

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 444-5	Wellbore No.	OH
Well Name	PA 444-5	Common Name	PA 444-5
Project	PA 04-07S-095W	Site	GV 80-4 Pad
Vertical Section Azimuth	249.04 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	11/26/2012	UWI	PA 444-5
Active Datum	KB @5,612.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	MOSTAR
Date Started	11/26/2012	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 (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
11/26/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/27/2012	NORMAL	103.0	0.88	259.54	103.00	-0.14	-0.78	0.78	0.85	0.85	0.00	259.54
	NORMAL	163.0	2.99	247.06	162.96	-0.84	-2.67	2.79	3.57	3.52	-20.80	342.42
	NORMAL	254.0	6.16	248.64	253.66	-3.54	-9.41	10.05	3.49	3.48	1.74	3.06
	NORMAL	344.0	9.94	252.51	342.75	-7.64	-21.32	22.64	4.24	4.20	4.30	10.08
	NORMAL	436.0	12.58	250.05	432.98	-13.44	-38.31	40.58	2.92	2.87	-2.67	348.48
	NORMAL	527.0	16.63	250.22	521.02	-21.23	-59.89	63.52	4.45	4.45	0.19	0.69
	NORMAL	617.0	20.15	248.03	606.41	-31.39	-86.39	91.91	3.99	3.91	-2.43	347.85
	NORMAL	708.0	18.48	250.93	692.29	-41.97	-114.56	121.99	2.12	-1.84	3.19	151.49
	NORMAL	785.0	21.18	251.26	764.71	-50.43	-139.27	148.10	3.51	3.51	0.43	2.53
	NORMAL	875.0	24.82	250.86	847.54	-61.85	-172.52	183.23	4.05	4.04	-0.44	357.36
	NORMAL	966.0	27.85	249.81	929.09	-75.45	-210.53	223.59	3.37	3.33	-1.15	350.79
	NORMAL	1,061.0	32.22	248.61	1,011.32	-92.35	-254.96	271.12	4.64	4.60	-1.26	351.65
	NORMAL	1,157.0	35.63	249.00	1,090.96	-111.72	-304.91	324.69	3.56	3.55	0.41	3.81
	NORMAL	1,210.0	37.61	249.67	1,133.50	-122.87	-334.49	356.31	3.81	3.74	1.26	11.68
11/28/2012	NORMAL	1,283.0	38.15	249.85	1,191.12	-138.37	-376.54	401.12	0.76	0.74	0.25	11.64
	NORMAL	1,346.0	38.24	248.27	1,240.63	-152.30	-412.92	440.08	1.56	0.14	-2.51	274.64
	NORMAL	1,441.0	37.71	248.97	1,315.52	-173.61	-467.35	498.53	0.72	-0.56	0.74	141.18
	NORMAL	1,536.0	37.41	248.44	1,390.83	-194.64	-521.31	556.44	0.46	-0.32	-0.56	226.91
