

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	KP 443-21	Wellbore No.	
Well Name	KP 443-21	Common Name	KP 443-21
Project	KP 28-06S-091W	Site	KP 41-28 Pad
Vertical Section Azimuth	355.22 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	2/24/2012	UWI	KP 443-21
Active Datum	KB @7,079.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	2/24/2012	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 (°)
2/24/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/24/2012	NORMAL	78.0	0.09	231.50	78.00	-0.04	-0.05	-0.03	0.12	0.12	0.00	231.50
	NORMAL	162.0	3.34	2.72	161.95	2.37	0.02	2.36	4.05	3.87	156.21	132.36
	NORMAL	254.0	4.93	356.22	253.71	8.99	-0.12	8.97	1.80	1.73	-7.07	340.32
	NORMAL	345.0	5.72	353.94	344.32	17.40	-0.85	17.41	0.90	0.87	-2.51	343.87
	NORMAL	436.0	7.21	354.20	434.74	27.59	-1.91	27.65	1.64	1.64	0.29	1.25
2/25/2012	NORMAL	527.0	10.65	358.15	524.62	41.68	-2.76	41.77	3.84	3.78	4.34	12.06
	NORMAL	617.0	13.11	353.85	612.69	60.14	-4.12	60.28	2.90	2.73	-4.78	338.09
	NORMAL	709.0	15.84	354.64	701.76	83.02	-6.41	83.27	2.98	2.97	0.86	4.52
	NORMAL	799.0	18.83	354.99	787.66	109.73	-8.83	110.08	3.32	3.32	0.39	2.16
	NORMAL	889.0	21.03	352.88	872.27	140.22	-12.10	140.74	2.57	2.44	-2.34	340.90
	NORMAL	970.0	23.52	355.39	947.22	170.76	-15.20	171.43	3.29	3.07	3.10	22.08
	NORMAL	1,065.0	25.75	355.77	1,033.57	210.24	-18.25	211.03	2.35	2.35	0.40	4.24
	NORMAL	1,159.0	28.45	356.08	1,117.24	252.95	-21.28	253.84	2.88	2.87	0.33	3.13
	NORMAL	1,254.0	30.81	356.07	1,199.81	299.80	-24.50	300.80	2.48	2.48	-0.01	359.88
	NORMAL	1,346.0	32.80	356.35	1,277.99	348.18	-27.70	349.28	2.17	2.16	0.30	4.36
2/26/2012	NORMAL	1,441.0	33.94	357.30	1,357.33	400.35	-30.59	401.51	1.32	1.20	1.00	25.02
	NORMAL	1,537.0	34.16	355.33	1,436.87	453.99	-34.04	455.25	1.17	0.23	-2.05	280.46
	NORMAL	1,632.0	32.50	354.37	1,516.25	505.97	-38.72	507.44	1.83	-1.75	-1.01	197.23
	NORMAL	1,728.0	32.55	354.35	1,597.19	557.34	-43.79	559.05	0.05	0.05	-0.02	347.85
	NORMAL	1,823.0	31.50	353.13	1,677.73	607.42	-49.28	609.41	1.30	-1.11	-1.28	211.12

