

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	KP 544-21	Wellbore No.	1
Well Name	KP 544-21	Common Name	KP 544-21
Project	KP 28-06S-091W	Site	KP 41-28 Pad
Vertical Section Azimuth	338.08 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	12/2/2011	UWI	KP 544-21
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	12/3/2011	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 (°)
12/3/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/3/2011	NORMAL	71.0	0.18	118.12	71.00	-0.05	0.10	-0.09	0.25	0.25	0.00	118.12
	NORMAL	162.0	0.35	349.10	162.00	0.15	0.17	0.08	0.53	0.19	-141.78	214.18
	NORMAL	253.0	1.41	329.68	252.99	1.39	-0.45	1.46	1.19	1.16	-21.34	334.43
	NORMAL	344.0	2.38	331.26	343.94	4.02	-1.92	4.44	1.07	1.07	1.74	3.87
	NORMAL	435.0	3.78	351.39	434.81	8.64	-3.28	9.24	1.92	1.54	22.12	48.03
	NORMAL	526.0	5.28	346.82	525.52	15.68	-4.68	16.30	1.69	1.65	-5.02	344.18
	NORMAL	616.0	6.60	334.42	615.04	24.38	-7.86	25.55	2.04	1.47	-13.78	309.53
	NORMAL	707.0	7.39	332.31	705.36	34.28	-12.84	36.59	0.91	0.87	-2.32	340.93
	NORMAL	783.0	7.13	335.99	780.75	42.92	-17.03	46.17	0.70	-0.34	4.84	121.03
	NORMAL	875.0	7.74	336.43	871.98	53.81	-21.83	58.07	0.67	0.66	0.48	5.55
	NORMAL	965.0	7.06	334.60	961.23	64.36	-26.62	69.65	0.80	-0.76	-2.03	198.21
	NORMAL	1,060.0	6.57	338.51	1,055.56	74.69	-31.12	80.91	0.71	-0.52	4.12	138.49
	NORMAL	1,152.0	6.63	339.95	1,146.95	84.58	-34.87	91.48	0.19	0.07	1.57	70.79
	NORMAL	1,247.0	6.86	339.50	1,241.29	95.04	-38.73	102.63	0.25	0.24	-0.47	346.83
	NORMAL	1,285.0	7.25	340.38	1,279.00	99.43	-40.33	107.30	1.06	1.03	2.32	15.93
12/4/2011	NORMAL	1,438.0	8.09	342.22	1,430.63	118.77	-46.86	127.68	0.57	0.55	1.20	17.21
	NORMAL	1,533.0	5.96	336.64	1,524.91	129.67	-50.86	139.28	2.35	-2.24	-5.87	195.01
12/5/2011	NORMAL	1,627.0	5.83	337.04	1,618.42	138.54	-54.66	148.93	0.15	-0.14	0.43	162.66
	NORMAL	1,721.0	6.89	338.13	1,711.84	148.17	-58.62	159.35	1.13	1.13	1.16	7.04
	NORMAL	1,816.0	7.04	338.88	1,806.14	158.89	-62.84	170.86	0.18	0.16	0.79	31.60

