

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	KP 423-21	Wellbore No.	1
Well Name	KP 423-21	Common Name	KP 423-21
Project	KP 21-06S-091W	Site	KP 33-21 Pad
Vertical Section Azimuth	284.34 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	9/22/2011	UWI	KP 423-21
Active Datum	KB @6,992.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Scientific Drilling
Date Started	9/22/2011	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 (°)
9/22/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/22/2011	NORMAL	71.0	0.70	289.07	71.00	0.14	-0.41	0.43	0.99	0.99	0.00	289.07
	NORMAL	163.0	2.20	288.37	162.97	0.88	-2.62	2.75	1.63	1.63	-0.76	358.97
	NORMAL	240.0	3.43	273.53	239.87	1.49	-6.32	6.49	1.84	1.60	-19.27	321.80
	NORMAL	331.0	4.48	262.28	330.66	1.18	-12.56	12.46	1.43	1.15	-12.36	317.84
	NORMAL	423.0	5.92	283.36	422.28	1.79	-20.74	20.53	2.58	1.57	22.91	63.81
	NORMAL	514.0	9.26	286.82	512.47	5.00	-32.31	32.54	3.70	3.67	3.80	9.51
	NORMAL	605.0	11.87	289.52	601.92	10.24	-48.15	49.18	2.92	2.87	2.97	12.07
	NORMAL	696.0	14.32	287.99	690.55	16.85	-67.67	69.74	2.72	2.69	-1.68	351.20
	NORMAL	787.0	15.96	286.25	778.39	23.83	-90.39	93.47	1.87	1.80	-1.91	343.67
	NORMAL	879.0	16.65	286.25	866.69	31.05	-115.19	119.29	0.75	0.75	0.00	0.00
	NORMAL	970.0	17.30	285.71	953.72	38.36	-140.73	145.85	0.73	0.71	-0.59	346.11
	NORMAL	1,030.0	17.62	286.03	1,010.96	43.29	-158.04	163.84	0.56	0.53	0.53	16.85
9/23/2011	NORMAL	1,162.0	18.13	285.43	1,136.59	54.27	-197.04	204.35	0.41	0.39	-0.45	339.86
	NORMAL	1,256.0	18.57	280.57	1,225.81	60.91	-225.86	233.91	1.69	0.47	-5.17	283.73
9/24/2011	NORMAL	1,351.0	17.63	282.91	1,316.11	66.90	-254.75	263.38	1.25	-0.99	2.46	143.39
	NORMAL	1,445.0	17.70	283.08	1,405.68	73.31	-282.54	291.90	0.09	0.07	0.18	36.47
	NORMAL	1,540.0	17.55	282.19	1,496.22	79.60	-310.61	320.65	0.32	-0.16	-0.94	240.47
	NORMAL	1,634.0	18.44	284.39	1,585.62	86.29	-338.87	349.68	1.19	0.95	2.34	38.42
	NORMAL	1,728.0	17.29	285.37	1,675.09	93.69	-366.74	378.51	1.26	-1.22	1.04	165.82
	NORMAL	1,823.0	17.23	286.18	1,765.81	101.35	-393.86	406.69	0.26	-0.06	0.85	104.40

