

1 General

1.1 Customer Information

Company	PICEANCE HL
Representative	
Address	

1.2 Well/Wellbore Information

Well	RGU 331-26-198	Wellbore No.	00
Wellbore Legal Name	RGU 331-26-198	Common Wellbore Name	RGU 331-26-198
Project	RG 23-01S-098W	Site	RGU 43-23-198 PAD
Vertical Section Azimuth	216.48 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	9/13/2014	UWI	RGU 331-26-198
Active datum	KB @6,592.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	9/13/2014	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 (°)
9/13/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/13/2014	NORMAL	85.0	0.97	18.90	85.00	0.68	0.23	-0.69	1.14	1.14	0.00	18.90
	NORMAL	174.0	1.32	200.04	173.99	0.43	0.13	-0.42	2.57	0.39	-200.97	180.66
	NORMAL	265.0	2.99	209.36	264.92	-2.62	-1.40	2.94	1.87	1.84	10.24	16.53
	NORMAL	356.0	4.75	204.79	355.71	-8.11	-4.14	8.98	1.96	1.93	-5.02	347.77
	NORMAL	446.0	5.81	203.20	445.33	-15.68	-7.50	17.07	1.19	1.18	-1.77	351.35
	NORMAL	537.0	5.98	220.34	535.86	-23.53	-12.38	26.28	1.94	0.19	18.84	93.05
	NORMAL	627.0	6.07	216.21	625.36	-30.94	-18.23	35.72	0.49	0.10	-4.59	279.67
	NORMAL	718.0	6.86	222.89	715.78	-38.81	-24.77	45.93	1.20	0.87	7.34	46.95
	NORMAL	808.0	7.92	220.34	805.03	-47.47	-32.44	57.46	1.23	1.18	-2.83	341.54
	NORMAL	898.0	6.60	227.72	894.31	-55.68	-40.28	68.72	1.79	-1.47	8.20	148.38
	NORMAL	989.0	6.69	216.65	984.70	-63.45	-47.32	79.15	1.41	0.10	-12.16	268.51
	NORMAL	1,083.0	6.77	213.57	1,078.06	-72.46	-53.65	90.16	0.39	0.09	-3.28	280.96
	NORMAL	1,178.0	6.51	209.44	1,172.42	-81.81	-59.39	101.09	0.57	-0.27	-4.35	239.39
	NORMAL	1,262.0	6.42	208.17	1,255.89	-90.10	-63.95	110.47	0.20	-0.11	-1.51	237.18
	NORMAL	1,357.0	6.85	208.27	1,350.25	-99.77	-69.14	121.33	0.45	0.45	0.11	1.59
9/14/2014	NORMAL	1,452.0	5.19	202.89	1,444.72	-108.72	-73.49	131.11	1.84	-1.75	-5.66	196.11
	NORMAL	1,547.0	6.24	208.17	1,539.25	-117.23	-77.60	140.40	1.23	1.11	5.56	29.24
	NORMAL	1,641.0	7.39	214.14	1,632.59	-126.74	-83.41	151.50	1.44	1.22	6.35	34.62
	NORMAL	1,722.0	7.72	215.48	1,712.88	-135.48	-89.49	162.14	0.46	0.41	1.65	28.76
	NORMAL	1,817.0	8.05	211.24	1,806.99	-146.36	-96.64	175.14	0.70	0.35	-4.46	297.46
