

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	GM 23-23	Wellbore No.	
Well Name	GM 23-23	Common Name	GM 23-23
Project	GV 23-06S-096W	Site	MV 10-23 Pad
Vertical Section Azimuth	60.13 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	8/23/2011	UWI	GM 23-23
Active Datum	KB @6,002.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	8/23/2011	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)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
8/23/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/23/2011	NORMAL	86.0	0.35	198.37	86.00	-0.25	-0.08	-0.20	0.41	0.41	0.00	198.37
	NORMAL	177.0	0.70	87.10	177.00	-0.48	0.38	0.09	0.98	0.38	-122.27	227.21
	NORMAL	268.0	2.20	64.51	267.97	0.29	2.52	2.33	1.73	1.65	-24.82	327.60
	NORMAL	360.0	4.66	62.05	359.79	2.81	7.41	7.83	2.68	2.67	-2.67	355.35
	NORMAL	451.0	6.77	55.28	450.34	7.60	15.09	16.87	2.43	2.32	-7.44	338.89
	NORMAL	523.0	7.21	57.12	521.80	12.47	22.37	25.61	0.69	0.61	2.56	27.89
	NORMAL	614.0	9.58	56.94	611.82	19.70	33.51	38.87	2.60	2.60	-0.20	359.28
	NORMAL	706.0	12.13	58.61	702.17	28.91	48.18	56.18	2.79	2.77	1.82	7.85
	NORMAL	797.0	13.37	61.69	790.92	38.88	65.61	76.26	1.55	1.36	3.38	30.24
	NORMAL	888.0	15.12	61.95	879.12	49.45	85.35	98.64	1.92	1.92	0.29	2.22
	NORMAL	969.0	16.71	61.14	957.01	60.04	104.87	120.84	1.98	1.96	-1.00	351.66
8/25/2011	NORMAL	1,072.0	17.10	60.44	1,055.56	74.66	131.01	150.79	0.43	0.38	-0.68	332.10
	NORMAL	1,167.0	17.66	59.71	1,146.23	88.82	155.60	179.17	0.63	0.59	-0.77	338.38
	NORMAL	1,263.0	17.59	60.12	1,237.72	103.39	180.76	208.23	0.15	-0.07	0.43	119.61
	NORMAL	1,359.0	17.16	60.33	1,329.34	117.62	205.64	236.90	0.45	-0.45	0.22	171.80
	NORMAL	1,454.0	16.26	60.04	1,420.33	131.20	229.34	264.22	0.95	-0.95	-0.31	185.15
	NORMAL	1,549.0	16.48	58.78	1,511.48	144.83	252.38	290.99	0.44	0.23	-1.33	301.17
	NORMAL	1,645.0	16.29	57.71	1,603.58	159.08	275.41	318.05	0.37	-0.20	-1.11	237.30
