

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	PA 443-5	Wellbore No.	OH
Well Name	PA 443-5	Common Name	PA 443-5
Project	PA 04-07S-095W	Site	GV 80-4 Pad
Vertical Section Azimuth	277.91 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	12/19/2012	UWI	PA 443-5
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	12/19/2012	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 (°)
12/19/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/19/2012	NORMAL	71.0	0.09	22.76	71.00	0.05	0.02	-0.01	0.13	0.13	0.00	22.76
	NORMAL	101.0	0.44	260.95	101.00	0.05	-0.08	0.09	1.64	1.17	-406.03	229.36
	NORMAL	162.0	2.64	273.34	161.97	0.10	-1.72	1.71	3.63	3.61	20.31	14.83
	NORMAL	252.0	6.77	281.16	251.65	1.25	-8.99	9.08	4.63	4.59	8.69	12.74
	NORMAL	343.0	8.27	274.92	341.87	2.85	-20.78	20.97	1.87	1.65	-6.86	328.32
	NORMAL	434.0	10.56	274.75	431.64	4.10	-35.61	35.84	2.52	2.52	-0.19	359.22
	NORMAL	525.0	14.78	273.60	520.40	5.52	-55.51	55.75	4.65	4.64	-1.26	356.02
12/20/2012	NORMAL	596.0	17.45	271.84	588.61	6.43	-75.20	75.37	3.82	3.76	-2.48	348.78
	NORMAL	687.0	19.83	274.95	674.83	8.20	-104.22	104.35	2.83	2.62	3.42	24.15
	NORMAL	778.0	21.32	274.55	760.02	10.84	-136.09	136.28	1.64	1.64	-0.44	354.42
	NORMAL	868.0	24.18	277.57	843.01	14.57	-170.67	171.06	3.43	3.18	3.36	23.61
	NORMAL	960.0	25.51	277.50	926.50	19.64	-209.00	209.71	1.45	1.45	-0.08	358.70
	NORMAL	1,055.0	28.20	277.07	1,011.24	25.07	-251.56	252.62	2.84	2.83	-0.45	355.68
	NORMAL	1,150.0	30.85	276.55	1,093.90	30.62	-298.04	299.42	2.80	2.79	-0.55	354.25
	NORMAL	1,245.0	32.95	276.74	1,174.55	36.43	-347.90	349.61	2.21	2.21	0.20	2.82
12/21/2012	NORMAL	1,361.0	33.98	276.03	1,271.32	43.53	-411.47	413.55	0.95	0.89	-0.61	338.89
	NORMAL	1,456.0	35.30	277.00	1,349.48	49.67	-465.12	467.53	1.51	1.39	1.02	23.07
	NORMAL	1,551.0	36.57	277.44	1,426.39	56.68	-520.43	523.28	1.36	1.34	0.46	11.67
	NORMAL	1,647.0	35.82	277.79	1,503.87	64.19	-576.62	579.97	0.81	-0.78	0.36	164.73
	NORMAL	1,742.0	35.82	278.58	1,580.90	72.10	-631.65	635.56	0.49	0.00	0.83	90.32

