

1 General

1.1 Customer Information

Company	PICEANCE HL
Representative	
Address	

1.2 Well/Wellbore Information

Well	RGU 44-24-198	Wellbore No.	00
Wellbore Legal Name	RGU 44-24-198	Common Wellbore Name	RGU 44-24-198
Project	RG 24-01S-098W	Site	RGU 33-24-198 Pad
Vertical Section Azimuth	137.62 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	7/8/2014	UWI	RGU 44-24-198
Active datum	KB @6,617.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SDI
Date Started	7/8/2014	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 (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
7/8/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/8/2014	NORMAL	148.0	0.44	55.46	148.00	0.32	0.47	0.08	0.30	0.30	0.00	55.46
	NORMAL	240.0	1.23	84.11	239.99	0.62	1.74	0.71	0.95	0.86	31.14	42.68
7/9/2014	NORMAL	332.0	2.99	134.12	331.93	-0.95	4.45	3.70	2.60	1.91	54.36	73.18
	NORMAL	425.0	5.19	140.98	424.69	-5.90	8.84	10.32	2.42	2.37	7.38	15.98
	NORMAL	517.0	7.30	146.07	516.14	-13.99	14.72	20.25	2.37	2.29	5.53	17.24
	NORMAL	609.0	6.69	147.13	607.45	-23.34	20.89	31.32	0.68	-0.66	1.15	168.58
	NORMAL	701.0	6.51	136.14	698.85	-31.60	27.41	41.82	1.38	-0.20	-11.95	256.46
	NORMAL	793.0	6.81	137.20	790.23	-39.36	34.73	52.49	0.35	0.33	1.15	22.81
	NORMAL	886.0	6.24	148.97	882.63	-47.74	41.08	62.96	1.56	-0.61	12.66	118.86
	NORMAL	950.0	6.40	142.64	946.24	-53.55	45.04	69.92	1.12	0.25	-9.89	279.77
	NORMAL	1,044.0	7.35	142.39	1,039.56	-62.48	51.89	81.13	1.01	1.01	-0.27	358.07
	NORMAL	1,139.0	8.11	141.52	1,133.70	-72.54	59.77	93.87	0.81	0.80	-0.92	350.82
	NORMAL	1,234.0	6.93	131.34	1,227.88	-81.57	68.24	106.26	1.87	-1.24	-10.72	223.50
	NORMAL	1,328.0	7.63	127.07	1,321.13	-89.08	77.48	118.03	0.94	0.74	-4.54	320.17
	NORMAL	1,423.0	6.57	126.53	1,415.40	-96.12	86.88	129.56	1.12	-1.12	-0.57	183.34
	NORMAL	1,518.0	5.75	130.96	1,509.85	-102.47	94.84	139.62	1.00	-0.86	4.66	152.09
7/10/2014	NORMAL	1,613.0	5.43	134.19	1,604.40	-108.73	101.66	148.84	0.47	-0.34	3.40	137.08
	NORMAL	1,707.0	4.95	131.25	1,698.01	-114.50	107.90	157.31	0.58	-0.51	-3.13	207.53
	NORMAL	1,802.0	6.90	140.06	1,792.50	-121.58	114.64	167.08	2.26	2.05	9.27	29.43
