CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2007
DateRun:	06/11/2007
Experimenters:	Jason Marshall
ClientType:	Metal Working
ProjectNumber:	Project #1
Substrates:	Stainless Steel
PartType:	Part
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil
Cleaning Methods:	Ultrasonics
Analytical Methods:	Visual
Purpose:	To evaluate selected products on the supplied parts using ultrasonic cleaning.

Experimental Procedure:

The three successful products from the oil removal trials were evaluated on the supplied parts using ultrasonic energy. The products were diluted to 5% in 600 ml beakers using DI water and heated to 130 F in a Crest 40kHz ultrasonic tank filled with water. Products were degassed for 5 minutes.

Five different part types, each with a different oil were cleaned in each solution for five minutes using 40 kHz ultrasonic agitation. The parts were rinsed for 15 seconds in a tap water bath at 120 F and dried using compressed dry air at room temperature for 30 seconds. Once dry, parts were inspected visually for cleanliness.

The five oils were Tuff Draw 1730 R (knife), Vanishing oil 300 (spring), US 1517 (base plate), Blanking 250 (cup) and a combination of 6040 & 1730 R (converter).

Results:

All three products appeared to have removed the various oils from the different parts during the ultrasonic cleaning. The knives were the least clean using visual analysis. The table lists the overall cleaning ranking of the three products.

Product	Ranking
Aquavantage 1400 GD	1
Inproclean 3800	3
Sea Wash Blue	2

Summary:

Substrates:	Stainless Steel				
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Brulin Corporation	Aquavantage 1400	5	0.00	☑	
Oakite Products	Inproclean 3800	5	0.00	☑	
Warren Chemical Company	Sea Wash Blue	5	0.00	☑	

Conclusion:

All three products worked well under laboratory conditions. Parts have been sent back to client for final inspection. Piloting on-site should be conducted to establish the optimum cleaning conditions.