CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2003
DateRun:	07/31/2003
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
Purpose:	To reevaluate selected cleaner for all purpose cleaning at vendor recommended dilution ratio.

Experimental Procedure:

The supplied cleaning products were diluted with DI water to vendor recommended dilutions for all purpose cleaning. Nine preweighed ceramic, Nine plastic G-10 and Nine 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.

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. Efficiencies were calculated and recorded.

Product Dilution Ratio
Super H2O2 128:1
Free Fall 64:1
All Purpose 128:1

Results:

All three products were successful in removing the Hucker's soil from all three surfaces. The table below lists the amount of soil applied and removed from the coupons.

Table 1. Soil Removal

Cleaner	Initial wt	Final wt	% Removed
Cleanline Cer	0.0941	0.0035	96.28
	0.0621	0.0078	87.44
	0.0916	0.0091	90.07
Clean Plastic	0.1287	0.0064	95.03
	0.1362	0.0074	94.57
	0.0894	0.0060	93.29
Clean Steel	0.0933	0.0025	97.32
	0.0894	0.0017	98.10
	0.0716	0.0007	99.02
Ramsey Ceramic	0.0870	0.0052	94.02
	0.0838	0.0107	87.23
	0.0754	0.0104	86.21
Ramsey Plastic	0.1934	0.0017	99.12
	0.1392	0.0014	98.99
	0.1413	0.0025	98.23
Ramsey Steel	0.0599	0.0005	99.17
	0.0952	-0.0003	100.32
	0.1172	0.0004	99.66
Roch Ceramic	0.0917	0.0063	93.13
	0.1024	0.0067	93.46
	0.1959	0.0110	94.38
Roch Plastic	0.0963	0.0009	99.07
	0.1089	0.0013	98.81
	0.1260	0.0014	98.89

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Roch Steel	0.0911	0.0004	99.56
	0.1337	-0.0003	100.22
	0.1532	0.0012	99.22

Summary:

Substrates:	Ceramics, Plastic, Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Cleanline Products	H2O2 Super Citrus Concentrate	1	94.57	☑	Ceramic - 91.26, Plastic - 94.29, Steel - 98.15
Ramsey Company	Free Fall	2	95.88	☑	Ceramic - 89.15, Plastic - 98.78, Steel - 99.71
Rochester Midland Corporation	EnviroCare Tough Job	1	97.41	☑	Ceramic - 93.66, Plastic - 98.92, Steel - 99.67

Conclusion: The retested products were successful at the vendor recommended dilution ratios.