

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	GM 322-13	Wellbore No.	00
Wellbore Legal Name	GM 322-13	Common Wellbore Name	GM 322-13
Project	GV 12-07S-096W	Site	GM 24-12 Pad
Vertical Section Azimuth	149.29 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	5/4/2014	UWI	GM 322-13
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	5/4/2014	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 (°)
5/4/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/4/2014	NORMAL	103.0	0.70	148.01	103.00	-0.53	0.33	0.63	0.68	0.68	0.00	148.01
	NORMAL	132.0	1.41	146.69	131.99	-0.98	0.62	1.16	2.45	2.45	-4.55	357.38
	NORMAL	163.0	2.46	163.39	162.97	-1.94	1.02	2.19	3.81	3.39	53.87	36.75
	NORMAL	192.0	2.90	160.31	191.94	-3.23	1.45	3.51	1.60	1.52	-10.62	340.33
	NORMAL	222.0	3.08	163.65	221.90	-4.71	1.93	5.04	0.83	0.60	11.13	45.74
	NORMAL	253.0	3.61	156.88	252.85	-6.41	2.55	6.81	2.13	1.71	-21.84	319.89
	NORMAL	283.0	4.57	143.53	282.77	-8.24	3.63	8.94	4.49	3.20	-44.50	308.45
	NORMAL	315.0	6.16	138.96	314.63	-10.56	5.51	11.90	5.14	4.97	-14.28	342.67
	NORMAL	344.0	6.60	139.39	343.45	-13.00	7.62	15.07	1.53	1.52	1.48	6.41
	NORMAL	375.0	7.83	140.36	374.21	-15.98	10.13	18.91	3.99	3.97	3.13	6.14
	NORMAL	405.0	8.71	145.99	403.89	-19.43	12.70	23.20	3.98	2.93	18.77	45.43
	NORMAL	435.0	9.59	151.35	433.51	-23.51	15.17	27.96	4.08	2.93	17.87	46.75
	NORMAL	465.0	10.65	150.47	463.05	-28.12	17.74	33.23	3.57	3.53	-2.93	351.27
	NORMAL	496.0	11.70	151.96	493.46	-33.38	20.62	39.23	3.51	3.39	4.81	16.11
	NORMAL	526.0	12.05	150.91	522.82	-38.80	23.58	45.40	1.37	1.17	-3.50	327.80
	NORMAL	556.0	13.02	150.56	552.10	-44.48	26.76	51.91	3.24	3.23	-1.17	355.35
	NORMAL	587.0	14.16	146.16	582.23	-50.67	30.59	59.19	4.96	3.68	-14.19	315.64
	NORMAL	617.0	15.57	146.87	611.23	-57.09	34.83	66.88	4.74	4.70	2.37	7.70
	NORMAL	648.0	16.19	148.97	641.04	-64.28	39.33	75.36	2.73	2.00	6.77	43.84
	NORMAL	678.0	17.07	150.21	669.79	-71.69	43.68	83.94	3.16	2.93	4.13	22.56

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 (°)
5/4/2014	NORMAL	709.0	18.21	151.52	699.33	-79.89	48.25	93.33	3.89	3.68	4.23	19.82
	NORMAL	739.0	19.18	149.94	727.75	-88.28	52.95	102.94	3.65	3.23	-5.27	331.68
	NORMAL	770.0	20.15	151.17	756.94	-97.36	58.08	113.37	3.40	3.13	3.97	23.69
	NORMAL	800.0	21.03	150.38	785.02	-106.57	63.23	123.92	3.08	2.93	-2.63	342.11
	NORMAL	829.0	22.35	150.03	811.97	-115.87	68.56	134.63	4.57	4.55	-1.21	354.24
	NORMAL	859.0	23.40	149.24	839.61	-125.93	74.45	146.29	3.65	3.50	-2.63	343.33
	NORMAL	890.0	24.63	149.68	867.93	-136.80	80.86	158.91	4.01	3.97	1.42	8.48
	NORMAL	920.0	25.87	147.13	895.06	-147.69	87.57	171.70	5.50	4.13	-8.50	317.58
	NORMAL	981.0	27.10	150.21	949.66	-170.93	101.70	198.90	3.02	2.02	5.05	49.54
	NORMAL	1,055.0	29.25	150.80	1,014.89	-201.34	118.89	233.83	2.93	2.91	0.81	7.77
