

SAS* Graphics & More - "Black Magic"

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I. MISTIC - IMS Database:

- A. Materials Integrated System for Test Information and Communication (MISTIC)
- B. IMS Databases (7) Producer, Contract, Material, Mix Designs, Pay Item, Inspector, & Daily Activity Log
- C. Excellent and Inexpensive Online Queries
- D. Flexible Overnight Reporting (Easytrieve Plus**)
- E. Special Reporting requires program expertise.

====> Is even more magic needed?

II. Black - Bituminous Concrete Mixtures:

- A. Components - Aggregates, Asphalt, & Additives
- B. Mixture Design - Defining the best mixture
- B. Mixture Plant - Controlling Mix Preparation
- C. Laydown - Compaction
- D. The CHALLENGE - Durability vs. Stability

====> How to manage the Black Challenge?

III. Need to View Producer vs. State Tests:

- A. Increased Producer testing with reduced State testing.
- B. Use of faster and safer test methods.
- C. Comparative Analysis between State/Producer tests required.
- D. Statistical monitoring of test data to verify compliance.
- E. Graphs for fast, effective producer test views
- F. Statistics for specification development
- E. Alternate Views of Test Data for Problem Solving.

====> So what information do we need?

IV. New Requirements (by Contract & Producer):

- A. Must Utilize Existing MISTIC System (Test Records)
- B. Producer Test Information must be accessible
- C. Easy Access to Key Test Elements
- D. Capability to Select, Merge & View Related Information
- E. Effective Statistics
- F. Graphical Views of Key Data
- G. Online (EASY) Access by Engineers/Technicians
- H. MISTIC IMS Databases in MVS Environment
- I. Interface with NOMAD*** Materials/Research Databases
- J. Cost Effective.

====> How to accomplish this task efficiently?

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- V. SAS a Proven Tool to Get the Job Done:
- A. SAS in batch mode used for many Statistical Projects
 - B. Used in conjunction with Easytrieve Plus Reports
 - C. Existing Report Pull Files used for input into SAS
 - D. SAS GRAPH* used by Central Office effectively

====> Fast, Effective, and Economical!

- VI. SAS the "MAGIC" for the NEW CHALLENGE:
- A. SAS Version 6.06 - The REAL MAGIC
 - B. Interactive User Windows (SAS/AF*)
 - C. Much Improved Graphics
 - D. Improved Statistics (SAS/STATS*)
 - E. Great Sub-setting, Transposing, merging (Proc SQL)
 - F. Many Methods for Viewing Data (SAS/FSP*)

====> How to implement the "MAGICAL" SAS?

- VII. The New MISTIC-SAS Development:
- A. Gather Technical Information (SAS 6.06 & Conversions)
 - 1. Conversion Classes
 - 2. Purchase SAS Manuals
 - B. WISAS User Groups Information Exchange (Wisconsin-Illinois SAS Users Group)
 - C. Interaction with other SAS Users (INFORMATION EXCHANGE)
 - C. Evaluation SAS 6.06
 - D. Convert Existing Programs
 - 1. Statistical
 - 2. Graphical
 - E. Develop New Important Applications (Aggregate Certified Sources)
 - F. Develop SAS/AF Application Menus
 - 1. Menus
 - 2. Applications by Category
 - 3. Utilities
 - a. Default Printer & Destinations for each office
 - b. Change Printer & Destination
 - c. Change CRT Display
 - d. Select Plotter Drivers (A, B, and/or Rotate)
 - F. Develop New Important Applications (Bituminous Mixtures)
 - G. Documentation
 - H. User Orientation & Training:
 - 1. MISTIC Coordinators meetings
 - 2. Districts visits included discussion and hands on SAS
 - 3. During routine contacts User encourage to use SAS
 - 4. Managers provided with outputs illustrating SAS capabilities.
 - 5. Interactive Views/Graphs with Plots demonstrated

====> Users like what they see!

