

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	KP 343-21	Wellbore No.	1
Well Name	KP 343-21	Common Name	KP 343-21
Project	KP 28-06S-091W	Site	KP 41-28 Pad
Vertical Section Azimuth	356.10 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	3/6/2012	UWI	KP 343-21
Active Datum	KB @7,079.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Scientific Drilling
Date Started	3/6/2012	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 (°)
3/6/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/7/2012	NORMAL	102.0	0.44	201.01	102.00	-0.37	-0.14	-0.36	0.43	0.43	0.00	201.01
	NORMAL	162.0	1.14	352.53	162.00	0.01	-0.30	0.03	2.57	1.17	252.53	159.34
	NORMAL	254.0	4.05	9.32	253.89	4.13	0.11	4.11	3.24	3.16	18.25	23.13
	NORMAL	345.0	7.83	2.37	344.39	13.49	0.88	13.40	4.22	4.15	-7.64	345.75
	NORMAL	436.0	10.73	354.11	434.19	28.12	0.27	28.03	3.50	3.19	-9.08	331.21
	NORMAL	527.0	13.46	349.89	523.17	46.97	-2.46	47.03	3.15	3.00	-4.64	339.98
	NORMAL	617.0	15.84	350.42	610.23	69.40	-6.34	69.67	2.65	2.64	0.59	3.48
	NORMAL	699.0	18.25	354.94	688.63	93.23	-9.34	93.65	3.35	2.94	5.51	30.98
	NORMAL	789.0	20.35	357.56	773.57	122.91	-11.25	123.39	2.52	2.33	2.91	23.65
	NORMAL	879.0	23.30	358.63	857.11	156.34	-12.34	156.82	3.31	3.28	1.19	8.18
	NORMAL	970.0	26.29	358.90	939.71	194.49	-13.16	194.94	3.29	3.29	0.30	2.29
	NORMAL	1,065.0	29.21	357.84	1,023.77	238.70	-14.43	239.13	3.12	3.07	-1.12	349.94
	NORMAL	1,159.0	32.13	356.08	1,104.62	286.57	-17.01	287.06	3.25	3.11	-1.87	342.15
	NORMAL	1,254.0	34.57	355.69	1,183.97	338.66	-20.76	339.29	2.58	2.57	-0.41	354.81
	NORMAL	1,350.0	36.59	356.15	1,262.04	394.37	-24.73	395.14	2.12	2.10	0.48	7.74
	NORMAL	1,415.0	37.58	356.92	1,313.90	433.49	-27.10	434.33	1.68	1.52	1.18	25.43
3/8/2012	NORMAL	1,537.0	37.89	357.19	1,410.38	508.06	-30.93	508.99	0.29	0.25	0.22	28.17
	NORMAL	1,632.0	36.07	355.77	1,486.27	565.09	-34.42	566.12	2.12	-1.92	-1.49	204.58
	NORMAL	1,727.0	35.66	355.57	1,563.26	620.59	-38.63	621.78	0.45	-0.43	-0.21	195.87
	NORMAL	1,823.0	36.84	354.68	1,640.67	677.15	-43.46	678.54	1.35	1.23	-0.93	335.60

