

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	RG 622-14-298	Wellbore No.	OH
Well Name	FEDERAL RG 622-14-298	Common Name	RG 622-14-298
Project	RG 14-02S-098W	Site	RG 23-14-298 Pad
Vertical Section Azimuth	13.53 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	3/23/2011	UWI	RG 622-14-298
Active Datum	KB @6,620.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	CATHEDRAL
Date Started	3/20/2011	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 (°)
3/20/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/20/2011	NORMAL	149.0	1.70	357.50	148.98	2.21	-0.10	2.12	1.14	1.14	0.00	357.50
	NORMAL	243.0	3.70	8.20	242.87	6.60	0.28	6.48	2.19	2.13	11.38	19.53
	NORMAL	335.0	5.30	351.00	334.59	13.74	0.03	13.37	2.26	1.74	-18.70	311.07
	NORMAL	428.0	7.30	345.50	427.02	23.70	-2.12	22.55	2.24	2.15	-5.91	340.46
	NORMAL	521.0	9.20	352.00	519.06	36.79	-4.63	34.68	2.27	2.04	6.99	29.39
	NORMAL	613.0	9.50	1.90	609.84	51.66	-5.40	48.96	1.78	0.33	10.76	84.34
3/24/2011	NORMAL	706.0	10.80	6.90	701.38	67.98	-4.10	65.13	1.69	1.40	5.38	36.61
	NORMAL	800.0	10.60	16.90	793.76	85.00	-0.53	82.51	1.98	-0.21	10.64	101.05
	NORMAL	894.0	11.60	20.40	886.00	102.13	5.28	100.53	1.28	1.06	3.72	35.70
	NORMAL	988.0	12.90	21.70	977.86	120.74	12.45	120.30	1.41	1.38	1.38	12.62
	NORMAL	1,082.0	14.50	18.10	1,069.18	141.67	19.99	142.42	1.93	1.70	-3.83	330.19
	NORMAL	1,175.0	16.00	18.50	1,158.90	164.90	27.67	166.79	1.62	1.61	0.43	4.21
	NORMAL	1,267.0	15.60	18.80	1,247.43	188.63	35.68	191.74	0.44	-0.43	0.33	168.60
	NORMAL	1,358.0	17.00	18.50	1,334.77	212.83	43.85	217.18	1.54	1.54	-0.33	356.41
	NORMAL	1,451.0	17.50	17.50	1,423.59	239.06	52.37	244.68	0.63	0.54	-1.08	328.85
	NORMAL	1,544.0	17.50	14.80	1,512.28	265.91	60.14	272.60	0.87	0.00	-2.90	268.71
	NORMAL	1,637.0	17.60	15.00	1,600.95	293.01	67.35	300.64	0.13	0.11	0.22	31.19
	NORMAL	1,731.0	17.60	15.90	1,690.55	320.41	74.92	329.05	0.29	0.00	0.96	90.43
	NORMAL	1,824.0	17.90	14.50	1,779.13	347.77	82.35	357.38	0.56	0.32	-1.51	304.43

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 (°)
3/24/2011	NORMAL	1,917.0	17.50	13.50	1,867.72	375.20	89.20	385.66	0.54	-0.43	-1.08	216.76
	NORMAL	2,010.0	17.80	14.10	1,956.35	402.58	95.92	413.85	0.38	0.32	0.65	31.52

2.2 Survey Name: Survey #1

Survey Name	Survey #1	Company	CATHEDRAL
Date Started	3/23/2011	Ended	3/26/2011
Tool Name	MWD	Engineer	

