

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	GM 522-13	Wellbore No.	00
Wellbore Legal Name	GM 522-13	Common Wellbore Name	GM 522-13
Project	GV 12-07S-096W	Site	GM 24-12 Pad
Vertical Section Azimuth	160.07 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	4/7/2014	UWI	GM 522-13
Active datum	KB @5,165.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SCIENTIFIC
Date Started	4/7/2014	Ended	
Tool Name	MWD	Engineer	

2.1.1 Tie On Point

MD (ft)	Inc. (°)	Azl. (°)	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. (°)	Azl. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
4/7/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/7/2014	NORMAL	113.0	2.99	150.64	112.95	-2.57	1.45	2.91	2.65	2.65	0.00	150.64
	NORMAL	203.0	4.93	157.32	202.73	-8.18	4.09	9.09	2.21	2.16	7.42	16.72
	NORMAL	264.0	5.63	159.87	263.47	-13.41	6.13	14.70	1.21	1.15	4.18	19.81
	NORMAL	335.0	7.77	162.61	333.98	-21.26	8.76	22.98	3.05	3.01	3.86	9.86
4/8/2014	NORMAL	426.0	10.53	161.49	423.82	-35.02	13.24	37.44	3.04	3.03	-1.23	355.75
	NORMAL	517.0	14.39	157.34	512.66	-53.35	20.24	57.05	4.35	4.24	-4.56	344.90
	NORMAL	608.0	18.17	157.72	599.99	-76.92	29.98	82.53	4.16	4.15	0.42	1.80
	NORMAL	700.0	21.20	158.90	686.61	-105.72	41.41	113.50	3.32	3.29	1.28	8.03
	NORMAL	790.0	25.76	161.49	769.13	-139.47	53.48	149.34	5.19	5.07	2.88	13.95
	NORMAL	880.0	30.11	160.09	848.63	-179.26	67.39	191.49	4.89	4.83	-1.56	350.80
	NORMAL	972.0	35.87	159.21	925.76	-226.19	84.83	241.56	6.28	6.26	-0.96	354.87
	NORMAL	1,066.0	40.42	159.38	999.67	-280.49	105.34	299.60	4.84	4.84	0.18	1.39
	NORMAL	1,160.0	45.70	160.63	1,068.33	-340.79	127.25	363.75	5.69	5.62	1.33	9.64
	NORMAL	1,255.0	49.66	161.02	1,132.28	-407.12	150.31	433.98	4.18	4.17	0.41	4.30
	NORMAL	1,349.0	50.99	159.84	1,192.29	-475.29	174.55	506.32	1.71	1.41	-1.26	325.29
	NORMAL	1,443.0	51.83	159.19	1,250.92	-544.11	200.26	579.79	1.04	0.89	-0.69	328.63
	NORMAL	1,503.0	52.26	158.96	1,287.82	-588.30	217.16	627.09	0.78	0.72	-0.38	337.06
4/10/2014	NORMAL	1,627.0	53.22	159.30	1,362.90	-680.52	252.32	725.77	0.80	0.77	0.27	15.85
	NORMAL	1,722.0	53.28	159.23	1,419.74	-751.71	279.26	801.88	0.09	0.06	-0.07	316.91
	NORMAL	1,817.0	52.40	158.77	1,477.12	-822.39	306.39	877.58	1.00	-0.93	-0.48	202.48

