CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2002
DateRun:	05/20/2002
Experimenters:	Jason Marshall, Heidi Wilcox
ClientType:	Optical Manufacturer
ProjectNumber:	Project #1
Substrates:	Glass/Quartz
PartType:	Coupon
Contaminants:	Mold Releases, Waxes
Cleaning Methods:	Ultrasonics
Analytical Methods:	Microphotography
Purpose:	To clean second supplied part under same operating conditions
Experimental Procedure:	A 1000 ml beaker was filled with 800 ml of cleaning solution and heated to 110 F in a Crest 40 kHz ultrasonic tank. The solution was degassed for 5 minutes. The supplied glass optic part was photographed four times using a digital camera and a microscope to establish how dirty part was. The part was immersed into the solutions and cleaned for 5 minutes using ultrasonic energy, then rinsed in a DI water spray at room temperature for 15 seconds, followed by drying with a heat gun at 300 F for 30 seconds. The part was then reanalyzed using the camera and microscope.
Results:	All parts of the optics looked cleaner after using the Opti Clean. Magnification of camera not enough to see fine detail. Part started to attract dust via static electricity. See pictures of before and after.

Summary:

Substrates:	Glass/Quartz				
Contaminants:	Mold Releases, Waxes				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
National Diagnostic	Opti Clear	100	0.00	☑	

Conclusion:	All parts of the optics looked cleaner after using the Opti Clean.