2.1.2 Survey Stations (Continued)

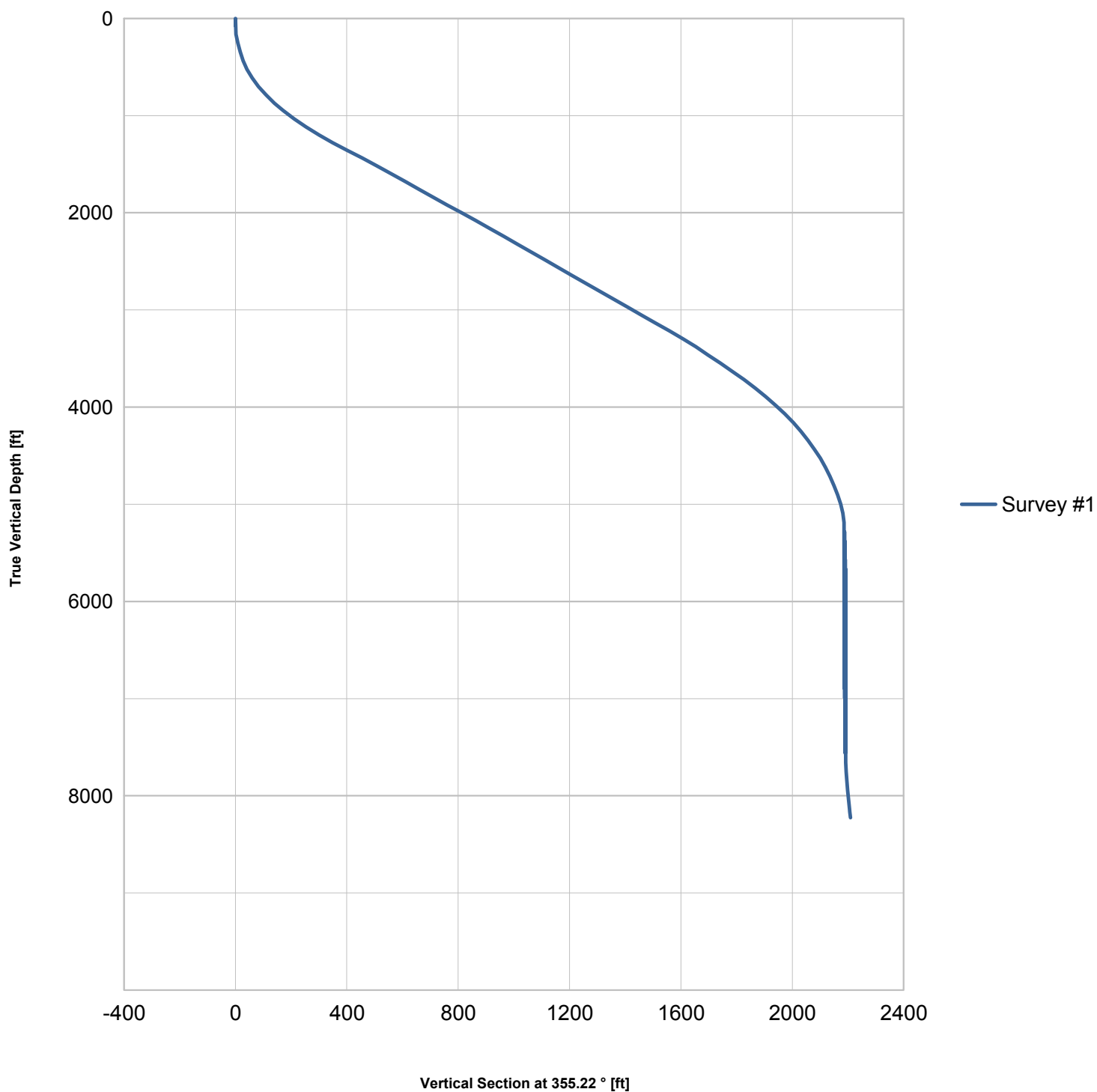
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
2/26/2012	NORMAL	1,918.0	31.62	353.54	1,758.68	656.80	-55.05	659.10	0.26	0.13	0.43	60.96
2/27/2012	NORMAL	2,014.0	32.10	354.50	1,840.22	707.20	-60.32	709.76	0.73	0.50	1.00	46.96
	NORMAL	2,109.0	32.57	355.05	1,920.49	757.80	-64.95	760.58	0.58	0.49	0.58	32.28
	NORMAL	2,204.0	33.33	355.21	2,000.20	809.28	-69.34	812.25	0.81	0.80	0.17	6.60
	NORMAL	2,299.0	31.90	354.62	2,080.22	860.28	-73.87	863.45	1.54	-1.51	-0.62	192.29
	NORMAL	2,394.0	31.65	354.27	2,160.98	910.07	-78.71	913.47	0.33	-0.26	-0.37	216.25
	NORMAL	2,490.0	31.39	355.82	2,242.82	960.07	-83.05	963.65	0.89	-0.27	1.61	108.45
	NORMAL	2,585.0	31.19	355.46	2,324.00	1,009.27	-86.80	1,012.99	0.29	-0.21	-0.38	222.92
	NORMAL	2,680.0	31.60	356.40	2,405.09	1,058.63	-90.31	1,062.47	0.67	0.43	0.99	50.46
	NORMAL	2,775.0	31.73	356.14	2,485.95	1,108.40	-93.55	1,112.34	0.20	0.14	-0.27	313.49
	NORMAL	2,869.0	31.37	356.58	2,566.06	1,157.48	-96.68	1,161.51	0.45	-0.38	0.47	147.59
	NORMAL	2,964.0	30.95	355.93	2,647.35	1,206.53	-99.88	1,210.66	0.57	-0.44	-0.68	218.41
	NORMAL	3,060.0	31.12	355.24	2,729.61	1,255.88	-103.70	1,260.15	0.41	0.18	-0.72	295.25
	NORMAL	3,155.0	31.71	355.29	2,810.68	1,305.23	-107.78	1,309.67	0.62	0.62	0.05	2.55
	NORMAL	3,250.0	31.74	354.85	2,891.49	1,355.00	-112.08	1,359.62	0.25	0.03	-0.46	277.20
	NORMAL	3,345.0	31.22	354.37	2,972.51	1,404.38	-116.73	1,409.23	0.61	-0.55	-0.51	205.53
	NORMAL	3,440.0	31.57	354.59	3,053.60	1,453.64	-121.49	1,458.71	0.39	0.37	0.23	18.22
	NORMAL	3,535.0	31.74	354.32	3,134.46	1,503.27	-126.31	1,508.56	0.23	0.18	-0.28	320.07
	NORMAL	3,631.0	31.84	353.79	3,216.06	1,553.57	-131.55	1,559.13	0.31	0.10	-0.55	289.48
	NORMAL	3,725.0	29.97	354.66	3,296.71	1,601.60	-136.42	1,607.40	2.05	-1.99	0.93	166.93
	NORMAL	3,819.0	28.16	356.74	3,378.87	1,647.13	-139.86	1,653.05	2.21	-1.93	2.21	151.73
	NORMAL	3,914.0	27.62	356.71	3,462.84	1,691.49	-142.40	1,697.47	0.57	-0.57	-0.03	181.48
	NORMAL	4,010.0	27.59	356.81	3,547.91	1,735.90	-144.92	1,741.94	0.06	-0.03	0.10	122.96
	NORMAL	4,105.0	26.45	356.83	3,632.54	1,779.00	-147.31	1,785.08	1.20	-1.20	0.02	179.55
2/28/2012	NORMAL	4,200.0	25.55	356.52	3,717.93	1,820.57	-149.73	1,826.71	0.96	-0.95	-0.33	188.45
	NORMAL	4,296.0	24.01	354.48	3,805.09	1,860.68	-152.86	1,866.94	1.83	-1.60	-2.13	208.12
	NORMAL	4,391.0	22.72	354.73	3,892.29	1,898.19	-156.41	1,904.62	1.36	-1.36	0.26	175.72
	NORMAL	4,486.0	20.74	357.29	3,980.54	1,933.26	-158.89	1,939.78	2.31	-2.08	2.69	155.60
