

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	GM 531-12	Wellbore No.	00
Wellbore Legal Name	GM 531-12	Common Wellbore Name	GM 531-12
Project	GV 12-07S-096W	Site	GM 21-12 Pad
Vertical Section Azimuth	107.35 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	12/9/2014	UWI	GM 531-12
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	12/9/2014	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 (°)
12/9/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/9/2014	NORMAL	105.0	0.35	298.65	105.00	0.15	-0.28	-0.31	0.33	0.33	0.00	298.65
	NORMAL	135.0	0.70	150.47	135.00	0.04	-0.27	-0.27	3.38	1.17	-493.93	201.34
	NORMAL	165.0	0.62	131.92	165.00	-0.23	-0.06	0.01	0.76	-0.27	-61.83	240.36
	NORMAL	196.0	1.41	111.62	195.99	-0.48	0.42	0.54	2.76	2.55	-65.48	325.15
	NORMAL	225.0	1.85	115.84	224.98	-0.82	1.17	1.36	1.57	1.52	14.55	17.38
	NORMAL	256.0	1.85	108.46	255.96	-1.19	2.10	2.36	0.77	0.00	-23.81	266.31
	NORMAL	286.0	2.64	105.38	285.94	-1.53	3.22	3.53	2.66	2.63	-10.27	349.78
	NORMAL	316.0	3.17	111.45	315.90	-2.02	4.66	5.05	2.04	1.77	20.23	33.19
	NORMAL	347.0	3.52	103.27	346.85	-2.55	6.38	6.85	1.91	1.13	-26.39	302.12
	NORMAL	377.0	4.49	109.78	376.78	-3.16	8.39	8.95	3.57	3.23	21.70	28.39
	NORMAL	407.0	5.10	107.67	406.67	-3.96	10.76	11.45	2.12	2.03	-7.03	342.82
	NORMAL	437.0	5.45	107.58	436.54	-4.80	13.39	14.21	1.17	1.17	-0.30	358.60
	NORMAL	467.0	6.07	103.54	466.39	-5.60	16.29	17.22	2.47	2.07	-13.47	324.80
	NORMAL	497.0	6.69	103.71	496.21	-6.38	19.53	20.54	2.07	2.07	0.57	1.83
	NORMAL	527.0	7.30	104.24	525.98	-7.27	23.08	24.19	2.04	2.03	1.77	6.30
	NORMAL	559.0	8.22	103.88	557.69	-8.31	27.27	28.51	2.88	2.88	-1.13	356.80
	NORMAL	589.0	8.92	103.27	587.36	-9.36	31.61	32.97	2.35	2.33	-2.03	352.30
	NORMAL	680.0	10.99	104.06	676.98	-13.09	46.90	48.66	2.28	2.27	0.87	4.16
	NORMAL	770.0	11.47	109.86	765.26	-18.21	63.63	66.17	1.36	0.53	6.44	69.84
	NORMAL	860.0	13.28	109.60	853.17	-24.72	81.79	85.44	2.01	2.01	-0.29	358.11

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 (°)
12/9/2014	NORMAL	951.0	15.87	109.07	941.23	-32.29	103.40	108.32	2.85	2.85	-0.58	356.80
	NORMAL	1,046.0	18.11	107.22	1,032.08	-40.91	129.78	136.08	2.43	2.36	-1.95	345.55
12/10/2014	NORMAL	1,139.0	18.86	106.61	1,120.28	-49.49	157.99	165.56	0.83	0.81	-0.66	345.25
	NORMAL	1,235.0	18.99	106.96	1,211.09	-58.48	187.80	196.70	0.18	0.14	0.36	41.29
