

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	KP 333-21	Wellbore No.	1
Well Name	KP 333-21	Common Name	KP 333-21
Project	KP 21-08S-091W	Site	KP 33-21 Pad
Vertical Section Azimuth	11.75 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	9/13/2011	UWI	KP 333-21
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
Date Started	9/13/2011	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 (°)
9/13/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/13/2011	NORMAL	80.0	0.26	67.59	80.00	0.07	0.17	0.10	0.33	0.33	0.00	67.59
	NORMAL	161.0	2.38	20.04	160.97	1.72	0.91	1.87	2.73	2.62	-58.70	307.48
	NORMAL	253.0	3.86	10.90	252.83	6.63	2.17	6.94	1.80	1.72	-9.93	337.66
	NORMAL	344.0	5.10	7.91	343.55	13.73	3.32	14.11	1.28	1.25	-3.29	346.80
	NORMAL	436.0	6.69	10.46	435.06	23.05	4.86	23.55	1.75	1.73	2.77	10.62
	NORMAL	527.0	7.83	12.04	525.33	34.32	7.11	35.05	1.27	1.25	1.74	10.72
	NORMAL	618.0	8.71	11.78	615.38	47.13	9.81	48.14	0.97	0.97	-0.29	357.44
	NORMAL	694.0	8.18	13.11	690.55	58.03	12.21	59.30	0.74	-0.70	1.75	160.43
	NORMAL	785.0	8.92	11.63	780.54	71.24	15.10	72.83	0.85	0.81	-1.63	342.71
	NORMAL	877.0	8.45	11.92	871.49	84.84	17.94	86.72	0.51	-0.51	0.32	174.82
	NORMAL	968.0	8.88	13.11	961.45	98.23	20.91	100.43	0.51	0.47	1.31	23.22
	NORMAL	1,015.0	9.21	12.82	1,007.86	105.43	22.57	107.81	0.71	0.70	-0.62	351.99
9/14/2011	NORMAL	1,094.0	8.54	12.39	1,085.92	117.32	25.23	120.00	0.85	-0.85	-0.54	185.44
	NORMAL	1,157.0	8.97	11.61	1,148.18	126.70	27.22	129.59	0.71	0.88	-1.24	344.18
	NORMAL	1,251.0	9.67	10.30	1,240.94	141.65	30.11	144.81	0.78	0.74	-1.39	342.49
	NORMAL	1,346.0	8.82	10.62	1,334.71	156.66	32.88	160.07	0.90	-0.89	0.34	176.70
	NORMAL	1,440.0	7.78	10.47	1,427.72	170.00	35.36	173.63	1.11	-1.11	-0.16	181.12
	NORMAL	1,535.0	7.85	10.22	1,521.84	182.70	37.68	186.55	0.08	0.07	-0.26	333.97
	NORMAL	1,629.0	7.71	10.22	1,614.97	195.23	39.94	199.27	0.15	-0.15	0.00	180.00
	NORMAL	1,723.0	8.00	13.37	1,708.09	207.80	42.57	212.11	0.55	0.31	3.35	57.60

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 (°)
9/14/2011	NORMAL	1,818.0	7.74	13.72	1,802.20	220.44	45.62	225.11	0.28	-0.27	0.37	169.73
	NORMAL	1,911.0	8.35	11.68	1,894.28	233.14	48.47	238.12	0.72	0.66	-2.19	333.91
	NORMAL	2,004.0	9.17	13.12	1,986.20	246.97	51.52	252.28	0.91	0.88	1.55	15.69
	NORMAL	2,098.0	8.99	13.45	2,079.02	261.41	54.93	267.11	0.20	-0.19	0.35	164.03
	NORMAL	2,193.0	8.53	12.23	2,172.91	275.51	58.15	281.58	0.52	-0.48	-1.28	201.39
9/15/2011	NORMAL	2,287.0	8.19	11.98	2,265.91	288.87	61.01	295.24	0.36	-0.36	-0.29	186.45
