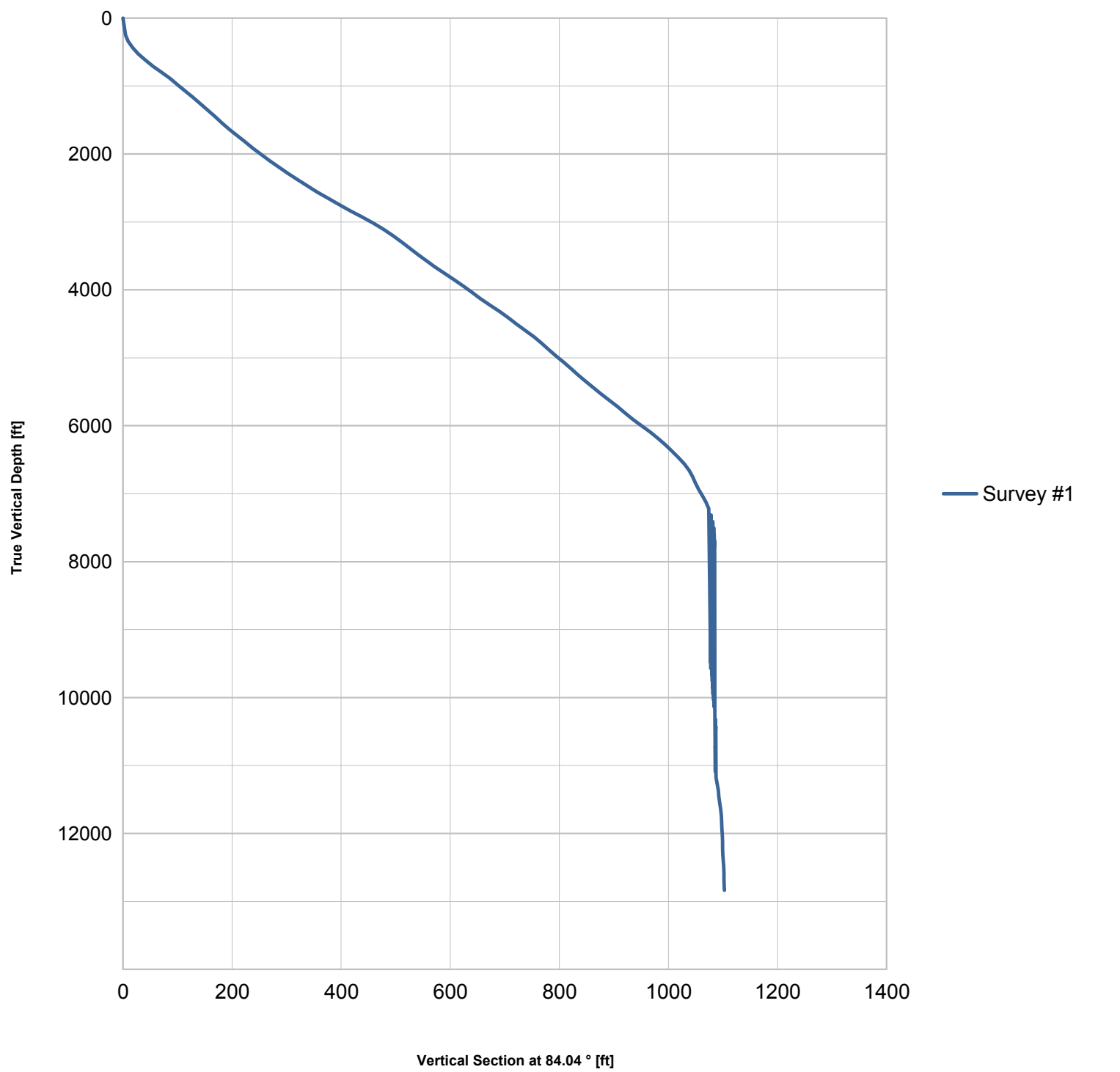
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
3/23/2012	NORMAL	7,592.0	0.89	103.00	7,504.26	114.76	1,076.81	1,082.91	0.14	-0.14	2.57	163.85
	NORMAL	7,686.0	0.74	126.43	7,598.25	114.23	1,078.01	1,084.05	0.39	-0.16	24.93	125.65
	NORMAL	7,781.0	0.66	358.14	7,693.25	114.41	1,078.49	1,084.54	1.33	-0.08	-135.04	204.27
	NORMAL	7,875.0	1.03	340.61	7,787.24	115.75	1,078.19	1,084.38	0.48	0.39	-18.65	316.08
	NORMAL	7,969.0	0.75	334.75	7,881.22	117.10	1,077.65	1,083.98	0.31	-0.30	-6.23	195.09
3/24/2012	NORMAL	8,063.0	0.63	323.04	7,975.22	118.07	1,077.07	1,083.51	0.20	-0.13	-12.46	223.85
	NORMAL	8,155.0	0.67	332.32	8,067.21	118.95	1,076.52	1,083.05	0.12	0.04	10.09	73.88
	NORMAL	8,250.0	0.62	357.23	8,162.21	119.96	1,076.24	1,082.88	0.30	-0.05	26.22	112.41
	NORMAL	8,344.0	0.65	316.59	8,256.20	120.86	1,075.85	1,082.58	0.47	0.03	-43.23	253.33
	NORMAL	8,438.0	0.42	322.60	8,350.20	121.52	1,075.27	1,082.08	0.25	-0.24	6.39	169.28
	NORMAL	8,532.0	0.09	304.86	8,444.20	121.83	1,075.00	1,081.84	0.36	-0.35	-18.87	184.69
	NORMAL	8,626.0	0.35	229.75	8,538.19	121.69	1,074.72	1,081.55	0.36	0.28	-79.90	269.99
	NORMAL	8,720.0	0.44	288.19	8,632.19	121.62	1,074.16	1,080.98	0.42	0.10	62.17	107.71
	NORMAL	8,813.0	0.44	281.39	8,725.19	121.80	1,073.47	1,080.31	0.06	0.00	-7.31	266.60
	NORMAL	8,908.0	0.48	296.50	8,820.19	122.05	1,072.76	1,079.63	0.13	0.04	15.91	79.40
	NORMAL	9,003.0	0.24	306.23	8,915.18	122.34	1,072.24	1,079.15	0.26	-0.25	10.24	170.54
	NORMAL	9,098.0	0.57	300.60	9,010.18	122.70	1,071.67	1,078.62	0.35	0.35	-5.93	350.30
	NORMAL	9,191.0	0.84	274.00	9,103.18	122.98	1,070.59	1,077.58	0.45	0.29	-28.60	295.71
	NORMAL	9,285.0	0.45	356.13	9,197.17	123.40	1,069.88	1,076.91	0.95	-0.41	87.37	150.20
