

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	GM 343-12	Wellbore No.	00
Wellbore Legal Name	GM 343-12	Common Wellbore Name	GM 343-12
Project	GV 12-07S-096W	Site	GM 21-12 Pad
Vertical Section Azimuth	134.32 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	10/31/2014	UWI	GM 343-12
Active datum	KB @5,151.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	MOSTAR
Date Started	10/30/2014	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 (°)
10/30/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/31/2014	NORMAL	105.0	0.79	153.28	105.00	-0.65	0.33	0.68	0.75	0.75	0.00	153.28
	NORMAL	135.0	1.06	177.63	134.99	-1.11	0.43	1.08	1.57	0.90	81.17	68.10
	NORMAL	165.0	1.85	159.87	164.98	-1.84	0.61	1.72	3.00	2.63	-59.20	321.20
	NORMAL	196.0	3.17	161.28	195.95	-3.12	1.06	2.94	4.26	4.26	4.55	3.38
	NORMAL	226.0	3.61	150.82	225.90	-4.73	1.78	4.58	2.52	1.47	-34.87	300.13
	NORMAL	256.0	4.66	146.34	255.82	-6.57	2.92	6.68	3.66	3.50	-14.93	340.66
	NORMAL	286.0	5.98	142.91	285.69	-8.83	4.54	9.42	4.52	4.40	-11.43	344.74
	NORMAL	316.0	6.69	143.53	315.51	-11.48	6.52	12.69	2.38	2.37	2.07	5.81
	NORMAL	347.0	7.74	135.53	346.26	-14.43	9.05	16.56	4.68	3.39	-25.81	312.25
	NORMAL	377.0	7.74	129.46	375.99	-17.15	12.03	20.59	2.72	0.00	-20.23	266.99
	NORMAL	407.0	7.74	133.15	405.72	-19.82	15.06	24.62	1.66	0.00	12.30	91.83
	NORMAL	437.0	8.53	138.15	435.42	-22.86	18.02	28.86	3.53	2.63	16.67	44.34
	NORMAL	468.0	9.85	138.08	466.02	-26.54	21.33	33.80	4.26	4.26	-0.23	359.48
	NORMAL	498.0	11.35	137.90	495.51	-30.64	25.02	39.31	5.00	5.00	-0.60	358.65
	NORMAL	528.0	12.76	135.97	524.84	-35.21	29.30	45.57	4.89	4.70	-6.43	343.10
	NORMAL	559.0	14.25	134.82	554.99	-40.37	34.39	52.80	4.88	4.81	-3.71	349.22
	NORMAL	588.0	15.57	136.23	583.01	-45.69	39.61	60.26	4.72	4.55	4.86	16.05
	NORMAL	619.0	17.07	133.15	612.76	-51.81	45.81	68.97	5.58	4.84	-9.94	328.53
	NORMAL	648.0	19.00	130.52	640.33	-57.79	52.50	77.94	7.22	6.66	-9.07	335.87
	NORMAL	679.0	19.62	132.28	669.59	-64.57	60.19	88.17	2.74	2.00	5.68	44.02

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 (°)	
10/31/2014	NORMAL	707.0	20.41	132.98	695.90	-71.06	67.24	97.75	2.95	2.82	2.50	17.20	
	NORMAL	770.0	22.20	134.92	754.59	-86.95	83.71	120.64	3.05	2.84	3.08	22.40	
	NORMAL	860.0	26.11	133.87	836.70	-112.69	110.03	157.46	4.37	4.34	-1.17	353.25	
	NORMAL	950.0	29.76	133.16	916.20	-141.71	140.62	199.61	4.07	4.06	-0.79	354.48	
	NORMAL	1,045.0	32.40	133.16	997.55	-175.25	176.39	248.64	2.78	2.78	0.00	0.00	
	NORMAL	1,139.0	34.02	134.39	1,076.20	-210.88	213.55	300.12	1.87	1.72	1.31	23.10	
	NORMAL	1,235.0	36.31	135.80	1,154.67	-250.05	252.56	355.39	2.53	2.39	1.47	20.10	
	NORMAL	1,330.0	40.00	135.10	1,229.36	-291.85	293.74	414.06	3.91	3.88	-0.74	353.04	
	NORMAL	1,426.0	45.71	133.16	1,299.71	-337.25	340.62	479.32	6.10	5.95	-2.02	346.27	
	NORMAL	1,521.0	49.41	134.22	1,363.81	-385.68	391.29	549.41	3.98	3.89	1.12	12.30	
