

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	KP 444-18	Wellbore No.	
Well Name	KP 444-18	Common Name	KP 444-18
Project	KP 18-06S-91W	Site	KP 34-18 Pad
Vertical Section Azimuth	97.16 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	7/6/2012	UWI	KP 444-18
Active Datum	KB @5,944.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	7/6/2012	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 (°)
7/6/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/6/2012	NORMAL	106.0	1.06	91.93	105.99	-0.03	0.98	0.98	1.00	1.00	0.00	91.93
	NORMAL	136.0	1.32	97.21	135.99	-0.09	1.60	1.60	0.94	0.87	17.60	25.52
	NORMAL	166.0	2.38	89.74	165.97	-0.13	2.57	2.56	3.62	3.53	-24.90	343.43
	NORMAL	197.0	2.73	101.43	196.94	-0.27	3.93	3.94	2.02	1.13	37.71	62.05
	NORMAL	227.0	3.08	99.67	226.90	-0.55	5.43	5.45	1.20	1.17	-5.87	344.82
	NORMAL	257.0	3.70	92.99	256.85	-0.73	7.19	7.22	2.45	2.07	-22.27	324.13
	NORMAL	287.0	4.93	95.36	286.76	-0.90	9.44	9.48	4.14	4.10	7.90	9.43
	NORMAL	318.0	5.81	103.10	317.63	-1.38	12.29	12.37	3.67	2.84	24.97	43.36
	NORMAL	348.0	6.60	97.73	347.45	-1.96	15.48	15.60	3.26	2.63	-17.90	321.01
	NORMAL	379.0	7.48	97.82	378.22	-2.47	19.25	19.40	2.84	2.84	0.29	0.76
	NORMAL	409.0	8.45	97.47	407.93	-3.03	23.37	23.56	3.24	3.23	-1.17	356.96
	NORMAL	419.0	8.71	101.79	417.82	-3.28	24.84	25.05	6.95	2.60	43.20	70.18
	NORMAL	449.0	9.70	101.16	447.43	-4.23	29.54	29.84	3.32	3.30	-2.10	353.88
	NORMAL	479.0	11.30	97.16	476.93	-5.09	34.94	35.30	5.86	5.33	-13.33	333.53
	NORMAL	510.0	12.15	99.45	507.28	-6.00	41.17	41.59	3.13	2.74	7.39	29.82
7/7/2012	NORMAL	540.0	13.01	97.04	536.56	-6.93	47.63	48.12	3.36	2.87	-8.03	327.42
	NORMAL	570.0	13.97	95.47	565.73	-7.69	54.59	55.12	3.42	3.20	-5.23	338.35
	NORMAL	601.0	14.37	96.64	595.79	-8.49	62.13	62.71	1.59	1.29	3.77	36.17
	NORMAL	691.0	17.21	95.12	682.38	-10.97	86.49	87.19	3.19	3.16	-1.69	350.98
	NORMAL	782.0	19.25	97.61	768.81	-14.16	114.78	115.65	2.40	2.24	2.74	22.09

