CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	1999
DateRun:	08/01/1999
Experimenters:	Jason Marshall
ClientType:	Brazing-Heat Treating
ProjectNumber:	Project #1
Substrates:	Carbon Steel, Stainless Steel
PartType:	Part
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Black light, Photography
Purpose:	To clean client supplied parts using cleaners from previous test.
Experimental Procedure:	Three cleaners were selected from the previous trial based on the calculated cleaning efficiencies. The cleaners ere made into five percent solutions using DI water in 600 ml beakers. The solutions were heated to 130 F on a hot plate. Ten parts were placed on a piece of wire and viewed under an UVP Inc. Black light, Model UVL-56 longwave UV-366nm to evaluate the extent of the fluorescence of the oil on the parts. The group of parts were then photographed using a Kodak digital science DC260 Zoom Camera. The wire and parts were immersed into the cleaning solution for five minutes. The parts were rinsed in tap water at 120 F for 30 seconds and dried using Master Appliance Corp, Hot-air gun model HG-301A at 500 F for one minute. Parts were then viewed under the black light again to check for any remaining oil and then photographed. SUBSTRATE MATERIAL: Stainless Steel (316) and Carbon Steel jet engine parts. CONTAMINANTS: Quenching Oil (CAS #s64742-54-7; 64742-56-9; 8052-42-4)
Results:	Under the initial black light viewing, there was a milky-white glow given off by the oil on the parts. After the cleaning cycle, there was no fluorescing on any of the parts, signifying the removal of the oil from the parts. All three cleaners removed the oil from the parts. Figure 1 shows contaminated parts and parts cleaned in each solution.

Summary:

Substrates:	Carbon Steel, Stainless Steel				
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
AW Chesterton	KPC 820 N	5	0.00	☑	
Calgon Corporation	Geo Guard 2215	5	0.00	☑	
US Polychem Corporation	Polyspray Jet 790 P	5	0.00	☑	

Conclusion: The AW Chesterton, Calgon and US Polychem products were effective in removing the quenching oil from the jet engine components.