

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 313-4	Wellbore No.	OH
Well Name	PA 313-4	Common Name	PA 313-4
Project	PA 04-07S-095W	Site	GV 80-4 Pad
Vertical Section Azimuth	309.23 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	1/18/2013	UWI	PA 313-4
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	1/18/2013	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

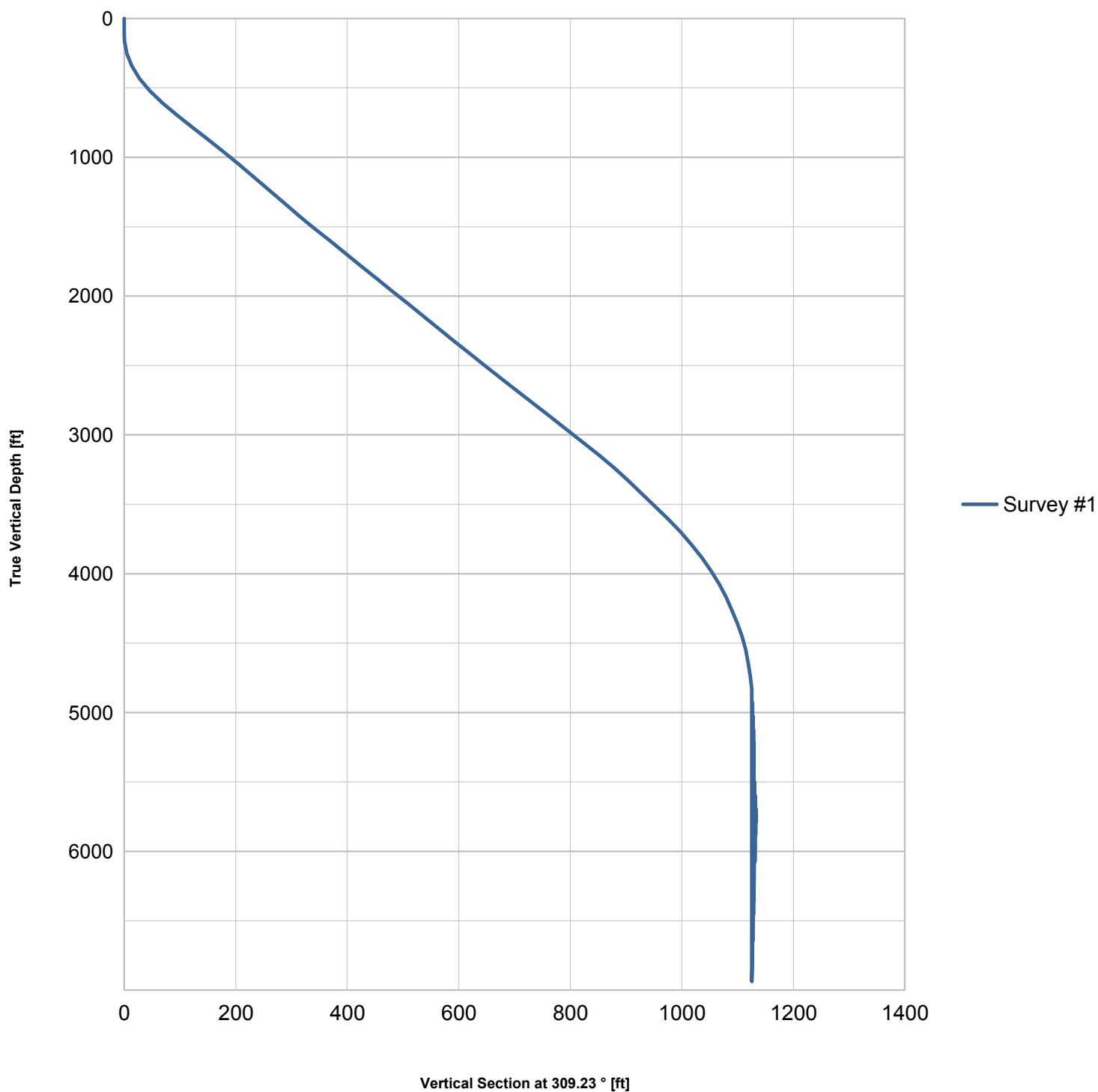
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
1/18/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/18/2013	NORMAL	102.0	0.70	35.07	102.00	0.51	0.36	0.05	0.69	0.69	0.00	35.07
	NORMAL	162.0	0.88	315.97	161.99	1.14	0.25	0.53	1.69	0.30	-131.83	238.31
	NORMAL	253.0	4.40	315.62	252.88	4.14	-2.68	4.69	3.87	3.87	-0.38	359.56
	NORMAL	344.0	7.21	308.76	343.41	10.21	-9.58	13.87	3.18	3.09	-7.54	342.70
	NORMAL	435.0	10.47	301.99	433.32	18.17	-21.04	27.79	3.75	3.58	-7.44	338.93
	NORMAL	526.0	12.93	305.33	522.42	28.44	-36.37	46.15	2.80	2.70	3.67	17.03
	NORMAL	616.0	16.19	310.25	609.52	42.37	-54.16	68.75	3.87	3.62	5.47	23.17
	NORMAL	707.0	17.33	307.79	696.66	58.88	-74.56	94.99	1.48	1.25	-2.70	326.93
1/20/2013	NORMAL	799.0	17.54	309.92	784.43	76.17	-96.02	122.55	0.73	0.23	2.32	72.80
	NORMAL	889.0	17.63	311.32	870.22	93.87	-116.65	149.73	0.48	0.10	1.56	78.66
	NORMAL	980.0	17.14	311.41	957.07	111.84	-137.06	176.90	0.54	-0.54	0.10	176.90
	NORMAL	1,076.0	16.70	310.79	1,048.91	130.21	-158.11	204.82	0.50	-0.46	-0.65	202.00
	NORMAL	1,171.0	15.87	310.53	1,140.10	147.56	-178.32	231.45	0.88	-0.87	-0.27	184.90
	NORMAL	1,266.0	16.75	311.50	1,231.28	165.08	-198.45	258.12	0.97	0.93	1.02	17.67
	NORMAL	1,361.0	16.00	312.82	1,322.42	183.05	-218.30	284.87	0.88	-0.79	1.39	154.24
	NORMAL	1,457.0	16.40	312.29	1,414.61	201.16	-238.03	311.60	0.44	0.42	-0.55	339.46
	NORMAL	1,552.0	17.14	310.79	1,505.57	219.33	-258.55	338.99	0.90	0.78	-1.58	328.96
	NORMAL	1,647.0	17.67	307.81	1,596.22	237.31	-280.54	367.40	1.09	0.56	-3.14	299.31
	NORMAL	1,743.0	16.66	309.74	1,687.94	255.04	-302.64	395.72	1.21	-1.05	2.01	151.50
	NORMAL	1,838.0	17.23	306.84	1,778.82	272.19	-324.37	423.40	1.07	0.60	-3.05	302.60

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 (°)
1/20/2013	NORMAL	1,934.0	16.97	305.70	1,870.58	288.89	-347.12	451.59	0.44	-0.27	-1.19	231.66
	NORMAL	2,029.0	17.58	309.30	1,961.29	306.06	-369.49	479.77	1.30	0.64	3.79	62.02
