

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	SG 441-22	Wellbore No.	00
Well Name	SG 441-22	Common Name	SG 441-22
Project	SG 22-07S-096W	Site	SG 42-22 Pad
Vertical Section Azimuth	291.67 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	8/5/2013	UWI	SG 441-22
Active Datum	KB @5,243.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SCIENTIFIC DRILLING
Date Started	8/5/2013	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

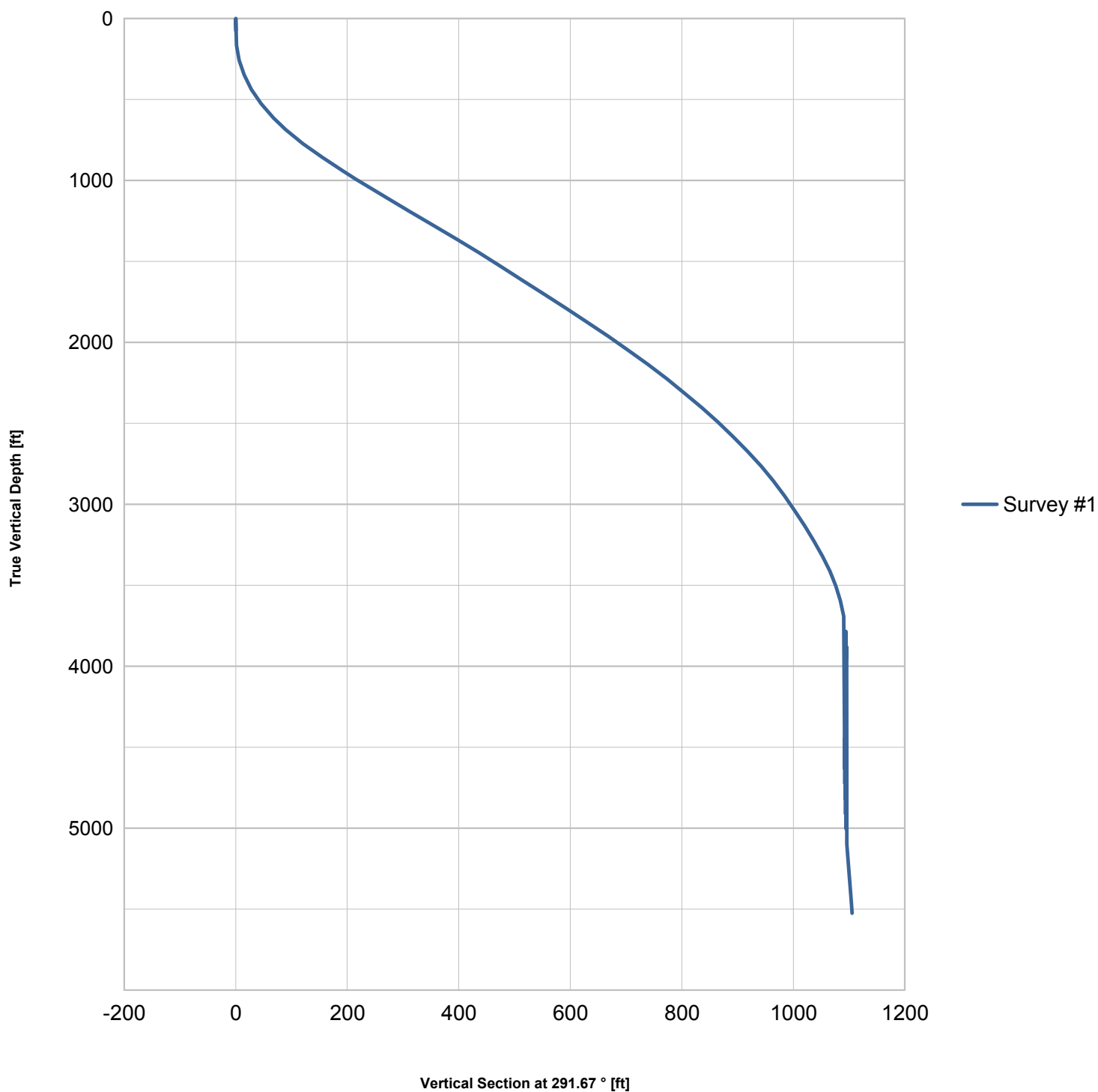
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
8/5/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/5/2013	NORMAL	75.0	0.09	183.60	75.00	-0.06	0.00	-0.02	0.12	0.12	0.00	183.60
	NORMAL	167.0	1.94	292.50	166.98	0.47	-1.45	1.52	2.14	2.01	118.37	111.38
	NORMAL	259.0	4.22	299.79	258.84	2.74	-5.82	6.43	2.51	2.48	7.92	13.40
8/6/2013	NORMAL	349.0	6.95	297.42	348.41	6.90	-13.53	15.12	3.04	3.03	-2.63	353.99
	NORMAL	440.0	9.77	291.27	438.43	12.23	-25.62	28.32	3.25	3.10	-6.76	339.35
	NORMAL	530.0	12.49	289.34	526.73	18.23	-41.92	45.69	3.05	3.02	-2.14	351.25
	NORMAL	622.0	15.48	290.04	616.00	25.73	-62.85	67.91	3.26	3.25	0.76	3.58
	NORMAL	696.0	18.32	291.65	686.79	33.41	-82.94	89.41	3.89	3.84	2.18	10.13
	NORMAL	788.0	21.37	291.01	773.32	44.76	-112.03	120.64	3.32	3.32	-0.70	355.62
	NORMAL	879.0	23.22	290.96	857.51	57.12	-144.26	155.16	2.03	2.03	-0.05	359.39
	NORMAL	971.0	24.41	290.97	941.68	70.41	-178.95	192.30	1.29	1.29	0.01	0.20
	NORMAL	1,025.0	25.21	292.27	990.69	78.76	-200.01	214.96	1.79	1.48	2.41	34.88
8/7/2013	NORMAL	1,155.0	25.86	292.84	1,108.00	100.26	-251.76	270.99	0.53	0.50	0.44	20.96
	NORMAL	1,248.0	26.15	291.01	1,191.58	115.48	-289.59	311.76	0.92	0.31	-1.97	289.05
	NORMAL	1,342.0	26.40	290.78	1,275.87	130.32	-328.46	353.37	0.29	0.27	-0.24	337.74
	NORMAL	1,437.0	26.36	290.20	1,360.98	145.09	-368.00	395.57	0.27	-0.04	-0.61	260.92
	NORMAL	1,531.0	24.80	290.07	1,445.76	159.07	-406.11	436.14	1.66	-1.66	-0.14	182.00
