

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	PA 432-7	Wellbore No.	OH
Well Name	PA 432-7	Common Name	PA 432-7
Project	PA 07-07S-095W	Site	PA 21-7 Pad
Vertical Section	110.33 (°)	North Reference	True
Azimuth		Origin E/W	
Origin N/S		UWI	PA 432-7
Spud Date	7/27/2011		
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
Date Started	7/26/2011	Ended	8/3/2011
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)	DLS (°/100ft)	Buidl Rate (°/100ft)	Turn (°/100ft)	TFace (°)
7/26/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/27/2011	NORMAL	136.0	1.32	85.78	135.99	0.23	1.37	1.21	1.53	1.47	22.83	20.08
	NORMAL	167.0	1.32	95.36	166.98	0.22	2.08	1.88	0.71	0.00	30.90	94.79
	NORMAL	197.0	2.20	106.88	196.97	0.02	2.98	2.78	3.15	2.93	38.40	27.73
	NORMAL	227.0	2.55	118.65	226.94	-0.47	4.11	4.02	2.00	1.17	39.23	60.31
	NORMAL	257.0	2.90	110.92	256.91	-1.06	5.41	5.44	1.69	1.17	-25.77	309.70
	NORMAL	288.0	3.78	112.76	287.86	-1.73	7.08	7.24	2.86	2.84	5.94	7.86
	NORMAL	318.0	5.01	117.42	317.77	-2.72	9.16	9.53	4.27	4.10	15.53	18.52
	NORMAL	348.0	5.72	111.01	347.64	-3.86	11.72	12.33	3.09	2.37	-21.37	316.61
	NORMAL	378.0	6.42	113.20	377.47	-5.06	14.65	15.50	2.46	2.33	7.30	19.40
	NORMAL	409.0	7.65	110.83	408.23	-6.47	18.17	19.29	4.08	3.97	-7.65	345.54
	NORMAL	439.0	8.09	110.00	437.95	-7.90	22.02	23.40	1.51	1.47	-2.77	345.11
	NORMAL	469.0	8.45	110.83	467.64	-9.41	26.07	27.71	1.26	1.20	2.77	18.76
	NORMAL	500.0	9.24	111.62	498.27	-11.14	30.51	32.48	2.58	2.55	2.55	9.13
	NORMAL	530.0	10.03	111.07	527.85	-12.96	35.19	37.50	2.65	2.63	-1.83	353.08
	NORMAL	560.0	11.26	110.48	557.33	-14.93	40.37	43.04	4.12	4.10	-1.97	354.65
	NORMAL	591.0	11.44	110.30	587.72	-17.05	46.09	49.14	0.59	0.58	-0.58	348.78
	NORMAL	620.0	12.40	109.34	616.10	-19.08	51.72	55.13	3.38	3.31	-3.31	347.86
	NORMAL	661.0	13.56	110.03	656.05	-22.19	60.39	64.34	2.85	2.83	1.68	7.95
	NORMAL	691.0	14.14	111.80	685.18	-24.75	67.10	71.52	2.39	1.93	5.90	37.01
	NORMAL	721.0	14.67	111.36	714.23	-27.50	74.04	78.98	1.80	1.77	-1.47	348.12

## 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 (°)
7/27/2011	NORMAL	751.0	15.36	111.25	743.21	-30.32	81.28	86.75	2.30	2.30	-0.37	357.58
	NORMAL	782.0	15.92	111.39	773.06	-33.36	89.07	95.11	1.81	1.81	0.45	3.92
	NORMAL	812.0	16.69	113.37	801.85	-36.57	96.85	103.52	3.17	2.57	6.60	36.78
	NORMAL	842.0	17.58	112.20	830.52	-39.99	105.00	112.35	3.18	2.97	-3.90	338.27
