CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	1995
DateRun:	05/17/1995
Experimenters:	Donald Garlotta, Jay Jankauskas
ClientType:	Brass Instrument Manufacturer
ProjectNumber:	Project #1
Substrates:	Brass
PartType:	Part
Contaminants:	Cutting/Tapping Fluids, Greases, Lubricating/Lapping Oils, Oil
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric
Purpose:	Compaer Inproclean 3800 and LPS Precision clean
Experimental Procedure:	This trial will test the Oakite Inproclean #3800 against the LPS Precision Clean for Musical Instrument Refinisher. The Oakite 3800 was very successful in last week's testing and it should be interesting to see how the LPS Precision Clean compares to it. The four sample parts sent from Musical Instrument Refinisher were weighed prior to contamination. All four contaminants were spread on each part at various locations as shown on the next page. Samples #3 and #4 will be brushed off after agitation to see if the brushing effect will scratch the finish of the parts. Parts #1 and #2 will not be brushed so to get a better idea of each cleaner's efficiency of removing the contaminants. The cleaners were each heated to 140 degrees and agitated with a stir bar. Cleaning lasted for 15 minutes. The rinse temperature was also at 140 degrees. Rinsing lasted for 5 minutes. The samples were then dried under air knives for two minutes and then placed in a convection oven set at 160 degrees for 90 minutes. After weighing, the parts were then heat sealed in plastic to avoid contamination. #1-Clover Grease Mix Lapping Compound, #2-Valvoline Wheel Bearing Grease, #3-90 WT Gear Oil, #4-Selmer Tuning Slide & Cork Grease

Results:

Part #1	Part #3
Clean mass = 35.0740 grams	Clean mass = 41.5435 grams
Contaminated mass = 35.2783	Contaminated mass = 41.8216
Mass after cleaning = 35.1556	Mass after Cleaning = 41.5398
Percent Removal = 60%	Percent Removal = 101%

OBSERVATIONS:
Part #1- Even without brushing, there was excellent removal of all contaminants except for #1, the lapping compound. Some of the lapping compound was removed but there was quite a bit left. Brushing should take care of this. There was no discoloration on the part.
Part #3- Oakite #3800 performed outstanding. All four contaminants were removed with a few seconds of brushing. The brass finish was not discolored, in fact the brass looked cleaner than we received it from Musical Instrument Re-finisher. The brushing did not cause any scratching on the brass finish. It is believed that the parts were contaminated slightly when received from Musical Instrument Refinisher thus a removal of greater than 100 percent was achieved.

Summary:

Substrates:	Brass				
Contaminants:	Cutting/Tapping Fluids, Greases, Lubricating/Lapping Oils, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Oakite Products	Inproclean 3800	10	101.00	☑	
LPS Laboratories	Precision Clean Concentrate	10	60.00	☐	

Conclusion: The Oakite #3800 was definitely the most effective cleaner by far and definitely should be considered by Musical Instrument Re-finisher.