CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2021
DateRun:	07/18/2021
Experimenters:	Ross Goding, Edward Judge
ClientType:	Lab
ProjectNumber:	Project #4
Substrates:	Ceramics, Plastic, Painted metal
PartType:	Coupon
Contaminants:	Hucker's Soil
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric, Visual
Purpose:	To test the effectiveness of Cleaning Vinegar in the removal of Hucker's Soil from various substrates.
Experimental Procedure:	A Cleaning Vinegar solution was gathered to begin testing. Then, 3 coupons of each substrate (ceramic, plastic, painted metal) were collected and initial weights were taken. Hucker's Soil (Creamy Peanut Butter, Salted Butter, Wheat gluten, Egg Yolk, Evaporated milk, DI water, Printer's ink with boiled linseed oil, India Ink, Saline Solution) was applied to each coupon and allowed to air dry for 2 hours. After the 2 hour dry time, the weights of the newly contaminated coupons were measured. All coupons were placed into a Gardner-scrub Abrasion Tester machine. Wypall cleaning cloths were attached to each of the 3 cleaning blocks used for the test. Each Wypall cloth and all coupons received 2 sprays of the Cleaning Vinegar solution and the Gardner-scrub Abrasion Tester was run for 20 repetitions, simulating 20 manual wipes. Once cleaning concluded, the cleaned coupons were allowed to air dry for 24 hours. After 24 hours, the weights of the cleaned coupons were measured.

Results:

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
Cleaning Vinegar	Ceramic	0.0331	0.0016	95.17	77.84	73.90
		0.0404	0.0066	83.66		
		0.0535	0.0315	41.12		
	Plastic	0.0907	0.0078	91.40	66.10	
		0.0853	0.0063	92.61		
		0.0693	0.0594	14.29		
	Painted Metal	0.0651	0.0031	95.24	77.75	
		0.0593	0.0042	92.92		
		0.0419	0.0230	45.11		

Summary:

Conclusion: Cleaning Vinegar showed little success in the removal of Hucker's Soil from ceramic, plastic, and painted metal substrates.