CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	1997
DateRun:	10/22/1997
Experimenters:	Jason Marshall
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Glass/Quartz, Stainless Steel
PartType:	Part
Contaminants:	Greases, Films, Metal fines
Cleaning Methods:	Low Pressure Spray
Analytical Methods:	Visual
Purpose:	Find alternative cleaning system to replace acids

Experimental Procedure:

The purpose of the trial was to find an alternative cleaning system to replace or reduce the amount of acids currently used.

The parts were first place into the Miele parts washer. Alcojet powder cleaner from Alconox was selected for the initial cleaning of the parts. The cleaning at 160 F, rinsing at 150 F and drying cycle approximately thirty minutes. From the parts washer the parts were visually inspected to see what contaminants had been removed. Next, the semi cleaned parts were cleaned in a 40kHz ultrasonic tank also at 160 F. Another Alconox product was used during this step. A 1-2% solution of Citrinox was made in a beaker and suspended in the ultrasonic tank. The parts were placed into the bath. The parts werer cleaned for 5, 15 and 25 minute intervals. At each interval, the parts were removed and inspected.The parts were rinsed with running tap water at 130 F for 10 seconds.
Some parts were also tested in a alkaline cleaner, MacDermid ND-17 at 5%. These parts were cleaned for five minutes in a beaker with no agitation. Then, the parts were observed for any signs of removal. A final cleaning took place in the ultrasonic tank for 5 minutes.

The final cleanliness analysis of all the cleaned parts were going to be performed by the client.
SUBSTRATE MATERIAL: Glass and stainless steel
CONTAMINANTS: Teflon grease, metal oxides

Results:

The Miele parts washer removed most of the Teflon greases but had little to no effect on the metal oxides. In the ultrasonic tank, the Citrinox removed a small amount of the metal oxides after the five minute period. As the time of the cleaning increased, the level of contaminants removed also increased. At the end of the twenty-five minutes a majority of the metal oxides had been removed. The alkaline cleaner tested proved to be slightly effective in loosening some of the contaminant. Using the ultrasonic aided in more successful removal.

Final analysis will be conducted by the client to determine if the level of cleaning will meet the required efficiency.

Summary:

Substrates:	Glass/Quartz, Stainless Steel				
Contaminants:	Greases, Films, Metal fines				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Alconox Inc	Alcojet	2	0.00	☑	
Alconox Inc	Citranox	2	0.00	☑	
MacDermid Industrial Products	ND 17	5	0.00	☐	

Conclusion:

Upon initial visual analysis of the parts cleaned, the cleaning procedure tested appeared to have performed adequately. Additional testing and adjustment will depend upon how the cleaned parts stand up to the client's examination.