

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	SG 313-23	Wellbore No.	
Well Name	SG 313-23	Common Name	SG 313-23
Project	SG 23-07S-096W	Site	SG 23-23 Pad
Vertical Section Azimuth	302.54 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	1/7/2012	UWI	SG 313-23
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	1/7/2012	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 (°)
1/7/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/7/2012	NORMAL	81.0	0.97	306.83	81.00	0.41	-0.55	0.68	1.20	1.20	0.00	306.83
	NORMAL	109.0	2.02	319.75	108.99	0.93	-1.06	1.39	3.92	3.75	46.14	24.33
	NORMAL	140.0	2.55	322.21	139.96	1.89	-1.83	2.56	1.74	1.71	7.94	11.72
	NORMAL	171.0	3.17	321.24	170.92	3.11	-2.79	4.02	2.01	2.00	-3.13	355.05
	NORMAL	201.0	3.26	319.04	200.88	4.40	-3.87	5.63	0.51	0.30	-7.33	305.01
	NORMAL	231.0	3.52	305.07	230.82	5.57	-5.18	7.37	2.88	0.87	-46.57	280.42
	NORMAL	261.0	4.31	303.22	260.75	6.72	-6.88	9.41	2.67	2.63	-6.17	349.99
	NORMAL	292.0	5.10	301.03	291.65	8.06	-9.04	11.96	2.61	2.55	-7.06	346.10
	NORMAL	322.0	6.07	301.73	321.51	9.59	-11.53	14.87	3.24	3.23	2.33	4.37
	NORMAL	337.0	6.56	299.65	336.41	10.43	-12.95	16.52	3.60	3.27	-13.87	333.94
	NORMAL	368.0	7.74	303.51	367.17	12.46	-16.23	20.38	4.11	3.81	12.45	24.08
	NORMAL	398.0	8.53	304.92	396.87	14.84	-19.73	24.62	2.72	2.63	4.70	14.87
	NORMAL	429.0	9.42	301.98	427.49	17.50	-23.77	29.46	3.23	2.87	-9.48	331.28
	NORMAL	459.0	10.09	305.17	457.06	20.32	-28.00	34.54	2.87	2.23	10.63	40.47
	NORMAL	489.0	10.20	301.93	486.59	23.24	-32.41	39.82	1.94	0.37	-10.80	279.31
	NORMAL	520.0	10.02	297.01	517.11	25.91	-37.14	45.25	2.84	-0.58	-15.87	255.81
	NORMAL	543.0	10.11	297.80	539.75	27.76	-40.71	49.25	0.72	0.39	3.43	57.29
1/9/2012	NORMAL	607.0	9.23	299.12	602.84	32.88	-50.16	59.97	1.42	-1.38	2.06	166.51
	NORMAL	699.0	9.76	299.47	693.58	40.31	-63.39	75.12	0.58	0.58	0.38	6.39
	NORMAL	790.0	9.67	303.34	783.28	48.30	-76.49	90.47	0.72	-0.10	4.25	99.75

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 (°)
1/9/2012	NORMAL	881.0	9.50	301.32	873.01	56.41	-89.29	105.62	0.41	-0.19	-2.22	242.19
	NORMAL	973.0	9.15	299.03	963.79	63.90	-102.18	120.51	0.55	-0.38	-2.49	225.55
	NORMAL	1,067.0	8.97	305.89	1,056.62	71.83	-114.65	135.29	1.16	-0.19	7.30	102.84
	NORMAL	1,162.0	9.80	303.82	1,150.35	80.67	-127.37	150.76	0.94	0.87	-2.18	336.85
	NORMAL	1,256.0	8.79	302.90	1,243.12	89.02	-140.04	165.94	1.09	-1.07	-0.98	187.92
	NORMAL	1,351.0	7.73	304.74	1,337.13	96.61	-151.39	179.59	1.15	-1.12	1.94	166.91
	NORMAL	1,445.0	8.10	301.51	1,430.23	103.67	-162.23	192.52	0.62	0.39	-3.44	308.15
	NORMAL	1,540.0	9.02	302.81	1,524.18	111.20	-174.19	206.66	0.99	0.97	1.37	12.52
	NORMAL	1,635.0	8.97	304.74	1,618.01	119.46	-186.54	221.51	0.32	-0.05	2.03	100.36
	NORMAL	1,730.0	8.71	307.64	1,711.88	128.07	-198.32	236.08	0.54	-0.27	3.05	121.69
	NORMAL	1,824.0	9.12	305.14	1,804.74	136.71	-210.05	250.61	0.60	0.44	-2.66	315.38
	NORMAL	1,919.0	8.88	309.58	1,898.58	145.71	-221.86	265.41	0.77	-0.25	4.67	111.25
	NORMAL	2,013.0	8.22	311.79	1,991.53	154.81	-232.46	279.24	0.78	-0.70	2.35	154.62
