

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	GM 313-27	Wellbore No.	
Well Name	GM 313-27	Common Name	GM 313-27
Project	GV 27-06S-096W	Site	GM 24-27 Pad
Vertical Section Azimuth	295.54 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	5/19/2011	UWI	GM 313-27
Active Datum	KB @5,628.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #2

Survey Name	Survey #2	Company	
Started	5/19/2011	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 (°)
5/19/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/19/2011	NORMAL	71.0	0.26	239.41	71.00	-0.08	-0.14	0.09	0.37	0.37	0.00	239.41
	NORMAL	132.0	1.14	319.57	132.00	0.31	-0.65	0.72	1.84	1.44	131.41	93.32
	NORMAL	223.0	2.64	306.65	222.94	2.25	-2.92	3.60	1.70	1.65	-14.20	337.62
	NORMAL	315.0	5.54	296.28	314.70	5.48	-8.60	10.13	3.24	3.15	-11.27	340.48
	NORMAL	406.0	8.01	291.88	405.06	9.79	-18.43	20.85	2.77	2.71	-4.84	345.94
5/20/2011	NORMAL	497.0	11.61	295.49	494.71	16.10	-32.58	36.34	4.01	3.96	3.97	11.48
	NORMAL	569.0	14.43	295.15	564.86	23.03	-47.24	52.56	3.92	3.92	-0.47	358.28
	NORMAL	661.0	16.44	295.18	653.53	33.44	-69.40	77.04	2.18	2.18	0.03	0.24
	NORMAL	752.0	19.23	296.48	740.15	45.60	-94.48	104.91	3.10	3.07	1.43	8.74
	NORMAL	844.0	21.41	296.63	826.42	59.89	-123.05	136.85	2.37	2.37	0.16	1.44
	NORMAL	935.0	24.62	297.36	910.17	76.05	-154.74	172.41	3.54	3.53	0.80	5.42
	NORMAL	1,027.0	28.23	297.21	992.54	94.81	-191.12	213.32	3.92	3.92	-0.16	358.87
	NORMAL	1,121.0	31.72	294.83	1,073.96	115.36	-233.34	260.27	3.92	3.71	-2.53	340.15
	NORMAL	1,175.0	33.68	294.45	1,119.40	127.52	-259.85	289.44	3.65	3.63	-0.70	353.86
5/21/2011	NORMAL	1,288.0	34.40	295.20	1,213.03	154.08	-317.26	352.69	0.74	0.64	0.66	30.56
	NORMAL	1,350.0	34.50	294.30	1,264.16	168.76	-349.11	387.76	0.84	0.16	-1.45	280.74
	NORMAL	1,445.0	33.40	293.40	1,342.97	190.22	-397.63	440.79	1.27	-1.16	-0.95	204.18
	NORMAL	1,539.0	32.30	295.50	1,421.94	211.31	-444.05	491.76	1.68	-1.17	2.23	134.88
	NORMAL	1,633.0	31.80	294.30	1,501.61	232.31	-489.29	541.63	0.86	-0.53	-1.28	231.35
	NORMAL	1,728.0	31.20	294.30	1,582.61	252.74	-534.53	591.26	0.63	-0.63	0.00	180.00

