

# 1 General

## 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

## 1.2 Well Information

Well	GM 323-23	Wellbore No.	
Well Name	GM 323-23	Common Name	GM 323-23
Project	GV 23-06S-096W	Site	MV 10-23 Pad
Vertical Section Azimuth	73.18 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	9/13/2011	UWI	GM 323-23
Active Datum	KB @6,002.0ft (above Mean Sea Level)		

# 2 Survey Name

## 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Started	9/13/2011	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 (°)
9/13/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/13/2011	NORMAL	85.0	0.53	195.82	85.00	-0.38	-0.11	-0.21	0.62	0.62	0.00	195.82
	NORMAL	177.0	1.23	85.34	176.99	-0.71	0.76	0.52	1.63	0.76	-120.09	230.19
	NORMAL	268.0	3.70	71.46	267.90	0.31	4.52	4.41	2.77	2.71	-15.25	339.41
	NORMAL	360.0	6.33	68.47	359.54	3.11	12.05	12.44	2.87	2.86	-3.25	352.83
9/14/2011	NORMAL	451.0	8.62	66.62	449.76	7.66	22.98	24.21	2.53	2.52	-2.03	353.08
	NORMAL	543.0	11.70	71.72	540.31	13.32	38.17	40.39	3.48	3.35	5.54	18.81
	NORMAL	614.0	14.07	74.43	609.52	17.90	53.32	56.22	3.44	3.34	3.82	15.63
	NORMAL	724.0	18.20	76.19	715.16	25.59	82.90	86.76	3.78	3.75	1.60	7.60
9/15/2011	NORMAL	793.0	18.48	76.44	780.66	30.73	103.99	108.43	0.42	0.41	0.36	15.81
	NORMAL	884.0	16.54	74.66	867.44	37.54	130.51	135.78	2.21	-2.13	-1.96	194.59
	NORMAL	975.0	15.26	70.97	954.96	44.87	154.32	160.70	1.79	-1.41	-4.05	216.54
	NORMAL	1,071.0	15.12	71.95	1,047.60	52.87	178.17	185.84	0.30	-0.15	1.02	119.07
	NORMAL	1,166.0	14.93	73.52	1,139.36	60.18	201.68	210.47	0.47	-0.20	1.65	115.78
	NORMAL	1,262.0	16.34	70.26	1,231.80	68.25	226.25	236.32	1.73	1.47	-3.40	326.49
	NORMAL	1,357.0	16.14	70.11	1,323.01	77.25	251.25	262.85	0.22	-0.21	-0.16	191.77
	NORMAL	1,453.0	15.25	69.71	1,415.43	86.17	275.64	288.78	0.93	-0.93	-0.42	186.74
	NORMAL	1,548.0	15.21	71.97	1,507.10	94.36	299.21	313.71	0.63	-0.04	2.38	94.94
	NORMAL	1,644.0	16.00	73.18	1,599.56	102.09	323.85	339.53	0.89	0.82	1.26	22.98
	NORMAL	1,740.0	16.97	75.05	1,691.61	109.53	350.05	366.77	1.15	1.01	1.95	29.58
	NORMAL	1,835.0	16.10	73.85	1,782.68	116.77	376.10	393.80	0.98	-0.92	-1.26	200.86

