

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	GM 342-12	Wellbore No.	00
Wellbore Legal Name	GM 342-12	Common Wellbore Name	GM 342-12
Project	GV 12-07S-096W	Site	GM 21-12 Pad
Vertical Section Azimuth	99.53 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	11/15/2014	UWI	GM 342-12
Active datum	KB @5,151.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	11/15/2014	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 (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
11/15/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/15/2014	NORMAL	103.0	0.70	202.24	103.00	-0.58	-0.24	-0.14	0.68	0.68	0.00	202.24
	NORMAL	134.0	1.06	140.80	133.99	-0.98	-0.13	0.04	3.07	1.16	-198.19	258.28
	NORMAL	164.0	1.67	107.23	163.99	-1.32	0.46	0.68	3.27	2.03	-111.90	289.75
	NORMAL	194.0	2.46	101.69	193.97	-1.58	1.51	1.75	2.71	2.63	-18.47	343.04
	NORMAL	224.0	3.26	109.07	223.93	-1.99	2.95	3.24	2.93	2.67	24.60	28.43
	NORMAL	254.0	4.05	106.96	253.87	-2.58	4.77	5.13	2.67	2.63	-7.03	349.28
	NORMAL	284.0	5.37	108.11	283.77	-3.33	7.12	7.57	4.41	4.40	3.83	4.67
	NORMAL	315.0	6.25	104.77	314.61	-4.21	10.13	10.68	3.04	2.84	-10.77	337.32
	NORMAL	345.0	7.30	101.07	344.40	-4.99	13.58	14.22	3.79	3.50	-12.33	335.58
	NORMAL	377.0	8.97	98.29	376.07	-5.74	18.04	18.74	5.36	5.22	-8.69	345.37
	NORMAL	407.0	10.11	97.83	405.66	-6.44	22.96	23.71	3.81	3.80	-1.53	355.95
	NORMAL	437.0	11.60	96.42	435.12	-7.13	28.57	29.36	5.04	4.97	-4.70	349.20
	NORMAL	468.0	13.14	96.86	465.40	-7.90	35.17	35.99	4.98	4.97	1.42	3.72
	NORMAL	497.0	14.42	96.07	493.57	-8.68	42.03	42.89	4.46	4.41	-2.72	351.25
	NORMAL	528.0	15.82	95.81	523.49	-9.51	50.07	50.96	4.52	4.52	-0.84	357.10
	NORMAL	558.0	16.70	96.16	552.29	-10.39	58.43	59.34	2.95	2.93	1.17	6.52
	NORMAL	588.0	17.58	97.48	580.96	-11.44	67.20	68.17	3.21	2.93	4.40	24.48
	NORMAL	618.0	18.37	98.71	609.49	-12.75	76.37	77.43	2.92	2.63	4.10	26.25
	NORMAL	648.0	19.03	99.24	637.91	-14.25	85.87	87.04	2.27	2.20	1.77	14.69
	NORMAL	678.0	19.82	100.12	666.20	-15.93	95.70	97.02	2.81	2.63	2.93	20.74

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
11/15/2014	NORMAL	768.0	21.63	99.68	750.38	-21.40	127.08	128.87	2.02	2.01	-0.49	354.88
	NORMAL	859.0	23.74	98.97	834.33	-27.08	161.71	163.96	2.34	2.32	-0.78	352.28
	NORMAL	949.0	26.90	100.64	915.68	-33.66	199.62	202.44	3.60	3.51	1.86	13.49
	NORMAL	1,044.0	32.62	101.70	998.11	-42.83	245.86	249.55	6.05	6.02	1.12	5.72
	NORMAL	1,138.0	37.19	101.43	1,075.18	-53.60	298.54	303.30	4.86	4.86	-0.29	357.95
	NORMAL	1,234.0	39.78	100.55	1,150.32	-64.98	357.18	363.01	2.76	2.70	-0.92	347.72
	NORMAL	1,265.0	40.97	99.85	1,173.94	-68.53	376.95	383.09	4.11	3.84	-2.26	338.87
	NORMAL	1,329.0	42.81	98.97	1,221.58	-75.51	419.10	425.82	3.02	2.88	-1.38	341.96
