CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2003
DateRun:	07/10/2003
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 products based on vendor requested dilution raises.
Experimental Procedure:	The supplied cleaning products were diluted with DI water 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 Envirox H2Orange2 128:1 Ecogent All Purpose 64:1 MD Stetson 101 Neutral 512:1
Results:	The three products were all successful in removing the Hucker's soil from all three substrates. The table lists the amount of soil added and remaining for each coupon cleaned. Soil Removal

Cleaner	Initial wt	Final wt	% Removed
EnviroxCeramic	0.1159	-0.0007	100.60
	0.1405	0.0098	93.02
	0.0849	0.0024	97.17
EnviroxPlastic	0.0903	0.0036	96.01
	0.0896	0.0017	98.10
	0.0825	0.0067	91.88
EnviroxSteel	0.0424	0.0003	99.29
	0.0734	-0.0008	101.09
	0.0735	-0.0011	101.50
EcogentCeramic	0.1010	0.0080	92.08
	0.0640	0.0090	85.94
	0.0786	0.0114	85.50
EcogentPlastic	0.0617	0.0038	93.84
	0.0822	0.0095	88.44
	0.1102	0.0092	91.65
EcongentSteel	0.0366	-0.0007	101.91
	0.0397	-0.0011	102.77
	0.0810	0.0010	98.77
MDStetsonCeramic	0.0673	0.0104	84.55
	0.0903	0.0088	90.25
	0.0773	0.0110	85.77
MDStetsonPlastic	0.0443	0.0035	92.10
	0.0739	0.0036	95.13
	0.0551	0.0052	90.56

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MD StetsonSteel	0.0843	0.0004	99.53
	0.0396	0.0010	97.47
	0.0877	0.0021	97.61

Summary:

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

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
EnvirOx LLC	H2Orange2	1	97.63	☑	Ceramic - 96.93; Plastic - 95.33; Steel - 100.63
Cogent Environmental Solutions	Ecogent General All Purpose Cleaner	2	93.43	☑	Ceramic - 87.84; Plastic - 91.31; Steel - 100.63
Next-Gen Supply Group	PC 101 Neutral and Glass Cleaner	0	92.55	☑	Ceramic - 86.86; Plastic - 92.60; Steel - 98.20

Conclusion: All three products were successful at the vendor requested dilution ratios.