	NORMAL	1,741.0	16.70	56.41	1,695.63	173.90	298.28	345.27	0.57	0.43	-1.35	317.38
	NORMAL	1,837.0	16.27	60.11	1,787.68	188.24	321.43	372.48	1.18	-0.45	3.85	114.04

2.1.2 Survey Stations (Continued)

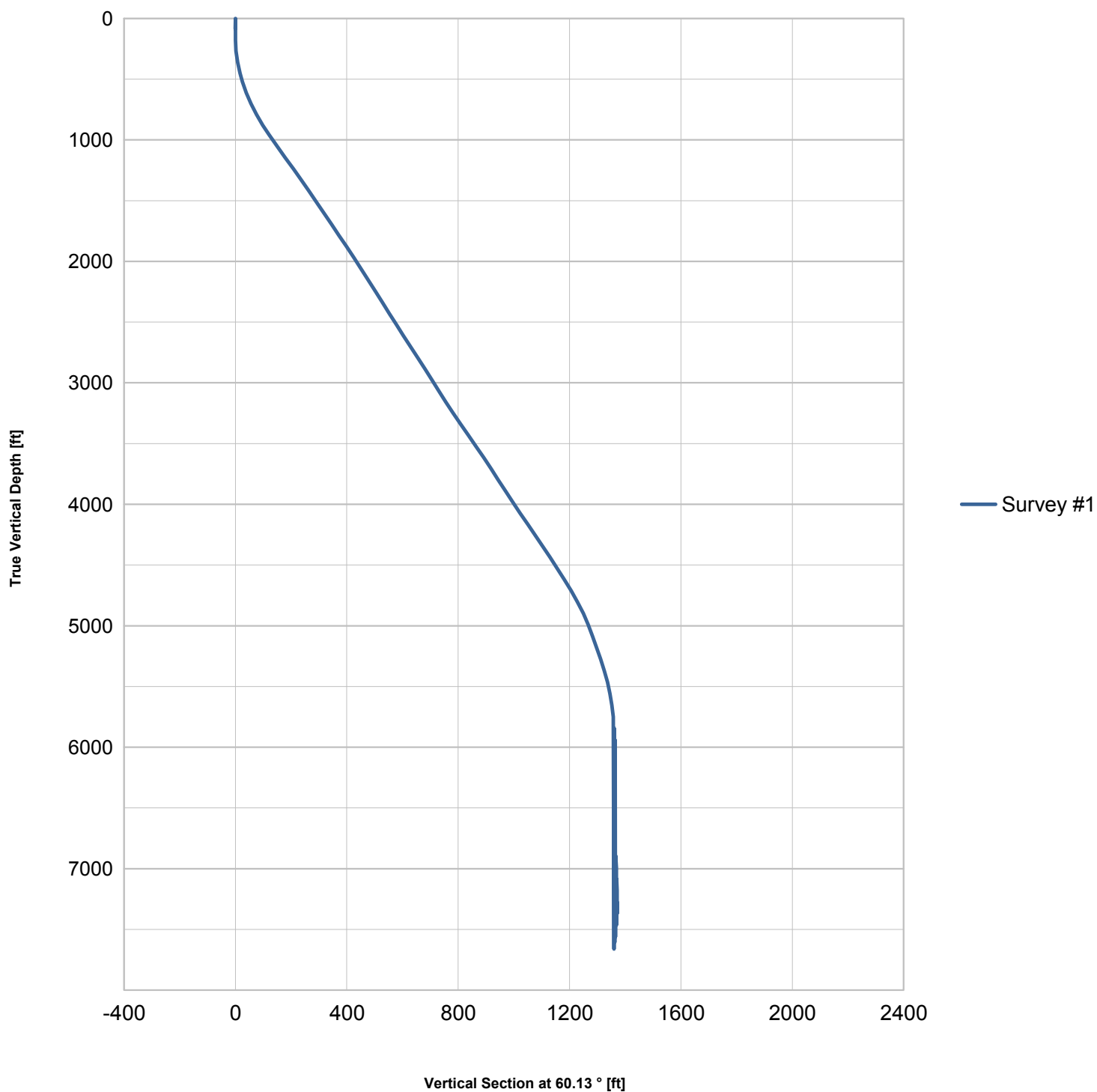
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
8/25/2011	NORMAL	1,930.0	16.68	59.46	1,876.86	201.51	344.22	398.86	0.48	0.44	-0.70	335.48
	NORMAL	2,026.0	15.60	60.33	1,969.08	214.90	367.31	425.54	1.15	-1.13	0.91	167.80
	NORMAL	2,121.0	15.62	60.24	2,060.57	227.57	389.51	451.10	0.03	0.02	-0.09	309.51
	NORMAL	2,217.0	15.39	61.69	2,153.08	240.03	411.94	476.76	0.47	-0.24	1.51	121.38
	NORMAL	2,313.0	15.51	61.75	2,245.61	252.15	434.46	502.33	0.13	0.12	0.06	7.62
	NORMAL	2,408.0	15.39	63.01	2,337.18	263.88	456.89	527.61	0.38	-0.13	1.33	110.28
	NORMAL	2,503.0	15.21	64.41	2,428.81	274.98	479.36	552.63	0.43	-0.19	1.47	116.65
	NORMAL	2,596.0	15.48	60.02	2,518.50	286.46	501.11	577.21	1.28	0.29	-4.72	280.96
	NORMAL	2,692.0	15.56	58.79	2,611.00	299.53	523.22	602.89	0.35	0.08	-1.28	283.07
	NORMAL	2,787.0	15.83	58.35	2,702.46	312.93	545.15	628.58	0.31	0.28	-0.46	336.00
	NORMAL	2,882.0	16.09	59.32	2,793.80	326.45	567.50	654.70	0.39	0.27	1.02	46.20
	NORMAL	2,978.0	15.83	59.23	2,886.10	339.93	590.19	681.09	0.27	-0.27	-0.09	185.39
	NORMAL	3,072.0	15.30	59.05	2,976.65	352.87	611.85	706.31	0.57	-0.56	-0.19	185.12
	NORMAL	3,164.0	14.68	58.79	3,065.52	365.15	632.23	730.10	0.68	-0.67	-0.28	186.06
	NORMAL	3,259.0	15.74	57.12	3,157.19	378.39	653.34	755.00	1.21	1.12	-1.76	336.74
	NORMAL	3,355.0	16.71	59.75	3,249.37	392.41	676.20	781.81	1.27	1.01	2.74	38.41
	NORMAL	3,450.0	16.62	59.32	3,340.37	406.22	699.68	809.05	0.16	-0.09	-0.45	233.67
	NORMAL	3,546.0	16.88	62.04	3,432.30	419.76	723.80	836.71	0.86	0.27	2.83	72.96
8/26/2011	NORMAL	3,641.0	16.96	61.48	3,523.19	432.84	748.16	864.34	0.19	0.08	-0.59	295.88
	NORMAL	3,737.0	16.42	60.86	3,615.15	446.14	772.31	891.91	0.59	-0.56	-0.65	197.95
