CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003

DateRun: 04/22/2003

Experimenters: Jason Marshall, Heidi Wilcox

ClientType: State Agency

ProjectNumber: Project #2

Substrates: Ceramics, Plastic, Steel

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Photography

Purpose: To evaluate third supplied cleaner on remaining soil and three substrates.

Experimental Procedure: The supplied cleaning product was diluted with DI water to 0.8% for all purpose cleaning. Three preweighed ceramic, three plastic G-10 and three painted steel coupons were coated with Hucker's Soil Formulation (Jif Creamy Peanut Butter 9.2%, Salted Butter 9.2%, Arrowhead Mills stone ground wheat flour 9.2%, Egg Yolk 9.2%, Evaporated milk 13.8%, Distilled water 45.8%, Printer's ink with boiled linseed oil 0.9%, Shaws saline solution 2.7%) using a hand held swab and allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added. Photographs were taken.

Three coupons were placed into a Gardner Straight Line Washability unit. A Professional Painter's Rag was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The cleaning unit was run for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded and a second set of photographs were taken. Efficiencies were calculated and recorded.

Results: The product was successful in removing the soil from the two of the three substrates. Then cleaner had difficulty in removing the soil from the plastic coupons. The table below lists the amount of soil applied and removed from the coupons.

Table 1. Soil Removal

Cleaner	Initial wt	Final wt	% Removed
Ceramic	0.0082	-0.0003	103.66
	0.0155	-0.0001	100.65
	0.0126	0.0009	92.86
Plastic	0.0430	0.0040	90.70
	0.0444	0.0044	90.09
	0.0429	0.0040	90.68
Painted Steel	0.0641	0.0020	96.88
	0.0604	0.0023	96.19
	0.0598	0.0025	95.82

Summary:

Substrates:	Ceramics, Plastic, Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
EnvirOx LLC	Grout Safe	1	99.05	☑	Ceramic
EnvirOx LLC	Grout Safe	1	90.49	☑	Plastic
EnvirOx LLC	Grout Safe	1	96.30	☑	Steel

Conclusion: The overall efficiency for the general cleaner, Grout Safe (0.8%) was 95.28 passing the cut off of 85%. All three products from vendor were successful in removing the three types of soils from the various substrates.