	NORMAL	1,897.0	7.19	141.30	1,886.78	-130.59	122.02	178.72	0.34	0.31	1.31	28.29

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
7/10/2014	NORMAL	1,992.0	7.44	141.82	1,981.01	-140.07	129.54	190.78	0.27	0.26	0.55	15.09
	NORMAL	2,087.0	7.61	142.64	2,075.19	-149.90	137.16	203.18	0.21	0.18	0.86	32.69
	NORMAL	2,181.0	7.24	142.37	2,168.41	-159.54	144.55	215.29	0.40	-0.39	-0.29	185.25
	NORMAL	2,276.0	6.41	140.76	2,262.73	-168.39	151.56	228.55	0.90	-0.87	-1.69	192.18
	NORMAL	2,371.0	6.43	140.79	2,357.14	-176.62	158.28	237.15	0.02	0.02	0.03	9.54
	NORMAL	2,465.0	6.48	139.57	2,450.54	-184.73	165.05	247.71	0.16	0.05	-1.30	289.42
	NORMAL	2,560.0	6.53	141.89	2,544.93	-193.07	171.86	258.46	0.28	0.05	2.44	80.38
	NORMAL	2,655.0	6.76	142.06	2,639.29	-201.73	178.63	269.42	0.24	0.24	0.18	4.97
	NORMAL	2,749.0	5.98	134.68	2,732.71	-209.53	185.51	279.82	1.20	-0.83	-7.85	222.76
	NORMAL	2,844.0	6.09	135.59	2,827.19	-216.61	192.56	289.80	0.15	0.12	0.96	41.47
	NORMAL	2,939.0	6.04	135.15	2,921.65	-223.75	199.61	299.83	0.07	-0.05	-0.46	222.70
	NORMAL	3,033.0	7.11	137.67	3,015.03	-231.56	207.02	310.59	1.18	1.14	2.68	16.35
	NORMAL	3,128.0	8.13	138.62	3,109.19	-240.95	215.42	323.19	1.08	1.07	1.00	7.51
	NORMAL	3,223.0	9.21	138.22	3,203.11	-251.66	224.92	337.51	1.14	1.14	-0.42	356.61
	NORMAL	3,317.0	9.94	136.56	3,295.80	-263.16	235.51	353.14	0.83	0.78	-1.77	338.46
7/11/2014	NORMAL	3,412.0	11.19	136.52	3,389.19	-275.80	247.49	370.55	1.32	1.32	-0.04	359.64
	NORMAL	3,507.0	11.88	134.74	3,482.27	-289.37	260.78	389.54	0.82	0.73	-1.87	331.84
	NORMAL	3,602.0	12.82	137.89	3,575.07	-304.08	274.80	409.84	1.22	0.99	3.32	37.18
	NORMAL	3,696.0	13.21	137.82	3,666.65	-319.77	289.00	431.01	0.42	0.41	-0.07	357.65
	NORMAL	3,791.0	13.62	136.57	3,759.06	-335.94	303.98	453.05	0.53	0.43	-1.32	324.12
	NORMAL	3,886.0	13.38	135.53	3,851.44	-351.91	319.37	475.22	0.36	-0.25	-1.09	224.83
7/22/2014	NORMAL	4,011.0	14.60	140.57	3,972.73	-374.40	339.51	505.41	1.38	0.98	4.03	47.43
	NORMAL	4,106.0	14.02	137.06	4,064.79	-392.07	354.95	528.87	1.10	-0.61	-3.69	234.54
	NORMAL	4,200.0	14.82	130.64	4,155.83	-408.24	371.83	552.19	1.90	0.85	-6.83	293.45
