CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1997

DateRun: 10/08/1997

Experimenters: Jason Marshall, Prashant Trivedi

ClientType: Manufacturer of Computer Parts

ProjectNumber: Project #1

Substrates: Stainless Steel

PartType: Part

Contaminants: Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil

Cleaning Methods: Ultrasonics

Analytical Methods: Visual, Waterbreak

Purpose: Determine if tap water can be used for rinsing

Experimental Procedure:

The purpose of the experiment was to determine if tap water can be used in the rinsing stage.

The parts were cleaned in the 40KHz ultrasonic tank for four minutes at 130 F. Two types of rinsing were performed separately at 130F for thirty seconds. One rinsing used only tap water, the other used tap water and a rinse aid. For drying, a portable heater operating at 100oF was used. Each part cleaned was then visually inspected for cleanliness. The cleaner and rinse aid used were:

	COMPANY NAME	PRODUCT NAME
Cleaner	W.R. Grace & Co.	Daraclean 282 GF @10%
Rinse Aid	W.R. Grace & Co.	Daraguard 416
SUBSTRATE MATERIAL:	Stainless steel	

CONTAMINANTS: Client supplied oil

Results:

The parts that were rinsed with tap water only showed signs of streaking. The streaks had a similar texture to the oil at the top of the parts. This would indicate that tap water would not be suitable for rinsing. In the second trial, a rinse aid was used to assist in reducing or eliminating the streaking. Observation of the parts rinsed in the tap water containing the rinse aid revealed a reduction in streaks.

Summary:

Substrates:	Stainless Steel				
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Magnaflux	Daraclean 282 GF	10		☑	
Magnaflux	Daraguard 416	1		☑	

Conclusion:

Rinsing of the parts using tap water results in a lower removal of the excess oil from the surface. The streaking that resulted can be decreased through the use of a rinse aid. Even with the aid, tap water rinsing did not leave the parts looking as clean as rinsing with DI water.

Since the aesthetics of the parts is important, the rinsing stage will play a large part in determining how clean the parts look. Therefore, using DI water for rinsing should be considered as a way to control the appearance of the parts.