

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 344-5	Wellbore No.	
Well Name	PA 344-5	Common Name	PA 344-5
Project	PA 04-07S-095W	Site	GV 80-4 Pad
Vertical Section Azimuth	264.51 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	12/10/2012	UWI	PA 344-5
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	12/10/2012	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 (°)
12/10/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/10/2012	NORMAL	102.0	0.35	42.45	102.00	0.23	0.21	-0.23	0.34	0.34	0.00	42.45
	NORMAL	132.0	0.62	305.42	132.00	0.39	0.14	-0.18	2.49	0.90	-323.43	235.31
	NORMAL	162.0	1.32	293.91	161.99	0.65	-0.30	0.25	2.45	1.62	-180.90	238.41
	NORMAL	192.0	2.20	273.34	191.98	0.80	-1.20	1.10	3.57	2.93	-68.57	313.75
	NORMAL	222.0	3.43	260.33	221.94	0.68	-2.66	2.58	4.59	4.10	-43.37	325.95
	NORMAL	252.0	4.22	260.33	251.88	0.51	-4.51	4.58	3.56	3.22	-37.31	313.27
	NORMAL	282.0	5.19	259.72	281.78	-0.08	-7.05	6.89	3.24	3.23	-2.03	356.74
	NORMAL	313.0	5.98	263.50	312.63	-0.51	-10.04	10.04	2.81	2.55	12.19	26.86
12/11/2012	NORMAL	343.0	7.13	267.28	342.43	-0.32	-13.45	13.46	3.28	3.20	7.64	16.76
	NORMAL	435.0	10.21	262.27	433.37	-1.69	-27.24	27.28	3.44	3.35	-5.45	343.74
	NORMAL	507.0	12.56	266.50	503.95	-3.03	-41.38	41.48	3.46	3.26	5.87	21.64
	NORMAL	598.0	15.86	268.35	592.15	-3.99	-63.69	63.78	3.66	3.63	2.03	8.73
	NORMAL	689.0	19.29	267.12	678.89	-5.10	-91.14	91.21	3.79	3.77	-1.35	353.23
	NORMAL	780.0	22.41	266.75	763.92	-6.84	-123.48	123.57	3.43	3.43	-0.41	357.41
	NORMAL	870.0	25.49	263.49	846.17	-10.01	-159.86	160.08	3.72	3.42	-3.62	335.25
	NORMAL	962.0	29.53	265.16	927.75	-14.17	-202.14	202.57	4.47	4.39	1.82	11.55
	NORMAL	1,057.0	32.76	264.57	1,009.04	-18.58	-251.07	251.69	3.42	3.40	-0.62	354.35
	NORMAL	1,152.0	35.40	262.96	1,087.72	-24.38	-303.97	304.91	2.94	2.78	-1.69	340.46
12/12/2012	NORMAL	1,266.0	35.56	262.76	1,180.56	-32.61	-369.63	371.05	0.17	0.14	-0.18	323.96
	NORMAL	1,361.0	36.53	264.34	1,257.37	-38.88	-425.17	426.94	1.41	1.02	1.66	44.43

