

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	GM 413-33	Wellbore No.	00
Wellbore Legal Name	GM 413-33	Common Wellbore Name	GM 413-33
Project	GV 33-06S-096W	Site	GM 13-33 Pad
Vertical Section Azimuth		North reference	True
Origin N/S		Origin E/W	
Spud date	10/17/2014	UWI	GM 413-33
Active datum	KB @5,764.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Scientific
Date Started	10/17/2014	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 (°)
10/17/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/18/2014	NORMAL	75.0	0.35	144.49	75.00	-0.19	0.13	-0.19	0.47	0.47	0.00	144.49
	NORMAL	165.0	1.41	169.80	164.99	-1.50	0.49	-1.50	1.23	1.18	28.12	33.10
	NORMAL	256.0	2.64	160.14	255.93	-4.57	1.40	-4.57	1.40	1.35	-10.62	339.63
	NORMAL	327.0	3.96	167.12	326.81	-8.50	2.50	-8.50	1.94	1.86	9.83	20.43
	NORMAL	417.0	5.16	167.66	416.52	-15.48	4.06	-15.48	1.33	1.33	0.60	2.32
	NORMAL	508.0	6.50	170.22	507.05	-24.56	5.81	-24.56	1.50	1.47	2.81	12.26
	NORMAL	599.0	8.78	166.89	597.24	-36.40	8.26	-36.40	2.55	2.51	-3.66	347.36
	NORMAL	689.0	11.01	160.93	685.90	-51.21	12.63	-51.21	2.72	2.48	-6.62	332.37
	NORMAL	780.0	11.98	158.55	775.07	-68.22	18.92	-68.22	1.19	1.07	-2.62	332.77
	NORMAL	871.0	13.28	155.08	863.87	-86.49	26.78	-86.49	1.65	1.43	-3.81	328.03
	NORMAL	961.0	14.40	153.03	951.25	-105.84	36.21	-105.84	1.36	1.24	-2.28	335.36
	NORMAL	991.0	14.51	151.91	980.30	-112.48	39.67	-112.48	1.00	0.37	-3.73	290.93
10/19/2014	NORMAL	1,054.0	14.99	150.50	1,041.23	-126.53	47.40	-126.53	0.95	0.76	-2.24	322.52
	NORMAL	1,149.0	15.27	150.97	1,132.93	-148.16	59.52	-148.16	0.32	0.29	0.49	23.89
	NORMAL	1,242.0	15.54	150.55	1,222.59	-169.72	71.59	-169.72	0.31	0.29	-0.45	337.35
	NORMAL	1,336.0	14.77	154.02	1,313.33	-191.46	83.03	-191.46	1.27	-0.82	3.69	131.99
	NORMAL	1,429.0	14.51	154.43	1,403.31	-212.62	93.25	-212.62	0.30	-0.28	0.44	158.47
	NORMAL	1,523.0	13.96	154.78	1,494.42	-233.50	103.16	-233.50	0.59	-0.59	0.37	171.28
	NORMAL	1,616.0	14.33	151.21	1,584.60	-253.74	113.48	-253.74	1.02	0.40	-3.84	291.24
	NORMAL	1,709.0	14.12	149.39	1,674.75	-273.59	124.80	-273.59	0.53	-0.23	-1.96	243.97

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azl. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
10/19/2014	NORMAL	1,802.0	14.08	148.54	1,764.95	-293.00	136.48	-293.00	0.23	-0.04	-0.91	258.65
	NORMAL	1,896.0	13.72	147.10	1,856.20	-312.11	148.51	-312.11	0.53	-0.38	-1.53	223.16
	NORMAL	1,990.0	15.05	148.30	1,947.25	-331.86	160.97	-331.86	1.45	1.41	1.28	13.22
	NORMAL	2,084.0	15.04	146.73	2,038.03	-352.44	174.08	-352.44	0.43	-0.01	-1.67	267.84
	NORMAL	2,178.0	14.51	149.72	2,128.92	-372.80	186.71	-372.80	0.99	-0.56	3.18	126.24
	NORMAL	2,272.0	13.98	149.24	2,220.03	-392.73	198.45	-392.73	0.58	-0.56	-0.51	192.33
	NORMAL	2,367.0	14.32	151.51	2,312.15	-412.92	209.93	-412.92	0.68	0.36	2.39	59.61
	NORMAL	2,460.0	13.89	150.95	2,402.34	-432.78	220.83	-432.78	0.49	-0.46	-0.60	197.34
	NORMAL	2,554.0	13.56	150.89	2,493.66	-452.28	231.67	-452.28	0.35	-0.35	-0.06	182.44
	NORMAL	2,648.0	14.42	150.91	2,584.87	-472.13	242.72	-472.13	0.91	0.91	0.02	0.33
	NORMAL	2,742.0	14.14	150.30	2,675.96	-492.33	254.10	-492.33	0.34	-0.30	-0.65	207.96
	NORMAL	2,836.0	13.74	150.41	2,767.20	-512.01	265.30	-512.01	0.43	-0.43	0.12	176.26
	NORMAL	2,929.0	13.63	151.65	2,857.56	-531.26	275.96	-531.26	0.34	-0.12	1.33	111.16
	NORMAL	3,024.0	13.56	151.84	2,949.89	-550.93	286.53	-550.93	0.09	-0.07	0.20	147.55