	NORMAL	873.0	18.46	111.74	860.00	-43.58	113.90	121.94	2.88	2.84	-1.48	350.60
	NORMAL	903.0	19.08	111.03	888.41	-47.09	122.88	131.59	2.20	2.07	-2.37	339.44
	NORMAL	933.0	19.93	109.46	916.68	-50.56	132.28	141.61	3.33	2.83	-5.23	327.60
	NORMAL	963.0	20.86	109.27	944.80	-54.02	142.14	152.06	3.11	3.10	-0.63	355.84
	NORMAL	995.0	22.01	108.00	974.59	-57.76	153.23	163.75	3.88	3.59	-3.97	337.43
	NORMAL	1,026.0	22.96	109.30	1,003.23	-61.55	164.46	175.60	3.46	3.06	4.19	28.23
	NORMAL	1,058.0	23.34	110.66	1,032.66	-65.85	176.28	188.18	2.05	1.19	4.25	55.22
	NORMAL	1,090.0	23.43	110.78	1,062.03	-70.34	188.16	200.88	0.32	0.28	0.38	27.94
	NORMAL	1,122.0	23.92	110.20	1,091.34	-74.84	200.20	213.73	1.70	1.53	-1.81	334.31
	NORMAL	1,154.0	24.19	110.31	1,120.56	-79.36	212.43	226.77	0.86	0.84	0.34	9.48
	NORMAL	1,186.0	25.11	110.69	1,149.64	-84.03	224.93	240.12	2.92	2.88	1.19	9.95
	NORMAL	1,218.0	25.90	110.89	1,178.52	-88.92	237.82	253.90	2.48	2.47	0.63	6.31
	NORMAL	1,249.0	26.72	110.83	1,206.31	-93.82	250.65	267.63	2.65	2.65	-0.19	358.12
	NORMAL	1,281.0	28.25	110.18	1,234.70	-98.99	264.49	282.40	4.87	4.78	-2.03	348.62
	NORMAL	1,311.0	30.00	110.07	1,260.90	-104.01	278.20	297.00	5.84	5.83	-0.37	358.20
	NORMAL	1,343.0	31.33	109.90	1,288.43	-109.59	293.53	313.32	4.17	4.16	-0.53	356.20
	NORMAL	1,375.0	32.43	109.98	1,315.60	-115.35	309.42	330.22	3.44	3.44	0.25	2.23
	NORMAL	1,407.0	33.35	110.31	1,342.47	-121.34	325.74	347.60	2.93	2.88	1.03	11.16
	NORMAL	1,439.0	33.93	110.86	1,369.11	-127.57	342.33	365.33	2.05	1.81	1.72	27.94
	NORMAL	1,470.0	34.30	111.17	1,394.78	-133.80	358.56	382.71	1.32	1.19	1.00	25.30
	NORMAL	1,502.0	34.71	110.89	1,421.15	-140.31	375.48	400.84	1.37	1.28	-0.88	338.73
	NORMAL	1,534.0	35.22	110.58	1,447.37	-146.80	392.63	419.18	1.69	1.59	-0.97	340.67
	NORMAL	1,566.0	36.29	109.89	1,473.34	-153.27	410.17	437.87	3.57	3.34	-2.16	339.07
	NORMAL	1,598.0	37.51	109.64	1,498.93	-159.76	428.26	457.09	3.84	3.81	-0.78	352.89
	NORMAL	1,630.0	38.17	109.45	1,524.20	-166.33	446.76	476.71	2.09	2.06	-0.59	349.91
	NORMAL	1,662.0	37.85	109.69	1,549.41	-172.93	465.32	496.42	1.10	-1.00	0.75	155.30
	NORMAL	1,694.0	38.61	109.92	1,574.55	-179.64	483.95	516.22	2.42	2.38	0.72	10.70
	NORMAL	1,726.0	39.31	110.19	1,599.43	-186.54	502.85	536.34	2.25	2.19	0.84	13.74
	NORMAL	1,758.0	40.41	110.17	1,624.00	-193.62	522.10	556.85	3.44	3.44	-0.06	359.32
	NORMAL	1,789.0	41.36	110.36	1,647.43	-200.64	541.14	577.14	3.09	3.06	0.61	7.53
