

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	SG 513-23	Wellbore No.	
Well Name	SG 513-23	Common Name	SG 513-23
Project	SG 23-07S-096W	Site	SG 23-23 Pad
Vertical Section Azimuth	218.22 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	1/18/2012	UWI	SG 513-23
Active Datum	KB @5,089.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SCIENTIFIC
Started	1/18/2012	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)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
1/18/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/18/2012	NORMAL	78.0	0.62	233.09	78.00	-0.25	-0.34	0.41	0.79	0.79	0.00	233.09
	NORMAL	113.0	1.67	231.15	112.99	-0.69	-0.89	1.09	3.00	3.00	-5.54	356.92
	NORMAL	142.0	2.11	228.87	141.98	-1.30	-1.62	2.02	1.54	1.52	-7.86	349.16
	NORMAL	173.0	2.90	215.95	172.95	-2.31	-2.51	3.37	3.12	2.55	-41.68	317.87
	NORMAL	203.0	3.43	217.44	202.90	-3.64	-3.50	5.02	1.79	1.77	4.97	9.57
	NORMAL	233.0	4.31	221.40	232.83	-5.20	-4.79	7.05	3.06	2.93	13.20	18.88
	NORMAL	262.0	5.19	217.27	261.73	-7.06	-6.30	9.45	3.25	3.03	-14.24	336.70
	NORMAL	338.0	6.60	218.79	337.33	-13.20	-11.12	17.25	1.87	1.86	2.00	7.07
	NORMAL	429.0	8.00	215.45	427.59	-22.44	-18.07	28.81	1.61	1.54	-3.67	341.47
	NORMAL	513.0	7.52	212.13	510.82	-31.85	-24.39	40.11	0.78	-0.57	-3.95	221.41
1/20/2012	NORMAL	608.0	6.92	222.82	605.07	-41.31	-31.58	52.00	1.55	-0.63	11.25	119.31
	NORMAL	699.0	7.91	223.44	695.31	-49.88	-39.61	63.70	1.09	1.09	0.68	4.93
	NORMAL	790.0	7.68	219.45	785.47	-59.12	-47.78	76.01	0.65	-0.25	-4.38	245.01
	NORMAL	881.0	8.27	220.19	875.59	-68.82	-55.87	88.63	0.66	0.65	0.81	10.24
	NORMAL	973.0	7.49	211.74	966.72	-78.97	-63.29	101.20	1.52	-0.85	-9.18	231.91
	NORMAL	1,067.0	7.52	211.34	1,059.92	-89.44	-69.72	113.40	0.06	0.03	-0.43	299.67
	NORMAL	1,162.0	7.65	214.83	1,154.08	-99.94	-76.56	125.88	0.50	0.14	3.67	75.98
	NORMAL	1,256.0	8.25	223.20	1,247.18	-109.99	-84.75	138.85	1.39	0.64	8.90	66.79
	NORMAL	1,445.0	8.79	218.96	1,434.20	-130.34	-102.93	166.08	0.93	0.74	-3.84	321.08
	NORMAL	1,540.0	9.23	220.72	1,528.03	-141.76	-112.47	180.95	0.55	0.46	1.85	32.94

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
1/20/2012	NORMAL	1,635.0	8.99	217.09	1,621.83	-153.45	-121.91	195.98	0.66	-0.25	-3.82	245.55
	NORMAL	1,730.0	7.74	216.59	1,715.82	-164.51	-130.20	209.80	1.32	-1.32	-0.53	183.08
	NORMAL	1,824.0	6.68	215.08	1,809.07	-174.07	-137.12	221.59	1.15	-1.13	-1.61	189.39
	NORMAL	1,919.0	6.51	219.23	1,903.45	-182.76	-143.70	232.49	0.53	-0.18	4.37	111.68
	NORMAL	2,013.0	7.12	217.91	1,996.78	-191.48	-150.65	243.64	0.67	0.65	-1.40	344.94
	NORMAL	2,108.0	7.54	216.05	2,091.01	-201.17	-157.93	255.76	0.51	0.44	-1.96	329.61
	NORMAL	2,202.0	6.77	220.10	2,184.27	-210.39	-165.13	267.46	0.98	-0.82	4.31	148.77
	NORMAL	2,297.0	7.12	218.52	2,278.58	-219.28	-172.41	278.94	0.42	0.37	-1.66	330.59