2.2.1 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

2.2.2 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 (°)
3/23/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NORMAL	2,662.0	13.50	16.90	2,585.81	567.35	132.41	582.58	1.40	0.21	5.96	83.97
	NORMAL	2,755.0	12.80	16.50	2,676.37	587.61	138.49	603.71	0.76	-0.75	-0.43	187.21
	NORMAL	2,848.0	14.40	15.30	2,766.76	608.65	144.47	625.56	1.75	1.72	-1.29	349.41
	NORMAL	2,941.0	13.50	13.70	2,857.02	630.35	150.09	647.97	1.05	-0.97	-1.72	202.42
3/26/2011	NORMAL	149.0	1.70	357.50	148.98	2.21	-0.10	2.12	1.14	1.14	0.00	357.50
	NORMAL	243.0	3.70	8.20	242.87	6.60	0.28	6.48	2.19	2.13	11.38	19.53
	NORMAL	335.0	5.30	351.00	334.59	13.74	0.03	13.37	2.26	1.74	-18.70	311.07
	NORMAL	428.0	7.30	345.50	427.02	23.70	-2.12	22.55	2.24	2.15	-5.91	340.46
	NORMAL	521.0	9.20	352.00	519.06	36.79	-4.63	34.68	2.27	2.04	6.99	29.39
	NORMAL	613.0	9.50	1.90	609.84	51.66	-5.40	48.96	1.78	0.33	10.76	84.34
	NORMAL	706.0	10.80	6.90	701.38	67.98	-4.10	65.13	1.69	1.40	5.38	36.61
	NORMAL	800.0	10.60	16.90	793.76	85.00	-0.53	82.51	1.98	-0.21	10.64	101.05
	NORMAL	894.0	11.60	20.40	886.00	102.13	5.28	100.53	1.28	1.06	3.72	35.70
	NORMAL	988.0	12.90	21.70	977.86	120.74	12.45	120.30	1.41	1.38	1.38	12.62
	NORMAL	1,082.0	14.50	18.10	1,069.18	141.67	19.99	142.42	1.93	1.70	-3.83	330.19
	NORMAL	1,175.0	16.00	18.50	1,158.90	164.90	27.67	166.79	1.62	1.61	0.43	4.21
	NORMAL	1,267.0	15.60	18.80	1,247.43	188.63	35.68	191.74	0.44	-0.43	0.33	168.60
	NORMAL	1,358.0	17.00	18.50	1,334.77	212.83	43.85	217.18	1.54	1.54	-0.33	356.41
	NORMAL	1,451.0	17.50	17.50	1,423.59	239.06	52.37	244.68	0.63	0.54	-1.08	328.85
	NORMAL	1,544.0	17.50	14.80	1,512.28	265.91	60.14	272.60	0.87	0.00	-2.90	268.71
	NORMAL	1,637.0	17.60	15.00	1,600.95	293.01	67.35	300.64	0.13	0.11	0.22	31.19
	NORMAL	1,731.0	17.60	15.90	1,690.55	320.41	74.92	329.05	0.29	0.00	0.96	90.43
	NORMAL	1,824.0	17.90	14.50	1,779.13	347.77	82.35	357.38	0.56	0.32	-1.51	304.43
	NORMAL	1,917.0	17.50	13.50	1,867.72	375.20	89.20	385.66	0.54	-0.43	-1.08	216.76
	NORMAL	2,010.0	17.80	14.10	1,956.35	402.58	95.92	413.85	0.38	0.32	0.65	31.52
	NORMAL	2,102.0	17.80	14.30	2,043.94	429.85	102.82	441.98	0.07	0.00	0.22	90.10
	NORMAL	2,196.0	16.20	13.70	2,133.83	456.51	109.48	469.46	1.71	-1.70	-0.64	185.97
	NORMAL	2,289.0	14.70	11.00	2,223.47	480.70	114.80	494.22	1.79	-1.61	-2.90	204.32
	NORMAL	2,382.0	14.40	11.70	2,313.49	503.61	119.40	517.57	0.37	-0.32	0.75	149.96
	NORMAL	2,475.0	13.10	8.90	2,403.82	525.35	123.38	539.63	1.57	-1.40	-3.01	205.75
	NORMAL	2,568.0	13.30	11.30	2,494.37	546.25	127.10	560.82	0.63	0.22	2.58	71.12

2.3 Survey Name: Survey #2

Survey Name	Survey #2	Company	
Date Started	5/24/2011	Ended	
Tool Name	MWD	Engineer	

2.3.1 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

2.3.2 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 (°)

2.4 Survey Name: Survey #2

Survey Name	Survey #2	Company	
Date Started	5/24/2011	Ended	
Tool Name	MWD	Engineer	

2.4.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
2,941.0	13.50	13.70	2,857.02	630.35	150.09

