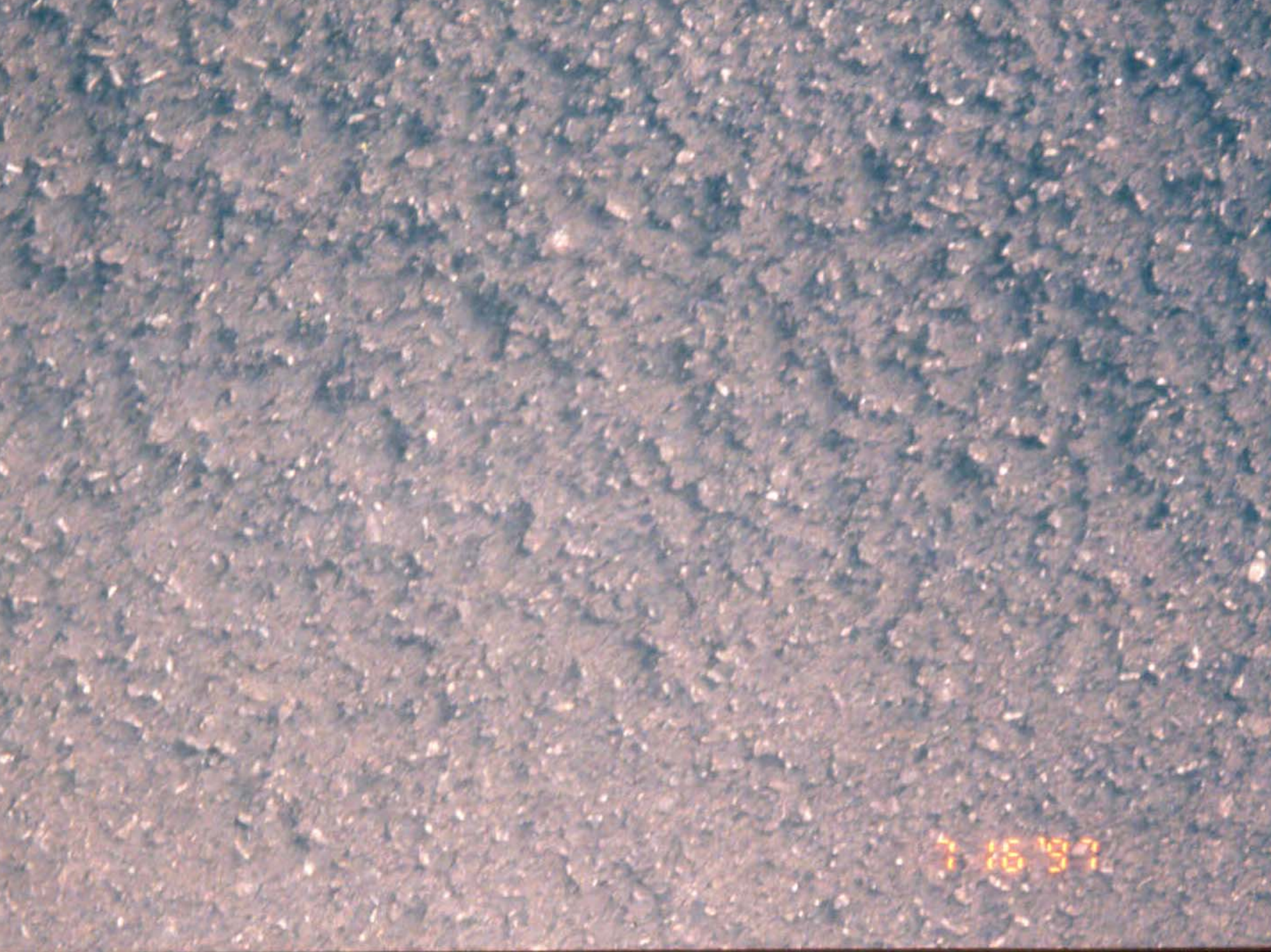
MOISTURE

What is the Effect on HMA?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