

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	KP 332-22	Wellbore No.	1
Well Name	KP 332-22	Common Name	KP 332-22
Project	KP 22-06S-091W	Site	KP 22-22 Pad
Vertical Section Azimuth	98.15 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	8/4/2011	UWI	KP 332-22
Active Datum	KB @6,209.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Scientific Drilling
Date Started	8/4/2011	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)	Buidl Rate (°/100ft)	Turn (°/100ft)	TFace (°)
8/4/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/4/2011	NORMAL	102.0	0.18	132.10	102.00	-0.11	0.12	0.13	0.18	0.18	0.00	132.10
	NORMAL	194.0	1.94	108.81	193.98	-0.71	1.70	1.78	1.93	1.91	-25.32	334.41
8/5/2011	NORMAL	284.0	4.75	94.04	283.82	-1.46	6.86	7.00	3.24	3.12	-16.41	335.48
	NORMAL	361.0	7.89	100.90	360.34	-2.68	15.23	15.46	4.19	4.08	8.91	16.95
	NORMAL	452.0	12.12	98.44	449.94	-5.27	30.82	31.26	4.67	4.65	-2.70	353.02
	NORMAL	543.0	15.98	96.08	538.20	-8.00	52.74	53.34	4.29	4.24	-2.59	350.41
	NORMAL	635.0	18.87	97.30	625.97	-11.23	80.09	80.88	3.17	3.14	1.33	7.79
	NORMAL	726.0	22.07	97.93	711.21	-15.46	111.63	112.69	3.52	3.52	0.69	4.23
	NORMAL	818.0	25.49	98.52	795.39	-20.78	148.34	149.78	3.73	3.72	0.64	4.25
	NORMAL	910.0	28.77	98.80	877.26	-27.10	189.80	191.73	3.57	3.57	0.30	2.35
	NORMAL	1,001.0	32.32	98.24	955.62	-33.94	235.54	237.97	3.91	3.90	-0.62	355.17
	NORMAL	1,096.0	33.68	98.14	1,035.29	-41.31	286.75	289.71	1.43	1.43	-0.11	357.66
	NORMAL	1,121.0	33.91	98.33	1,056.06	-43.30	300.51	303.61	1.01	0.92	0.76	24.76
8/6/2011	NORMAL	1,213.0	34.61	97.48	1,132.10	-50.42	351.81	355.40	0.92	0.76	-0.92	325.29
	NORMAL	1,245.0	34.59	98.16	1,158.44	-52.89	369.81	373.57	1.21	-0.06	2.13	93.24
	NORMAL	1,339.0	32.77	98.65	1,236.66	-60.51	421.38	425.70	1.96	-1.94	0.52	171.71
	NORMAL	1,433.0	33.15	98.72	1,315.53	-68.23	471.93	476.84	0.41	0.40	0.07	5.75
	NORMAL	1,527.0	33.61	98.24	1,394.02	-75.86	523.08	528.55	0.56	0.49	-0.51	329.94
	NORMAL	1,622.0	33.69	99.03	1,473.11	-83.76	575.13	581.19	0.47	0.08	0.83	79.97
	NORMAL	1,715.0	34.47	97.84	1,550.13	-91.40	626.67	633.30	1.10	0.84	-1.28	318.98

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 (°)
8/6/2011	NORMAL	1,810.0	33.77	98.20	1,628.78	-98.83	679.44	686.59	0.77	-0.74	0.38	164.06
	NORMAL	1,904.0	33.94	98.25	1,706.84	-106.32	731.27	738.96	0.18	0.18	0.05	9.33
	NORMAL	1,998.0	33.23	98.44	1,785.15	-113.87	782.72	790.95	0.76	-0.76	0.20	171.66
	NORMAL	2,092.0	32.98	98.46	1,863.89	-121.41	833.50	842.29	0.27	-0.27	0.02	177.51
	NORMAL	2,186.0	32.27	98.02	1,943.06	-128.68	883.65	892.97	0.80	-0.76	-0.47	198.29