2.1.2 Survey Stations (Continued)

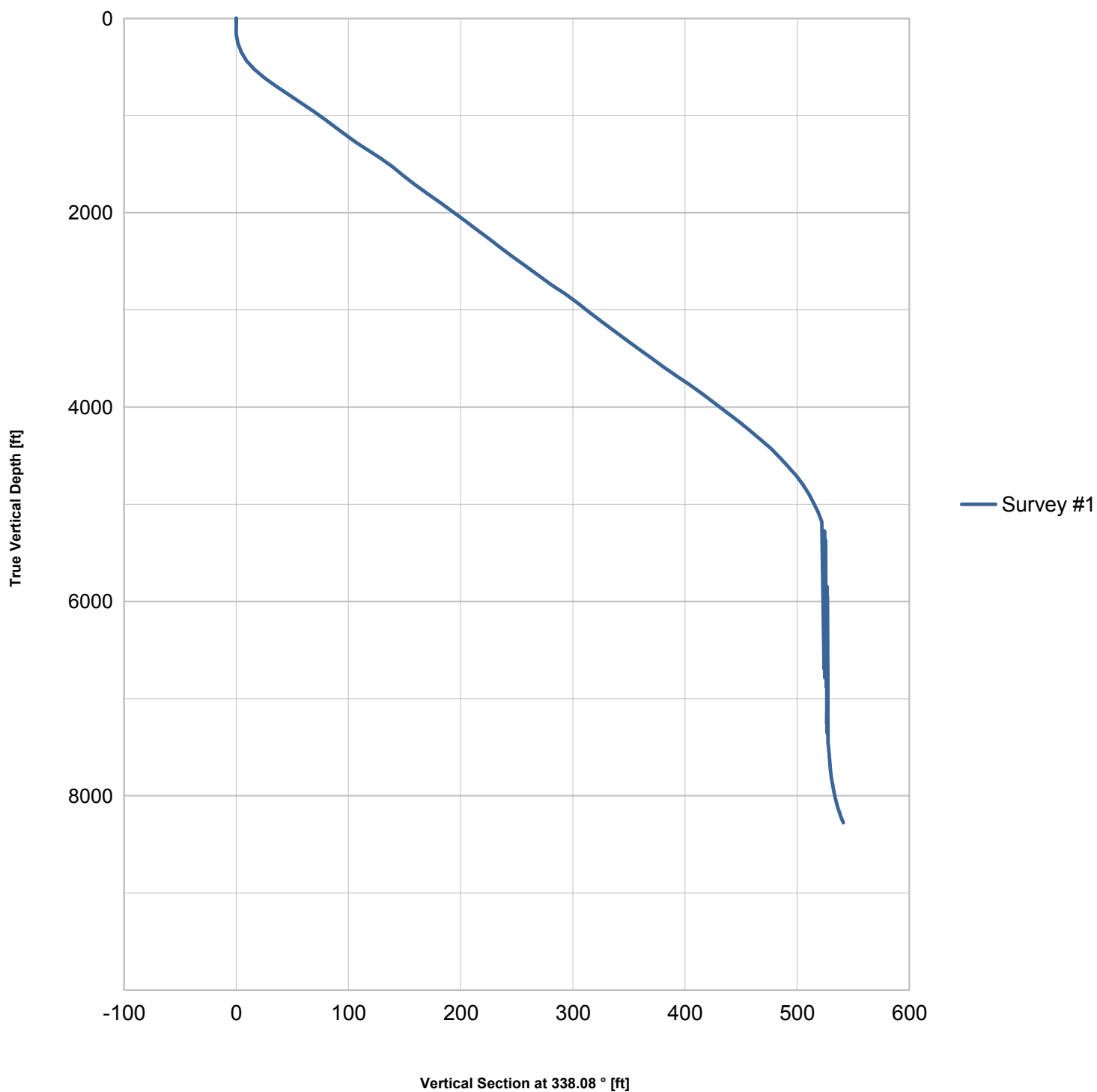
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
12/5/2011	NORMAL	1,910.0	6.83	338.79	1,899.45	169.48	-66.94	182.21	0.22	-0.22	-0.10	182.92
	NORMAL	2,005.0	6.74	337.49	1,993.78	179.89	-71.12	193.44	0.19	-0.09	-1.37	238.99
	NORMAL	2,100.0	6.65	338.28	2,088.13	190.15	-75.29	204.51	0.14	-0.09	0.83	134.73
	NORMAL	2,194.0	6.58	337.97	2,181.51	200.20	-79.32	215.34	0.08	-0.07	-0.33	206.87
	NORMAL	2,288.0	6.60	338.98	2,274.89	210.24	-83.28	226.13	0.13	0.02	1.07	80.71
	NORMAL	2,381.0	6.24	338.19	2,367.30	219.92	-87.07	236.53	0.40	-0.39	-0.85	193.39
	NORMAL	2,475.0	6.96	337.26	2,460.68	229.91	-91.17	247.33	0.77	0.77	-0.99	351.09
	NORMAL	2,569.0	6.97	340.95	2,553.99	240.56	-95.24	258.72	0.48	0.01	3.93	90.55
	NORMAL	2,664.0	6.40	337.39	2,648.34	250.89	-99.15	269.77	0.74	-0.60	-3.75	214.26
12/6/2011	NORMAL	2,758.0	7.29	334.83	2,741.67	261.13	-103.70	280.96	1.00	0.95	-2.72	339.80
	NORMAL	2,853.0	7.48	334.53	2,835.88	272.17	-108.93	293.15	0.20	0.20	-0.32	348.38
	NORMAL	2,948.0	6.31	338.57	2,930.19	282.61	-113.49	304.55	1.33	-1.23	4.25	159.48
	NORMAL	3,042.0	6.31	333.50	3,023.63	292.04	-117.69	314.86	0.59	0.00	-5.39	267.48
	NORMAL	3,136.0	6.64	338.34	3,117.03	301.71	-122.00	325.44	0.68	0.35	5.15	61.26
	NORMAL	3,230.0	6.68	337.75	3,210.39	311.83	-126.07	336.35	0.08	0.04	-0.63	300.02
	NORMAL	3,324.0	6.52	338.06	3,303.77	321.84	-130.14	347.15	0.17	-0.17	0.33	167.60
	NORMAL	3,418.0	6.95	338.36	3,397.12	332.07	-134.23	358.17	0.46	0.46	0.32	4.83
	NORMAL	3,513.0	6.68	337.13	3,491.45	342.51	-138.50	369.45	0.32	-0.28	-1.29	207.79
	NORMAL	3,608.0	7.19	339.83	3,585.75	353.18	-142.69	380.91	0.64	0.54	2.84	33.93
	NORMAL	3,702.0	7.12	338.89	3,679.02	364.13	-146.82	392.62	0.15	-0.07	-1.00	238.66
	NORMAL	3,796.0	7.12	337.57	3,772.30	374.95	-151.14	404.27	0.17	0.00	-1.40	269.35
	NORMAL	3,890.0	6.60	335.72	3,865.62	385.26	-155.58	415.49	0.60	-0.55	-1.97	202.11
	NORMAL	3,984.0	6.60	334.05	3,959.00	395.04	-160.17	426.28	0.20	0.00	-1.78	269.17
	NORMAL	4,078.0	6.52	338.95	4,052.39	404.88	-164.45	437.00	0.60	-0.09	5.21	100.56
	NORMAL	4,172.0	6.35	338.42	4,145.79	414.70	-168.28	447.54	0.19	-0.18	-0.56	199.00
	NORMAL	4,266.0	5.93	340.65	4,239.26	424.11	-171.80	457.59	0.51	-0.45	2.37	151.51
	NORMAL	4,360.0	5.96	338.66	4,332.75	433.24	-175.19	467.32	0.22	0.03	-2.12	277.29
	NORMAL	4,453.0	5.36	341.97	4,425.30	441.87	-178.29	476.48	0.73	-0.65	3.56	153.09
