# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2022

DateRun: 05/24/2022

Experimenters: Zoe Lawson, Tatyanna Moreland Junior

ClientType: Brass Instrument Manufacturer

ProjectNumber: Project #1

Substrates: Brass

PartType: Coupon

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric, Visual

Purpose: To test the effectiveness of cleaners on USP Gk-7 Lap Compound

Experimental Procedure: Three pre-weighed brass coupons per substrate were soiled with USP Gk-7 Lapping Compound using a cotton swab. The soil was allowed to dry for two hours. Both cleaners were then heated to approximately 125F and the coupons were placed in their respective cleaner for 15 minutes in the ultrasonics tank. Following ultrasonics, the coupons were allowed to air dry overnight and the next day the final weights were recorded.

Results: Emerald HD had a high removal yield for all coupons except for one. This error may have been due to the coupon moving and getting stuck to another one, hindering the cleaning process. Shopmaster LPH had one high removal coupon and two others that were less effective.

| Cleaner | Initial wt of cont. | Final wt of cont. | %Cont Removed | Average % Removal |
|---|---|---|---|---|
| Emerald HD | 0.3283 | 0.0031 | 99.06 | 92.48 |
| | 0.3401 | 0.0701 | 79.39 | |
| | 0.5706 | 0.0057 | 99.00 | |
| Shopmaster LPH | 0.4324 | 0.0022 | 99.49 | 90.92 |
| | 0.5939 | 0.0849 | 85.70 | |
| | 0.4693 | 0.0584 | 87.56 | |

Summary:

| **Substrates:** | Brass | | | | |
|---|---|---|---|---|---|
| **Contaminants:** | Buffing/Polishing Compounds | | | | |
| **Company Name:** | **Product Name:** | **Conc.:** | **Efficiency:** | **Effective:** | **Observations:** |
| Hubbard Hall Inc | Emerald HD2 | 1:16 | 92.48 | ☐ | |
| Buckeye International | Shopmaster LPH | 15% | 90.92 | ☐ | |

Conclusion: Emerald HD and Shopmaster LPH (at a higher concentration) were chosen as aqueous solutions that had not been tested yet to possibly solve S.E. Shires issues with Metalnox. Further testing is needed to determine the overall effectiveness of both and if one could resolve the cloudiness from actual parts.