CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2015
DateRun:	10/26/2015
Experimenters:	Alicia Melvin, Alicia McCarthy
ClientType:	Cleaning Equipment Mfr
ProjectNumber:	Project #1
Substrates:	Liquid
PartType:	Coupon
Contaminants:	
Cleaning Methods:	
Analytical Methods:	Colorimeter
Purpose:	Ozone Testing of Series 1
Experimental Procedure:	Ozone levels measured using: Oxidation Reduction Potential using millivolts; VacuVial readings in parts per million; eXactCLPlus test device measuring parts per million;
Results:	During the bench scale experimentation, Trial 1 & 2 both had close initial ozone levels but very different pH and ORP levels. The third trial had higher initial ozone readings. All trials dropped to near zero for all ozone readings by 90 minutes. Oxidation Reduction Potential (ORP) of tap water was 191MV and DI water was 305 MV. All the trials ended around an average of 434 MV. By 240 minutes, all trials had an average of 4.1 pH and an average temperature of 20.9˚C VacuVial O_3 levels started below 1ppm and gradually declined through 45 minutes. The decline rate increased between 60 and 120 minutes and was below the instrument's detection limit. The eXact CL Plus O3 ppm meter levels started below 1.4 ppm and had a similar decline rate as the VacuVial. There was a decline gradually during the first 45 minutes and increased rate between 45 and 120 minutes. The pH remained very constant during the experiment maintaining a pH between 4 and 4.25.
Summary:	
Conclusion:	The TURI Lab recently completed an evaluation on the life span of the ozone in a Series 1. The ozone unit with series 1 stabilizer is reported to stabilize the sanitation solution for up to 4 hours, cleaning time for up to 3 days, and have a filter cartridge life of 1,600 gallons. Each of the three analytical tools used to measure relative ozone levels all showed the same trend of dropping of within 120 minutes.