

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	NR 523-3	Wellbore No.	
Well Name	NR 523-3	Common Name	NR 523-3
Project	RU 03-06S-094W	Site	NR 23-3 Pad
Vertical Section Azimuth	144.99 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	9/20/2011	UWI	NR 523-3
Active Datum	RKB @6,743.9ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	9/20/2011	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

7362

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 (°)
9/20/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/20/2011	NORMAL	155.0	1.91	157.97	154.97	-2.39	0.97	2.52	1.23	1.23	0.00	157.97
	NORMAL	187.0	2.21	152.80	186.95	-3.44	1.45	3.65	1.10	0.94	-16.16	325.62
	NORMAL	246.0	2.73	142.72	245.90	-5.57	2.82	6.18	1.15	0.88	-17.08	315.02
	NORMAL	278.0	2.99	142.19	277.86	-6.83	3.80	7.77	0.82	0.81	-1.66	353.93
	NORMAL	337.0	3.45	139.95	336.76	-9.41	5.88	11.08	0.81	0.78	-3.80	343.58
	NORMAL	369.0	3.73	144.30	368.70	-10.99	7.11	13.08	1.22	0.88	13.59	46.39
	NORMAL	428.0	4.18	139.06	427.56	-14.17	9.64	17.14	0.98	0.76	-8.88	318.60
	NORMAL	463.0	4.56	138.47	462.46	-16.18	11.40	19.79	1.09	1.09	-1.69	352.96
	NORMAL	520.0	5.12	145.16	519.25	-19.96	14.35	24.58	1.39	0.98	11.74	48.59
9/21/2011	NORMAL	611.0	6.24	143.71	609.81	-27.28	19.60	33.59	1.24	1.23	-1.59	351.98
	NORMAL	657.0	6.42	145.80	655.53	-31.42	22.52	38.66	0.64	0.39	4.54	53.05
	NORMAL	701.0	6.83	146.25	699.23	-35.63	25.36	43.73	0.94	0.93	1.02	7.44
	NORMAL	747.0	7.03	142.37	744.90	-40.14	28.60	49.28	1.11	0.43	-8.43	291.20
	NORMAL	792.0	6.60	139.91	789.58	-44.30	31.94	54.61	1.15	-0.96	-5.47	212.95
	NORMAL	838.0	6.77	140.35	835.27	-48.41	35.38	59.94	0.39	0.37	0.96	16.99
	NORMAL	883.0	6.79	138.48	879.95	-52.44	38.83	65.23	0.49	0.04	-4.16	274.25
	NORMAL	929.0	6.60	144.04	925.64	-56.62	42.19	70.58	1.47	-0.41	12.09	109.09
	NORMAL	973.0	6.60	142.81	969.35	-60.68	45.20	75.63	0.32	0.00	-2.80	269.39
	NORMAL	1,064.0	6.51	150.28	1,059.75	-69.32	50.92	85.99	0.94	-0.10	8.21	99.73
	NORMAL	1,103.0	6.68	151.33	1,098.49	-73.23	53.10	90.45	0.53	0.44	2.69	35.87

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 (°)
9/22/2011	NORMAL	1,188.0	7.01	152.72	1,182.89	-82.18	57.85	100.50	0.43	0.39	1.64	27.35
	NORMAL	1,252.0	7.01	148.44	1,246.41	-88.98	61.69	108.27	0.82	0.00	-6.69	267.88
	NORMAL	1,346.0	6.69	141.68	1,339.74	-98.16	68.08	119.46	0.92	-0.34	-7.19	245.02
	NORMAL	1,441.0	6.76	139.86	1,434.09	-106.78	75.12	130.56	0.24	0.07	-1.92	287.28
	NORMAL	1,535.0	6.56	145.33	1,527.45	-115.43	81.74	141.44	0.71	-0.21	5.82	110.20