	NORMAL	2,382.0	7.91	11.91	2,359.97	301.89	63.76	308.55	0.29	-0.29	-0.05	181.41
	NORMAL	2,476.0	8.24	10.81	2,453.04	314.84	66.36	321.75	0.39	0.35	-1.17	334.36
	NORMAL	2,571.0	9.03	11.38	2,546.96	328.83	69.11	336.01	0.84	0.83	0.60	6.46
	NORMAL	2,665.0	8.53	11.09	2,639.86	342.90	71.90	350.36	0.53	-0.53	-0.31	184.92
	NORMAL	2,759.0	8.27	11.44	2,732.85	356.37	74.59	364.09	0.28	-0.28	0.37	169.05
	NORMAL	2,853.0	7.82	9.25	2,825.93	369.31	76.95	377.24	0.58	-0.48	-2.33	213.18
	NORMAL	2,947.0	8.43	10.88	2,918.99	382.39	79.28	390.52	0.69	0.65	1.73	21.50
	NORMAL	3,041.0	8.54	13.65	3,011.96	395.94	82.23	404.39	0.45	0.12	2.95	76.31
	NORMAL	3,135.0	8.52	13.01	3,104.92	409.50	85.45	418.32	0.10	-0.02	-0.68	257.79
	NORMAL	3,229.0	8.65	13.36	3,197.86	423.17	88.65	432.35	0.15	0.14	0.37	22.07
	NORMAL	3,323.0	7.89	10.93	3,290.89	436.38	91.50	445.87	0.89	-0.81	-2.59	203.50
	NORMAL	3,416.0	7.89	10.19	3,383.01	448.93	93.84	458.63	0.11	0.00	-0.80	269.63
	NORMAL	3,511.0	7.90	9.75	3,477.11	461.78	96.10	471.67	0.06	0.01	-0.46	279.18
	NORMAL	3,605.0	8.07	9.01	3,570.19	474.66	98.23	484.72	0.21	0.18	-0.79	328.47
	NORMAL	3,701.0	7.83	10.21	3,665.27	487.75	100.44	497.99	0.30	-0.25	1.25	145.93
	NORMAL	3,795.0	7.84	4.68	3,758.40	500.44	102.10	510.75	0.80	0.01	-5.88	268.02
	NORMAL	3,890.0	8.08	9.40	3,852.48	513.49	103.72	523.85	0.73	0.25	4.97	72.19
	NORMAL	3,984.0	8.11	16.24	3,945.55	526.37	106.65	537.06	1.02	0.03	7.28	91.60
	NORMAL	4,078.0	8.45	16.86	4,038.57	539.35	110.51	550.55	0.37	0.36	0.66	15.02
9/16/2011	NORMAL	4,173.0	7.88	7.33	4,132.61	552.49	113.37	564.00	1.54	-0.60	-10.03	242.49
	NORMAL	4,268.0	7.01	12.60	4,224.82	564.35	115.42	576.03	1.19	-0.94	5.67	144.46
	NORMAL	4,361.0	6.80	17.74	4,319.14	575.36	118.40	587.42	0.69	-0.22	5.41	111.31
	NORMAL	4,454.0	6.63	24.07	4,411.50	585.51	122.26	598.14	0.82	-0.18	6.81	106.07
	NORMAL	4,548.0	4.89	26.86	4,505.02	594.04	126.29	607.31	1.87	-1.85	2.97	172.24
	NORMAL	4,643.0	3.42	17.37	4,599.77	600.36	128.96	614.04	1.70	-1.55	-9.99	200.39
	NORMAL	4,736.0	2.66	12.09	4,692.64	605.11	130.24	618.96	0.87	-0.82	-5.68	197.60
	NORMAL	4,831.0	2.10	37.54	4,787.56	608.65	131.77	622.73	1.24	-0.59	26.79	130.24
9/17/2011	NORMAL	4,925.0	1.85	64.96	4,881.50	610.66	134.19	625.19	1.03	-0.27	29.17	118.25
	NORMAL	5,019.0	1.44	65.40	4,975.47	611.79	136.64	626.80	0.44	-0.44	0.47	178.46
	NORMAL	5,113.0	2.40	57.51	5,069.41	613.34	138.37	628.87	1.06	1.02	-8.39	340.64
	NORMAL	5,208.0	1.62	53.11	5,164.35	615.22	142.12	631.27	0.84	-0.82	-4.63	189.00