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 (")
4/10/2014	NORMAL	1,910.0	51.58	157.23	1,534.39	-890.32	333.84	950.80	1.57	-0.88	-1.66	235.48
	NORMAL	2,005.0	51.40	157.21	1,593.54	-958.86	362.62	1,025.04	0.19	-0.19	-0.02	184.96
	NORMAL	2,099.0	51.51	157.35	1,652.12	-1,026.68	391.02	1,098.48	0.17	0.12	0.15	44.91
	NORMAL	2,193.0	52.76	157.70	1,709.81	-1,095.25	419.38	1,172.61	1.36	1.33	0.37	12.57
	NORMAL	2,288.0	53.25	159.93	1,766.98	-1,165.99	446.79	1,248.46	1.94	0.52	2.35	75.29
	NORMAL	2,382.0	53.02	158.95	1,823.38	-1,236.40	473.20	1,323.66	0.87	-0.24	-1.04	253.36
	NORMAL	2,476.0	52.53	160.90	1,880.25	-1,306.70	498.90	1,398.50	1.73	-0.52	2.07	108.10
	NORMAL	2,570.0	52.05	160.38	1,937.74	-1,376.86	523.55	1,472.86	0.67	-0.51	-0.55	220.44
	NORMAL	2,665.0	51.49	159.70	1,996.53	-1,447.00	549.02	1,547.48	0.81	-0.59	-0.72	223.44
	NORMAL	2,759.0	51.19	158.58	2,055.25	-1,515.59	575.16	1,620.87	0.98	-0.32	-1.19	250.72
	NORMAL	2,853.0	50.55	160.55	2,114.58	-1,583.91	600.62	1,693.78	1.76	-0.68	2.10	113.34
	NORMAL	2,947.0	50.31	160.83	2,174.46	-1,652.29	624.58	1,766.24	0.34	-0.26	0.30	138.12
	NORMAL	3,042.0	50.31	160.47	2,235.13	-1,721.27	648.80	1,839.34	0.29	0.00	-0.38	269.89
	NORMAL	3,136.0	48.32	161.50	2,296.41	-1,788.65	672.03	1,910.60	2.27	-2.12	1.10	158.90
	NORMAL	3,230.0	47.71	161.11	2,359.29	-1,854.83	694.43	1,980.46	0.72	-0.65	-0.41	205.29
	NORMAL	3,324.0	45.28	161.54	2,423.99	-1,919.42	716.26	2,048.62	2.61	-2.59	0.46	172.83
	NORMAL	3,418.0	43.62	162.81	2,491.09	-1,982.08	736.42	2,114.39	2.00	-1.77	1.35	152.27
	NORMAL	3,513.0	41.63	161.62	2,560.99	-2,043.33	756.06	2,178.68	2.26	-2.09	-1.25	201.61
	NORMAL	3,607.0	39.43	159.86	2,632.44	-2,101.00	776.18	2,239.75	2.64	-2.34	-1.87	206.80
	NORMAL	3,701.0	36.85	160.77	2,706.36	-2,155.65	795.75	2,297.80	2.81	-2.74	0.97	168.07
	NORMAL	3,795.0	35.78	159.87	2,782.10	-2,208.07	814.49	2,353.46	1.27	-1.14	-0.96	206.12
	NORMAL	3,890.0	33.00	159.73	2,860.49	-2,258.42	833.01	2,407.11	2.93	-2.93	-0.15	181.57
	NORMAL	3,984.0	32.34	159.63	2,939.62	-2,306.00	850.63	2,457.85	0.70	-0.70	-0.11	184.63
	NORMAL	4,078.0	30.98	162.15	3,019.63	-2,352.61	866.80	2,507.18	2.02	-1.45	2.68	136.86
	NORMAL	4,173.0	29.30	161.36	3,101.79	-2,397.91	881.73	2,554.85	1.82	-1.77	-0.83	192.94
	NORMAL	4,267.0	26.85	159.22	3,184.72	-2,439.56	896.61	2,599.08	2.82	-2.61	-2.28	201.41
4/11/2014	NORMAL	4,361.0	24.55	159.05	3,269.42	-2,477.67	911.07	2,639.84	2.45	-2.45	-0.18	181.76
	NORMAL	4,455.0	22.65	160.54	3,355.55	-2,512.98	924.08	2,677.47	2.12	-2.02	1.59	163.25