	NORMAL	1,630.0	6.32	142.16	1,621.86	-124.02	88.04	152.08	0.45	-0.25	-3.34	234.41
	NORMAL	1,724.0	6.25	142.95	1,715.29	-132.19	94.29	162.37	0.12	-0.07	0.84	129.38
	NORMAL	1,818.0	6.03	146.19	1,808.75	-140.37	100.12	172.42	0.44	-0.23	3.45	124.01
	NORMAL	1,913.0	5.91	145.05	1,903.24	-148.53	105.70	182.29	0.18	-0.13	-1.20	224.09
	NORMAL	2,008.0	5.38	147.07	1,997.78	-156.28	110.92	191.64	0.60	-0.56	2.13	160.45
	NORMAL	2,102.0	5.63	145.36	2,091.34	-163.77	115.94	200.65	0.32	0.27	-1.82	325.87
	NORMAL	2,197.0	5.30	144.45	2,185.91	-171.17	121.14	209.70	0.36	-0.35	-0.96	194.26
	NORMAL	2,291.0	4.74	149.32	2,279.55	-178.04	125.65	217.91	0.75	-0.60	5.18	145.14
	NORMAL	2,386.0	4.63	150.09	2,374.23	-184.74	129.56	225.65	0.13	-0.12	0.81	150.62
	NORMAL	2,480.0	3.86	145.86	2,467.97	-190.65	133.23	232.59	0.88	-0.82	-4.50	200.03
	NORMAL	2,575.0	3.71	146.58	2,562.77	-195.86	136.72	238.86	0.17	-0.16	0.76	162.78
	NORMAL	2,669.0	2.58	138.97	2,656.62	-200.00	139.78	244.00	1.28	-1.20	-8.10	196.51
	NORMAL	2,764.0	1.85	131.73	2,751.55	-202.63	142.33	247.62	0.82	-0.77	-7.62	197.38
	NORMAL	2,858.0	1.84	134.26	2,845.50	-204.69	144.54	250.58	0.09	-0.01	2.69	98.26
	NORMAL	2,953.0	1.82	134.48	2,940.45	-206.82	146.71	253.56	0.02	-0.02	0.23	160.75
9/23/2011	NORMAL	3,047.0	2.05	132.03	3,034.40	-208.99	149.02	256.67	0.26	0.24	-2.61	338.99
	NORMAL	3,142.0	0.98	132.79	3,129.37	-210.68	150.88	259.12	1.13	-1.13	0.80	179.30
	NORMAL	3,236.0	1.23	143.25	3,223.35	-212.03	152.08	260.91	0.34	0.27	11.13	44.21
	NORMAL	3,331.0	0.09	135.14	3,318.34	-212.90	152.74	262.01	1.20	-1.20	-8.54	180.64
	NORMAL	3,425.0	0.18	149.84	3,412.34	-213.08	152.86	262.23	0.10	0.10	15.64	28.50
	NORMAL	3,520.0	0.36	103.65	3,507.34	-213.28	153.23	262.60	0.28	0.19	-48.62	284.92
	NORMAL	3,614.0	0.24	166.54	3,601.34	-213.54	153.56	263.00	0.35	-0.13	66.90	139.56
	NORMAL	3,709.0	0.36	126.45	3,696.34	-213.91	153.85	263.47	0.25	0.13	-42.20	278.68
	NORMAL	3,803.0	0.32	112.60	3,790.34	-214.19	154.33	263.97	0.10	-0.04	-14.73	237.23
	NORMAL	3,898.0	0.23	142.39	3,885.34	-214.44	154.69	264.39	0.17	-0.09	31.36	136.50
	NORMAL	3,992.0	0.43	262.99	3,979.33	-214.63	154.45	264.41	0.62	0.21	128.30	140.49
	NORMAL	4,087.0	0.29	346.64	4,074.33	-214.44	154.05	264.02	0.52	-0.15	88.05	144.08
	NORMAL	4,181.0	0.26	307.16	4,168.33	-214.08	153.82	263.59	0.20	-0.03	-42.00	241.62
	NORMAL	4,276.0	0.20	119.76	4,263.33	-214.04	153.79	263.54	0.48	-0.06	181.68	176.78
9/24/2011	NORMAL	4,370.0	0.15	92.53	4,357.33	-214.12	154.06	263.76	0.10	-0.05	-28.97	225.85