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 (°)
5/21/2011	NORMAL	1,822.0	30.00	293.10	1,663.52	271.98	-578.33	639.08	1.43	-1.28	-1.28	206.46
	NORMAL	1,916.0	29.80	296.60	1,745.01	291.66	-620.84	685.92	1.87	-0.21	3.72	98.05
	NORMAL	2,011.0	28.70	298.90	1,827.90	313.25	-661.92	732.30	1.66	-1.16	2.42	135.39
	NORMAL	2,105.0	29.20	298.20	1,910.16	335.00	-701.89	777.73	0.64	0.53	-0.74	325.57
	NORMAL	2,199.0	28.40	297.30	1,992.53	356.08	-741.96	822.98	0.97	-0.85	-0.96	208.06
	NORMAL	2,293.0	28.90	297.30	2,075.02	376.76	-782.01	868.03	0.53	0.53	0.00	0.00
	NORMAL	2,388.0	28.60	296.30	2,158.31	397.36	-822.79	913.71	0.60	-0.32	-1.05	237.61
	NORMAL	2,482.0	29.30	295.00	2,240.56	417.05	-863.81	959.21	1.00	0.74	-1.38	317.48
	NORMAL	2,577.0	29.50	294.70	2,323.33	436.65	-906.13	1,005.84	0.26	0.21	-0.32	323.50
	NORMAL	2,670.0	28.10	295.20	2,404.82	455.54	-946.75	1,050.64	1.53	-1.51	0.54	170.46
	NORMAL	2,765.0	28.60	295.70	2,488.43	474.93	-987.48	1,095.75	0.58	0.53	0.53	25.62
	NORMAL	2,859.0	29.50	295.50	2,570.60	494.65	-1,028.64	1,141.39	0.96	0.96	-0.21	353.75
	NORMAL	2,954.0	30.40	297.00	2,652.92	515.63	-1,071.17	1,188.81	1.23	0.95	1.58	40.41
	NORMAL	3,048.0	30.70	297.10	2,733.87	537.36	-1,113.73	1,236.58	0.32	0.32	0.11	9.66
	NORMAL	3,142.0	32.80	295.50	2,813.80	559.25	-1,158.07	1,286.03	2.41	2.23	-1.70	337.47
5/22/2011	NORMAL	3,237.0	31.50	294.70	2,894.23	580.70	-1,203.85	1,336.58	1.44	-1.37	-0.84	197.79
	NORMAL	3,331.0	30.80	294.50	2,974.68	600.95	-1,248.06	1,385.20	0.75	-0.74	-0.21	188.32
	NORMAL	3,425.0	31.50	294.30	3,055.12	621.03	-1,292.34	1,433.81	0.75	0.74	-0.21	351.51
	NORMAL	3,520.0	31.10	294.10	3,136.30	641.26	-1,337.36	1,483.15	0.44	-0.42	-0.21	194.48
	NORMAL	3,614.0	31.90	293.40	3,216.44	661.04	-1,382.31	1,532.24	0.94	0.85	-0.74	335.13
	NORMAL	3,708.0	29.70	294.70	3,297.18	680.64	-1,426.27	1,580.35	2.45	-2.34	1.38	163.72
	NORMAL	3,803.0	28.80	296.80	3,380.07	700.79	-1,468.08	1,626.76	1.44	-0.95	2.21	132.17
	NORMAL	3,897.0	27.30	299.10	3,463.03	721.49	-1,507.13	1,670.92	1.97	-1.60	2.45	145.22
	NORMAL	3,992.0	26.60	298.70	3,547.71	742.29	-1,544.82	1,713.90	0.76	-0.74	-0.42	194.34
	NORMAL	4,086.0	24.40	297.80	3,632.55	761.46	-1,580.46	1,754.32	2.38	-2.34	-0.96	189.58
	NORMAL	4,180.0	23.50	297.70	3,718.46	779.23	-1,614.23	1,792.45	0.96	-0.96	-0.11	182.54
	NORMAL	4,275.0	22.30	294.30	3,805.97	795.45	-1,647.43	1,829.40	1.88	-1.26	-3.58	226.23
	NORMAL	4,369.0	22.30	293.60	3,892.94	809.93	-1,680.02	1,865.05	0.28	0.00	-0.74	269.68
	NORMAL	4,463.0	20.40	294.70	3,980.49	823.92	-1,711.25	1,899.26	2.07	-2.02	1.17	168.61
	NORMAL	4,557.0	18.20	296.80	4,069.20	837.38	-1,739.24	1,930.32	2.45	-2.34	2.23	163.48
5/23/2011	NORMAL	4,652.0	15.70	298.00	4,160.06	850.11	-1,763.84	1,958.00	2.66	-2.63	1.26	172.61
	NORMAL	4,746.0	13.70	297.50	4,250.98	861.22	-1,784.94	1,981.83	2.13	-2.13	-0.53	183.39
	NORMAL	4,840.0	11.10	293.80	4,342.78	870.01	-1,803.10	2,002.01	2.89	-2.77	-3.94	195.19
	NORMAL	4,934.0	9.90	292.20	4,435.21	876.72	-1,818.86	2,019.12	1.31	-1.28	-1.70	192.87
	NORMAL	5,029.0	8.40	296.60	4,529.00	882.91	-1,832.63	2,034.21	1.74	-1.58	4.63	157.15
	NORMAL	5,123.0	7.70	300.60	4,622.07	889.19	-1,844.19	2,047.35	0.95	-0.74	4.26	143.30
	NORMAL	5,217.0	5.10	300.60	4,715.48	894.52	-1,853.21	2,057.79	2.77	-2.77	0.00	180.00
	NORMAL	5,311.0	2.80	296.40	4,809.25	897.67	-1,858.86	2,064.24	2.46	-2.45	-4.47	185.08
	NORMAL	5,406.0	2.20	313.50	4,904.16	899.96	-1,862.26	2,068.30	1.00	-0.63	18.00	137.15
	NORMAL	5,500.0	2.60	336.90	4,998.08	903.16	-1,864.41	2,071.61	1.12	0.43	24.89	79.76
	NORMAL	5,595.0	2.00	10.10	5,093.01	906.78	-1,864.96	2,073.67	1.51	-0.63	34.95	130.22
	NORMAL	5,689.0	1.50	65.30	5,186.97	908.90	-1,863.56	2,073.32	1.79	-0.53	58.72	132.88
	NORMAL	5,784.0	1.30	78.30	5,281.94	909.64	-1,861.37	2,071.67	0.39	-0.21	13.68	128.59
	NORMAL	5,878.0	1.40	85.50	5,375.91	909.95	-1,859.18	2,069.83	0.21	0.11	7.66	63.11
5/24/2011	NORMAL	5,972.0	0.80	114.70	5,469.90	909.77	-1,857.44	2,068.18	0.85	-0.64	31.06	150.91
	NORMAL	6,067.0	0.90	148.20	5,564.89	908.85	-1,856.44	2,066.89	0.53	0.11	35.26	95.69
	NORMAL	6,161.0	0.70	130.10	5,658.88	907.86	-1,855.62	2,065.71	0.34	-0.21	-19.26	222.83
	NORMAL	6,255.0	0.40	121.90	5,752.87	907.31	-1,854.90	2,064.83	0.33	-0.32	-8.72	190.63
	NORMAL	6,350.0	0.40	268.10	5,847.87	907.13	-1,854.95	2,064.79	0.81	0.00	153.89	163.10
	NORMAL	6,444.0	0.50	168.50	5,941.87	906.71	-1,855.19	2,064.84	0.73	0.11	-105.96	225.57
	NORMAL	6,539.0	0.90	142.30	6,036.86	905.72	-1,854.66	2,063.92	0.53	0.42	-27.58	307.74
	NORMAL	6,633.0	0.40	171.10	6,130.86	904.81	-1,854.15	2,063.07	0.62	-0.53	30.64	160.67
	NORMAL	6,727.0	1.30	235.30	6,224.85	903.88	-1,854.98	2,063.42	1.26	0.96	68.30	81.93
	NORMAL	6,822.0	1.90	245.80	6,319.81	902.62	-1,857.30	2,064.97	0.70	0.63	11.05	31.35
	NORMAL	6,916.0	2.00	251.40	6,413.76	901.46	-1,860.28	2,067.16	0.23	0.11	5.96	65.13
	NORMAL	7,010.0	2.50	253.00	6,507.68	900.33	-1,863.79	2,069.84	0.54	0.53	1.70	7.96
	NORMAL	7,104.0	3.20	260.70	6,601.57	899.31	-1,868.34	2,073.51	0.85	0.74	8.19	32.56