	NORMAL	2,391.0	7.58	216.63	2,371.80	-228.82	-179.73	290.96	0.55	0.49	-2.01	331.33
	NORMAL	2,486.0	7.74	216.06	2,465.96	-239.01	-187.24	303.62	0.19	0.17	-0.60	334.32
	NORMAL	2,581.0	8.53	215.80	2,560.00	-249.90	-195.12	317.05	0.83	0.83	-0.27	357.20
	NORMAL	2,675.0	7.38	218.59	2,653.09	-260.27	-202.97	330.05	1.29	-1.22	2.97	162.82
	NORMAL	2,769.0	7.47	219.49	2,746.31	-269.71	-210.62	342.20	0.16	0.10	0.96	52.71
	NORMAL	2,864.0	7.91	217.73	2,840.45	-279.64	-218.55	354.91	0.53	0.46	-1.85	330.97
	NORMAL	2,958.0	7.94	217.34	2,933.55	-289.92	-226.44	367.87	0.07	0.03	-0.41	298.96
	NORMAL	3,053.0	7.54	212.23	3,027.69	-300.41	-233.75	380.63	0.84	-0.42	-5.38	237.32
	NORMAL	3,147.0	5.72	214.04	3,121.06	-309.51	-239.66	391.44	1.95	-1.94	1.93	174.35
1/20/2012	NORMAL	1,351.0	8.09	222.57	1,341.22	-119.88	-93.94	152.30	0.19	-0.17	-0.66	208.92
1/21/2012	NORMAL	3,242.0	3.56	200.73	3,215.74	-316.19	-243.35	398.97	2.53	-2.27	-14.01	199.97
	NORMAL	3,336.0	1.95	200.30	3,309.63	-320.42	-244.94	403.28	1.71	-1.71	-0.46	180.52
	NORMAL	3,431.0	0.59	228.31	3,404.61	-322.26	-245.87	405.30	1.53	-1.43	29.48	169.03
	NORMAL	3,525.0	0.78	251.07	3,498.60	-322.79	-246.83	406.31	0.35	0.20	24.21	66.81
	NORMAL	3,620.0	1.16	245.69	3,593.59	-323.40	-248.32	407.71	0.41	0.40	-5.66	343.82
	NORMAL	3,714.0	0.78	220.07	3,687.57	-324.28	-249.60	409.19	0.60	-0.40	-27.26	216.45
	NORMAL	3,809.0	0.58	133.63	3,782.57	-325.11	-249.67	409.88	0.99	-0.21	-90.99	217.89
	NORMAL	3,903.0	0.70	61.29	3,876.56	-325.16	-248.82	409.40	0.81	0.13	-76.96	241.14
	NORMAL	3,998.0	0.27	57.77	3,971.56	-324.76	-248.12	408.65	0.45	-0.45	-3.71	182.21
	NORMAL	4,093.0	0.61	240.40	4,066.56	-324.89	-248.37	408.91	0.93	0.36	-186.71	181.82
	NORMAL	4,187.0	0.35	165.52	4,160.55	-325.42	-248.74	409.55	0.66	-0.28	-79.66	213.08
	NORMAL	4,281.0	0.35	358.18	4,254.55	-325.41	-248.67	409.50	0.74	0.00	-178.02	186.33
	NORMAL	4,376.0	0.58	358.22	4,349.55	-324.64	-248.70	408.91	0.24	0.24	0.04	0.10
	NORMAL	4,470.0	0.35	344.03	4,443.55	-323.89	-248.79	408.38	0.27	-0.24	-15.10	199.62
1/22/2012	NORMAL	4,565.0	0.53	262.12	4,538.55	-323.67	-249.31	408.53	0.62	0.19	-86.22	242.31
	NORMAL	4,659.0	0.79	265.02	4,632.54	-323.78	-250.38	409.28	0.28	0.28	3.09	8.77
	NORMAL	4,754.0	1.23	239.97	4,727.53	-324.35	-251.92	410.68	0.65	0.46	-26.37	301.91
	NORMAL	4,848.0	1.22	228.01	4,821.50	-325.52	-253.54	412.60	0.27	-0.01	-12.72	261.79
	NORMAL	4,943.0	1.41	207.11	4,916.48	-327.24	-254.82	414.75	0.54	0.20	-22.00	280.94
	NORMAL	5,037.0	1.44	215.74	5,010.45	-329.23	-256.04	417.06	0.23	0.03	9.18	86.37
	NORMAL	5,131.0	1.83	208.18	5,104.41	-331.51	-257.44	419.72	0.47	0.41	-8.04	327.24
	NORMAL	5,226.0	2.11	206.04	5,199.36	-334.42	-258.92	422.92	0.30	0.29	-2.25	344.21
	NORMAL	5,303.0	2.37	205.60	5,276.30	-337.13	-260.23	425.86	0.34	0.34	-0.57	356.00
	NORMAL	5,360.0	2.37	205.60	5,333.25	-339.25	-261.25	428.16	0.00	0.00	0.00	0.00