## 2.1.2 Survey Stations (Continued)

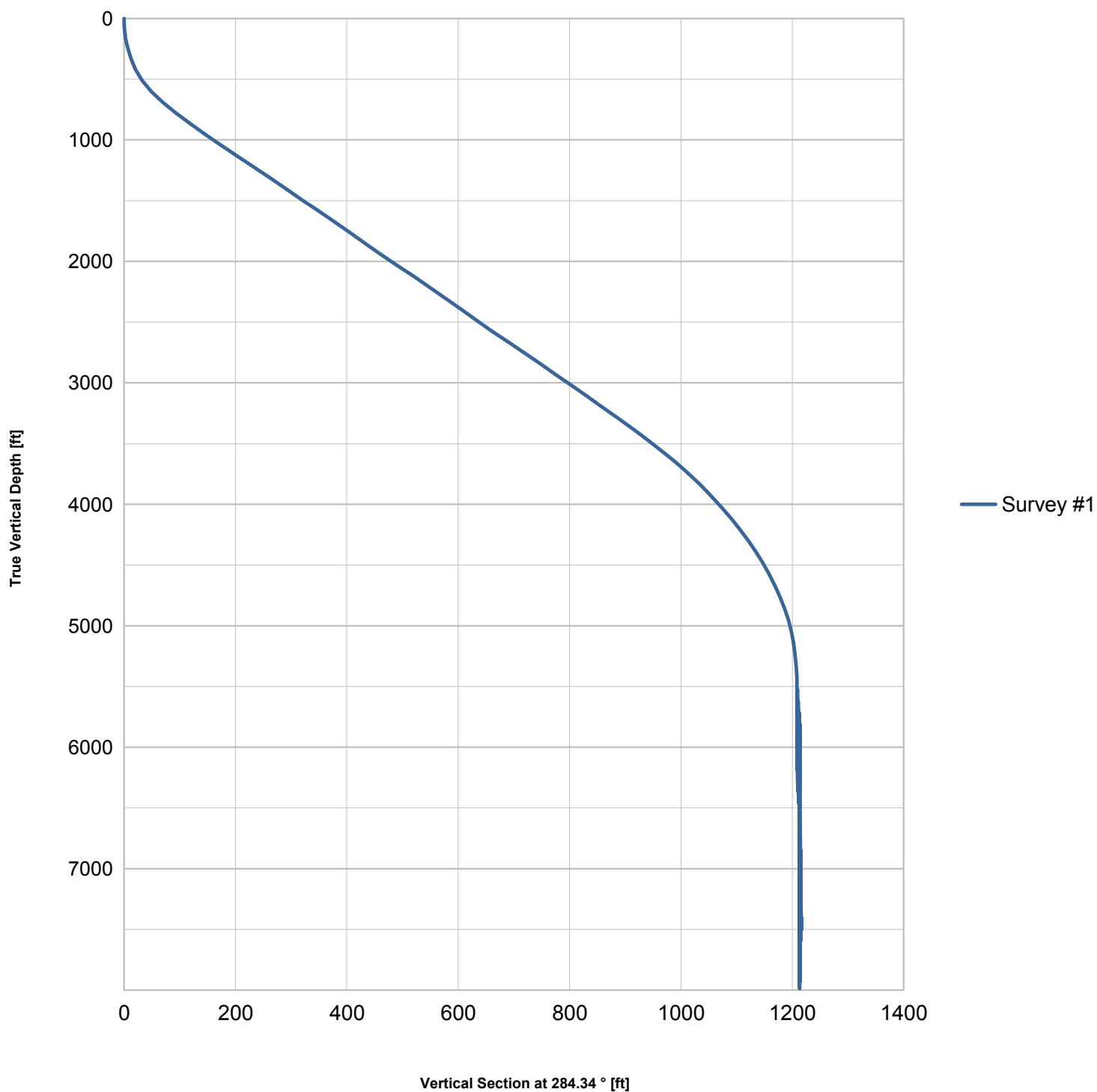
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
9/24/2011	NORMAL	1,916.0	16.73	284.68	1,854.76	108.58	-420.04	433.84	0.71	-0.54	-1.61	220.51
	NORMAL	2,009.0	17.46	282.13	1,943.65	114.90	-446.63	461.17	1.12	0.78	-2.74	313.02
	NORMAL	2,103.0	18.63	283.78	2,033.02	121.44	-475.00	490.28	1.36	1.24	1.76	24.38
	NORMAL	2,198.0	17.84	284.54	2,123.25	128.71	-503.82	520.00	0.87	-0.83	0.80	163.61
	NORMAL	2,292.0	17.41	284.16	2,212.84	135.77	-531.40	548.47	0.47	-0.46	-0.40	194.80
	NORMAL	2,386.0	17.46	283.85	2,302.52	142.58	-558.72	576.63	0.11	0.05	-0.33	298.15
	NORMAL	2,481.0	17.21	283.67	2,393.21	149.32	-586.22	604.93	0.27	-0.26	-0.19	192.02
	NORMAL	2,575.0	16.80	281.79	2,483.10	155.38	-613.03	632.41	0.73	-0.44	-2.00	232.39
	NORMAL	2,670.0	17.85	282.14	2,573.79	161.25	-640.70	660.68	1.11	1.11	0.37	5.84
	NORMAL	2,764.0	18.27	281.31	2,663.15	167.17	-669.23	689.79	0.52	0.45	-0.88	328.11
	NORMAL	2,858.0	17.66	284.20	2,752.57	173.55	-697.51	718.76	1.15	-0.65	3.07	125.75
	NORMAL	2,952.0	17.46	282.82	2,842.19	180.18	-725.08	747.11	0.49	-0.21	-1.47	243.69
	NORMAL	3,046.0	17.23	286.27	2,931.92	187.21	-752.19	775.13	1.12	-0.24	3.67	104.25
	NORMAL	3,140.0	17.94	284.69	3,021.53	194.78	-779.56	803.52	0.91	0.76	-1.68	325.33
	NORMAL	3,234.0	17.06	287.33	3,111.18	202.56	-806.73	831.76	1.26	-0.94	2.81	139.20
	NORMAL	3,328.0	17.23	286.73	3,201.00	210.67	-833.23	859.44	0.26	0.18	-0.64	313.58
	NORMAL	3,421.0	17.06	286.80	3,289.87	218.58	-859.48	886.83	0.18	-0.18	0.08	173.11
	NORMAL	3,516.0	16.44	286.54	3,380.84	226.44	-885.70	914.19	0.66	-0.65	-0.27	186.77
	NORMAL	3,610.0	16.09	289.08	3,471.08	234.48	-910.77	940.46	0.84	-0.37	2.70	117.41
	NORMAL	3,706.0	15.22	285.80	3,563.52	242.26	-935.46	966.32	1.29	-0.91	-3.42	223.92
	NORMAL	3,800.0	14.51	285.75	3,654.37	248.82	-958.67	990.43	0.76	-0.76	-0.05	181.01
	NORMAL	3,895.0	13.74	283.09	3,746.50	254.60	-981.11	1,013.60	1.06	-0.81	-2.80	218.85
	NORMAL	3,989.0	12.29	282.65	3,838.08	259.32	-1,001.75	1,034.77	1.55	-1.54	-0.47	183.70
	NORMAL	4,083.0	11.05	283.87	3,930.14	263.67	-1,020.26	1,053.77	1.34	-1.32	1.30	169.34
9/25/2011	NORMAL	4,177.0	11.43	287.50	4,022.33	268.63	-1,037.89	1,072.08	0.85	0.40	3.86	63.55
	NORMAL	4,271.0	10.55	286.98	4,114.61	273.95	-1,055.00	1,089.98	0.94	-0.94	-0.55	186.17
	NORMAL	4,366.0	9.29	284.80	4,208.19	278.45	-1,070.73	1,106.34	1.38	-1.33	-2.29	195.53
	NORMAL	4,459.0	8.87	278.11	4,300.02	281.38	-1,085.09	1,120.97	1.22	-0.45	-7.19	245.03