2.4.2 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 (°)
5/24/2011	Tie On	2,941.0	13.50	13.70	2,857.02	630.35	150.09	647.97	0.00	0.00	0.00	0.00
5/24/2011	NORMAL	3,143.0	11.70	11.00	3,054.15	673.37	159.59	692.01	0.94	-0.89	-1.34	196.81
	NORMAL	3,236.0	13.10	14.40	3,144.98	692.83	164.01	711.97	1.70	1.51	3.66	29.21
	NORMAL	3,329.0	14.30	12.90	3,235.33	714.24	169.19	734.00	1.35	1.29	-1.61	342.78
	NORMAL	3,422.0	13.30	10.10	3,325.64	735.96	173.63	756.16	1.29	-1.08	-3.01	212.38
	NORMAL	3,515.0	13.50	11.60	3,416.11	757.13	177.69	777.69	0.43	0.22	1.61	60.82
	NORMAL	3,608.0	14.70	16.60	3,506.31	779.07	183.24	800.32	1.84	1.29	5.38	47.87
	NORMAL	3,701.0	15.30	17.00	3,596.14	802.11	190.20	824.35	0.65	0.65	0.43	9.98
	NORMAL	3,794.0	12.90	14.60	3,686.33	823.90	196.41	846.98	2.66	-2.58	-2.58	192.53
	NORMAL	3,888.0	12.30	13.70	3,778.07	843.78	201.42	867.49	0.67	-0.64	-0.96	197.68
	NORMAL	3,981.0	12.20	13.10	3,868.95	862.97	206.00	887.22	0.17	-0.11	-0.65	231.56
	NORMAL	4,074.0	12.10	11.10	3,959.87	882.11	210.10	906.78	0.47	-0.11	-2.15	255.66
	NORMAL	4,167.0	11.80	14.00	4,050.86	900.90	214.28	926.03	0.72	-0.32	3.12	117.96
	NORMAL	4,260.0	12.00	12.10	4,141.86	919.58	218.61	945.20	0.47	0.22	-2.04	296.11
5/25/2011	NORMAL	4,353.0	13.40	16.60	4,232.58	939.36	223.71	965.63	1.84	1.51	4.84	37.46
	NORMAL	4,446.0	14.70	21.00	4,322.80	960.71	231.02	988.09	1.81	1.40	4.73	41.56
	NORMAL	4,539.0	14.80	16.80	4,412.74	983.10	238.68	1,011.65	1.15	0.11	-4.52	273.31
	NORMAL	4,632.0	15.60	13.30	4,502.49	1,006.64	244.99	1,036.02	1.31	0.86	-3.76	309.38
	NORMAL	4,725.0	14.30	15.00	4,592.34	1,029.90	250.84	1,060.00	1.48	-1.40	1.83	162.18
	NORMAL	4,819.0	14.70	17.90	4,683.34	1,052.46	257.51	1,083.50	0.88	0.43	3.09	62.56
	NORMAL	4,913.0	14.60	16.90	4,774.29	1,075.15	264.62	1,107.22	0.29	-0.11	-1.06	247.94
	NORMAL	5,006.0	14.40	13.90	4,864.33	1,097.59	270.81	1,130.49	0.84	-0.22	-3.23	253.64
	NORMAL	5,100.0	13.90	10.20	4,955.48	1,120.05	275.61	1,153.45	1.10	-0.53	-3.94	239.28
	NORMAL	5,193.0	12.20	5.50	5,046.07	1,140.83	278.53	1,174.33	2.15	-1.83	-5.05	209.70
	NORMAL	5,285.0	12.90	9.10	5,135.88	1,160.64	281.09	1,194.20	1.14	0.76	3.91	49.94
	NORMAL	5,379.0	13.40	11.40	5,227.41	1,181.68	284.90	1,215.54	0.77	0.53	2.45	47.43

