

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	SR 412-9	Wellbore No.	
Well Name	SR 412-9	Common Name	SR 412-9
Project	RU 09-07S-094W	Site	SR 12-9 Pad
Vertical Section Azimuth	225.79 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	11/29/2010	UWI	SR 412-9
Active Datum	KB @6,603.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Scientific
Started	11/30/2010	Ended	
Tool Name	E M	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)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
11/30/2010	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/30/2010	NORMAL	73.0	0.18	273.60	73.00	0.01	-0.11	0.08	0.25	0.25	0.00	273.60
	NORMAL	165.0	1.50	219.46	164.99	-0.91	-1.02	1.37	1.52	1.43	-58.85	299.89
	NORMAL	256.0	1.67	229.39	255.95	-2.70	-2.79	3.88	0.35	0.19	10.91	63.27
	NORMAL	347.0	1.50	231.94	346.92	-4.29	-4.73	6.39	0.20	-0.19	2.80	158.74
	NORMAL	437.0	1.32	234.14	436.89	-5.63	-6.50	8.58	0.21	-0.20	2.44	164.36
	NORMAL	517.0	1.59	240.12	516.87	-6.72	-8.21	10.57	0.39	0.34	7.48	32.36
	NORMAL	607.0	1.64	214.64	606.83	-8.40	-10.02	13.04	0.79	0.06	-28.31	261.18
	NORMAL	698.0	1.99	217.38	697.79	-10.73	-11.72	15.88	0.40	0.38	3.01	15.30
	NORMAL	789.0	2.18	209.72	788.73	-13.49	-13.54	19.11	0.37	0.21	-8.42	300.42
	NORMAL	879.0	2.22	227.54	878.66	-16.15	-15.67	22.50	0.76	0.04	19.80	95.58
	NORMAL	970.0	2.72	234.87	969.58	-18.58	-18.74	26.39	0.65	0.55	8.05	35.98
	NORMAL	1,060.0	1.99	230.97	1,059.50	-20.80	-21.70	30.06	0.83	-0.81	-4.33	190.44
	NORMAL	1,111.0	1.90	226.89	1,110.47	-21.93	-23.01	31.78	0.32	-0.18	-8.00	234.95
12/1/2010	NORMAL	1,240.0	1.97	220.26	1,239.40	-25.08	-26.00	36.13	0.18	0.05	-5.14	284.03
	NORMAL	1,335.0	1.85	222.98	1,334.34	-27.45	-28.10	39.28	0.16	-0.13	2.86	144.28
	NORMAL	1,429.0	1.41	240.04	1,428.31	-29.14	-30.14	41.92	0.69	-0.47	18.15	140.51
	NORMAL	1,524.0	1.75	239.76	1,523.27	-30.45	-32.40	44.46	0.36	0.36	-0.29	358.56
	NORMAL	1,618.0	2.29	219.46	1,617.21	-32.63	-34.84	47.72	0.95	0.57	-21.60	296.61
12/2/2010	NORMAL	1,713.0	1.91	208.74	1,712.15	-35.48	-36.80	51.12	0.57	-0.40	-11.28	220.68
	NORMAL	1,807.0	1.78	229.48	1,806.10	-37.80	-38.67	54.08	0.72	-0.14	22.06	111.26

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
12/2/2010	NORMAL	1,902.0	1.86	227.66	1,901.05	-39.80	-40.93	57.09	0.10	0.08	-1.92	323.24
	NORMAL	1,996.0	1.99	231.04	1,995.00	-41.85	-43.33	60.24	0.18	0.14	3.60	42.83
	NORMAL	2,091.0	1.91	229.08	2,089.94	-43.93	-45.80	63.46	0.11	-0.08	-2.06	218.84
	NORMAL	2,186.0	1.61	236.98	2,184.90	-45.69	-48.12	66.35	0.41	-0.32	8.32	144.94
	NORMAL	2,280.0	1.77	224.48	2,278.86	-47.45	-50.24	69.10	0.43	0.17	-13.30	287.13
	NORMAL	2,375.0	2.49	220.52	2,373.79	-50.06	-52.61	72.62	0.77	0.76	-4.17	346.46
12/3/2010	NORMAL	2,469.0	2.37	226.40	2,467.71	-52.96	-55.35	76.60	0.29	-0.13	6.26	118.62