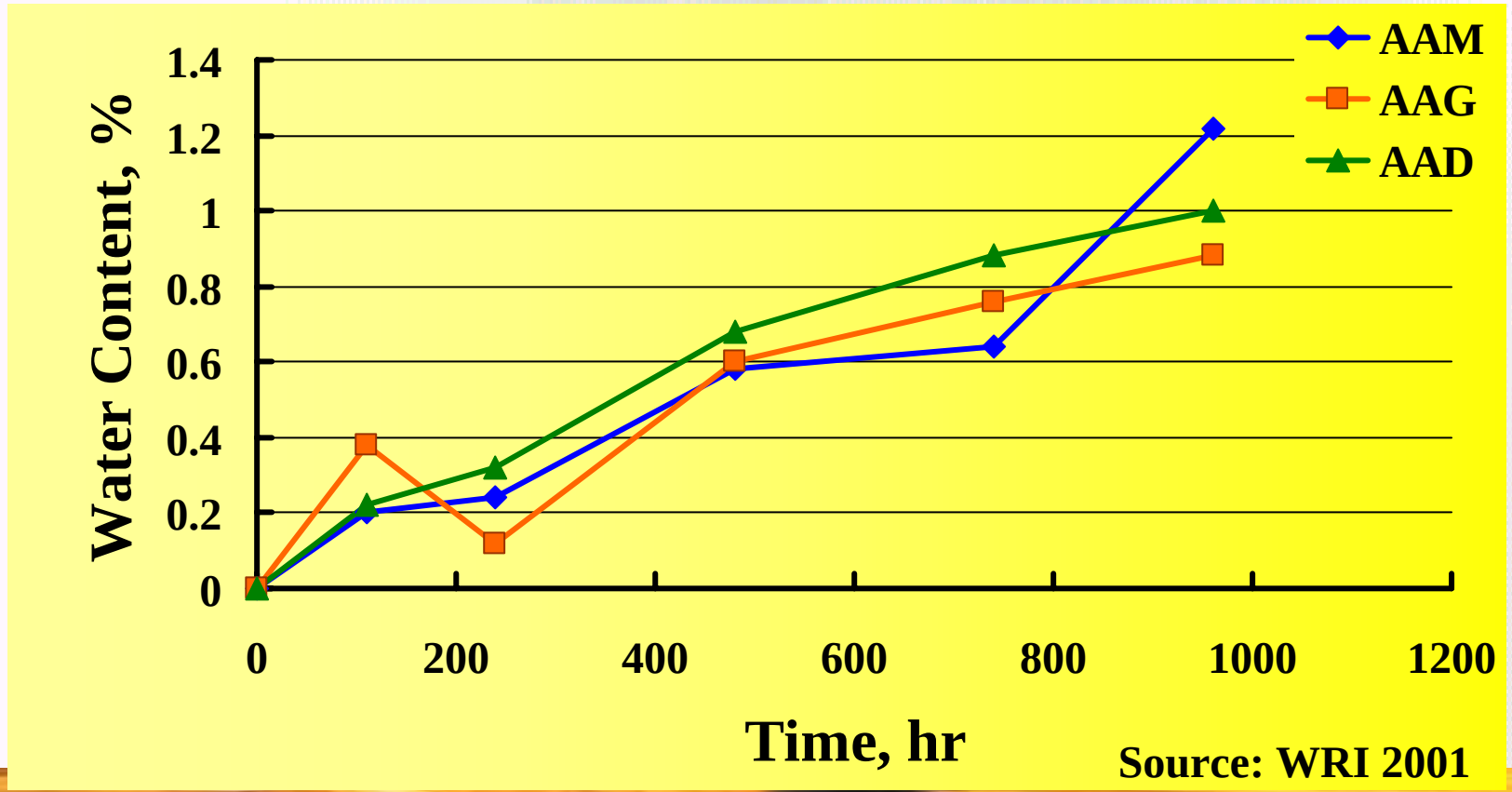
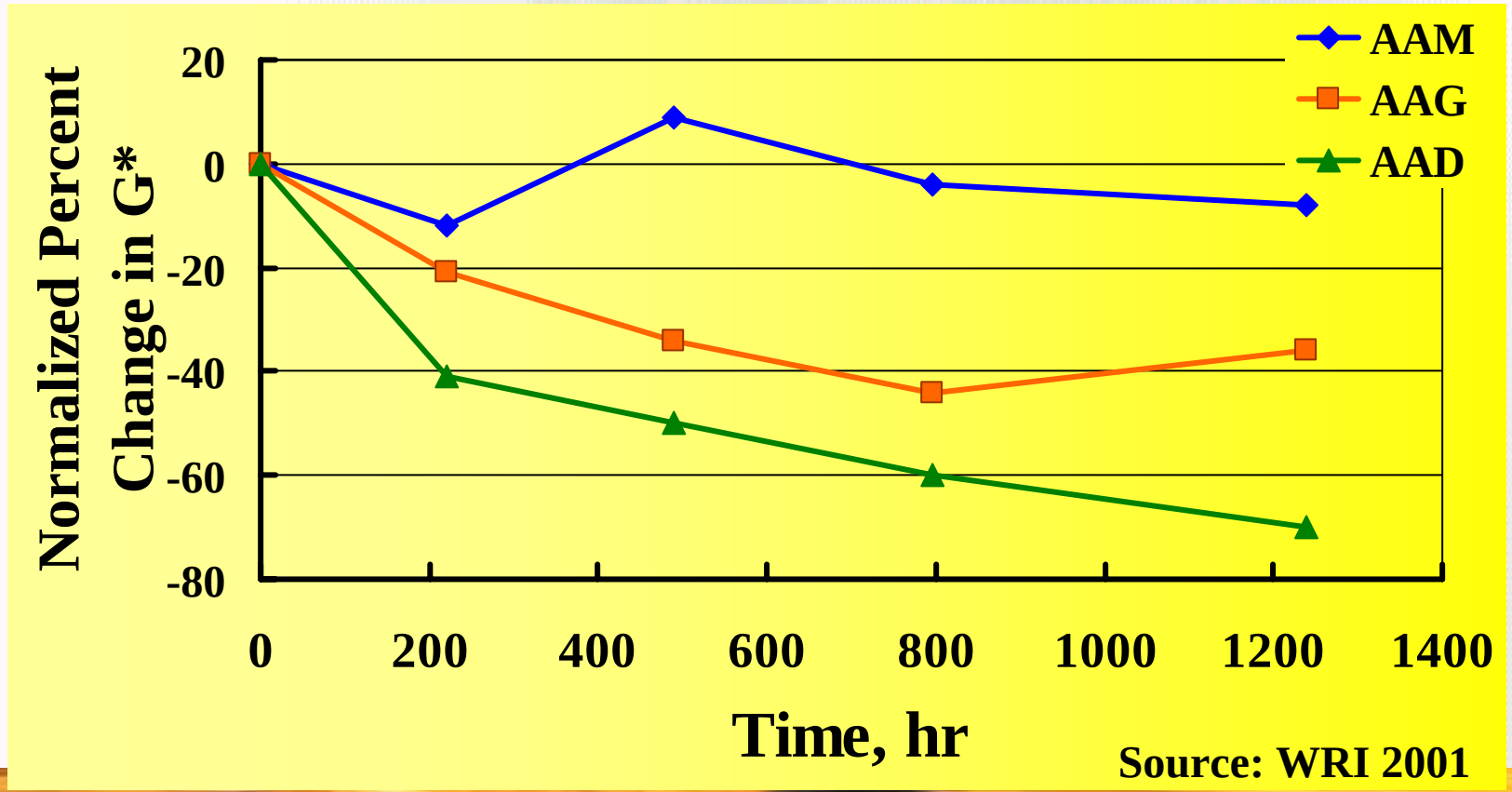
MOISTURE EFFECT