2.4.2 Survey Stations (Continued)

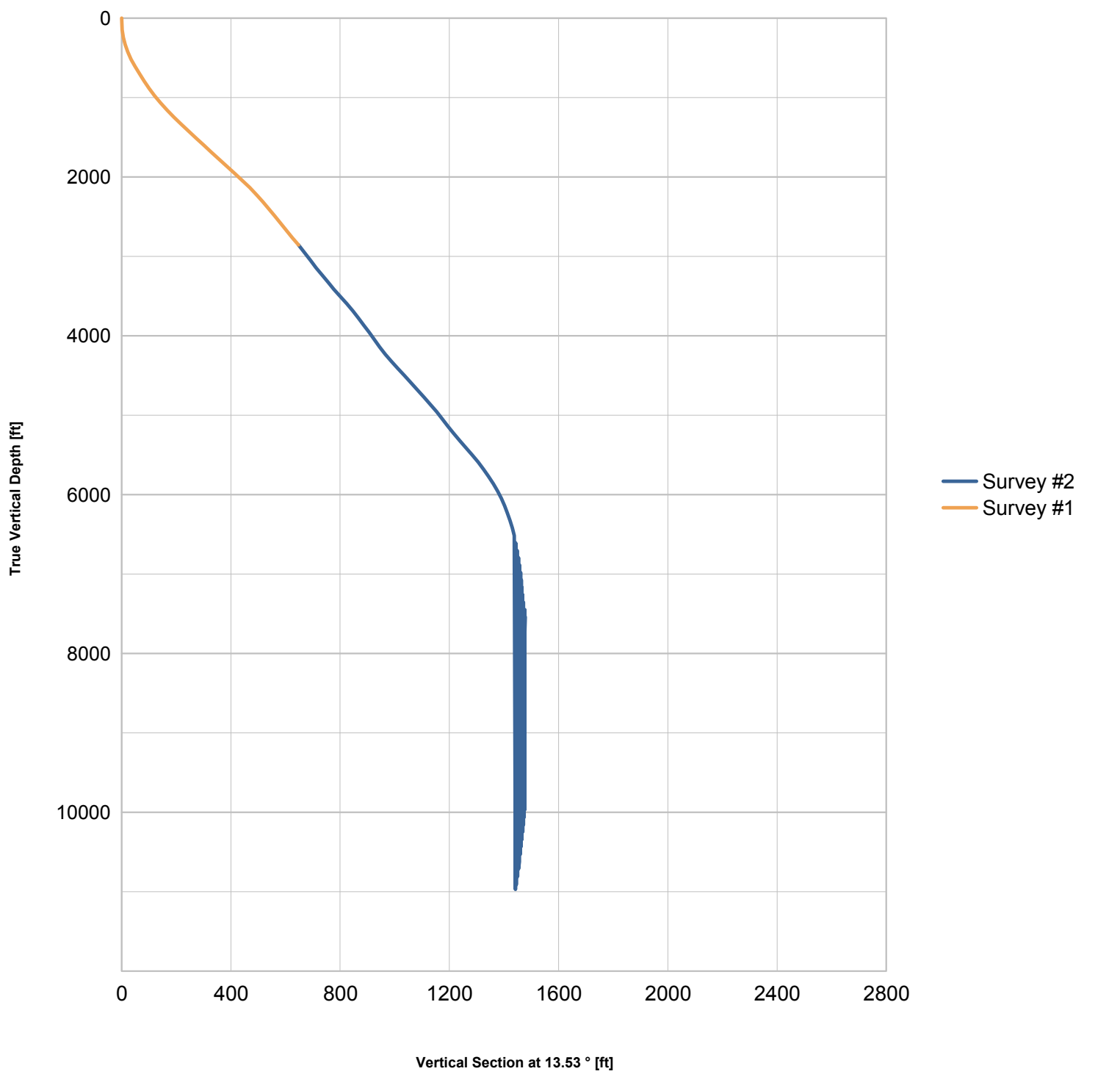
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
5/25/2011	NORMAL	5,472.0	13.60	11.80	5,317.84	1,202.95	289.27	1,237.24	0.24	0.22	0.43	25.22
	NORMAL	5,565.0	14.20	10.10	5,408.12	1,224.88	293.51	1,259.56	0.78	0.65	-1.83	324.93
	NORMAL	5,659.0	14.60	13.50	5,499.17	1,247.75	298.29	1,282.91	0.99	0.43	3.62	66.34
	NORMAL	5,752.0	13.10	15.50	5,589.46	1,269.31	303.85	1,305.17	1.69	-1.61	2.15	163.27
	NORMAL	5,846.0	11.90	15.60	5,681.23	1,288.91	309.30	1,325.50	1.28	-1.28	0.11	179.02
	NORMAL	5,938.0	11.00	16.30	5,771.40	1,306.47	314.31	1,343.75	0.99	-0.98	0.76	171.57
	NORMAL	6,033.0	10.00	13.70	5,864.81	1,323.18	318.81	1,361.05	1.16	-1.05	-2.74	204.08
	NORMAL	6,126.0	9.10	12.70	5,956.52	1,338.20	322.34	1,376.48	0.98	-0.97	-1.08	189.95
	NORMAL	6,219.0	7.80	11.30	6,048.51	1,351.57	325.19	1,390.14	1.42	-1.40	-1.51	188.30
5/26/2011	NORMAL	6,312.0	7.20	10.30	6,140.71	1,363.49	327.47	1,402.26	0.66	-0.65	-1.08	191.78
	NORMAL	6,407.0	5.80	10.50	6,235.10	1,374.07	329.41	1,413.00	1.47	-1.47	0.21	179.17
	NORMAL	6,501.0	5.40	12.30	6,328.65	1,383.06	331.22	1,422.16	0.46	-0.43	1.91	157.19
	NORMAL	6,594.0	5.00	8.60	6,421.27	1,391.34	332.76	1,430.58	0.56	-0.43	-3.98	218.14
	NORMAL	6,688.0	3.70	26.30	6,515.00	1,398.11	334.71	1,437.62	1.97	-1.38	18.83	142.67
	NORMAL	6,781.0	3.20	21.70	6,607.83	1,403.21	337.00	1,443.11	0.61	-0.54	-4.95	206.69
	NORMAL	6,875.0	3.10	21.60	6,701.69	1,408.01	338.91	1,448.23	0.11	-0.11	-0.11	183.10
	NORMAL	6,968.0	2.80	16.70	6,794.56	1,412.53	340.49	1,452.98	0.42	-0.32	-5.27	217.62
	NORMAL	7,061.0	2.40	19.30	6,887.47	1,416.54	341.78	1,457.19	0.45	-0.43	2.80	164.87
	NORMAL	7,154.0	2.10	18.10	6,980.40	1,420.00	342.96	1,460.83	0.33	-0.32	-1.29	188.33
	NORMAL	7,247.0	1.40	1.30	7,073.35	1,422.75	343.51	1,463.63	0.93	-0.75	-18.06	208.04
	NORMAL	7,340.0	1.20	336.60	7,166.33	1,424.78	343.15	1,465.52	0.63	-0.22	-26.56	238.29
