

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	GM 22-13	Wellbore No.	00
Wellbore Legal Name	GM 22-13	Common Wellbore Name	GM 22-13
Project	GV 12-07S-096W	Site	GM 24-12 Pad
Vertical Section Azimuth	143.93 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	5/11/2014	UWI	GM 22-13
Active datum	KB @5,165.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	MOSTAR
Date Started	5/11/2014	Ended	
Tool Name	MWD	Engineer	

2.1.1 Tie On Point

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)
		179.21			

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 (°)
5/11/2014	NORMAL	132.0	0.70	179.21	132.00	-0.81	0.01	0.66	0.53	0.53	0.00	179.21
	NORMAL	162.0	1.23	179.38	161.99	-1.31	0.02	1.07	1.77	1.77	0.57	0.39
5/11/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/12/2014	NORMAL	132.0	0.70	179.21	132.00	-0.81	0.01	0.66	0.00	1.77	0.57	180.22
	NORMAL	162.0	1.23	179.38	161.99	-1.31	0.02	1.07	1.77	1.77	0.57	0.39
	NORMAL	192.0	1.23	173.58	191.99	-1.95	0.06	1.61	0.41	0.00	-19.33	267.10
	NORMAL	223.0	1.76	148.18	222.98	-2.69	0.34	2.38	2.70	1.71	-81.94	295.49
	NORMAL	253.0	2.29	145.99	252.96	-3.58	0.92	3.43	1.79	1.77	-7.30	350.60
	NORMAL	284.0	3.61	147.30	283.91	-4.91	1.80	5.03	4.26	4.26	4.23	3.58
	NORMAL	314.0	4.66	142.82	313.84	-6.68	3.04	7.19	3.66	3.50	-14.93	340.66
	NORMAL	345.0	5.45	145.28	344.72	-8.89	4.64	9.92	2.64	2.55	7.94	16.57
	NORMAL	375.0	6.60	142.21	374.55	-11.42	6.51	13.07	3.98	3.83	-10.23	342.82
	NORMAL	405.0	7.83	143.17	404.31	-14.42	8.79	16.83	4.12	4.10	3.20	6.07
	NORMAL	435.0	8.53	140.10	434.01	-17.77	11.44	21.10	2.75	2.33	-10.23	326.51
	NORMAL	465.0	9.50	141.86	463.63	-21.42	14.40	25.79	3.36	3.23	5.87	16.74
	NORMAL	526.0	10.91	141.50	523.67	-29.90	21.10	36.59	2.31	2.31	-0.59	357.23
	NORMAL	617.0	13.20	144.93	612.66	-45.14	32.44	55.59	2.64	2.52	3.77	19.05
	NORMAL	709.0	14.96	144.76	701.89	-63.44	45.32	77.96	1.91	1.91	-0.18	358.57
	NORMAL	800.0	18.04	145.11	789.13	-84.60	60.16	103.80	3.39	3.38	0.38	2.02
	NORMAL	890.0	21.47	143.35	873.82	-109.25	77.97	134.21	3.87	3.81	-1.96	349.33
	NORMAL	981.0	24.11	143.79	957.71	-137.61	98.90	169.46	2.91	2.90	0.48	3.90