	NORMAL	1,424.0	47.43	97.48	1,288.60	-85.10	485.71	493.10	4.99	4.86	-1.57	346.60
	NORMAL	1,520.0	50.51	96.86	1,351.61	-94.13	557.55	565.45	3.25	3.21	-0.65	351.16
	NORMAL	1,615.0	49.06	96.78	1,412.95	-102.75	629.58	637.91	1.53	-1.53	-0.08	182.39
	NORMAL	1,705.0	46.55	98.71	1,473.40	-111.71	695.65	704.54	3.21	-2.79	2.14	150.98
11/17/2014	NORMAL	1,808.0	46.73	98.80	1,544.11	-123.11	769.66	779.42	0.19	0.17	0.09	20.01
	NORMAL	1,903.0	46.59	99.59	1,609.32	-134.15	837.86	848.51	0.62	-0.15	0.83	103.96
	NORMAL	1,998.0	46.68	98.97	1,674.55	-145.29	906.02	917.57	0.48	0.09	-0.65	281.08
	NORMAL	2,094.0	47.30	98.80	1,740.03	-156.13	975.38	987.77	0.66	0.65	-0.18	348.60
	NORMAL	2,189.0	45.58	99.50	1,805.49	-167.07	1,043.34	1,056.61	1.89	-1.81	0.74	163.81
	NORMAL	2,285.0	45.36	98.71	1,872.82	-177.90	1,110.92	1,125.04	0.63	-0.23	-0.82	248.39
	NORMAL	2,380.0	45.93	97.57	1,939.23	-187.51	1,178.16	1,192.94	1.05	0.60	-1.20	304.56
	NORMAL	2,476.0	45.27	98.89	2,006.40	-197.33	1,246.04	1,261.51	1.20	-0.69	1.38	125.45
	NORMAL	2,571.0	45.10	100.12	2,073.36	-208.45	1,312.50	1,328.90	0.94	-0.18	1.29	101.46
11/18/2014	NORMAL	2,666.0	43.43	100.47	2,141.39	-220.30	1,377.74	1,395.20	1.78	-1.76	0.37	171.80
	NORMAL	2,761.0	42.11	101.26	2,211.13	-232.46	1,441.09	1,459.69	1.50	-1.39	0.83	158.17
	NORMAL	2,856.0	41.06	100.29	2,282.19	-244.25	1,503.03	1,522.73	1.30	-1.11	-1.02	211.15
	NORMAL	2,951.0	40.18	100.12	2,354.29	-255.21	1,563.90	1,584.57	0.93	-0.93	-0.18	187.10
	NORMAL	3,046.0	38.86	100.20	2,427.58	-265.87	1,623.41	1,645.02	1.39	-1.39	0.08	177.82
11/19/2014	NORMAL	3,142.0	37.01	99.59	2,503.29	-276.02	1,681.54	1,704.03	1.97	-1.93	-0.64	191.22
	NORMAL	3,237.0	35.47	99.06	2,579.91	-285.12	1,736.96	1,760.19	1.65	-1.62	-0.56	191.29
	NORMAL	3,332.0	34.55	98.62	2,657.72	-293.50	1,790.81	1,814.69	1.00	-0.97	-0.46	195.16
	NORMAL	3,427.0	33.41	99.76	2,736.50	-301.97	1,843.23	1,867.78	1.37	-1.20	1.20	151.27
	NORMAL	3,523.0	31.96	100.20	2,817.29	-310.95	1,894.28	1,919.62	1.53	-1.51	0.46	170.88
	NORMAL	3,618.0	30.68	99.50	2,898.45	-319.41	1,942.93	1,969.00	1.40	-1.35	-0.74	195.57
	NORMAL	3,714.0	28.44	99.50	2,981.95	-327.22	1,989.64	2,016.36	2.33	-2.33	0.00	180.00
	NORMAL	3,809.0	26.55	97.21	3,066.22	-333.62	2,033.02	2,060.20	2.28	-1.99	-2.41	208.21
	NORMAL	3,904.0	24.26	94.49	3,152.03	-337.81	2,073.55	2,100.86	2.70	-2.41	-2.86	205.78
	NORMAL	4,000.0	22.42	97.21	3,240.17	-341.66	2,111.38	2,138.80	2.22	-1.92	2.83	150.89
	NORMAL	4,095.0	20.40	97.21	3,328.61	-346.01	2,145.78	2,173.45	2.13	-2.13	0.00	180.00
	NORMAL	4,190.0	18.29	97.83	3,418.24	-350.12	2,176.98	2,204.90	2.23	-2.22	0.65	174.73
	NORMAL	4,286.0	15.52	98.71	3,510.08	-354.12	2,204.60	2,232.81	2.90	-2.89	0.92	175.14