## 2.1.2 Survey Stations (Continued)

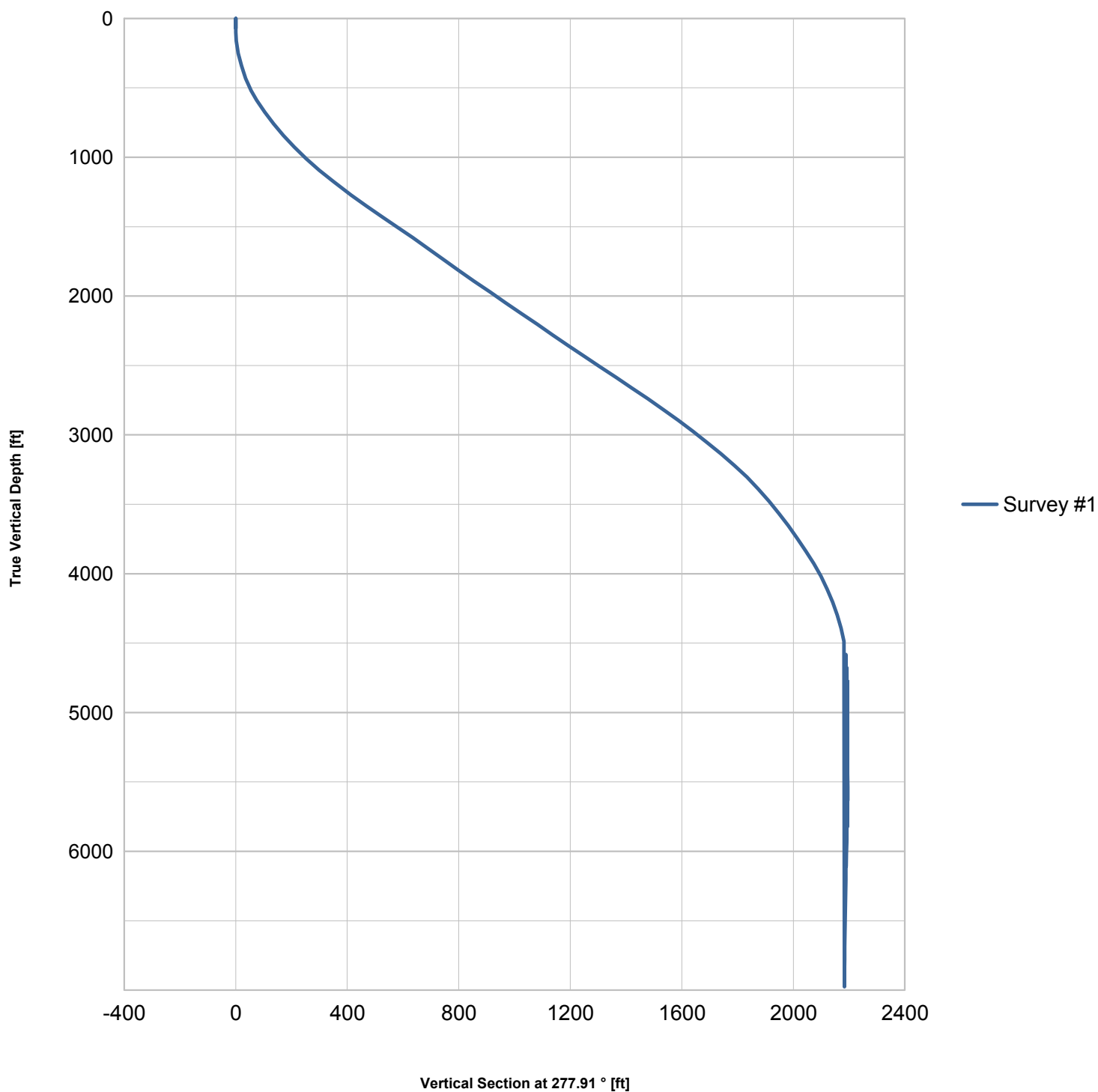
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
12/21/2012	NORMAL	1,838.0	34.99	278.93	1,659.15	80.57	-686.62	691.17	0.89	-0.86	0.36	166.41
	NORMAL	1,933.0	34.24	279.28	1,737.33	89.11	-739.90	745.13	0.82	-0.79	0.37	165.30
	NORMAL	2,029.0	35.16	279.02	1,816.25	97.80	-793.86	799.76	0.97	0.96	-0.27	350.75
	NORMAL	2,124.0	36.35	279.46	1,893.35	106.71	-848.65	855.26	1.28	1.25	0.46	12.37
	NORMAL	2,220.0	35.96	278.67	1,970.86	115.64	-904.58	911.88	0.63	-0.41	-0.82	229.76
	NORMAL	2,315.0	35.65	277.52	2,047.91	123.46	-959.60	967.46	0.78	-0.33	-1.21	244.80
	NORMAL	2,411.0	36.88	278.14	2,125.31	131.21	-1,015.85	1,024.24	1.34	1.28	0.65	16.85
	NORMAL	2,507.0	36.13	278.14	2,202.47	139.29	-1,072.39	1,081.35	0.78	-0.78	0.00	180.00
	NORMAL	2,602.0	35.47	277.44	2,279.53	146.83	-1,127.44	1,136.92	0.82	-0.69	-0.74	211.53
	NORMAL	2,698.0	35.96	277.70	2,357.47	154.21	-1,182.99	1,192.96	0.53	0.51	0.27	17.32
	NORMAL	2,793.0	37.06	277.88	2,433.83	161.87	-1,238.99	1,249.48	1.16	1.16	0.19	5.63
	NORMAL	2,889.0	37.23	277.00	2,510.35	169.38	-1,296.47	1,307.45	0.58	0.18	-0.92	287.39
12/22/2012	NORMAL	2,984.0	36.79	277.44	2,586.21	176.56	-1,353.20	1,364.63	0.54	-0.46	0.46	149.13
	NORMAL	3,080.0	36.62	278.31	2,663.18	184.42	-1,410.04	1,422.00	0.57	-0.18	0.91	108.45
	NORMAL	3,175.0	35.82	278.84	2,739.82	192.79	-1,465.55	1,478.13	0.90	-0.84	0.56	158.84
	NORMAL	3,271.0	35.03	279.02	2,818.04	201.43	-1,520.52	1,533.77	0.83	-0.82	0.19	172.55
	NORMAL	3,366.0	34.37	277.17	2,896.15	209.05	-1,574.05	1,587.84	1.31	-0.69	-1.95	237.17
	NORMAL	3,461.0	32.70	276.56	2,975.33	215.33	-1,626.16	1,640.32	1.79	-1.76	-0.64	191.15
	NORMAL	3,557.0	31.69	274.80	3,056.57	220.40	-1,677.05	1,691.42	1.44	-1.05	-1.83	222.13
	NORMAL	3,652.0	31.25	277.17	3,137.60	225.56	-1,726.36	1,740.98	1.38	-0.46	2.49	110.58