	NORMAL	4,553.0	8.20	275.02	4,392.98	282.98	-1,098.94	1,134.79	0.86	-0.71	-3.29	212.87
	NORMAL	4,648.0	7.46	276.18	4,487.10	284.24	-1,111.82	1,147.58	0.80	-0.78	1.22	168.52
	NORMAL	4,741.0	6.66	278.17	4,579.39	285.66	-1,123.16	1,158.92	0.90	-0.86	2.14	163.99
	NORMAL	4,836.0	5.78	278.18	4,673.83	287.12	-1,133.35	1,169.15	0.93	-0.93	0.01	179.93
	NORMAL	4,930.0	5.54	275.37	4,767.37	288.22	-1,142.55	1,178.34	0.39	-0.26	-2.99	227.72
	NORMAL	5,024.0	4.70	271.91	4,861.00	288.77	-1,150.92	1,186.58	0.95	-0.89	-3.68	198.47
	NORMAL	5,118.0	3.61	277.92	4,954.75	289.31	-1,157.70	1,193.28	1.25	-1.16	6.39	161.20
	NORMAL	5,213.0	2.64	278.93	5,049.61	290.06	-1,162.82	1,198.43	1.02	-1.02	1.06	177.26
	NORMAL	5,308.0	2.20	268.92	5,144.52	290.37	-1,166.81	1,202.37	0.64	-0.46	-10.54	218.92
	NORMAL	5,403.0	1.06	285.77	5,239.48	290.57	-1,169.48	1,205.01	1.29	-1.20	17.74	165.47
	NORMAL	5,498.0	1.20	276.67	5,334.46	290.92	-1,171.31	1,206.87	0.24	0.15	-9.58	303.35
	NORMAL	5,593.0	0.64	302.43	5,429.45	291.32	-1,172.75	1,208.36	0.72	-0.59	27.12	155.96
9/26/2011	NORMAL	5,683.0	0.44	286.33	5,519.45	291.69	-1,173.50	1,209.18	0.28	-0.22	-17.89	209.32
	NORMAL	5,782.0	1.14	270.22	5,618.44	291.80	-1,174.85	1,210.52	0.73	0.71	-16.27	334.23
	NORMAL	5,876.0	0.92	258.18	5,712.42	291.65	-1,176.53	1,212.10	0.33	-0.23	-12.81	218.62
	NORMAL	5,971.0	1.08	333.89	5,807.41	292.30	-1,177.67	1,213.37	1.30	0.17	79.69	121.97
	NORMAL	6,066.0	1.14	55.03	5,902.40	293.64	-1,177.29	1,213.33	1.52	0.06	85.41	128.76
	NORMAL	6,162.0	1.42	125.85	5,998.38	293.50	-1,175.54	1,211.60	1.56	0.29	73.77	116.66
	NORMAL	6,257.0	1.03	128.48	6,093.36	292.27	-1,173.92	1,209.73	0.41	-0.41	2.77	173.11
	NORMAL	6,352.0	0.44	188.54	6,188.35	291.38	-1,173.30	1,208.91	0.94	-0.62	63.22	154.80
	NORMAL	6,447.0	0.82	257.98	6,283.35	290.88	-1,174.02	1,209.49	0.82	0.40	73.09	101.20
9/27/2011	NORMAL	6,533.0	0.64	270.93	6,369.34	290.76	-1,175.10	1,210.50	0.28	-0.21	15.06	143.84
	NORMAL	6,628.0	0.97	291.37	6,464.33	291.06	-1,176.38	1,211.82	0.46	0.35	21.52	51.55
	NORMAL	6,723.0	0.79	203.83	6,559.32	290.76	-1,177.40	1,212.73	1.29	-0.19	-92.15	220.14
	NORMAL	6,817.0	0.71	231.02	6,653.31	289.80	-1,178.11	1,213.18	0.38	-0.09	28.93	116.03
	NORMAL	6,912.0	0.81	291.53	6,748.31	289.67	-1,179.19	1,214.20	0.81	0.11	63.69	113.82
	NORMAL	7,007.0	0.40	209.02	6,843.30	289.63	-1,179.98	1,214.95	0.90	-0.43	-86.85	207.62
	NORMAL	7,101.0	0.18	9.50	6,937.30	289.49	-1,180.11	1,215.04	0.61	-0.23	170.72	173.97
	NORMAL	7,196.0	0.45	334.59	7,032.30	289.97	-1,180.25	1,215.29	0.34	0.28	-36.75	306.28