	NORMAL	1,912.0	7.79	216.89	1,901.08	-157.20	-103.96	188.21	0.86	-0.27	5.95	111.25

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 (°)
9/14/2014	NORMAL	2,007.0	7.81	226.01	1,995.21	-166.83	-112.47	201.01	1.30	0.02	9.60	93.59
	NORMAL	2,102.0	6.60	221.95	2,089.45	-175.38	-120.76	212.81	1.38	-1.27	-4.27	200.82
	NORMAL	2,197.0	7.04	224.57	2,183.78	-183.59	-128.49	224.01	0.57	0.46	2.76	36.57
	NORMAL	2,292.0	6.20	217.53	2,278.15	-191.80	-135.71	234.90	1.23	-0.88	-7.41	220.55
	NORMAL	2,387.0	6.25	217.77	2,372.59	-199.96	-142.00	245.20	0.06	0.05	0.25	27.62
	NORMAL	2,482.0	6.31	219.62	2,467.02	-208.07	-148.49	255.58	0.22	0.06	1.95	74.41
	NORMAL	2,577.0	6.54	224.66	2,561.42	-215.94	-155.63	266.15	0.64	0.24	5.31	70.33
	NORMAL	2,672.0	6.56	222.46	2,655.81	-223.79	-163.09	276.91	0.26	0.02	-2.32	273.46
	NORMAL	2,767.0	6.60	223.56	2,750.18	-231.75	-170.52	287.72	0.14	0.04	1.16	72.94
	NORMAL	2,861.0	6.94	216.01	2,843.53	-240.26	-177.58	298.76	1.01	0.36	-8.03	287.13
9/15/2014	NORMAL	2,956.0	7.14	209.69	2,937.81	-250.03	-183.88	310.36	0.84	0.21	-6.65	281.33
	NORMAL	3,051.0	7.19	210.49	3,032.07	-260.28	-189.82	322.14	0.12	0.05	0.84	63.78
	NORMAL	3,146.0	7.10	211.13	3,126.33	-270.43	-195.87	333.90	0.13	-0.09	0.67	138.82
	NORMAL	3,241.0	8.01	206.36	3,220.51	-281.39	-201.85	346.26	1.16	0.96	-5.02	323.05
	NORMAL	3,335.0	9.14	210.47	3,313.46	-293.69	-208.54	360.13	1.37	1.20	4.37	30.51
	NORMAL	3,430.0	11.69	215.74	3,406.89	-308.01	-217.99	377.26	2.86	2.68	5.55	23.09
	NORMAL	3,525.0	15.01	216.97	3,499.31	-325.65	-231.01	399.19	3.51	3.49	1.29	5.49
	NORMAL	3,620.0	17.45	219.91	3,590.52	-346.41	-247.55	425.72	2.71	2.57	3.09	20.03
	NORMAL	3,715.0	19.08	221.97	3,680.73	-368.88	-267.08	455.39	1.85	1.72	2.17	22.59
	NORMAL	3,810.0	19.75	222.57	3,770.32	-392.25	-288.32	486.81	0.74	0.71	0.63	16.86
	NORMAL	3,902.0	20.19	221.21	3,856.79	-415.64	-309.29	518.09	0.70	0.48	-1.48	312.81
	NORMAL	3,965.0	20.19	221.21	3,915.92	-432.00	-323.62	539.76	0.00	0.00	0.00	0.00
9/17/2014	NORMAL	4,002.0	18.76	220.25	3,950.80	-441.34	-331.67	552.06	3.96	-3.86	-2.59	192.16
	NORMAL	4,097.0	19.41	219.87	4,040.58	-465.12	-351.66	583.06	0.70	0.68	-0.40	349.00