2.1.2 Survey Stations (Continued)

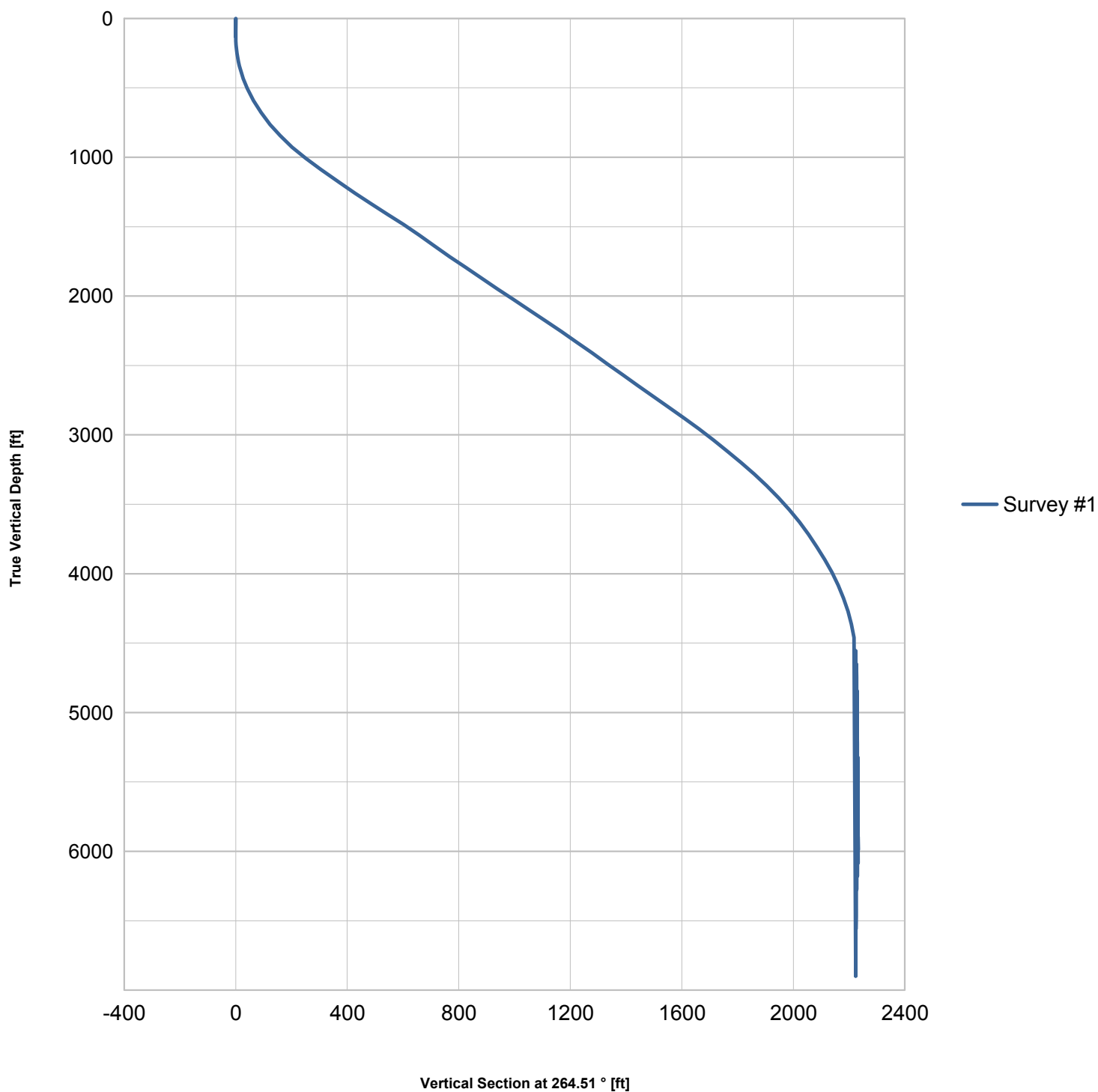
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
12/12/2012	NORMAL	1,457.0	37.27	265.22	1,334.14	-44.12	-482.57	484.58	0.95	0.77	0.92	35.88
	NORMAL	1,552.0	38.59	264.08	1,409.07	-49.57	-540.71	542.97	1.57	1.39	-1.20	331.59
	NORMAL	1,647.0	37.45	264.34	1,483.91	-55.48	-598.92	601.48	1.21	-1.20	0.27	172.11
	NORMAL	1,743.0	34.90	263.55	1,561.40	-61.44	-655.27	658.14	2.70	-2.66	-0.82	190.04
12/13/2012	NORMAL	1,838.0	34.73	265.22	1,639.39	-66.75	-709.24	712.37	1.02	-0.18	1.76	100.79
	NORMAL	1,934.0	36.31	266.80	1,717.53	-70.61	-764.87	768.12	1.90	1.65	1.65	30.80
	NORMAL	2,029.0	36.48	266.63	1,794.00	-73.85	-821.15	824.45	0.21	0.18	-0.18	329.25
	NORMAL	2,125.0	36.31	264.78	1,871.28	-78.11	-877.95	881.39	1.16	-0.18	-1.93	260.45
	NORMAL	2,220.0	37.14	264.34	1,947.42	-83.50	-934.50	938.20	0.92	0.87	-0.46	342.23
	NORMAL	2,316.0	36.97	264.43	2,024.03	-89.16	-992.07	996.05	0.19	-0.18	0.09	162.34
	NORMAL	2,412.0	36.57	263.99	2,100.93	-94.95	-1,049.24	1,053.51	0.50	-0.42	-0.46	213.19
	NORMAL	2,507.0	36.66	263.72	2,177.19	-101.02	-1,105.57	1,110.17	0.19	0.09	-0.28	299.09
	NORMAL	2,603.0	36.22	263.90	2,254.42	-107.17	-1,162.26	1,167.19	0.47	-0.46	0.19	166.41
	NORMAL	2,698.0	35.43	263.20	2,331.44	-113.41	-1,217.52	1,222.78	0.94	-0.83	-0.74	207.13
	NORMAL	2,794.0	35.21	262.49	2,409.77	-120.32	-1,272.58	1,278.26	0.49	-0.23	-0.74	241.52
	NORMAL	2,889.0	34.59	262.32	2,487.69	-127.51	-1,326.46	1,332.58	0.66	-0.65	-0.18	188.85
	NORMAL	2,985.0	35.08	264.87	2,566.49	-133.61	-1,380.95	1,387.39	1.60	0.51	2.66	72.46
	NORMAL	3,080.0	34.77	264.60	2,644.38	-138.60	-1,435.10	1,441.78	0.36	-0.33	-0.28	206.39
	NORMAL	3,176.0	35.69	264.25	2,722.79	-143.99	-1,490.22	1,497.16	0.98	0.96	-0.36	347.48
	NORMAL	3,271.0	35.43	264.78	2,800.08	-149.27	-1,545.21	1,552.41	0.42	-0.27	0.56	130.36
	NORMAL	3,367.0	34.95	263.11	2,878.53	-155.10	-1,600.23	1,607.72	1.12	-0.50	-1.74	242.81
