CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	1998
DateRun:	09/03/1998
Experimenters:	Jason Marshall, Tony Pu, Shyam Sarda
ClientType:	Nozzle Manufacturer
ProjectNumber:	Project #1
Substrates:	
PartType:	Coupon
Contaminants:	None
Cleaning Methods:	Low Pressure Spray
Analytical Methods:	Force Measurement
Purpose:	To measure the impact force from the client supplied nozzle.
Experimental Procedure:	Water from a fire hydrant was used at a pressure of 40 psi to operate the nozzle. The force gauge was mounted in an acrylic box at the same height of the nozzle 10 feet away. The gauge was wired to a computer to provide data retrieval and storage. Readings were recorded continuous rate of 10 times a second. Several passes of the water stream were allowed to cross the 12"x 12" aluminum plate mounted to the force gauge. After a few minutes, the stream was positioned to directly hit the plate without moving. Data was collect in the units of Newtons and then converted to lbs of force. The Nozzle used was: COMPANY PRODUCT Nozzle MFR M20/2 ANALYTICAL METHODS: Force Measurements-Shimpo Model FGV-50
Results:	The data obtained from the force gauge were opened into an Excel file and graphed in Figure 1. Negative values were obtained throughout the testing. It was determined that when the water stream contacted the plate off center causing the plate to swivel and pull on the force gauge instead of pushing into the instrument.
Summary:	
Conclusion:	Having obtained results at the 10 foot distance, the next trial will be conducted at two more distances, one of them being 22 feet and the other to be determined after the 22 foot distance. Data will be recorded in pounds of force instead of Newtons.