	NORMAL	1,624.0	24.37	292.16	1,530.33	173.00	-442.20	474.83	1.04	-0.46	2.25	117.26
	NORMAL	1,720.0	24.61	291.29	1,617.69	187.73	-479.16	514.62	0.45	0.25	-0.91	303.25
	NORMAL	1,814.0	24.52	289.31	1,703.19	201.28	-515.81	553.68	0.88	-0.10	-2.11	262.86

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 (°)
8/7/2013	NORMAL	1,909.0	23.70	292.96	1,789.90	215.25	-552.00	592.47	1.79	-0.86	3.84	120.47
	NORMAL	2,004.0	23.84	294.57	1,876.85	230.68	-587.04	630.73	0.70	0.15	1.69	78.56
	NORMAL	2,097.0	23.28	295.78	1,962.09	246.49	-620.68	667.83	0.80	-0.60	1.30	139.74
	NORMAL	2,192.0	22.08	294.69	2,049.75	262.11	-653.81	704.39	1.34	-1.26	-1.15	198.80
	NORMAL	2,285.0	21.83	294.31	2,136.00	276.53	-685.45	739.12	0.31	-0.27	-0.41	209.43
	NORMAL	2,381.0	20.15	294.66	2,225.63	290.78	-716.74	773.46	1.75	-1.75	0.36	175.90
	NORMAL	2,475.0	19.12	295.55	2,314.16	304.18	-745.35	804.99	1.14	-1.10	0.95	164.23
	NORMAL	2,569.0	19.08	296.28	2,402.99	317.62	-773.01	835.66	0.26	-0.04	0.78	99.85
	NORMAL	2,663.0	17.40	293.42	2,492.26	330.01	-799.69	865.03	2.02	-1.79	-3.04	206.70
	NORMAL	2,757.0	16.14	290.14	2,582.27	340.09	-824.85	892.14	1.68	-1.34	-3.49	215.35
	NORMAL	2,852.0	15.61	291.64	2,673.64	349.35	-849.13	918.12	0.71	-0.56	1.58	142.97
	NORMAL	2,947.0	14.09	291.07	2,765.47	358.23	-871.80	942.47	1.61	-1.60	-0.60	185.21
	NORMAL	3,040.0	12.83	291.34	2,855.91	366.05	-891.99	964.11	1.36	-1.35	0.29	177.28
8/8/2013	NORMAL	3,135.0	11.61	293.70	2,948.76	373.73	-910.56	984.22	1.39	-1.28	2.48	158.88
	NORMAL	3,229.0	11.31	294.37	3,040.88	381.34	-927.62	1,002.88	0.35	-0.32	0.71	156.40
	NORMAL	3,323.0	10.30	291.55	3,133.22	388.23	-943.83	1,020.49	1.21	-1.07	-3.00	206.25
	NORMAL	3,417.0	9.72	296.51	3,225.79	394.86	-958.75	1,036.80	1.10	-0.62	5.28	126.36
	NORMAL	3,512.0	8.86	300.18	3,319.54	402.12	-972.25	1,052.03	1.10	-0.91	3.86	147.24
	NORMAL	3,605.0	7.86	301.29	3,411.55	409.02	-983.88	1,065.38	1.09	-1.08	1.19	171.38
	NORMAL	3,698.0	5.69	300.94	3,503.90	414.69	-993.27	1,076.20	2.33	-2.33	-0.38	180.92