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 (°)
9/15/2011	NORMAL	1,929.0	16.44	75.75	1,872.92	123.67	401.51	420.12	0.67	0.36	2.02	58.35
	NORMAL	2,024.0	15.76	75.56	1,964.19	130.20	427.03	446.44	0.72	-0.72	-0.20	184.34
	NORMAL	2,120.0	16.61	75.72	2,056.38	136.83	452.96	473.17	0.89	0.89	0.17	3.08
	NORMAL	2,216.0	16.80	75.14	2,148.33	143.77	479.66	500.74	0.26	0.20	-0.60	318.46
	NORMAL	2,312.0	16.70	73.84	2,240.26	151.17	506.32	528.40	0.40	-0.10	-1.35	254.43
	NORMAL	2,407.0	15.79	73.01	2,331.47	158.75	531.79	554.98	0.99	-0.96	-0.87	193.92
	NORMAL	2,502.0	16.53	69.96	2,422.71	167.16	556.85	581.40	1.19	0.78	-3.21	309.61
	NORMAL	2,595.0	15.92	71.53	2,512.01	175.73	581.38	607.36	0.81	-0.66	1.69	145.03
9/16/2011	NORMAL	2,690.0	15.55	71.19	2,603.45	183.96	605.79	633.11	0.40	-0.39	-0.36	193.83
	NORMAL	2,786.0	14.42	72.78	2,696.18	191.65	629.39	657.92	1.25	-1.18	1.66	160.77
	NORMAL	2,881.0	14.33	72.41	2,788.21	198.71	651.89	681.50	0.14	-0.09	-0.39	225.41
	NORMAL	2,977.0	15.24	73.51	2,881.03	205.88	675.32	706.00	0.99	0.95	1.15	17.68
	NORMAL	3,070.0	14.74	74.30	2,970.87	212.55	698.43	730.05	0.58	-0.54	0.85	158.15
	NORMAL	3,163.0	14.71	74.52	3,060.81	218.90	721.20	753.69	0.07	-0.03	0.24	118.32
	NORMAL	3,258.0	15.92	72.85	3,152.44	225.96	745.27	778.77	1.36	1.27	-1.76	339.16
	NORMAL	3,354.0	15.62	72.89	3,244.82	233.65	770.20	804.86	0.31	-0.31	0.04	177.94
	NORMAL	3,449.0	15.12	72.94	3,336.43	241.05	794.27	830.04	0.53	-0.53	0.05	178.51
	NORMAL	3,545.0	16.76	72.73	3,428.73	248.83	819.46	856.41	1.71	1.71	-0.22	357.88
	NORMAL	3,640.0	17.41	71.97	3,519.54	257.29	846.06	884.31	0.72	0.68	-0.80	340.68
	NORMAL	3,736.0	16.44	73.90	3,611.38	265.51	872.77	912.26	1.17	-1.01	2.01	150.84
	NORMAL	3,831.0	15.89	73.70	3,702.62	272.89	898.16	938.70	0.58	-0.58	-0.21	185.68
	NORMAL	3,925.0	16.26	73.94	3,792.95	280.14	923.16	964.73	0.40	0.39	0.26	10.30
	NORMAL	4,021.0	15.04	75.05	3,885.39	287.07	948.11	990.62	1.31	-1.27	1.16	166.74
	NORMAL	4,116.0	15.71	74.65	3,976.99	293.65	972.42	1,015.79	0.71	0.71	-0.42	350.81
	NORMAL	4,211.0	16.10	75.55	4,068.35	300.35	997.58	1,041.81	0.49	0.41	0.95	32.74
	NORMAL	4,306.0	15.65	72.41	4,159.73	307.50	1,022.55	1,067.79	1.02	-0.47	-3.31	240.84
	NORMAL	4,400.0	15.74	70.92	4,250.22	315.50	1,046.69	1,093.20	0.44	0.10	-1.59	281.87
	NORMAL	4,495.0	15.79	71.22	4,341.65	323.88	1,071.10	1,119.00	0.10	0.05	0.32	58.62
	NORMAL	4,590.0	16.27	70.57	4,432.96	332.47	1,095.89	1,145.21	0.54	0.51	-0.68	339.18
	NORMAL	4,685.0	15.39	73.03	4,524.35	340.57	1,120.50	1,171.11	1.16	-0.93	2.59	143.85
	NORMAL	4,781.0	15.48	73.20	4,616.89	347.99	1,144.95	1,196.66	0.10	0.09	0.18	26.77
9/17/2011	NORMAL	4,876.0	15.39	73.55	4,708.46	355.23	1,169.17	1,221.94	0.14	-0.09	0.37	134.18