	NORMAL	1,330.0	20.26	105.82	1,300.57	-67.47	218.41	228.60	1.40	1.34	-1.20	342.69
	NORMAL	1,426.0	19.25	107.93	1,390.92	-76.88	249.46	261.04	1.29	-1.05	2.20	145.76
	NORMAL	1,483.0	18.99	107.93	1,444.78	-82.62	267.23	279.71	0.46	-0.46	0.00	180.00
12/11/2014	NORMAL	1,554.0	19.30	107.84	1,511.85	-89.77	289.39	302.99	0.44	0.44	-0.13	354.52
	NORMAL	1,618.0	19.78	108.02	1,572.16	-96.36	309.75	324.40	0.76	0.75	0.28	7.23
	NORMAL	1,714.0	19.56	106.61	1,662.56	-105.98	340.60	356.71	0.54	-0.23	-1.47	244.47
	NORMAL	1,809.0	19.39	106.43	1,752.13	-114.99	370.96	388.38	0.19	-0.18	-0.19	199.36
	NORMAL	1,904.0	18.73	105.47	1,841.92	-123.52	400.79	419.39	0.77	-0.69	-1.01	204.95
	NORMAL	2,000.0	18.86	107.84	1,932.80	-132.38	430.42	450.31	0.81	0.14	2.47	81.46
	NORMAL	2,095.0	18.59	109.25	2,022.77	-142.08	459.33	480.80	0.55	-0.28	1.48	121.48
	NORMAL	2,191.0	17.85	108.28	2,113.96	-151.74	487.75	510.80	0.83	-0.77	-1.01	201.83
	NORMAL	2,286.0	18.73	107.75	2,204.16	-160.96	516.10	540.62	0.94	0.93	-0.56	349.05
	NORMAL	2,382.0	19.12	106.96	2,294.97	-170.24	545.82	571.75	0.49	0.41	-0.82	326.32
	NORMAL	2,477.0	19.47	105.38	2,384.64	-178.98	575.96	603.13	0.66	0.37	-1.66	303.09
	NORMAL	2,572.0	19.65	107.05	2,474.16	-187.86	606.50	634.93	0.62	0.19	1.76	72.94
	NORMAL	2,667.0	19.12	108.02	2,563.77	-197.36	636.57	666.46	0.65	-0.56	1.02	149.18
	NORMAL	2,762.0	18.37	108.46	2,653.73	-206.91	665.56	696.98	0.80	-0.79	0.46	169.53
	NORMAL	2,857.0	18.68	107.66	2,743.81	-216.27	694.26	727.16	0.42	0.33	-0.84	320.27
	NORMAL	2,953.0	17.89	108.28	2,834.96	-225.56	722.91	757.28	0.85	-0.82	0.65	166.46
	NORMAL	3,048.0	17.14	111.44	2,925.56	-235.25	749.80	785.83	1.27	-0.79	3.33	129.76
	NORMAL	3,143.0	16.09	109.77	3,016.59	-244.82	775.22	812.95	1.21	-1.11	-1.76	203.66
	NORMAL	3,238.0	14.64	107.58	3,108.19	-252.90	799.05	838.11	1.64	-1.53	-2.31	200.76
	NORMAL	3,333.0	13.10	107.66	3,200.42	-259.79	820.76	860.88	1.62	-1.62	0.08	179.33
	NORMAL	3,428.0	11.96	107.49	3,293.16	-266.02	840.40	881.49	1.20	-1.20	-0.18	181.77
	NORMAL	3,524.0	11.12	106.35	3,387.22	-271.61	858.77	900.70	0.91	-0.88	-1.19	194.63
12/12/2014	NORMAL	3,619.0	10.68	106.87	3,480.50	-276.75	875.99	918.66	0.47	-0.46	0.55	167.66
	NORMAL	3,715.0	10.02	104.68	3,574.94	-281.44	892.58	935.90	0.80	-0.69	-2.28	209.73
	NORMAL	3,810.0	8.88	102.83	3,668.65	-285.17	907.72	951.46	1.24	-1.20	-1.95	194.01