	NORMAL	7,433.0	1.80	354.90	7,259.30	1,427.13	342.63	1,467.69	0.82	0.65	19.68	47.99
	NORMAL	7,527.0	2.90	20.70	7,353.22	1,430.83	343.34	1,471.44	1.60	1.17	27.45	57.26
	NORMAL	7,621.0	2.70	24.50	7,447.11	1,435.07	345.10	1,475.98	0.29	-0.21	4.04	139.02
	NORMAL	7,715.0	1.10	97.00	7,541.06	1,436.97	346.92	1,478.25	2.76	-1.70	77.13	156.11
5/27/2011	NORMAL	7,808.0	1.30	145.60	7,634.04	1,435.99	348.40	1,477.65	1.08	0.22	52.26	103.84
	NORMAL	7,902.0	1.10	159.40	7,728.02	1,434.27	349.32	1,476.19	0.37	-0.21	14.68	131.45
	NORMAL	7,995.0	1.60	189.70	7,821.00	1,432.15	349.41	1,474.15	0.92	0.54	32.58	70.77
	NORMAL	8,088.0	2.00	198.90	7,913.95	1,429.34	348.67	1,471.24	0.53	0.43	9.89	40.50
	NORMAL	8,182.0	2.10	201.10	8,007.89	1,426.18	347.52	1,467.90	0.14	0.11	2.34	39.30
	NORMAL	8,275.0	1.20	211.30	8,100.85	1,423.76	346.40	1,465.28	1.01	-0.97	10.97	166.98
	NORMAL	8,368.0	0.40	10.90	8,193.85	1,423.24	345.95	1,464.68	1.70	-0.86	171.61	174.94
	NORMAL	8,462.0	0.70	227.70	8,287.85	1,423.18	345.59	1,464.53	1.11	0.32	-152.34	203.58
	NORMAL	8,555.0	1.50	238.50	8,380.83	1,422.16	344.13	1,463.20	0.88	0.86	11.61	19.97
5/28/2011	NORMAL	8,646.0	2.00	232.90	8,471.79	1,420.58	341.85	1,461.13	0.58	0.55	-6.15	338.30
	NORMAL	8,740.0	0.50	358.80	8,565.77	1,420.00	340.53	1,460.26	2.48	-1.60	133.94	169.98
	NORMAL	8,833.0	1.00	35.40	8,658.76	1,421.07	341.00	1,461.41	0.72	0.54	39.35	63.07
	NORMAL	8,926.0	2.00	66.60	8,751.73	1,422.37	342.96	1,463.14	1.35	1.08	33.55	55.54
	NORMAL	9,020.0	1.30	69.80	8,845.69	1,423.39	345.46	1,464.71	0.75	-0.74	3.40	174.10
	NORMAL	9,113.0	2.20	79.80	8,938.64	1,424.07	348.21	1,466.02	1.02	0.97	10.75	23.79
	NORMAL	9,206.0	1.30	95.30	9,031.60	1,424.29	351.02	1,466.89	1.08	-0.97	16.67	159.86
	NORMAL	9,299.0	0.70	60.30	9,124.59	1,424.48	352.56	1,467.43	0.89	-0.65	-37.63	208.93
	NORMAL	9,393.0	2.20	43.60	9,218.55	1,426.07	354.30	1,469.38	1.64	1.60	-17.77	335.81