	NORMAL	3,748.0	29.06	276.73	3,220.61	231.41	-1,774.23	1,789.19	2.29	-2.28	-0.46	185.57
	NORMAL	3,843.0	26.64	276.03	3,304.60	236.35	-1,818.33	1,833.55	2.57	-2.55	-0.74	187.39
	NORMAL	3,937.0	24.35	278.84	3,389.44	241.54	-1,858.44	1,874.00	2.75	-2.44	2.99	153.42
	NORMAL	4,033.0	22.77	278.14	3,477.44	247.21	-1,896.39	1,912.37	1.67	-1.65	-0.73	189.72
12/23/2012	NORMAL	4,128.0	21.23	278.75	3,565.52	252.43	-1,931.59	1,947.95	1.64	-1.62	0.64	171.84
	NORMAL	4,224.0	20.31	277.61	3,655.28	257.28	-1,965.29	1,981.99	1.05	-0.96	-1.19	203.19
	NORMAL	4,320.0	18.86	278.31	3,745.72	261.73	-1,997.15	2,014.17	1.53	-1.51	0.73	171.14
	NORMAL	4,415.0	18.29	279.11	3,835.77	266.31	-2,027.07	2,044.43	0.66	-0.60	0.84	156.29
	NORMAL	4,511.0	16.79	278.49	3,927.31	270.74	-2,055.66	2,073.36	1.57	-1.56	-0.65	186.81
	NORMAL	4,606.0	14.55	276.03	4,018.77	274.02	-2,081.10	2,099.01	2.46	-2.36	-2.59	195.34
	NORMAL	4,702.0	12.62	274.71	4,112.08	276.15	-2,103.54	2,121.53	2.04	-2.01	-1.38	188.49
	NORMAL	4,797.0	10.81	277.44	4,205.10	278.16	-2,122.72	2,140.80	1.99	-1.91	2.87	164.31
	NORMAL	4,892.0	9.54	282.71	4,298.60	281.04	-2,139.24	2,157.56	1.66	-1.34	5.55	146.33
	NORMAL	4,987.0	7.21	281.04	4,392.58	283.92	-2,152.77	2,171.36	2.47	-2.45	-1.76	185.13
	NORMAL	5,082.0	4.97	280.16	4,487.04	285.79	-2,162.67	2,181.42	2.36	-2.36	-0.93	181.95
	NORMAL	5,178.0	3.56	270.93	4,582.78	286.57	-2,169.75	2,188.54	1.63	-1.47	-9.61	201.41
	NORMAL	5,273.0	0.92	302.40	4,677.70	287.02	-2,173.34	2,192.16	2.96	-2.78	33.13	170.18
	NORMAL	5,368.0	0.70	315.84	4,772.69	287.85	-2,174.39	2,193.31	0.30	-0.23	14.15	145.77
	NORMAL	5,463.0	0.44	310.57	4,867.68	288.50	-2,175.07	2,194.08	0.28	-0.27	-5.55	188.77
	NORMAL	5,559.0	0.26	1.55	4,963.68	288.96	-2,175.34	2,194.41	0.36	-0.19	53.10	143.83
	NORMAL	5,655.0	0.35	53.75	5,059.68	289.35	-2,175.10	2,194.23	0.29	0.09	54.37	99.34
	NORMAL	5,751.0	0.18	25.37	5,155.68	289.66	-2,174.80	2,193.97	0.22	-0.18	-29.56	204.06