	NORMAL	1,617.0	50.55	134.92	1,425.54	-437.28	443.66	622.93	1.31	1.19	0.73	25.41	
	NORMAL	1,665.0	51.30	134.39	1,455.80	-463.47	470.17	660.19	1.78	1.56	-1.10	331.08	
	11/2/2014	NORMAL	1,745.0	50.02	133.87	1,506.51	-506.55	514.58	722.06	1.68	-1.60	-0.65	197.28
		NORMAL	1,809.0	49.85	133.16	1,547.71	-540.27	550.10	771.04	0.89	-0.27	-1.11	252.40
		NORMAL	1,904.0	50.20	131.93	1,608.74	-589.50	603.73	843.80	1.06	0.37	-1.29	289.98
		NORMAL	2,000.0	48.53	132.11	1,671.26	-638.26	657.85	916.59	1.75	-1.74	0.19	175.38
		NORMAL	2,095.0	47.69	134.04	1,734.69	-686.55	709.51	987.29	1.75	-0.88	2.03	120.95
		NORMAL	2,191.0	47.47	132.63	1,799.45	-735.18	761.06	1,058.14	1.11	-0.23	-1.47	257.59
		NORMAL	2,286.0	47.16	133.34	1,863.86	-782.79	812.14	1,127.96	0.64	-0.33	0.75	120.95
		NORMAL	2,382.0	47.48	135.62	1,928.94	-832.24	862.49	1,198.52	1.78	0.33	2.38	79.97
	NORMAL	2,477.0	47.42	135.62	1,993.19	-882.26	911.44	1,268.49	0.06	-0.06	0.00	180.00	
	NORMAL	2,572.0	47.69	135.80	2,057.30	-932.44	960.39	1,338.57	0.32	0.28	0.19	26.26	
	NORMAL	2,667.0	48.31	135.80	2,120.87	-983.05	1,009.61	1,409.15	0.65	0.65	0.00	0.00	
	NORMAL	2,762.0	47.69	135.45	2,184.43	-1,033.52	1,058.98	1,479.73	0.71	-0.65	-0.37	202.64	
	NORMAL	2,857.0	47.43	134.92	2,248.54	-1,083.25	1,108.39	1,549.83	0.49	-0.27	-0.56	236.21	
	NORMAL	2,953.0	48.44	135.45	2,312.86	-1,133.81	1,158.62	1,621.09	1.13	1.05	0.55	21.46	
	NORMAL	3,048.0	48.18	135.45	2,376.04	-1,184.36	1,208.39	1,692.01	0.27	-0.27	0.00	180.00	
	NORMAL	3,143.0	47.91	134.75	2,439.56	-1,234.41	1,258.26	1,762.66	0.62	-0.28	-0.74	242.35	
	NORMAL	3,238.0	46.99	134.92	2,503.80	-1,283.75	1,307.89	1,832.64	0.98	-0.97	0.18	172.31	
	NORMAL	3,333.0	47.69	134.57	2,568.17	-1,332.93	1,357.51	1,902.50	0.79	0.74	-0.37	339.69	
11/3/2014	NORMAL	3,428.0	47.91	134.39	2,631.99	-1,382.24	1,407.72	1,972.87	0.27	0.23	-0.19	328.72	
	NORMAL	3,524.0	47.38	134.04	2,696.66	-1,431.71	1,458.56	2,043.81	0.61	-0.55	-0.36	205.90	
	NORMAL	3,619.0	47.30	133.87	2,761.04	-1,480.20	1,508.86	2,113.68	0.16	-0.08	-0.18	237.33	
	NORMAL	3,715.0	47.96	134.04	2,825.74	-1,529.43	1,559.92	2,184.60	0.70	0.69	0.18	10.83	
	NORMAL	3,810.0	45.89	134.22	2,890.61	-1,577.74	1,609.72	2,253.99	2.18	-2.18	0.19	176.43	
	NORMAL	3,905.0	44.09	133.69	2,957.80	-1,624.36	1,658.07	2,321.15	1.94	-1.89	-0.56	191.57	
	NORMAL	4,001.0	42.59	132.11	3,027.62	-1,669.22	1,706.32	2,387.01	1.93	-1.56	-1.65	215.29	
	NORMAL	4,096.0	39.34	132.81	3,099.35	-1,711.25	1,752.27	2,449.25	3.45	-3.42	0.74	172.23	
	NORMAL	4,191.0	36.70	133.16	3,174.18	-1,751.14	1,795.07	2,507.74	2.79	-2.78	0.37	175.47	
	NORMAL	4,287.0	35.47	133.16	3,251.76	-1,789.81	1,836.32	2,564.27	1.28	-1.28	0.00	180.00	
	NORMAL	4,383.0	33.06	132.63	3,331.09	-1,826.61	1,875.91	2,618.30	2.53	-2.51	-0.55	186.84	
	NORMAL	4,478.0	31.52	131.93	3,411.40	-1,860.75	1,913.45	2,669.02	1.67	-1.62	-0.74	193.35	