	NORMAL	1,149.0	32.20	150.23	1,095.68	-243.14	142.53	281.84	3.15	3.14	-0.62	354.01
	NORMAL	1,244.0	34.71	149.18	1,174.94	-288.35	168.96	334.20	2.71	2.64	-1.11	346.57
	NORMAL	1,338.0	38.27	148.50	1,250.50	-336.17	197.89	390.09	3.81	3.79	-0.72	353.24
5/6/2014	NORMAL	1,433.0	43.19	147.54	1,322.47	-388.72	230.73	452.04	5.22	5.18	-1.01	352.38
	NORMAL	1,499.0	44.52	147.80	1,370.06	-427.36	255.19	497.75	2.03	2.02	0.39	7.81
	NORMAL	1,575.0	45.49	146.68	1,423.80	-472.55	284.27	551.45	1.65	1.28	-1.47	320.37
	NORMAL	1,638.0	45.32	146.68	1,468.03	-510.03	308.92	596.27	0.27	-0.27	0.00	180.00
	NORMAL	1,732.0	45.06	147.21	1,534.27	-565.93	345.29	662.90	0.49	-0.28	0.56	124.85
	NORMAL	1,827.0	42.42	148.00	1,602.91	-621.38	380.49	728.55	2.84	-2.78	0.83	168.60
	NORMAL	1,921.0	38.64	150.28	1,674.34	-673.77	411.85	789.61	4.32	-4.02	2.43	159.46
	NORMAL	2,015.0	40.26	152.13	1,746.93	-726.12	440.60	849.30	2.13	1.72	1.97	36.68
	NORMAL	2,110.0	41.49	150.37	1,818.76	-780.61	470.51	911.43	1.77	1.29	-1.85	316.21
	NORMAL	2,204.0	41.49	148.70	1,889.18	-834.28	502.08	973.70	1.18	0.00	-1.78	269.37
	NORMAL	2,298.0	41.76	147.29	1,959.44	-887.23	535.17	1,036.12	1.04	0.29	-1.50	285.55
	NORMAL	2,393.0	41.76	149.23	2,030.31	-941.03	568.46	1,099.37	1.36	0.00	2.04	90.72
	NORMAL	2,486.0	42.73	150.81	2,099.16	-995.19	599.69	1,161.88	1.55	1.04	1.70	48.19
	NORMAL	2,581.0	42.20	151.51	2,169.24	-1,051.37	630.63	1,225.99	0.75	-0.56	0.74	138.53
	NORMAL	2,675.0	40.88	151.34	2,239.60	-1,106.11	660.44	1,288.28	1.41	-1.40	-0.18	184.82
	NORMAL	2,770.0	41.45	150.28	2,311.11	-1,160.70	690.94	1,350.79	0.95	0.60	-1.12	308.85
	NORMAL	2,864.0	39.96	149.58	2,382.37	-1,213.75	721.65	1,412.08	1.66	-1.59	-0.74	196.77
	NORMAL	2,958.0	38.29	149.05	2,455.29	-1,264.76	751.92	1,471.40	1.81	-1.78	-0.56	191.12
	NORMAL	3,052.0	37.23	147.47	2,529.61	-1,313.72	782.19	1,528.94	1.53	-1.13	-1.68	221.77
	NORMAL	3,147.0	36.48	147.12	2,605.62	-1,361.66	812.97	1,585.89	0.82	-0.79	-0.37	195.50
	NORMAL	3,241.0	36.84	146.15	2,681.03	-1,408.54	843.84	1,641.95	0.73	0.38	-1.03	301.48
	NORMAL	3,335.0	35.91	147.65	2,756.71	-1,455.23	874.29	1,697.65	1.37	-0.99	1.60	136.87
	NORMAL	3,429.0	35.78	147.73	2,832.91	-1,501.75	903.71	1,752.67	0.15	-0.14	0.09	160.21
	NORMAL	3,523.0	33.63	148.53	2,910.18	-1,547.19	931.97	1,806.17	2.34	-2.29	0.85	168.37
	NORMAL	3,618.0	32.04	149.23	2,990.00	-1,591.29	958.60	1,857.68	1.72	-1.67	0.74	166.87
5/7/2014	NORMAL	3,712.0	32.09	148.53	3,069.66	-1,634.01	984.39	1,907.58	0.40	0.05	-0.74	277.37
	NORMAL	3,806.0	30.55	147.65	3,149.96	-1,675.49	1,010.21	1,956.43	1.71	-1.64	-0.94	196.17
	NORMAL	3,901.0	29.01	147.21	3,232.41	-1,715.25	1,035.61	2,003.59	1.64	-1.62	-0.46	187.89
	NORMAL	3,995.0	27.12	147.03	3,315.36	-1,752.39	1,059.61	2,047.78	2.01	-2.01	-0.19	182.49
