

# Deviation Summary

PICEANCE VLY

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	GM 11-13	Wellbore No.	00
Wellbore Legal Name	GM 11-13	Common Wellbore Name	GM 11-13
Project	GV 12-07S-096W	Site	GM 24-12 Pad
Vertical Section Azimuth	202.67 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	7/6/2014	UWI	GM 11-13
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	7/6/2014	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 (°)
7/6/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/6/2014	NORMAL	72.0	0.09	96.68	72.00	-0.01	0.06	-0.02	0.13	0.13	0.00	96.68
	NORMAL	102.0	0.44	272.64	102.00	0.00	-0.04	0.02	1.77	1.17	586.53	176.65
	NORMAL	131.0	0.44	253.13	131.00	-0.03	-0.25	0.13	0.51	0.00	-67.28	260.25
	NORMAL	162.0	0.70	229.48	162.00	-0.19	-0.51	0.37	1.11	0.84	-76.29	305.62
	NORMAL	192.0	0.79	241.26	191.99	-0.41	-0.83	0.70	0.59	0.30	39.27	65.54
	NORMAL	222.0	1.58	242.75	221.99	-0.70	-1.38	1.17	2.64	2.63	4.97	2.98
	NORMAL	253.0	1.58	229.48	252.98	-1.17	-2.09	1.88	1.18	0.00	-42.81	263.37
	NORMAL	283.0	1.76	233.00	282.96	-1.72	-2.77	2.65	0.69	0.60	11.73	31.45
	NORMAL	314.0	2.02	228.16	313.95	-2.37	-3.56	3.55	0.98	0.84	-15.61	326.02
	NORMAL	344.0	2.55	214.63	343.92	-3.27	-4.33	4.68	2.51	1.77	-45.10	307.60
	NORMAL	375.0	3.70	209.44	374.88	-4.71	-5.21	6.35	3.82	3.71	-16.74	343.58
	NORMAL	405.0	4.05	204.96	404.81	-6.51	-6.13	8.37	1.54	1.17	-14.93	316.89
	NORMAL	435.0	4.66	200.83	434.72	-8.61	-7.02	10.65	2.29	2.03	-13.77	330.72
	NORMAL	465.0	5.54	202.15	464.60	-11.09	-7.99	13.31	2.96	2.93	4.40	8.25
	NORMAL	495.0	6.86	203.38	494.43	-14.08	-9.25	16.55	4.42	4.40	4.10	6.36
	NORMAL	525.0	7.48	201.71	524.19	-17.53	-10.68	20.30	2.18	2.07	-5.57	340.59
	NORMAL	556.0	8.53	205.66	554.89	-21.48	-12.43	24.61	3.82	3.39	12.74	29.61
	NORMAL	587.0	9.41	205.22	585.51	-25.85	-14.50	29.44	2.85	2.84	-1.42	355.32
	NORMAL	617.0	10.03	204.43	615.08	-30.44	-16.63	34.50	2.11	2.07	-2.63	347.47
	NORMAL	648.0	10.73	202.68	645.57	-35.56	-18.86	40.08	2.48	2.26	-5.65	334.89