	NORMAL	4,573.0	28.04	131.23	3,493.84	-1,892.07	1,948.73	2,716.14	3.68	-3.66	-0.74	185.40	
	NORMAL	4,668.0	25.27	131.05	3,578.74	-1,920.11	1,980.82	2,758.69	2.92	-2.92	-0.19	181.59	
	NORMAL	4,764.0	22.73	131.93	3,666.43	-1,945.96	2,010.07	2,797.68	2.67	-2.65	0.92	172.38	
	NORMAL	4,860.0	19.21	133.69	3,756.06	-1,969.27	2,035.30	2,832.02	3.72	-3.67	1.83	170.67	
	11/4/2014	NORMAL	4,955.0	17.06	134.75	3,846.34	-1,989.88	2,056.50	2,861.58	2.29	-2.26	1.12	171.78
		NORMAL	5,050.0	15.34	135.45	3,937.56	-2,008.65	2,075.21	2,888.08	1.82	-1.81	0.74	173.86
		NORMAL	5,145.0	13.58	131.93	4,029.55	-2,025.06	2,092.33	2,911.79	2.07	-1.85	-3.71	204.84
		NORMAL	5,240.0	12.48	131.41	4,122.10	-2,039.30	2,108.32	2,933.19	1.16	-1.16	-0.55	185.83
	NORMAL	5,334.0	10.37	134.92	4,214.24	-2,052.00	2,121.93	2,951.79	2.36	-2.24	3.73	163.48	
	NORMAL	5,430.0	8.66	139.14	4,308.91	-2,063.56	2,132.78	2,967.64	1.92	-1.78	4.40	159.88	
	NORMAL	5,525.0	7.38	135.80	4,402.98	-2,073.35	2,141.71	2,980.86	1.43	-1.35	-3.52	198.36	
	NORMAL	5,620.0	5.50	141.25	4,497.38	-2,081.27	2,148.82	2,991.48	2.08	-1.98	5.74	164.68	
	NORMAL	5,715.0	4.53	134.75	4,592.02	-2,087.47	2,154.33	2,999.75	1.18	-1.02	-6.84	207.15	
	NORMAL	5,810.0	2.90	114.35	4,686.82	-2,091.10	2,159.19	3,005.77	2.18	-1.72	-21.47	209.16	

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 (°)
11/4/2014	NORMAL	5,905.0	2.20	109.08	4,781.72	-2,092.69	2,163.10	3,009.67	0.78	-0.74	-5.55	195.90
	NORMAL	6,001.0	1.71	104.51	4,877.67	-2,093.65	2,166.23	3,012.58	0.54	-0.51	-4.76	195.37
	NORMAL	6,096.0	1.54	119.10	4,972.63	-2,094.62	2,168.72	3,015.04	0.47	-0.18	15.36	119.52
11/5/2014	NORMAL	6,191.0	0.97	152.50	5,067.61	-2,095.96	2,170.20	3,017.04	0.95	-0.60	35.16	143.82
	NORMAL	6,285.0	0.53	273.79	5,161.60	-2,096.63	2,170.14	3,017.47	1.41	-0.47	129.03	160.01
	NORMAL	6,380.0	1.41	257.44	5,256.59	-2,096.86	2,168.56	3,016.49	0.96	0.93	-17.21	334.25
	NORMAL	6,475.0	1.45	260.25	5,351.56	-2,097.32	2,166.23	3,015.15	0.08	0.04	2.96	61.71
	NORMAL	6,571.0	1.93	247.25	5,447.52	-2,098.15	2,163.54	3,013.81	0.64	0.50	-13.54	314.77
	NORMAL	6,666.0	2.42	232.66	5,542.45	-2,099.98	2,160.47	3,012.89	0.77	0.52	-15.36	304.06
	NORMAL	6,762.0	2.86	218.59	5,638.35	-2,103.08	2,157.37	3,012.84	0.81	0.46	-14.66	297.01
	NORMAL	6,857.0	3.30	219.82	5,733.21	-2,107.04	2,154.14	3,013.29	0.47	0.46	1.29	9.16
	NORMAL	6,952.0	3.34	222.28	5,828.05	-2,111.18	2,150.53	3,013.60	0.16	0.04	2.59	75.55
	NORMAL	7,047.0	4.18	224.04	5,922.85	-2,115.72	2,146.26	3,013.72	0.89	0.88	1.85	8.70
	NORMAL	7,143.0	4.22	220.35	6,018.59	-2,120.93	2,141.54	3,013.98	0.28	0.04	-3.84	276.58
	NORMAL	7,239.0	4.22	222.28	6,114.33	-2,126.23	2,136.87	3,014.35	0.15	0.00	2.01	90.96
	NORMAL	7,265.0	4.22	223.87	6,140.26	-2,127.63	2,135.57	3,014.39	0.45	0.00	6.12	90.79
	NORMAL	7,320.0	4.22	223.87	6,195.11	-2,130.55	2,132.76	3,014.42	0.00	0.00	0.00	0.00