

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 523-12	Wellbore No.	OH
Well Name	PA 523-12	Common Name	PA 523-12
Project	PA 12-07S-095W	Site	PA 23-12 Pad
Vertical Section Azimuth	165.14 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	9/3/2013	UWI	PA 523-12
Active Datum	KB @6,533.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	mostar
Date Started	9/3/2013	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 (°)
9/3/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/3/2013	NORMAL	104.0	1.06	169.10	103.99	-0.94	0.18	0.96	1.02	1.02	0.00	169.10
	NORMAL	164.0	2.11	174.38	163.97	-2.59	0.40	2.60	1.76	1.75	8.80	10.56
	NORMAL	255.0	3.78	167.08	254.85	-7.18	1.23	7.26	1.88	1.84	-8.02	343.68
	NORMAL	346.0	6.07	168.05	345.51	-14.81	2.90	15.06	2.52	2.52	1.07	2.57
	NORMAL	436.0	7.04	170.68	434.92	-24.91	4.78	25.30	1.13	1.08	2.92	18.51
	NORMAL	526.0	8.80	165.76	524.06	-37.03	7.36	37.68	2.09	1.96	-5.47	336.48
	NORMAL	617.0	10.56	162.16	613.76	-51.71	11.63	52.97	2.04	1.93	-3.96	339.24
	NORMAL	688.0	12.67	159.61	683.30	-65.21	16.34	67.21	3.06	2.97	-3.59	345.07
	NORMAL	778.0	13.79	160.16	770.91	-84.55	23.42	87.72	1.25	1.24	0.61	6.68
	NORMAL	870.0	13.81	163.94	860.26	-105.41	30.17	109.63	0.98	0.02	4.11	90.57
	NORMAL	910.0	13.89	164.55	899.09	-114.63	32.77	119.20	0.42	0.20	1.53	61.58
9/4/2013	NORMAL	985.0	14.07	166.66	971.87	-132.18	37.28	137.32	0.72	0.24	2.81	71.58
	NORMAL	1,080.0	14.29	165.26	1,063.98	-154.75	42.92	160.58	0.43	0.23	-1.47	302.00
	NORMAL	1,176.0	12.88	162.18	1,157.29	-176.40	49.21	183.12	1.65	-1.47	-3.21	205.67
	NORMAL	1,272.0	13.14	161.74	1,250.83	-196.95	55.91	204.70	0.29	0.27	-0.46	338.93
	NORMAL	1,367.0	13.06	160.83	1,343.35	-217.34	62.81	226.18	0.23	-0.08	-0.96	248.36
	NORMAL	1,462.0	13.19	160.42	1,435.87	-237.69	69.97	247.68	0.17	0.14	-0.43	324.19
	NORMAL	1,558.0	13.10	163.58	1,529.36	-258.44	76.72	269.48	0.75	-0.09	3.29	98.68
	NORMAL	1,653.0	12.48	162.71	1,622.00	-278.57	82.81	290.49	0.68	-0.65	-0.92	196.83
	NORMAL	1,749.0	13.01	170.00	1,715.64	-299.12	87.77	311.62	1.76	0.55	7.59	75.34