	NORMAL	2,108.0	8.35	306.80	2,085.54	163.47	-243.05	292.82	0.77	0.14	-5.25	277.77
	NORMAL	2,202.0	9.15	306.68	2,178.45	172.02	-254.51	307.08	0.85	0.85	-0.13	358.63
	NORMAL	2,297.0	9.41	303.86	2,272.20	180.86	-267.01	322.38	0.55	0.27	-2.97	298.36
	NORMAL	2,391.0	9.15	303.07	2,364.97	189.22	-279.66	337.54	0.31	-0.28	-0.84	205.71
	NORMAL	2,486.0	9.06	303.25	2,458.78	197.45	-292.24	352.57	0.10	-0.09	0.19	162.53
	NORMAL	2,580.0	9.15	302.63	2,551.59	205.53	-304.73	367.44	0.14	0.10	-0.66	312.22
	NORMAL	2,675.0	9.76	303.60	2,645.30	214.06	-317.79	383.05	0.66	0.64	1.02	15.12
	NORMAL	2,769.0	9.50	297.89	2,737.98	222.10	-331.29	398.75	1.05	-0.28	-6.07	251.97
	NORMAL	2,864.0	9.21	291.65	2,831.72	228.57	-345.28	414.03	1.11	-0.31	-6.57	250.98
	NORMAL	2,958.0	9.32	292.70	2,924.49	234.29	-359.30	428.91	0.21	0.12	1.12	57.47
	NORMAL	3,053.0	8.97	297.10	3,018.28	240.63	-372.99	443.86	0.82	-0.37	4.63	118.75
	NORMAL	3,147.0	8.09	304.04	3,111.25	247.67	-384.99	457.77	1.44	-0.94	7.38	133.92
	NORMAL	3,242.0	7.12	312.48	3,205.41	255.39	-394.87	470.25	1.55	-1.02	8.88	135.10
	NORMAL	3,336.0	5.54	315.00	3,298.84	262.53	-402.38	480.42	1.71	-1.68	2.68	171.28
	NORMAL	3,431.0	5.01	322.23	3,393.43	269.05	-408.16	488.81	0.89	-0.56	7.61	132.13
	NORMAL	3,525.0	3.69	323.20	3,487.16	274.72	-412.49	495.50	1.41	-1.40	1.03	177.29
1/10/2012	NORMAL	3,620.0	2.20	336.30	3,582.03	278.84	-415.05	499.88	1.71	-1.57	13.79	162.14
	NORMAL	3,714.0	1.31	23.91	3,675.99	281.47	-415.34	501.54	1.74	-0.95	50.65	143.69
	NORMAL	3,809.0	0.88	27.10	3,770.98	283.44	-414.67	501.77	0.46	-0.45	3.36	173.52
	NORMAL	3,903.0	0.53	64.89	3,864.97	283.94	-413.85	501.61	0.60	-0.37	40.20	144.84
	NORMAL	3,998.0	0.26	106.66	3,959.97	284.07	-413.24	501.17	0.40	-0.28	43.97	152.74
	NORMAL	4,092.0	0.44	180.11	4,053.97	283.64	-413.04	500.77	0.47	0.19	78.14	107.71
	NORMAL	4,186.0	0.53	159.81	4,147.96	282.87	-412.89	500.23	0.20	0.10	-21.60	287.25
	NORMAL	4,282.0	0.94	185.90	4,243.95	281.67	-412.82	499.52	0.54	0.43	27.18	52.76
	NORMAL	4,377.0	1.00	242.84	4,338.94	280.52	-413.63	499.59	0.98	0.06	59.94	115.20
	NORMAL	4,472.0	0.79	258.10	4,433.93	280.01	-415.01	500.48	0.33	-0.22	16.06	138.84
	NORMAL	4,565.0	0.60	14.09	4,526.93	280.35	-415.52	501.09	1.27	-0.20	124.72	152.88
	NORMAL	4,659.0	0.96	38.78	4,620.92	281.44	-414.91	501.16	0.52	0.38	26.27	55.83
	NORMAL	4,754.0	0.68	69.04	4,715.91	282.26	-413.88	500.74	0.53	-0.29	31.85	137.40
	NORMAL	4,848.0	0.26	132.83	4,809.91	282.32	-413.21	500.19	0.65	-0.45	67.86	157.57
	NORMAL	4,943.0	0.70	182.05	4,904.90	281.59	-413.07	499.69	0.60	0.46	51.81	69.59
1/11/2012	NORMAL	5,037.0	0.77	205.00	4,998.90	280.44	-413.36	499.31	0.32	0.07	24.41	88.27
	NORMAL	5,131.0	1.22	191.60	5,092.88	278.89	-413.83	498.87	0.54	0.48	-14.26	325.85
	NORMAL	5,226.0	2.02	197.34	5,187.84	276.30	-414.53	498.07	0.86	0.84	6.04	14.34
	NORMAL	5,320.0	2.55	201.38	5,281.77	272.77	-415.78	497.23	0.59	0.56	4.30	18.93
	NORMAL	5,389.0	3.20	203.34	5,350.68	269.68	-417.11	496.63	0.95	0.94	2.84	9.58
1/12/2012	NORMAL	5,446.0	3.20	203.34	5,407.59	266.65	-418.37	496.12	0.00	0.00	0.00	0.00