### 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 (°)
9/27/2011	NORMAL	7,290.0	0.71	33.66	7,126.30	290.79	-1,180.08	1,215.34	0.65	0.28	62.84	97.95
	NORMAL	7,385.0	0.23	350.00	7,221.29	291.47	-1,179.79	1,215.22	0.60	-0.51	-45.96	196.28
	NORMAL	7,478.0	0.62	266.41	7,314.29	291.62	-1,180.33	1,215.78	0.68	0.42	-89.88	255.38
9/28/2011	NORMAL	7,572.0	0.67	305.89	7,408.29	291.91	-1,181.28	1,216.77	0.47	0.05	42.00	103.57
	NORMAL	7,667.0	1.23	74.72	7,503.28	292.50	-1,180.75	1,216.40	1.82	0.59	135.61	146.38
	NORMAL	7,762.0	1.14	73.23	7,598.26	293.05	-1,178.86	1,214.71	0.10	-0.09	-1.57	198.16
	NORMAL	7,857.0	0.70	26.56	7,693.25	293.84	-1,177.69	1,213.78	0.88	-0.46	-49.13	217.67
	NORMAL	7,951.0	1.14	13.99	7,787.24	295.26	-1,177.21	1,213.66	0.51	0.47	-13.37	328.99
	NORMAL	8,046.0	1.06	4.32	7,882.22	297.05	-1,176.91	1,213.82	0.21	-0.08	-10.18	241.90
	NORMAL	8,091.0	1.16	25.63	7,927.21	297.88	-1,176.69	1,213.80	0.94	0.22	47.36	87.19
	NORMAL	8,151.0	1.29	54.04	7,987.20	298.82	-1,175.88	1,213.25	1.02	0.22	47.35	92.36

### 3 Charts

#### 3.1 Vertical Section View



### 3.2 Plan View