2.1.2 Survey Stations (Continued)

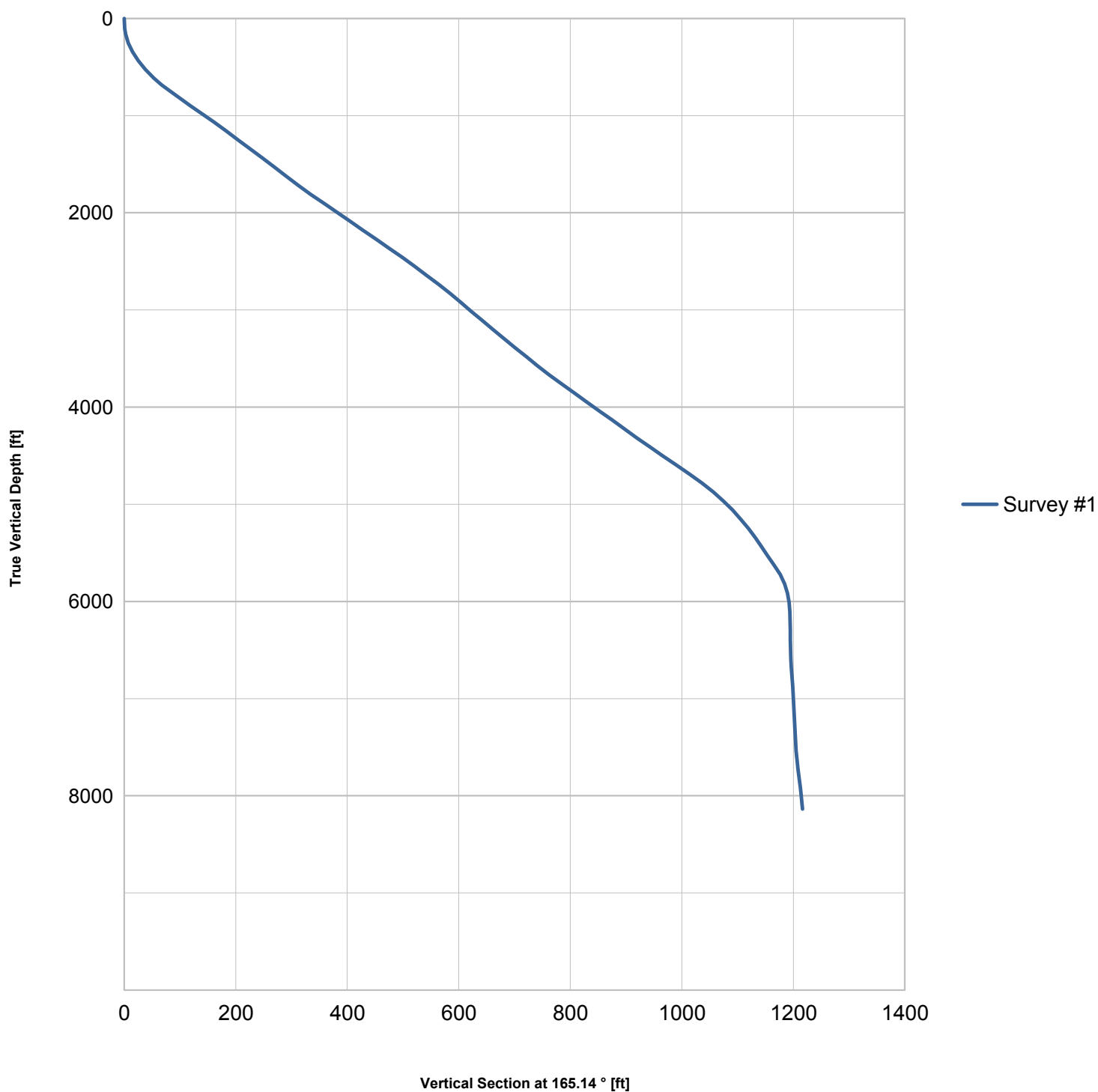
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
9/4/2013	NORMAL	1,845.0	14.33	171.76	1,808.92	-321.52	91.35	334.19	1.44	1.38	1.83	18.35
	NORMAL	1,940.0	14.64	166.66	1,900.90	-344.84	95.81	357.87	1.38	0.33	-5.37	281.18
	NORMAL	2,035.0	14.02	162.71	1,992.95	-367.51	102.00	381.37	1.22	-0.65	-4.16	235.71
	NORMAL	2,131.0	14.07	161.56	2,086.08	-389.68	109.14	404.64	0.30	0.05	-1.20	279.60
9/5/2013	NORMAL	2,227.0	14.07	165.52	2,179.20	-412.05	115.75	427.95	1.00	0.00	4.13	91.92
	NORMAL	2,323.0	14.51	165.52	2,272.23	-434.99	121.68	451.65	0.46	0.46	0.00	0.00
	NORMAL	2,418.0	13.89	164.55	2,364.33	-457.51	127.69	474.95	0.70	-0.65	-1.02	200.53
	NORMAL	2,513.0	14.29	164.82	2,456.47	-479.81	133.80	498.08	0.43	0.42	0.28	9.46
	NORMAL	2,609.0	12.79	166.92	2,549.80	-501.60	139.31	520.55	1.64	-1.56	2.19	162.87
	NORMAL	2,705.0	13.14	167.98	2,643.35	-522.62	143.98	542.07	0.44	0.36	1.10	34.71
	NORMAL	2,800.0	13.41	167.45	2,735.81	-543.94	148.63	563.86	0.31	0.28	-0.56	335.48
	NORMAL	2,895.0	11.65	165.69	2,828.55	-563.98	153.39	584.46	1.90	-1.85	-1.85	191.38
	NORMAL	2,990.0	11.47	165.26	2,921.62	-582.41	158.16	603.50	0.21	-0.19	-0.45	205.37
	NORMAL	3,086.0	11.69	163.94	3,015.67	-600.99	163.28	622.77	0.36	0.23	-1.38	309.05
	NORMAL	3,181.0	12.04	157.96	3,108.64	-619.42	169.66	642.22	1.34	0.37	-6.29	282.95
	NORMAL	3,277.0	11.78	171.14	3,202.59	-638.39	174.93	661.90	2.84	-0.27	13.73	101.89
	NORMAL	3,373.0	12.00	170.00	3,296.53	-657.90	178.17	681.59	0.34	0.23	-1.19	312.57
	NORMAL	3,468.0	12.18	170.44	3,389.43	-677.51	181.55	701.41	0.21	0.19	0.46	27.33
	NORMAL	3,564.0	12.31	169.56	3,483.24	-697.56	185.09	721.70	0.24	0.14	-0.92	304.43
	NORMAL	3,659.0	12.09	170.09	3,576.10	-717.32	188.64	741.71	0.26	-0.23	0.56	153.28
	NORMAL	3,755.0	13.28	164.73	3,669.75	-737.86	193.27	762.75	1.74	1.24	-5.58	312.68
	NORMAL	3,850.0	13.45	163.67	3,762.18	-758.99	199.25	784.71	0.31	0.18	-1.12	304.24
	NORMAL	3,946.0	13.63	163.50	3,855.51	-780.55	205.60	807.17	0.19	0.19	-0.18	347.45
