

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	GM 444-12	Wellbore No.	00
Wellbore Legal Name	GM 444-12	Common Wellbore Name	GM 444-12
Project	GV 12-07S-096W	Site	GM 24-12 Pad
Vertical Section Azimuth	84.93 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	7/29/2014	UWI	GM 444-12
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	7/29/2014	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 (°)
7/29/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/29/2014	NORMAL	105.0	1.06	94.92	104.99	-0.08	0.97	0.96	1.01	1.01	0.00	94.92
	NORMAL	134.0	1.06	78.66	133.99	-0.05	1.50	1.49	1.03	0.00	-56.07	261.87
	NORMAL	165.0	1.50	90.26	164.98	0.00	2.18	2.18	1.64	1.42	37.42	36.38
	NORMAL	195.0	2.29	86.04	194.96	0.04	3.18	3.17	2.67	2.63	-14.07	347.87
	NORMAL	225.0	3.70	87.71	224.92	0.12	4.74	4.73	4.71	4.70	5.57	4.38
	NORMAL	256.0	5.10	82.53	255.83	0.34	7.11	7.11	4.69	4.52	-16.71	341.56
	NORMAL	286.0	6.69	84.38	285.67	0.68	10.17	10.19	5.34	5.30	6.17	7.74
	NORMAL	317.0	8.09	86.48	316.41	1.00	14.14	14.17	4.60	4.52	6.77	11.96
	NORMAL	347.0	9.24	85.61	346.07	1.31	18.65	18.69	3.86	3.83	-2.90	353.07
	NORMAL	378.0	10.73	83.06	376.60	1.85	24.00	24.07	5.01	4.81	-8.23	342.21
	NORMAL	408.0	11.70	83.32	406.03	2.54	29.79	29.90	3.24	3.23	0.87	3.11
	NORMAL	438.0	12.84	83.94	435.34	3.25	36.13	36.27	3.83	3.80	2.07	6.90
	NORMAL	468.0	14.25	85.43	464.51	3.89	43.12	43.30	4.84	4.70	4.97	14.63
	NORMAL	498.0	15.57	85.43	493.50	4.51	50.82	51.02	4.40	4.40	0.00	0.00
	NORMAL	529.0	16.89	84.64	523.26	5.26	59.45	59.68	4.32	4.26	-2.55	350.12
	NORMAL	538.0	17.06	84.33	531.87	5.51	62.06	62.31	2.14	1.89	-3.44	331.82
	NORMAL	568.0	17.98	83.98	560.48	6.43	71.05	71.34	3.09	3.07	-1.17	353.30
	NORMAL	599.0	18.90	84.25	589.88	7.44	80.80	81.14	2.98	2.97	0.87	5.43
	NORMAL	629.0	19.82	84.60	618.19	8.40	90.70	91.09	3.09	3.07	1.17	7.35
	NORMAL	660.0	21.10	85.92	647.23	9.29	101.50	101.92	4.39	4.13	4.26	20.44

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 (°)
7/29/2014	NORMAL	691.0	22.07	85.83	676.06	10.11	112.87	113.32	3.13	3.13	-0.29	358.00
	NORMAL	721.0	23.78	86.18	703.69	10.93	124.53	125.01	5.72	5.70	1.17	4.72
	NORMAL	752.0	25.06	86.09	731.91	11.79	137.32	137.82	4.13	4.13	-0.29	358.29
	NORMAL	782.0	26.15	86.09	758.97	12.68	150.25	150.78	3.63	3.63	0.00	0.00
	NORMAL	813.0	27.34	85.83	786.65	13.66	164.17	164.73	3.86	3.84	-0.84	354.27
	NORMAL	843.0	28.53	84.86	813.15	14.80	178.17	178.78	4.25	3.97	-3.23	338.67
	NORMAL	873.0	29.58	84.33	839.38	16.17	192.68	193.35	3.60	3.50	-1.77	345.99
7/30/2014	NORMAL	904.0	31.30	84.25	866.10	17.74	208.30	209.06	5.55	5.55	-0.26	358.62
	NORMAL	934.0	33.36	84.42	891.45	19.32	224.27	225.10	6.87	6.87	0.57	2.60
	NORMAL	964.0	34.55	84.33	916.33	20.96	240.94	241.85	3.97	3.97	-0.30	357.54
	NORMAL	1,059.0	37.06	84.07	993.37	26.58	296.23	297.42	2.65	2.64	-0.27	356.43
	NORMAL	1,153.0	40.35	85.30	1,066.72	32.00	354.75	356.19	3.59	3.50	1.31	13.64
	NORMAL	1,246.0	43.60	85.92	1,135.85	36.75	416.76	418.38	3.52	3.49	0.67	7.50
