CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2001

DateRun: 06/07/2001

Experimenters: Jason Marshall

ClientType: Metal

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants: Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric

Purpose: To evaluate four effective cleaners on a second contaminant

Experimental Procedure: The four successful cleaners from the previous trial were again diluted to 5% using DI water in 600 ml beakers and placed in a Crest 40 kHz ultrasonic tank model 4Ht 1014-6. Solutions were heated to 130 F. Twelve preweighed coupons were coated with Chemtrol 331 corrosion inhibitor (102-71-6, 111-42-2) and reweighed. Three coupons were immersed into each solution and cleaned for five minutes. The coupons were rinsed in tap water at 120 F for 30 seconds and dried using a Master Appliance Corp, Hot-air gun model HG-301A at 500 F for 1 minute. Final "clean" weights were recorded and efficiencies were calculated.

Results: All four products had no problems removing the Chemtrol 221 from the steel coupons. The cleaning time of 5 minutes was more than was required to clean the coupons. The following table lists the calculated efficiencies for each coupon.

Cleaner	Coupon 1	Coupon 2	Coupon 3	Average	Std Dev
1	100.13	99.94	100.07	100.05	0.10
2	100.00	100.03	99.87	99.97	0.09
3	100.18	100.11	99.96	100.08	0.11
4	99.96	100.04	99.96	99.99	0.04

Summary:

Substrates:	Steel				
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Oakite Products	Inproclean 3800	5	100.05	☑	
Magnaflux	Daraclean 283	5	99.97	☑	
Bio Chem Systems	Green Stuff 6325	5	100.08	☑	
Today & Beyond	Beyond 2001	5	99.99	☑	

Conclusion: All four product were effective in removing the corrosion inhibitor. Each will be evaluated for cleaning the Metal Guard 270.