	NORMAL	4,464.0	0.44	132.70	4,451.33	-214.37	154.45	264.19	0.36	0.31	42.73	56.73
	NORMAL	4,559.0	0.44	172.25	4,546.33	-214.98	154.76	264.87	0.31	0.00	41.63	109.77
	NORMAL	4,654.0	0.53	128.39	4,641.32	-215.62	155.16	265.62	0.39	0.09	-46.17	261.05
	NORMAL	4,748.0	0.26	256.80	4,735.32	-215.93	155.29	265.95	0.77	-0.29	136.61	163.58
	NORMAL	4,843.0	0.35	254.52	4,830.32	-216.06	154.80	265.78	0.10	0.09	-2.40	351.18
	NORMAL	4,937.0	0.31	274.32	4,924.32	-216.12	154.27	265.52	0.13	-0.04	21.06	119.05
	NORMAL	5,032.0	0.36	253.79	5,019.32	-216.18	153.73	265.26	0.14	0.05	-21.61	282.13
	NORMAL	5,126.0	0.44	239.40	5,113.32	-216.45	153.13	265.14	0.14	0.09	-15.31	301.19
	NORMAL	5,221.0	0.56	227.35	5,208.31	-216.95	152.48	265.17	0.17	0.13	-12.68	312.64
	NORMAL	5,315.0	0.34	110.63	5,302.31	-217.36	152.40	265.46	0.82	-0.23	-124.17	203.08
	NORMAL	5,409.0	0.27	76.85	5,396.31	-217.41	152.88	265.78	0.20	-0.07	-35.94	232.41
9/27/2011	NORMAL	5,504.0	0.33	119.69	5,491.31	-217.49	153.33	266.11	0.24	0.06	45.09	97.12
	NORMAL	5,599.0	0.45	133.97	5,586.31	-217.89	153.84	266.72	0.16	0.13	15.03	46.29
	NORMAL	5,693.0	0.26	129.63	5,680.30	-218.28	154.27	267.29	0.20	-0.20	-4.62	185.89
9/28/2011	NORMAL	5,788.0	0.26	186.42	5,775.30	-218.63	154.41	267.66	0.26	0.00	59.78	118.39
	NORMAL	5,882.0	0.47	171.29	5,869.30	-219.22	154.45	268.16	0.24	0.22	-16.10	327.65
	NORMAL	5,977.0	0.35	169.33	5,964.30	-219.89	154.56	268.78	0.13	-0.13	-2.06	185.69
	NORMAL	6,071.0	0.21	60.80	6,058.30	-220.09	154.76	269.06	0.49	-0.15	-115.46	205.54
9/29/2011	NORMAL	6,165.0	0.44	192.69	6,152.30	-220.36	154.83	269.32	0.64	0.24	140.31	146.97
	NORMAL	6,260.0	0.40	331.10	6,247.30	-220.42	154.59	269.23	0.83	-0.04	145.69	160.24
	NORMAL	6,354.0	1.23	347.95	6,341.29	-219.15	154.22	267.98	0.91	0.88	17.93	24.64
10/2/2011	NORMAL	6,449.0	1.08	344.98	6,436.27	-217.29	153.78	266.20	0.17	-0.16	-3.13	200.28

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 (°)
10/2/2011	NORMAL	6,543.0	0.88	335.25	6,530.25	-215.78	153.25	264.65	0.28	-0.21	-10.35	214.97
10/3/2011	NORMAL	6,638.0	0.72	316.03	6,625.24	-214.68	152.53	263.35	0.33	-0.17	-20.23	229.82
	NORMAL	6,732.0	0.79	305.58	6,719.24	-213.88	151.59	262.15	0.16	0.07	-11.12	291.66
	NORMAL	6,826.0	0.71	271.19	6,813.23	-213.49	150.48	261.20	0.48	-0.09	-36.59	243.03
	NORMAL	6,921.0	0.88	275.29	6,908.22	-213.41	149.17	260.38	0.19	0.18	4.32	20.56
	NORMAL	7,015.0	0.99	266.86	7,002.21	-213.39	147.64	259.48	0.19	0.12	-8.97	304.38
	NORMAL	7,110.0	1.01	258.84	7,097.19	-213.60	146.00	258.71	0.15	0.02	-8.44	274.11
