

1 General

1.1 Customer Information

Company	PICEANCE HL
Representative	Eric Kolstad
Address	1515 Arapahoe St., Suite 1000 Denver, CO 80202

1.2 Well Information

Well	TR 412-1-698	Wellbore No.	
Well Name	TR 412-1-698	Common Name	TR 412-1-698
Project	TR 01-06S-98W	Site	TR 11-1-698 PAD
Vertical Section Azimuth	194.76 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	9/2/2011	UWI	TR 412-1-698
Active Datum	KB @8,308.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	9/2/2011	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 (°)
9/2/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/2/2011	NORMAL	139.0	0.90	209.10	138.99	-0.95	-0.53	1.06	0.65	0.65	0.00	209.10
	NORMAL	231.0	2.50	191.70	230.95	-3.55	-1.29	3.76	1.81	1.74	-18.91	333.29
	NORMAL	323.0	5.10	192.40	322.74	-9.51	-2.57	9.85	2.83	2.83	0.76	1.37
	NORMAL	414.0	8.20	192.00	413.12	-19.81	-4.79	20.38	3.41	3.41	-0.44	358.95
	NORMAL	506.0	11.00	195.60	503.82	-34.68	-8.52	35.71	3.11	3.04	3.91	13.88
	NORMAL	598.0	12.80	193.30	593.84	-53.06	-13.22	54.68	2.02	1.96	-2.50	344.11
	NORMAL	689.0	14.80	192.90	682.21	-74.20	-18.14	76.37	2.20	2.20	-0.44	357.07
	NORMAL	782.0	16.60	194.50	771.74	-98.64	-24.12	101.53	1.99	1.94	1.72	14.30
	NORMAL	874.0	17.90	195.20	859.60	-125.01	-31.11	128.81	1.43	1.41	0.76	9.41
	NORMAL	965.0	18.70	193.60	945.99	-152.68	-38.21	157.38	1.04	0.88	-1.76	327.11
9/3/2011	NORMAL	1,061.0	20.10	193.10	1,036.54	-183.71	-45.57	189.26	1.47	1.46	-0.52	353.00
	NORMAL	1,157.0	20.10	193.10	1,126.69	-215.84	-53.05	222.24	0.00	0.00	0.00	0.00
	NORMAL	1,252.0	20.00	194.80	1,215.94	-247.45	-60.90	254.80	0.62	-0.11	1.79	100.53
	NORMAL	1,348.0	20.75	193.27	1,305.93	-279.87	-68.99	288.22	0.96	0.78	-1.59	323.90
9/4/2011	NORMAL	1,444.0	19.40	190.80	1,396.10	-312.09	-75.88	321.12	1.66	-1.41	-2.57	210.97
	NORMAL	1,539.0	17.00	194.50	1,486.34	-341.04	-82.32	350.76	2.80	-2.53	3.89	156.04
	NORMAL	1,635.0	14.60	197.80	1,578.71	-366.15	-89.53	376.88	2.67	-2.50	3.44	161.06
	NORMAL	1,730.0	15.60	200.50	1,670.43	-389.52	-97.67	401.55	1.29	1.05	2.84	36.43
	NORMAL	1,826.0	17.10	200.70	1,762.55	-414.81	-107.18	428.43	1.56	1.56	0.21	2.25