	NORMAL	4,192.0	21.35	223.17	4,129.63	-489.85	-373.61	616.00	2.37	2.04	3.47	32.20
	NORMAL	4,287.0	24.74	222.89	4,217.04	-517.03	-398.98	652.94	3.57	3.57	-0.29	358.02
	NORMAL	4,381.0	28.61	219.48	4,301.03	-548.83	-426.69	694.98	4.43	4.12	-3.63	336.88
	NORMAL	4,476.0	26.95	218.18	4,385.07	-583.31	-454.46	739.21	1.86	-1.75	-1.37	199.48
	NORMAL	4,571.0	26.68	218.77	4,469.86	-616.86	-481.12	782.04	0.40	-0.28	0.62	135.67
	NORMAL	4,666.0	28.60	212.61	4,554.03	-652.65	-506.74	826.05	3.62	2.02	-6.48	301.14
	NORMAL	4,761.0	29.10	211.50	4,637.24	-691.50	-531.06	871.75	0.77	0.53	-1.17	312.54
	NORMAL	4,856.0	27.50	213.98	4,720.89	-729.39	-555.40	916.68	2.09	-1.68	2.61	144.78
	NORMAL	4,951.0	27.16	213.43	4,805.28	-765.68	-579.60	960.25	0.45	-0.36	-0.58	216.36
	NORMAL	5,046.0	27.27	215.00	4,889.77	-801.60	-604.03	1,003.66	0.76	0.12	1.65	81.99
	NORMAL	5,141.0	28.44	214.36	4,973.76	-838.10	-629.28	1,048.02	1.27	1.23	-0.67	345.38
	NORMAL	5,236.0	30.03	214.14	5,056.66	-876.45	-655.39	1,094.38	1.68	1.67	-0.23	356.04
	NORMAL	5,331.0	27.20	211.99	5,140.05	-914.55	-680.24	1,139.79	3.17	-2.98	-2.26	199.05
9/18/2014	NORMAL	5,426.0	27.49	215.59	5,224.44	-950.80	-704.50	1,183.36	1.77	0.31	3.79	81.66
	NORMAL	5,521.0	29.10	214.74	5,308.08	-987.62	-730.43	1,228.38	1.75	1.69	-0.89	345.58
	NORMAL	5,616.0	29.46	214.56	5,390.95	-1,025.84	-756.85	1,274.82	0.39	0.38	-0.19	346.18
	NORMAL	5,711.0	30.03	214.99	5,473.43	-1,064.55	-783.73	1,321.93	0.64	0.60	0.45	20.71
	NORMAL	5,806.0	29.48	214.47	5,555.90	-1,103.30	-810.59	1,369.06	0.64	-0.58	-0.55	204.91
	NORMAL	5,901.0	29.23	215.54	5,638.71	-1,141.45	-837.31	1,415.61	0.61	-0.26	1.13	115.95
	NORMAL	5,995.0	29.63	215.89	5,720.58	-1,178.95	-864.27	1,461.79	0.46	0.43	0.37	23.42
	NORMAL	6,090.0	27.70	214.94	5,803.93	-1,216.07	-890.68	1,507.35	2.09	-2.03	-1.00	192.87
	NORMAL	6,186.0	28.64	215.31	5,888.56	-1,253.14	-916.76	1,552.66	1.00	0.98	0.39	10.69
	NORMAL	6,281.0	26.92	215.17	5,972.61	-1,289.30	-942.31	1,596.92	1.81	-1.81	-0.15	182.11
	NORMAL	6,376.0	26.44	216.36	6,057.49	-1,323.91	-967.24	1,639.57	0.76	-0.51	1.25	132.47
	NORMAL	6,472.0	23.18	215.02	6,144.62	-1,356.61	-990.76	1,679.85	3.45	-3.40	-1.40	189.18
