

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	GM 523-13	Wellbore No.	OH
Wellbore Legal Name	GM 523-13	Common Wellbore Name	GM 523-13
Project	GV 12-07S-096W	Site	GM 24-12 Pad
Vertical Section Azimuth	194.57 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	7/11/2014	UWI	GM 523-13
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	7/11/2014	Ended	
Tool Name	MWD	Engineer	

2.1.1 Tie On Point

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)
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 (°)
7/11/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/11/2014	NORMAL	102.0	1.06	206.46	101.99	-0.84	-0.42	0.92	1.04	1.04	0.00	206.46
	NORMAL	131.0	1.94	202.24	130.98	-1.54	-0.73	1.67	3.06	3.03	-14.55	350.73
	NORMAL	162.0	3.08	212.70	161.95	-2.73	-1.37	2.98	3.95	3.68	33.74	27.17
	NORMAL	192.0	4.57	215.68	191.89	-4.37	-2.51	4.86	5.01	4.97	9.93	9.09
	NORMAL	222.0	5.72	210.41	221.77	-6.64	-3.96	7.42	4.14	3.83	-17.57	335.02
	NORMAL	253.0	6.60	209.97	252.59	-9.51	-5.63	10.62	2.84	2.84	-1.42	356.71
	NORMAL	283.0	7.74	207.16	282.35	-12.80	-7.42	14.26	3.97	3.80	-9.37	341.50
	NORMAL	314.0	8.71	204.43	313.03	-16.80	-9.34	18.61	3.37	3.13	-8.81	336.71
	NORMAL	344.0	9.50	198.46	342.65	-21.21	-11.06	23.31	4.10	2.63	-19.90	306.93
	NORMAL	375.0	10.65	192.66	373.18	-26.43	-12.50	28.73	4.94	3.71	-18.71	315.70
	NORMAL	405.0	12.05	191.34	402.59	-32.21	-13.72	34.63	4.75	4.67	-4.40	348.84
	NORMAL	435.0	12.49	191.60	431.90	-38.46	-14.99	40.99	1.48	1.47	0.87	7.28
	NORMAL	465.0	13.55	191.51	461.13	-45.08	-16.35	47.74	3.53	3.53	-0.30	358.86
	NORMAL	495.0	14.96	191.95	490.21	-52.31	-17.85	55.12	4.71	4.70	1.47	4.61
	NORMAL	525.0	16.28	192.83	519.10	-60.20	-19.58	63.19	4.47	4.40	2.93	10.60
	NORMAL	556.0	17.51	192.92	548.76	-68.98	-21.59	72.20	3.97	3.97	0.29	1.26
	NORMAL	587.0	18.48	190.81	578.24	-78.36	-23.56	81.76	3.77	3.13	-6.81	325.09
	NORMAL	617.0	19.62	191.78	606.60	-87.96	-25.48	91.54	3.94	3.80	3.23	15.98
	NORMAL	648.0	20.59	192.83	635.71	-98.37	-27.75	102.18	3.34	3.13	3.39	20.90
	NORMAL	678.0	21.55	193.45	663.71	-108.87	-30.20	112.97	3.29	3.20	2.07	13.36

