

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 512-7	Wellbore No.	OH
Well Name	PA 512-7	Common Name	PA 512-7
Project	PA 07-07S-095W	Site	PA 21-7 Pad
Vertical Section Azimuth	226.61 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	8/28/2011	UWI	PA 512-7
Active Datum	KB @5,109.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	MOSTAR
Started	8/28/2011	Ended	9/3/2011
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)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
8/28/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/28/2011	NORMAL	105.0	0.53	226.67	105.00	-0.33	-0.35	0.49	0.50	0.50	0.00	226.67
	NORMAL	136.0	1.67	210.94	135.99	-0.82	-0.69	1.06	3.77	3.68	-50.74	337.21
	NORMAL	167.0	2.90	213.93	166.97	-1.86	-1.36	2.26	3.98	3.97	9.65	7.03
	NORMAL	197.0	2.99	221.75	196.93	-3.07	-2.30	3.78	1.37	0.30	26.07	81.30
	NORMAL	227.0	3.61	220.08	226.88	-4.38	-3.43	5.50	2.09	2.07	-5.57	350.35
	NORMAL	257.0	3.70	213.49	256.82	-5.91	-4.58	7.38	1.43	0.30	-21.97	278.79
	NORMAL	287.0	4.84	221.75	286.73	-7.66	-5.95	9.59	4.31	3.80	27.53	32.51
	NORMAL	318.0	5.45	219.29	317.61	-9.77	-7.76	12.35	2.09	1.97	-7.94	338.89
	NORMAL	348.0	6.60	228.78	347.44	-12.01	-9.95	15.49	5.06	3.83	31.63	45.68
	NORMAL	378.0	8.80	230.62	377.17	-14.60	-13.03	19.50	7.38	7.33	6.13	7.31
	NORMAL	408.0	10.12	231.33	406.76	-17.71	-16.86	24.41	4.42	4.40	2.37	5.40
	NORMAL	439.0	11.17	232.91	437.23	-21.22	-21.38	30.11	3.52	3.39	5.10	16.31
	NORMAL	469.0	12.40	230.19	466.60	-25.04	-26.17	36.22	4.50	4.10	-9.07	334.36
	NORMAL	499.0	13.81	230.89	495.81	-29.36	-31.42	43.00	4.73	4.70	2.33	6.76
	NORMAL	530.0	15.22	228.25	525.82	-34.40	-37.33	50.76	5.02	4.55	-8.52	333.58
	NORMAL	560.0	15.57	229.04	554.75	-39.66	-43.31	58.72	1.36	1.17	2.63	31.31
	NORMAL	600.0	17.18	226.48	593.12	-47.25	-51.65	69.99	4.41	4.03	-6.40	334.62
	NORMAL	630.0	18.19	226.83	621.71	-53.50	-58.28	79.10	3.39	3.37	1.17	6.18
	NORMAL	660.0	19.49	225.94	650.10	-60.19	-65.29	88.79	4.44	4.33	-2.97	347.11
	NORMAL	691.0	20.49	225.72	679.23	-67.57	-72.89	99.39	3.23	3.23	-0.71	355.60

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
8/28/2011	NORMAL	721.0	22.06	226.08	707.18	-75.15	-80.71	110.27	5.25	5.23	1.20	4.92
	NORMAL	751.0	22.97	225.15	734.90	-83.18	-88.92	121.76	3.26	3.03	-3.10	338.20
	NORMAL	781.0	23.80	225.19	762.43	-91.58	-97.36	133.66	2.77	2.77	0.13	1.11
	NORMAL	812.0	24.39	224.73	790.73	-100.53	-106.30	146.31	2.00	1.90	-1.48	342.13
	NORMAL	842.0	25.12	225.22	817.97	-109.42	-115.18	158.87	2.53	2.43	1.63	15.92
	NORMAL	872.0	26.45	225.12	844.99	-118.62	-124.44	171.91	4.44	4.43	-0.33	358.08
	NORMAL	903.0	27.51	225.89	872.61	-128.47	-134.47	185.97	3.60	3.42	2.48	18.58
	NORMAL	932.0	28.38	225.33	898.23	-137.98	-144.18	199.56	3.13	3.00	-1.93	342.97
	NORMAL	962.0	29.54	224.96	924.48	-148.23	-154.48	214.08	3.91	3.87	-1.23	351.06
