CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	1999
DateRun:	11/23/1999
Experimenters:	Jason Marshall
ClientType:	Consultant
ProjectNumber:	Project #1
Substrates:	Liquid
PartType:	Coupon
Contaminants:	Alcohol
Cleaning Methods:	
Analytical Methods:	Colorimeter
Purpose:	To measure contamination levels of cleaning solution over five days of use.

Experimental Procedure:

A 2% solution was made of Micro 90 using DI water in 400 mL beaker. Using LaMotte's Smart Colorimeter to evaluate the standards using the chlorine test. The general test procedure was first to zero the instrument using 0% standard (2% Micro 90). The five unknown samples were analyzed. Unknown concentrations were calculated from previously determined correlation.

SUBSTRATE MATERIAL: Liquid-Dirty Cleaning Solution
CONTAMINANTS: DuPont Evanol Concentrated (Vinyl Alcohol Polymers & Copolymers CAS#s: 9002-89-5, 25213-24-5, 54626-91-4; Methanol Bulk/Packaged CAS #: 67-56-1; Sodium Acetate CAS#: 127-09-3)
CONTAMINATING PROCESS USED: Samples received with Evanol in cleaning solution

Results:

The unknown concentrations were found to range from 0% to 10% Evanol using the three correlations determined in trials 6, 15 and 17. The average value for each date was calculated. All data is listed in Table 1.

Table 1. Soil Loading Determination

Sample	Colorimeter Readings			Soil Loading (% Evanol)				
	1	2	Average	Trial 6	Trial 15	Trial 17	Ave%	Std Dev
3-Nov	0.04	0.03	0.035	4.29	5.29	5.12	4.9	0.54
5-Nov	0.07	0.06	0.065	8.57	9.71	8.69	8.99	0.62
10-Nov	0	0.01	0.005	0	0.88	1.55	0.81	0.78
12-Nov	0.02	0.02	0.02	2.14	3.09	3.33	2.85	0.63

The equations used for determining these values are listed in Table 2.

Table 2. Equations Used
Trial 6 $y = 0.007*x + 0.005$
Trial 15 $y = 0.0068*x - 0.001$
Trial 17 $y = 0.0084*x - 0.008$
$x = (y-b)/m$

Summary:

Substrates:	Liquid					
Contaminants:	Alcohol					
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:	
International Products Corporation	Micro 90 Conc.	2		☐		

Conclusion:

Values for the unknown samples were found to be higher for the second date of the sampling period. Average levels of Evanol percent ranged from 0.81% to 9%.