7/27/2011	NORMAL	106.0	0.88	78.93	106.00	0.16	0.80	0.69	0.83	0.83	0.00	78.93
7/29/2011	NORMAL	1,914.0	40.70	109.70	1,741.73	-228.75	618.23	659.19	0.63	-0.53	-0.53	213.03
	NORMAL	2,010.0	40.50	108.40	1,814.62	-249.14	677.28	721.65	0.91	-0.21	-1.35	256.21
	NORMAL	2,106.0	40.40	108.10	1,887.67	-268.65	736.43	783.89	0.23	-0.10	-0.31	242.69
	NORMAL	2,201.0	39.70	111.30	1,960.40	-289.24	793.97	845.00	2.29	-0.74	3.37	110.00
	NORMAL	2,297.0	40.20	110.20	2,034.00	-311.07	851.61	906.64	0.90	0.52	-1.15	304.87
	NORMAL	2,393.0	38.00	111.60	2,108.49	-332.65	908.17	967.17	2.47	-2.29	1.46	158.67
	NORMAL	2,488.0	38.30	110.20	2,183.20	-353.58	962.99	1,025.85	0.96	0.32	-1.47	288.58
	NORMAL	2,584.0	39.00	112.50	2,258.18	-375.42	1,018.82	1,085.79	1.66	0.73	2.40	64.92
	NORMAL	2,680.0	39.30	112.10	2,332.63	-398.42	1,074.90	1,146.36	0.41	0.31	-0.42	319.75
7/30/2011	NORMAL	2,775.0	39.20	110.90	2,406.20	-420.45	1,130.82	1,206.45	0.81	-0.11	-1.26	262.03
	NORMAL	2,871.0	39.40	109.50	2,480.49	-441.44	1,187.88	1,267.26	0.95	0.21	-1.46	282.17
	NORMAL	2,966.0	39.20	108.60	2,554.00	-461.08	1,244.76	1,327.41	0.64	-0.21	-0.95	250.32
	NORMAL	3,062.0	37.10	108.80	2,629.49	-480.09	1,300.93	1,386.68	2.19	-2.19	0.21	176.71
	NORMAL	3,157.0	34.60	108.60	2,706.49	-497.93	1,353.62	1,442.30	2.63	-2.63	-0.21	182.60
	NORMAL	3,253.0	31.70	108.60	2,786.85	-514.67	1,403.37	1,494.76	3.02	-3.02	0.00	180.00
	NORMAL	3,349.0	31.20	108.60	2,868.75	-530.65	1,450.84	1,544.83	0.52	-0.52	0.00	180.00
	NORMAL	3,445.0	28.10	110.00	2,952.17	-546.31	1,495.67	1,592.30	3.31	-3.23	1.46	168.01
	NORMAL	3,541.0	25.50	110.60	3,037.85	-561.32	1,536.26	1,635.58	2.72	-2.71	0.63	174.33
	NORMAL	3,636.0	25.10	110.40	3,123.74	-575.54	1,574.29	1,676.18	0.43	-0.42	-0.21	191.97
	NORMAL	3,732.0	21.90	110.40	3,211.77	-588.88	1,610.16	1,714.46	3.33	-3.33	0.00	180.00
	NORMAL	3,828.0	21.30	110.20	3,301.02	-601.14	1,643.31	1,749.79	0.63	-0.63	-0.21	186.90
	NORMAL	3,923.0	19.40	111.30	3,390.09	-612.83	1,674.21	1,782.83	2.04	-2.00	1.16	169.13

## 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 (°)
7/30/2011	NORMAL	4,019.0	15.70	109.30	3,481.61	-622.92	1,701.33	1,811.77	3.90	-3.85	-2.08	188.31
	NORMAL	4,115.0	14.70	109.70	3,574.25	-631.32	1,725.06	1,836.93	1.05	-1.04	0.42	174.21
	NORMAL	4,210.0	12.10	107.90	3,666.65	-638.44	1,745.88	1,858.94	2.77	-2.74	-1.89	188.24
	NORMAL	4,306.0	10.00	104.60	3,760.87	-643.64	1,763.52	1,877.29	2.28	-2.19	-3.44	195.15