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (')	Azl. (')	TVD (ft)	N/S (ft)	EW (ft)	V. sec. (ft)	DLS (*/100usft)	Build Rate (*/100usft)	Turn (*/100usft)	Tface (')
7/6/2014	NORMAL	678.0	11.00	202.32	675.03	-40.79	-21.02	45.74	0.93	0.90	-1.20	345.72
	NORMAL	709.0	11.35	201.09	705.45	-46.37	-23.24	51.75	1.37	1.13	-3.97	325.14
	NORMAL	739.0	11.44	201.97	734.85	-51.88	-25.42	57.67	0.65	0.30	2.93	63.06
	NORMAL	800.0	11.79	201.36	794.61	-63.30	-29.95	69.95	0.61	0.57	-1.00	340.37
	NORMAL	841.0	12.21	200.97	834.71	-71.25	-33.03	78.47	1.04	1.02	-0.95	348.88
	NORMAL	871.0	12.46	201.02	864.02	-77.23	-35.32	84.88	0.83	0.83	0.17	2.47
	NORMAL	962.0	13.60	201.09	952.67	-96.38	-42.69	105.39	1.25	1.25	0.08	0.83
	NORMAL	1,003.0	14.01	200.91	992.49	-105.51	-46.20	115.17	1.01	1.00	-0.44	353.93
7/8/2014	NORMAL	1,073.0	14.64	202.20	1,060.31	-121.62	-52.57	132.48	1.01	0.90	1.84	27.49
	NORMAL	1,167.0	14.73	201.67	1,151.24	-143.72	-61.47	156.31	0.17	0.10	-0.56	303.56
	NORMAL	1,262.0	12.88	198.42	1,243.49	-164.99	-69.27	178.95	2.11	-1.95	-3.42	201.17
	NORMAL	1,356.0	12.48	198.77	1,335.20	-184.55	-75.85	199.53	0.43	-0.43	0.37	169.30
	NORMAL	1,450.0	12.44	197.80	1,426.99	-203.81	-82.22	219.75	0.23	-0.04	-1.03	258.71
	NORMAL	1,545.0	12.09	204.39	1,519.82	-222.61	-89.45	239.89	1.52	-0.37	6.94	107.24
	NORMAL	1,639.0	11.91	204.48	1,611.77	-240.40	-97.54	259.42	0.19	-0.19	0.10	174.11
	NORMAL	1,733.0	10.55	200.44	1,703.97	-257.30	-104.56	277.72	1.67	-1.45	-4.30	208.08
	NORMAL	1,827.0	11.74	202.37	1,796.19	-274.20	-111.21	295.88	1.33	1.27	2.05	18.35
	NORMAL	1,922.0	11.69	202.37	1,889.22	-292.04	-118.55	315.17	0.05	-0.05	0.00	180.00
	NORMAL	2,016.0	11.30	200.00	1,981.33	-309.50	-125.32	333.89	0.65	-0.41	-2.52	229.29
	NORMAL	2,110.0	12.66	203.43	2,073.28	-327.61	-132.57	353.39	1.63	1.45	3.65	29.32
	NORMAL	2,204.0	12.66	202.20	2,165.00	-346.60	-140.56	373.99	0.29	0.00	-1.31	269.40
	NORMAL	2,298.0	12.66	201.76	2,256.71	-365.70	-148.27	394.59	0.10	0.00	-0.47	269.79
	NORMAL	2,392.0	11.91	200.18	2,348.56	-384.37	-155.43	414.58	0.87	-0.80	-1.68	203.37
	NORMAL	2,487.0	11.82	198.59	2,441.53	-402.80	-161.92	434.08	0.36	-0.09	-1.67	253.83
	NORMAL	2,581.0	10.73	201.93	2,533.72	-420.04	-168.25	452.44	1.35	-1.16	3.55	150.70
	NORMAL	2,675.0	10.86	201.32	2,626.05	-436.41	-174.74	470.04	0.18	0.14	-0.65	318.39
	NORMAL	2,770.0	9.54	200.79	2,719.55	-452.10	-180.79	486.85	1.39	-1.39	-0.56	183.81
	NORMAL	2,864.0	9.23	201.14	2,812.29	-466.42	-186.27	502.18	0.34	-0.33	0.37	169.74
	NORMAL	2,958.0	9.14	202.29	2,905.08	-480.36	-191.82	517.18	0.22	-0.10	1.22	116.68
	NORMAL	3,053.0	7.87	199.38	2,999.04	-493.47	-196.84	531.22	1.41	-1.34	-3.06	197.29
	NORMAL	3,147.0	7.91	196.48	3,092.15	-505.75	-200.81	544.07	0.43	0.04	-3.09	274.30
