

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 313-29	Wellbore No.	OH
Well Name	PA 313-29	Common Name	PA 313-29
Project	PA 29-06S-095W	Site	DOE 3-W-29 Pad
Vertical Section Azimuth	315.92 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	3/30/2012	UWI	PA 313-29
Active Datum	KB @5,702.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	3/20/2012	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 (°)
3/20/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/29/2012	NORMAL	65.0	0.35	287.73	65.00	0.06	-0.19	0.17	0.54	0.54	0.00	287.73
	NORMAL	164.0	1.67	278.26	163.98	0.36	-1.90	1.58	1.34	1.33	-9.57	348.04
	NORMAL	255.0	3.08	289.34	254.90	1.36	-5.52	4.82	1.62	1.55	12.18	23.63
3/30/2012	NORMAL	346.0	5.72	289.60	345.63	3.69	-12.10	11.07	2.90	2.90	0.29	0.56
	NORMAL	437.0	8.45	285.21	435.92	6.97	-22.83	20.89	3.06	3.00	-4.82	346.60
	NORMAL	528.0	11.26	283.01	525.57	10.72	-37.94	34.10	3.11	3.09	-2.42	351.28
	NORMAL	603.0	12.90	283.60	598.91	14.34	-53.21	47.32	2.19	2.19	0.79	4.59
	NORMAL	694.0	14.50	289.90	687.32	20.61	-73.80	66.14	2.40	1.76	6.92	46.09
	NORMAL	785.0	16.20	299.80	775.09	30.80	-95.53	88.58	3.43	1.87	10.88	61.87
	NORMAL	877.0	17.90	308.20	863.05	45.92	-117.79	114.93	3.25	1.85	9.13	59.45
	NORMAL	968.0	20.10	311.40	949.09	64.91	-140.51	144.38	2.67	2.42	3.52	26.86
	NORMAL	1,063.0	22.70	308.90	1,037.54	87.22	-167.02	178.85	2.90	2.74	-2.63	339.50
	NORMAL	1,158.0	25.00	313.00	1,124.43	112.43	-195.98	217.10	2.98	2.42	4.32	37.67
	NORMAL	1,253.0	27.30	313.10	1,209.70	141.01	-226.57	258.91	2.42	2.42	0.11	1.14
	NORMAL	1,349.0	29.50	314.50	1,294.14	172.62	-259.51	304.54	2.39	2.29	1.46	17.46
	NORMAL	1,444.0	31.60	315.20	1,375.95	206.68	-293.73	352.81	2.24	2.21	0.74	9.92
	NORMAL	1,540.0	33.20	316.10	1,457.00	243.47	-329.68	404.25	1.74	1.67	0.94	17.15
3/31/2012	NORMAL	1,636.0	31.40	314.40	1,538.14	279.91	-365.78	455.54	2.10	-1.88	-1.77	206.06
	NORMAL	1,731.0	32.50	316.10	1,618.75	315.62	-401.16	505.80	1.50	1.16	1.79	40.00
	NORMAL	1,827.0	31.00	315.80	1,700.38	351.92	-436.28	556.31	1.57	-1.56	-0.31	185.88