2.1.2 Survey Stations (Continued)

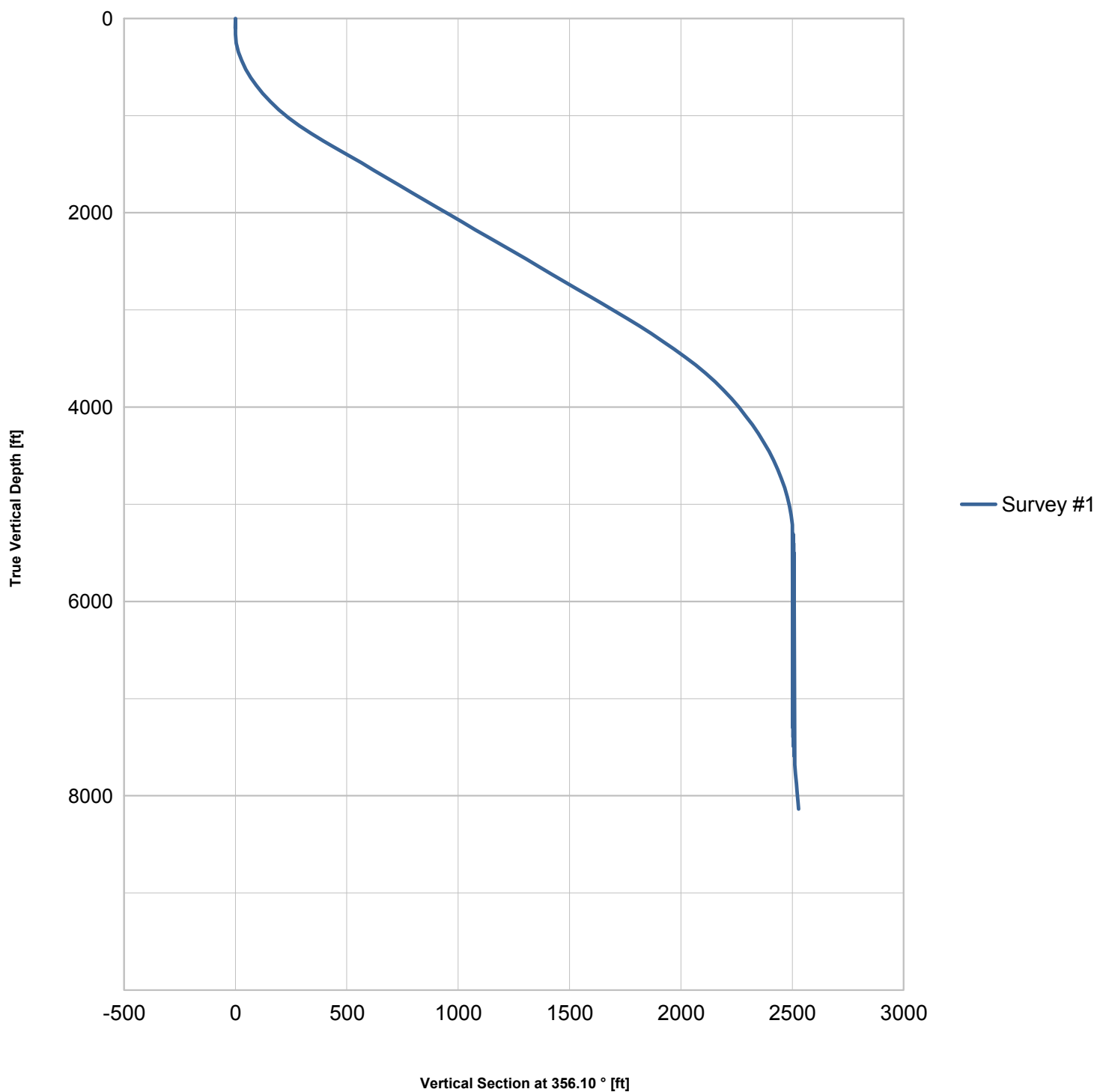
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
3/9/2012	NORMAL	1,918.0	36.63	354.53	1,716.81	733.72	-48.80	735.34	0.24	-0.22	-0.16	203.07
	NORMAL	2,013.0	36.36	353.72	1,793.18	789.92	-54.58	791.80	0.58	-0.28	-0.85	240.41
	NORMAL	2,108.0	37.10	353.21	1,869.32	846.37	-61.05	848.56	0.84	0.78	-0.54	337.40
	NORMAL	2,203.0	36.64	355.18	1,945.32	903.07	-66.82	905.52	1.34	-0.48	2.07	112.05
	NORMAL	2,299.0	37.22	357.30	2,022.06	960.62	-70.59	963.19	1.46	0.60	2.21	66.37
	NORMAL	2,394.0	36.55	357.09	2,098.05	1,017.57	-73.38	1,020.20	0.72	-0.71	-0.22	190.57
	NORMAL	2,490.0	36.93	357.76	2,174.98	1,074.93	-75.96	1,077.61	0.58	0.40	0.70	46.79
	NORMAL	2,584.0	37.13	357.74	2,250.02	1,131.50	-78.18	1,134.20	0.21	0.21	-0.02	356.55
	NORMAL	2,680.0	37.47	357.54	2,326.38	1,189.63	-80.58	1,192.35	0.38	0.35	-0.21	340.30
	NORMAL	2,775.0	37.02	357.45	2,402.01	1,247.07	-83.09	1,249.83	0.48	-0.47	-0.09	186.87
	NORMAL	2,868.0	36.19	357.23	2,476.67	1,302.46	-85.66	1,305.27	0.90	-0.89	-0.24	188.89
	NORMAL	2,964.0	36.36	357.60	2,554.06	1,359.20	-88.23	1,362.06	0.29	0.18	0.39	52.32
	NORMAL	3,059.0	36.74	356.10	2,630.38	1,415.69	-91.34	1,418.62	1.02	0.40	-1.58	292.44
	NORMAL	3,155.0	36.18	356.48	2,707.59	1,472.62	-95.03	1,475.67	0.63	-0.58	0.40	158.19
	NORMAL	3,250.0	37.42	355.98	2,783.66	1,529.40	-98.78	1,532.58	1.34	1.31	-0.53	346.22
	NORMAL	3,345.0	37.13	355.82	2,859.25	1,586.79	-102.89	1,590.11	0.32	-0.31	-0.17	198.41
	NORMAL	3,440.0	36.17	356.11	2,935.47	1,643.36	-106.88	1,646.82	1.03	-1.01	0.31	169.89
	NORMAL	3,535.0	36.49	353.58	3,012.01	1,699.40	-111.94	1,703.08	1.61	0.34	-2.66	281.03
	NORMAL	3,630.0	36.14	353.81	3,088.56	1,755.32	-118.12	1,759.29	0.40	-0.37	0.24	158.83
	NORMAL	3,724.0	35.06	355.55	3,164.99	1,809.80	-123.20	1,813.98	1.58	-1.15	1.85	137.54
	NORMAL	3,819.0	33.14	354.02	3,243.65	1,862.83	-128.03	1,867.23	2.21	-2.02	-1.61	203.44
	NORMAL	3,914.0	32.62	353.80	3,323.43	1,914.11	-133.50	1,918.76	0.56	-0.55	-0.23	192.84
	NORMAL	4,009.0	31.95	356.61	3,403.75	1,964.67	-137.75	1,969.48	1.73	-0.71	2.96	115.24
	NORMAL	4,105.0	30.78	356.88	3,485.72	2,014.55	-140.59	2,019.45	1.23	-1.22	0.28	173.27
3/10/2012	NORMAL	4,200.0	28.95	357.36	3,568.10	2,061.79	-142.97	2,066.74	1.94	-1.93	0.51	172.77
	NORMAL	4,296.0	27.08	356.65	3,652.85	2,106.82	-145.32	2,111.83	1.98	-1.95	-0.74	189.80
	NORMAL	4,391.0	24.74	356.66	3,738.29	2,148.26	-147.74	2,153.33	2.46	-2.46	0.01	179.90
	NORMAL	4,486.0	22.99	357.98	3,825.17	2,186.65	-149.55	2,191.76	1.93	-1.84	1.39	163.63
