

# LITH 145 Project Overview and Initial Results

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Kenneth Racette, Dennis Hayden, Monica Barrett of IBM  
Thomas White of ISMT

# Lith 145 Overview

## Purpose

- **Evaluate current reticle handling, shipping and storage methods to determine effects on plate contamination**
  - benchmark reticle SMIF pod (RSP) storage and shipping capability
  - cross-section of reticle handlers currently in use

## Method

- **Utilize laser scattering inspection tool to measure plate contamination pre/post various handling, shipping and storage activities**

## Schedule

- **Initiate project 3Q03**
- **Complete project 1Q04**

# Lith 145 Overview

## Activites

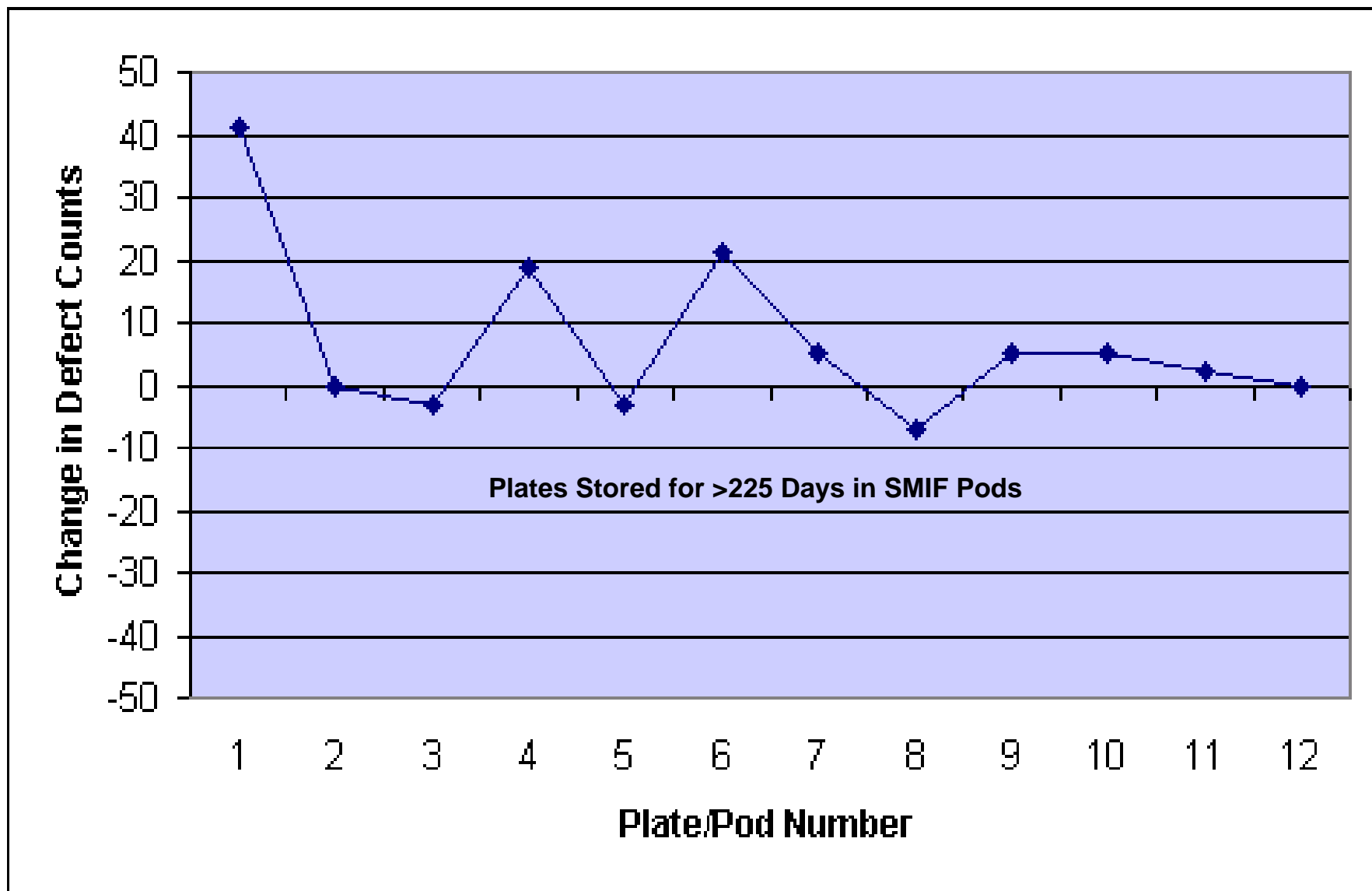
- **Clean reticles and measure contamination**
- **Clean RSP's and pre-count particles**
- **Ship reticles round trip in RSP's, then re-inspect**
  - East coast to Austin, TX
  - palletized boxes with eight RSP/reticles
  - unbundled boxes with four RSP/reticles
- **Limited cycling thru mask handling tools with pre/post measurement**
- **Limited testing of RSP rough handling and non-clean room storage**