2.1.2 Survey Stations (Continued)

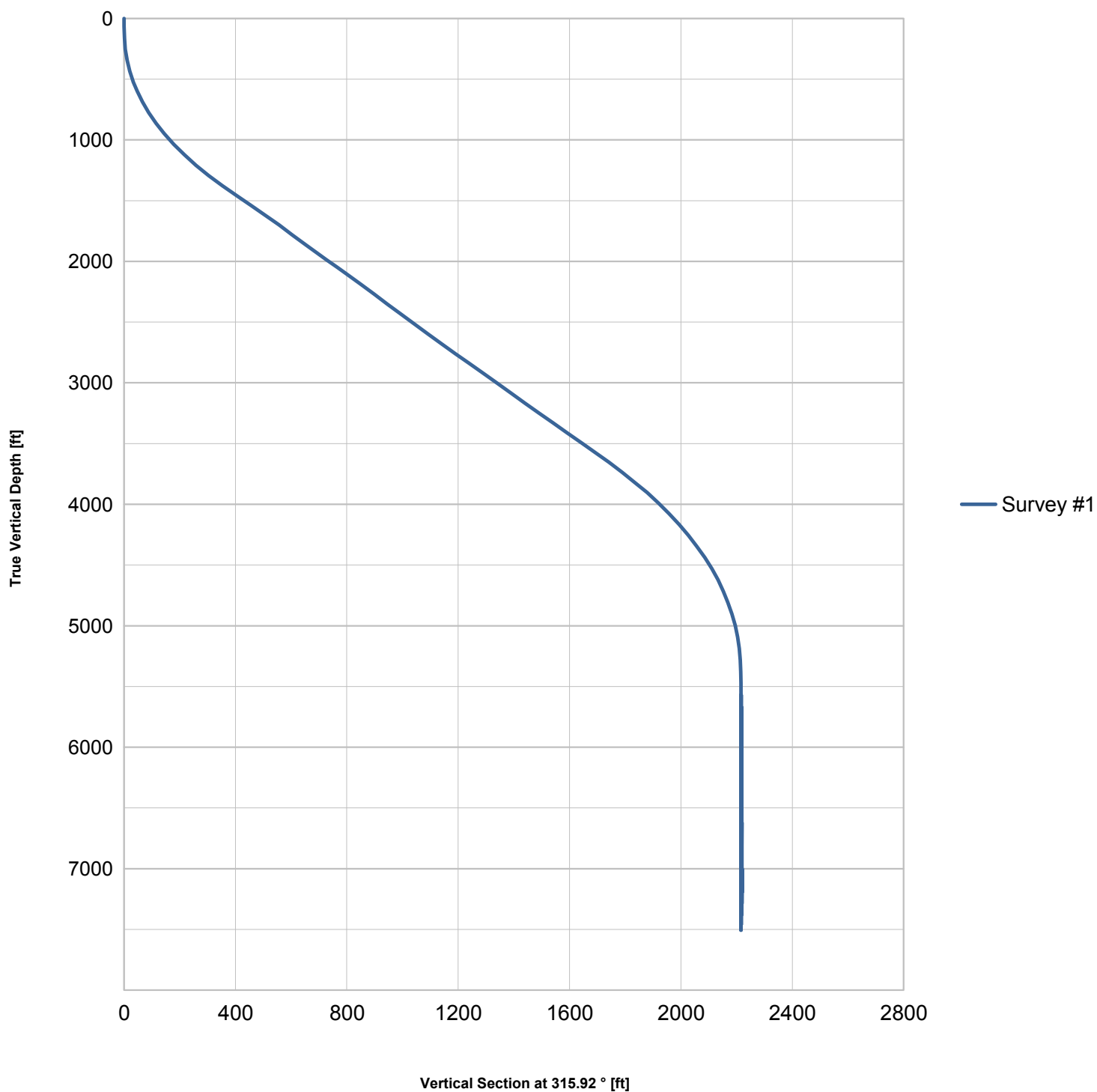
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
3/31/2012	NORMAL	1,921.0	30.10	314.90	1,781.33	385.92	-469.85	604.09	1.07	-0.96	-0.96	206.56
	NORMAL	2,015.0	30.90	316.10	1,862.33	419.95	-503.29	651.79	1.07	0.85	1.28	37.80
	NORMAL	2,111.0	31.50	318.40	1,944.45	456.47	-537.03	701.50	1.39	0.63	2.40	64.26
4/1/2012	NORMAL	2,160.0	31.60	316.80	1,986.20	475.40	-554.32	727.13	1.72	0.20	-3.27	276.13
	NORMAL	2,235.0	31.73	318.84	2,050.04	504.57	-580.75	766.47	1.44	0.17	2.72	83.95
	NORMAL	2,299.0	31.42	315.86	2,104.57	529.21	-603.45	799.97	2.49	-0.48	-4.66	257.50
	NORMAL	2,395.0	31.07	312.08	2,186.65	563.78	-639.26	849.71	2.07	-0.36	-3.94	258.27
	NORMAL	2,491.0	29.84	313.31	2,269.41	596.76	-675.03	898.29	1.44	-1.28	1.28	153.65
	NORMAL	2,586.0	30.32	318.40	2,351.63	630.91	-708.15	945.86	2.73	0.51	5.36	81.55
	NORMAL	2,681.0	30.15	318.14	2,433.70	666.61	-739.99	993.66	0.23	-0.18	-0.27	217.49
	NORMAL	2,777.0	30.85	317.26	2,516.42	702.65	-772.79	1,042.36	0.86	0.73	-0.92	327.08
	NORMAL	2,872.0	31.51	316.82	2,597.70	738.64	-806.31	1,091.53	0.73	0.69	-0.46	340.77
	NORMAL	2,968.0	30.67	316.21	2,679.90	774.61	-840.42	1,141.10	0.93	-0.88	-0.64	200.29
	NORMAL	3,063.0	32.17	316.56	2,760.97	810.46	-874.58	1,190.62	1.59	1.58	0.37	7.08
	NORMAL	3,159.0	31.73	315.06	2,842.43	846.89	-909.98	1,241.42	0.95	-0.46	-1.56	240.36
	NORMAL	3,254.0	31.51	314.89	2,923.33	882.09	-945.22	1,291.22	0.25	-0.23	-0.18	201.98
	NORMAL	3,350.0	31.33	314.54	3,005.25	917.31	-980.78	1,341.25	0.27	-0.19	-0.36	225.24
	NORMAL	3,445.0	31.03	313.92	3,086.53	951.61	-1,016.02	1,390.42	0.46	-0.32	-0.65	226.67
	NORMAL	3,541.0	31.64	315.42	3,168.53	986.71	-1,051.52	1,440.33	1.03	0.64	1.56	52.62
	NORMAL	3,636.0	31.68	314.54	3,249.39	1,021.96	-1,086.79	1,490.18	0.49	0.04	-0.93	274.57
	NORMAL	3,731.0	32.39	317.00	3,329.93	1,058.07	-1,121.92	1,540.56	1.56	0.75	2.59	62.50
	NORMAL	3,827.0	31.95	316.56	3,411.19	1,095.31	-1,156.93	1,591.67	0.52	-0.46	-0.46	207.85
4/2/2012	NORMAL	3,922.0	31.90	315.77	3,491.82	1,131.55	-1,191.72	1,641.90	0.44	-0.05	-0.83	262.84
	NORMAL	4,017.0	31.99	315.06	3,572.43	1,167.35	-1,227.00	1,692.17	0.41	0.09	-0.75	283.17
	NORMAL	4,113.0	30.72	316.56	3,654.41	1,203.16	-1,261.83	1,742.12	1.55	-1.32	1.56	149.06
	NORMAL	4,208.0	28.70	318.49	3,736.92	1,237.86	-1,293.63	1,789.17	2.35	-2.13	2.03	155.50
	NORMAL	4,303.0	28.70	318.32	3,820.25	1,271.98	-1,323.92	1,834.75	0.09	0.00	-0.18	269.93
	NORMAL	4,398.0	26.54	318.14	3,904.42	1,304.83	-1,353.25	1,878.75	2.28	-2.27	-0.19	182.13