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 (")
5/13/2014	NORMAL	1,054.0	25.50	142.55	1,023.98	-162.12	117.26	200.08	2.03	1.90	-1.70	338.92
	NORMAL	1,148.0	27.87	141.49	1,107.96	-195.38	143.25	242.26	2.57	2.52	-1.13	348.17
	NORMAL	1,243.0	29.45	143.25	1,191.32	-231.47	171.05	287.81	1.89	1.66	1.85	28.89
	NORMAL	1,337.0	31.82	143.52	1,272.19	-269.91	199.61	335.70	2.53	2.52	0.29	3.44
	NORMAL	1,432.0	34.07	143.43	1,351.91	-311.43	230.36	387.36	2.37	2.37	-0.09	358.72
	NORMAL	1,526.0	37.32	144.22	1,428.24	-355.70	262.72	442.20	3.49	3.46	0.84	8.39
5/14/2014	NORMAL	1,620.0	40.57	144.92	1,501.34	-403.85	296.96	501.27	3.49	3.46	0.74	7.98
	NORMAL	1,732.0	39.78	144.39	1,586.92	-462.79	338.75	573.52	0.77	-0.71	-0.47	203.20
	NORMAL	1,827.0	41.41	141.49	1,659.06	-512.09	376.02	635.31	2.62	1.72	-3.05	309.71
	NORMAL	1,921.0	41.06	139.03	1,729.75	-559.73	415.62	697.13	1.76	-0.37	-2.62	256.90
	NORMAL	2,015.0	41.41	138.95	1,800.44	-606.48	456.28	758.86	0.38	0.37	-0.09	351.40
	NORMAL	2,109.0	41.98	140.44	1,870.63	-654.16	496.71	821.21	1.22	0.61	1.59	60.65
	NORMAL	2,204.0	41.58	142.37	1,941.48	-703.63	536.20	884.44	1.42	-0.42	2.03	108.00
	NORMAL	2,298.0	41.14	145.89	2,012.04	-753.94	572.59	946.53	2.52	-0.47	3.74	102.03
	NORMAL	2,392.0	41.67	145.54	2,082.54	-805.30	607.61	1,008.67	0.62	0.56	-0.37	336.27
	NORMAL	2,486.0	39.60	145.89	2,153.87	-855.88	642.09	1,069.85	2.22	-2.20	0.37	173.85
	NORMAL	2,581.0	38.07	145.19	2,227.87	-905.00	675.80	1,129.40	1.68	-1.61	-0.74	195.74
	NORMAL	2,675.0	36.22	144.75	2,302.80	-951.48	708.37	1,186.15	1.99	-1.97	-0.47	188.00
	NORMAL	2,770.0	35.30	145.36	2,379.89	-996.98	740.17	1,241.65	1.04	-0.97	0.64	159.07
	NORMAL	2,864.0	35.43	144.66	2,456.54	-1,041.55	771.37	1,296.05	0.45	0.14	-0.74	287.50
	NORMAL	2,958.0	32.84	144.48	2,534.34	-1,084.53	801.94	1,348.79	2.76	-2.76	-0.19	182.16
	NORMAL	3,052.0	32.00	145.71	2,613.69	-1,125.86	830.79	1,399.17	1.14	-0.89	1.31	142.38
	NORMAL	3,146.0	29.98	147.03	2,694.27	-1,166.14	857.60	1,447.52	2.27	-2.15	1.40	161.97
	NORMAL	3,241.0	27.96	148.09	2,777.38	-1,204.96	882.29	1,493.44	2.19	-2.13	1.12	166.20
	NORMAL	3,335.0	27.82	145.80	2,860.46	-1,241.81	906.27	1,537.34	1.15	-0.15	-2.44	261.54
5/15/2014	NORMAL	3,429.0	25.89	142.55	2,944.33	-1,276.25	931.08	1,579.79	2.58	-2.05	-3.46	215.82
	NORMAL	3,523.0	24.66	144.75	3,029.33	-1,308.56	954.88	1,619.92	1.65	-1.31	2.34	143.62
	NORMAL	3,617.0	23.87	140.61	3,115.03	-1,339.28	978.27	1,658.51	2.00	-0.84	-4.40	243.22
	NORMAL	3,712.0	23.43	142.11	3,202.05	-1,369.04	1,002.07	1,696.58	0.78	-0.46	1.58	126.86
	NORMAL	3,806.0	22.24	137.38	3,288.69	-1,396.88	1,025.59	1,732.94	2.33	-1.27	-5.03	234.88
	NORMAL	3,900.0	21.63	137.01	3,375.88	-1,422.64	1,049.45	1,767.81	0.67	-0.65	-0.39	192.60