	NORMAL	3,832.0	15.49	60.36	3,706.49	458.95	795.07	918.02	0.99	-0.98	-0.53	188.17
	NORMAL	3,926.0	16.02	59.72	3,796.95	471.70	817.18	943.54	0.59	0.56	-0.68	341.54
	NORMAL	4,022.0	15.96	59.13	3,889.24	485.15	839.95	969.99	0.18	-0.06	-0.61	249.45
	NORMAL	4,117.0	15.50	59.03	3,980.68	498.38	862.04	995.74	0.49	-0.48	-0.11	183.32
	NORMAL	4,213.0	16.58	60.06	4,072.94	511.82	884.91	1,022.26	1.16	1.13	1.07	15.26
	NORMAL	4,308.0	16.92	60.72	4,163.91	525.35	908.71	1,049.64	0.41	0.36	0.69	29.54
	NORMAL	4,401.0	16.62	61.42	4,252.96	538.33	932.20	1,076.47	0.39	-0.32	0.75	146.38
	NORMAL	4,496.0	16.15	62.67	4,344.10	550.89	955.87	1,103.25	0.62	-0.49	1.32	143.72
	NORMAL	4,591.0	15.92	60.63	4,435.40	563.35	978.96	1,129.48	0.64	-0.24	-2.15	246.82
	NORMAL	4,687.0	15.74	61.95	4,527.76	575.93	1,001.92	1,155.66	0.42	-0.19	1.38	117.19
	NORMAL	4,782.0	15.48	63.01	4,619.26	587.74	1,024.59	1,181.20	0.41	-0.27	1.12	132.86
	NORMAL	4,878.0	14.25	60.28	4,712.05	599.41	1,046.27	1,205.81	1.47	-1.28	-2.84	208.34
	NORMAL	4,973.0	13.37	61.07	4,804.30	610.52	1,066.04	1,228.49	0.95	-0.93	0.83	168.29
8/27/2011	NORMAL	5,069.0	12.13	57.91	4,897.93	621.25	1,084.30	1,249.66	1.48	-1.29	-3.29	207.82
	NORMAL	5,164.0	9.41	62.57	4,991.25	630.13	1,099.65	1,267.40	3.00	-2.86	4.91	164.53
	NORMAL	5,260.0	8.85	59.84	5,086.03	637.46	1,113.00	1,282.63	0.74	-0.58	-2.84	216.38
	NORMAL	5,355.0	8.86	59.38	5,179.90	644.86	1,125.62	1,297.25	0.08	0.01	-0.48	277.81
	NORMAL	5,451.0	8.35	60.55	5,274.82	652.05	1,138.05	1,311.61	0.56	-0.53	1.22	161.63
	NORMAL	5,546.0	7.44	64.33	5,368.92	658.11	1,149.60	1,324.64	1.10	-0.96	3.98	152.16
	NORMAL	5,642.0	6.40	61.13	5,464.22	663.38	1,159.89	1,336.19	1.15	-1.08	-3.33	198.76
	NORMAL	5,738.0	4.40	58.96	5,559.79	667.87	1,167.73	1,345.22	2.09	-2.08	-2.26	184.75
	NORMAL	5,833.0	3.61	55.80	5,654.56	671.43	1,173.33	1,351.85	0.86	-0.83	-3.33	194.04
8/28/2011	NORMAL	5,928.0	2.47	58.29	5,749.42	674.18	1,177.54	1,356.88	1.21	-1.20	2.62	174.63