	NORMAL	9,486.0	0.40	39.20	9,311.53	1,427.61	355.74	1,471.22	1.94	-1.94	-4.73	180.98
5/29/2011	NORMAL	9,579.0	0.50	6.20	9,404.52	1,428.27	355.99	1,471.91	0.29	0.11	-35.48	274.06
	NORMAL	9,673.0	1.40	58.40	9,498.51	1,429.28	357.01	1,473.13	1.24	0.96	55.53	72.06
	NORMAL	9,766.0	1.00	69.60	9,591.49	1,430.15	358.74	1,474.39	0.50	-0.43	12.04	155.13
	NORMAL	9,860.0	0.50	31.80	9,685.48	1,430.79	359.72	1,475.24	0.72	-0.53	-40.21	206.87
	NORMAL	9,954.0	0.70	293.20	9,779.48	1,431.36	359.41	1,475.73	0.98	0.21	-104.89	228.86
	NORMAL	10,048.0	1.10	296.10	9,873.47	1,431.99	358.07	1,476.02	0.43	0.43	3.09	7.95
	NORMAL	10,141.0	1.30	247.80	9,966.45	1,431.98	356.30	1,475.60	1.07	0.22	-51.94	256.38
	NORMAL	10,235.0	1.90	244.50	10,060.41	1,430.91	353.90	1,473.99	0.65	0.64	-3.51	349.62
	NORMAL	10,329.0	2.60	232.20	10,154.34	1,428.93	350.81	1,471.35	0.90	0.74	-13.09	319.15
	NORMAL	10,423.0	1.80	213.90	10,248.27	1,426.40	348.30	1,468.30	1.12	-0.85	-19.47	212.39
5/30/2011	NORMAL	10,516.0	2.20	224.90	10,341.22	1,423.92	346.23	1,465.41	0.59	0.43	11.83	49.41
	NORMAL	10,609.0	2.40	236.70	10,434.14	1,421.59	343.34	1,462.46	0.55	0.22	12.69	73.07
	NORMAL	10,702.0	2.10	229.90	10,527.07	1,419.42	340.41	1,459.67	0.43	-0.32	-7.31	218.30

2.4.2 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 (°)
5/30/2011	NORMAL	10,796.0	2.20	226.40	10,621.00	1,417.07	337.79	1,456.77	0.18	0.11	-3.72	305.53
	NORMAL	10,889.0	2.50	226.00	10,713.92	1,414.43	335.03	1,453.56	0.32	0.32	-0.43	356.67
	NORMAL	10,983.0	2.70	215.90	10,807.83	1,411.21	332.26	1,449.78	0.53	0.21	-10.74	288.48
	NORMAL	11,076.0	3.00	218.70	10,900.71	1,407.54	329.46	1,445.55	0.36	0.32	3.01	26.30
	NORMAL	11,090.0	3.10	221.40	10,914.69	1,406.97	328.98	1,444.88	1.25	0.71	19.29	56.51
	NORMAL	11,145.0	3.49	232.01	10,969.60	1,404.82	326.67	1,442.26	1.31	0.71	19.29	62.77

3 Charts

3.1 Vertical Section View



3.2 Plan View