	NORMAL	4,581.0	21.23	354.94	3,913.18	2,222.33	-151.72	2,227.50	2.21	-1.85	-3.20	211.63
	NORMAL	4,676.0	19.93	355.75	4,002.12	2,255.61	-154.44	2,260.89	1.40	-1.37	0.85	168.02
	NORMAL	4,771.0	17.94	356.44	4,091.97	2,286.36	-156.55	2,291.71	2.11	-2.09	0.73	173.91
	NORMAL	4,866.0	17.53	357.35	4,182.46	2,315.26	-158.12	2,320.65	0.52	-0.43	0.96	146.37
	NORMAL	4,961.0	15.95	356.14	4,273.43	2,342.57	-159.66	2,348.01	1.70	-1.66	-1.27	191.86
	NORMAL	5,056.0	14.26	355.14	4,365.14	2,367.26	-161.53	2,372.76	1.80	-1.78	-1.05	188.28
	NORMAL	5,151.0	13.89	354.20	4,457.29	2,390.26	-163.67	2,395.86	0.46	-0.39	-0.99	211.25
	NORMAL	5,246.0	12.05	355.38	4,549.86	2,411.49	-165.63	2,417.17	1.96	-1.94	1.24	172.38
	NORMAL	5,341.0	10.08	357.23	4,643.09	2,429.68	-166.83	2,435.40	2.11	-2.07	1.95	170.69
	NORMAL	5,436.0	9.16	358.66	4,736.76	2,445.54	-167.40	2,451.27	1.00	-0.97	1.51	166.14
	NORMAL	5,531.0	8.24	0.66	4,830.66	2,459.91	-167.50	2,465.61	1.02	-0.97	2.11	162.78
3/11/2012	NORMAL	5,627.0	6.66	0.59	4,925.85	2,472.36	-167.37	2,478.01	1.65	-1.65	-0.07	180.29
	NORMAL	5,722.0	5.19	7.07	5,020.34	2,482.13	-166.78	2,487.73	1.70	-1.55	6.82	158.73
	NORMAL	5,818.0	4.04	15.86	5,116.03	2,489.69	-165.32	2,495.17	1.40	-1.20	9.16	152.74
	NORMAL	5,913.0	2.21	13.12	5,210.88	2,494.70	-163.99	2,500.07	1.93	-1.93	-2.88	183.30
	NORMAL	6,008.0	1.65	11.94	5,305.83	2,497.82	-163.29	2,503.14	0.59	-0.59	-1.24	183.47
	NORMAL	6,104.0	1.38	19.78	5,401.80	2,500.26	-162.62	2,505.53	0.35	-0.28	8.17	146.36
	NORMAL	6,199.0	0.81	21.87	5,496.78	2,501.96	-161.98	2,507.18	0.60	-0.60	2.20	177.04
	NORMAL	6,294.0	0.35	329.63	5,591.77	2,502.83	-161.88	2,508.04	0.69	-0.48	-54.99	204.92
	NORMAL	6,390.0	0.09	176.17	5,687.77	2,503.01	-162.02	2,508.23	0.45	-0.27	-159.85	185.34
	NORMAL	6,485.0	0.95	163.68	5,782.77	2,502.18	-161.79	2,507.39	0.91	0.91	-13.15	346.22
	NORMAL	6,578.0	0.77	181.21	5,875.76	2,500.81	-161.59	2,506.01	0.34	-0.19	18.85	132.93
	NORMAL	6,673.0	0.48	212.48	5,970.75	2,499.84	-161.82	2,505.06	0.46	-0.31	32.92	145.29
	NORMAL	6,767.0	0.42	285.34	6,064.75	2,499.60	-162.36	2,504.85	0.57	-0.06	77.51	131.59
3/12/2012	NORMAL	6,862.0	0.82	298.10	6,159.74	2,500.01	-163.29	2,505.33	0.44	0.42	13.43	25.50
	NORMAL	6,957.0	0.50	306.97	6,254.74	2,500.58	-164.23	2,505.96	0.35	-0.34	9.34	166.69
	NORMAL	7,052.0	0.23	131.81	6,349.74	2,500.70	-164.41	2,506.09	0.77	-0.28	-184.38	181.52
	NORMAL	7,147.0	0.29	149.45	6,444.74	2,500.37	-164.15	2,505.74	0.10	0.06	18.57	62.18
	NORMAL	7,243.0	0.17	153.88	6,540.74	2,500.03	-163.96	2,505.39	0.13	-0.12	4.61	173.78