	NORMAL	4,972.0	13.89	73.03	4,801.35	362.20	1,192.41	1,246.21	1.57	-1.56	-0.54	184.76
	NORMAL	5,068.0	12.57	73.47	4,894.80	368.53	1,213.45	1,268.18	1.38	-1.38	0.46	175.85
	NORMAL	5,163.0	11.17	71.77	4,987.76	374.35	1,232.10	1,287.71	1.52	-1.47	-1.79	193.19
	NORMAL	5,259.0	9.61	68.87	5,082.19	380.15	1,248.41	1,305.00	1.71	-1.63	-3.02	197.11
	NORMAL	5,354.0	9.32	66.46	5,175.89	386.08	1,262.86	1,320.55	0.52	-0.31	-2.54	232.62
	NORMAL	5,449.0	8.18	68.02	5,269.79	391.68	1,276.18	1,334.92	1.23	-1.20	1.64	169.01
	NORMAL	5,545.0	6.77	66.87	5,364.97	396.46	1,287.71	1,347.35	1.48	-1.47	-1.20	185.49
9/18/2011	NORMAL	5,641.0	5.49	71.77	5,460.42	400.12	1,297.28	1,357.56	1.44	-1.33	5.10	160.19
	NORMAL	5,736.0	4.68	71.35	5,555.04	402.78	1,305.27	1,365.98	0.85	-0.85	-0.44	182.42
	NORMAL	5,832.0	4.10	73.92	5,650.76	404.99	1,312.28	1,373.32	0.64	-0.60	2.68	162.54
	NORMAL	5,927.0	2.02	65.38	5,745.62	406.63	1,317.06	1,378.38	2.24	-2.19	-8.99	188.12
	NORMAL	6,023.0	0.70	78.91	5,841.59	407.44	1,319.18	1,380.64	1.41	-1.38	14.09	173.03
	NORMAL	6,118.0	0.18	296.55	5,936.59	407.62	1,319.61	1,381.11	0.89	-0.55	-149.85	187.43
	NORMAL	6,214.0	0.26	281.87	6,032.59	407.73	1,319.26	1,380.81	0.10	0.08	-15.29	317.34
	NORMAL	6,309.0	0.77	250.18	6,127.58	407.56	1,318.45	1,379.98	0.60	0.54	-33.36	314.33
	NORMAL	6,405.0	1.67	236.94	6,223.56	406.58	1,316.67	1,377.99	0.98	0.94	-13.79	335.92
	NORMAL	6,501.0	2.09	222.92	6,319.51	404.53	1,314.31	1,375.14	0.65	0.44	-14.60	305.25
	NORMAL	6,596.0	1.29	197.06	6,414.47	402.24	1,312.82	1,373.05	1.14	-0.84	-27.22	211.20
	NORMAL	6,692.0	0.80	126.32	6,510.46	400.81	1,313.04	1,372.85	1.33	-0.51	-73.69	216.36
	NORMAL	6,786.0	1.22	78.60	6,604.44	400.62	1,314.55	1,374.24	0.96	0.45	-50.77	271.32
	NORMAL	6,976.0	1.25	90.10	6,794.40	401.02	1,318.60	1,378.23	0.13	0.02	6.05	88.87
9/19/2011	NORMAL	7,072.0	0.74	265.39	6,890.39	400.97	1,319.03	1,378.63	2.07	-0.53	182.59	178.25
	NORMAL	7,167.0	1.65	280.50	6,985.37	401.17	1,317.08	1,376.81	1.01	0.96	15.91	26.76
	NORMAL	7,262.0	2.89	267.00	7,080.30	401.29	1,313.34	1,373.27	1.41	1.31	-14.21	329.83
	NORMAL	7,357.0	2.48	270.77	7,175.19	401.19	1,308.89	1,368.99	0.47	-0.43	3.97	158.57

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 (°)
9/19/2011	NORMAL	7,547.0	1.76	296.80	7,365.07	402.56	1,302.18	1,362.96	0.62	-0.38	13.70	139.32
	NORMAL	7,643.0	1.53	277.19	7,461.03	403.39	1,299.59	1,360.72	0.63	-0.24	-20.43	238.17
	NORMAL	7,738.0	2.69	271.21	7,555.96	403.60	1,296.10	1,357.44	1.24	1.22	-6.29	346.26
	NORMAL	7,800.0	3.17	260.58	7,617.88	403.35	1,292.96	1,354.36	1.17	0.77	-17.15	306.07
9/20/2011	NORMAL	7,856.0	3.17	260.58	7,673.79	402.84	1,289.90	1,351.29	0.00	0.00	0.00	0.00