	NORMAL	6,566.0	22.70	217.65	6,231.19	-1,386.12	-1,012.45	1,716.48	1.20	-0.51	2.80	116.30
	NORMAL	6,661.0	21.50	215.89	6,319.21	-1,414.74	-1,033.86	1,752.21	1.44	-1.26	-1.85	208.08
	NORMAL	6,756.0	21.54	216.15	6,407.59	-1,442.92	-1,054.35	1,787.06	0.11	0.04	0.27	67.37
	NORMAL	6,851.0	20.09	216.24	6,496.38	-1,470.17	-1,074.28	1,820.82	1.53	-1.53	0.09	178.78
	NORMAL	6,946.0	17.46	216.96	6,586.32	-1,494.72	-1,092.50	1,851.39	2.78	-2.77	0.76	175.31
9/19/2014	NORMAL	7,041.0	17.72	213.76	6,676.88	-1,518.13	-1,109.10	1,880.08	1.05	0.27	-3.37	283.52
	NORMAL	7,136.0	16.72	214.88	6,767.62	-1,541.36	-1,124.95	1,908.18	1.11	-1.05	1.18	162.19
	NORMAL	7,231.0	15.77	214.34	6,858.83	-1,563.23	-1,140.05	1,934.75	1.01	-1.00	-0.57	188.78

2.1.2 Survey Stations (Continued)

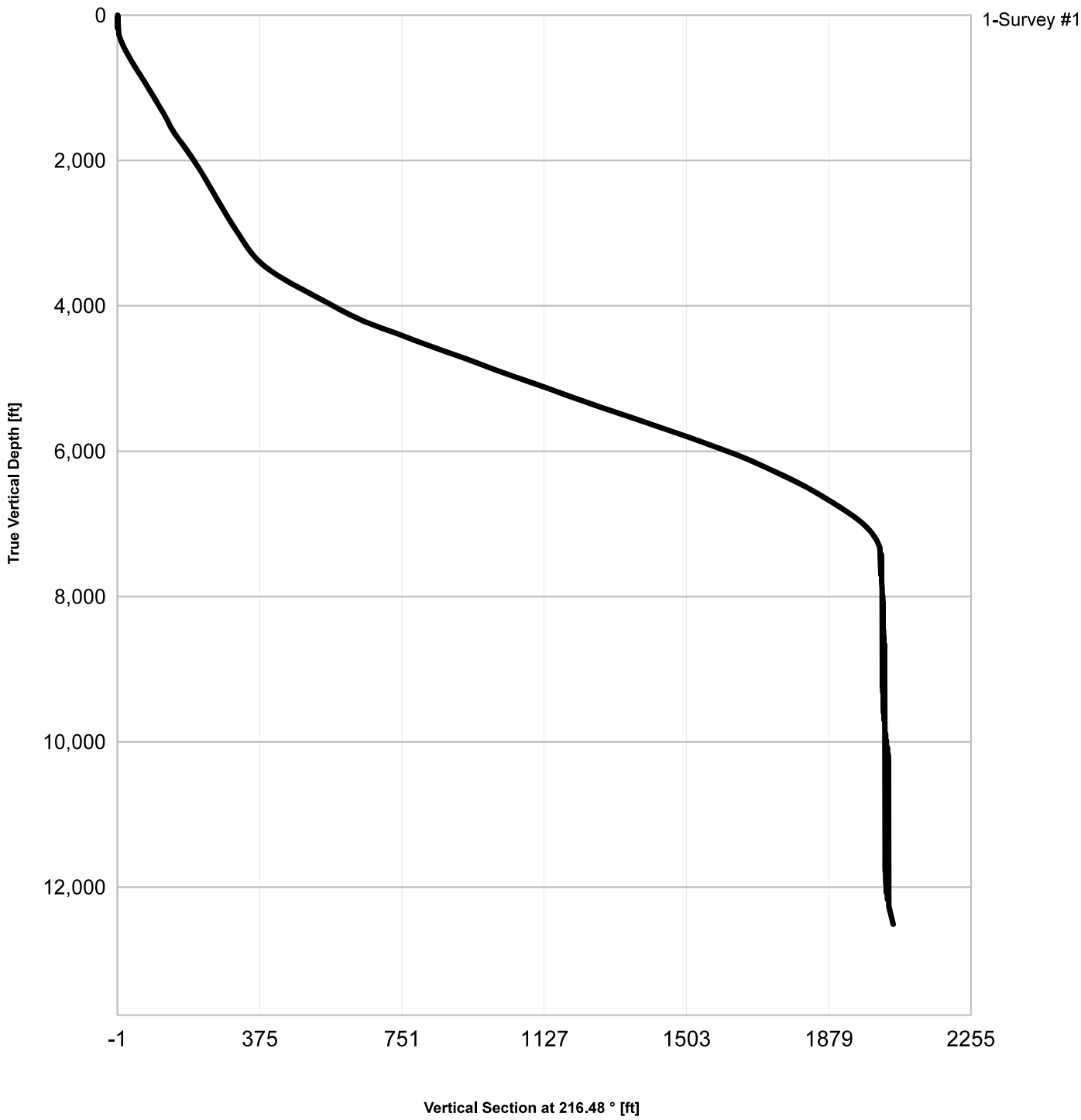
Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	Tface (°)
9/19/2014	NORMAL	7,326.0	13.58	215.01	6,950.72	-1,583.03	-1,153.73	1,958.80	2.31	-2.31	0.71	175.89
	NORMAL	7,421.0	11.05	216.00	7,043.53	-1,599.53	-1,165.49	1,979.05	2.67	-2.66	1.04	175.71
	NORMAL	7,516.0	8.45	216.39	7,137.15	-1,612.52	-1,174.98	1,995.14	2.74	-2.74	0.41	178.74
	NORMAL	7,610.0	5.81	210.83	7,230.42	-1,622.16	-1,181.52	2,006.78	2.90	-2.81	-5.91	191.90
	NORMAL	7,705.0	3.39	201.33	7,325.10	-1,628.91	-1,185.00	2,014.28	2.66	-2.55	-10.00	192.78
	NORMAL	7,800.0	1.74	181.08	7,420.01	-1,632.97	-1,186.05	2,018.17	1.96	-1.74	-21.32	198.92
	NORMAL	7,895.0	1.23	96.21	7,514.99	-1,634.52	-1,185.07	2,018.83	2.15	-0.54	-89.34	216.94
	NORMAL	7,990.0	1.61	87.22	7,609.96	-1,634.57	-1,182.72	2,017.47	0.46	0.40	-9.46	325.07
	NORMAL	8,085.0	1.37	265.55	7,704.95	-1,634.59	-1,182.52	2,017.37	3.14	-0.25	187.72	179.23
	NORMAL	8,180.0	1.64	267.70	7,799.91	-1,634.73	-1,185.01	2,018.97	0.29	0.28	2.26	12.89
9/20/2014	NORMAL	8,274.0	0.75	190.32	7,893.90	-1,635.39	-1,186.46	2,020.36	1.75	-0.95	-82.32	206.38
	NORMAL	8,369.0	1.07	186.68	7,988.88	-1,636.88	-1,186.68	2,021.69	0.34	0.34	-3.83	347.94
	NORMAL	8,464.0	1.04	108.64	8,083.87	-1,638.04	-1,185.96	2,022.20	1.40	-0.03	-82.15	229.98
	NORMAL	8,559.0	0.49	104.24	8,178.86	-1,638.42	-1,184.75	2,021.78	0.58	-0.58	-4.63	183.90