	NORMAL	4,295.0	16.91	130.44	4,247.21	-425.11	391.57	577.96	2.20	2.20	-0.21	358.41
	NORMAL	4,390.0	17.97	135.72	4,337.84	-444.57	412.32	606.32	2.00	1.12	5.56	58.72
	NORMAL	4,485.0	17.87	139.10	4,428.24	-466.08	432.09	635.54	1.10	-0.11	3.56	97.10
	NORMAL	4,579.0	17.70	131.32	4,517.76	-486.42	452.27	664.16	2.53	-0.18	-8.28	262.21
	NORMAL	4,675.0	18.46	130.98	4,609.02	-506.02	474.71	693.77	0.80	0.79	-0.35	351.93
	NORMAL	4,769.0	17.80	134.90	4,698.35	-525.92	496.12	722.90	1.48	-0.70	4.17	120.27
	NORMAL	4,864.0	17.24	143.99	4,788.97	-547.57	514.69	751.40	2.94	-0.59	9.57	105.88
	NORMAL	4,959.0	17.12	139.34	4,879.73	-569.56	532.07	779.37	1.45	-0.13	-4.89	262.79
	NORMAL	5,054.0	17.62	142.08	4,970.40	-591.51	550.02	807.68	1.01	0.53	2.88	59.88
7/23/2014	NORMAL	5,148.0	17.81	137.88	5,059.95	-613.40	568.41	836.24	1.37	0.20	-4.47	276.45
	NORMAL	5,243.0	18.33	136.85	5,150.26	-635.07	588.37	865.71	0.64	0.55	-1.08	327.94
	NORMAL	5,338.0	19.61	138.99	5,240.10	-658.00	609.05	896.59	1.53	1.35	2.25	29.54
	NORMAL	5,432.0	20.24	135.54	5,328.48	-681.51	630.79	928.61	1.42	0.67	-3.67	296.56
	NORMAL	5,527.0	19.27	130.43	5,417.89	-703.41	654.23	960.58	2.08	-1.02	-5.38	238.29
	NORMAL	5,622.0	20.25	131.01	5,507.30	-724.36	678.57	992.47	1.05	1.03	0.61	11.59
	NORMAL	5,717.0	20.53	131.13	5,596.34	-746.11	703.52	1,025.35	0.30	0.29	0.13	8.55
	NORMAL	5,812.0	20.08	142.94	5,685.48	-770.09	725.91	1,058.16	4.33	-0.47	12.43	101.78
	NORMAL	5,906.0	18.77	138.24	5,774.13	-794.25	745.71	1,089.35	2.17	-1.39	-5.00	227.83
	NORMAL	6,001.0	19.55	139.16	5,863.87	-817.68	766.28	1,120.52	0.88	0.82	0.97	21.60
	NORMAL	6,096.0	20.15	142.54	5,953.23	-842.69	786.63	1,152.71	1.36	0.63	3.56	64.00
	NORMAL	6,191.0	19.18	146.24	6,042.69	-868.66	805.26	1,184.45	1.66	-1.02	3.89	129.65
	NORMAL	6,285.0	18.25	147.89	6,131.72	-893.96	821.66	1,214.20	1.14	-0.99	1.76	151.13
	NORMAL	6,380.0	17.20	144.97	6,222.21	-918.07	837.63	1,242.77	1.45	-1.11	-3.07	218.87
	NORMAL	6,475.0	16.07	136.88	6,313.25	-939.17	854.68	1,269.85	2.71	-1.19	-8.52	240.15
	NORMAL	6,569.0	14.91	135.77	6,403.83	-957.33	872.01	1,294.95	1.27	-1.23	-1.18	193.80