	NORMAL	2,125.0	17.27	309.39	2,052.89	324.29	-391.72	508.52	0.32	-0.32	0.09	175.07
	NORMAL	2,220.0	16.88	308.95	2,143.70	341.91	-413.34	536.42	0.43	-0.41	-0.46	198.12
	NORMAL	2,316.0	16.79	307.63	2,235.59	359.14	-435.16	564.21	0.41	-0.09	-1.38	256.12
	NORMAL	2,411.0	17.27	310.27	2,326.42	376.63	-456.79	592.03	0.96	0.51	2.78	59.43
	NORMAL	2,507.0	17.58	310.18	2,418.02	395.19	-478.74	620.77	0.32	0.32	-0.09	354.99
	NORMAL	2,602.0	17.27	310.53	2,508.66	413.61	-500.42	649.22	0.34	-0.33	0.37	161.49
	NORMAL	2,698.0	17.63	311.06	2,600.24	432.42	-522.21	677.99	0.41	0.38	0.55	24.07
	NORMAL	2,793.0	18.02	309.83	2,690.68	451.28	-544.34	707.06	0.57	0.41	-1.29	315.42
	NORMAL	2,889.0	17.67	309.92	2,782.06	470.15	-566.92	736.48	0.37	-0.36	0.09	175.54
	NORMAL	2,984.0	17.63	308.77	2,872.59	488.41	-589.20	765.28	0.37	-0.04	-1.21	262.91
	NORMAL	3,080.0	17.67	310.35	2,964.07	506.94	-611.63	794.39	0.50	0.04	1.65	85.98
	NORMAL	3,175.0	17.32	307.01	3,054.68	524.79	-633.91	822.93	1.12	-0.37	-3.52	249.19
	NORMAL	3,271.0	17.45	306.57	3,146.29	541.97	-656.89	851.59	0.19	0.14	-0.46	314.47
	NORMAL	3,367.0	15.69	307.45	3,238.30	558.44	-678.75	878.95	1.85	-1.83	0.92	172.31
	NORMAL	3,462.0	14.68	307.28	3,329.98	573.54	-698.53	903.82	1.06	-1.06	-0.18	182.44
	NORMAL	3,557.0	14.55	311.06	3,421.91	588.67	-717.11	927.78	1.01	-0.14	3.98	99.59
1/21/2013	NORMAL	3,653.0	14.55	310.97	3,514.83	604.50	-735.30	951.88	0.02	0.00	-0.09	269.96
	NORMAL	3,748.0	14.42	311.06	3,606.81	620.09	-753.23	975.63	0.14	-0.14	0.09	170.22
	NORMAL	3,844.0	12.57	309.12	3,700.16	634.54	-770.35	998.03	1.98	-1.93	-2.02	192.81
	NORMAL	3,938.0	11.47	312.29	3,792.10	647.28	-785.20	1,017.59	1.36	-1.17	3.37	150.57
	NORMAL	4,033.0	10.95	311.23	3,885.29	659.58	-798.97	1,036.04	0.59	-0.55	-1.12	201.10
	NORMAL	4,129.0	8.88	309.21	3,979.85	670.28	-811.57	1,052.56	2.19	-2.16	-2.10	188.54
	NORMAL	4,224.0	8.66	310.62	4,073.74	679.57	-822.68	1,067.05	0.32	-0.23	1.48	136.36
	NORMAL	4,320.0	6.46	309.12	4,168.90	687.68	-832.36	1,079.67	2.30	-2.29	-1.56	184.38
	NORMAL	4,416.0	5.98	306.84	4,264.33	694.09	-840.55	1,090.07	0.56	-0.50	-2.38	206.10
	NORMAL	4,511.0	5.89	308.25	4,358.82	700.07	-848.34	1,099.89	0.18	-0.09	1.48	122.39
	NORMAL	4,607.0	4.31	302.18	4,454.44	705.04	-855.26	1,108.39	1.74	-1.65	-6.32	195.85
