

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	GM 544-12	Wellbore No.	OH
Wellbore Legal Name	GM 544-12	Common Wellbore Name	GM 544-12
Project	GV 12-07S-096W	Site	GM 24-12 Pad
Vertical Section Azimuth	90.87 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	8/6/2014	UWI	GM 544-12
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	8/6/2014	Ended	8/14/2014
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 (°)
8/6/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/6/2014	NORMAL	104.0	0.18	63.63	104.00	0.07	0.15	0.15	0.17	0.17	0.00	63.63
	NORMAL	134.0	0.26	35.95	134.00	0.15	0.23	0.23	0.44	0.27	-92.27	292.59
	NORMAL	164.0	0.26	76.90	164.00	0.22	0.33	0.33	0.61	0.00	136.50	110.47
	NORMAL	195.0	0.70	69.17	195.00	0.30	0.58	0.58	1.43	1.42	-24.94	347.75
	NORMAL	225.0	1.14	79.98	224.99	0.42	1.05	1.04	1.57	1.47	36.03	26.99
	NORMAL	255.0	1.67	84.20	254.99	0.52	1.77	1.77	1.80	1.77	14.07	13.16
	NORMAL	286.0	2.64	90.70	285.96	0.55	2.94	2.93	3.22	3.13	20.97	17.41
	NORMAL	317.0	3.52	88.15	316.92	0.57	4.60	4.59	2.87	2.84	-8.23	349.88
	NORMAL	347.0	4.75	87.45	346.84	0.66	6.76	6.75	4.10	4.10	-2.33	357.30
	NORMAL	377.0	5.72	92.11	376.71	0.66	9.50	9.49	3.53	3.23	15.53	26.00
8/7/2014	NORMAL	407.0	7.30	95.62	406.52	0.42	12.89	12.88	5.43	5.27	11.70	15.89
	NORMAL	437.0	8.71	95.19	436.23	0.03	17.05	17.05	4.70	4.70	-1.43	357.36
	NORMAL	468.0	10.38	91.85	466.80	-0.28	22.18	22.18	5.67	5.39	-10.77	340.00
	NORMAL	498.0	11.88	91.05	496.23	-0.42	27.97	27.97	5.03	5.00	-2.67	353.73
	NORMAL	528.0	13.02	91.32	525.53	-0.55	34.43	34.44	3.80	3.80	0.90	3.05
	NORMAL	559.0	14.08	91.41	555.66	-0.73	41.69	41.70	3.42	3.42	0.29	1.18
	NORMAL	589.0	14.87	90.09	584.71	-0.82	49.19	49.20	2.85	2.63	-4.40	336.69
	NORMAL	686.0	18.15	93.29	677.70	-1.71	76.73	76.75	3.51	3.38	3.30	17.04
	NORMAL	777.0	21.76	93.64	763.22	-3.60	107.72	107.77	3.97	3.97	0.38	2.06
	NORMAL	870.0	24.61	91.88	848.70	-5.33	144.29	144.35	3.15	3.06	-1.89	345.52

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 (°)
8/7/2014	NORMAL	960.0	28.13	88.81	929.33	-5.50	184.25	184.31	4.19	3.91	-3.41	337.44
	NORMAL	1,054.0	32.31	88.37	1,010.54	-4.32	231.53	231.57	4.45	4.45	-0.47	356.78
	NORMAL	1,148.0	35.56	89.69	1,088.52	-3.46	283.99	284.01	3.55	3.46	1.40	13.33
	NORMAL	1,242.0	37.76	91.18	1,163.92	-3.91	340.11	340.13	2.52	2.34	1.59	22.62
	NORMAL	1,336.0	40.66	92.24	1,236.75	-5.70	399.49	399.54	3.17	3.09	1.13	13.42
	NORMAL	1,430.0	43.78	92.24	1,306.35	-8.17	462.60	462.68	3.32	3.32	0.00	0.00
	NORMAL	1,524.0	47.08	91.71	1,372.31	-10.46	529.52	529.62	3.53	3.51	-0.56	353.29
	NORMAL	1,619.0	49.85	91.62	1,435.30	-12.53	600.60	600.72	2.92	2.92	-0.09	358.58
	NORMAL	1,713.0	52.40	91.27	1,494.29	-14.37	673.75	673.89	2.73	2.71	-0.37	353.79