	NORMAL	4,401.0	9.10	105.10	3,854.55	-647.67	1,778.76	1,892.97	0.95	-0.95	0.53	174.98
	NORMAL	4,497.0	7.20	102.30	3,949.58	-650.93	1,791.97	1,906.49	2.02	-1.98	-2.92	190.42
	NORMAL	4,593.0	4.50	103.50	4,045.07	-653.09	1,801.51	1,916.19	2.82	-2.81	1.25	178.00
	NORMAL	4,687.0	2.40	114.60	4,138.90	-654.77	1,806.89	1,921.82	2.33	-2.23	11.81	167.84
7/31/2011	NORMAL	4,783.0	2.30	124.30	4,234.82	-656.70	1,810.30	1,925.69	0.43	-0.10	10.10	108.93
	NORMAL	4,879.0	1.90	133.20	4,330.75	-658.87	1,813.06	1,929.03	0.54	-0.42	9.27	145.20
	NORMAL	4,974.0	1.80	139.70	4,425.70	-661.09	1,815.17	1,931.78	0.24	-0.11	6.84	118.70
	NORMAL	5,069.0	1.40	152.00	4,520.67	-663.25	1,816.68	1,933.94	0.55	-0.42	12.95	145.39
	NORMAL	5,162.0	1.10	158.50	4,613.64	-665.08	1,817.54	1,935.39	0.36	-0.32	6.99	157.93
	NORMAL	5,258.0	1.10	166.40	4,709.63	-666.84	1,818.09	1,936.52	0.16	0.00	8.23	93.95
	NORMAL	5,354.0	0.70	143.10	4,805.61	-668.20	1,818.66	1,937.52	0.56	-0.42	-24.27	211.21
	NORMAL	5,450.0	1.10	336.60	4,901.61	-667.82	1,818.65	1,937.38	1.86	0.42	-173.44	188.26
	NORMAL	5,545.0	1.40	349.40	4,996.59	-665.85	1,818.07	1,936.15	0.43	0.32	13.47	49.46
	NORMAL	5,640.0	1.10	328.70	5,091.56	-663.93	1,817.39	1,934.84	0.57	-0.32	-21.79	226.34
8/1/2011	NORMAL	5,734.0	1.00	324.30	5,185.55	-662.49	1,816.44	1,933.45	0.14	-0.11	-4.68	216.69
	NORMAL	5,830.0	1.00	326.80	5,281.53	-661.11	1,815.49	1,932.09	0.05	0.00	2.60	91.25
	NORMAL	5,925.0	0.60	293.00	5,376.52	-660.22	1,814.58	1,930.92	0.63	-0.42	-35.58	213.65
	NORMAL	6,021.0	0.90	280.20	5,472.52	-659.89	1,813.37	1,929.68	0.36	0.31	-13.33	324.32
	NORMAL	6,116.0	0.50	266.30	5,567.51	-659.79	1,812.23	1,928.57	0.45	-0.42	-14.63	196.16
	NORMAL	6,212.0	0.60	229.60	5,663.51	-660.14	1,811.43	1,927.94	0.37	0.10	-38.23	266.98
	NORMAL	6,306.0	0.70	187.00	5,757.50	-661.03	1,810.98	1,927.83	0.51	0.11	-45.32	259.86
	NORMAL	6,402.0	1.00	197.00	5,853.49	-662.41	1,810.66	1,928.01	0.35	0.31	10.42	31.37
	NORMAL	6,497.0	1.20	206.30	5,948.47	-664.10	1,809.98	1,927.96	0.28	0.21	9.79	46.47
	NORMAL	6,593.0	1.00	198.30	6,044.45	-665.79	1,809.27	1,927.88	0.26	-0.21	-8.33	213.57
	NORMAL	6,689.0	0.80	201.80	6,140.44	-667.21	1,808.76	1,927.89	0.22	-0.21	3.65	166.38
	NORMAL	6,784.0	1.00	194.70	6,235.43	-668.63	1,808.30	1,927.96	0.24	0.21	-7.47	327.27
	NORMAL	6,790.0	1.00	195.60	6,241.43	-668.73	1,808.28	1,927.97	0.26	0.00	15.00	90.45
	NORMAL	6,840.0	1.00	195.60	6,291.42	-669.57	1,808.04	1,928.04	0.00	0.00	0.00	0.00