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 (°)
9/4/2011	NORMAL	1,921.0	17.80	199.30	1,853.17	-441.58	-116.91	456.80	0.86	0.74	-1.47	328.38
	NORMAL	2,016.0	18.40	195.70	1,943.47	-469.72	-125.77	486.26	1.34	0.63	-3.79	296.49
	NORMAL	2,112.0	18.20	195.20	2,034.62	-498.77	-133.80	516.40	0.26	-0.21	-0.52	217.89
	NORMAL	2,208.0	18.00	194.30	2,125.87	-527.61	-141.40	546.23	0.36	-0.21	-0.94	234.00
	NORMAL	2,303.0	17.80	193.60	2,216.27	-555.95	-148.44	575.42	0.31	-0.21	-0.74	226.76
	NORMAL	2,399.0	17.70	195.40	2,307.70	-584.28	-155.76	604.69	0.58	-0.10	1.88	101.18
	NORMAL	2,494.0	18.30	196.10	2,398.05	-612.54	-163.73	634.04	0.67	0.63	0.74	20.16
9/19/2011	NORMAL	2,589.0	18.70	196.30	2,488.14	-641.48	-172.14	664.17	0.43	0.42	0.21	9.11
	NORMAL	2,693.0	19.12	195.38	2,586.53	-673.91	-181.34	697.87	0.50	0.40	-0.88	324.19
	NORMAL	2,757.0	18.63	194.94	2,647.09	-693.89	-186.76	718.57	0.80	-0.77	-0.69	195.99
	NORMAL	2,852.0	16.26	192.75	2,737.71	-721.53	-193.60	747.04	2.59	-2.49	-2.31	194.44
	NORMAL	2,947.0	14.94	193.36	2,829.21	-746.42	-199.37	772.58	1.40	-1.39	0.64	173.21
	NORMAL	3,043.0	13.89	196.00	2,922.19	-769.53	-205.40	796.47	1.29	-1.09	2.75	149.23
	NORMAL	3,138.0	15.07	200.30	3,014.17	-792.08	-212.83	820.16	1.68	1.24	4.53	44.43
	NORMAL	3,234.0	18.81	199.60	3,105.99	-818.37	-222.36	848.02	3.90	3.90	-0.73	356.54
	NORMAL	3,329.0	19.51	200.22	3,195.73	-847.69	-232.98	879.07	0.77	0.74	0.65	16.50
	NORMAL	3,425.0	19.20	196.96	3,286.30	-877.83	-243.12	910.80	1.17	-0.32	-3.40	252.46
	NORMAL	3,521.0	17.97	192.30	3,377.30	-907.40	-250.88	941.38	2.01	-1.28	-4.85	228.18
	NORMAL	3,616.0	17.09	191.16	3,467.89	-935.41	-256.71	969.95	0.99	-0.93	-1.20	200.77
	NORMAL	3,712.0	16.30	190.81	3,559.84	-962.49	-261.96	997.47	0.83	-0.82	-0.36	187.09
	NORMAL	3,807.0	15.69	191.51	3,651.16	-988.17	-267.03	1,023.59	0.67	-0.64	0.74	162.79
9/20/2011	NORMAL	3,903.0	15.29	192.31	3,743.68	-1,013.26	-272.32	1,049.20	0.47	-0.42	0.83	152.28
	NORMAL	3,999.0	16.00	194.76	3,836.12	-1,038.42	-278.39	1,075.08	1.01	0.74	2.55	44.12
	NORMAL	4,094.0	16.57	195.91	3,927.31	-1,064.11	-285.44	1,101.71	0.69	0.60	1.21	30.05
	NORMAL	4,190.0	15.51	195.47	4,019.57	-1,089.64	-292.61	1,128.23	1.11	-1.10	-0.46	186.33
	NORMAL	4,286.0	14.59	195.03	4,112.28	-1,113.69	-299.17	1,153.16	0.97	-0.96	-0.46	186.87
	NORMAL	4,381.0	13.62	193.45	4,204.41	-1,136.13	-304.88	1,176.31	1.10	-1.02	-1.66	200.89
	NORMAL	4,477.0	12.70	192.57	4,297.89	-1,157.42	-309.80	1,198.15	0.98	-0.96	-0.92	191.86
	NORMAL	4,572.0	12.66	191.34	4,390.57	-1,177.82	-314.12	1,218.98	0.29	-0.04	-1.29	260.97
	NORMAL	4,668.0	11.87	191.51	4,484.38	-1,197.81	-318.16	1,239.34	0.82	-0.82	0.18	177.47
	NORMAL	4,763.0	10.70	190.50	4,577.54	-1,216.05	-321.72	1,257.89	1.25	-1.23	-1.06	189.09
	NORMAL	4,859.0	9.50	189.05	4,672.05	-1,232.64	-324.59	1,274.66	1.28	-1.25	-1.51	191.25
	NORMAL	4,955.0	9.50	189.05	4,766.74	-1,248.29	-327.08	1,290.43	0.00	0.00	0.00	0.00
	NORMAL	5,050.0	8.79	191.51	4,860.53	-1,263.14	-329.76	1,305.48	0.85	-0.75	2.59	152.37
	NORMAL	5,145.0	8.48	189.49	4,954.45	-1,277.17	-332.36	1,319.70	0.46	-0.33	-2.13	223.38
	NORMAL	5,239.0	8.13	190.64	5,047.47	-1,290.53	-334.73	1,333.23	0.41	-0.37	1.22	155.18
	NORMAL	5,334.0	6.94	190.02	5,141.64	-1,302.79	-336.97	1,345.65	1.26	-1.25	-0.65	183.60
	NORMAL	5,430.0	5.76	188.79	5,237.05	-1,313.26	-338.72	1,356.22	1.24	-1.23	-1.28	185.97
	NORMAL	5,526.0	4.22	187.91	5,332.69	-1,321.52	-339.94	1,364.52	1.61	-1.60	-0.92	182.41
	NORMAL	5,621.0	2.42	186.86	5,427.52	-1,326.97	-340.66	1,369.98	1.90	-1.89	-1.11	181.41
	NORMAL	5,716.0	1.10	178.33	5,522.48	-1,329.88	-340.87	1,372.84	1.41	-1.39	-8.98	186.98
	NORMAL	5,812.0	1.01	90.44	5,618.47	-1,330.80	-340.00	1,373.51	1.53	-0.09	-91.55	223.53
	NORMAL	5,907.0	1.05	70.67	5,713.45	-1,330.52	-338.34	1,372.82	0.37	0.04	-20.81	266.48
	NORMAL	6,003.0	0.92	94.04	5,809.44	-1,330.29	-336.74	1,372.18	0.44	-0.14	24.34	119.38
9/21/2011	NORMAL	6,098.0	1.32	95.27	5,904.42	-1,330.44	-334.89	1,371.86	0.42	0.42	1.29	4.05
	NORMAL	6,193.0	0.83	83.27	5,999.40	-1,330.46	-333.12	1,371.43	0.56	-0.52	-12.63	198.76
	NORMAL	6,289.0	0.70	24.08	6,095.39	-1,329.84	-332.19	1,370.59	0.80	-0.14	-61.66	231.90
	NORMAL	6,385.0	0.66	5.10	6,191.39	-1,328.76	-331.90	1,369.47	0.24	-0.04	-19.77	250.53
	NORMAL	6,480.0	0.62	353.58	6,286.38	-1,327.70	-331.91	1,368.45	0.14	-0.04	-12.13	247.03
	NORMAL	6,576.0	0.43	332.93	6,382.38	-1,326.86	-332.13	1,367.70	0.28	-0.20	-21.51	214.87
	NORMAL	6,671.0	0.48	324.05	6,477.37	-1,326.22	-332.53	1,367.18	0.09	0.05	-9.35	300.84
	NORMAL	6,766.0	0.62	318.16	6,572.37	-1,325.52	-333.11	1,366.65	0.16	0.15	-6.20	335.05
	NORMAL	6,860.0	0.62	306.39	6,666.36	-1,324.84	-333.85	1,366.18	0.14	0.00	-12.52	264.12
	NORMAL	6,955.0	0.62	310.25	6,761.36	-1,324.20	-334.66	1,365.77	0.04	0.00	4.06	91.93
	NORMAL	7,051.0	0.88	288.11	6,857.35	-1,323.64	-335.76	1,365.50	0.40	0.27	-23.06	300.47
	NORMAL	7,147.0	1.05	286.52	6,953.34	-1,323.16	-337.30	1,365.43	0.18	0.18	-1.66	350.25
	NORMAL	7,242.0	0.97	276.33	7,048.32	-1,322.82	-338.94	1,365.52	0.21	-0.08	-10.73	240.95