	NORMAL	4,548.0	4.63	346.93	4,519.94	449.82	-180.53	484.69	0.89	-0.77	5.22	151.85
	NORMAL	4,642.0	4.47	340.88	4,613.64	456.98	-182.58	492.10	0.54	-0.17	-6.44	248.56
	NORMAL	4,736.0	4.38	349.18	4,707.36	463.96	-184.46	499.28	0.69	-0.10	8.83	102.12
12/7/2011	NORMAL	4,829.0	3.25	346.80	4,800.15	470.02	-185.73	505.37	1.23	-1.22	-2.56	186.79
	NORMAL	4,923.0	2.93	339.17	4,894.02	474.86	-187.19	510.41	0.55	-0.34	-8.12	228.35
	NORMAL	5,018.0	2.36	346.22	4,988.91	479.03	-188.52	514.77	0.69	-0.60	7.42	153.77
	NORMAL	5,113.0	2.36	348.27	5,083.83	482.84	-189.38	518.64	0.09	0.00	2.16	91.02
	NORMAL	5,208.0	1.57	348.33	5,178.78	486.03	-190.04	521.84	0.83	-0.83	0.06	179.88
	NORMAL	5,302.0	1.40	347.04	5,272.75	488.41	-190.56	524.24	0.18	-0.18	-1.37	190.48
	NORMAL	5,397.0	0.42	68.70	5,367.74	489.67	-190.50	525.39	1.48	-1.03	85.96	162.76
	NORMAL	5,493.0	0.35	149.76	5,463.73	489.54	-190.02	525.09	0.52	-0.07	84.44	136.60
	NORMAL	5,588.0	0.48	158.04	5,558.73	488.93	-189.73	524.41	0.15	0.14	8.72	28.94
	NORMAL	5,683.0	0.66	297.08	5,653.73	488.81	-190.07	524.42	1.13	0.19	146.36	156.14
	NORMAL	5,777.0	0.70	291.60	5,747.72	489.26	-191.08	525.23	0.08	0.04	-5.83	298.83
	NORMAL	5,873.0	1.06	301.80	5,843.71	489.95	-192.38	526.34	0.41	0.38	10.63	28.67
	NORMAL	5,968.0	0.35	156.34	5,938.71	490.14	-193.01	526.76	1.43	-0.75	-153.12	188.37
	NORMAL	6,061.0	0.70	96.40	6,031.70	489.82	-192.33	526.21	0.65	0.38	-64.45	270.06
	NORMAL	6,156.0	0.88	106.59	6,126.69	489.55	-191.06	525.48	0.24	0.19	10.73	43.14
	NORMAL	6,250.0	0.26	273.67	6,220.69	489.36	-190.58	525.12	1.21	-0.66	177.74	177.06
	NORMAL	6,343.0	0.35	277.37	6,313.69	489.41	-191.07	525.35	0.10	0.10	3.98	14.20
	NORMAL	6,438.0	0.44	157.13	6,408.69	489.11	-191.22	525.13	0.72	0.09	-126.57	213.63
	NORMAL	6,532.0	0.55	198.20	6,502.69	488.35	-191.22	524.42	0.39	0.12	43.69	94.01
	NORMAL	6,627.0	0.44	211.01	6,597.68	487.60	-191.55	523.86	0.16	-0.12	13.48	141.11
	NORMAL	6,723.0	0.35	350.84	6,693.68	487.57	-191.78	523.92	0.77	-0.09	145.66	162.30
12/8/2011	NORMAL	6,817.0	0.72	336.29	6,787.68	488.40	-192.07	524.79	0.42	0.39	-15.48	332.46
	NORMAL	6,912.0	1.02	292.40	6,882.67	489.27	-193.09	525.98	0.74	0.32	-46.20	271.23
	NORMAL	7,006.0	0.36	256.28	6,976.66	489.51	-194.15	526.60	0.81	-0.70	-38.43	196.23
	NORMAL	7,102.0	0.09	173.71	7,072.66	489.37	-194.43	526.57	0.37	-0.28	-86.01	194.37
	NORMAL	7,197.0	0.26	89.81	7,167.66	489.29	-194.21	526.42	0.28	0.18	-88.32	256.44