	NORMAL	1,632.0	37.93	247.65	1,466.81	-216.57	-575.72	615.10	0.74	0.54	-0.82	316.81
	NORMAL	1,727.0	37.71	246.68	1,541.86	-239.18	-629.41	673.32	0.67	-0.23	-1.02	249.32

2.1.2 Survey Stations (Continued)

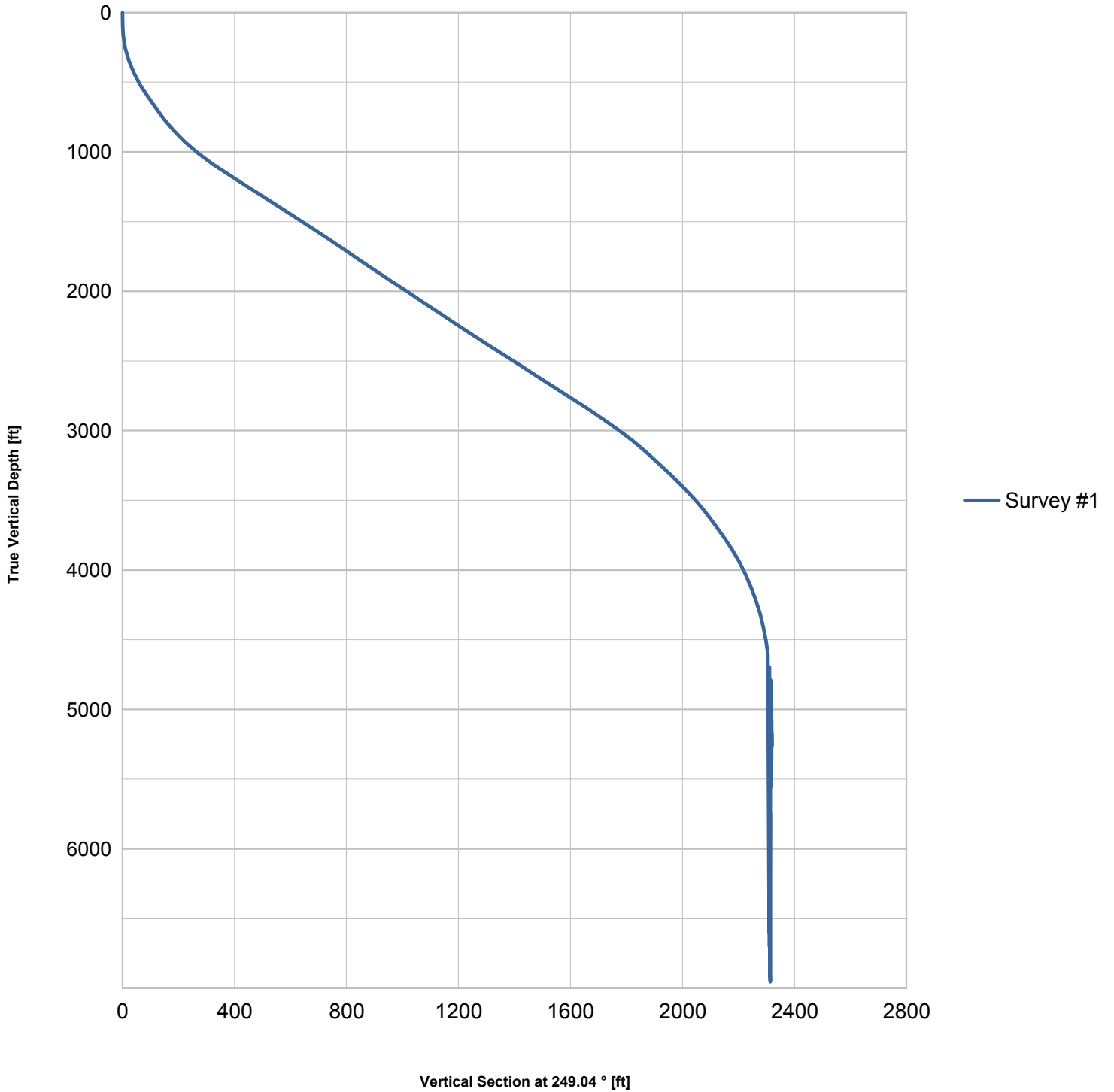
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
11/28/2012	NORMAL	1,823.0	36.70	247.12	1,618.32	-261.95	-682.80	731.32	1.09	-1.05	0.46	165.42
	NORMAL	1,919.0	36.00	248.88	1,695.64	-283.27	-735.55	788.21	1.31	-0.73	1.83	124.57
	NORMAL	2,014.0	36.53	248.62	1,772.24	-303.64	-787.92	844.40	0.58	0.56	-0.27	343.71
	NORMAL	2,110.0	36.66	248.27	1,849.31	-324.67	-841.15	901.63	0.26	0.14	-0.36	301.78
	NORMAL	2,205.0	37.32	250.55	1,925.20	-344.76	-894.65	958.78	1.60	0.69	2.40	65.22
	NORMAL	2,301.0	36.70	249.41	2,001.86	-364.54	-948.95	1,016.56	0.96	-0.65	-1.19	227.45
	NORMAL	2,396.0	36.79	250.55	2,077.98	-383.99	-1,002.34	1,073.38	0.72	0.09	1.20	82.94
	NORMAL	2,492.0	37.01	250.29	2,154.75	-403.31	-1,056.65	1,131.00	0.28	0.23	-0.27	324.54
	NORMAL	2,588.0	36.92	250.90	2,231.46	-422.49	-1,111.10	1,188.71	0.39	-0.09	0.64	104.03
	NORMAL	2,683.0	37.06	249.23	2,307.34	-441.98	-1,164.83	1,245.85	1.07	0.15	-1.76	277.26
	NORMAL	2,779.0	38.64	251.43	2,383.14	-461.78	-1,220.29	1,304.73	2.16	1.65	2.29	41.38
	NORMAL	2,875.0	38.02	248.35	2,458.46	-482.24	-1,276.19	1,364.25	2.09	-0.65	-3.21	250.81
	NORMAL	2,970.0	37.32	248.44	2,533.65	-503.62	-1,330.17	1,422.30	0.74	-0.74	0.09	175.54
	NORMAL	3,065.0	37.58	246.77	2,609.07	-525.62	-1,383.57	1,480.04	1.10	0.27	-1.76	283.70
	NORMAL	3,161.0	38.11	246.24	2,684.88	-549.11	-1,437.58	1,538.88	0.65	0.55	-0.55	328.26
	NORMAL	3,257.0	37.71	247.04	2,760.62	-572.50	-1,491.73	1,597.82	0.66	-0.42	0.83	129.45
	NORMAL	3,353.0	37.45	248.53	2,836.71	-594.63	-1,545.93	1,656.35	0.98	-0.27	1.55	106.56
	NORMAL	3,448.0	36.13	250.29	2,912.79	-614.65	-1,599.18	1,713.23	1.78	-1.39	1.85	142.09
	NORMAL	3,544.0	34.59	252.04	2,991.08	-632.60	-1,651.75	1,768.74	1.92	-1.60	1.82	147.38