	NORMAL	4,381.0	12.97	101.17	3,602.16	-358.11	2,227.63	2,256.17	2.76	-2.68	2.59	167.84
	NORMAL	4,477.0	10.95	100.64	3,696.07	-361.88	2,247.16	2,276.06	2.11	-2.10	-0.55	182.85
	NORMAL	4,572.0	9.32	103.63	3,789.58	-365.36	2,263.51	2,292.76	1.80	-1.72	3.15	163.58
	NORMAL	4,667.0	7.56	97.92	3,883.55	-368.03	2,277.17	2,306.68	2.05	-1.85	-6.01	202.66
	NORMAL	4,763.0	5.98	91.94	3,978.88	-369.07	2,288.43	2,317.95	1.80	-1.65	-6.23	201.10
	NORMAL	4,859.0	4.35	93.52	4,074.49	-369.46	2,297.06	2,326.53	1.70	-1.70	1.65	175.80
	NORMAL	4,954.0	4.18	95.37	4,169.23	-370.01	2,304.10	2,333.56	0.23	-0.18	1.95	141.94
11/20/2014	NORMAL	5,049.0	3.69	99.85	4,264.00	-370.85	2,310.56	2,340.07	0.61	-0.52	4.72	150.12
	NORMAL	5,144.0	3.34	101.35	4,358.82	-371.92	2,316.29	2,345.90	0.38	-0.37	1.58	166.03
	NORMAL	5,239.0	3.43	98.01	4,453.66	-372.86	2,321.81	2,351.50	0.23	0.09	-3.52	292.86
	NORMAL	5,333.0	2.64	99.50	4,547.53	-373.61	2,326.73	2,356.48	0.84	-0.84	1.59	175.04
	NORMAL	5,428.0	2.37	102.14	4,642.44	-374.39	2,330.81	2,360.63	0.31	-0.28	2.78	158.18
	NORMAL	5,524.0	1.85	107.67	4,738.37	-375.27	2,334.23	2,364.15	0.58	-0.54	5.76	161.37
	NORMAL	5,618.0	1.85	112.33	4,832.32	-376.31	2,337.08	2,367.13	0.16	0.00	4.96	92.33
	NORMAL	5,714.0	1.10	111.10	4,928.29	-377.23	2,339.37	2,369.54	0.78	-0.78	-1.28	181.80
	NORMAL	5,808.0	0.83	137.29	5,022.28	-378.06	2,340.67	2,370.96	0.54	-0.29	27.86	134.12
	NORMAL	5,904.0	1.14	171.04	5,118.26	-379.51	2,341.29	2,371.82	0.67	0.32	35.16	79.45

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
11/20/2014	NORMAL	5,999.0	1.50	188.88	5,213.24	-381.67	2,341.25	2,372.13	0.57	0.38	18.78	57.93
	NORMAL	6,095.0	1.67	198.20	5,309.20	-384.24	2,340.62	2,371.93	0.32	0.18	9.71	61.31
	NORMAL	6,190.0	1.76	207.34	5,404.16	-386.85	2,339.52	2,371.28	0.30	0.09	9.62	76.39
	NORMAL	6,284.0	1.50	194.95	5,498.12	-389.32	2,338.54	2,370.72	0.46	-0.28	-13.18	227.50
11/21/2014	NORMAL	6,379.0	1.45	193.63	5,593.09	-391.69	2,337.93	2,370.52	0.06	-0.05	-1.39	213.54
	NORMAL	6,474.0	1.32	185.54	5,688.06	-393.95	2,337.54	2,370.51	0.25	-0.14	-8.52	232.38
	NORMAL	6,569.0	0.92	183.88	5,783.04	-395.80	2,337.39	2,370.66	0.42	-0.42	-1.75	183.81
	NORMAL	6,665.0	1.01	205.41	5,879.03	-397.33	2,336.97	2,370.50	0.39	0.09	22.43	86.98
	NORMAL	6,761.0	0.83	200.75	5,975.02	-398.75	2,336.36	2,370.14	0.20	-0.19	-4.85	200.25
	NORMAL	6,856.0	1.19	159.35	6,070.01	-400.32	2,336.47	2,370.50	0.83	0.38	-43.58	274.55
	NORMAL	6,951.0	1.19	141.78	6,164.99	-402.01	2,337.42	2,371.72	0.38	0.00	-18.49	261.22
	NORMAL	7,035.0	1.10	157.25	6,248.97	-403.44	2,338.28	2,372.80	0.38	-0.11	18.42	113.87
	NORMAL	7,090.0	1.10	157.25	6,303.96	-404.42	2,338.68	2,373.36	0.00	0.00	0.00	0.00