

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	PA 13-4	Wellbore No.	
Well Name	PA 13-4	Common Name	PA 13-4
Project	PA 04-07S-095W	Site	GV 80-4 Pad
Vertical Section Azimuth	319.18 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	1/31/2013	UWI	PA 13-4
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	1/31/2013	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

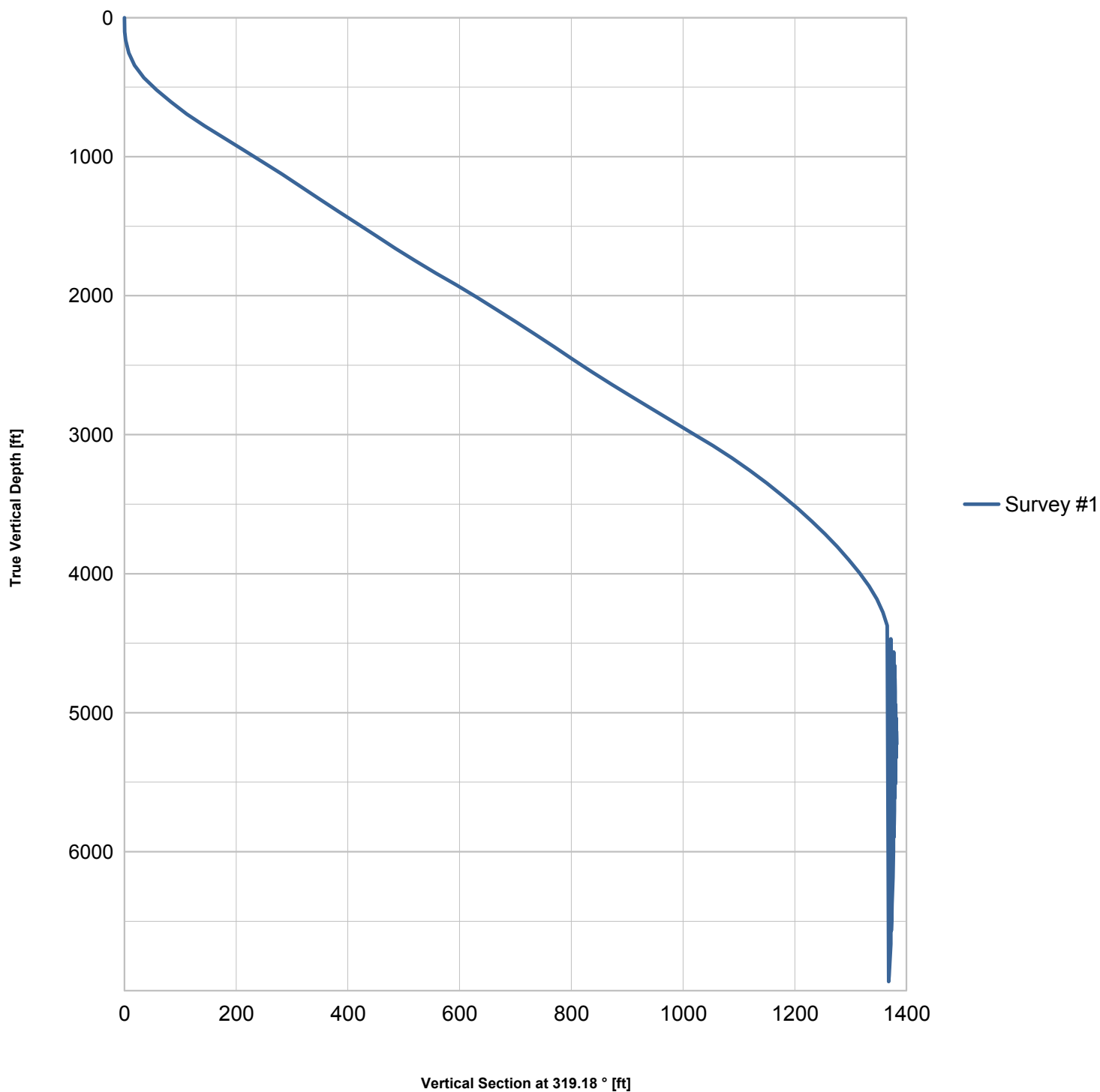
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
1/31/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/31/2013	NORMAL	102.0	0.70	325.90	102.00	0.52	-0.35	0.62	0.69	0.69	0.00	325.90
	NORMAL	162.0	2.29	333.19	161.98	1.89	-1.10	2.15	2.66	2.65	12.15	10.47
	NORMAL	253.0	5.19	329.77	252.77	7.07	-3.99	7.96	3.19	3.19	-3.76	353.89
	NORMAL	343.0	8.18	317.81	342.15	15.33	-10.34	18.36	3.65	3.32	-13.29	329.01
	NORMAL	435.0	12.67	316.67	432.61	27.53	-21.66	34.99	4.89	4.88	-1.24	356.81
	NORMAL	526.0	16.01	318.25	520.76	44.15	-36.87	57.52	3.70	3.67	1.74	7.45
2/1/2013	NORMAL	616.0	17.33	317.72	606.98	63.33	-54.16	83.33	1.48	1.47	-0.59	353.18
	NORMAL	707.0	19.20	319.93	693.39	84.81	-72.91	111.84	2.19	2.05	2.43	21.38
	NORMAL	799.0	21.47	321.64	779.65	109.59	-93.10	143.79	2.55	2.47	1.86	15.47
2/2/2013	NORMAL	890.0	22.55	321.77	864.02	136.36	-114.23	177.86	1.19	1.19	0.14	2.64
	NORMAL	981.0	21.41	317.90	948.41	162.39	-136.17	211.90	2.02	-1.25	-4.25	230.01
	NORMAL	1,077.0	22.02	317.82	1,037.60	188.73	-160.00	247.41	0.64	0.64	-0.08	357.18
	NORMAL	1,172.0	21.10	317.11	1,125.95	214.46	-183.59	282.31	1.01	-0.97	-0.75	195.50
	NORMAL	1,267.0	20.31	320.45	1,214.82	239.70	-205.73	315.88	1.50	-0.83	3.52	125.34
	NORMAL	1,362.0	20.75	321.07	1,303.78	265.50	-226.81	349.18	0.52	0.46	0.65	26.59
	NORMAL	1,458.0	20.57	320.54	1,393.61	291.75	-248.21	383.04	0.27	-0.19	-0.55	225.84