	NORMAL	9,379.0	0.75	2.47	9,291.17	124.38	1,069.88	1,077.01	0.33	0.32	6.74	15.66
	NORMAL	9,474.0	0.70	5.11	9,386.16	125.58	1,069.96	1,077.22	0.06	-0.05	2.78	147.57
	NORMAL	9,568.0	0.75	339.27	9,480.15	126.73	1,069.79	1,077.17	0.35	0.05	-27.49	265.63
	NORMAL	9,662.0	1.09	47.21	9,574.14	127.91	1,070.23	1,077.73	1.13	0.36	72.28	108.63
	NORMAL	9,757.0	1.41	46.59	9,669.12	129.33	1,071.75	1,079.38	0.34	0.34	-0.65	357.27
	NORMAL	9,848.0	0.93	14.44	9,760.10	130.81	1,072.74	1,080.53	0.87	-0.53	-35.33	218.48
	NORMAL	9,943.0	0.42	76.21	9,855.09	131.64	1,073.27	1,081.14	0.86	-0.54	65.02	153.16
3/25/2012	NORMAL	10,037.0	0.54	107.52	9,949.09	131.59	1,074.03	1,081.89	0.30	0.13	33.31	81.62
	NORMAL	10,131.0	0.73	121.05	10,043.08	131.15	1,074.97	1,082.77	0.26	0.20	14.39	45.18
	NORMAL	10,227.0	0.99	122.62	10,139.07	130.39	1,076.19	1,083.91	0.27	0.27	1.64	5.96
	NORMAL	10,322.0	1.37	139.50	10,234.05	129.08	1,077.62	1,085.20	0.54	0.40	17.77	51.10
	NORMAL	10,416.0	0.97	141.51	10,328.03	127.60	1,078.84	1,086.26	0.43	-0.43	2.14	175.15
	NORMAL	10,510.0	1.10	175.99	10,422.02	126.08	1,079.40	1,086.66	0.67	0.14	36.68	95.80
	NORMAL	10,605.0	0.91	179.79	10,517.01	124.42	1,079.47	1,086.55	0.21	-0.20	4.00	162.56
	NORMAL	10,700.0	0.70	192.32	10,612.00	123.10	1,079.35	1,086.29	0.29	-0.22	13.19	146.18
	NORMAL	10,794.0	0.44	172.80	10,705.99	122.18	1,079.27	1,086.12	0.34	-0.28	-20.77	207.26
	NORMAL	10,889.0	0.71	168.10	10,800.99	121.24	1,079.44	1,086.19	0.29	0.28	-4.95	347.74
3/26/2012	NORMAL	10,983.0	0.88	178.42	10,894.98	119.95	1,079.58	1,086.19	0.24	0.18	10.98	45.34
	NORMAL	11,077.0	1.07	191.88	10,988.96	118.37	1,079.41	1,085.87	0.32	0.20	14.32	57.18
	NORMAL	11,172.0	0.67	142.68	11,083.95	117.06	1,079.57	1,085.89	0.85	-0.42	-51.79	218.74
