CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	1995
DateRun:	07/25/1995
Experimenters:	Donald Garlotta, Jay Jankauskas
ClientType:	Plating Company
ProjectNumber:	Project #1
Substrates:	Aluminum
PartType:	Part
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil
Cleaning Methods:	Ultrasonics
Analytical Methods:	FTIR, Visual
Purpose:	Determine chemistry and process
Experimental Procedure:	The purpose of this trial is to determine a chemistry and mechanical method that would be suitable for Plating Company needs. WR Grace Daraclean 235 was chosen due to the fact that it was neutral (pH=7.1), contained no silicates, and it has worked for us before. Cleaning will be done in an air sparged beaker for 10 minutes at 140 F. The part was then rinsed in a tap water tank for 2 minutes at 150^{O}F, and then rinsed for 2 minutes in a DI water rinse at 120^{O}F. Drying was done under air knives for 2 minutes, under a heat gun for 2 minutes and finally in a convection oven for 10 minutes (160^{O}F).
Results:	It was obvious that the air sparging was ineffective in removing the contaminants from the parts, so the part was cleaned using ultrasonics next. The same basic operating parameters were used for the air sparging was also used for the ultrasonics. The part seemed a lot cleaner, although some oily residue remained. The part was examined using FTIR to detect any contamination. The part was then sent back to Plating Company to see if it would plate by the client.

Summary:

Substrates:	Aluminum				
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Magnaflux	Daraclean 235	7		☑	

Conclusion: Residual oil was noticed on the part after both cleanings. We will see what Plating Company thinks about the cleanliness of the part. Part cleaned with Daraclean 235 was successfully plated without any additional cleaning.