	NORMAL	3,639.0	32.04	251.78	3,070.46	-648.80	-1,701.34	1,820.85	2.69	-2.68	-0.27	183.10
11/29/2012	NORMAL	3,735.0	29.10	253.01	3,153.11	-663.58	-1,747.87	1,869.59	3.13	-3.06	1.28	168.52
	NORMAL	3,830.0	28.70	251.52	3,236.28	-677.56	-1,791.60	1,915.42	0.87	-0.42	-1.57	240.30
	NORMAL	3,924.0	27.39	250.46	3,319.24	-691.95	-1,833.38	1,959.59	1.49	-1.39	-1.13	200.36
	NORMAL	4,020.0	25.71	247.74	3,405.11	-707.23	-1,873.47	2,002.49	2.16	-1.75	-2.83	214.68
	NORMAL	4,116.0	23.91	248.70	3,492.25	-722.18	-1,910.87	2,042.76	1.92	-1.88	1.00	167.82
	NORMAL	4,211.0	21.78	248.70	3,579.79	-735.58	-1,945.23	2,079.64	2.24	-2.24	0.00	180.00
	NORMAL	4,307.0	20.13	248.00	3,669.44	-748.24	-1,977.14	2,113.97	1.74	-1.72	-0.73	188.30
	NORMAL	4,403.0	19.21	248.97	3,759.84	-760.09	-2,007.20	2,146.28	1.02	-0.96	1.01	160.92
	NORMAL	4,498.0	17.41	247.65	3,850.03	-771.11	-2,034.94	2,176.12	1.94	-1.89	-1.39	192.35
	NORMAL	4,593.0	14.95	248.88	3,941.26	-780.93	-2,059.51	2,202.59	2.61	-2.59	1.29	172.66
	NORMAL	4,689.0	12.92	248.35	4,034.43	-789.35	-2,081.04	2,225.70	2.12	-2.11	-0.55	183.34
	NORMAL	4,785.0	11.20	249.67	4,128.30	-796.55	-2,099.76	2,245.76	1.81	-1.79	1.38	171.54
	NORMAL	4,880.0	9.63	249.23	4,221.74	-802.57	-2,115.84	2,262.93	1.65	-1.65	-0.46	182.68
	NORMAL	4,975.0	7.65	245.36	4,315.65	-808.03	-2,129.02	2,277.19	2.17	-2.08	-4.07	194.46
	NORMAL	5,070.0	6.24	241.06	4,409.96	-813.16	-2,139.29	2,288.61	1.58	-1.48	-4.53	198.12
	NORMAL	5,165.0	4.97	238.07	4,504.50	-817.84	-2,147.30	2,297.77	1.37	-1.34	-3.15	191.47
11/30/2012	NORMAL	5,261.0	3.52	236.66	4,600.23	-821.66	-2,153.29	2,304.73	1.51	-1.51	-1.47	183.41
	NORMAL	5,357.0	3.60	212.93	4,696.05	-825.81	-2,157.39	2,310.04	1.53	0.08	-24.72	261.22
	NORMAL	5,449.0	3.21	202.47	4,787.89	-830.61	-2,159.95	2,314.15	0.80	-0.42	-11.37	232.73
	NORMAL	5,547.0	0.97	215.04	4,885.82	-833.83	-2,161.47	2,316.72	2.32	-2.29	12.83	174.67
	NORMAL	5,639.0	0.44	315.41	4,977.82	-834.21	-2,162.17	2,317.51	1.23	-0.58	109.10	157.58