	NORMAL	1,341.0	47.82	86.00	1,202.17	41.54	484.58	486.35	4.44	4.44	0.08	0.81
	NORMAL	1,435.0	52.40	85.04	1,262.44	47.19	556.46	558.45	4.93	4.87	-1.02	350.55
	NORMAL	1,529.0	55.21	84.78	1,317.95	53.93	632.01	634.30	3.00	2.99	-0.28	355.65
	NORMAL	1,620.0	57.01	84.60	1,368.69	60.92	707.22	709.84	1.98	1.98	-0.20	355.20
7/31/2014	NORMAL	1,731.0	58.02	84.42	1,428.30	69.88	800.42	803.47	0.92	0.91	-0.16	351.40
	NORMAL	1,825.0	58.46	83.72	1,477.78	78.14	879.92	883.38	0.79	0.47	-0.74	306.29
	NORMAL	1,919.0	58.73	83.72	1,526.76	86.91	959.67	963.59	0.29	0.29	0.00	0.00
	NORMAL	2,013.0	59.38	83.72	1,575.10	95.73	1,039.80	1,044.20	0.69	0.69	0.00	0.00
	NORMAL	2,107.0	58.46	83.19	1,623.62	104.91	1,119.78	1,124.67	1.09	-0.98	-0.56	206.12
	NORMAL	2,202.0	58.02	84.51	1,673.63	113.56	1,200.09	1,205.43	1.27	-0.46	1.39	111.75
	NORMAL	2,296.0	58.68	84.16	1,722.95	121.46	1,279.72	1,285.45	0.77	0.70	-0.37	335.61
	NORMAL	2,391.0	59.56	83.19	1,771.71	130.45	1,360.75	1,366.96	1.28	0.93	-1.02	316.34
	NORMAL	2,484.0	58.95	84.60	1,819.26	138.95	1,440.23	1,446.87	1.46	-0.66	1.52	117.08
	NORMAL	2,578.0	57.58	85.39	1,868.70	145.93	1,519.86	1,526.81	1.62	-1.46	0.84	154.08
	NORMAL	2,672.0	58.15	85.21	1,918.70	152.45	1,599.19	1,606.41	0.63	0.61	-0.19	344.98
	NORMAL	2,767.0	56.70	84.33	1,969.85	159.74	1,678.91	1,686.46	1.71	-1.53	-0.93	208.85
	NORMAL	2,861.0	55.03	85.48	2,022.59	166.66	1,756.41	1,764.26	2.04	-1.78	1.22	150.64
	NORMAL	2,955.0	55.34	85.04	2,076.26	173.04	1,833.32	1,841.43	0.51	0.33	-0.47	310.51
	NORMAL	3,050.0	55.82	85.13	2,129.96	179.75	1,911.39	1,919.80	0.51	0.51	0.09	8.82
	NORMAL	3,144.0	56.18	85.21	2,182.53	186.31	1,989.05	1,997.73	0.39	0.38	0.09	10.46
	NORMAL	3,238.0	56.66	85.13	2,234.52	192.91	2,067.08	2,076.04	0.52	0.51	-0.09	352.07
	NORMAL	3,333.0	54.95	85.83	2,287.91	199.10	2,145.41	2,154.61	1.90	-1.80	0.74	161.49
	NORMAL	3,427.0	53.06	84.69	2,343.15	205.38	2,221.20	2,230.66	2.24	-2.01	-1.21	205.68
	NORMAL	3,521.0	52.13	86.00	2,400.25	211.44	2,295.62	2,305.32	1.48	-0.99	1.39	132.18
	NORMAL	3,615.0	50.55	85.30	2,458.97	217.01	2,368.80	2,378.71	1.78	-1.68	-0.74	198.87
8/1/2014	NORMAL	3,709.0	49.01	83.90	2,519.67	223.75	2,440.26	2,450.48	1.99	-1.84	-1.49	214.32
	NORMAL	3,803.0	46.86	83.90	2,582.64	231.16	2,509.64	2,520.25	2.29	-2.29	0.00	180.00
	NORMAL	3,918.0	45.54	86.01	2,662.24	238.48	2,592.31	2,603.24	1.75	-1.15	1.83	131.64
	NORMAL	3,992.0	44.13	84.69	2,714.72	242.70	2,644.31	2,655.41	2.28	-1.91	-1.78	212.96
	NORMAL	4,086.0	41.85	86.01	2,783.47	247.91	2,708.19	2,719.50	2.61	-2.43	1.40	158.94
	NORMAL	4,181.0	40.00	84.86	2,855.25	252.85	2,770.22	2,781.72	2.10	-1.95	-1.21	201.72
	NORMAL	4,275.0	38.11	84.78	2,928.24	258.20	2,829.20	2,840.95	2.01	-2.01	-0.09	181.50
	NORMAL	4,369.0	36.09	85.48	3,003.21	263.02	2,885.69	2,897.65	2.20	-2.15	0.74	168.47
	NORMAL	4,463.0	33.63	83.98	3,080.34	267.93	2,939.19	2,951.37	2.77	-2.62	-1.60	198.60
	NORMAL	4,558.0	32.97	84.51	3,159.74	273.17	2,991.08	3,003.52	0.76	-0.69	0.56	156.43