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 (°)
12/10/2011	NORMAL	7,292.0	0.12	60.23	7,262.66	489.34	-193.91	526.36	0.18	-0.15	-31.14	200.84
	NORMAL	7,387.0	0.44	344.87	7,357.66	489.75	-193.92	526.73	0.45	0.34	-79.33	268.82
	NORMAL	7,480.0	0.53	327.99	7,450.65	490.46	-194.24	527.51	0.18	0.10	-18.15	293.58
	NORMAL	7,575.0	0.50	307.09	7,545.65	491.08	-194.80	528.30	0.20	-0.03	-22.00	250.58
	NORMAL	7,668.0	0.44	291.96	7,638.65	491.46	-195.46	528.89	0.15	-0.06	-16.27	236.77
12/11/2011	NORMAL	7,763.0	0.88	289.85	7,733.64	491.84	-196.48	529.63	0.46	0.46	-2.22	355.78
	NORMAL	7,858.0	1.32	283.17	7,828.62	492.34	-198.23	530.75	0.48	0.46	-7.03	340.39
	NORMAL	7,953.0	1.62	282.56	7,923.59	492.88	-200.61	532.14	0.32	0.32	-0.64	356.71
	NORMAL	8,049.0	2.29	276.84	8,019.54	493.40	-203.84	533.83	0.73	0.70	-5.96	340.89
	NORMAL	8,144.0	2.42	287.85	8,114.46	494.24	-207.63	536.02	0.49	0.14	11.59	79.52
	NORMAL	8,246.0	2.48	295.26	8,216.36	495.85	-211.68	539.02	0.32	0.06	7.26	82.99
	NORMAL	8,306.0	2.52	299.62	8,276.31	497.05	-214.00	541.01	0.32	0.07	7.27	80.31

3 Charts

3.1 Vertical Section View



3.2 Plan View