# Current Status

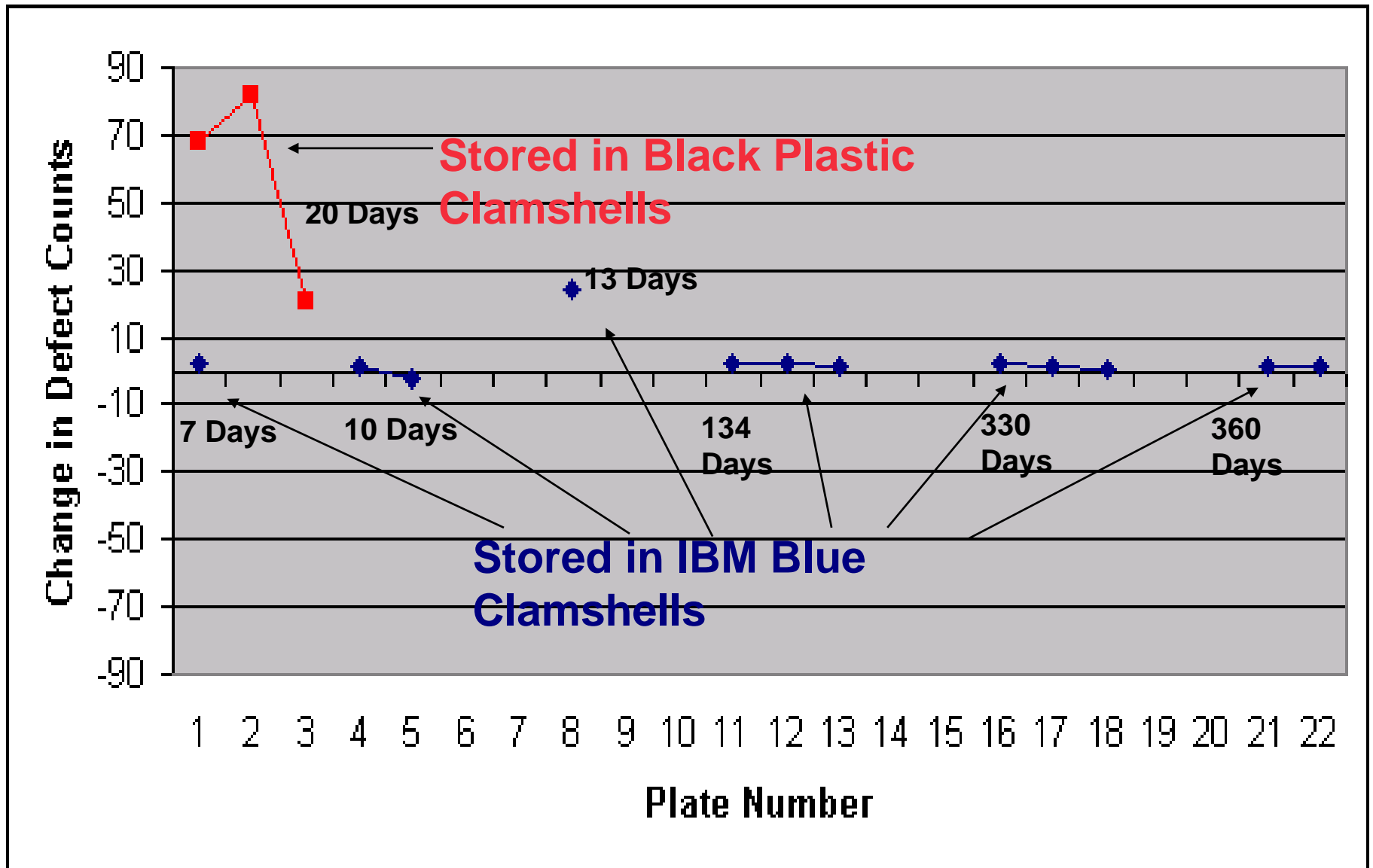
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- **Limited data collected in several areas**
  - reticle storage in 200mm SMIF Pods
  - reticle storage in clamshells
  - effects of repeated manual opening/closing of RSP's
  - rough handling of RSP's
  - non-cleanroom storage
  