Moisture Enters the Asphalt Binder and Reduces the Stiffness During Construction and Remains for a Short Time After Construction

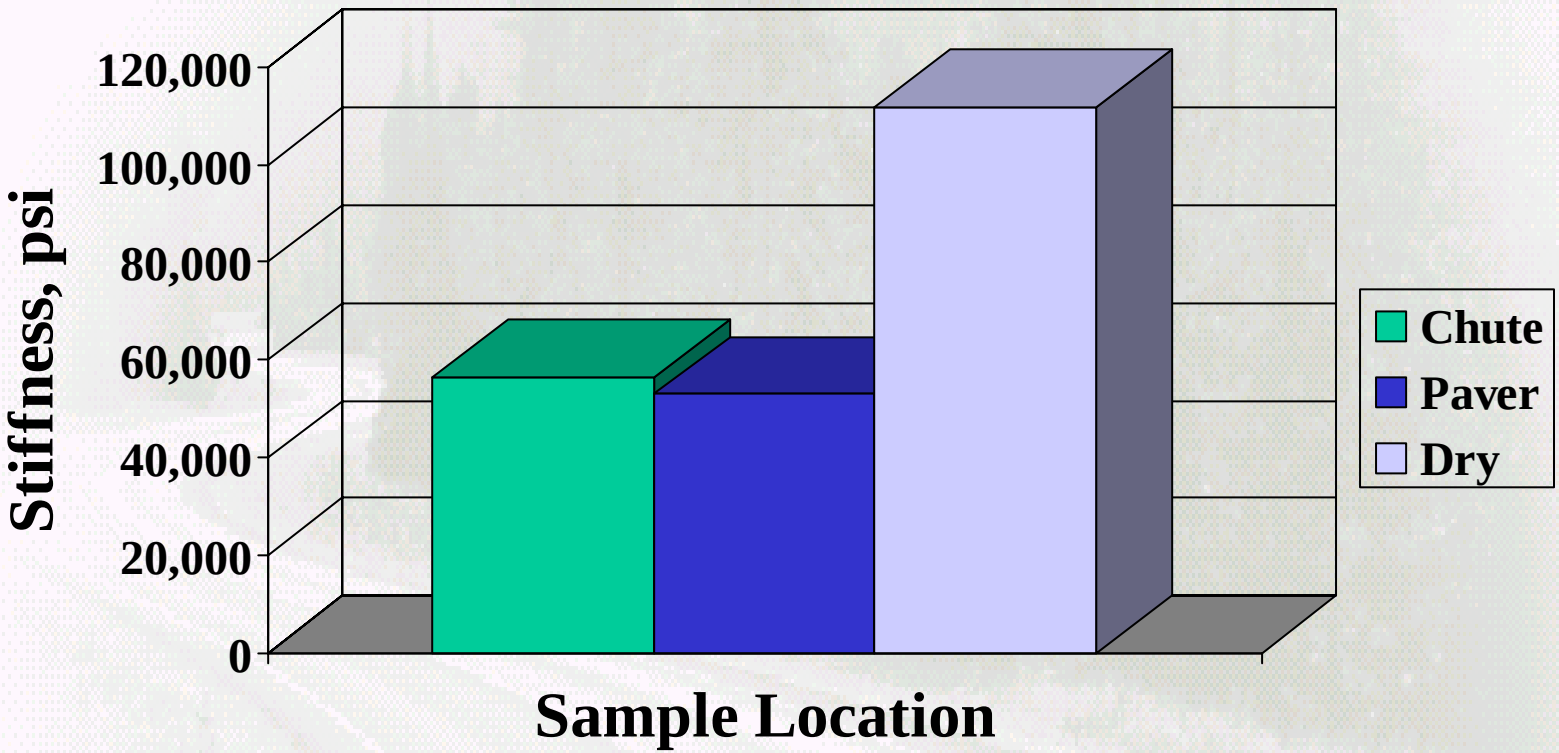
ABSORPTION OF WATER BY ASPHALT BINDER



ROLE OF MOISTURE ON ASPHALT BINDER STIFFNESS



MIX STIFFNESS