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 (°)
7/11/2014	NORMAL	709.0	22.96	194.33	692.40	-120.26	-33.02	124.70	4.67	4.55	2.84	13.71
	NORMAL	739.0	24.28	194.15	719.88	-131.92	-35.98	136.72	4.41	4.40	-0.60	356.79
	NORMAL	770.0	25.34	195.82	748.02	-144.48	-39.35	149.73	4.10	3.42	5.39	34.23
	NORMAL	800.0	26.57	196.61	774.99	-157.09	-43.02	162.85	4.26	4.10	2.63	16.06
	NORMAL	831.0	28.24	197.84	802.51	-170.71	-47.24	177.11	5.69	5.39	3.97	19.27
	NORMAL	861.0	29.30	197.84	828.81	-184.46	-51.67	191.52	3.53	3.53	0.00	0.00
7/12/2014	NORMAL	891.0	30.62	198.46	854.80	-198.69	-56.34	206.47	4.52	4.40	2.07	13.47
	NORMAL	962.0	33.85	197.60	914.85	-234.70	-68.04	244.27	4.59	4.55	-1.21	351.55
	NORMAL	1,057.0	37.70	196.09	991.91	-287.85	-84.10	299.75	4.16	4.05	-1.59	346.47
	NORMAL	1,151.0	41.27	195.51	1,064.45	-345.36	-100.36	359.50	3.82	3.80	-0.62	353.88
	NORMAL	1,245.0	45.27	194.41	1,132.88	-407.60	-116.97	423.91	4.33	4.26	-1.17	348.92
	NORMAL	1,340.0	49.27	194.60	1,197.33	-475.14	-134.45	493.68	4.21	4.21	0.20	2.06
7/13/2014	NORMAL	1,434.0	51.98	193.55	1,256.96	-545.62	-152.10	566.33	3.01	2.88	-1.12	342.99
	NORMAL	1,445.0	52.17	193.19	1,263.72	-554.06	-154.11	575.01	3.11	1.73	-3.27	303.67
	NORMAL	1,545.0	51.82	193.14	1,325.29	-630.78	-172.06	653.78	0.35	-0.35	-0.05	186.41
	NORMAL	1,639.0	52.66	191.74	1,382.85	-703.35	-188.06	728.04	1.48	0.89	-1.49	308.77
	NORMAL	1,733.0	52.22	189.72	1,440.16	-776.56	-201.93	802.38	1.77	-0.47	-2.15	254.02
	NORMAL	1,827.0	50.77	189.89	1,498.68	-849.04	-214.46	875.69	1.55	-1.54	0.18	174.81
	NORMAL	1,922.0	49.41	191.12	1,559.63	-920.69	-227.74	948.37	1.74	-1.43	1.29	145.64
	NORMAL	2,016.0	48.48	194.73	1,621.38	-989.76	-243.57	1,019.20	3.06	-0.99	3.84	110.04
	NORMAL	2,110.0	48.18	194.02	1,683.88	-1,057.77	-261.00	1,089.41	0.65	-0.32	-0.76	240.27
	NORMAL	2,204.0	49.14	194.55	1,745.96	-1,126.16	-278.42	1,159.99	1.11	1.02	0.56	22.69
	NORMAL	2,298.0	50.07	195.60	1,808.88	-1,195.29	-297.04	1,231.57	1.30	0.99	1.12	41.03
	NORMAL	2,392.0	50.11	193.94	1,867.19	-1,265.00	-315.42	1,303.67	1.36	0.04	-1.77	271.27
	NORMAL	2,487.0	50.55	195.78	1,927.84	-1,335.68	-334.18	1,376.79	1.56	0.46	1.94	73.33
	NORMAL	2,581.0	50.86	195.17	1,987.37	-1,405.78	-353.59	1,449.52	0.60	0.33	-0.65	303.10
	NORMAL	2,675.0	51.38	195.60	2,046.38	-1,476.34	-373.00	1,522.69	0.66	0.55	0.46	32.91
	NORMAL	2,770.0	51.91	195.08	2,105.33	-1,548.18	-392.71	1,597.18	0.70	0.56	-0.55	322.26
	NORMAL	2,864.0	50.95	195.96	2,163.93	-1,618.99	-412.37	1,670.66	1.26	-1.02	0.94	144.64
	NORMAL	2,958.0	51.47	194.90	2,222.82	-1,689.62	-431.86	1,743.92	1.04	0.55	-1.13	301.85
7/14/2014	NORMAL	3,053.0	50.33	195.17	2,282.73	-1,760.82	-450.98	1,817.64	1.22	-1.20	0.28	169.67
	NORMAL	3,147.0	48.48	195.87	2,343.90	-1,829.59	-470.08	1,889.00	2.05	-1.97	0.74	164.20
	NORMAL	3,241.0	47.56	196.75	2,406.77	-1,896.65	-489.70	1,958.85	1.20	-0.98	0.94	144.88
	NORMAL	3,335.0	45.71	197.19	2,471.31	-1,962.01	-509.64	2,027.12	2.00	-1.97	0.47	170.34
	NORMAL	3,429.0	44.18	196.83	2,537.84	-2,025.51	-529.06	2,093.46	1.65	-1.63	-0.38	189.31
	NORMAL	3,523.0	42.37	196.22	2,606.28	-2,087.28	-547.40	2,157.86	1.98	-1.93	-0.65	192.79
	NORMAL	3,618.0	39.82	195.85	2,677.87	-2,147.29	-564.65	2,220.28	2.70	-2.68	-0.39	185.31
	NORMAL	3,712.0	37.71	193.85	2,751.16	-2,204.16	-579.75	2,279.12	2.61	-2.24	-2.13	209.91
	NORMAL	3,806.0	35.65	193.76	2,826.54	-2,258.69	-593.15	2,335.27	2.19	-2.19	-0.10	181.46
	NORMAL	3,901.0	34.99	193.32	2,904.06	-2,312.08	-606.01	2,390.18	0.74	-0.69	-0.46	200.90
	NORMAL	3,995.0	32.97	193.23	2,982.00	-2,363.21	-618.08	2,442.70	2.15	-2.15	-0.10	181.39
	NORMAL	4,089.0	31.87	192.70	3,061.35	-2,412.32	-629.39	2,493.08	1.21	-1.17	-0.56	194.26
	NORMAL	4,183.0	30.55	192.70	3,141.74	-2,459.84	-640.10	2,541.76	1.40	-1.40	0.00	180.00
	NORMAL	4,278.0	28.66	193.14	3,224.34	-2,505.58	-650.58	2,588.67	2.00	-1.99	0.46	173.63
	NORMAL	4,372.0	25.67	194.73	3,307.96	-2,547.23	-660.89	2,631.57	3.27	-3.18	1.69	167.06
	NORMAL	4,465.0	23.12	194.55	3,392.65	-2,584.39	-670.60	2,669.98	2.74	-2.74	-0.19	181.59
	NORMAL	4,559.0	21.06	194.20	3,479.75	-2,618.63	-679.38	2,705.33	2.20	-2.19	-0.37	183.49
	NORMAL	4,653.0	20.44	194.99	3,567.65	-2,650.86	-687.77	2,738.63	0.72	-0.66	0.84	156.07
7/16/2014	NORMAL	4,747.0	19.16	196.57	3,656.09	-2,681.50	-696.41	2,770.46	1.48	-1.36	1.68	158.05
	NORMAL	4,841.0	17.67	193.94	3,745.28	-2,710.14	-704.25	2,800.15	1.81	-1.59	-2.80	207.90
	NORMAL	4,936.0	14.64	193.94	3,836.51	-2,735.79	-710.61	2,826.57	3.19	-3.19	0.00	180.00
	NORMAL	5,031.0	13.45	192.97	3,928.67	-2,758.21	-715.99	2,849.62	1.28	-1.25	-1.02	190.72
	NORMAL	5,124.0	11.47	194.55	4,019.48	-2,777.70	-720.74	2,869.68	2.16	-2.13	1.70	171.00
	NORMAL	5,218.0	9.76	196.40	4,111.87	-2,794.39	-725.34	2,886.99	1.85	-1.82	1.97	169.64
	NORMAL	5,312.0	7.91	197.80	4,204.75	-2,808.19	-729.56	2,901.42	1.98	-1.97	1.49	174.06
	NORMAL	5,407.0	5.10	193.67	4,299.13	-2,818.52	-732.56	2,912.17	3.00	-2.96	-4.35	187.41