	NORMAL	3,791.0	4.56	297.46	3,596.52	418.77	-1,000.50	1,084.43	1.26	-1.22	-3.74	193.65
	NORMAL	3,886.0	2.82	307.82	3,691.32	421.94	-1,005.70	1,090.43	1.95	-1.83	10.91	164.15
	NORMAL	3,980.0	2.00	305.63	3,785.24	424.32	-1,008.86	1,094.24	0.88	-0.87	-2.33	185.31
	NORMAL	4,074.0	0.26	106.78	3,879.22	425.21	-1,009.99	1,095.62	2.39	-1.85	171.44	177.86
	NORMAL	4,168.0	0.79	141.68	3,973.22	424.64	-1,009.38	1,094.85	0.63	0.56	37.13	49.36
	NORMAL	4,262.0	0.44	150.91	4,067.21	423.82	-1,008.81	1,094.01	0.39	-0.37	9.82	168.78
	NORMAL	4,356.0	1.11	168.04	4,161.20	422.61	-1,008.44	1,093.22	0.75	0.71	18.22	27.77
	NORMAL	4,449.0	1.26	215.10	4,254.19	420.89	-1,008.84	1,092.96	1.03	0.16	50.60	105.25
	NORMAL	4,544.0	1.25	185.78	4,349.16	419.01	-1,009.55	1,092.92	0.67	-0.01	-30.86	254.47
	NORMAL	4,638.0	1.49	189.67	4,443.14	416.78	-1,009.86	1,092.39	0.27	0.26	4.14	23.13
	NORMAL	4,733.0	1.65	197.51	4,538.10	414.26	-1,010.48	1,092.03	0.28	0.17	8.25	57.28
	NORMAL	4,826.0	1.99	209.24	4,631.06	411.57	-1,011.67	1,092.15	0.54	0.37	12.61	53.58
	NORMAL	4,920.0	2.29	205.93	4,724.99	408.46	-1,013.29	1,092.50	0.35	0.32	-3.52	335.95
	NORMAL	5,014.0	2.15	218.45	4,818.92	405.39	-1,015.20	1,093.15	0.54	-0.15	13.32	112.30
8/9/2013	NORMAL	5,108.0	2.86	207.79	4,912.83	401.94	-1,017.39	1,093.91	0.90	0.76	-11.34	321.33
	NORMAL	5,200.0	2.75	213.22	5,004.72	398.06	-1,019.67	1,094.60	0.31	-0.12	5.90	115.18
	NORMAL	5,294.0	1.58	245.48	5,098.65	395.63	-1,022.09	1,095.94	1.75	-1.24	34.32	149.18
	NORMAL	5,389.0	1.85	245.39	5,193.61	394.45	-1,024.67	1,097.91	0.28	0.28	-0.09	359.38
	NORMAL	5,484.0	1.67	260.42	5,288.57	393.58	-1,027.43	1,100.15	0.52	-0.19	15.82	118.70
	NORMAL	5,578.0	1.72	252.45	5,382.53	392.93	-1,030.13	1,102.42	0.26	0.05	-8.48	277.97
	NORMAL	5,655.0	1.42	261.35	5,459.50	392.44	-1,032.17	1,104.14	0.50	-0.39	11.56	145.29
	NORMAL	5,720.0	1.42	261.35	5,524.48	392.20	-1,033.77	1,105.53	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