	NORMAL	6,664.0	13.18	135.37	6,495.99	-973.80	888.15	1,317.99	1.82	-1.82	-0.42	183.02
	NORMAL	6,759.0	13.27	133.95	6,588.47	-989.07	903.61	1,339.69	0.35	0.09	-1.49	284.79
	NORMAL	6,854.0	13.35	134.95	6,680.92	-1,004.39	919.22	1,361.53	0.26	0.08	1.05	71.32
	NORMAL	6,948.0	11.18	142.08	6,772.77	-1,019.25	932.50	1,381.46	2.81	-2.31	7.59	148.53
	NORMAL	7,043.0	10.91	130.27	6,866.02	-1,032.32	945.02	1,399.56	2.39	-0.28	-12.43	257.42
	NORMAL	7,138.0	9.60	130.61	6,959.50	-1,043.29	957.90	1,416.34	1.38	-1.38	0.36	177.52
	NORMAL	7,233.0	8.06	140.34	7,053.38	-1,053.58	968.16	1,430.85	2.25	-1.62	10.24	140.61

2.1.2 Survey Stations (Continued)

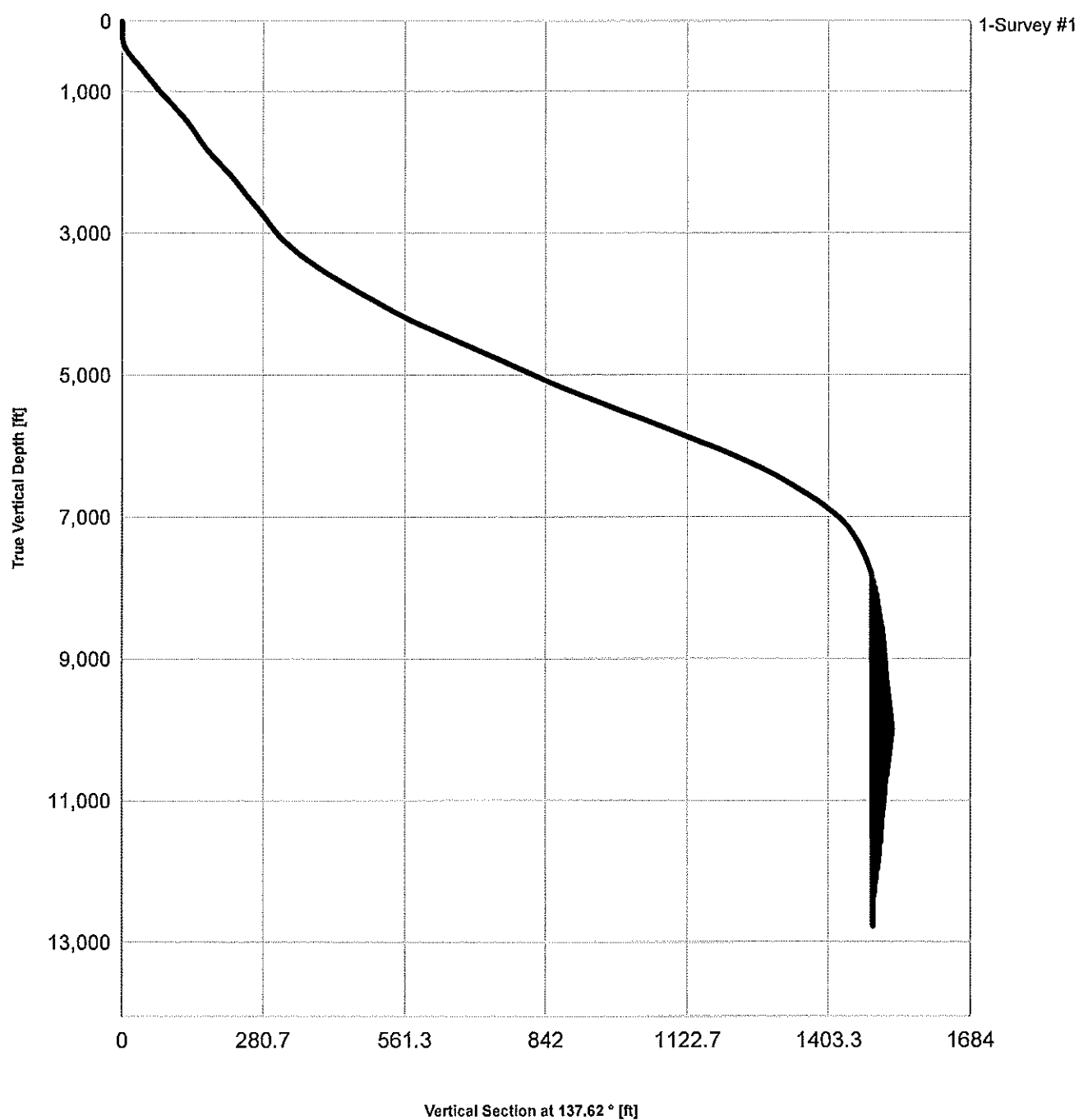
Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
7/24/2014	NORMAL	7,328.0	6.13	136.14	7,147.65	-1,062.36	975.93	1,442.58	2.10	-2.03	-4.42	192.97
	NORMAL	7,423.0	5.87	141.93	7,242.13	-1,069.84	982.44	1,452.49	0.69	-0.27	6.09	116.11
	NORMAL	7,517.0	4.29	139.92	7,335.76	-1,076.32	987.67	1,460.80	1.69	-1.68	-2.14	185.43
	NORMAL	7,612.0	4.06	134.11	7,430.51	-1,081.38	992.37	1,467.71	0.51	-0.24	-6.12	238.59
	NORMAL	7,707.0	3.73	131.18	7,525.29	-1,085.75	997.11	1,474.13	0.41	-0.35	-3.08	209.64
	NORMAL	7,801.0	2.97	141.79	7,619.13	-1,089.68	1,000.92	1,479.60	1.04	-0.81	11.29	146.01
	NORMAL	7,896.0	3.07	124.87	7,714.00	-1,093.07	1,004.53	1,484.54	0.94	0.11	-17.81	267.91
	NORMAL	7,991.0	2.19	146.05	7,808.90	-1,096.03	1,007.63	1,488.81	1.37	-0.93	22.29	142.41
	NORMAL	8,086.0	2.21	138.75	7,903.83	-1,098.91	1,009.85	1,492.44	0.30	0.02	-7.68	270.43
	NORMAL	8,180.0	2.39	155.92	7,997.75	-1,102.06	1,011.84	1,496.11	0.75	0.19	18.27	84.04
	NORMAL	8,276.0	1.37	151.34	8,093.70	-1,104.90	1,013.21	1,499.13	1.07	-1.06	-4.77	186.10
	NORMAL	8,370.0	1.11	139.15	8,187.68	-1,106.57	1,014.35	1,501.13	0.39	-0.28	-12.97	219.43
7/25/2014	NORMAL	8,465.0	1.40	117.94	8,282.66	-1,107.81	1,015.97	1,503.14	0.57	0.31	-22.33	291.08
	NORMAL	8,559.0	1.72	102.97	8,376.62	-1,108.67	1,018.36	1,505.38	0.55	0.34	-15.93	300.50
	NORMAL	8,654.0	1.95	107.03	8,471.57	-1,109.46	1,021.30	1,507.95	0.28	0.24	4.27	31.52