	NORMAL	4,581.0	19.79	355.47	4,069.66	1,966.10	-160.95	1,972.67	1.20	-1.00	-1.92	212.72
	NORMAL	4,676.0	18.11	354.50	4,159.51	1,996.83	-163.64	2,003.52	1.80	-1.77	-1.02	190.16
	NORMAL	4,771.0	15.95	355.27	4,250.34	2,024.54	-166.13	2,031.34	2.29	-2.27	0.81	174.41
	NORMAL	4,866.0	14.16	355.38	4,342.07	2,049.13	-168.14	2,056.01	1.88	-1.88	0.12	179.14
	NORMAL	4,962.0	13.99	355.82	4,435.19	2,072.41	-169.93	2,079.36	0.21	-0.18	0.46	148.03
	NORMAL	5,056.0	12.06	355.61	4,526.77	2,093.53	-171.51	2,100.54	2.05	-2.05	-0.22	181.30
	NORMAL	5,151.0	10.35	356.75	4,619.95	2,111.95	-172.76	2,119.00	1.81	-1.80	1.20	173.18
	NORMAL	5,246.0	9.48	356.80	4,713.53	2,128.28	-173.68	2,135.35	0.92	-0.92	0.05	179.46
	NORMAL	5,341.0	8.43	359.46	4,807.37	2,143.05	-174.18	2,150.12	1.19	-1.11	2.80	159.79
	NORMAL	5,436.0	7.21	356.26	4,901.49	2,155.97	-174.63	2,163.02	1.36	-1.28	-3.37	198.06
2/29/2012	NORMAL	5,532.0	5.80	0.39	4,996.87	2,166.83	-174.99	2,173.88	1.55	-1.47	4.30	163.69
	NORMAL	5,627.0	3.69	1.36	5,091.54	2,174.69	-174.89	2,181.70	2.22	-2.22	1.02	178.31
	NORMAL	5,722.0	1.26	2.01	5,186.44	2,178.79	-174.78	2,185.77	2.56	-2.56	0.68	179.66
	NORMAL	5,818.0	0.84	345.41	5,282.43	2,180.52	-174.92	2,187.52	0.54	-0.44	-17.29	207.81
	NORMAL	5,913.0	0.72	347.94	5,377.42	2,181.78	-175.22	2,188.79	0.13	-0.13	2.66	165.25
	NORMAL	6,008.0	0.34	350.81	5,472.41	2,182.64	-175.39	2,189.67	0.40	-0.40	3.02	177.44
	NORMAL	6,104.0	0.57	343.32	5,568.41	2,183.38	-175.57	2,190.42	0.25	0.24	-7.80	341.74
	NORMAL	6,199.0	0.68	78.75	5,663.41	2,183.94	-175.16	2,190.94	0.98	0.12	100.45	133.14
	NORMAL	6,294.0	0.75	71.89	5,758.40	2,184.25	-174.01	2,191.15	0.12	0.07	-7.22	305.81
	NORMAL	6,390.0	0.19	132.64	5,854.40	2,184.34	-173.30	2,191.18	0.71	-0.58	63.28	165.84
3/1/2012	NORMAL	6,485.0	0.35	282.01	5,949.40	2,184.29	-173.47	2,191.15	0.55	0.17	157.23	160.05
	NORMAL	6,578.0	0.40	211.10	6,042.39	2,184.07	-173.91	2,190.97	0.47	0.05	-76.25	239.89
3/2/2012	NORMAL	6,674.0	0.53	178.03	6,138.39	2,183.34	-174.07	2,190.25	0.30	0.14	-34.45	278.68
	NORMAL	6,767.0	0.72	238.00	6,231.39	2,182.60	-174.55	2,189.55	0.69	0.20	64.48	105.23
	NORMAL	6,862.0	0.35	206.93	6,326.38	2,182.02	-175.19	2,189.03	0.48	-0.39	-32.71	203.26
	NORMAL	6,958.0	0.71	210.07	6,422.38	2,181.25	-175.62	2,188.30	0.38	0.38	3.27	6.18
	NORMAL	7,053.0	0.64	206.13	6,517.37	2,180.26	-176.15	2,187.36	0.09	-0.07	-4.15	211.59
	NORMAL	7,147.0	0.17	216.64	6,611.37	2,179.68	-176.46	2,186.80	0.50	-0.50	11.18	176.25
	NORMAL	7,243.0	0.23	35.38	6,707.37	2,179.72	-176.43	2,186.84	0.42	0.06	186.19	179.28