10/4/2011	NORMAL	7,204.0	0.91	249.69	7,191.18	-214.02	144.48	258.18	0.19	-0.11	-9.73	232.36
10/5/2011	NORMAL	7,299.0	1.05	231.91	7,286.17	-214.82	143.09	258.04	0.35	0.15	-18.72	285.66
	NORMAL	7,393.0	0.98	226.76	7,380.15	-215.90	141.83	258.20	0.12	-0.07	-5.48	229.94
	NORMAL	7,488.0	0.81	218.14	7,475.14	-216.98	140.82	258.51	0.23	-0.18	-9.07	214.12
	NORMAL	7,582.0	1.07	220.75	7,569.13	-218.17	139.84	258.92	0.28	0.28	2.78	10.66
	NORMAL	7,677.0	1.21	214.95	7,664.11	-219.67	138.68	259.48	0.19	0.15	-6.11	317.58
10/6/2011	NORMAL	7,771.0	1.11	227.10	7,758.09	-221.10	137.45	259.95	0.28	-0.11	12.93	118.12
	NORMAL	7,865.0	0.44	235.01	7,852.08	-221.93	136.48	260.07	0.72	-0.71	8.41	174.87
	NORMAL	7,960.0	0.42	185.55	7,947.08	-222.48	136.15	260.34	0.38	-0.02	-52.06	242.38
10/8/2011	NORMAL	8,055.0	0.93	21.46	8,042.07	-222.11	136.40	260.18	1.41	0.54	-172.73	190.98
	NORMAL	8,150.0	0.44	351.81	8,137.07	-221.03	136.63	259.42	0.62	-0.52	-31.21	201.68
	NORMAL	8,244.0	0.62	43.32	8,231.06	-220.30	136.93	259.00	0.52	0.19	54.80	96.36
	NORMAL	8,339.0	0.35	223.84	8,326.06	-220.14	137.08	258.95	1.02	-0.28	-188.93	180.19
	NORMAL	8,433.0	0.92	161.12	8,420.06	-221.06	137.13	259.73	0.87	0.61	-66.72	275.01
	NORMAL	8,528.0	1.16	103.35	8,515.04	-222.00	138.31	261.18	1.08	0.25	-60.81	252.93
	NORMAL	8,622.0	0.88	121.75	8,609.03	-222.60	139.85	262.56	0.45	-0.30	19.57	139.48
10/9/2011	NORMAL	8,717.0	0.79	80.49	8,704.02	-222.88	141.11	263.51	0.63	-0.09	-43.43	241.23
	NORMAL	8,811.0	1.14	45.39	8,798.01	-222.12	142.42	263.63	0.71	0.37	-37.34	282.28
	NORMAL	8,905.0	1.14	35.70	8,891.99	-220.70	143.63	263.17	0.20	0.00	-10.31	265.16
	NORMAL	9,000.0	0.86	43.67	8,986.97	-219.42	144.67	262.72	0.33	-0.29	8.39	157.53
	NORMAL	9,094.0	0.76	46.52	9,080.96	-218.48	145.61	262.49	0.11	-0.11	3.03	159.48
	NORMAL	9,189.0	1.14	62.20	9,175.95	-217.60	146.91	262.51	0.48	0.40	16.51	42.38
10/10/2011	NORMAL	9,283.0	0.62	76.10	9,269.94	-217.05	148.23	262.81	0.59	-0.55	14.79	164.53
	NORMAL	9,378.0	0.88	76.10	9,364.93	-216.75	149.43	263.26	0.27	0.27	0.00	0.00
	NORMAL	9,472.0	0.50	95.10	9,458.92	-216.61	150.54	263.78	0.47	-0.40	20.21	158.21
	NORMAL	9,567.0	0.30	135.31	9,553.92	-216.82	151.13	264.30	0.35	-0.21	42.33	144.44
	NORMAL	9,662.0	0.88	159.23	9,648.92	-217.68	151.56	265.25	0.65	0.61	25.18	35.27
10/11/2011	NORMAL	9,756.0	0.81	157.37	9,742.91	-218.97	152.08	266.60	0.08	-0.07	-1.98	200.47
	NORMAL	9,851.0	1.06	184.73	9,837.89	-220.47	152.26	267.93	0.53	0.26	28.80	74.90
	NORMAL	9,920.0	1.06	184.73	9,906.88	-221.74	152.16	268.91	0.00	0.00	0.00	0.00