

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1998

DateRun: 04/02/1998

Experimenters: Jason Marshall

ClientType: Manufacturers of Precision Parts and Assemblies

ProjectNumber: Project #2

Substrates: Stainless Steel

PartType: Part

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

Cleaning Methods:

Analytical Methods: OSEE

Purpose: Evaluate cleanliness of parts

Experimental Procedure: Six parts from each cleaning stage were analyzed using an Optically Stimulated Electron Emissions instrument(OSEE) from PAT Inc. One reading was made for each sample. An average of the six readings was made.

SUBSTRATE MATERIAL: 303 Stainless steel

CONTAMINANTS: C-Eblis oil (sulfur based)

Results: The values obtained for the new bath were greater than the 2-week old bath. With only two different stages available for testing, not a lot of comparison can be made. Table 1 lists the individual and average readings for the new and 2-week samples.

Table 1 OSEE Readings

| Bath Age | OSEE #1 | #2 | #3 | #4 | #5 | #6 | Average |
|----------|---------|------|------|------|------|------|---------|
| New | 1350 | 1349 | 1340 | 1319 | 1351 | 1351 | 1343 |
| 2 Weeks | 202 | 191 | 193 | 178 | 210 | 201 | 196 |

Because of the small size of the parts only one reading per sample was recorded (OSEE values decrease the longer a sample is exposed to the ultraviolet light).

Summary:

Conclusion: As of now, limited conclusions can be made due to the number of bath ages to be analyzed. With time, specific relationships may be determined with more data. Next, tests will be conducted on the liquid cleaning bath. Hopefully, readings of the bath characteristics can be related to cleaning efficiency. This will allow the client to determine when the cleaning bath needs to be changed.