	NORMAL	3,118.0	13.22	152.43	3,041.34	-570.18	296.71	-570.18	0.39	-0.36	0.63	158.39
10/20/2014	NORMAL	3,212.0	12.84	151.29	3,132.92	-588.86	306.70	-588.86	0.49	-0.40	-1.21	213.52
	NORMAL	3,308.0	12.34	151.01	3,224.66	-606.81	316.58	-606.81	0.54	-0.53	-0.30	186.82
	NORMAL	3,400.0	12.45	150.15	3,316.47	-624.39	326.50	-624.39	0.23	0.12	-0.91	300.37
	NORMAL	3,496.0	12.04	150.36	3,410.28	-642.06	336.60	-642.06	0.43	-0.43	0.22	173.90
	NORMAL	3,590.0	11.52	151.39	3,502.30	-658.82	345.94	-658.82	0.60	-0.55	1.10	158.49
	NORMAL	3,684.0	10.65	152.12	3,594.55	-674.74	354.50	-674.74	0.94	-0.93	0.78	171.19
	NORMAL	3,777.0	10.30	152.17	3,686.00	-689.69	362.40	-689.69	0.38	-0.38	0.05	178.54
	NORMAL	3,871.0	9.76	150.95	3,778.56	-704.09	370.19	-704.09	0.62	-0.57	-1.30	200.88
	NORMAL	3,965.0	9.51	151.37	3,871.23	-717.87	377.78	-717.87	0.28	-0.27	0.45	164.50
	NORMAL	4,058.0	9.27	152.71	3,962.99	-731.27	384.90	-731.27	0.35	-0.26	1.44	138.33
	NORMAL	4,153.0	8.23	148.53	4,056.88	-743.87	391.95	-743.87	1.28	-1.09	-4.40	209.39
	NORMAL	4,247.0	7.83	152.64	4,149.96	-755.30	398.41	-755.30	0.74	-0.43	4.37	126.89
	NORMAL	4,342.0	7.77	148.21	4,244.08	-766.50	404.77	-766.50	0.64	-0.06	-4.66	262.11
	NORMAL	4,436.0	6.33	148.60	4,337.37	-776.33	410.81	-776.33	1.53	-1.53	0.41	178.29
	NORMAL	4,531.0	5.62	138.79	4,431.86	-784.30	416.61	-784.30	1.31	-0.75	-10.33	230.38
	NORMAL	4,625.0	4.40	137.59	4,525.50	-790.42	422.07	-790.42	1.30	-1.30	-1.28	184.31
	NORMAL	4,720.0	3.72	123.73	4,620.26	-794.82	427.09	-794.82	1.25	-0.72	-14.59	228.50
	NORMAL	4,815.0	3.61	124.40	4,715.06	-798.22	432.12	-798.22	0.12	-0.12	0.71	159.06
	NORMAL	4,908.0	3.52	128.10	4,807.88	-801.64	436.79	-801.64	0.27	-0.10	3.98	113.20
	NORMAL	5,003.0	3.33	136.77	4,902.72	-805.45	440.97	-805.45	0.58	-0.20	9.13	114.44
10/21/2014	NORMAL	5,096.0	3.20	125.92	4,995.57	-808.94	444.92	-808.94	0.68	-0.14	-11.67	252.74
	NORMAL	5,189.0	3.17	126.16	5,088.42	-811.98	449.10	-811.98	0.04	-0.03	0.26	156.16
	NORMAL	5,283.0	2.73	134.95	5,182.30	-815.10	452.78	-815.10	0.67	-0.47	9.35	138.54
	NORMAL	5,376.0	1.60	116.88	5,275.23	-817.25	455.51	-817.25	1.41	-1.22	-19.43	202.32
	NORMAL	5,471.0	1.06	119.48	5,370.20	-818.28	457.46	-818.28	0.57	-0.57	2.74	174.92
	NORMAL	5,566.0	0.81	147.06	5,465.19	-819.28	458.59	-819.28	0.53	-0.26	29.03	132.37
	NORMAL	5,661.0	0.93	168.16	5,560.18	-820.59	459.11	-820.59	0.36	0.13	22.21	80.23
	NORMAL	5,755.0	0.44	287.00	5,654.18	-821.23	458.92	-821.23	1.28	-0.52	126.43	161.35
	NORMAL	5,850.0	0.50	294.31	5,749.17	-820.96	458.20	-820.96	0.09	0.06	7.69	48.68
	NORMAL	5,943.0	0.62	274.61	5,842.17	-820.75	457.32	-820.75	0.24	0.13	-21.18	291.83
	NORMAL	6,037.0	0.88	257.89	5,936.16	-820.86	456.11	-820.86	0.36	0.28	-17.79	311.35
	NORMAL	6,129.0	1.16	242.96	6,028.15	-821.43	454.59	-821.43	0.42	0.30	-16.23	308.87
10/24/2014	NORMAL	6,225.0	1.37	238.32	6,124.12	-822.48	452.75	-822.48	0.24	0.22	-4.83	331.67
	NORMAL	6,319.0	1.74	247.55	6,218.09	-823.61	450.47	-823.61	0.47	0.39	9.82	38.77
10/25/2014	NORMAL	6,413.0	1.96	245.33	6,312.04	-824.83	447.69	-824.83	0.25	0.23	-2.36	340.84
10/26/2014	NORMAL	6,506.0	1.87	240.23	6,404.99	-826.24	444.93	-826.24	0.21	-0.10	-5.48	239.63
	NORMAL	6,601.0	2.57	242.33	6,499.92	-828.00	441.70	-828.00	0.74	0.74	2.21	7.68
	NORMAL	6,696.0	2.47	241.04	6,594.82	-829.98	438.02	-829.98	0.12	-0.11	-1.36	208.92
	NORMAL	6,735.0	2.29	240.24	6,633.79	-830.78	436.61	-830.78	0.47	-0.46	-2.05	190.06
	NORMAL	6,800.0	2.29	240.24	6,698.74	-832.07	434.36	-832.07	0.00	0.00	0.00	0.00