	NORMAL	4,493.0	23.95	314.45	3,990.34	1,334.14	-1,381.19	1,919.25	3.19	-2.73	-3.88	209.63
	NORMAL	4,588.0	22.90	314.36	4,077.51	1,360.57	-1,408.17	1,957.00	1.11	-1.11	-0.09	181.91
	NORMAL	4,684.0	21.71	316.03	4,166.33	1,386.41	-1,433.85	1,993.43	1.40	-1.24	1.74	152.73
	NORMAL	4,779.0	19.07	315.50	4,255.37	1,410.13	-1,456.93	2,026.52	2.79	-2.78	-0.56	183.75
	NORMAL	4,875.0	18.11	314.71	4,346.36	1,431.81	-1,478.53	2,057.13	1.03	-1.00	-0.82	194.33
	NORMAL	4,971.0	16.57	313.31	4,437.99	1,451.70	-1,499.09	2,085.72	1.66	-1.60	-1.46	194.49
	NORMAL	5,066.0	14.46	315.86	4,529.53	1,469.51	-1,517.21	2,111.12	2.33	-2.22	2.68	163.31
	NORMAL	5,161.0	12.48	314.63	4,621.91	1,485.23	-1,532.78	2,133.24	2.11	-2.08	-1.29	187.64
	NORMAL	5,257.0	10.41	312.96	4,716.00	1,498.43	-1,546.51	2,152.27	2.18	-2.16	-1.74	188.28
	NORMAL	5,351.0	9.14	314.45	4,808.63	1,509.45	-1,558.06	2,168.22	1.38	-1.35	1.59	169.47
	NORMAL	5,447.0	8.26	322.10	4,903.53	1,520.23	-1,567.74	2,182.70	1.51	-0.92	7.97	130.99
	NORMAL	5,542.0	6.81	331.94	4,997.71	1,530.58	-1,574.58	2,194.90	2.04	-1.53	10.36	143.14
	NORMAL	5,638.0	4.66	340.55	5,093.22	1,539.28	-1,578.55	2,203.91	2.41	-2.24	8.97	162.44
4/3/2012	NORMAL	5,733.0	3.69	354.97	5,187.97	1,545.97	-1,580.11	2,209.80	1.50	-1.02	15.18	139.78
	NORMAL	5,828.0	2.33	9.21	5,282.84	1,550.92	-1,580.07	2,213.33	1.62	-1.43	14.99	158.18
	NORMAL	5,924.0	1.10	18.52	5,378.80	1,553.72	-1,579.46	2,214.92	1.31	-1.28	9.70	171.86
	NORMAL	6,018.0	1.10	22.21	5,472.78	1,555.41	-1,578.83	2,215.69	0.08	0.00	3.93	91.84
	NORMAL	6,114.0	0.75	19.31	5,568.77	1,556.86	-1,578.28	2,216.35	0.37	-0.36	-3.02	186.17
	NORMAL	6,209.0	0.44	349.69	5,663.76	1,557.80	-1,578.14	2,216.93	0.45	-0.33	-31.18	210.62
	NORMAL	6,305.0	0.26	297.13	5,759.76	1,558.27	-1,578.40	2,217.44	0.36	-0.19	-54.75	216.21
	NORMAL	6,400.0	0.26	227.00	5,854.76	1,558.22	-1,578.75	2,217.65	0.31	0.00	-73.82	234.94
4/4/2012	NORMAL	6,496.0	0.40	191.31	5,950.76	1,557.74	-1,578.97	2,217.46	0.25	0.15	-37.18	285.54
	NORMAL	6,591.0	1.05	191.67	6,045.75	1,556.56	-1,579.21	2,216.78	0.68	0.68	0.38	0.58
	NORMAL	6,687.0	0.57	103.78	6,141.74	1,555.59	-1,578.93	2,215.88	1.23	-0.50	-91.55	208.97
	NORMAL	6,782.0	0.92	343.54	6,236.74	1,556.21	-1,578.68	2,216.16	1.37	0.37	-126.57	217.57
	NORMAL	6,877.0	0.75	334.66	6,331.73	1,557.50	-1,579.17	2,217.42	0.22	-0.18	-9.35	212.90
	NORMAL	6,972.0	0.40	11.53	6,426.72	1,558.39	-1,579.37	2,218.20	0.52	-0.37	38.81	150.83
	NORMAL	7,069.0	0.44	235.00	6,523.72	1,558.50	-1,579.60	2,218.45	0.80	0.04	-140.75	202.82
	NORMAL	7,164.0	1.27	240.45	6,618.71	1,557.78	-1,580.82	2,218.77	0.88	0.87	5.74	8.33