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 (°)
7/16/2014	NORMAL	5,501.0	2.90	192.62	4,392.89	-2,824.90	-734.07	2,918.72	2.34	-2.34	-1.12	181.38
	NORMAL	5,595.0	1.93	155.35	4,486.81	-2,828.66	-733.93	2,922.32	1.91	-1.03	-39.65	220.60
	NORMAL	5,689.0	1.67	77.39	4,580.78	-2,829.80	-731.93	2,922.93	2.42	-0.28	-82.94	225.93
	NORMAL	5,783.0	1.63	71.59	4,674.74	-2,829.08	-729.32	2,921.57	0.18	-0.04	-6.17	253.64
	NORMAL	5,878.0	1.01	68.64	4,769.71	-2,828.35	-727.26	2,920.35	0.66	-0.65	-3.11	184.78
	NORMAL	5,972.0	2.37	63.59	4,863.67	-2,827.18	-724.75	2,918.58	1.45	1.45	-5.37	351.22
	NORMAL	6,066.0	2.50	65.97	4,957.58	-2,825.48	-721.14	2,916.03	0.18	0.14	2.53	39.07
	NORMAL	6,160.0	1.98	68.52	5,051.51	-2,824.06	-717.75	2,913.80	0.56	-0.55	2.71	170.42
	NORMAL	6,255.0	1.58	47.60	5,146.47	-2,822.57	-715.26	2,911.73	0.80	-0.42	-22.02	228.22
	NORMAL	6,349.0	1.14	18.24	5,240.44	-2,820.81	-714.01	2,909.71	0.86	-0.47	-31.23	223.63
	NORMAL	6,443.0	0.66	23.60	5,334.43	-2,819.42	-713.50	2,908.24	0.52	-0.51	5.70	172.72
	NORMAL	6,538.0	0.66	23.25	5,429.42	-2,818.42	-713.06	2,907.16	0.00	0.00	-0.37	269.83
	NORMAL	6,631.0	0.35	18.77	5,522.42	-2,817.66	-712.76	2,906.35	0.34	-0.33	-4.82	185.02
	NORMAL	6,726.0	0.18	270.66	5,617.42	-2,817.38	-712.82	2,906.10	0.46	-0.18	-113.80	202.85
	NORMAL	6,820.0	0.48	228.74	5,711.42	-2,817.64	-713.26	2,906.46	0.39	0.32	-44.60	298.92
	NORMAL	6,914.0	0.79	225.05	5,805.41	-2,818.36	-714.02	2,907.34	0.33	0.33	-3.93	350.64
	NORMAL	6,975.0	0.79	225.05	5,866.41	-2,818.95	-714.61	2,908.07	0.00	0.00	0.00	0.00