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 (°)
9/21/2011	NORMAL	7,338.0	0.83	292.59	7,144.31	-1,322.47	-340.39	1,365.55	0.30	-0.15	16.94	126.70
	NORMAL	7,434.0	1.01	294.87	7,240.30	-1,321.84	-341.79	1,365.30	0.19	0.19	2.38	12.64
9/22/2011	NORMAL	7,529.0	1.32	282.04	7,335.28	-1,321.26	-343.62	1,365.21	0.42	0.33	-13.51	313.39
	NORMAL	7,624.0	0.79	135.70	7,430.27	-1,321.50	-344.24	1,365.60	2.13	-0.56	-154.04	192.49
	NORMAL	7,719.0	0.70	211.99	7,525.27	-1,322.46	-344.09	1,366.49	0.97	-0.09	80.31	132.54
	NORMAL	7,815.0	0.66	218.85	7,621.26	-1,323.39	-344.74	1,367.55	0.09	-0.04	7.15	119.57
	NORMAL	7,909.0	0.48	217.79	7,715.25	-1,324.12	-345.33	1,368.41	0.19	-0.19	-1.13	182.82
	NORMAL	8,002.0	0.88	236.51	7,808.25	-1,324.83	-346.16	1,369.30	0.49	0.43	20.13	38.63
	NORMAL	8,097.0	1.89	265.87	7,903.22	-1,325.34	-348.33	1,370.35	1.27	1.06	30.91	50.37
	NORMAL	8,191.0	1.62	286.26	7,997.18	-1,325.08	-351.15	1,370.82	0.72	-0.29	21.69	123.35
	NORMAL	8,286.0	2.55	285.29	8,092.11	-1,324.15	-354.48	1,370.76	0.98	0.98	-1.02	357.34
	NORMAL	8,381.0	1.93	278.70	8,187.04	-1,323.35	-358.10	1,370.91	0.71	-0.65	-6.94	199.29
	NORMAL	8,474.0	1.80	275.01	8,279.99	-1,322.98	-361.10	1,371.33	0.19	-0.14	-3.97	220.90
9/23/2011	NORMAL	8,514.0	1.80	275.01	8,319.97	-1,322.87	-362.36	1,371.54	0.00	0.00	0.00	0.00