	NORMAL	1,808.0	54.59	90.65	1,550.80	-15.64	750.09	750.24	2.36	2.31	-0.65	346.99
	NORMAL	1,835.0	54.95	90.48	1,566.38	-15.86	772.15	772.30	1.43	1.33	-0.63	338.86
8/9/2014	NORMAL	1,909.0	54.99	90.74	1,608.85	-16.51	832.74	832.89	0.29	0.05	0.35	79.43
	NORMAL	2,004.0	55.16	90.04	1,663.24	-17.04	910.63	910.78	0.63	0.18	-0.74	286.30
	NORMAL	2,098.0	54.99	88.46	1,717.06	-16.03	987.69	987.82	1.39	-0.18	-1.68	262.07
	NORMAL	2,192.0	56.92	88.37	1,769.68	-13.87	1,065.54	1,065.63	2.05	2.05	-0.10	357.76
	NORMAL	2,287.0	56.00	89.69	1,822.17	-12.53	1,144.71	1,144.77	1.51	-0.97	1.39	130.27
	NORMAL	2,381.0	56.22	89.33	1,874.59	-11.86	1,222.74	1,222.77	0.39	0.23	-0.38	306.26
	NORMAL	2,475.0	55.38	90.74	1,927.42	-11.90	1,300.48	1,300.51	1.53	-0.89	1.50	126.16
	NORMAL	2,569.0	55.25	90.48	1,980.91	-12.73	1,377.77	1,377.80	0.27	-0.14	-0.28	238.62
	NORMAL	2,663.0	54.81	90.65	2,034.79	-13.49	1,454.79	1,454.83	0.49	-0.47	0.18	162.48
	NORMAL	2,758.0	55.25	91.88	2,089.24	-15.21	1,532.62	1,532.67	1.16	0.46	1.29	66.77
	NORMAL	2,852.0	55.69	91.36	2,142.52	-17.39	1,610.03	1,610.11	0.65	0.47	-0.55	315.62
	NORMAL	2,946.0	56.26	91.53	2,195.12	-19.36	1,687.91	1,688.01	0.62	0.61	0.18	13.93
	NORMAL	3,040.0	54.68	91.53	2,248.40	-21.43	1,765.32	1,765.44	1.68	-1.68	0.00	180.00
	NORMAL	3,135.0	53.19	91.71	2,304.33	-23.60	1,842.08	1,842.22	1.58	-1.57	0.19	174.48
	NORMAL	3,229.0	53.54	91.18	2,360.42	-25.50	1,917.49	1,917.65	0.59	0.37	-0.56	309.29
	NORMAL	3,323.0	51.56	90.92	2,417.58	-26.87	1,992.09	1,992.27	2.12	-2.11	-0.28	185.87
	NORMAL	3,417.0	50.02	90.30	2,477.00	-27.65	2,064.92	2,065.10	1.72	-1.64	-0.66	197.13
	NORMAL	3,511.0	48.26	90.04	2,538.49	-27.86	2,136.01	2,136.19	1.88	-1.87	-0.28	186.29
	NORMAL	3,606.0	47.69	89.78	2,602.09	-27.75	2,206.58	2,206.75	0.63	-0.60	-0.27	198.63
	NORMAL	3,700.0	45.41	89.78	2,666.73	-27.49	2,274.82	2,274.97	2.43	-2.43	0.00	180.00
8/10/2014	NORMAL	3,794.0	43.08	89.25	2,734.06	-26.94	2,340.40	2,340.54	2.51	-2.48	-0.56	188.83
	NORMAL	3,888.0	42.02	89.42	2,803.31	-26.20	2,403.96	2,404.08	1.13	-1.13	0.18	173.87
	NORMAL	3,983.0	41.32	88.46	2,874.28	-25.04	2,467.11	2,467.20	1.00	-0.74	-1.01	222.00
	NORMAL	4,077.0	37.89	90.65	2,946.69	-24.53	2,527.01	2,527.09	3.94	-3.65	2.33	158.69
	NORMAL	4,171.0	36.22	89.69	3,021.71	-24.71	2,583.65	2,583.73	1.88	-1.78	-1.02	198.72
	NORMAL	4,265.0	34.99	89.60	3,098.13	-24.37	2,638.37	2,638.44	1.31	-1.31	-0.10	182.40
	NORMAL	4,360.0	34.11	91.71	3,176.38	-24.97	2,692.24	2,692.31	1.56	-0.93	2.22	127.20
	NORMAL	4,454.0	29.76	92.06	3,256.13	-26.60	2,741.92	2,742.01	4.63	-4.63	0.37	177.71
	NORMAL	4,548.0	26.81	91.09	3,338.90	-27.84	2,786.44	2,786.54	3.18	-3.14	-1.03	188.43