	NORMAL	1,553.0	21.50	320.01	1,482.28	317.98	-270.00	417.13	1.00	0.98	-0.56	348.19
	NORMAL	1,648.0	20.66	318.96	1,570.92	343.96	-292.20	451.30	0.97	-0.88	-1.11	203.72
	NORMAL	1,744.0	21.01	320.54	1,660.64	370.02	-314.25	485.44	0.69	0.36	1.65	58.83
	NORMAL	1,839.0	22.33	321.24	1,748.93	397.24	-336.38	520.50	1.42	1.39	0.74	11.41

## 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 (°)
2/2/2013	NORMAL	1,935.0	22.90	320.36	1,837.54	425.84	-359.71	557.40	0.69	0.59	-0.92	328.90
	NORMAL	2,030.0	23.25	318.08	1,924.95	454.03	-384.03	594.63	1.01	0.37	-2.40	290.34
	NORMAL	2,126.0	21.98	315.79	2,013.56	481.01	-409.22	631.51	1.61	-1.32	-2.39	213.68
	NORMAL	2,221.0	21.50	317.29	2,101.81	506.54	-433.42	666.66	0.77	-0.51	1.58	131.52
	NORMAL	2,317.0	21.36	318.78	2,191.17	532.62	-456.88	701.72	0.59	-0.15	1.55	105.11
	NORMAL	2,412.0	20.97	317.90	2,279.76	558.25	-479.67	736.02	0.53	-0.41	-0.93	218.76
	NORMAL	2,508.0	20.70	320.10	2,369.49	584.01	-502.07	770.16	0.86	-0.28	2.29	110.06
	NORMAL	2,603.0	20.00	319.75	2,458.56	609.29	-523.34	803.19	0.75	-0.74	-0.37	189.70
	NORMAL	2,699.0	21.06	320.28	2,548.46	635.09	-544.97	836.85	1.12	1.10	0.55	10.19
	NORMAL	2,795.0	21.98	320.36	2,637.77	662.19	-567.46	872.06	0.96	0.96	0.08	1.86
	NORMAL	2,890.0	22.24	319.84	2,725.78	689.62	-590.39	907.81	0.34	0.27	-0.55	322.79
	NORMAL	2,985.0	22.50	319.57	2,813.63	717.20	-613.77	943.97	0.29	0.27	-0.28	338.31
	NORMAL	3,081.0	22.50	319.84	2,902.32	745.22	-637.53	980.70	0.11	0.00	0.28	90.12
	NORMAL	3,176.0	22.37	318.26	2,990.13	772.60	-661.29	1,016.95	0.65	-0.14	-1.66	257.10
2/3/2013	NORMAL	3,272.0	22.02	318.78	3,079.02	799.77	-685.31	1,053.22	0.42	-0.36	0.54	150.94
	NORMAL	3,368.0	20.04	317.73	3,168.62	825.48	-708.24	1,087.66	2.10	-2.06	-1.09	190.29