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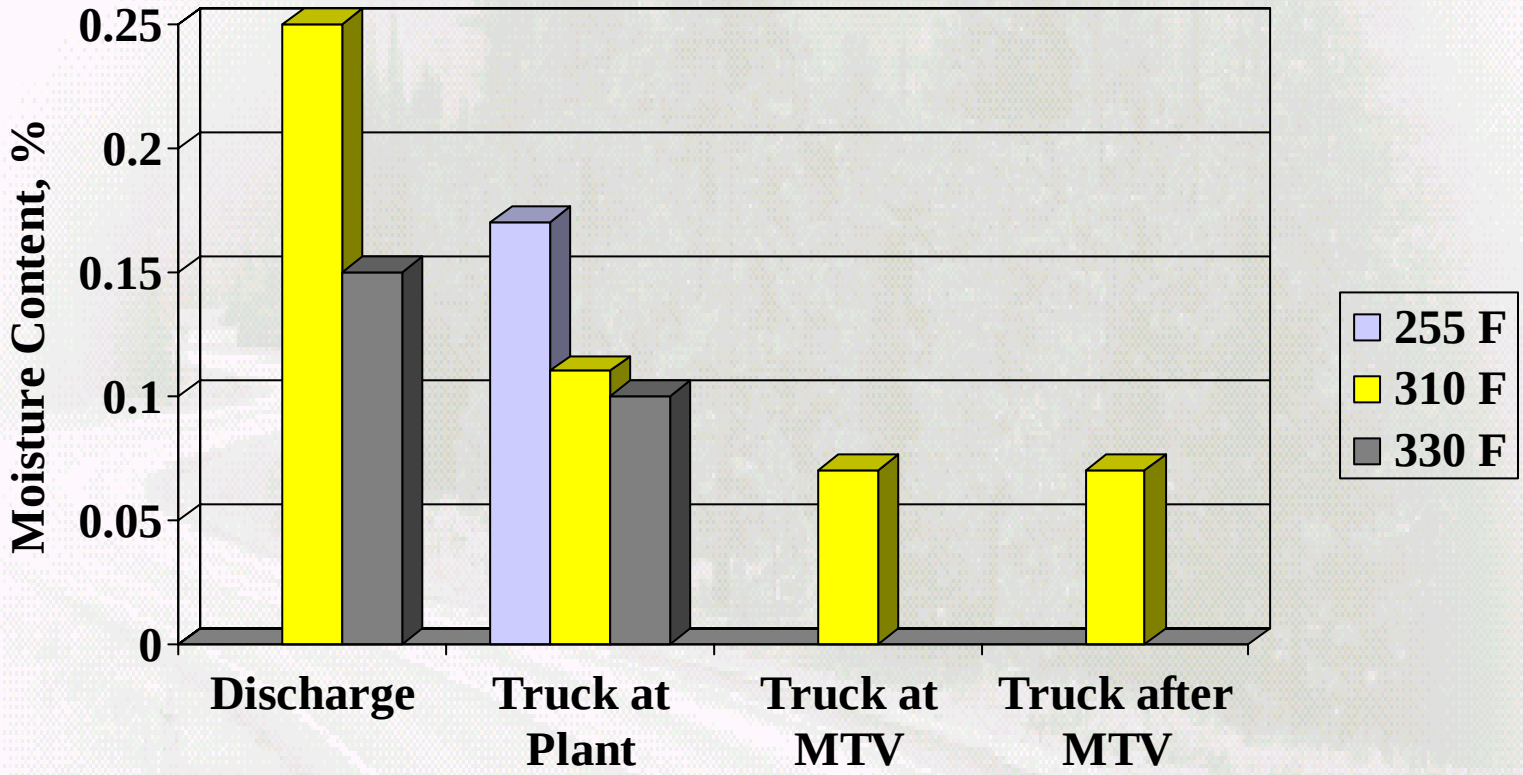
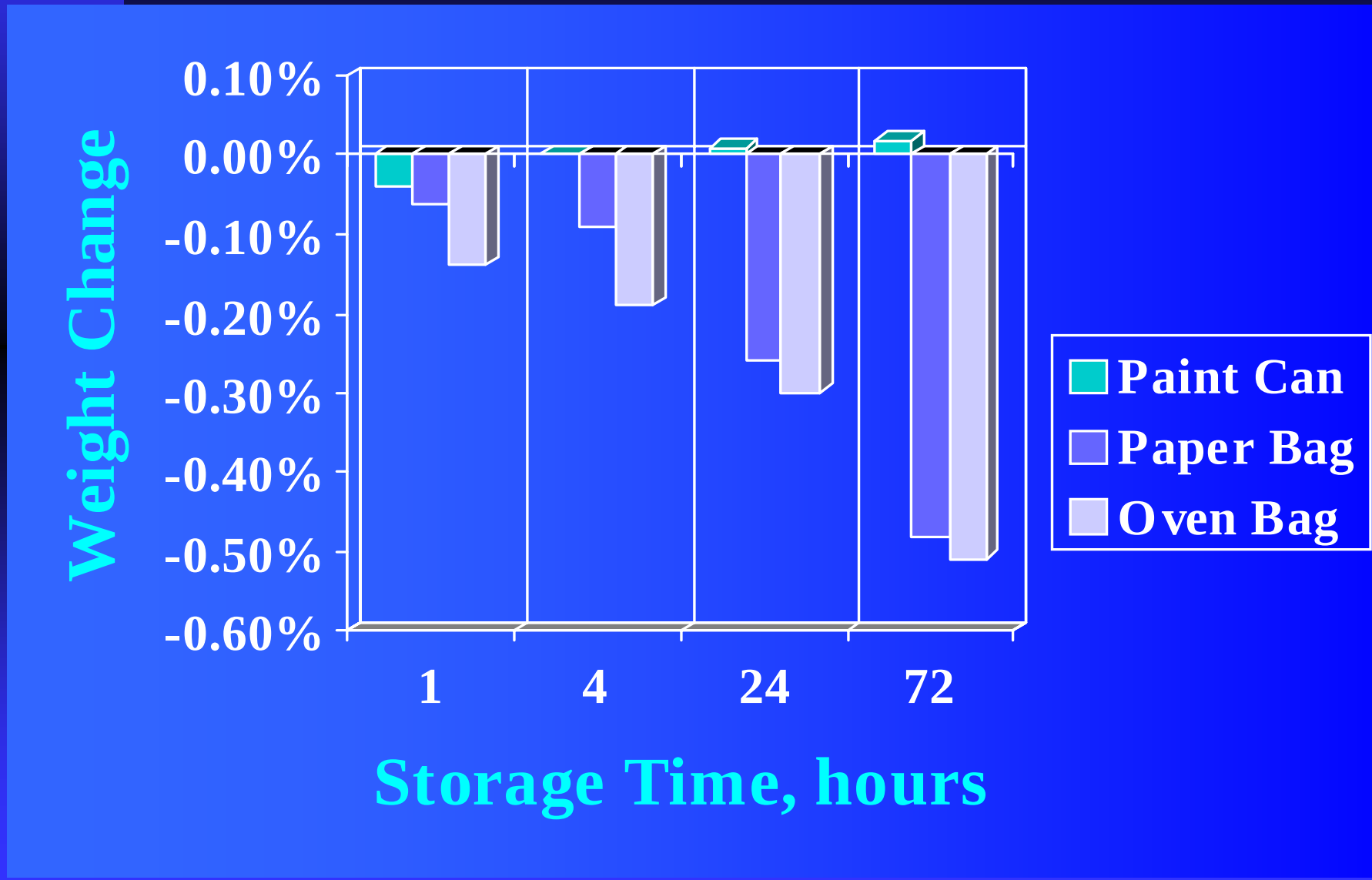
DANGER
2000/10/27