	NORMAL	999.0	30.19	225.90	956.57	-161.16	-167.60	232.50	2.16	1.76	2.54	36.17
	NORMAL	1,031.0	31.94	226.57	983.98	-172.58	-179.53	249.01	5.57	5.47	2.09	11.46
	NORMAL	1,063.0	32.08	226.38	1,011.11	-184.26	-191.83	265.98	0.54	0.44	-0.59	324.19
	NORMAL	1,095.0	32.45	226.41	1,038.17	-196.04	-204.20	283.06	1.16	1.16	0.09	2.49
	NORMAL	1,130.0	32.74	226.31	1,067.66	-209.05	-217.84	301.91	0.84	0.83	-0.29	349.43
8/29/2011	NORMAL	1,245.0	33.40	226.40	1,164.03	-252.36	-263.25	364.66	0.58	0.57	0.08	4.29
	NORMAL	1,339.0	32.80	225.50	1,242.77	-288.05	-300.15	415.99	0.83	-0.64	-0.96	218.95
	NORMAL	1,435.0	32.50	226.90	1,323.60	-323.90	-337.52	467.78	0.85	-0.31	1.46	112.25
	NORMAL	1,530.0	31.60	226.60	1,404.12	-358.44	-374.24	518.19	0.96	-0.95	-0.32	189.90
	NORMAL	1,626.0	31.50	226.00	1,485.93	-393.14	-410.56	568.42	0.34	-0.10	-0.63	252.08
	NORMAL	1,722.0	31.10	227.80	1,567.96	-427.22	-446.97	618.29	1.06	-0.42	1.88	113.93
	NORMAL	1,817.0	31.70	227.80	1,649.05	-460.46	-483.63	667.78	0.63	0.63	0.00	0.00
	NORMAL	1,913.0	31.80	227.30	1,730.68	-494.56	-520.91	718.28	0.29	0.10	-0.52	290.60
	NORMAL	2,008.0	33.10	226.90	1,810.85	-529.26	-558.25	769.25	1.39	1.37	-0.42	350.46
	NORMAL	2,104.0	32.90	225.70	1,891.36	-565.38	-596.05	821.54	0.71	-0.21	-1.25	252.48
	NORMAL	2,200.0	32.50	225.80	1,972.15	-601.57	-633.20	873.39	0.42	-0.42	0.10	172.35
	NORMAL	2,295.0	32.30	224.80	2,052.36	-637.37	-669.38	924.28	0.60	-0.21	-1.05	249.11
8/30/2011	NORMAL	2,391.0	31.80	225.70	2,133.73	-673.24	-705.55	975.21	0.72	-0.52	0.94	136.69
	NORMAL	2,487.0	32.20	228.50	2,215.14	-707.86	-742.82	1,026.07	1.60	0.42	2.92	76.10
	NORMAL	2,582.0	31.40	227.60	2,295.88	-741.32	-780.05	1,076.11	0.98	-0.84	-0.95	210.28
	NORMAL	2,678.0	31.20	227.40	2,377.91	-775.01	-816.82	1,125.98	0.23	-0.21	-0.21	207.37
	NORMAL	2,774.0	30.50	227.10	2,460.33	-808.42	-852.97	1,175.20	0.75	-0.73	-0.31	192.27
	NORMAL	2,870.0	30.30	226.60	2,543.13	-841.65	-888.41	1,223.78	0.34	-0.21	-0.52	231.46
	NORMAL	2,965.0	29.00	226.20	2,625.69	-874.05	-922.45	1,270.78	1.38	-1.37	-0.42	188.48
	NORMAL	3,060.0	26.60	226.20	2,709.72	-904.72	-954.42	1,315.08	2.53	-2.53	0.00	180.00
	NORMAL	3,156.0	26.70	226.20	2,795.52	-934.52	-985.50	1,358.14	0.10	0.10	0.00	0.00
	NORMAL	3,252.0	24.40	225.10	2,882.13	-963.45	-1,015.12	1,399.53	2.45	-2.40	-1.15	191.16
	NORMAL	3,347.0	22.80	225.70	2,969.18	-990.16	-1,042.19	1,437.56	1.70	-1.68	0.63	171.74
	NORMAL	3,444.0	18.60	226.70	3,059.90	-1,013.90	-1,066.91	1,471.83	4.35	-4.33	1.03	175.66
	NORMAL	3,539.0	16.00	229.40	3,150.59	-1,032.82	-1,087.88	1,500.07	2.86	-2.74	2.84	164.12
	NORMAL	3,635.0	16.10	227.30	3,242.85	-1,050.46	-1,107.71	1,526.59	0.61	0.10	-2.19	278.76
	NORMAL	3,730.0	13.30	230.90	3,334.73	-1,066.28	-1,125.88	1,550.66	3.10	-2.95	3.79	163.66
	NORMAL	3,826.0	11.00	228.70	3,428.58	-1,079.30	-1,141.33	1,570.83	2.44	-2.40	-2.29	190.31