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VIII Graphic Hardware Requirements:

- A. Color Graphics Terminals (IBM-3472 Color Info Windows)
(Configured for Multiple Sessions - TSO/IMS/VM)
- B. Plotters attached to above Terminals
- C. Color Graphics Printers (IBM-4224 or IBM-3287)

====> Users request purchase of hardware!

XI. "BLACK MAGIC" - an illusion or a magical illustration!

Attached are example graphical and statistical outputs from the MISTIC-SAS Application.

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**Easytrieve Plus is a registered trademark of Pansophic Corporation.

***NOMAD is a registered trademark of MUST Software, France, Europe.

Author:

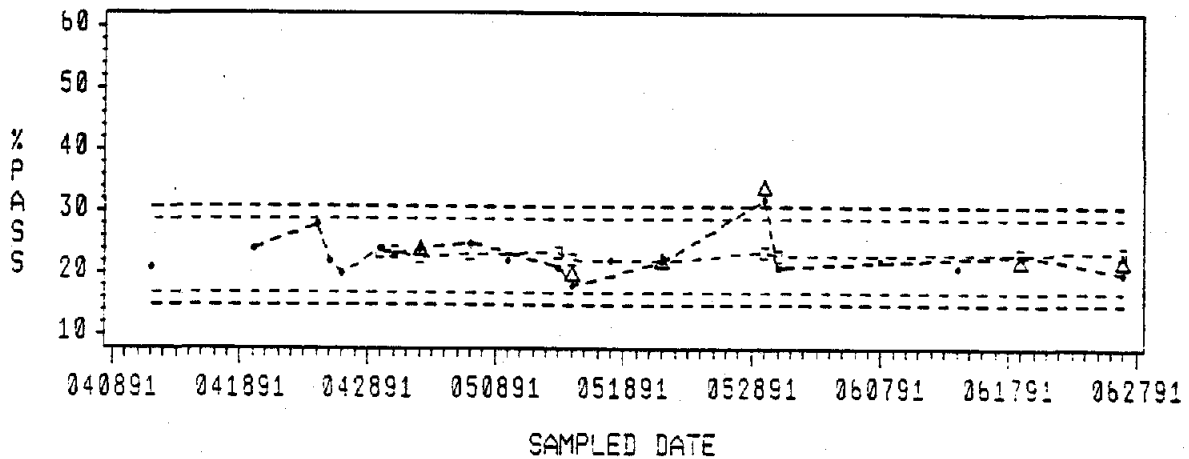
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Attachments

