CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003

DateRun: 06/13/2003

Experimenters: Jason Marshall

ClientType: Medical Instrument Mfr

ProjectNumber: Project #1

Substrates: Copper, Nickel

PartType: Coupon

Contaminants: Lubricating/Lapping Oils

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate client requested cleaning products.

Experimental Procedure: Two client requested samples were diluted to 5% using DI water in 600 ml beakers. Solutions were heated to 125 F on a hot plate. Six preweighed coupons were coated with the Metalube Corp ML-119.2 dry lubricant (Molybdenum disulfide, graphite, silicates) using a hand held swab. Coupons were allowed to sit for 30 minutes and weighed again to determine the amount of lubricant applied. Three coupons were cleaned in each solution for five minutes using stir-bar agitation. Coupons were rinsed for 15 seconds in tap water at 120 F and dried using a Master Appliance Heat Gun for 30 seconds at 500 F. The coupons were then allowed to cool to room temperature and weighed a final time. Efficiencies were calculated for each product.

Results: Both solutions removed most of the lubricant through immersion cleaning only. The table below lists the amount of soil added and remaining for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
MD 6000 IM	0.0031	0.0004	87.10
	0.0107	0.0003	97.20
	0.0066	0.0000	100.00
SP 2500 IM	0.0101	0.0010	90.10
	0.0142	0.0000	100.00
	0.0149	0.0001	99.33

Summary:

Substrates:	Copper, Nickel				
Contaminants:	Lubricating/Lapping Oils				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Valtech Corporation	MD 6000	5	94.76	☑	
Valtech Corporation	Valtron SP 2500	5	96.48	☑	

Conclusion: The same two cleaners will be used with ultrasonic cleaning.