	NORMAL	3,463.0	19.08	317.90	3,258.14	849.04	-729.60	1,119.46	1.01	-1.01	0.18	176.69
	NORMAL	3,559.0	18.11	318.61	3,349.13	871.88	-749.98	1,150.06	1.04	-1.01	0.74	167.20
	NORMAL	3,655.0	16.79	319.13	3,440.71	893.56	-768.92	1,178.85	1.38	-1.38	0.54	173.51
	NORMAL	3,749.0	15.78	319.31	3,530.93	913.52	-786.14	1,205.21	1.08	-1.07	0.19	177.23
	NORMAL	3,845.0	15.03	318.08	3,623.48	932.68	-802.97	1,230.71	0.85	-0.78	-1.28	202.95
	NORMAL	3,939.0	14.02	321.77	3,714.48	950.69	-818.15	1,254.27	1.46	-1.07	3.93	139.28
	NORMAL	4,034.0	12.48	321.86	3,806.95	967.81	-831.62	1,276.02	1.62	-1.62	0.09	179.28
	NORMAL	4,130.0	12.44	323.18	3,900.69	984.24	-844.22	1,296.70	0.30	-0.04	1.38	98.64
	NORMAL	4,226.0	10.99	323.26	3,994.68	999.85	-855.89	1,316.14	1.51	-1.51	0.08	179.40
	NORMAL	4,321.0	9.54	319.66	4,088.16	1,013.11	-866.40	1,333.04	1.67	-1.53	-3.79	202.10
	NORMAL	4,417.0	7.21	315.71	4,183.13	1,023.49	-875.76	1,347.01	2.50	-2.43	-4.11	191.92
	NORMAL	4,512.0	5.50	321.77	4,277.55	1,031.33	-882.74	1,357.51	1.93	-1.80	6.38	161.57
2/4/2013	NORMAL	4,608.0	4.04	326.96	4,373.21	1,037.78	-887.43	1,365.46	1.58	-1.52	5.41	166.11
	NORMAL	4,703.0	3.87	330.30	4,467.99	1,043.37	-890.85	1,371.92	0.30	-0.18	3.52	128.08
	NORMAL	4,798.0	2.15	319.22	4,562.85	1,047.51	-893.60	1,376.85	1.90	-1.81	-11.66	193.21
	NORMAL	4,894.0	1.23	245.22	4,658.82	1,048.44	-895.71	1,378.94	2.25	-0.96	-77.08	213.15
	NORMAL	4,988.0	1.01	241.61	4,752.80	1,047.62	-897.36	1,379.39	0.25	-0.23	-3.84	195.98
	NORMAL	5,084.0	1.23	235.55	4,848.78	1,046.64	-898.95	1,379.69	0.26	0.23	-6.31	328.65
	NORMAL	5,179.0	0.92	292.15	4,943.77	1,046.35	-900.50	1,380.48	1.11	-0.33	59.58	133.29
	NORMAL	5,274.0	0.57	287.67	5,038.76	1,046.78	-901.65	1,381.56	0.37	-0.37	-4.72	187.21
	NORMAL	5,370.0	0.22	290.22	5,134.76	1,046.99	-902.28	1,382.13	0.36	-0.36	2.66	178.40
