CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2004
DateRun:	02/25/2004
Experimenters:	Jason Marshall
ClientType:	State Agency
ProjectNumber:	Project #3
Substrates:	Textile
PartType:	Coupon
Contaminants:	Dirt
Cleaning Methods:	Manual Wipe
Analytical Methods:	Light Meter
Purpose:	To evaluate cleaners for carpet cleaning at 5 minutes
Experimental Procedure:	Carpet sections were reused from the previous trial and were subjected to an additional 2.5 minutes of cleaning utilizing the same method. Each section was sprayed 15 times with a cleaning product and allowed to soak for 30 seconds. A Professional Painter's Rag was attached to the GSLWU cleaning sled. The rag was also sprayed with the same cleaning product until the rag was saturated (usually about 15 sprays). After the soaking was done, the rag/sled was placed on one end of the carpet section and the GSLWU was turned on and run for 91 cycles or about 2.5 minutes. Every 30 cycles, each section of carpet was sprayed 6 times with the cleaning solution. At the end of the cleaning, the carpet piece was removed from the cleaning unit and allowed to dry overnight. Final light meter readings were made on each section. Initial light meter readings were used as the benchmark for cleanliness. The average dirty readings were subtracted from the average initial readings to determine how soiled the carpet pieces were. The average dirty readings were subtracted from the average final readings then divided by the average initial readings to determine how clean the carpet pieces became after cleaning. Each product tested was then ranked from best to worst with the other products.
Results:	All the cleaners had significant improvement with the increased cleaning time. The H2O2 Concentrate was still the most effective product having an average clean light meter reading of nearly half the initial reading.

Cleaner	Carpet Section	Location	Initial Readings	Dirty Readings	Cleaned Readings	Drop	Jump	% of Total	Product Average
H2Orange2 #117	1	A-Ave	9.10	4.75	6.01	4.35	1.26	29.06	28.37
		B-Ave	9.79	3.94	5.18	5.86	1.25	21.26	
		C-Ave	9.00	3.71	5.55	5.29	1.84	34.79	
Grout Safe		D-Ave	10.63	4.74	5.27	5.89	0.53	9.05	15.09
		E-Ave	10.34	3.30	4.62	7.04	1.32	18.69	
		F-Ave	10.01	3.00	4.23	7.01	1.23	17.53	
Carpet Extraction	2	A-Ave	10.38	4.65	5.48	5.73	0.83	14.51	21.42
		B-Ave	10.34	3.62	5.08	6.73	1.46	21.76	
		C-Ave	9.02	4.02	5.42	5.01	1.40	28.01	
Traffic Lane Cleaner		D-Ave	10.92	4.99	5.37	5.93	0.38	6.43	13.96
		E-Ave	10.34	3.37	4.57	6.96	1.20	17.26	
		F-Ave	10.01	3.82	4.95	6.19	1.13	18.19	
Carpet Cleaner (Extractor)	3	A-Ave	10.77	4.89	6.21	5.88	1.32	22.50	26.71
		B-Ave	10.55	3.36	4.87	7.19	1.51	20.99	
		C-Ave	8.76	2.33	4.69	6.43	2.36	36.64	
Carpet Cleaner (Pad Cleaning)		D-Ave	12.14	5.18	6.89	6.96	1.71	24.57	28.00
		E-Ave	11.12	4.78	6.34	6.34	1.55	24.48	
		F-Ave	10.41	2.61	5.34	7.80	2.73	34.95	
	4	A-Ave	10.85	3.68	5.40	7.16	1.72	23.96	34.03

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Carpet Cleaner (Pre-Spray									
		B-Ave	10.47	3.85	6.30	6.62	2.45	36.97	
		C-Ave	9.22	3.02	5.57	6.20	2.55	41.16	
PC 112 Carpet		D-Ave	11.77	3.78	5.39	8.00	1.62	20.20	27.16
		E-Ave	11.14	3.47	5.42	7.67	1.95	25.36	
		F-Ave	9.76	3.02	5.44	6.74	2.42	35.92	
H2O2 Concentrate	5	A-Ave	11.09	4.58	7.56	6.51	2.98	45.80	46.90
		B-Ave	10.10	3.33	6.43	6.77	3.10	45.78	
		C-Ave	8.97	3.23	6.05	5.75	2.82	49.12	
Super H2O2 Citrus Concentrate		D-Ave	12.24	4.66	6.15	7.58	1.49	19.63	24.04
		E-Ave	10.98	2.81	4.60	8.17	1.79	21.94	
		F-Ave	9.43	2.66	4.72	6.77	2.07	30.55	

Rank Comparison

Cleaner	5 minutes	2.5 minutes
H2Orange2 #117	3	4
Grout Safe	9	10
Carpet Extraction	8	9
Traffic Lane Cleaner	10	8
Carpet Cleaner (Extractor)	6	6
Carpet Cleaner (Pad Cleaning)	4	3
Carpet Cleaner (Pre-Spray)	2	2
PC 112	5	5
H2O2 Citrus Concentrate	1	1
Super H2O2 Citrus Concentrate	7	7

Summary:

Substrates:	Textile
Contaminants:	Dirt

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
EnvirOx LLC	H2Orange2	1	3.00	☑	Rank
EnvirOx LLC	Grout Safe	1	9.00	☐	Rank
The Clean Environment Co	Carpet Extraction	1	8.00	☐	Rank
The Clean Environment Co	Traffic Lane Cleaner	100	10.00	☐	Rank
Cogent Environmental Solutions	Carpet Cleaner (Extractor)	0	6.00	☐	Rank
Cogent Environmental Solutions	Carpet Cleaner (Pad Cleaning)	2	4.00	☑	Rank
Cogent Environmental Solutions	Carpet Cleaner (Pre-Spray)	5	2.00	☑	Rank
Next-Gen Supply Group	PC 112 Carpet	0	5.00	☑	Rank
Cleanline Products	H2O2 Super Citrus Concentrate	8	7.00	☐	Rank
Cleanline Products	H2O2 Super Citrus Concentrate	4	1.00	☑	Rank

Conclusion:

Product ranking remained relatively constant from the 2.5 minute cleaning to the 5 minute cleaning. Half of the products maintained their ranking from the shorter time. The other five only moved up or down one spot except the Traffic Lane cleaner which dropped two spots.

Additional soak times may also improve the performance of the cleaners. Additional mechanical energy associated with carpet cleaning may also improve the cleaning.