1.0 SCOPE

This method describes the procedure for determining the moisture content of plant produced asphalt concrete mixes using a field laboratory oven.

2.0 EQUIPMENT

- electronic balance - capable of reading to 0.1 g with an accuracy of 0.1 g. The balance must be operated and calibrated as per manufacturer's recommendations.
- oven and oven thermometer
- flat bottom scoop
- metal pail
- drying pan
- large mixing pan
- teri-cord gloves

Data Sheet: Mix Moisture Content and Marshall Density Data, MAT 6-80

3.0 PROCEDURE

The following procedure is used for uncompacted ACP plant mixes and reclaimed asphalt concrete pavement (RAP). The moisture content of cores is described in test method ATT-7, Section 3.5.1. Field formed Marshall specimens are assumed to have the same moisture content as the fresh mix sample. Determine the moisture content of a mix sample as follows:

1. Label and tare a drying pan. Record the weight and pan number in line "D" as shown in Figure 1.
2. Obtain 3/4 of a pail of representative mix as directed in ATT-37, SAMPLING MIXES.
3. Place the mix into a mixing pan and use the heated large grocer scoop to thoroughly blend the mix.
4. Place a minimum of 1000 g of mix in the tared drying pan.
5. Weigh the pan and mix and record as Wt. of Moist Sample + Pan (line "A").
6. While the scoop is still hot, use the putty knife to clean off the mix adhering to the scoop.
7. Place the drying pan with the mix in the oven set at 130EC ± 5EC.
8. Oven dry the mix sample to a constant weight as follows:
a) After the RAP has been in the oven for about half an hour, use a putty knife to break up the lumps, if applicable. Clean off the mix adhering to the putty knife.

b) Oven dry the mix sample for at least four hours then weigh.

c) Replace the sample in the oven for approximately one hour and reweigh.

d) Repeat step (b) until two consecutive weights are the same.

9. Weigh the hot sample and record as Wt. of Dry Sample + Pan (line "B").

10. Calculate the weight of water removed (line "C") as follows:

   \[ Wt. \text{ of Water (g)} = (Wt. \text{ of Moist Sample + Pan}) - (Wt. \text{ of Dry Sample + Pan}) \]

11. Determine the oven dry weight of the mix sample (line "E") as follows:

   \[ Wt. \text{ of Dry Sample (g)} = (Wt. \text{ of Dry Sample + Pan}) - (Wt. \text{ of Pan}) \]

12. Calculate the Moisture Content to the nearest 0.01% (line "F") of the plant mix using the formula:

   \[ \text{Moisture Content (\%)} = \frac{\text{Wt. of Water}}{\text{Wt. of Dry Sample}} \times 100\% \]

4.0 HINTS AND PRECAUTIONS

1.0 Use a separate mix sample of at least 2 000 g (from the same pail of mix) for the extraction test as described in ATT-12, Part I or II.