Moisture Content



Methods of Storing Moisture Samples



Unsealing…

- After the designated time, samples weighed before being unsealed…

Conclusion:

Best Method

Sealed paint can

Storage times

Up to 72 hours

Determining Entrapped Moisture in Asphalt Mixtures

Evaluation of Storage Container Time From Sampling

Shay C. Emmons, Asphalt Institute

Objectives:

- **Develop method to entrap moisture in mixtures in the laboratory**
- **Develop a recommendation for**
  - **Sample container**
  - **Sample storage time**
- **Recommend method of measuring moisture**

Procedure:

- Crushed chert mix with 2.9% absorption
- Placed in 5 gallon plastic buckets
- Covered in water and soak 24 hours.

After Soaking…

- Aggregate and water were transferred into a pail-mixer
- Residual material on the sides of the plastic bucket was also rinsed into the mixer

Mixing Begins…

- The pail-mixer was then activated to continually mix the aggregate while rapidly heating the wet material with a large propane torch

Monitoring Temperature...

- Periodically, the temperature of the aggregate was tested with an infrared temperature gun

Adding the Binder…

- When temperature reached 290°F, 6.8% AC poured into mixer
- Mixed until fully-coated (approximately 90 seconds)

Splitting the Sample...

- Immediately quartered into four samples