	NORMAL	4,702.0	3.34	312.20	4,549.23	708.80	-860.34	1,114.70	1.24	-1.02	10.55	150.36
	NORMAL	4,797.0	2.11	304.99	4,644.12	711.67	-863.82	1,119.21	1.34	-1.29	-7.59	191.99
	NORMAL	4,893.0	2.29	310.18	4,740.05	713.92	-866.73	1,122.89	0.28	0.19	5.41	50.52
	NORMAL	4,987.0	0.79	301.92	4,834.01	715.47	-868.72	1,125.41	1.61	-1.60	-8.79	184.30
	NORMAL	5,083.0	0.83	273.26	4,930.00	715.86	-869.97	1,126.63	0.42	0.04	-29.85	261.19
1/22/2013	NORMAL	5,178.0	0.88	257.09	5,024.99	715.74	-871.37	1,127.63	0.26	0.05	-17.02	273.55
	NORMAL	5,273.0	0.53	252.52	5,119.98	715.44	-872.50	1,128.32	0.37	-0.37	-4.81	186.85
	NORMAL	5,369.0	0.61	237.93	5,215.98	715.04	-873.36	1,128.73	0.17	0.08	-15.20	291.44
	NORMAL	5,464.0	1.05	205.41	5,310.97	713.98	-874.16	1,128.68	0.66	0.46	-34.23	296.01
	NORMAL	5,559.0	0.83	321.43	5,405.96	713.73	-874.96	1,129.15	1.68	-0.23	122.13	152.19
	NORMAL	5,655.0	0.75	318.79	5,501.95	714.75	-875.81	1,130.45	0.09	-0.08	-2.75	203.15
	NORMAL	5,751.0	0.75	296.47	5,597.95	715.50	-876.79	1,131.68	0.30	0.00	-23.25	258.84
	NORMAL	5,847.0	1.10	278.10	5,693.93	715.91	-878.26	1,133.08	0.47	0.36	-19.14	310.30
	NORMAL	5,942.0	0.48	148.72	5,788.93	715.70	-878.96	1,133.49	1.53	-0.65	-136.19	194.80
1/23/2013	NORMAL	6,038.0	0.66	118.49	5,884.92	715.09	-878.26	1,132.56	0.36	0.19	-31.49	285.20
	NORMAL	6,133.0	0.44	135.19	5,979.92	714.57	-877.52	1,131.66	0.28	-0.23	17.58	152.08
	NORMAL	6,229.0	0.70	92.74	6,075.92	714.28	-876.68	1,130.83	0.50	0.27	-44.22	279.20
	NORMAL	6,325.0	0.48	125.17	6,171.91	714.03	-875.76	1,129.95	0.41	-0.23	33.78	138.88
	NORMAL	6,420.0	0.22	204.36	6,266.91	713.63	-875.51	1,129.51	0.51	-0.27	83.36	153.78
	NORMAL	6,515.0	0.57	149.34	6,361.91	713.06	-875.35	1,129.02	0.50	0.37	-57.92	282.88
	NORMAL	6,611.0	0.22	168.32	6,457.90	712.47	-875.07	1,128.43	0.38	-0.36	19.77	168.82
	NORMAL	6,706.0	0.66	118.84	6,552.90	712.02	-874.55	1,127.75	0.57	0.46	-52.08	292.60
	NORMAL	6,802.0	0.22	163.22	6,648.90	711.58	-874.01	1,127.05	0.55	-0.46	46.23	162.98
	NORMAL	6,898.0	0.53	88.43	6,744.90	711.42	-873.52	1,126.56	0.54	0.32	-77.91	261.01
	NORMAL	6,994.0	0.13	81.84	6,840.90	711.44	-872.97	1,126.15	0.42	-0.42	-6.86	182.13
	NORMAL	7,045.0	0.57	109.52	6,891.89	711.37	-872.67	1,125.87	0.90	0.86	54.27	35.24
	NORMAL	7,090.0	0.57	109.52	6,936.89	711.22	-872.25	1,125.45	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