	NORMAL	5,735.0	0.66	306.19	5,073.81	-833.62	-2,162.87	2,317.96	0.25	0.23	-9.60	333.43
	NORMAL	5,831.0	0.92	320.78	5,169.80	-832.70	-2,163.81	2,318.50	0.34	0.27	15.20	45.17
12/1/2012	NORMAL	5,927.0	1.10	358.39	5,265.79	-831.18	-2,164.32	2,318.43	0.70	0.19	39.18	94.14
	NORMAL	6,022.0	0.70	39.00	5,360.78	-829.82	-2,163.98	2,317.63	0.77	-0.42	42.75	141.29
	NORMAL	6,118.0	0.75	63.17	5,456.77	-829.08	-2,163.05	2,316.50	0.32	0.05	25.18	92.93
	NORMAL	6,213.0	0.79	42.25	5,551.76	-828.32	-2,162.05	2,315.29	0.30	0.04	-22.02	267.55
	NORMAL	6,309.0	0.83	46.12	5,647.75	-827.34	-2,161.11	2,314.06	0.07	0.04	4.03	55.77
	NORMAL	6,404.0	0.70	50.42	5,742.74	-826.50	-2,160.17	2,312.88	0.15	-0.14	4.53	158.31
	NORMAL	6,500.0	0.66	34.60	5,838.74	-825.67	-2,159.40	2,311.87	0.20	-0.04	-16.48	250.14
	NORMAL	6,596.0	0.44	28.01	5,934.73	-824.89	-2,158.91	2,311.13	0.24	-0.23	-6.86	192.76
12/2/2012	NORMAL	6,691.0	0.53	19.75	6,029.73	-824.15	-2,158.59	2,310.57	0.12	0.09	-8.69	317.98
	NORMAL	6,787.0	0.35	39.79	6,125.73	-823.51	-2,158.25	2,310.03	0.24	-0.19	20.88	149.20
	NORMAL	6,882.0	0.22	106.06	6,220.72	-823.34	-2,157.89	2,309.63	0.35	-0.14	69.76	142.39
	NORMAL	6,978.0	0.53	132.07	6,316.72	-823.68	-2,157.39	2,309.28	0.36	0.32	27.09	42.20
	NORMAL	7,074.0	0.57	159.58	6,412.72	-824.43	-2,156.89	2,309.08	0.28	0.04	28.66	95.30
	NORMAL	7,169.0	0.61	193.33	6,507.71	-825.36	-2,156.84	2,309.37	0.36	0.04	35.53	100.50

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
12/2/2012	NORMAL	7,265.0	0.53	213.90	6,603.71	-826.23	-2,157.21	2,310.02	0.23	-0.08	21.43	121.43
	NORMAL	7,361.0	0.66	233.94	6,699.70	-826.92	-2,157.90	2,310.92	0.25	0.14	20.88	68.29
	NORMAL	7,457.0	0.70	265.40	6,795.70	-827.30	-2,158.93	2,312.02	0.39	0.04	32.77	99.77
	NORMAL	7,570.0	0.44	293.18	6,908.69	-827.18	-2,160.02	2,312.99	0.33	-0.23	24.58	146.57
	NORMAL	7,615.0	0.44	293.18	6,953.69	-827.05	-2,160.34	2,313.24	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

