CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2004
DateRun:	07/07/2004
Experimenters:	Jason Marshall
ClientType:	Bicycle Manufacturer
ProjectNumber:	Project #1
Substrates:	Titanium
PartType:	Coupon
Contaminants:	Oil
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric
Purpose:	To evaluate client requested products on fourth supplied soil.
Experimental Procedure:	The three cleaners were diluted to 5% using DI water in 600 ml beakers. All three products were heated to 120 F on a hot plate. Nine preweighed titanium coupons were coated with client supplied peanut oil, using a hand held swab and then weighed a second time to determine the amount of soil added. Three coupons were cleaned in each solution for 5 minutes using stir-bar agitation. Coupons were rinsed in tap water for 15 seconds at 120 F, followed by air blow off at room temperature. Once dry, coupons were weighed a final time and efficiencies for each cleaner were calculated.
Results:	All three products removed over 90% of the peanut oil. The table below lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
M Aero	0.0710	0.0035	95.07
	0.2036	0.0039	98.08
	0.2429	0.0074	96.95
M Aero NS	0.1218	0.0155	87.27
	0.2523	0.0021	99.17
	0.3703	0.0047	98.73
M 400	0.1484	0.0158	89.35
	0.2335	0.0242	89.64
	0.2832	0.0197	93.04

Summary:

Substrates:	Titanium
Contaminants:	Oil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Church & Dwight Co Inc.	Armakleen M Aero	5	96.70	☑	
Church & Dwight Co Inc.	Armakleen M Aero NS	5	95.06	☑	
Church & Dwight Co Inc.	Armakleen M-400	5	90.68	☑	

Conclusion: The three products will be used on the fifth supplied soil under the same conditions.