2.1.2 Survey Stations (Continued)

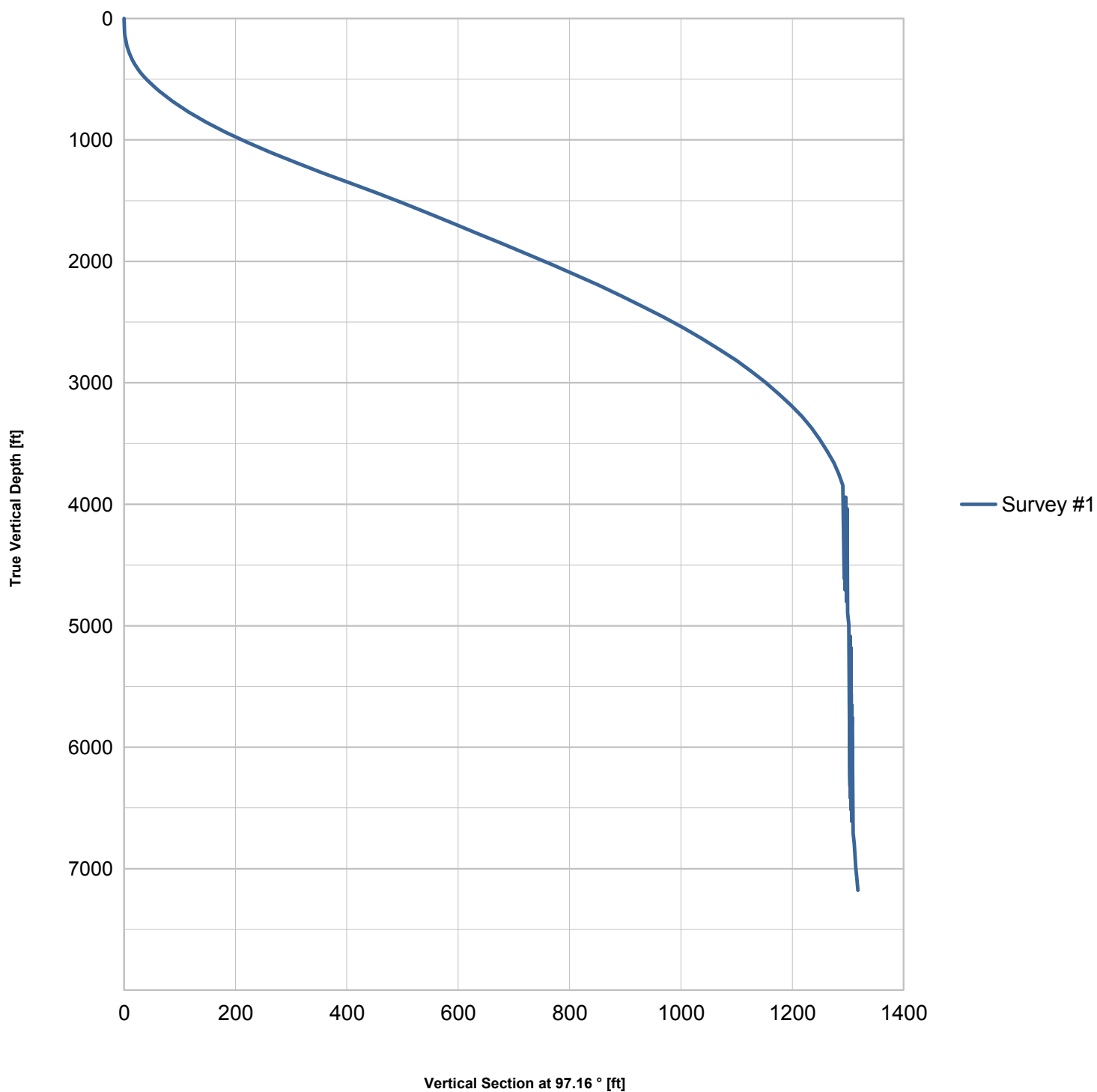
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
7/7/2012	NORMAL	873.0	21.89	97.89	854.00	-18.48	146.45	147.61	2.90	2.90	0.31	2.27
	NORMAL	965.0	23.64	97.75	938.83	-23.32	181.72	183.21	1.90	1.90	-0.15	358.16
	NORMAL	1,061.0	26.61	97.39	1,025.74	-28.68	222.12	223.96	3.10	3.09	-0.38	356.89
7/8/2012	NORMAL	1,150.0	27.70	95.99	1,104.93	-33.40	262.46	264.58	1.42	1.22	-1.57	329.00
	NORMAL	1,245.0	29.02	95.46	1,188.53	-37.90	307.36	309.69	1.41	1.39	-0.56	348.97
	NORMAL	1,341.0	30.16	94.93	1,272.01	-42.19	354.57	357.06	1.22	1.19	-0.55	346.84
	NORMAL	1,436.0	30.34	96.16	1,354.07	-46.81	402.20	404.90	0.68	0.19	1.29	74.33
	NORMAL	1,532.0	30.34	97.22	1,436.92	-52.46	450.36	453.39	0.56	0.00	1.10	90.46
	NORMAL	1,628.0	29.46	97.57	1,520.15	-58.62	497.82	501.24	0.93	-0.92	0.36	168.94
	NORMAL	1,724.0	27.70	97.57	1,604.44	-64.67	543.34	547.17	1.83	-1.83	0.00	180.00
	NORMAL	1,820.0	28.05	96.87	1,689.31	-70.31	587.87	592.05	0.50	0.36	-0.73	316.61
	NORMAL	1,915.0	27.79	96.87	1,773.25	-75.63	632.03	636.53	0.27	-0.27	0.00	180.00
	NORMAL	2,010.0	27.26	97.92	1,857.49	-81.28	675.57	680.43	0.76	-0.56	1.11	137.99
	NORMAL	2,105.0	27.79	97.04	1,941.74	-86.99	719.10	724.33	0.70	0.56	-0.93	322.11
	NORMAL	2,200.0	27.00	97.39	2,026.09	-92.48	762.46	768.04	0.85	-0.83	0.37	168.63
	NORMAL	2,296.0	26.56	98.62	2,111.79	-98.50	805.30	811.29	0.74	-0.46	1.28	129.00
	NORMAL	2,391.0	25.24	98.27	2,197.25	-104.59	846.34	852.78	1.40	-1.39	-0.37	186.45
	NORMAL	2,486.0	24.27	99.15	2,283.52	-110.61	885.66	892.54	1.09	-1.02	0.93	159.60
	NORMAL	2,582.0	23.57	97.04	2,371.27	-116.10	924.19	931.45	1.15	-0.73	-2.20	229.75
	NORMAL	2,677.0	22.69	98.27	2,458.64	-121.07	961.17	968.77	1.06	-0.93	1.29	151.80
	NORMAL	2,772.0	21.19	96.51	2,546.75	-125.65	996.37	1,004.26	1.72	-1.58	-1.85	202.86
	NORMAL	2,867.0	19.96	97.22	2,635.69	-129.63	1,029.51	1,037.64	1.32	-1.29	0.75	168.86
	NORMAL	2,962.0	18.91	95.99	2,725.28	-133.28	1,060.91	1,069.25	1.19	-1.11	-1.29	200.72
	NORMAL	3,057.0	17.85	99.68	2,815.43	-137.33	1,090.57	1,099.19	1.66	-1.12	3.88	134.08
	NORMAL	3,152.0	16.00	96.69	2,906.32	-141.31	1,117.93	1,126.83	2.15	-1.95	-3.15	203.77
	NORMAL	3,247.0	15.04	98.97	2,997.85	-144.75	1,143.11	1,152.24	1.20	-1.01	2.40	148.66
	NORMAL	3,343.0	13.54	94.93	3,090.88	-147.66	1,166.62	1,175.92	1.88	-1.56	-4.21	211.67
	NORMAL	3,439.0	12.57	98.62	3,184.40	-150.19	1,188.14	1,197.60	1.33	-1.01	3.84	141.11
