| TYPE | YEAR | PROJECT NO. | SHEET NO. |
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| RESURF. | 2014 | HSIP-211(13) | 4D |
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**c.6.** Set up the apparatus as shown in Figure 1. Adjust the vacuum source so it will deliver a maximum vacuum of 10 inches of mercury.
**c.7.** Place the Gooch crucible in the holder , turn on the vacuum and slightly open the valve on the separatory funnel allowing the solution to drip onto the filter in the crucible. Adjust the flow rate so that the solution level does not exceed the top edge of the filter in the crucible. Adjust flow as needed as asphaltene builds up on the filter.
**c.8.** Once the separatory funnel is empty, rinse it into the crucible twice using 10 +/- 2 mL of pentane. Rinse the inside of the crucible with 15 +/- 2 mL of pentane, being sure not to disturb the asphaltene residue held up on the filter.a + b

**NOTE a:** Save the separatory funnel to be used later in section **c.12.** of the method.
**NOTE b:** Save the filtrate in the vacuum flask for use in another section of KTMR-20. One of the duplicates will be used in Polar Compounds Content and the other in Saturates Content.

**c.9** Shut the vacuum off and remove the crucible from the holder and place it in a 105ºC drying oven for 15 +/- 2 minutes. Remove the crucible from the oven and allow it to cool to room temperature in a dessicator.
**c.10** When the crucible has cooled to room temperature, weigh back and record the mass of the crucible and its contents to 0.1 mg.
**c.11** Tare, weigh and record the mass of a clean, dry 60 mL crystallizing dish to 0.1 mg.
**c.12** Retrieve the separatory funnel, the sample flask, and any other items such as stir rods, that may have come into contact with the sample solution before filtering. Rinse each item twice using 10 +/- 2 mL of toluene capturing the rinse solvent in the crystallizing dish.
**c.13** Place the dish on a hot plate inside a vent hood and allow the solvent to evaporate without ever coming to a boil. When it is apparent that the solvent has been driven off, place the dish into a drying oven at 105ºC for 15+/- 2 minutes. Remove and allow to cool in a dessicator.
**c.14** Once cooled to room temperature, weigh back and record the mass of the dish and its contained residue to 0.1 mg.

**a. CALCULATIONS**

**d.1** Asphaltene Content, *wt/wt%=((C+D)/M)100%*

Where: C = (crucible + residue) - (tare mass of crucible), in grams
D = (dish + residue) - (tare mass of dish), in grams
M = sample mass, in gram

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SPECIAL NOTES
FOR
RECYCLED ASPHALT

1-DEC-2013 14:25
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