AGGREGATE CERTIFIED SOURCE FIELD GRADATION CHARTS

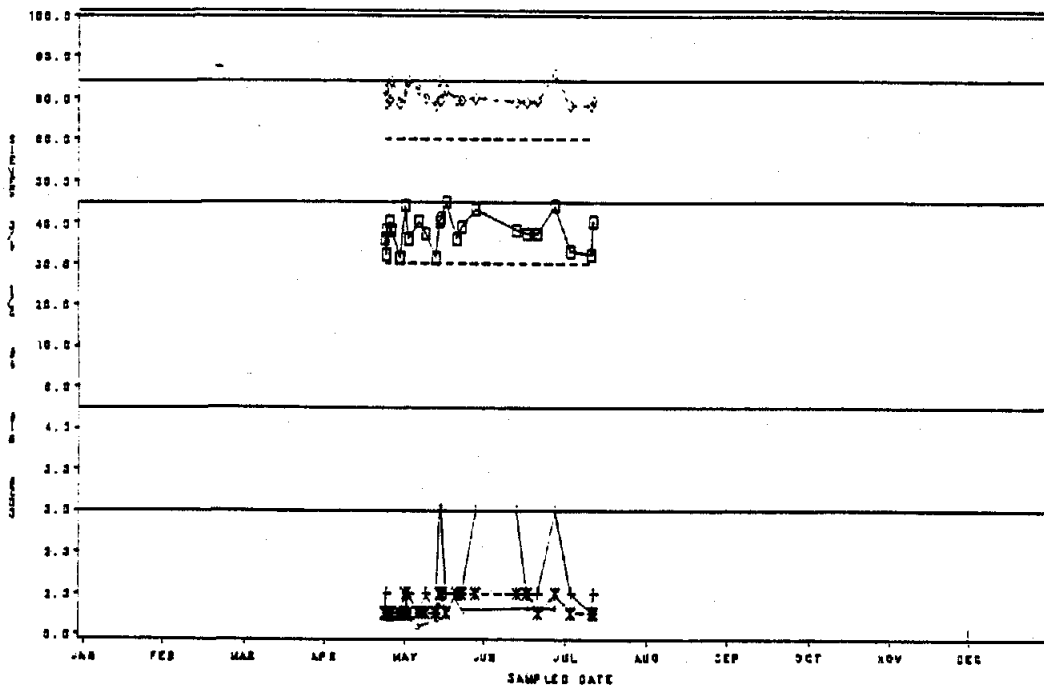
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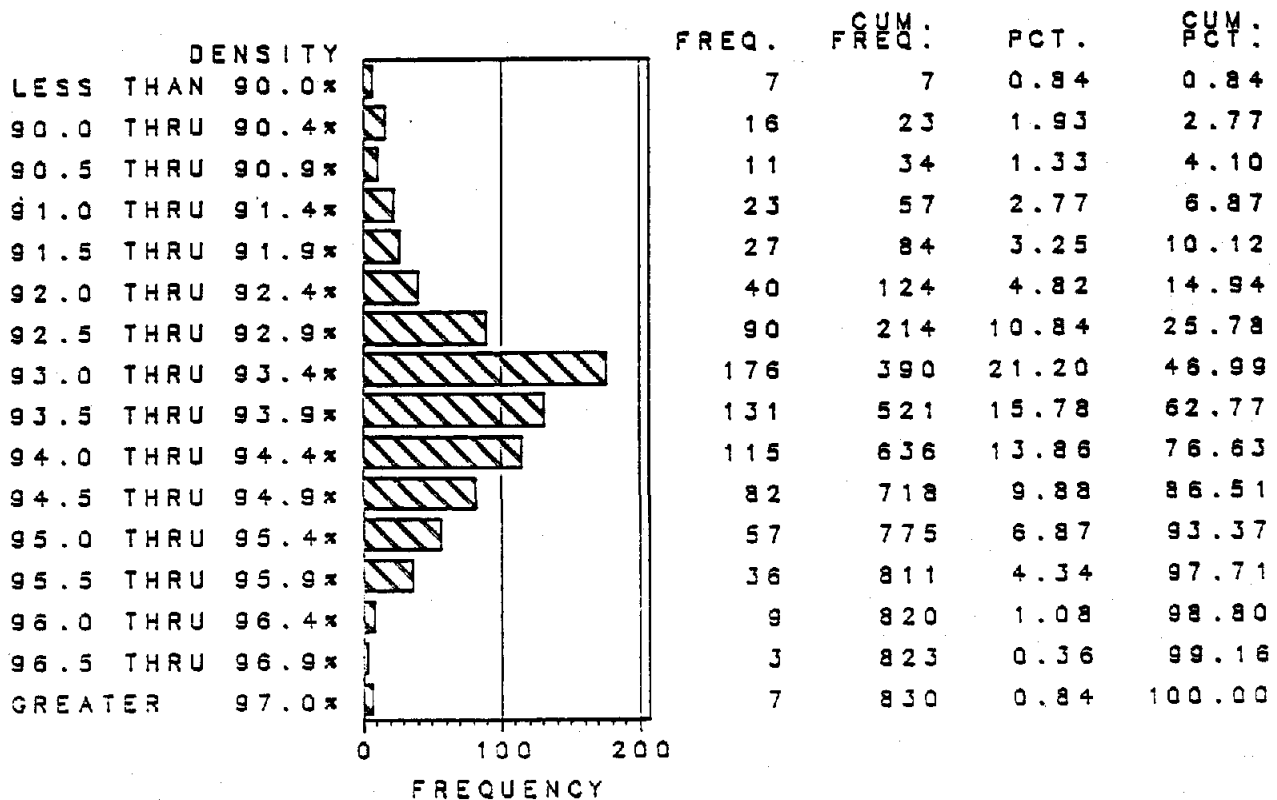
AGGREGATE PRODUCER FIELD GRADATION CHARTS

