

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	SG 13-23	Wellbore No.	
Well Name	SG 13-23	Common Name	SG 13-23
Project	SG 23-07S-096W	Site	SG 23-23 Pad
Vertical Section Azimuth	203.66 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	1/23/2012	UWI	SG 13-23
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	1/23/2012	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)	Bulld (°/100ft)	Turn (°/100ft)	TFace (°)
1/23/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/23/2012	NORMAL	76.0	1.06	191.87	76.00	-0.69	-0.14	0.69	1.39	1.39	0.00	191.87
	NORMAL	111.0	1.58	197.23	110.99	-1.47	-0.35	1.48	1.53	1.49	15.31	16.05
	NORMAL	142.0	2.73	202.41	141.96	-2.56	-0.76	2.65	3.76	3.71	16.71	12.21
	NORMAL	173.0	3.08	195.47	172.92	-4.04	-1.27	4.21	1.60	1.13	-22.39	311.36
	NORMAL	203.0	3.43	206.02	202.88	-5.62	-1.87	5.90	2.31	1.17	35.17	65.04
	NORMAL	234.0	4.13	205.58	233.81	-7.47	-2.76	7.95	2.26	2.26	-1.42	357.41
	NORMAL	262.0	4.66	205.22	261.73	-9.40	-3.68	10.09	1.90	1.89	-1.29	356.84
	NORMAL	294.0	5.54	204.96	293.60	-11.98	-4.89	12.93	2.75	2.75	-0.81	358.37
	NORMAL	325.0	5.98	203.03	324.44	-14.82	-6.15	16.05	1.55	1.42	-6.23	335.28
	NORMAL	354.0	7.13	201.27	353.25	-17.89	-7.40	19.35	4.03	3.97	-6.07	349.21
	NORMAL	386.0	7.39	203.55	385.00	-21.63	-8.94	23.40	1.21	0.81	7.13	49.07
	NORMAL	417.0	8.09	203.82	415.71	-25.45	-10.62	27.57	2.26	2.26	0.87	3.11
1/24/2012	NORMAL	445.0	9.15	204.61	443.40	-29.28	-12.34	31.77	3.81	3.79	2.82	6.76
	NORMAL	475.0	10.21	204.52	472.97	-33.86	-14.44	36.81	3.53	3.53	-0.30	359.14
	NORMAL	505.0	11.96	203.82	502.41	-39.13	-16.79	42.58	5.85	5.83	-2.33	355.26
	NORMAL	536.0	12.84	204.52	532.68	-45.20	-19.52	49.24	2.88	2.84	2.26	10.04
	NORMAL	578.0	13.46	204.79	573.58	-53.88	-23.51	58.79	1.48	1.48	0.64	5.79
1/25/2012	NORMAL	699.0	13.65	207.63	691.21	-79.32	-36.03	87.11	0.57	0.16	2.35	75.45
	NORMAL	790.0	13.68	201.12	779.64	-98.87	-44.89	108.58	1.69	0.03	-7.15	267.95
	NORMAL	881.0	14.33	199.53	867.94	-119.52	-52.53	130.56	0.83	0.71	-1.75	328.60

## 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 (°)
1/25/2012	NORMAL	973.0	14.68	203.57	957.01	-140.94	-61.00	153.57	1.16	0.38	4.39	72.88
	NORMAL	1,067.0	13.28	205.77	1,048.22	-161.58	-70.46	176.27	1.59	-1.49	2.34	160.28
	NORMAL	1,162.0	11.78	201.73	1,140.96	-180.41	-78.79	196.87	1.83	-1.58	-4.25	208.34
	NORMAL	1,256.0	11.78	202.96	1,232.98	-198.16	-86.09	216.05	0.27	0.00	1.31	90.60
	NORMAL	1,351.0	10.64	200.76	1,326.17	-215.29	-92.98	234.51	1.28	-1.20	-2.32	199.49
	NORMAL	1,445.0	11.61	200.93	1,418.40	-232.24	-99.44	252.63	1.03	1.03	0.18	2.02
	NORMAL	1,540.0	12.31	204.71	1,511.34	-250.37	-107.08	272.30	1.11	0.74	3.98	50.07
	NORMAL	1,635.0	12.66	201.11	1,604.09	-269.28	-115.07	292.83	0.90	0.37	-3.79	292.45
	NORMAL	1,730.0	12.75	200.06	1,696.77	-288.84	-122.41	313.69	0.26	0.09	-1.11	290.78
	NORMAL	1,824.0	12.93	204.98	1,788.42	-308.12	-130.41	334.56	1.18	0.19	5.23	83.06
	NORMAL	1,919.0	12.93	203.75	1,881.01	-327.48	-139.18	355.81	0.29	0.00	-1.29	269.40
	NORMAL	2,013.0	13.19	205.94	1,972.58	-346.75	-148.11	377.04	0.59	0.28	2.33	63.35