	NORMAL	4,089.0	25.23	147.21	3,399.71	-1,787.21	1,082.13	2,089.21	2.01	-2.01	0.19	177.68
	NORMAL	4,183.0	22.33	147.21	3,485.73	-1,819.07	1,102.65	2,127.09	3.09	-3.09	0.00	180.00
	NORMAL	4,278.0	20.40	148.97	3,574.19	-1,848.43	1,120.96	2,161.68	2.14	-2.03	1.85	162.44
	NORMAL	4,372.0	18.81	147.47	3,662.74	-1,875.25	1,137.56	2,193.21	1.77	-1.69	-1.60	196.86
	NORMAL	4,466.0	17.50	147.65	3,752.06	-1,899.97	1,153.27	2,222.49	1.39	-1.39	0.19	177.63
	NORMAL	4,559.0	15.08	149.15	3,841.32	-1,922.17	1,166.96	2,248.57	2.64	-2.60	1.61	170.86
	NORMAL	4,653.0	13.93	147.12	3,932.32	-1,942.17	1,179.37	2,272.10	1.34	-1.22	-2.16	202.87
	NORMAL	4,747.0	12.40	146.15	4,023.85	-1,960.06	1,191.13	2,293.49	1.64	-1.63	-1.03	187.74
	NORMAL	4,842.0	10.11	146.42	4,117.02	-1,975.45	1,201.46	2,312.00	2.41	-2.41	0.00	180.00
	NORMAL	4,936.0	8.70	147.91	4,209.75	-1,988.33	1,209.83	2,327.35	1.53	-1.50	1.87	169.34
5/8/2014	NORMAL	5,030.0	6.95	152.74	4,302.87	-1,999.41	1,216.22	2,340.13	1.99	-1.86	5.14	161.79
	NORMAL	5,124.0	4.40	165.58	4,396.41	-2,007.96	1,219.72	2,349.27	3.01	-2.71	13.66	159.82
	NORMAL	5,218.0	1.36	182.63	4,490.28	-2,012.57	1,220.57	2,353.67	3.32	-3.23	18.14	172.67
5/9/2014	NORMAL	5,313.0	1.19	314.73	4,585.27	-2,013.00	1,219.81	2,353.65	2.45	-0.18	139.05	157.74

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 (°)
5/9/2014	NORMAL	5,407.0	1.85	302.42	4,679.24	-2,011.50	1,217.84	2,351.35	0.78	0.70	-13.10	327.44
	NORMAL	5,501.0	1.93	315.34	4,773.19	-2,009.56	1,215.45	2,348.46	0.46	0.09	13.74	85.87
	NORMAL	5,595.0	1.45	349.46	4,867.15	-2,007.26	1,214.12	2,345.81	1.16	-0.51	36.30	131.89
	NORMAL	5,689.0	0.97	358.85	4,961.13	-2,005.30	1,213.88	2,344.00	0.55	-0.51	9.99	162.20
	NORMAL	5,783.0	0.57	358.85	5,055.12	-2,004.04	1,213.86	2,342.90	0.43	-0.43	0.00	180.00
	NORMAL	5,878.0	0.40	295.74	5,150.11	-2,003.42	1,213.55	2,342.22	0.56	-0.18	-66.43	222.52
	NORMAL	5,972.0	0.88	253.73	5,244.11	-2,003.48	1,212.56	2,341.76	0.68	0.51	-44.69	293.32
	NORMAL	6,067.0	1.27	223.58	5,339.09	-2,004.45	1,211.14	2,341.87	0.71	0.41	-31.74	288.89
	NORMAL	6,161.0	2.07	222.00	5,433.05	-2,006.46	1,209.28	2,342.65	0.85	0.85	-1.68	355.92
	NORMAL	6,255.0	2.11	221.56	5,526.99	-2,009.02	1,207.00	2,343.69	0.05	0.04	-0.47	337.92
	NORMAL	6,349.0	2.37	221.56	5,620.92	-2,011.77	1,204.56	2,344.80	0.28	0.28	0.00	0.00
	NORMAL	6,444.0	2.59	223.94	5,715.83	-2,014.78	1,201.77	2,345.97	0.26	0.23	2.51	26.28
	NORMAL	6,538.0	2.50	227.10	5,809.74	-2,017.71	1,198.79	2,346.97	0.18	-0.10	3.36	124.25
	NORMAL	6,632.0	2.37	229.65	5,903.65	-2,020.36	1,195.81	2,347.72	0.18	-0.14	2.71	141.46
	NORMAL	6,675.0	2.55	230.70	5,946.61	-2,021.54	1,194.39	2,348.02	0.43	0.42	2.44	14.58
	NORMAL	6,725.0	2.55	230.70	5,996.56	-2,022.95	1,192.67	2,348.35	0.00	0.00	0.00	0.00