CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2023

DateRun: 04/14/2023

Experimenters: Siddhant Trivedi, Serena Burkinshaw, Dylan Labonte

ClientType: Lab

ProjectNumber: Project #6

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Lubricating/Lapping Oils, Oil

Cleaning Methods: Vacuum Cycle Nucleation

Analytical Methods: Gravimetric

Purpose: To determine the efficacy of aqueous cleaners compared to water utilizing VCN equipment.

Experimental Procedure: Eighteen pre weighed stainless steel coupons were used, three per soil per cleaner. Half of the coupons were soiled by swabbing the bottom third of the coupons with Production Soil, while the other half of the coupons were soiled with DTE Cutting Oil. The dirty weights of all coupons were then recorded. The coupons were then subjected to a one-minute heated cycle at 140 degrees F in the VCN using water, Alcojet 1% concentration, and LF2100 1% concentration. The coupons were then removed and left to air dry overnight. The next day the clean weights of the coupons were recorded.

Results:

Cleaner	soil	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
Water	Production Soil	0.0348	0.0017	95.11	95.36	97.64
		0.0380	0.0030	92.11		
		0.0693	0.0008	98.85		
	Mobil DTE Cutting Oil	0.1500	0.0027	98.20	99.92	
		0.0827	-0.0018	102.18		
		0.1610	0.0010	99.38		
Alcojet 1%	Production Soil	11.5932	0.0000	100.00	100.01	99.69
		11.7287	0.0010	99.99		
		-11.5436	0.0047	100.04		
	Mobil DTE Cutting Oil	0.1142	0.0009	99.21	99.38	
		0.1538	0.0015	99.02		
		0.1909	0.0002	99.90		
LF2100 1%	Production Soil	0.0867	0.0000	100.00	99.16	98.84
		0.0726	0.0003	99.59		
		0.0715	0.0015	97.90		
	Mobil DTE Cutting Oil	0.1408	0.0022	98.44	98.52	
		0.0945	0.0012	98.73		
		0.1119	0.0018	98.39		

Summary:

Substrates:	Stainless Steel
Contaminants:	Lubricating/Lapping Oils, Oil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Water	Water	100	98.00	☑	
Alconox Inc	Alcojet	1	99.00	☑	
International Products Corporation	LF 2100 (Liquid Foam Cleaner)	1	99.00	☑	

Conclusion: Water, Alcojet 1% concentration, and LF2100 1% concentration are highly effective in removing both soils from stainless steel utilizing VCN methods.