CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2007
DateRun:	02/06/2007
Experimenters:	Heidi Wilcox
ClientType:	Metal Working
ProjectNumber:	Project #1
Substrates:	Brass
PartType:	Part
Contaminants:	Buffing/Polishing Compounds
Cleaning Methods:	Ultrasonics
Analytical Methods:	Visual
Purpose:	To evaluate selected products on a wide range of client selected parts for cleaning and tarnishing.
Experimental Procedure:	The three products from the previous testing that cleaned the cylinders with no tarnishing were chosen. The solutions were diluted with DI water to a 5% solution and heated to 130 F in a Crest 40kHz ultrasonic tank filled with water. The solutions were degassed for 5 minutes. 2 belt buckles, 3 cylinders and 2 rifle pinks were put into each solution with buffing compound on them for cleaning. The parts were cleaned for 5 minutes using 40 kHz ultrasonic cleaning. They were then rinsed for 10 seconds using tap water and dried using compressed air for air dry off at room temperature. They were then put on a tray covered with a while paper towel to visually inspect for cleanliness and tarnishing.
Results:	Two products cleaned the belt buckles and the cylinders well. These same two products both cleaned the rifle pins approximately 90% but left some buffing compound in the deeper grooves of the pin. One of these cleaners also turned the leaves on the pin around the rifle a pink color. All the rest of the parts in these two products did not tarnish. The third product did not clean the parts in the 5 minutes used for cleaning and will not be considered further for this client. All parts were bagged and sent to the client for observation of cleaning and tarnishing.

Summary:

Substrates:	Brass				
Contaminants:	Buffing/Polishing Compounds				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Matchless Metal Polish Company	MC 580	5	0.00	☑	Cleaned well. Little tarnish
International Products Corporation	Micro 90 Conc.	5	0.00	☑	Cleaned well, little tarnish
Buckeye International	Shopmaster HP	5	0.00	☐	Did not clean after 5 min

Conclusion: One product did not clean the parts at all n 5 minutes. The other two products cleaned all parts except the rifle pins, which had some compound left. Also, one cleaner tarnished the leaves on the rifle pins to a pinkish color. These parts were all bagged and given to the company for inspection.