	NORMAL	2,564.0	2.32	222.26	2,562.63	-55.73	-58.06	80.48	0.19	-0.05	-4.36	251.49
	NORMAL	2,658.0	2.33	219.93	2,656.55	-58.61	-60.57	84.28	0.10	0.01	-2.48	274.87
	NORMAL	2,753.0	1.08	206.84	2,751.51	-60.89	-62.21	87.05	1.37	-1.32	-13.78	190.83
	NORMAL	2,847.0	1.05	140.77	2,845.50	-62.34	-62.07	87.96	1.24	-0.03	-70.29	235.73
	NORMAL	2,942.0	1.19	142.67	2,940.48	-63.80	-60.92	88.15	0.15	0.15	2.00	15.81
	NORMAL	3,036.0	0.46	160.73	3,034.47	-64.93	-60.20	88.43	0.81	-0.78	19.21	169.27
	NORMAL	3,131.0	0.62	150.30	3,129.46	-65.74	-59.82	88.72	0.20	0.17	-10.98	323.15
	NORMAL	3,225.0	0.44	177.27	3,223.46	-66.54	-59.55	89.09	0.32	-0.19	28.69	138.79
	NORMAL	3,320.0	0.38	202.63	3,318.46	-67.20	-59.66	89.62	0.20	-0.06	26.69	120.70
	NORMAL	3,414.0	0.41	120.64	3,412.45	-67.66	-59.49	89.82	0.55	0.03	-87.22	231.51
	NORMAL	3,509.0	0.31	69.18	3,507.45	-67.74	-58.95	89.49	0.34	-0.11	-54.17	228.19
	NORMAL	3,603.0	0.21	22.77	3,601.45	-67.49	-58.65	89.10	0.24	-0.11	-49.37	222.64
	NORMAL	3,698.0	0.42	358.22	3,696.45	-66.98	-58.59	88.70	0.26	0.22	-25.84	314.59
	NORMAL	3,792.0	0.45	45.03	3,790.45	-66.38	-58.34	88.10	0.37	0.03	49.80	108.85
	NORMAL	3,887.0	0.62	40.60	3,885.44	-65.72	-57.74	87.22	0.18	0.18	-4.66	344.10
	NORMAL	3,981.0	0.74	339.94	3,979.44	-64.77	-57.62	86.46	0.74	0.13	-64.53	248.25
	NORMAL	4,076.0	1.07	339.46	4,074.43	-63.36	-58.14	85.86	0.35	0.35	-0.51	358.44
12/4/2010	NORMAL	4,170.0	0.65	306.35	4,168.42	-62.22	-58.88	85.59	0.67	-0.45	-35.22	214.04
	NORMAL	4,265.0	0.35	339.75	4,263.41	-61.63	-59.42	85.56	0.43	-0.32	35.16	151.70
	NORMAL	4,359.0	0.26	10.87	4,357.41	-61.15	-59.47	85.27	0.20	-0.10	33.11	133.48
	NORMAL	4,454.0	0.24	54.79	4,452.41	-60.82	-59.27	84.90	0.20	-0.02	46.23	117.63
	NORMAL	4,549.0	0.17	75.90	4,547.41	-60.68	-58.97	84.58	0.11	-0.07	22.22	143.05
	NORMAL	4,643.0	0.21	247.02	4,641.41	-60.71	-59.00	84.62	0.40	0.04	182.04	175.09
	NORMAL	4,738.0	0.34	238.82	4,736.41	-60.92	-59.40	85.06	0.14	0.14	-8.63	339.03
	NORMAL	4,832.0	0.41	255.13	4,830.41	-61.15	-59.96	85.62	0.14	0.07	17.35	65.08
	NORMAL	4,927.0	0.21	201.81	4,925.41	-61.40	-60.35	86.08	0.35	-0.21	-56.13	210.62
	NORMAL	5,021.0	0.31	263.10	5,019.40	-61.59	-60.67	86.44	0.30	0.11	65.20	102.66
	NORMAL	5,116.0	0.34	247.57	5,114.40	-61.73	-61.19	86.90	0.10	0.03	-16.35	280.93
	NORMAL	5,210.0	0.50	280.61	5,208.40	-61.76	-61.85	87.40	0.30	0.17	35.15	73.81
12/5/2010	NORMAL	5,305.0	0.68	292.39	5,303.40	-61.47	-62.78	87.86	0.23	0.19	12.40	39.96
	NORMAL	5,399.0	0.77	297.23	5,397.39	-60.97	-63.85	88.28	0.12	0.10	5.15	36.67
	NORMAL	5,494.0	0.64	266.21	5,492.38	-60.71	-64.95	88.89	0.42	-0.14	-32.65	236.11
	NORMAL	5,588.0	0.60	267.31	5,586.38	-60.77	-65.97	89.66	0.04	-0.04	1.17	163.98
	NORMAL	5,683.0	0.84	217.73	5,681.37	-61.34	-66.89	90.72	0.68	0.25	-52.19	265.05
	NORMAL	5,777.0	1.02	199.42	5,775.36	-62.68	-67.59	92.15	0.37	0.19	-19.48	291.83