12/24/2012	NORMAL	5,846.0	0.26	240.96	5,250.68	289.69	-2,174.92	2,194.10	0.44	0.08	-152.01	201.13
	NORMAL	5,942.0	0.40	202.30	5,346.68	289.28	-2,175.24	2,194.36	0.27	0.15	-40.27	281.83
	NORMAL	6,038.0	0.61	230.06	5,442.67	288.64	-2,175.76	2,194.78	0.33	0.22	28.92	63.80
	NORMAL	6,133.0	0.97	222.06	5,537.66	287.72	-2,176.69	2,195.57	0.40	0.38	-8.42	338.94
	NORMAL	6,229.0	0.66	40.57	5,633.66	287.53	-2,176.87	2,195.73	1.70	-0.32	185.95	179.40
	NORMAL	6,324.0	1.01	60.96	5,728.65	288.35	-2,175.78	2,194.77	0.48	0.37	21.46	50.83
	NORMAL	6,420.0	0.97	86.45	5,824.64	288.82	-2,174.23	2,193.29	0.46	-0.04	26.55	107.85
	NORMAL	6,515.0	0.92	76.78	5,919.62	289.04	-2,172.69	2,191.79	0.18	-0.05	-10.18	247.80
	NORMAL	6,611.0	0.79	62.02	6,015.61	289.53	-2,171.35	2,190.54	0.27	-0.14	-15.38	232.21
	NORMAL	6,706.0	0.88	83.11	6,110.60	289.92	-2,170.05	2,189.30	0.33	0.09	22.20	84.40
	NORMAL	6,802.0	0.66	68.52	6,206.59	290.21	-2,168.80	2,188.11	0.31	-0.23	-15.20	214.57
	NORMAL	6,898.0	0.57	97.00	6,302.59	290.36	-2,167.82	2,187.15	0.33	-0.09	29.67	120.32
	NORMAL	6,993.0	0.53	88.30	6,397.58	290.31	-2,166.91	2,186.24	0.10	-0.04	-9.16	240.10
	NORMAL	7,089.0	0.57	64.39	6,493.58	290.53	-2,166.03	2,185.41	0.24	0.04	-24.91	267.79
12/25/2012	NORMAL	7,184.0	0.57	57.18	6,588.58	290.99	-2,165.21	2,184.66	0.08	0.00	-7.59	266.40

### 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 (°)
12/25/2012	NORMAL	7,281.0	0.48	23.87	6,685.57	291.62	-2,164.64	2,184.18	0.32	-0.09	-34.34	237.36
	NORMAL	7,376.0	0.48	66.50	6,780.57	292.15	-2,164.11	2,183.73	0.37	0.00	44.87	111.31
	NORMAL	7,472.0	0.44	32.57	6,876.57	292.62	-2,163.55	2,183.23	0.28	-0.04	-35.34	244.92
	NORMAL	7,525.0	0.40	39.08	6,929.56	292.93	-2,163.32	2,183.05	0.12	-0.08	12.28	133.19
	NORMAL	7,570.0	0.40	39.08	6,974.56	293.18	-2,163.12	2,182.89	0.00	0.00	0.00	0.00

### 3 Charts

#### 3.1 Vertical Section View



### 3.2 Plan View