	NORMAL	3,922.0	9.50	226.20	3,523.04	-1,090.82	-1,153.93	1,587.91	1.63	-1.56	-2.60	195.29
9/1/2011	NORMAL	4,017.0	8.30	231.50	3,616.90	-1,100.52	-1,164.95	1,602.58	1.53	-1.26	5.58	148.25
	NORMAL	4,113.0	6.90	227.10	3,712.06	-1,108.76	-1,174.60	1,615.25	1.58	-1.46	-4.58	200.40
	NORMAL	4,209.0	4.40	223.70	3,807.58	-1,115.35	-1,181.37	1,624.70	2.63	-2.60	-3.54	185.94
	NORMAL	4,304.0	2.40	246.20	3,902.41	-1,118.79	-1,185.71	1,630.21	2.49	-2.11	23.68	157.18
	NORMAL	4,400.0	1.10	291.10	3,998.37	-1,119.27	-1,188.41	1,632.50	1.87	-1.35	46.77	154.40
	NORMAL	4,495.0	0.60	342.00	4,093.36	-1,118.46	-1,189.41	1,632.68	0.90	-0.53	53.58	147.17
	NORMAL	4,591.0	0.20	285.30	4,189.36	-1,117.94	-1,189.73	1,632.55	0.54	-0.42	-59.06	198.83
	NORMAL	4,686.0	0.50	175.10	4,284.36	-1,118.31	-1,189.85	1,632.90	0.63	0.32	-116.00	231.55
	NORMAL	4,781.0	1.10	190.20	4,379.35	-1,119.62	-1,189.98	1,633.89	0.66	0.63	15.89	27.01
	NORMAL	4,877.0	1.20	200.50	4,475.33	-1,121.47	-1,190.50	1,635.53	0.24	0.10	10.73	69.39
	NORMAL	4,973.0	1.00	10.20	4,571.32	-1,121.59	-1,190.70	1,635.76	2.28	-0.21	176.77	175.32
9/2/2011	NORMAL	5,067.0	0.90	15.80	4,665.31	-1,120.07	-1,190.35	1,634.47	0.15	-0.11	5.96	139.90
	NORMAL	5,161.0	0.80	346.80	4,759.30	-1,118.72	-1,190.30	1,633.50	0.46	-0.11	-30.85	242.69
	NORMAL	5,257.0	0.70	333.90	4,855.29	-1,117.54	-1,190.71	1,632.99	0.20	-0.10	-13.44	233.02

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
9/2/2011	NORMAL	5,352.0	0.40	310.10	4,950.29	-1,116.81	-1,191.22	1,632.86	0.39	-0.32	-25.05	205.79
	NORMAL	5,448.0	0.70	283.90	5,046.28	-1,116.45	-1,192.05	1,633.21	0.40	0.31	-27.29	306.43
	NORMAL	5,544.0	1.40	256.80	5,142.27	-1,116.58	-1,193.76	1,634.54	0.87	0.73	-28.23	310.59
	NORMAL	5,638.0	0.40	272.80	5,236.25	-1,116.82	-1,195.20	1,635.76	1.09	-1.06	17.02	173.80
	NORMAL	5,733.0	0.60	270.00	5,331.25	-1,116.81	-1,196.03	1,636.35	0.21	0.21	-2.95	351.63
	NORMAL	5,828.0	1.20	246.40	5,426.24	-1,117.20	-1,197.44	1,637.65	0.73	0.63	-24.84	316.13
	NORMAL	5,924.0	0.60	242.20	5,522.23	-1,117.84	-1,198.81	1,639.08	0.63	-0.63	-4.38	184.18
	NORMAL	6,019.0	0.40	123.20	5,617.22	-1,118.26	-1,198.97	1,639.48	0.91	-0.21	-125.26	203.78
	NORMAL	6,115.0	0.90	164.20	5,713.22	-1,119.16	-1,198.48	1,639.75	0.68	0.52	42.71	64.69
	NORMAL	6,211.0	1.50	49.40	5,809.21	-1,119.07	-1,197.33	1,638.85	2.13	0.63	-119.58	221.69
	NORMAL	6,305.0	0.90	35.80	5,903.18	-1,117.67	-1,195.96	1,636.89	0.70	-0.64	-14.47	198.70
	NORMAL	6,400.0	0.70	67.30	5,998.18	-1,116.84	-1,194.99	1,635.62	0.50	-0.21	33.16	129.65
	NORMAL	6,496.0	0.80	51.50	6,094.17	-1,116.20	-1,193.92	1,634.40	0.24	0.10	-16.46	287.76
	NORMAL	6,591.0	0.80	76.80	6,189.16	-1,115.64	-1,192.76	1,633.17	0.37	0.00	26.63	102.65
	NORMAL	6,610.0	0.40	74.30	6,208.16	-1,115.59	-1,192.56	1,632.99	2.11	-2.11	-13.16	182.50
	NORMAL	6,660.0	0.40	74.30	6,258.16	-1,115.49	-1,192.23	1,632.69	0.00	0.00	0.00	0.00