	NORMAL	3,995.0	20.61	138.77	3,464.50	-1,448.03	1,072.41	1,801.84	1.26	-1.07	1.85	148.95
	NORMAL	4,089.0	18.15	138.24	3,553.17	-1,471.39	1,093.07	1,832.90	2.62	-2.62	-0.56	183.84
	NORMAL	4,183.0	15.47	137.19	3,643.15	-1,491.51	1,111.34	1,859.92	2.87	-2.85	-1.12	185.96
	NORMAL	4,277.0	13.28	137.54	3,734.20	-1,508.68	1,127.15	1,883.10	2.33	-2.33	0.37	177.90
	NORMAL	4,372.0	11.96	140.35	3,826.90	-1,524.31	1,140.80	1,903.77	1.53	-1.39	2.96	156.42
	NORMAL	4,465.0	10.11	145.80	3,918.18	-1,538.48	1,151.54	1,921.55	2.28	-1.99	5.86	153.24
	NORMAL	4,559.0	8.35	149.14	4,010.96	-1,551.16	1,159.68	1,936.59	1.96	-1.87	3.55	164.71
	NORMAL	4,653.0	6.59	150.28	4,104.16	-1,561.71	1,165.85	1,948.75	1.88	-1.87	1.21	175.75
	NORMAL	4,747.0	4.92	153.01	4,197.68	-1,569.99	1,170.36	1,958.09	1.80	-1.78	2.90	172.05
	NORMAL	4,841.0	3.56	139.74	4,291.42	-1,575.80	1,174.07	1,964.98	1.77	-1.45	-14.12	209.31
	NORMAL	4,936.0	2.11	155.47	4,386.31	-1,579.65	1,176.71	1,969.64	1.72	-1.53	16.56	159.49
	NORMAL	5,030.0	0.57	234.92	4,480.28	-1,581.49	1,177.04	1,971.33	2.22	-1.64	84.52	164.39
	NORMAL	5,124.0	0.70	240.81	4,574.28	-1,582.04	1,176.16	1,971.25	0.15	0.14	6.27	29.63
5/16/2014	NORMAL	5,218.0	0.48	356.12	4,668.27	-1,581.93	1,175.63	1,970.85	1.07	-0.23	122.67	154.39
	NORMAL	5,312.0	1.54	25.39	4,762.26	-1,580.39	1,176.15	1,969.91	1.22	1.13	31.14	41.09
	NORMAL	5,407.0	1.01	17.66	4,857.23	-1,578.44	1,176.95	1,968.81	0.59	-0.56	-8.14	194.14
	NORMAL	5,501.0	0.79	356.65	4,951.22	-1,577.00	1,177.16	1,967.77	0.42	-0.23	-22.35	226.11
	NORMAL	5,595.0	0.44	320.53	5,045.22	-1,576.08	1,176.89	1,966.86	0.54	-0.37	-38.43	210.83
	NORMAL	5,689.0	0.53	262.08	5,139.22	-1,575.86	1,176.23	1,966.30	0.51	0.10	-62.18	250.19
	NORMAL	5,783.0	0.92	239.14	5,233.21	-1,576.31	1,175.15	1,966.03	0.51	0.41	-24.40	311.50
	NORMAL	5,878.0	1.05	212.69	5,328.19	-1,577.43	1,174.03	1,966.27	0.49	0.14	-27.84	272.46
	NORMAL	5,972.0	1.41	195.12	5,422.17	-1,579.27	1,173.26	1,967.31	0.55	0.38	-18.69	304.66
	NORMAL	6,066.0	2.15	192.03	5,516.13	-1,582.11	1,172.59	1,969.21	0.79	0.79	-3.29	351.06
	NORMAL	6,161.0	2.37	202.75	5,611.05	-1,585.67	1,171.46	1,971.42	0.50	0.23	11.28	67.93
	NORMAL	6,255.0	2.64	210.22	5,704.96	-1,589.33	1,169.62	1,973.30	0.45	0.29	7.95	54.18

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 (°)
5/16/2014	NORMAL	6,349.0	2.73	221.65	5,798.86	-1,592.87	1,167.04	1,974.64	0.58	0.10	12.16	86.20
	NORMAL	6,444.0	3.03	238.53	5,893.74	-1,595.88	1,163.40	1,974.92	0.94	0.32	17.77	79.08
	NORMAL	6,485.0	3.17	236.24	5,934.68	-1,597.07	1,161.53	1,974.79	0.46	0.34	-5.59	317.36
	NORMAL	6,535.0	3.17	236.24	5,984.61	-1,598.61 ✓	1,159.23 ✓	1,974.68	0.00	0.00	0.00	0.00