CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2003
DateRun:	02/24/2003
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 vendor recommended concentration 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 SSL Soil 3 from ceramic, plastic and painted steel coupons. Table 1 lists the amount of soil applied and removed.

Table 1. Soil Application and Removal

Cleaner	Initial wt	Final wt	% Removed
Ceramic	0.0282	0.0021	92.55
	0.0365	0.0049	86.58
	0.0407	0.0059	85.50
Plastic	0.0383	0.0039	89.82
	0.0364	0.0072	80.22
	0.0284	0.0002	99.30
Painted Steel	0.0277	0.0005	98.19
	0.0266	0.0010	96.24
	0.0408	0.0004	99.02

Summary:

Substrates:	Ceramics, Plastic, Steel
Contaminants:	Hucker's Soil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
The Clean Environment Co	Super Orange Clean	2	88.21	☑	Ceramic
The Clean Environment Co	Super Orange Clean	2	89.78	☑	Plastic G-10
The Clean Environment Co	Super Orange Clean	2	97.82	☑	Steel - painted

Conclusion:

All three products from vendor were successful in removing the three types of soils from the various substrates.