	NORMAL	2,279.0	32.65	96.42	2,021.53	-134.95	933.17	942.87	1.01	0.41	-1.72	293.19
	NORMAL	2,373.0	32.92	97.44	2,100.56	-141.09	983.69	993.76	0.65	0.29	1.09	64.38
	NORMAL	2,468.0	33.68	96.26	2,179.96	-147.30	1,035.48	1,045.90	1.05	0.80	-1.24	319.06
	NORMAL	2,563.0	33.37	97.76	2,259.16	-153.70	1,087.55	1,098.36	0.93	-0.33	1.58	111.14
	NORMAL	2,657.0	32.71	98.89	2,337.96	-161.12	1,138.26	1,149.61	0.96	-0.70	1.20	137.44
	NORMAL	2,751.0	31.49	98.03	2,417.59	-168.48	1,187.67	1,199.55	1.39	-1.30	-0.91	200.17
	NORMAL	2,845.0	30.39	99.57	2,498.21	-175.86	1,235.42	1,247.88	1.44	-1.17	1.64	144.91
8/7/2011	NORMAL	2,939.0	28.40	98.46	2,580.11	-183.10	1,280.98	1,294.00	2.19	-2.12	-1.18	194.83
	NORMAL	3,034.0	27.10	98.91	2,664.18	-189.78	1,324.71	1,338.23	1.39	-1.37	0.47	171.04
	NORMAL	3,128.0	25.53	97.65	2,748.43	-195.79	1,365.94	1,379.90	1.77	-1.67	-1.34	199.02
	NORMAL	3,222.0	24.36	101.18	2,833.67	-202.24	1,405.04	1,419.52	2.01	-1.24	3.76	129.75
	NORMAL	3,314.0	23.21	97.72	2,917.86	-208.36	1,441.62	1,456.60	1.97	-1.25	-3.76	228.93
	NORMAL	3,409.0	21.37	98.37	3,005.76	-213.39	1,477.30	1,492.63	1.95	-1.94	0.68	172.67
	NORMAL	3,503.0	20.40	98.28	3,093.58	-218.25	1,510.45	1,526.14	1.03	-1.03	-0.10	181.85
	NORMAL	3,598.0	18.47	98.20	3,183.16	-222.78	1,541.74	1,557.75	2.03	-2.03	-0.08	180.75
	NORMAL	3,692.0	17.43	99.62	3,272.58	-227.25	1,570.35	1,586.71	1.20	-1.11	1.51	157.85
	NORMAL	3,786.0	15.28	99.82	3,362.78	-231.72	1,596.44	1,613.17	2.29	-2.29	0.21	178.60
	NORMAL	3,881.0	14.76	99.58	3,454.53	-235.87	1,620.71	1,637.78	0.55	-0.55	-0.25	186.70
	NORMAL	3,975.0	12.79	99.46	3,545.82	-239.57	1,642.78	1,660.15	2.10	-2.10	-0.13	180.77
	NORMAL	4,070.0	10.82	101.45	3,638.81	-243.07	1,661.90	1,679.57	2.12	-2.07	2.09	169.30
	NORMAL	4,164.0	10.53	103.50	3,731.18	-246.83	1,678.90	1,696.93	0.51	-0.31	2.18	128.37
	NORMAL	4,259.0	9.22	99.67	3,824.77	-250.13	1,694.84	1,713.18	1.54	-1.38	-4.03	204.75
	NORMAL	4,353.0	7.73	96.18	3,917.74	-252.08	1,708.55	1,727.03	1.68	-1.59	-3.71	197.32
	NORMAL	4,448.0	5.22	98.27	4,012.13	-253.39	1,719.18	1,737.74	2.65	-2.64	2.20	175.67
	NORMAL	4,542.0	4.61	98.23	4,105.79	-254.54	1,727.15	1,745.79	0.65	-0.65	-0.04	180.30
	NORMAL	4,637.0	3.66	91.32	4,200.54	-255.16	1,733.96	1,752.62	1.13	-1.00	-7.27	204.26
	NORMAL	4,731.0	2.61	96.08	4,294.40	-255.46	1,739.09	1,757.74	1.15	-1.12	5.06	168.44
	NORMAL	4,824.0	2.13	106.35	4,387.32	-256.17	1,742.85	1,761.57	0.69	-0.52	11.04	143.55
	NORMAL	4,919.0	1.76	103.29	4,482.26	-257.00	1,745.97	1,764.77	0.40	-0.39	-3.22	194.15
