

**Chapter 18**  
**Tex-220-F, Determining Percentages of White Rock  
Contained in Native Rock Asphalt**

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## **Section 1**

### **Overview**

Effective Dates: August 1999 – November 2004.

Use this method to determine the percentage, by weight, of white rock (material having a naturally impregnated asphalt content of less than 1%) in a sample of crushed native rock asphalt.

#### **Units of Measurement**

The values given in parentheses (if provided) are not considered to be standard and may not be exact mathematical conversions. Each system of units shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

## **Section 2**

### **Apparatus**

The following apparatus is required:

- ◆ sample splitter or quartering cloth
- ◆ balance readable to 0.1 g and accurate to 0.5 g
- ◆ drying oven, capable of maintaining a temperature range of 40 to 100 °C (105 to 230 °F)
- ◆ flat pan large enough to hold a 1500 g sample
- ◆ standard U.S. 4.75 mm (No. 4) sieve which meets the requirements of Test Method "Tex-907-K, Verifying the Accuracy of Wire Cloth Sieves."

### **Section 3**

### **Materials**

The following materials are needed:

- ◆ clean tap water
- ◆ trichlorethylene or other approved solvent.

**Section 4**  
**Test Record Form**

Form No. 9-F19 (8/86).

## Section 5 Procedure

Follow these steps to determine percentages of white rock contained in native rock asphalt.

<b>Determining Percentages of White Rock Contained in Native Rock Asphalt</b>	
<b>Step</b>	<b>Action</b>
1	Obtain a representative sample of the crushed native rock asphalt from the processing plant just prior to the addition of the flux oil.
2	Quarter the material to secure a laboratory test portion weighing approximately 1500 g.
3	Dry screen the test sample over the 4.75 mm (No. 4) sieve and place the retained portion of aggregate in a pan of clean water.
4	Discard the portion passing the 4.75 mm (No. 4) sieve or, when required, use this fine material to determine the bitumen content of the minus 2.00 mm (No. 10) sieve material.
5	Wash the aggregate to remove dust or fine particles and re-sieve over the 4.75 mm (No. 4) sieve.
6	Place the sample in an oven and dry to surface dry conditions at a maximum temperature of 60 °C (140 °F).
7	Obtain the weight of the dry rock asphalt particles retained on the 4.75 mm (No. 4) sieve and record as the total weight of test sample.
8	Spread the test sample (washed portion retained on the 4.75 mm (No. 4) sieve) out on an area of the work table large enough to carefully inspect the individual particles.
9	Separate the white rock particles from remainder of sample.
10	Weigh the "white rock" particles separated from sample.
11	Determine the asphalt content of a representative sample of the white rock particles. <ul style="list-style-type: none"> <li>◆ If the asphalt content is less than 1%, calculate the percentage of white rock as indicated below.</li> <li>◆ If the asphalt content is greater than 1%, obtain a new sample and repeat steps 1 -11.</li> </ul>

## Section 6

### Calculations

Calculate the percentage of "white rock":

$$\text{Percent white rock} = \frac{\text{weight of white rock}}{\text{weight of total sampler retained on 4.75 mm (No.4)}} \times 100$$



**Section 7**  
**Reporting Test Results**

Report test results to nearest whole number.