

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2007  
 DateRun: 08/09/2007  
 Experimenters: Jason Marshall, Shweta Bansal  
 ClientType: Environmental Service Firm  
 ProjectNumber: Project #1  
 Substrates: Cadmium plated steel  
 PartType: Coupon  
 Contaminants: Carbon Deposits, Cutting/Tapping Fluids, Greases, Lubricating/Lapping Oils, Dirt, Oil  
 Cleaning Methods: Immersion/Soak  
 Analytical Methods: Gravimetric  
 Purpose: To evaluate product performance from collected samples from three locations.  
 Experimental Procedure: Twelve samples from three locations (four from each) were emptied into 200 ml beakers and used at room temperature.

Thirty-six preweighed coupons were coated with a composite soil made from the filtration bags collected at the three sites. The contaminant mix was allowed to dry on the coupons for one hour. After this drying, a second weight was recorded to determine the amount of soil added. Three coupons were immersed into each sample and cleaned for 5 minutes using no agitation. At the end of the cleaning, coupons were rinsed for 15 seconds in tap water and dried using compressed air at room temperature. Once the coupons were dry, the final weights were recorded, and efficiencies were calculated.

Results: There were no major differences in the cleaning efficiencies for all the samples from each site. The second and third samples collected from Flahertys were the only samples to have efficiencies lower than 99%. The table below lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Bergdales 1	1.6657	0.0021	99.87
	0.9887	0.0050	99.49
	2.0118	0.0092	99.54
Bergdales 2	1.6843	0.0035	99.79
	1.2647	0.0062	99.51
	1.7972	0.0075	99.58
Bergdales 3	2.2490	0.0054	99.76
	0.9844	0.0062	99.37
	0.9878	0.0075	99.24
Bergdales 4	2.7094	0.0020	99.93
	2.5287	0.0028	99.89
	2.9671	0.0015	99.95
Flahertys 1	2.6645	0.0028	99.89
	3.0010	0.0027	99.91
	0.9261	0.0096	98.96
Flahertys 2	1.8439	0.0041	99.78
	1.2544	0.1078	91.41
	2.1711	0.0118	99.46
Flahertys 3	1.3692	0.0080	99.42
	1.1305	0.0097	99.14
	0.8593	0.0353	95.89
Flahertys 4	1.5257	0.0037	99.76
	1.7370	0.0071	99.59
	1.1154	0.0170	98.48
Syversons 1	1.0805	0.0108	99.00
	0.9018	0.0070	99.22
	0.9830	0.0114	98.84
Syversons 2	1.0158	0.0071	99.30
	1.2075	0.0049	99.59
	1.1348	0.0056	99.51

## CLEANING LABORATORY EVALUATION SUMMARY

Syversons 3	0.6597	0.0078	98.82
	1.6695	0.0027	99.84
	1.3224	0.0049	99.63
Syversons 4	1.0143	0.0073	99.28
	0.7560	0.0022	99.71
	1.3931	0.0023	99.83

Summary:

<b>Substrates:</b>	Cadmium plated steel				
<b>Contaminants:</b>	Carbon Deposits, Cutting/Tapping Fluids, Greases, Lubricating/Lapping Oils, Dirt, Oil				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Kleer Flo Company	Degreasol Formula 99-R			<input type="checkbox"/>	

Conclusion:

Cleaning effectiveness was determined to be nearly the same from sample to sample and from site to site. The four samples from Bergdales averaged 99.66% removal, the samples from Flahertys removed 98.47% and the four from Syversons resulted in 99.38% removed.