	NORMAL	8,749.0	1.11	131.64	8,566.54	-1,110.55	1,023.53	1,510.25	1.10	-0.88	25.91	153.83
	NORMAL	8,844.0	0.90	158.39	8,661.53	-1,111.85	1,024.49	1,511.87	0.53	-0.22	28.16	127.09
	NORMAL	8,939.0	0.80	181.88	8,756.52	-1,113.21	1,024.75	1,513.04	0.38	-0.11	24.73	117.54
	NORMAL	9,034.0	0.76	175.64	8,851.51	-1,114.50	1,024.77	1,514.01	0.10	-0.04	-6.57	241.69
	NORMAL	9,128.0	0.87	181.52	8,945.50	-1,115.83	1,024.80	1,515.02	0.15	0.12	6.26	40.21
	NORMAL	9,223.0	0.77	185.85	9,040.49	-1,117.19	1,024.72	1,515.96	0.12	-0.11	4.56	150.37
	NORMAL	9,318.0	0.80	176.85	9,135.48	-1,118.49	1,024.69	1,516.90	0.13	0.03	-9.47	279.15
	NORMAL	9,412.0	1.03	174.26	9,229.47	-1,119.98	1,024.81	1,518.09	0.25	0.24	-2.76	348.51
7/26/2014	NORMAL	9,507.0	1.17	169.66	9,324.45	-1,121.79	1,025.07	1,519.59	0.17	0.15	-4.84	325.44
	NORMAL	9,602.0	1.17	152.80	9,419.43	-1,123.60	1,025.68	1,521.35	0.36	0.00	-17.75	261.57
	NORMAL	9,697.0	0.84	148.99	9,514.42	-1,125.06	1,026.49	1,522.97	0.35	-0.35	-4.01	189.55
	NORMAL	9,792.0	0.77	154.67	9,609.41	-1,126.24	1,027.12	1,524.26	0.11	-0.07	5.98	134.07
	NORMAL	9,886.0	1.08	148.43	9,703.40	-1,127.56	1,027.85	1,525.74	0.35	0.33	-6.64	338.86
	NORMAL	9,981.0	1.09	163.40	9,798.38	-1,129.19	1,028.58	1,527.43	0.30	0.01	15.76	95.47
7/27/2014	NORMAL	10,076.0	1.21	168.63	9,893.36	-1,131.04	1,029.04	1,529.10	0.17	0.13	5.51	43.81
	NORMAL	10,171.0	0.51	78.93	9,988.35	-1,131.94	1,029.65	1,530.18	1.38	-0.74	-94.42	202.90
	NORMAL	10,266.0	1.96	352.01	10,083.33	-1,130.25	1,029.84	1,529.06	2.10	1.53	-91.49	258.32
	NORMAL	10,360.0	1.28	341.47	10,177.30	-1,127.67	1,029.28	1,526.78	0.79	-0.72	-11.21	198.45
	NORMAL	10,455.0	0.54	1.19	10,272.28	-1,126.21	1,028.95	1,525.48	0.83	-0.78	20.76	166.71
	NORMAL	10,550.0	1.48	338.35	10,367.27	-1,124.62	1,028.51	1,524.01	1.06	0.99	-24.04	325.12
	NORMAL	10,645.0	1.05	320.97	10,462.24	-1,122.81	1,027.51	1,521.99	0.60	-0.45	-18.29	213.27
	NORMAL	10,739.0	0.91	276.57	10,556.23	-1,122.05	1,026.22	1,520.57	0.80	-0.15	-47.23	237.87
	NORMAL	10,834.0	1.77	286.20	10,651.21	-1,121.56	1,024.07	1,518.75	0.93	0.91	10.14	19.52
	NORMAL	10,929.0	1.56	266.66	10,746.17	-1,121.22	1,021.37	1,516.68	0.63	-0.22	-20.57	240.12