	NORMAL	5,465.0	0.35	124.37	5,229.76	1,046.89	-902.21	1,382.01	0.60	0.14	-174.58	188.70
	NORMAL	5,561.0	0.53	128.50	5,325.75	1,046.45	-901.62	1,381.29	0.19	0.19	4.30	12.06
	NORMAL	5,656.0	0.53	124.54	5,420.75	1,045.92	-900.92	1,380.44	0.04	0.00	-4.17	268.02
	NORMAL	5,752.0	0.35	137.46	5,516.75	1,045.45	-900.35	1,379.71	0.21	-0.19	13.46	157.49
	NORMAL	5,848.0	0.48	174.11	5,612.74	1,044.84	-900.11	1,379.09	0.30	0.14	38.18	83.01
2/5/2013	NORMAL	5,943.0	0.66	188.18	5,707.74	1,043.90	-900.15	1,378.40	0.24	0.19	14.81	45.04
	NORMAL	6,039.0	0.66	194.77	5,803.73	1,042.82	-900.37	1,377.73	0.08	0.00	6.86	93.29
	NORMAL	6,134.0	0.61	196.53	5,898.73	1,041.81	-900.65	1,377.15	0.06	-0.05	1.85	159.57
	NORMAL	6,230.0	0.35	170.77	5,994.72	1,041.03	-900.75	1,376.62	0.35	-0.27	-26.83	207.29
	NORMAL	6,326.0	0.31	189.41	6,090.72	1,040.48	-900.75	1,376.21	0.12	-0.04	19.42	119.59
	NORMAL	6,421.0	0.48	190.73	6,185.72	1,039.84	-900.86	1,375.79	0.18	0.18	1.39	3.72
	NORMAL	6,516.0	0.92	192.75	6,280.71	1,038.70	-901.11	1,375.09	0.46	0.46	2.13	4.22
	NORMAL	6,612.0	0.53	109.69	6,376.71	1,037.80	-900.86	1,374.25	1.05	-0.41	-86.52	211.58
	NORMAL	6,708.0	0.48	95.36	6,472.70	1,037.61	-900.04	1,373.57	0.14	-0.05	-14.93	241.34
	NORMAL	6,803.0	0.53	125.77	6,567.70	1,037.32	-899.29	1,372.86	0.28	0.05	32.01	94.88
	NORMAL	6,899.0	0.75	113.65	6,663.69	1,036.81	-898.35	1,371.86	0.27	0.23	-12.63	322.24
	NORMAL	6,995.0	0.88	143.62	6,759.69	1,035.96	-897.34	1,370.56	0.46	0.14	31.22	88.39
	NORMAL	7,090.0	0.75	141.51	6,854.68	1,034.89	-896.52	1,369.21	0.14	-0.14	-2.22	191.95
	NORMAL	7,125.0	0.75	134.30	6,889.67	1,034.55	-896.21	1,368.75	0.27	0.00	-20.60	266.40
	NORMAL	7,170.0	0.75	134.30	6,934.67	1,034.14	-895.79	1,368.17	0.00	0.00	0.00	0.00

### 3 Charts

#### 3.1 Vertical Section View



### 3.2 Plan View