	NORMAL	3,534.0	11.43	101.26	3,277.32	-153.58	1,207.59	1,217.32	1.33	-1.20	2.78	155.58
7/9/2012	NORMAL	3,629.0	9.59	104.78	3,370.73	-157.44	1,224.48	1,234.55	2.05	-1.94	3.71	162.49
	NORMAL	3,725.0	8.27	101.96	3,465.56	-160.91	1,238.97	1,249.36	1.45	-1.38	-2.94	196.96
	NORMAL	3,821.0	7.65	101.61	3,560.64	-163.63	1,251.98	1,262.61	0.65	-0.65	-0.36	184.30
	NORMAL	3,917.0	6.59	102.84	3,655.90	-166.14	1,263.61	1,274.46	1.12	-1.10	1.28	172.43
	NORMAL	4,012.0	5.10	122.88	3,750.41	-169.64	1,272.47	1,283.69	2.64	-1.57	21.09	135.82
	NORMAL	4,107.0	3.87	87.90	3,845.13	-171.82	1,279.22	1,290.66	3.09	-1.29	-36.82	229.02
	NORMAL	4,203.0	2.46	87.20	3,940.98	-171.60	1,284.52	1,295.89	1.47	-1.47	-0.73	181.22
	NORMAL	4,298.0	0.97	63.82	4,035.94	-171.14	1,287.28	1,298.57	1.70	-1.57	-24.61	193.78
	NORMAL	4,393.0	1.50	238.90	4,130.93	-171.43	1,286.93	1,298.27	2.60	0.56	184.29	177.01
	NORMAL	4,489.0	1.41	234.50	4,226.90	-172.76	1,284.90	1,296.41	0.15	-0.09	-4.58	228.96
	NORMAL	4,584.0	1.14	231.16	4,321.88	-174.04	1,283.21	1,294.90	0.29	-0.28	-3.52	193.72
	NORMAL	4,680.0	0.79	259.46	4,417.86	-174.76	1,281.82	1,293.60	0.61	-0.36	29.48	139.88
	NORMAL	4,775.0	0.26	228.00	4,512.86	-175.02	1,281.01	1,292.84	0.61	-0.56	-33.12	193.43
	NORMAL	4,871.0	0.62	107.06	4,608.86	-175.32	1,281.35	1,293.21	0.82	0.38	-125.98	222.58
	NORMAL	4,966.0	1.32	100.21	4,703.84	-175.66	1,282.91	1,294.80	0.75	0.74	-7.21	347.16
	NORMAL	5,062.0	1.50	89.31	4,799.81	-175.84	1,285.26	1,297.15	0.34	0.19	-11.35	298.34
	NORMAL	5,156.0	1.14	100.38	4,893.79	-176.00	1,287.41	1,299.31	0.47	-0.38	11.78	150.14
	NORMAL	5,252.0	1.67	96.18	4,989.76	-176.32	1,289.74	1,301.66	0.56	0.55	-4.38	346.90
	NORMAL	5,348.0	1.38	109.70	5,085.73	-176.86	1,292.22	1,304.19	0.48	-0.30	14.08	135.50
7/10/2012	NORMAL	5,443.0	0.79	198.64	5,180.71	-178.34	1,293.05	1,305.17	1.66	-0.62	93.62	149.95
	NORMAL	5,539.0	0.70	200.75	5,276.71	-179.51	1,292.63	1,304.92	0.10	-0.09	2.20	164.10
	NORMAL	5,632.0	0.88	190.56	5,369.70	-180.75	1,292.30	1,304.75	0.24	0.19	-10.96	316.86
	NORMAL	5,727.0	0.88	162.08	5,464.69	-182.16	1,292.39	1,305.01	0.46	0.00	-29.98	255.76
	NORMAL	5,822.0	0.88	144.68	5,559.68	-183.45	1,293.03	1,305.81	0.28	0.00	-18.32	261.30
	NORMAL	5,916.0	1.05	145.21	5,653.66	-184.74	1,293.94	1,306.88	0.18	0.18	0.56	3.27
	NORMAL	6,012.0	0.26	13.90	5,749.66	-185.25	1,294.50	1,307.49	1.29	-0.82	-136.78	189.08
	NORMAL	6,108.0	0.97	334.17	5,845.65	-184.31	1,294.19	1,307.07	0.82	0.74	-41.39	308.09
	NORMAL	6,203.0	1.41	324.85	5,940.63	-182.63	1,293.17	1,305.85	0.50	0.46	-9.81	331.55