- **Data presented in next several foils**

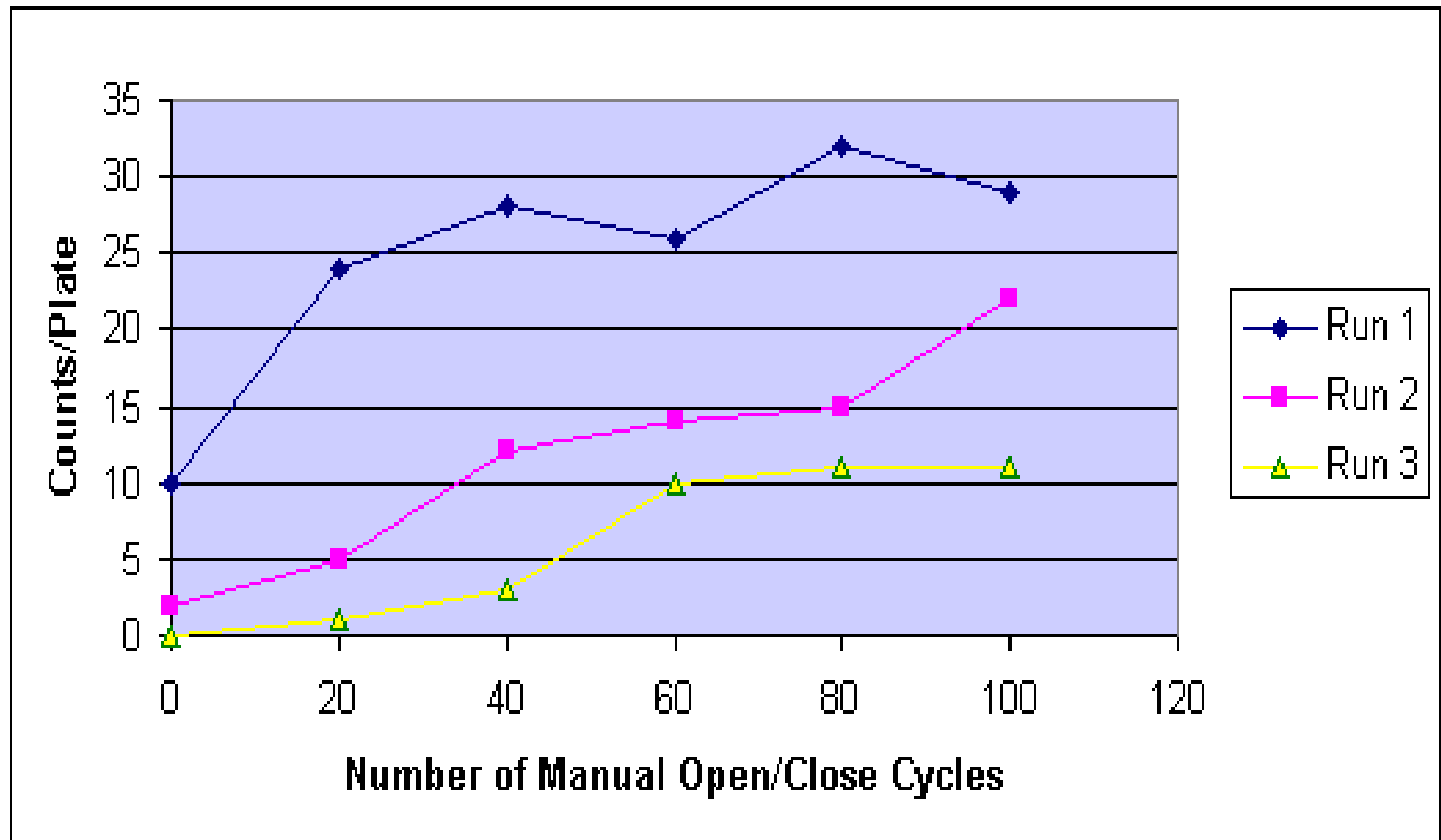
# Effect of Reticle Storage in 200mm SMIF Pods