	NORMAL	3,905.0	7.87	101.16	3,762.64	-288.05	921.26	965.24	1.09	-1.06	-1.76	192.72
	NORMAL	4,001.0	6.50	101.07	3,857.88	-290.37	933.04	977.18	1.43	-1.43	-0.09	180.43
	NORMAL	4,096.0	5.05	104.76	3,952.40	-292.47	942.36	986.70	1.57	-1.53	3.88	167.47
	NORMAL	4,191.0	3.69	99.32	4,047.12	-294.03	949.42	993.90	1.50	-1.43	-5.73	194.25
	NORMAL	4,287.0	2.50	98.61	4,142.98	-294.84	954.54	999.03	1.24	-1.24	-0.74	181.49
	NORMAL	4,383.0	2.46	105.12	4,238.89	-295.69	958.60	1,003.16	0.30	-0.04	6.78	101.33
	NORMAL	4,478.0	1.50	77.12	4,333.83	-295.95	961.78	1,006.27	1.41	-1.01	-29.47	211.81
	NORMAL	4,573.0	1.23	78.75	4,428.80	-295.47	963.99	1,008.24	0.29	-0.28	1.72	172.63
	NORMAL	4,668.0	1.05	93.43	4,523.79	-295.32	965.86	1,009.98	0.36	-0.19	15.45	128.84
	NORMAL	4,764.0	1.05	112.94	4,619.77	-295.72	967.55	1,011.71	0.37	0.00	20.32	99.75
	NORMAL	4,860.0	1.14	113.20	4,715.75	-296.44	969.23	1,013.53	0.09	0.09	0.27	3.29
	NORMAL	4,955.0	1.01	114.08	4,810.74	-297.15	970.87	1,015.31	0.14	-0.14	0.93	173.20
	NORMAL	5,050.0	1.05	116.19	4,905.72	-297.88	972.41	1,017.00	0.06	0.04	2.22	44.54
	NORMAL	5,145.0	1.19	133.77	5,000.70	-298.95	973.91	1,018.74	0.39	0.15	18.51	76.78
	NORMAL	5,240.0	1.41	154.07	5,095.68	-300.68	975.13	1,020.43	0.53	0.23	21.37	74.85
	NORMAL	5,334.0	1.32	159.96	5,189.65	-302.74	976.01	1,021.88	0.18	-0.10	6.27	125.60
	NORMAL	5,430.0	1.27	169.10	5,285.63	-304.82	976.59	1,023.05	0.22	-0.05	9.52	108.15
	NORMAL	5,525.0	1.32	174.29	5,380.60	-306.94	976.89	1,023.98	0.13	0.05	5.46	69.52
	NORMAL	5,620.0	1.32	176.57	5,475.58	-309.12	977.07	1,024.80	0.06	0.00	2.40	91.14
12/13/2014	NORMAL	5,715.0	1.36	174.46	5,570.55	-311.34	977.24	1,025.62	0.07	0.04	-2.22	307.97
	NORMAL	5,810.0	1.41	180.70	5,665.53	-313.63	977.34	1,026.40	0.17	0.05	6.57	74.79
	NORMAL	5,905.0	1.45	186.50	5,760.50	-315.99	977.19	1,026.96	0.16	0.04	6.11	77.46
	NORMAL	6,000.0	1.58	186.77	5,855.46	-318.49	976.90	1,027.42	0.14	0.14	0.28	3.28
	NORMAL	6,095.0	1.89	194.15	5,950.42	-321.31	976.36	1,027.75	0.40	0.33	7.77	39.51

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 (°)
12/13/2014	NORMAL	6,190.0	2.02	190.81	6,045.37	-324.47	975.66	1,028.03	0.18	0.14	-3.52	317.09
	NORMAL	6,285.0	1.98	199.86	6,140.31	-327.66	974.79	1,028.15	0.33	-0.04	9.53	101.73
	NORMAL	6,380.0	2.11	212.25	6,235.25	-330.68	973.30	1,027.63	0.48	0.14	13.04	79.87
	NORMAL	6,430.0	2.11	212.25	6,285.21	-332.24	972.32	1,027.15	0.00	0.00	0.00	0.00