	NORMAL	5,872.0	0.49	165.66	5,870.35	-63.87	-67.77	93.11	0.71	-0.56	-35.54	203.96
	NORMAL	5,966.0	0.35	108.63	5,964.35	-64.35	-67.40	93.18	0.45	-0.15	-60.67	224.43
	NORMAL	6,061.0	0.45	140.15	6,059.34	-64.73	-66.88	93.08	0.25	0.11	33.18	81.87
	NORMAL	6,155.0	0.31	191.63	6,153.34	-65.26	-66.70	93.31	0.38	-0.15	54.77	136.65
	NORMAL	6,250.0	0.50	184.42	6,248.34	-65.93	-66.78	93.84	0.21	0.20	-7.59	341.36
	NORMAL	6,344.0	0.68	167.73	6,342.34	-66.88	-66.69	94.44	0.26	0.19	-17.76	307.78
12/7/2010	NORMAL	6,439.0	0.57	77.76	6,437.33	-67.33	-66.11	94.34	0.93	-0.12	-94.71	219.98
	NORMAL	6,533.0	0.78	38.56	6,531.33	-66.73	-65.26	93.31	0.53	0.22	-41.70	274.00
	NORMAL	6,628.0	0.69	321.74	6,626.32	-65.78	-65.21	92.61	0.96	-0.09	-80.86	227.18
	NORMAL	6,722.0	0.47	326.07	6,720.31	-65.01	-65.77	92.48	0.24	-0.23	4.61	170.89
	NORMAL	6,817.0	0.24	278.31	6,815.31	-64.66	-66.19	92.53	0.37	-0.24	-50.27	209.93
	NORMAL	6,912.0	0.43	237.33	6,910.31	-64.82	-66.69	93.00	0.31	0.20	-43.14	286.70
	NORMAL	7,006.0	0.64	240.10	7,004.31	-65.28	-67.44	93.86	0.23	0.22	2.95	8.41
	NORMAL	7,101.0	0.50	236.91	7,099.30	-65.77	-68.24	94.78	0.15	-0.15	-3.36	191.18
	NORMAL	7,195.0	0.30	19.71	7,193.30	-65.76	-68.51	94.96	0.81	-0.21	151.91	166.21

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
12/7/2010	NORMAL	7,295.0	0.82	27.94	7,293.30	-64.88	-68.08	94.04	0.52	0.52	8.23	12.92
	NORMAL	7,384.0	1.05	13.73	7,382.28	-63.53	-67.59	92.74	0.37	0.26	-15.97	307.52
	NORMAL	7,479.0	0.21	337.05	7,477.28	-62.52	-67.45	91.94	0.94	-0.88	-38.61	188.10
	NORMAL	7,573.0	0.29	356.77	7,571.28	-62.12	-67.53	91.72	0.12	0.09	20.98	57.23
12/8/2010	NORMAL	7,668.0	0.20	244.48	7,666.28	-61.96	-67.69	91.72	0.43	-0.09	-118.20	206.83
	NORMAL	7,763.0	0.09	275.32	7,761.28	-62.02	-67.92	91.93	0.14	-0.12	32.46	159.40
	NORMAL	7,857.0	0.31	227.94	7,855.28	-62.18	-68.18	92.23	0.27	0.23	-50.40	297.73
	NORMAL	7,952.0	0.61	278.26	7,950.27	-62.28	-68.87	92.80	0.50	0.32	52.97	80.39
	NORMAL	8,046.0	0.21	284.59	8,044.27	-62.17	-69.53	93.19	0.43	-0.43	6.73	176.70
	NORMAL	8,141.0	1.01	252.96	8,139.26	-62.37	-70.50	94.03	0.88	0.84	-33.29	320.82
	NORMAL	8,235.0	0.80	172.06	8,233.26	-63.26	-71.20	95.15	1.26	-0.22	-86.06	221.80
	NORMAL	8,330.0	1.05	147.13	8,328.24	-64.65	-70.64	95.71	0.49	0.26	-26.24	288.98
	NORMAL	8,424.0	1.31	136.73	8,422.22	-66.16	-69.44	95.90	0.36	0.28	-11.06	315.24
	NORMAL	8,519.0	1.07	138.93	8,517.20	-67.62	-68.11	95.97	0.26	-0.25	2.32	170.32
	NORMAL	8,613.0	0.96	165.13	8,611.19	-69.04	-67.33	96.40	0.50	-0.12	27.87	116.21
	NORMAL	8,708.0	1.28	171.69	8,706.17	-70.86	-66.97	97.41	0.36	0.34	6.91	25.14
12/9/2010	NORMAL	8,773.0	1.10	178.99	8,771.16	-72.20	-66.86	98.27	0.36	-0.28	11.23	143.51
	NORMAL	8,837.0	1.10	178.99	8,835.15	-73.43	-66.84	99.11	0.00	0.00	0.00	0.00