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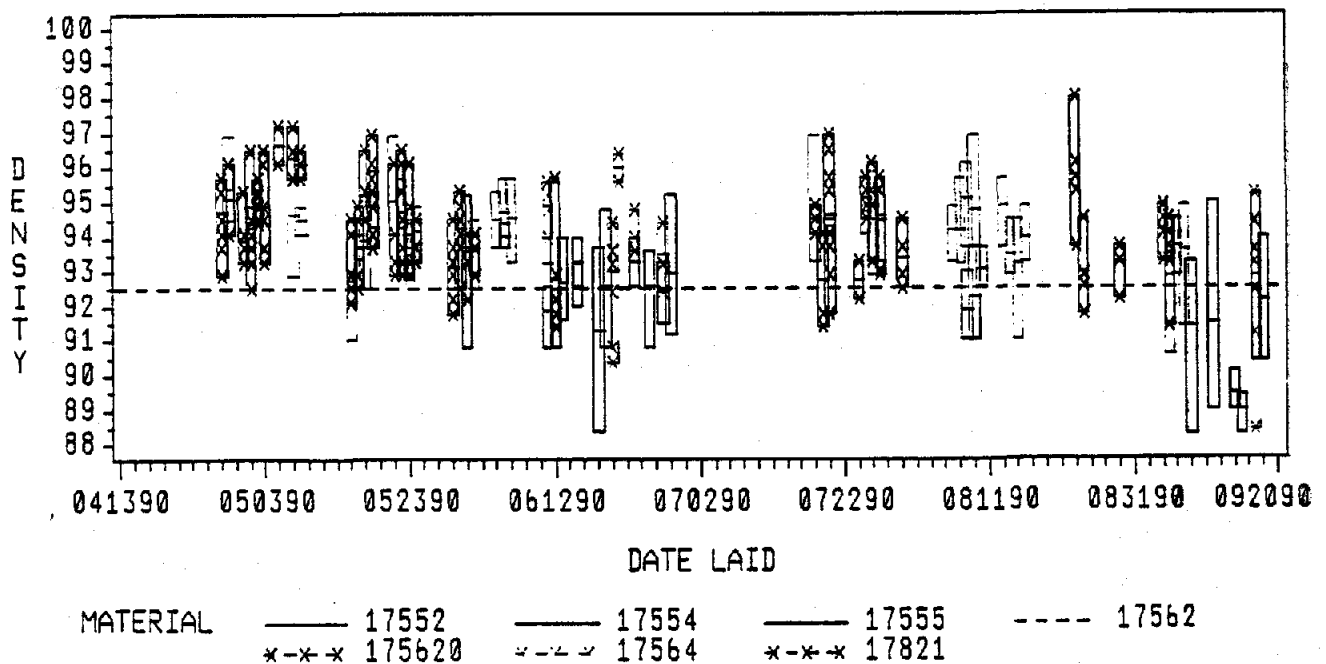
BITUMINOUS MIXTURE DENSITIES

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DISTRICT CLASS I TYPE 1-2 BITUMINOUS MIX DENSITIES - HIGH/LOW/AVERAGE

DIST=91 CONTRACT=80208 PROD=' 3960-06' .-PALUMBO BROS. INC. EQUIP=C



VERTICAL BAR DISPLAYS DAILY CONTRACT HIGH, LOW, AND MEAN DENSITY.