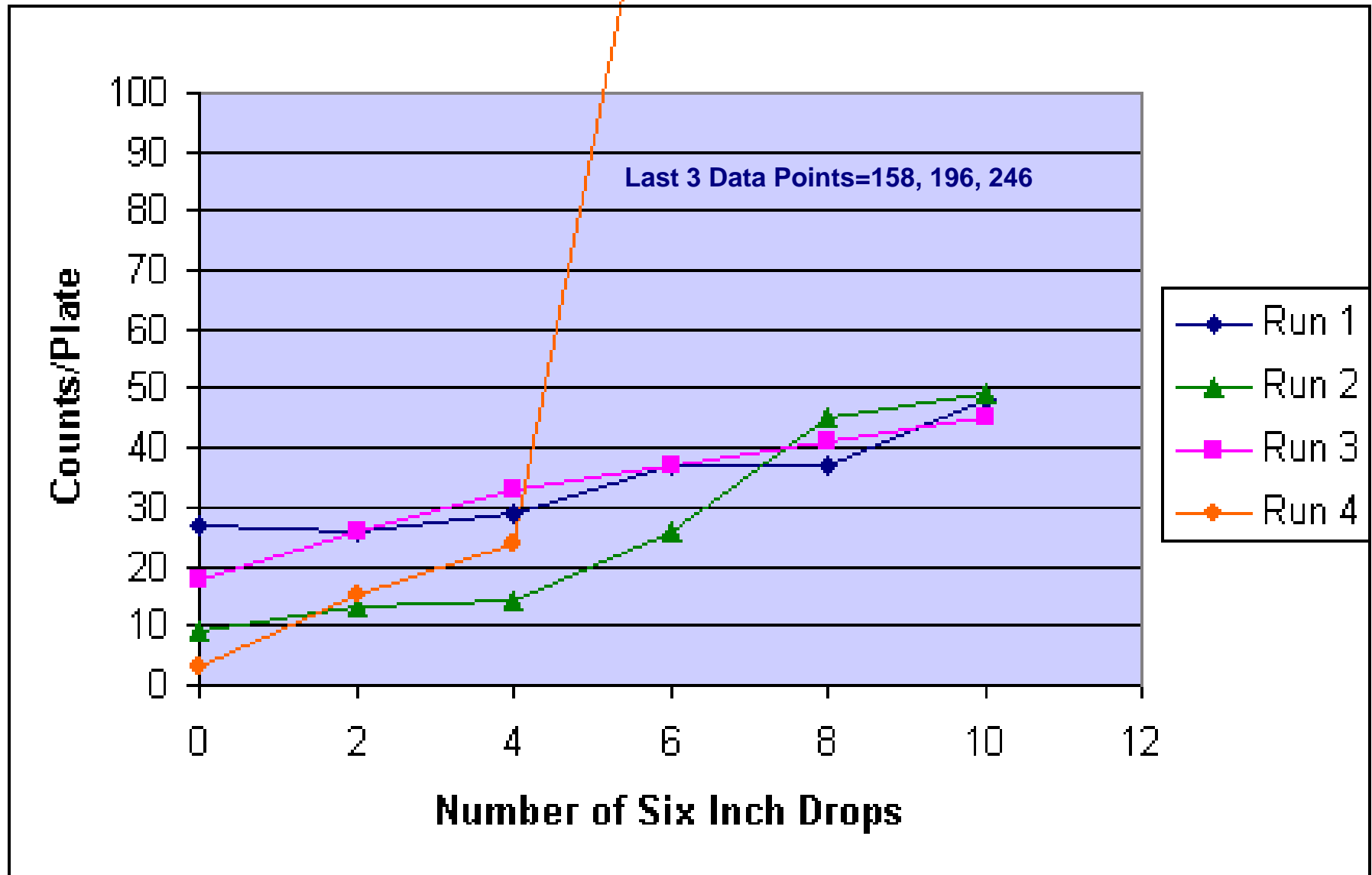
# Effect of Clamshell Storage



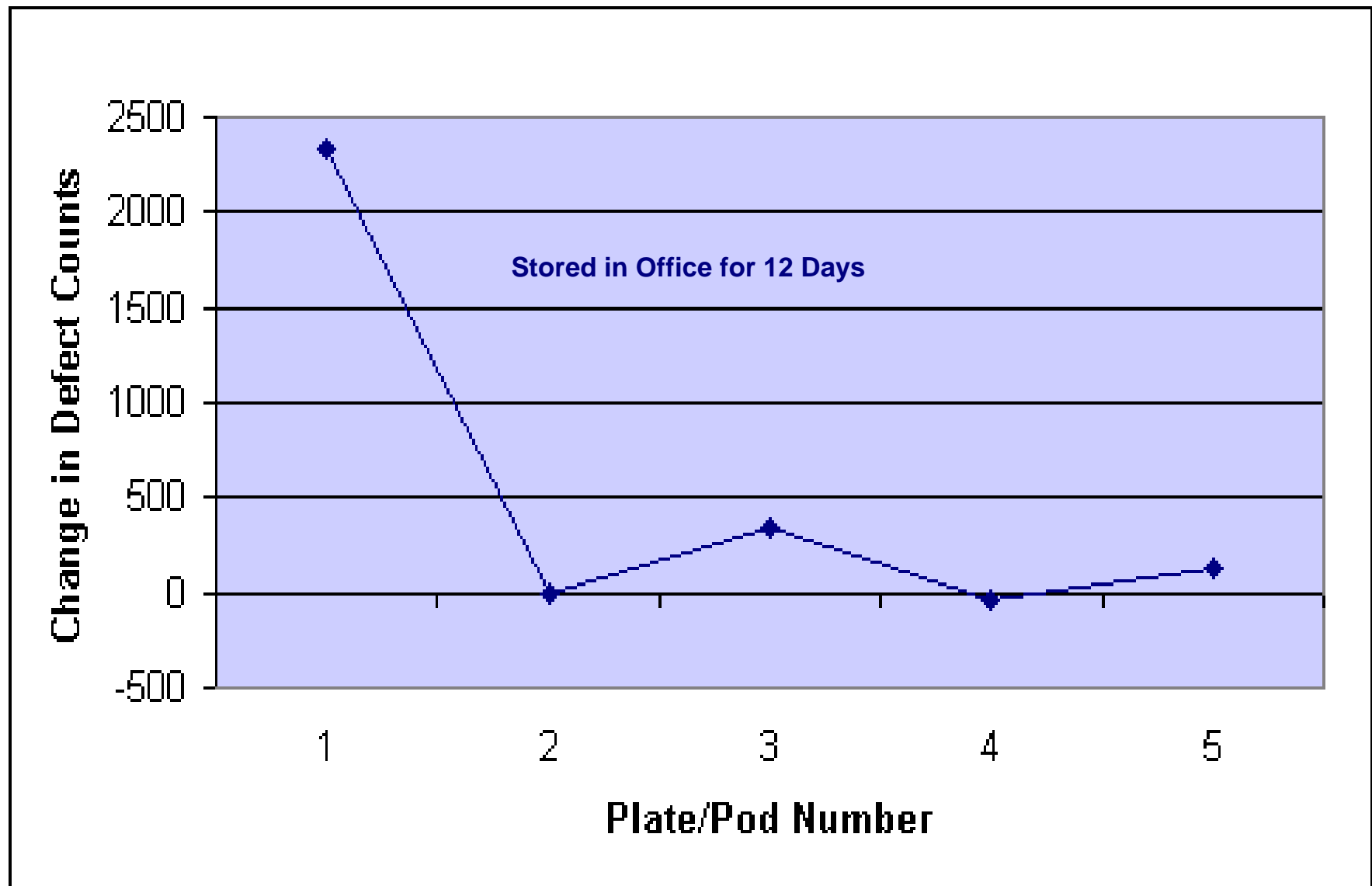
# Effect of Repeated Manual Open/Close of Pod



# Effect of Repeated Pod/Plate Drops



# Effect of Storage in Non-Cleanroom Environment



# Summary

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- **Initial reticle and RSP cleaning and pre-measurement completed**
  - post-clean plate counts <10
- **Storage data shows both IBM blue clamshells and RSP's perform well with a few exceptions**
- **Limited testing of RSP rough handling and non-clean room storage completed**
  - initial results suggest RSP's not adequate under these conditions
  - additional tests will be performed
- **Shipment tests to begin early October**
- **Mask handling tool cycling will begin late October**