	NORMAL	6,024.0	2.10	64.34	5,845.35	676.03	1,180.89	1,360.70	0.46	-0.39	6.30	149.90
	NORMAL	6,119.0	0.91	34.66	5,940.31	677.41	1,182.88	1,363.12	1.46	-1.25	-31.24	198.99
	NORMAL	6,215.0	0.36	1.81	6,036.31	678.33	1,183.33	1,363.96	0.66	-0.57	-34.22	197.82
	NORMAL	6,311.0	0.44	306.35	6,132.30	678.85	1,183.04	1,363.97	0.39	0.08	-57.77	253.04
	NORMAL	6,406.0	0.41	303.43	6,227.30	679.26	1,182.46	1,363.67	0.04	-0.03	-3.07	214.37
	NORMAL	6,502.0	0.35	252.41	6,323.30	679.36	1,181.90	1,363.23	0.35	-0.06	-53.15	235.10
	NORMAL	6,597.0	0.09	251.97	6,418.30	679.25	1,181.55	1,362.88	0.27	-0.27	-0.46	180.15
	NORMAL	6,693.0	0.62	205.48	6,514.30	678.76	1,181.25	1,362.38	0.59	0.55	-48.43	306.84
	NORMAL	6,787.0	0.26	269.20	6,608.29	678.29	1,180.82	1,361.77	0.59	-0.38	67.79	155.21
	NORMAL	6,882.0	0.79	20.73	6,703.29	678.90	1,180.84	1,362.09	0.97	0.56	117.40	126.81
8/29/2011	NORMAL	6,978.0	1.49	25.39	6,799.27	680.65	1,181.61	1,363.63	0.73	0.73	4.85	9.88
	NORMAL	7,073.0	1.67	29.52	6,894.24	682.97	1,182.82	1,365.83	0.22	0.19	4.35	34.39
	NORMAL	7,169.0	1.49	17.22	6,990.20	685.38	1,183.88	1,367.95	0.40	-0.19	-12.81	235.99
	NORMAL	7,263.0	1.32	5.44	7,084.17	687.62	1,184.34	1,369.47	0.36	-0.18	-12.53	233.72

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
8/29/2011	NORMAL	7,358.0	1.32	357.44	7,179.15	689.81	1,184.40	1,370.61	0.19	0.00	-8.42	266.00
	NORMAL	7,453.0	0.62	347.33	7,274.13	691.40	1,184.24	1,371.26	0.76	-0.74	-10.64	188.72
	NORMAL	7,548.0	0.88	256.45	7,369.13	691.73	1,183.41	1,370.71	1.14	0.27	-95.66	234.25
	NORMAL	7,644.0	1.62	243.60	7,465.10	690.96	1,181.48	1,368.65	0.82	0.77	-13.39	332.75
	NORMAL	7,739.0	2.78	239.06	7,560.03	689.17	1,178.30	1,365.01	1.23	1.22	-4.78	349.18
	NORMAL	7,785.0	3.17	233.69	7,605.97	687.85	1,176.32	1,362.63	1.04	0.85	-11.67	321.75
	NORMAL	7,840.0	3.17	233.69	7,660.89	686.05	1,173.87	1,359.60	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