	NORMAL	8,654.0	0.74	189.33	8,273.86	-1,639.12	-1,184.46	2,022.17	0.90	0.26	89.57	120.06
	NORMAL	8,749.0	0.59	170.66	8,368.85	-1,640.21	-1,184.48	2,023.06	0.28	-0.16	-19.65	226.21
	NORMAL	8,844.0	0.64	222.70	8,463.85	-1,641.08	-1,184.76	2,023.93	0.57	0.05	54.78	111.26
	NORMAL	8,939.0	0.47	233.14	8,558.85	-1,641.71	-1,185.43	2,024.83	0.21	-0.18	10.99	154.40
	NORMAL	9,034.0	0.90	213.57	8,653.84	-1,642.56	-1,186.16	2,025.94	0.51	0.45	-20.60	321.43
	NORMAL	9,128.0	0.28	283.02	8,747.83	-1,643.12	-1,186.79	2,026.77	0.90	-0.66	73.88	161.89
9/21/2014	NORMAL	9,223.0	1.05	333.17	8,842.83	-1,642.29	-1,187.41	2,026.47	0.94	0.81	52.79	64.02
	NORMAL	9,318.0	2.48	358.20	8,937.78	-1,639.46	-1,187.86	2,024.47	1.68	1.51	26.35	41.23
	NORMAL	9,413.0	1.92	338.04	9,032.71	-1,635.93	-1,188.52	2,022.02	1.00	-0.59	-21.22	224.32
	NORMAL	9,508.0	2.25	310.35	9,127.65	-1,633.25	-1,190.54	2,021.06	1.10	0.35	-29.15	273.97
	NORMAL	9,602.0	1.04	285.84	9,221.61	-1,631.82	-1,192.77	2,021.24	1.46	-1.29	-26.07	198.31
	NORMAL	9,697.0	1.15	251.90	9,316.60	-1,631.88	-1,194.50	2,022.32	0.68	0.12	-35.73	262.38
	NORMAL	9,792.0	1.63	284.82	9,411.57	-1,631.83	-1,196.72	2,023.60	0.96	0.51	34.65	76.15
	NORMAL	9,887.0	1.31	298.15	9,506.54	-1,630.98	-1,198.98	2,024.25	0.49	-0.34	14.03	139.63
	NORMAL	9,982.0	1.00	295.75	9,601.52	-1,630.10	-1,200.68	2,024.56	0.33	-0.33	-2.53	187.67
9/22/2014	NORMAL	10,077.0	1.00	243.28	9,696.51	-1,630.12	-1,202.17	2,025.46	0.93	0.00	-55.23	243.77
	NORMAL	10,172.0	1.43	225.64	9,791.49	-1,631.32	-1,203.76	2,027.37	0.59	0.45	-18.57	309.94
	NORMAL	10,267.0	1.49	194.27	9,886.46	-1,633.34	-1,204.91	2,029.68	0.83	0.06	-33.02	258.51
	NORMAL	10,362.0	1.08	201.02	9,981.43	-1,635.38	-1,205.54	2,031.69	0.46	-0.43	7.11	163.09
	NORMAL	10,457.0	1.65	204.52	10,076.41	-1,637.46	-1,206.42	2,033.89	0.61	0.60	3.68	10.07
9/23/2014	NORMAL	10,552.0	1.25	213.33	10,171.38	-1,639.57	-1,207.56	2,036.26	0.48	-0.42	9.27	155.22
	NORMAL	10,648.0	0.78	62.61	10,267.37	-1,640.14	-1,207.56	2,036.72	2.05	-0.49	-157.00	191.18
	NORMAL	10,742.0	1.27	254.94	10,361.36	-1,640.12	-1,207.99	2,036.96	2.17	0.52	-178.37	187.64