	NORMAL	11,266.0	1.58	123.76	11,177.93	115.90	1,080.98	1,087.17	1.03	0.97	-20.13	328.15
	NORMAL	11,360.0	1.78	118.09	11,271.89	114.49	1,083.34	1,089.38	0.28	0.21	-6.03	317.41
	NORMAL	11,455.0	0.97	85.79	11,366.87	113.86	1,085.45	1,091.40	1.15	-0.85	-34.00	208.36
	NORMAL	11,549.0	0.72	37.85	11,460.86	114.38	1,086.60	1,092.61	0.77	-0.27	-51.00	227.63
	NORMAL	11,643.0	1.24	101.75	11,554.85	114.64	1,087.96	1,093.99	1.20	0.55	67.98	98.90
	NORMAL	11,738.0	1.10	89.07	11,649.83	114.45	1,089.88	1,095.87	0.31	-0.15	-13.35	235.36
	NORMAL	11,832.0	0.79	13.90	11,743.82	115.09	1,090.94	1,096.99	1.25	-0.33	-79.97	220.39
3/27/2012	NORMAL	11,927.0	0.86	18.73	11,838.81	116.40	1,091.32	1,097.51	0.10	0.07	5.08	47.24
	NORMAL	12,021.0	0.54	34.23	11,932.80	117.44	1,091.80	1,098.09	0.39	-0.34	16.49	156.98
	NORMAL	12,115.0	0.46	71.67	12,026.80	117.92	1,092.41	1,098.75	0.35	-0.09	39.83	122.00
	NORMAL	12,209.0	0.21	192.00	12,120.80	117.87	1,092.73	1,099.06	0.63	-0.27	128.01	162.24
	NORMAL	12,303.0	0.32	131.09	12,214.80	117.53	1,092.89	1,099.19	0.30	0.12	-64.80	258.99
	NORMAL	12,398.0	0.45	81.69	12,309.79	117.41	1,093.46	1,099.74	0.36	0.14	-52.00	265.46
	NORMAL	12,492.0	0.64	95.06	12,403.79	117.42	1,094.35	1,100.63	0.24	0.20	14.22	40.60
	NORMAL	12,586.0	0.46	150.69	12,497.79	117.04	1,095.06	1,101.29	0.57	-0.19	59.18	135.05
	NORMAL	12,680.0	0.74	156.50	12,591.78	116.16	1,095.48	1,101.62	0.30	0.30	6.18	15.17
	NORMAL	12,774.0	0.69	155.40	12,685.77	115.08	1,095.96	1,101.99	0.06	-0.05	-1.17	194.80
3/28/2012	NORMAL	12,870.0	0.62	136.51	12,781.77	114.18	1,096.56	1,102.49	0.24	-0.07	-19.68	242.75

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 (°)
3/29/2012	NORMAL	12,925.0	0.62	136.51	12,836.76	113.75	1,096.97	1,102.85	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