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 (°)
7/10/2012	NORMAL	6,299.0	1.32	336.46	6,036.60	-180.65	1,292.05	1,304.49	0.30	-0.09	12.09	113.77
7/11/2012	NORMAL	6,394.0	1.41	355.79	6,131.58	-178.48	1,291.53	1,303.70	0.49	0.09	20.35	88.71
	NORMAL	6,490.0	1.32	3.53	6,227.55	-176.20	1,291.51	1,303.40	0.21	-0.09	8.06	119.85
	NORMAL	6,585.0	1.23	18.64	6,322.53	-174.14	1,291.90	1,303.53	0.37	-0.09	15.91	112.46
	NORMAL	6,681.0	1.32	31.12	6,418.50	-172.22	1,292.80	1,304.19	0.30	0.09	13.00	78.35
	NORMAL	6,777.0	1.50	38.33	6,514.47	-170.29	1,294.15	1,305.28	0.26	0.19	7.51	48.23
	NORMAL	6,872.0	2.02	46.59	6,609.43	-168.16	1,296.14	1,306.99	0.61	0.55	8.69	30.17
	NORMAL	6,968.0	2.20	48.88	6,705.36	-165.79	1,298.76	1,309.29	0.21	0.19	2.39	26.25
	NORMAL	7,063.0	2.55	32.00	6,800.28	-162.80	1,301.25	1,311.39	0.82	0.37	-17.77	287.98
	NORMAL	7,159.0	2.29	21.98	6,896.20	-159.21	1,303.10	1,312.78	0.52	-0.27	-10.44	233.49
	NORMAL	7,254.0	2.73	29.37	6,991.11	-155.47	1,304.92	1,314.12	0.57	0.46	7.78	40.07
	NORMAL	7,350.0	2.81	30.60	7,086.99	-151.46	1,307.24	1,315.92	0.10	0.08	1.28	37.23
	NORMAL	7,440.0	2.73	32.00	7,176.89	-147.74	1,309.50	1,317.70	0.12	-0.09	1.56	140.48

3 Charts

3.1 Vertical Section View



3.2 Plan View

