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 the third supplied soil.
Experimental Procedure:	The three cleaners were diluted to 5% using DI water in 600 ml beakers. All six products were heated to 120 F on a hot plate. Nine preweighed titanium coupons were coated with client supplied oil, Exxon Mobil DTE Light, 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:	Two of the three products removed over 85%. The third product removed just under the 85%. 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	0.2715	0.0000	100.00
	0.2305	0.0010	99.57
	0.3331	0.0014	99.58
M Aero NS	0.1425	0.0006	99.58
	0.2562	0.0015	99.41
	0.3962	0.0002	99.95
M 400	0.2000	0.0478	76.10
	0.3585	0.0390	89.12
	0.2555	0.0279	89.08

Summary:

Substrates:	Titanium				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Church & Dwight Co Inc.	Armakleen M Aero	5	99.72	☑	
Church & Dwight Co Inc.	Armakleen M Aero NS	5	99.65	☑	
Church & Dwight Co Inc.	Armakleen M-400	5	84.77	☐	

Conclusion: The three requested products will be tested on the fourth supplied soil under the same conditions.