	NORMAL	4,643.0	23.74	92.59	3,424.80	-29.11	2,826.97	2,827.09	3.30	-3.23	1.58	168.89
8/11/2014	NORMAL	4,736.0	22.95	92.94	3,510.18	-30.89	2,863.78	2,863.92	0.86	-0.85	0.38	170.20
	NORMAL	4,830.0	21.01	89.51	3,597.35	-31.69	2,898.94	2,899.09	2.47	-2.06	-3.65	211.91
	NORMAL	4,924.0	20.35	86.79	3,685.29	-30.63	2,932.11	2,932.24	1.24	-0.70	-2.89	234.24
	NORMAL	5,018.0	17.89	86.61	3,774.10	-28.86	2,962.85	2,962.95	2.62	-2.62	-0.19	181.29
	NORMAL	5,112.0	17.45	87.66	3,863.67	-27.43	2,991.34	2,991.42	0.58	-0.47	1.12	144.58
	NORMAL	5,207.0	14.81	86.08	3,954.92	-26.02	3,017.69	3,017.74	2.82	-2.78	-1.66	188.68
	NORMAL	5,301.0	12.79	83.97	4,046.20	-24.10	3,040.03	3,040.04	2.21	-2.15	-2.24	192.97
	NORMAL	5,395.0	9.67	85.38	4,138.39	-22.37	3,058.25	3,058.24	3.33	-3.32	1.50	175.66
	NORMAL	5,489.0	7.38	89.33	4,231.35	-21.67	3,072.16	3,072.13	2.51	-2.44	4.20	167.60
	NORMAL	5,583.0	4.75	94.70	4,324.81	-21.91	3,082.08	3,082.05	2.86	-2.80	5.71	170.49
	NORMAL	5,678.0	4.26	93.82	4,419.52	-22.47	3,089.52	3,089.50	0.52	-0.52	-0.93	187.59
	NORMAL	5,772.0	3.96	95.93	4,513.28	-23.04	3,096.23	3,096.22	0.36	-0.32	2.24	154.30
	NORMAL	5,866.0	3.38	103.05	4,607.09	-24.00	3,102.16	3,102.16	0.78	-0.62	7.57	145.36
	NORMAL	5,960.0	3.21	113.24	4,700.93	-25.66	3,107.27	3,107.31	0.65	-0.18	10.84	111.23
8/12/2014	NORMAL	6,054.0	3.60	108.14	4,794.77	-27.62	3,112.50	3,112.56	0.52	0.41	-5.43	319.60

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)	Bulld Rate (%/100usft)	Turn (%/100usft)	Tface (°)
8/12/2014	NORMAL	6,149.0	2.50	91.09	4,889.63	-28.59	3,117.40	3,117.48	1.49	-1.16	-17.95	211.21
	NORMAL	6,243.0	1.98	102.61	4,983.56	-28.98	3,121.04	3,121.12	0.73	-0.55	12.26	144.77
	NORMAL	6,337.0	1.36	115.35	5,077.52	-29.81	3,123.63	3,123.72	0.76	-0.66	13.55	155.35
	NORMAL	6,432.0	1.14	146.64	5,172.50	-31.09	3,125.17	3,125.28	0.74	-0.23	32.94	123.09
	NORMAL	6,526.0	1.27	166.41	5,266.48	-32.88	3,125.93	3,126.07	0.46	0.14	21.03	82.68
	NORMAL	6,620.0	1.50	189.35	5,360.45	-35.11	3,125.97	3,126.15	0.63	0.24	24.40	79.21
	NORMAL	6,715.0	1.80	192.43	5,455.41	-37.79	3,125.45	3,125.66	0.33	0.32	3.24	18.01
	NORMAL	6,809.0	2.15	192.87	5,549.36	-40.95	3,124.74	3,125.00	0.37	0.37	0.47	2.70
	NORMAL	6,903.0	2.50	198.58	5,643.28	-44.61	3,123.69	3,124.01	0.45	0.37	6.07	36.37
	NORMAL	6,997.0	2.15	212.12	5,737.20	-48.05	3,122.10	3,122.47	0.69	-0.37	14.40	129.15
	NORMAL	7,091.0	1.58	223.81	5,831.15	-50.48	3,120.27	3,120.67	0.73	-0.61	12.44	152.03
	NORMAL	7,186.0	1.89	227.41	5,926.11	-52.48	3,118.21	3,118.64	0.35	0.33	3.79	21.18
	NORMAL	7,280.0	2.07	231.10	6,020.05	-54.60	3,115.75	3,116.21	0.23	0.19	3.93	37.16
	NORMAL	7,350.0	2.07	231.10	6,090.01	-56.19	3,113.78	3,114.27	0.00	0.00	0.00	0.00