CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2012
DateRun:	02/06/2012
Experimenters:	Junhee Cho
ClientType:	Optical Manufacturer
ProjectNumber:	Project #1
Substrates:	Aluminum
PartType:	Coupon
Contaminants:	Lubricating/Lapping Oils
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate the effectiveness of cleaning with one bio based cleaner (Bio Gold) for five soils
Experimental Procedure:	One biobased product was selected from the lab's inventory based on past performance testing. The product was used at full strength in a 400 ml beaker and was evaluated at room temperature. Each soil was applied to three pre-weighted aluminum coupons. All coupons were cleaned in the biobased cleaner for 10 minutes using no agitation then were manually wipe with Kimberly-Clark reinforced paper towel for 5 seconds. At the end of cleaning, the coupons were allowed to air dry at room temperature overnight. Final weights were recorded, and efficiencies were calculated.
Results:	The biobased products worked very well with five soils based on 10 minutes immersion cleaning and manual wipe. The table lists the amount of soil added, the amount reaming and the efficacy of the product for each coupon cleaned. The second table shows the cleaning of each soil with immersion only.

Cleaner	Initial wt	Final wt	% Removed
Bio Gold_Molydry			
	0.0296	0.0043	85.47
	0.0232	0.0012	94.83
	0.0287	0.0022	92.33
Bio Gold_Anti Seize			
	0.0262	0.0016	93.89
	0.0649	0.005	92.30
	0.0387	0.0034	91.21
Bio Gold_Synxtreme			
	0.0684	0.0074	89.18
	0.0644	0.0024	96.27
	0.0449	0.0074	83.52
Bio Gold_Lubridlatc			
	0.0481	0.0062	87.11
	0.0901	0.0032	96.45
	0.1023	0.0046	95.50
Bio Gold_Lubridlatc 632			
	0.0576	0.0053	90.80
	0.0495	0.0053	89.29
	0.0888	0.0080	90.99

No wipe results

Cleaner	Without wipe
Vertec Bio Gold_Molydry	15.31
Vertec Bio Gold_Anti Seize	-14.02
Vertec Bio Gold_Synxtreme	-29.28
Vertec Bio Gold_Lubridlatc	-85.36

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Vertec Bio Gold_Lubridlatc 632	-70.19

Summary:

Substrates:	Aluminum				
Contaminants:	Lubricating/Lapping Oils				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Vertec BioSolvents	VertecBio Gold Unscented Part Cleaner	100	90.88	☑	
Vertec BioSolvents	VertecBio Gold Unscented Part Cleaner	100	92.47	☑	
Vertec BioSolvents	VertecBio Gold Unscented Part Cleaner	100	89.66	☑	
Vertec BioSolvents	VertecBio Gold Unscented Part Cleaner	100	93.02	☑	
Vertec BioSolvents	VertecBio Gold Unscented Part Cleaner	100	90.36	☑	

Conclusion: The Bio Gold product was found to be effective when the immersion cleaning was followed by a short wiping cycle.