	NORMAL	4,042.0	13.71	162.97	3,948.79	-802.27	212.15	829.85	0.15	0.08	-0.55	302.31
	NORMAL	4,137.0	13.80	165.43	4,041.07	-824.00	218.30	852.43	0.62	0.09	2.59	82.45
	NORMAL	4,232.0	13.63	165.08	4,133.36	-845.79	224.03	874.95	0.20	-0.18	-0.37	205.85
	NORMAL	4,327.0	13.80	165.34	4,225.65	-867.56	229.78	897.48	0.19	0.18	0.27	20.06
	NORMAL	4,422.0	13.54	165.17	4,317.96	-889.28	235.49	919.93	0.28	-0.27	-0.18	188.70
	NORMAL	4,518.0	14.07	164.29	4,411.19	-911.37	241.53	942.83	0.59	0.55	-0.92	337.96
	NORMAL	4,613.0	14.29	165.34	4,503.29	-933.83	247.62	966.10	0.36	0.23	1.11	49.97
	NORMAL	4,708.0	14.51	165.17	4,595.31	-956.68	253.63	989.73	0.24	0.23	-0.18	349.04
9/6/2013	NORMAL	4,804.0	14.29	165.34	4,688.29	-979.77	259.71	1,013.60	0.23	-0.23	0.18	169.20
	NORMAL	4,899.0	13.36	165.26	4,780.54	-1,001.72	265.47	1,036.30	0.98	-0.98	-0.08	181.14
	NORMAL	4,995.0	11.52	167.54	4,874.28	-1,021.81	270.36	1,056.98	1.98	-1.92	2.38	166.17
	NORMAL	5,090.0	10.20	166.57	4,967.58	-1,039.26	274.36	1,074.86	1.40	-1.39	-1.02	187.41
	NORMAL	5,184.0	9.54	163.85	5,060.19	-1,054.84	278.46	1,090.97	0.86	-0.70	-2.89	213.90
	NORMAL	5,279.0	8.35	166.13	5,154.03	-1,069.10	282.31	1,105.74	1.31	-1.25	2.40	164.53
	NORMAL	5,375.0	8.04	168.95	5,249.05	-1,082.45	285.26	1,119.41	0.53	-0.32	2.94	129.03
	NORMAL	5,471.0	7.17	172.29	5,344.21	-1,094.98	287.35	1,132.05	1.02	-0.91	3.48	154.71
	NORMAL	5,566.0	6.50	171.94	5,438.53	-1,106.18	288.90	1,143.27	0.71	-0.71	-0.37	183.38
	NORMAL	5,662.0	6.81	170.79	5,533.88	-1,117.18	290.58	1,154.33	0.35	0.32	-1.20	336.16
	NORMAL	5,757.0	7.30	162.44	5,628.17	-1,128.49	293.30	1,165.97	1.19	0.52	-8.79	291.35
	NORMAL	5,853.0	5.58	153.48	5,723.56	-1,138.48	297.22	1,176.63	2.07	-1.79	-9.33	205.90
9/7/2013	NORMAL	5,949.0	4.09	143.37	5,819.22	-1,145.41	301.35	1,184.38	1.78	-1.55	-10.53	204.79
	NORMAL	6,044.0	2.42	137.75	5,914.06	-1,149.61	304.72	1,189.31	1.79	-1.76	-5.92	188.02
	NORMAL	6,140.0	2.15	115.60	6,009.99	-1,151.89	307.71	1,192.28	0.95	-0.28	-23.07	242.13