	NORMAL	10,837.0	1.22	327.27	10,456.35	-1,639.54	-1,209.56	2,037.43	1.55	-0.05	76.14	127.73
	NORMAL	10,932.0	1.42	20.98	10,551.33	-1,637.59	-1,209.68	2,035.94	1.27	0.21	56.54	108.34
	NORMAL	11,027.0	1.16	26.49	10,646.30	-1,635.63	-1,208.83	2,033.85	0.30	-0.27	5.80	157.23
	NORMAL	11,122.0	1.10	302.45	10,741.29	-1,634.28	-1,209.17	2,032.97	1.59	-0.06	-88.46	226.30
	NORMAL	11,271.0	0.81	290.36	10,890.27	-1,633.15	-1,211.37	2,033.36	0.24	-0.19	-8.11	208.85
9/24/2014	NORMAL	11,312.0	1.18	265.79	10,931.26	-1,633.08	-1,212.06	2,033.72	1.36	0.90	-59.93	298.21
	NORMAL	11,407.0	1.80	316.48	11,026.23	-1,632.07	-1,214.06	2,034.10	1.47	0.65	53.36	91.62
	NORMAL	11,502.0	1.57	315.39	11,121.19	-1,630.06	-1,216.01	2,033.64	0.24	-0.24	-1.15	187.39
	NORMAL	11,597.0	0.94	291.25	11,216.17	-1,628.85	-1,217.65	2,033.64	0.85	-0.66	-25.41	208.36
	NORMAL	11,692.0	1.45	359.66	11,311.15	-1,627.36	-1,218.38	2,032.88	1.48	0.54	72.01	106.77
	NORMAL	11,788.0	1.31	36.48	11,407.13	-1,625.27	-1,217.73	2,030.81	0.92	-0.15	38.35	117.07
	NORMAL	11,882.0	0.72	19.69	11,501.11	-1,623.85	-1,216.90	2,029.17	0.70	-0.63	-17.86	198.53
	NORMAL	11,978.0	0.42	346.43	11,597.11	-1,622.94	-1,216.78	2,028.37	0.45	-0.31	-34.65	211.99
9/25/2014	NORMAL	12,072.0	0.76	279.90	11,691.10	-1,622.50	-1,217.47	2,028.43	0.75	0.36	-70.78	260.45
9/26/2014	NORMAL	12,168.0	0.93	275.67	11,787.09	-1,622.31	-1,218.87	2,029.11	0.19	0.18	-4.41	337.73
	NORMAL	12,263.0	0.85	272.88	11,882.08	-1,622.20	-1,220.34	2,029.90	0.10	-0.08	-2.94	207.05
	NORMAL	12,358.0	0.70	252.88	11,977.08	-1,622.33	-1,221.60	2,030.75	0.32	-0.16	-21.05	231.24
	NORMAL	12,453.0	1.90	262.97	12,072.05	-1,622.70	-1,223.72	2,032.31	1.28	1.26	10.62	15.87
	NORMAL	12,548.0	2.06	250.30	12,166.99	-1,623.46	-1,226.89	2,034.81	0.49	0.17	-13.34	283.67
	NORMAL	12,643.0	3.04	254.19	12,261.90	-1,624.73	-1,230.92	2,038.22	1.05	1.03	4.09	11.96

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 (°)
9/26/2014	NORMAL	12,833.0	3.42	251.45	12,451.60	-1,627.90	-1,241.14	2,046.85	0.22	0.20	-1.44	336.52
	NORMAL	12,890.0	3.42	251.45	12,508.50	-1,628.98	-1,244.37	2,049.64	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