	NORMAL	3,462.0	33.45	265.57	2,957.11	-160.39	-1,653.35	1,661.11	2.15	-1.58	2.59	138.34
	NORMAL	3,558.0	32.75	265.57	3,037.53	-164.43	-1,705.62	1,713.53	0.73	-0.73	0.00	180.00
	NORMAL	3,653.0	31.12	266.27	3,118.15	-168.02	-1,755.74	1,763.76	1.76	-1.72	0.74	167.50
	NORMAL	3,749.0	30.68	265.83	3,200.52	-171.41	-1,804.92	1,813.04	0.52	-0.46	-0.46	206.99
	NORMAL	3,844.0	28.61	264.51	3,283.08	-175.35	-1,851.74	1,860.02	2.28	-2.18	-1.39	196.93
	NORMAL	3,938.0	27.25	266.01	3,366.13	-179.00	-1,895.61	1,904.04	1.63	-1.45	1.60	153.34
	NORMAL	4,034.0	25.36	263.99	3,452.19	-182.68	-1,937.99	1,946.58	2.18	-1.97	-2.10	204.44
	NORMAL	4,129.0	22.90	263.11	3,538.88	-187.03	-1,976.58	1,985.40	2.62	-2.59	-0.93	187.92
12/14/2012	NORMAL	4,225.0	21.45	265.04	3,627.78	-190.79	-2,012.61	2,021.63	1.69	-1.51	2.01	154.22
	NORMAL	4,320.0	18.95	263.02	3,716.93	-194.17	-2,045.23	2,054.43	2.73	-2.63	-2.13	194.64
	NORMAL	4,416.0	17.58	265.66	3,808.09	-197.16	-2,075.16	2,084.51	1.67	-1.43	2.75	150.12
	NORMAL	4,511.0	16.79	263.37	3,898.85	-199.83	-2,103.10	2,112.57	1.09	-0.83	-2.41	219.49
	NORMAL	4,607.0	14.64	263.64	3,991.26	-202.77	-2,128.93	2,138.56	2.24	-2.24	0.28	178.18
	NORMAL	4,702.0	12.66	266.27	4,083.57	-204.78	-2,151.25	2,160.98	2.18	-2.08	2.77	163.87
	NORMAL	4,797.0	10.51	263.72	4,176.63	-206.41	-2,170.26	2,180.05	2.33	-2.26	-2.68	192.15
	NORMAL	4,893.0	8.35	266.71	4,271.33	-207.76	-2,185.92	2,195.77	2.31	-2.25	3.11	168.69
	NORMAL	4,987.0	6.50	265.22	4,364.54	-208.60	-2,198.04	2,207.91	1.98	-1.97	-1.59	185.20
	NORMAL	5,083.0	4.79	261.09	4,460.07	-209.67	-2,207.41	2,217.35	1.83	-1.78	-4.30	191.31
	NORMAL	5,178.0	2.68	257.75	4,554.86	-210.76	-2,213.50	2,223.51	2.23	-2.22	-3.52	184.22
	NORMAL	5,273.0	0.35	275.94	4,649.82	-211.20	-2,215.96	2,226.00	2.47	-2.45	19.15	177.33
	NORMAL	5,369.0	0.83	253.97	4,745.82	-211.36	-2,216.92	2,226.97	0.54	0.50	-22.89	323.51
	NORMAL	5,464.0	0.26	281.48	4,840.81	-211.51	-2,217.79	2,227.86	0.64	-0.60	28.96	168.67
	NORMAL	5,560.0	0.83	185.59	4,936.81	-212.16	-2,218.07	2,228.20	0.93	0.59	-99.89	247.31