	NORMAL	2,108.0	13.54	207.97	2,065.01	-366.32	-158.06	398.96	0.62	0.37	2.14	54.27
	NORMAL	2,202.0	13.10	207.17	2,156.48	-385.52	-168.09	420.57	0.51	-0.47	-0.85	202.34
1/26/2012	NORMAL	2,297.0	11.87	202.91	2,249.23	-404.10	-176.81	441.08	1.62	-1.29	-4.48	214.76
	NORMAL	2,391.0	12.58	200.17	2,341.10	-422.61	-184.10	460.97	0.98	0.76	-2.91	319.40
	NORMAL	2,486.0	13.44	202.37	2,433.66	-442.53	-191.87	482.33	1.04	0.91	2.32	31.01
	NORMAL	2,581.0	13.67	203.04	2,526.01	-463.07	-200.47	504.60	0.29	0.24	0.71	34.65
	NORMAL	2,675.0	13.89	202.78	2,617.31	-483.70	-209.18	526.98	0.24	0.23	-0.28	344.15
	NORMAL	2,769.0	13.01	201.99	2,708.73	-503.91	-217.51	548.84	0.96	-0.94	-0.84	191.41
	NORMAL	2,864.0	12.05	206.12	2,801.47	-522.73	-225.88	569.44	1.38	-1.01	4.35	138.98
	NORMAL	2,958.0	10.46	208.14	2,893.66	-539.06	-234.23	587.75	1.74	-1.69	2.15	167.06
	NORMAL	3,053.0	9.15	208.41	2,987.27	-553.31	-241.89	603.88	1.38	-1.38	0.28	178.12
	NORMAL	3,147.0	7.65	209.02	3,080.26	-565.36	-248.48	617.55	1.60	-1.60	0.65	176.90
	NORMAL	3,242.0	5.80	199.26	3,174.60	-575.42	-253.13	628.64	2.28	-1.95	-10.27	206.92
	NORMAL	3,336.0	5.01	195.84	3,268.18	-583.85	-255.82	637.44	0.91	-0.84	-3.64	200.49
	NORMAL	3,431.0	4.13	185.38	3,362.88	-591.25	-257.27	644.80	1.27	-0.93	-11.01	218.31
	NORMAL	3,525.0	2.64	178.43	3,456.72	-596.78	-257.53	649.97	1.64	-1.59	-7.39	191.95
1/27/2012	NORMAL	3,620.0	1.93	181.60	3,551.64	-600.57	-257.52	653.43	0.76	-0.75	3.34	171.49
	NORMAL	3,714.0	0.49	163.01	3,645.62	-602.54	-257.44	655.20	1.57	-1.53	-19.78	186.08
	NORMAL	3,809.0	0.26	278.72	3,740.62	-602.89	-257.54	655.57	0.68	-0.24	121.80	158.76
	NORMAL	3,903.0	0.53	296.91	3,834.61	-602.66	-258.14	655.60	0.31	0.29	19.35	34.19
	NORMAL	3,998.0	0.59	300.80	3,929.61	-602.22	-258.95	655.51	0.07	0.06	4.09	34.32
	NORMAL	4,093.0	1.11	339.24	4,024.60	-601.10	-259.69	654.79	0.78	0.55	40.46	67.95
	NORMAL	4,187.0	0.68	342.55	4,118.59	-599.72	-260.18	653.72	0.46	-0.46	3.52	174.80
	NORMAL	4,281.0	0.35	337.25	4,212.58	-598.92	-260.46	653.11	0.35	-0.35	-5.64	185.57
	NORMAL	4,376.0	0.79	238.02	4,307.58	-599.00	-261.13	653.45	0.96	0.46	-104.45	238.56
	NORMAL	4,470.0	0.70	236.18	4,401.57	-599.67	-262.16	654.47	0.10	-0.10	-1.96	193.97
	NORMAL	4,565.0	0.53	248.66	4,496.57	-600.15	-263.05	655.27	0.23	-0.18	13.14	147.89
	NORMAL	4,659.0	0.53	343.58	4,590.56	-599.89	-263.58	655.24	0.83	0.00	100.98	137.46
	NORMAL	4,754.0	0.97	350.70	4,685.56	-598.67	-263.83	654.23	0.47	0.46	7.49	15.53
	NORMAL	4,848.0	1.06	317.65	4,779.54	-597.25	-264.54	653.21	0.62	0.10	-35.16	261.98
1/28/2012	NORMAL	4,943.0	1.05	306.83	4,874.53	-596.08	-265.83	652.65	0.21	-0.01	-11.39	261.73
	NORMAL	5,037.0	1.14	293.04	4,968.51	-595.19	-267.38	652.47	0.30	0.10	-14.67	281.88
	NORMAL	5,131.0	0.92	249.45	5,062.49	-595.09	-268.95	653.00	0.84	-0.23	-46.37	233.25
	NORMAL	5,226.0	1.47	231.24	5,157.47	-596.12	-270.61	654.61	0.70	0.58	-19.17	316.04
	NORMAL	5,320.0	1.67	232.55	5,251.44	-597.74	-272.64	656.88	0.22	0.21	1.39	10.83
	NORMAL	5,378.0	1.67	232.55	5,309.41	-598.74	-273.98	658.36	0.00	0.00	0.00	0.00