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 (°)
5/24/2011	NORMAL	7,199.0	3.30	265.70	6,696.41	898.68	-1,873.69	2,078.06	0.32	0.11	5.26	73.08
	NORMAL	7,293.0	3.50	259.50	6,790.25	897.95	-1,879.21	2,082.72	0.44	0.21	-6.60	295.42
	NORMAL	7,388.0	3.60	255.10	6,885.07	896.66	-1,884.94	2,087.34	0.31	0.11	-4.63	287.95
	NORMAL	7,433.0	3.60	255.10	6,929.98	895.93	-1,887.67	2,089.49	0.00	0.00	0.00	0.00

2.2 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Started	5/20/2011	Ended	
Tool Name	MWD	Engineer	

2.2.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
0.0	0.00	239.41	0.00	0.00	0.00

2.2.2 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 (°)
5/19/2011	NORMAL	71.0	0.26	239.41	71.00	-0.02	-0.04	0.03	1.24	1.24	0.00	239.41
	NORMAL	132.0	1.14	319.57	132.00	0.37	-0.55	0.66	1.84	1.44	131.41	93.32
	NORMAL	223.0	2.64	306.65	222.94	2.31	-2.82	3.54	1.70	1.65	-14.20	337.62
	NORMAL	315.0	5.54	296.28	314.70	5.54	-8.51	10.06	3.24	3.15	-11.27	340.48
	NORMAL	406.0	8.01	291.88	405.06	9.85	-18.33	20.78	2.77	2.71	-4.84	345.94
5/20/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/20/2011	NORMAL	50.0			50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.3 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Started	5/23/2011	Ended	
Tool Name	MWD	Engineer	

2.3.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
0.0	0.00	239.41	0.00	0.00	0.00

2.3.2 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 (°)
5/23/2011	NORMAL	5,628.0			5,628.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00