	NORMAL	4,548.0	20.66	159.73	3,441.98	-2,545.25	935.73	2,711.78	2.16	-2.14	-0.87	188.17
	NORMAL	4,642.0	20.01	159.86	3,530.13	-2,575.91	947.01	2,744.45	0.69	-0.69	0.14	176.09
	NORMAL	4,737.0	19.68	159.53	3,619.48	-2,606.16	958.21	2,776.70	0.37	-0.35	-0.35	198.60
	NORMAL	4,831.0	18.89	160.95	3,708.21	-2,635.37	968.71	2,807.74	0.98	-0.84	1.51	149.97
	NORMAL	4,925.0	16.03	161.42	3,797.87	-2,662.06	977.81	2,835.94	3.05	-3.04	0.50	177.40
	NORMAL	5,019.0	14.23	159.48	3,888.61	-2,685.18	986.00	2,860.47	1.99	-1.91	-2.06	194.78
	NORMAL	5,113.0	11.67	156.85	3,980.21	-2,704.75	993.79	2,881.51	2.79	-2.72	-2.80	191.69
	NORMAL	5,208.0	7.90	161.22	4,073.81	-2,719.77	999.67	2,897.64	4.04	-3.97	4.60	171.00
	NORMAL	5,302.0	5.97	164.70	4,167.12	-2,730.60	1,003.04	2,908.97	2.10	-2.05	3.70	169.44
	NORMAL	5,396.0	2.91	168.50	4,260.83	-2,737.66	1,004.80	2,916.21	3.27	-3.26	4.04	176.40
	NORMAL	5,490.0	0.24	121.89	4,354.78	-2,740.10	1,005.45	2,918.72	2.93	-2.84	-49.59	183.64
	NORMAL	5,585.0	0.17	129.86	4,449.78	-2,740.29	1,005.72	2,919.00	0.08	-0.07	8.39	161.79
4/12/2014	NORMAL	5,679.0	0.30	148.26	4,543.78	-2,740.59	1,005.96	2,919.36	0.16	0.14	19.57	39.55
	NORMAL	5,773.0	0.44	183.16	4,637.78	-2,741.16	1,006.07	2,919.93	0.28	0.15	37.13	76.41
	NORMAL	5,867.0	0.55	205.48	4,731.78	-2,741.93	1,005.86	2,920.58	0.23	0.12	23.74	71.77
	NORMAL	5,961.0	0.71	235.95	4,825.77	-2,742.66	1,005.18	2,921.04	0.39	0.17	32.41	80.24
4/13/2014	NORMAL	6,056.0	0.98	222.43	4,920.76	-2,743.59	1,004.14	2,921.56	0.35	0.28	-14.23	316.67
	NORMAL	6,150.0	1.24	216.50	5,014.74	-2,745.00	1,003.00	2,922.50	0.30	0.28	-6.31	333.18
	NORMAL	6,244.0	1.66	211.15	5,108.71	-2,746.99	1,001.69	2,923.92	0.47	0.45	-5.69	339.45
	NORMAL	6,339.0	1.55	213.11	5,203.68	-2,749.24	1,000.27	2,925.55	0.13	-0.12	2.06	154.46
	NORMAL	6,433.0	1.81	217.83	5,297.64	-2,751.48	998.67	2,927.11	0.31	0.28	5.02	30.40
	NORMAL	6,527.0	1.67	224.50	5,391.59	-2,753.63	996.80	2,928.49	0.26	-0.15	7.10	127.96
	NORMAL	6,622.0	2.11	221.40	5,486.54	-2,755.93	994.67	2,929.93	0.48	0.46	-3.26	345.37
	NORMAL	6,715.0	2.66	226.79	5,579.46	-2,758.69	991.97	2,931.60	0.64	0.59	5.80	24.89
	NORMAL	6,810.0	2.60	223.15	5,674.36	-2,761.77	988.88	2,933.45	0.19	-0.06	-3.83	248.43
	NORMAL	6,904.0	2.67	222.36	5,768.26	-2,764.94	985.95	2,935.43	0.08	0.07	-0.84	332.18
	NORMAL	6,998.0	2.83	223.57	5,862.15	-2,768.24	982.88	2,937.49	0.18	0.17	1.29	20.55
	NORMAL	7,029.0	3.01	225.32	5,893.11	-2,769.37	981.77	2,938.17	0.65	0.58	5.65	27.22

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 (°)
4/13/2014	NORMAL	7,086.0	3.01	225.32	5,950.03	-2,771.47	979.64	2,939.42	0.00	0.00	0.00	0.00