	NORMAL	6,236.0	3.03	81.14	6,105.89	-1,152.28	311.84	1,193.71	1.82	0.92	-35.90	281.51
	NORMAL	6,331.0	2.68	78.07	6,200.77	-1,151.43	316.49	1,194.09	0.40	-0.37	-3.23	202.07
	NORMAL	6,427.0	2.73	80.09	6,296.67	-1,150.57	320.94	1,194.40	0.11	0.05	2.10	63.33
	NORMAL	6,522.0	2.73	79.65	6,391.56	-1,149.78	325.39	1,194.77	0.02	0.00	-0.46	269.78
	NORMAL	6,618.0	2.42	80.44	6,487.46	-1,149.03	329.64	1,195.14	0.33	-0.32	0.82	173.86
	NORMAL	6,714.0	2.37	82.55	6,583.38	-1,148.44	333.61	1,195.58	0.11	-0.05	2.20	120.61
	NORMAL	6,810.0	2.11	91.87	6,679.31	-1,148.24	337.34	1,196.35	0.47	-0.27	9.71	130.11
	NORMAL	6,905.0	2.11	96.00	6,774.24	-1,148.48	340.83	1,197.47	0.16	0.00	4.35	92.06
	NORMAL	7,001.0	0.79	170.18	6,870.21	-1,149.31	342.70	1,198.76	2.13	-1.38	77.27	158.14
9/8/2013	NORMAL	7,096.0	0.70	215.26	6,965.21	-1,150.43	342.48	1,199.79	0.61	-0.09	47.45	120.82
	NORMAL	7,192.0	0.92	212.10	7,061.20	-1,151.56	341.73	1,200.69	0.23	0.23	-3.29	346.94

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 (°)
9/8/2013	NORMAL	7,287.0	1.27	232.49	7,156.18	-1,152.85	340.49	1,201.62	0.55	0.37	21.46	58.56
	NORMAL	7,382.0	1.27	231.17	7,251.16	-1,154.15	338.83	1,202.45	0.03	0.00	-1.39	269.34
	NORMAL	7,478.0	1.36	235.57	7,347.13	-1,155.46	337.07	1,203.26	0.14	0.09	4.58	50.50
	NORMAL	7,572.0	1.45	233.02	7,441.10	-1,156.81	335.20	1,204.08	0.12	0.10	-2.71	323.93
	NORMAL	7,667.0	1.41	226.78	7,536.07	-1,158.33	333.38	1,205.09	0.17	-0.04	-6.57	252.49
	NORMAL	7,761.0	1.67	214.82	7,630.04	-1,160.25	331.76	1,206.53	0.44	0.28	-12.72	302.89
	NORMAL	7,857.0	1.85	212.19	7,726.00	-1,162.71	330.13	1,208.49	0.21	0.19	-2.74	334.51
	NORMAL	7,953.0	1.85	212.45	7,821.94	-1,165.33	328.48	1,210.59	0.01	0.00	0.27	90.13
	NORMAL	8,047.0	2.20	224.14	7,915.89	-1,167.90	326.41	1,212.55	0.57	0.37	12.44	55.66
	NORMAL	8,142.0	2.50	230.38	8,010.81	-1,170.53	323.54	1,214.36	0.41	0.32	6.57	43.61
	NORMAL	8,222.0	2.59	231.00	8,090.73	-1,172.78	320.79	1,215.83	0.12	0.11	0.77	17.32
	NORMAL	8,267.0	2.59	231.00	8,135.68	-1,174.06	319.21	1,216.66	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