	NORMAL	4,652.0	31.74	85.30	3,239.15	277.64	3,041.18	3,053.82	1.38	-1.31	0.84	161.36
	NORMAL	4,745.0	29.45	86.01	3,319.19	281.24	3,088.38	3,101.15	2.49	-2.46	0.76	171.34
	NORMAL	4,839.0	27.43	86.62	3,401.85	284.12	3,133.05	3,145.90	2.17	-2.15	0.65	172.08
	NORMAL	4,933.0	25.41	86.97	3,486.02	286.46	3,174.80	3,187.70	2.16	-2.15	0.37	175.75
	NORMAL	5,027.0	24.31	85.48	3,571.31	289.05	3,214.23	3,227.20	1.35	-1.17	-1.59	208.99
	NORMAL	5,122.0	22.50	84.16	3,658.49	292.44	3,251.81	3,264.94	1.98	-1.91	-1.39	195.55
8/2/2014	NORMAL	5,216.0	22.11	84.95	3,745.46	295.83	3,287.33	3,300.61	0.52	-0.41	0.84	142.81
	NORMAL	5,310.0	20.09	84.95	3,833.15	298.81	3,321.04	3,334.45	2.15	-2.15	0.00	180.00

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 (°)
8/2/2014	NORMAL	5,404.0	17.89	85.30	3,922.03	301.41	3,351.51	3,365.03	2.34	-2.34	0.37	177.20
	NORMAL	5,498.0	15.74	86.18	4,012.01	303.45	3,378.62	3,392.22	2.30	-2.29	0.94	173.67
	NORMAL	5,592.0	13.58	86.97	4,102.94	304.88	3,402.37	3,416.00	2.31	-2.30	0.84	175.09
8/3/2014	NORMAL	5,689.0	11.43	85.21	4,197.64	306.29	3,423.32	3,436.99	2.25	-2.22	-1.81	189.19
	NORMAL	5,783.0	9.19	82.58	4,290.11	308.03	3,440.05	3,453.81	2.43	-2.38	-2.80	190.58
	NORMAL	5,877.0	7.38	79.94	4,383.13	310.06	3,453.44	3,467.33	1.97	-1.93	-2.81	190.57
	NORMAL	5,971.0	5.58	77.39	4,476.52	312.11	3,463.84	3,477.87	1.94	-1.91	-2.71	187.82
	NORMAL	6,065.0	4.97	80.73	4,570.12	313.76	3,472.32	3,486.46	0.73	-0.65	3.55	154.94
	NORMAL	6,160.0	4.53	83.72	4,664.80	314.84	3,480.11	3,494.32	0.53	-0.46	3.15	152.12
	NORMAL	6,254.0	4.00	65.35	4,758.54	316.61	3,486.78	3,501.12	1.55	-0.56	-19.54	239.80
	NORMAL	6,349.0	3.34	66.32	4,853.35	319.10	3,492.33	3,506.86	0.70	-0.69	1.02	175.11
	NORMAL	6,443.0	2.59	66.49	4,947.22	321.05	3,496.78	3,511.47	0.80	-0.80	0.18	179.41
	NORMAL	6,537.0	1.89	61.75	5,041.15	322.63	3,500.10	3,514.91	0.77	-0.74	-5.04	192.46
	NORMAL	6,631.0	1.27	53.75	5,135.11	323.98	3,502.30	3,517.23	0.70	-0.66	-8.51	195.62
	NORMAL	6,726.0	0.79	54.89	5,230.10	324.98	3,503.69	3,518.70	0.51	-0.51	1.20	178.13
	NORMAL	6,820.0	0.26	64.82	5,324.09	325.44	3,504.41	3,519.46	0.57	-0.56	10.56	175.20
	NORMAL	6,914.0	0.09	67.90	5,418.09	325.56	3,504.67	3,519.73	0.18	-0.18	3.28	178.37
8/4/2014	NORMAL	7,008.0	0.35	237.35	5,512.09	325.43	3,504.50	3,519.55	0.47	0.28	180.27	171.60
	NORMAL	7,102.0	0.92	233.84	5,606.09	324.83	3,503.65	3,518.64	0.61	0.61	-3.73	354.34
	NORMAL	7,197.0	1.27	234.19	5,701.07	323.77	3,502.18	3,517.09	0.37	0.37	0.37	1.27
	NORMAL	7,291.0	1.67	231.02	5,795.04	322.30	3,500.27	3,515.05	0.43	0.43	-3.37	346.92
	NORMAL	7,385.0	1.89	232.69	5,888.99	320.50	3,497.97	3,512.61	0.24	0.23	1.78	14.10
	NORMAL	7,480.0	2.20	229.92	5,983.93	318.37	3,495.33	3,509.79	0.34	0.33	-2.92	340.93
	NORMAL	7,574.0	2.33	227.33	6,077.86	315.92	3,492.54	3,506.80	0.18	0.14	-2.76	320.48
	NORMAL	7,630.0	2.24	225.22	6,133.81	314.37	3,490.93	3,505.05	0.22	-0.16	-3.77	222.02
	NORMAL	7,680.0	2.24	225.22	6,183.77	313.00	3,489.54	3,503.55	0.00	0.00	0.00	0.00