	NORMAL	3,241.0	8.04	196.57	3,185.24	-518.25	-204.52	557.04	0.14	0.14	0.10	5.53
	NORMAL	3,335.0	6.77	200.09	3,278.45	-529.75	-208.30	569.11	1.43	-1.35	3.74	162.08
	NORMAL	3,429.0	5.28	201.05	3,371.93	-539.00	-211.76	578.97	1.59	-1.59	1.02	176.61
	NORMAL	3,523.0	4.13	204.92	3,465.61	-546.10	-214.74	586.68	1.27	-1.22	4.12	166.49
	NORMAL	3,618.0	2.77	200.35	3,560.44	-551.36	-216.98	592.39	1.46	-1.43	-4.81	189.16
	NORMAL	3,712.0	2.73	204.75	3,654.33	-555.52	-218.71	596.89	0.23	-0.04	4.68	102.92
7/9/2014	NORMAL	3,806.0	1.63	218.98	3,748.26	-558.59	-220.48	600.41	1.30	-1.17	15.14	160.79
	NORMAL	3,901.0	0.13	256.25	3,843.25	-559.67	-221.44	601.78	1.61	-1.58	39.23	177.05
	NORMAL	3,995.0	0.35	299.67	3,937.25	-559.55	-221.79	601.80	0.29	0.23	46.19	62.69
	NORMAL	4,089.0	0.88	263.02	4,031.24	-559.50	-222.76	602.13	0.68	0.56	-38.99	304.13
	NORMAL	4,183.0	1.01	253.70	4,125.23	-559.82	-224.27	603.00	0.21	0.14	-9.91	305.50
	NORMAL	4,278.0	0.97	245.62	4,220.22	-560.38	-225.81	604.12	0.15	-0.04	-8.51	250.00
	NORMAL	4,372.0	1.05	232.52	4,314.20	-561.24	-227.21	605.45	0.26	0.09	-13.94	282.48
	NORMAL	4,465.0	1.01	228.13	4,407.19	-562.30	-228.50	606.93	0.10	-0.04	-4.72	240.94
	NORMAL	4,559.0	1.27	226.89	4,501.17	-563.57	-229.88	608.63	0.28	0.28	-1.32	353.96
	NORMAL	4,653.0	1.58	232.34	4,595.14	-565.07	-231.66	610.70	0.36	0.33	5.80	26.36
	NORMAL	4,747.0	1.85	228.21	4,689.10	-566.87	-233.82	613.20	0.32	0.29	-4.39	333.33
	NORMAL	4,841.0	0.75	250.80	4,783.07	-568.09	-235.53	614.98	1.27	-1.17	24.03	166.02
	NORMAL	4,936.0	1.63	20.26	4,878.06	-567.02	-235.65	614.04	2.30	0.93	136.27	144.82
	NORMAL	5,030.0	1.10	22.99	4,972.03	-564.94	-234.84	611.80	0.57	-0.56	2.90	174.37
	NORMAL	5,124.0	0.40	316.81	5,066.03	-563.87	-234.71	610.77	1.07	-0.74	-70.40	201.30
	NORMAL	5,218.0	0.40	327.79	5,160.02	-563.35	-235.11	610.44	0.08	0.00	11.68	95.49
	NORMAL	5,312.0	0.83	273.56	5,254.02	-563.03	-235.96	610.48	0.72	0.46	-57.69	277.21
7/10/2014	NORMAL	5,407.0	1.10	260.73	5,349.01	-563.14	-237.55	611.19	0.36	0.28	-13.51	314.80
	NORMAL	5,501.0	1.67	268.64	5,442.98	-563.31	-239.81	612.22	0.64	0.61	8.41	22.52

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 (')
7/10/2014	NORMAL	5,595.0	1.27	252.29	5,536.95	-563.66	-242.17	613.45	0.61	-0.43	-17.39	218.38
	NORMAL	5,689.0	0.97	234.37	5,630.93	-564.44	-243.81	614.81	0.49	-0.32	-19.06	220.69
	NORMAL	5,783.0	1.50	226.19	5,724.91	-565.76	-245.35	616.61	0.59	0.56	-8.70	337.48
	NORMAL	5,878.0	2.07	226.89	5,819.86	-567.79	-247.50	619.32	0.60	0.60	0.74	2.54
	NORMAL	5,975.0	2.46	233.66	5,916.78	-570.22	-250.45	622.70	0.49	0.40	6.98	37.87
	NORMAL	6,025.0	2.46	233.66	5,966.74	-571.49	-252.18	624.54	0.00	0.00	0.00	0.00