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 (°)
3/13/2012	NORMAL	7,338.0	0.29	236.44	6,635.74	2,499.77	-164.10	2,505.14	0.33	0.13	86.91	114.73
	NORMAL	7,433.0	0.35	145.59	6,730.73	2,499.40	-164.14	2,504.78	0.48	0.06	-95.63	229.85
	NORMAL	7,528.0	0.37	131.73	6,825.73	2,498.96	-163.75	2,504.31	0.09	0.02	-14.59	275.94
	NORMAL	7,623.0	0.34	163.59	6,920.73	2,498.48	-163.44	2,503.81	0.21	-0.03	33.54	114.35
	NORMAL	7,719.0	0.44	222.91	7,016.73	2,497.94	-163.61	2,503.28	0.41	0.10	61.79	106.97
	NORMAL	7,814.0	0.29	228.98	7,111.73	2,497.51	-164.04	2,502.89	0.16	-0.16	6.39	168.57
	NORMAL	7,909.0	0.09	247.50	7,206.73	2,497.33	-164.29	2,502.72	0.22	-0.21	19.49	172.05
	NORMAL	8,004.0	0.37	24.07	7,301.73	2,497.58	-164.23	2,502.96	0.46	0.29	143.76	144.66
	NORMAL	8,100.0	0.87	8.02	7,397.72	2,498.58	-164.00	2,503.95	0.55	0.52	-16.72	332.70
	NORMAL	8,195.0	1.38	11.99	7,492.70	2,500.42	-163.67	2,505.76	0.54	0.54	4.18	10.68
	NORMAL	8,290.0	1.72	13.22	7,587.67	2,502.92	-163.10	2,508.22	0.36	0.36	1.29	6.20
3/14/2012	NORMAL	8,385.0	1.97	5.16	7,682.62	2,505.94	-162.63	2,511.20	0.38	0.26	-8.48	309.86
	NORMAL	8,481.0	2.31	2.53	7,778.55	2,509.51	-162.40	2,514.75	0.37	0.35	-2.74	342.57
	NORMAL	8,576.0	2.28	354.62	7,873.47	2,513.31	-162.49	2,518.54	0.33	-0.03	-8.33	260.65
	NORMAL	8,672.0	2.15	339.14	7,969.40	2,516.89	-163.31	2,522.17	0.64	-0.14	-16.13	250.08
3/15/2012	NORMAL	8,780.0	2.16	340.78	8,077.33	2,520.71	-164.70	2,526.07	0.06	0.01	1.52	81.61
	NORMAL	8,840.0	2.17	341.69	8,137.28	2,522.85	-165.43	2,528.26	0.06	0.02	1.52	74.24

3 Charts

3.1 Vertical Section View



3.2 Plan View

