CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2006
DateRun:	03/09/2006
Experimenters:	Jason Marshall
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Ceramics, Plastic, Steel
PartType:	Coupon
Contaminants:	Hucker's Soil
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate supplied product for all purpose cleaning application
Experimental Procedure:	The supplied cleaning products were diluted with DI water to vendor recommended concentration for all purpose cleaning (3.156 and 1.56%). Water was also used. Preweighed ceramic, plastic G-10 and 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.
Results:	The two supplied products removed over 85% of the Hucker's soil. The table below list the amount of soil added, the amount reaming and the efficiency for each substrate.

Cleaner	Initial wt	Final wt	% Removed
Perma 180 Ceramic	0.4392	0.1015	76.89
	0.2328	0.0552	76.29
	0.1891	0.0532	71.87
Perma 1040 Ceramic	0.2918	0.0726	75.12
	0.2849	0.0990	65.25
	0.3980	0.1108	72.16
Water Ceramic	0.4808	0.2625	45.40
	0.7266	0.2852	60.75
	0.2941	0.1590	45.94
Perma 180 Plastic	0.2726	0.0061	97.76
	0.6373	0.0060	99.06
	0.3019	0.0040	98.68
Perma 1040 Plastic	0.3735	0.0045	98.80
	0.3150	0.0134	95.75
	0.2924	0.0113	96.14
Water Plastic	0.4390	0.0505	88.50
	0.4479	0.0593	86.76
	0.4891	0.0567	88.41
Perma 180 Steel	0.3693	0.0397	89.25
	0.4073	0.0223	94.52
	0.4835	0.0176	96.36
Perma 1040 Steel	0.5734	0.0879	84.67
	0.5301	0.0258	95.13
	0.2885	0.0419	85.48
Water Steel	0.4182	0.0668	84.03

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	0.3262	0.0610	81.30
	0.2627	0.0677	74.23

Summary:

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

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Perma Inc	Geo Clean 180	3.156	88.96	☑	
Perma Inc	Easy Mix Foaming Restroom Cleaner #1040	1.56	85.39	☑	
Water	Water	100	72.81	☐	

Conclusion: Both Geo Clean 180 and Easy Mix 1040 removed over 85% of the Hucker's at the suggested concentrations.