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 (°)
4/4/2012	NORMAL	7,259.0	0.97	187.62	6,713.69	1,556.46	-1,581.84	2,218.54	1.09	-0.32	-55.61	228.50
	NORMAL	7,354.0	0.13	221.20	6,808.69	1,555.58	-1,582.02	2,218.03	0.91	-0.88	35.35	175.23
	NORMAL	7,450.0	0.66	332.55	6,904.69	1,555.99	-1,582.34	2,218.55	0.75	0.55	115.99	121.06
	NORMAL	7,545.0	0.66	311.11	6,999.68	1,556.84	-1,583.01	2,219.62	0.26	0.00	-22.57	259.28
	NORMAL	7,640.0	0.26	320.25	7,094.68	1,557.36	-1,583.56	2,220.38	0.43	-0.42	9.62	174.15
	NORMAL	7,736.0	0.53	192.46	7,190.68	1,557.09	-1,583.79	2,220.35	0.75	0.28	-133.11	215.61
	NORMAL	7,832.0	0.88	160.82	7,286.67	1,555.96	-1,583.65	2,219.44	0.53	0.36	-32.96	295.40
	NORMAL	7,927.0	1.27	169.69	7,381.65	1,554.24	-1,583.22	2,217.90	0.45	0.41	9.34	27.58
	NORMAL	8,006.0	1.36	185.16	7,460.63	1,552.44	-1,583.15	2,216.56	0.46	0.11	19.58	83.59
4/5/2012	NORMAL	8,051.0	1.40	193.97	7,505.62	1,551.38	-1,583.33	2,215.92	0.48	0.09	19.58	83.75

3 Charts

3.1 Vertical Section View



3.2 Plan View