	NORMAL	5,303.0	0.65	17.50	5,259.33	616.54	143.36	632.81	1.22	-1.02	-37.48	199.12
	NORMAL	5,398.0	0.85	292.04	5,354.33	617.31	142.87	633.47	1.08	0.21	-89.96	235.49
	NORMAL	5,493.0	0.99	290.26	5,449.32	617.86	141.45	633.72	0.15	0.15	-1.87	347.57
9/18/2011	NORMAL	5,588.0	0.64	302.52	5,544.31	618.43	140.23	634.03	0.41	-0.37	12.91	159.56
	NORMAL	5,682.0	0.69	286.17	5,638.30	618.87	139.24	634.26	0.21	0.05	-17.39	276.49
	NORMAL	5,777.0	0.62	318.09	5,733.29	619.41	138.35	634.61	0.39	-0.07	33.60	116.54
	NORMAL	5,871.0	0.98	312.89	5,827.28	620.34	137.42	635.32	0.39	0.38	-5.53	345.99
	NORMAL	5,966.0	0.26	46.91	5,922.28	621.04	136.98	635.92	1.09	-0.76	98.97	165.43
	NORMAL	6,061.0	0.26	74.10	6,017.28	621.25	137.35	636.20	0.13	0.00	28.62	103.59
	NORMAL	6,157.0	0.34	147.27	6,113.28	621.07	137.71	636.10	0.38	0.08	76.22	116.40
	NORMAL	6,252.0	0.40	141.34	6,208.28	620.57	138.07	635.68	0.07	0.08	-6.24	324.46
	NORMAL	6,347.0	0.09	60.57	6,303.28	620.35	138.34	635.52	0.42	-0.33	-85.02	192.97
	NORMAL	6,442.0	0.09	111.80	6,398.28	620.36	138.48	635.56	0.08	0.00	54.03	115.66
	NORMAL	6,537.0	0.18	188.01	6,493.27	620.18	138.53	635.39	0.19	0.09	80.12	104.99
	NORMAL	6,632.0	0.18	150.04	6,588.27	619.80	138.58	635.13	0.12	0.00	-39.97	251.02
	NORMAL	6,727.0	0.20	136.90	6,683.27	619.65	138.77	634.93	0.05	0.02	-13.83	287.99
	NORMAL	6,821.0	0.28	272.82	6,777.27	619.54	138.65	634.80	0.47	0.09	144.60	154.10
	NORMAL	6,915.0	0.63	273.85	6,871.27	619.59	137.90	634.69	0.37	0.37	1.10	1.85
9/19/2011	NORMAL	7,010.0	0.11	53.01	6,966.27	619.68	137.46	634.69	0.75	-0.55	146.48	174.24
	NORMAL	7,105.0	0.20	96.01	7,061.27	619.72	137.69	634.77	0.15	0.09	45.26	75.11

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 (°)
9/19/2011	NORMAL	7,200.0	0.42	77.19	7,156.27	619.78	138.20	634.93	0.25	0.23	-19.81	325.56
	NORMAL	7,294.0	0.44	69.86	7,250.26	619.98	138.87	635.27	0.06	0.02	-7.80	286.29
	NORMAL	7,389.0	0.62	49.23	7,345.26	620.44	139.61	635.87	0.27	0.19	-21.72	302.70
	NORMAL	7,482.0	0.62	36.93	7,438.26	621.17	140.29	636.72	0.14	0.00	-13.23	263.85
	NORMAL	7,576.0	0.79	29.63	7,532.25	622.14	140.91	637.80	0.20	0.18	-7.77	328.47
	NORMAL	7,671.0	0.89	354.47	7,627.24	623.44	141.17	639.13	0.54	0.11	-37.01	263.06
9/20/2011	NORMAL	7,766.0	1.40	317.68	7,722.22	625.04	140.31	640.51	0.92	0.54	-38.73	285.42
	NORMAL	7,861.0	1.67	306.93	7,817.19	626.73	138.43	641.78	0.41	0.28	-11.32	307.70
	NORMAL	7,950.0	1.91	311.14	7,906.14	628.48	136.27	643.06	0.31	0.27	4.73	30.83
	NORMAL	8,015.0	2.09	314.21	7,971.10	630.02	134.61	644.23	0.32	0.28	4.72	32.30