	NORMAL	5,012.0	1.49	118.44	4,575.22	-257.90	1,748.42	1,767.32	0.54	-0.29	16.29	129.57
	NORMAL	5,107.0	1.23	163.60	4,670.20	-259.47	1,749.79	1,768.91	1.13	-0.27	47.54	125.52
	NORMAL	5,202.0	1.48	141.23	4,765.17	-261.40	1,750.85	1,770.22	0.61	0.26	-23.55	283.83
	NORMAL	5,295.0	1.34	105.73	4,858.15	-262.64	1,752.65	1,772.18	0.94	-0.15	-38.17	243.44
	NORMAL	5,390.0	1.00	90.39	4,953.13	-262.94	1,754.55	1,774.10	0.48	-0.36	-16.15	215.16
	NORMAL	5,484.0	0.80	66.61	5,047.12	-262.69	1,755.97	1,775.47	0.45	-0.21	-25.30	230.29
8/8/2011	NORMAL	5,578.0	0.79	94.07	5,141.11	-262.47	1,757.22	1,776.68	0.40	-0.01	29.21	105.20
	NORMAL	5,673.0	0.88	129.10	5,236.10	-262.98	1,758.44	1,777.96	0.54	0.09	36.87	97.82
	NORMAL	5,767.0	0.78	152.89	5,330.09	-264.00	1,759.29	1,778.95	0.38	-0.11	25.31	117.85
	NORMAL	5,861.0	0.54	157.95	5,424.08	-264.98	1,759.75	1,779.54	0.26	-0.26	5.38	168.87
	NORMAL	5,955.0	0.44	182.22	5,518.08	-265.76	1,759.90	1,779.80	0.24	-0.11	25.82	127.52
	NORMAL	6,050.0	0.55	249.99	5,613.08	-266.28	1,759.46	1,779.44	0.59	0.12	71.34	114.49
	NORMAL	6,147.0	0.14	209.80	5,710.07	-266.54	1,758.96	1,778.98	0.47	-0.42	-41.43	191.53
	NORMAL	6,242.0	0.34	328.56	5,805.07	-266.40	1,758.76	1,778.76	0.45	0.21	125.01	135.53
	NORMAL	6,337.0	0.44	315.88	5,900.07	-265.90	1,758.35	1,778.29	0.14	0.11	-13.35	312.75
	NORMAL	6,432.0	0.81	304.12	5,995.07	-265.26	1,757.54	1,777.40	0.41	0.39	-12.38	334.94
	NORMAL	6,528.0	0.67	324.64	6,091.06	-264.42	1,756.66	1,776.40	0.31	-0.15	21.38	127.85
	NORMAL	6,622.0	0.97	80.35	6,185.05	-263.84	1,757.12	1,776.78	1.49	0.32	123.10	141.29
	NORMAL	6,717.0	1.71	74.75	6,280.03	-263.33	1,759.29	1,778.85	0.79	0.78	-5.89	347.16
	NORMAL	6,812.0	0.76	63.54	6,375.00	-262.68	1,761.22	1,780.67	1.03	-1.00	-11.80	188.71
	NORMAL	6,907.0	0.39	311.63	6,470.00	-262.18	1,761.54	1,780.92	1.03	-0.39	-117.80	201.78
	NORMAL	7,002.0	0.51	321.58	6,565.00	-261.63	1,761.03	1,780.34	0.15	0.13	10.47	38.11
	NORMAL	7,097.0	1.14	342.71	6,659.99	-260.40	1,760.49	1,779.63	0.73	0.66	22.24	36.60

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 (°)
8/10/2011	NORMAL	7,193.0	1.54	341.21	6,755.96	-258.27	1,759.79	1,778.63	0.42	0.42	-1.56	354.24
	NORMAL	7,288.0	2.12	357.87	6,850.91	-255.30	1,759.32	1,777.74	0.82	0.61	17.54	51.06
	NORMAL	7,382.0	2.29	352.02	6,944.84	-251.71	1,758.99	1,776.91	0.30	0.18	-6.22	304.12
	NORMAL	7,477.0	2.90	336.03	7,039.75	-247.63	1,757.75	1,775.10	0.99	0.64	-16.83	301.95
	NORMAL	7,534.0	3.07	337.52	7,096.67	-244.90	1,756.58	1,773.56	0.33	0.30	2.61	25.28
	NORMAL	7,604.0	3.28	339.35	7,166.56	-241.30	1,755.16	1,771.64	0.33	0.30	2.61	26.68