	NORMAL	11,023.0	1.37	268.10	10,840.14	-1,121.34	1,018.97	1,515.15	0.21	-0.20	1.53	169.75
7/28/2014	NORMAL	11,118.0	0.58	357.15	10,935.13	-1,120.89	1,017.81	1,514.04	1.56	-0.83	93.74	156.91
	NORMAL	11,213.0	1.19	247.75	11,030.12	-1,120.79	1,016.87	1,513.33	1.57	0.64	-115.16	229.02
	NORMAL	11,307.0	1.01	333.53	11,124.11	-1,120.41	1,015.60	1,512.20	1.60	-0.19	91.26	137.92
	NORMAL	11,402.0	1.02	319.86	11,219.09	-1,119.02	1,014.68	1,510.55	0.25	0.01	-14.39	265.52
	NORMAL	11,497.0	0.85	319.40	11,314.08	-1,117.84	1,013.67	1,509.00	0.18	-0.18	-0.48	182.30
	NORMAL	11,592.0	0.37	333.68	11,409.07	-1,117.03	1,013.08	1,508.00	0.53	-0.51	15.03	169.48
	NORMAL	11,686.0	0.37	319.11	11,503.07	-1,116.52	1,012.75	1,507.40	0.10	0.00	-15.50	262.72
	NORMAL	11,781.0	1.41	273.39	11,598.06	-1,116.22	1,011.38	1,506.26	1.24	1.09	-48.13	301.33
7/29/2014	NORMAL	11,876.0	1.05	285.07	11,693.04	-1,115.93	1,009.37	1,504.69	0.46	-0.38	12.29	150.89
	NORMAL	11,970.0	1.04	271.92	11,787.02	-1,115.68	1,007.69	1,503.37	0.25	-0.01	-13.99	261.05
	NORMAL	12,065.0	1.35	274.19	11,882.00	-1,115.57	1,005.71	1,501.95	0.33	0.33	2.39	9.82
	NORMAL	12,160.0	1.61	269.56	11,976.97	-1,115.49	1,003.26	1,500.25	0.30	0.27	-4.87	332.97
	NORMAL	12,254.0	1.45	303.11	12,070.94	-1,114.85	1,000.94	1,498.21	0.95	-0.17	35.69	116.61
	NORMAL	12,349.0	1.02	329.83	12,165.92	-1,113.47	999.51	1,496.22	0.74	-0.45	28.13	139.60
	NORMAL	12,444.0	0.94	326.48	12,260.90	-1,112.09	998.66	1,494.63	0.10	-0.08	-3.53	213.94
	NORMAL	12,538.0	0.76	331.40	12,354.89	-1,110.90	997.93	1,493.26	0.21	-0.19	5.23	160.38

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
7/29/2014	NORMAL	12,633.0	1.68	30.99	12,449.88	-1,109.15	998.35	1,492.25	1.53	0.97	62.73	86.42
7/30/2014	NORMAL	12,727.0	1.69	48.68	12,543.84	-1,107.05	1,000.10	1,491.88	0.55	0.01	18.82	97.75
	NORMAL	12,822.0	1.57	40.44	12,638.80	-1,105.14	1,001.99	1,491.74	0.28	-0.13	-8.67	238.81
	NORMAL	12,898.0	1.31	43.59	12,714.77	-1,103.72	1,003.27	1,491.55	0.36	-0.34	4.14	164.64
	NORMAL	12,956.0	1.31	43.59	12,772.73	-1,102.76	1,004.18	1,491.46	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