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 (°)
3/2/2012	NORMAL	7,338.0	0.44	32.82	6,802.37	2,180.18	-176.13	2,187.28	0.22	0.22	-2.69	354.64
	NORMAL	7,433.0	0.39	325.11	6,897.37	2,180.76	-176.11	2,187.85	0.49	-0.05	-71.27	231.01
	NORMAL	7,528.0	0.52	353.42	6,992.36	2,181.45	-176.35	2,188.56	0.27	0.14	29.80	74.63
	NORMAL	7,624.0	0.05	69.04	7,088.36	2,181.90	-176.36	2,189.00	0.53	-0.49	78.77	174.55
3/3/2012	NORMAL	7,719.0	0.27	107.36	7,183.36	2,181.85	-176.11	2,188.93	0.25	0.23	40.34	45.97
	NORMAL	7,814.0	0.35	79.05	7,278.36	2,181.83	-175.61	2,188.88	0.18	0.08	-29.80	282.94
	NORMAL	7,910.0	0.21	44.58	7,374.36	2,182.01	-175.20	2,189.02	0.22	-0.15	-35.91	213.90
	NORMAL	8,005.0	0.48	4.85	7,469.36	2,182.54	-175.04	2,189.53	0.36	0.28	-41.82	297.42
	NORMAL	8,100.0	0.65	5.18	7,564.35	2,183.47	-174.96	2,190.45	0.18	0.18	0.35	1.26
	NORMAL	8,195.0	1.02	351.85	7,659.34	2,184.84	-175.03	2,191.83	0.44	0.39	-14.03	325.53
3/4/2012	NORMAL	8,290.0	1.27	333.71	7,754.32	2,186.62	-175.62	2,193.65	0.46	0.26	-19.09	295.30
	NORMAL	8,386.0	1.72	325.11	7,850.29	2,188.76	-176.91	2,195.89	0.52	0.47	-8.96	329.16
	NORMAL	8,481.0	2.20	328.05	7,945.23	2,191.48	-178.69	2,198.74	0.52	0.51	3.09	13.30
	NORMAL	8,576.0	2.25	328.63	8,040.16	2,194.61	-180.63	2,202.03	0.06	0.05	0.61	24.53
	NORMAL	8,673.0	2.29	335.17	8,137.09	2,198.00	-182.43	2,205.56	0.27	0.04	6.74	84.50
	NORMAL	8,701.0	2.26	333.07	8,165.06	2,199.00	-182.92	2,206.59	0.32	-0.11	-7.50	249.16
	NORMAL	8,761.0	2.20	328.57	8,225.02	2,201.04	-184.05	2,208.72	0.31	-0.10	-7.50	248.85

3 Charts

3.1 Vertical Section View



3.2 Plan View