	NORMAL	5,655.0	0.70	180.93	5,031.80	-213.42	-2,218.15	2,228.39	0.15	-0.14	-4.91	203.26
12/15/2012	NORMAL	5,751.0	0.83	224.44	5,127.79	-214.51	-2,218.65	2,228.99	0.60	0.14	45.32	99.73
	NORMAL	5,847.0	0.35	207.47	5,223.79	-215.26	-2,219.27	2,229.68	0.53	-0.50	-17.68	191.66
	NORMAL	5,942.0	0.92	216.62	5,318.78	-216.13	-2,219.86	2,230.35	0.61	0.60	9.63	14.68
	NORMAL	6,038.0	1.23	338.78	5,414.77	-215.79	-2,220.69	2,231.15	1.97	0.32	127.25	146.52
	NORMAL	6,134.0	1.10	10.16	5,510.75	-213.92	-2,220.90	2,231.18	0.67	-0.14	32.69	116.92
	NORMAL	6,229.0	0.70	349.68	5,605.74	-212.45	-2,220.84	2,230.98	0.53	-0.42	-21.56	208.87
12/16/2012	NORMAL	6,325.0	0.35	334.56	5,701.74	-211.61	-2,221.08	2,231.13	0.39	-0.36	-15.75	194.15
	NORMAL	6,420.0	0.57	303.36	5,796.74	-211.09	-2,221.59	2,231.60	0.34	0.23	-32.84	294.98
	NORMAL	6,516.0	0.48	278.67	5,892.73	-210.77	-2,222.39	2,232.36	0.25	-0.09	-25.72	236.27
	NORMAL	6,611.0	0.40	268.72	5,987.73	-210.71	-2,223.12	2,233.08	0.12	-0.08	-10.47	218.78
	NORMAL	6,707.0	1.54	65.00	6,083.72	-210.18	-2,222.28	2,232.20	1.99	1.19	162.79	161.10
	NORMAL	6,802.0	1.58	82.23	6,178.68	-209.46	-2,219.83	2,229.68	0.49	0.04	18.14	93.77

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 (°)
12/16/2012	NORMAL	6,898.0	1.63	86.27	6,274.65	-209.19	-2,217.15	2,227.00	0.13	0.05	4.21	68.19
	NORMAL	6,994.0	0.22	79.07	6,370.63	-209.07	-2,215.61	2,225.45	1.47	-1.47	-7.50	181.12
	NORMAL	7,090.0	0.61	40.66	6,466.63	-208.65	-2,215.10	2,224.90	0.48	0.41	-40.01	304.25
	NORMAL	7,185.0	0.66	113.78	6,561.63	-208.48	-2,214.27	2,224.05	0.80	0.05	76.97	123.52
	NORMAL	7,281.0	0.09	68.52	6,657.62	-208.68	-2,213.69	2,223.50	0.63	-0.59	-47.15	186.12
	NORMAL	7,377.0	0.26	43.65	6,753.62	-208.49	-2,213.47	2,223.26	0.19	0.18	-25.91	323.15
	NORMAL	7,472.0	0.09	271.55	6,848.62	-208.34	-2,213.40	2,223.17	0.34	-0.18	-139.05	191.78
	NORMAL	7,522.0	0.09	271.55	6,898.62	-208.33	-2,213.47	2,223.25	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

