

## % Sulfur determination utilizing the TruSpec N analyzer

September 2013

### Supplies:

- 2% Coal Sulfur standard
- Ceramic sulfur crucibles
- TruSpec N analyzer add-on module (S)

### Personal Protective Equipment:

1. Lab coat
2. Safety glasses/goggles

### Preparation:

1. Weigh two conditioners into crucibles using 2% sulfur standard at 0.5000g.
2. Weigh five standards into crucibles using 2% sulfur standard using a range of 0.2000-0.2040g.
3. Begin weighing samples into crucibles using a range of 0.2500-0.2540g.
4. Weight two more standards into crucibles after every twenty sample crucibles utilizing the same range above.
5. Final two crucibles in a run should always be standard (S-meth .2).

### Procedure:

1. Type **Blank** into three tiles.
2. Fill in following tiles with (**Conditioner**) and (**S-meth .2**). Put a pause on the first Conditioner.
3. Type student's initials and location of sample on tray into the computer for identification.
4. Turn on **compressed air** and **oxygen 99% dry**.
5. Click on the **Diagnostics Menu** and scroll down to **Systems check**. Run the check and if all checks pass you can begin running blanks.
6. Click on the first Blank and then click on Analyze. Do not insert any crucibles while the blanks are running. Highlight all three Blanks. Click on **Configuration Menu**. Click on Blank.
7. Before running any samples have a technician show you how to insert samples into the S-analyzer. Click on Conditioner and click Analyze. After running the Conditioners and S-meth .2s highlight all five S-meth .2s. Click on **Configuration Menu**. Click on Drift→Drift.

**Note:** Do not load sample crucible until bottom left corner says **USER LOAD SAMPLE**. The computer will then say **Analyzing**. After the sample is done the bottom

left corner will go blank for a few seconds then say **Stabilizing**. Remove the crucible at this point and let cool. DO NOT load another sample until the screen says **USER LOAD SAMPLE**.

8. Click on first Sample and click Analyze.
9. After completion, individually select each pair of S-meth standards and drift in the same manner as stated in step 7.
10. Then select samples in groups of twenty and click on **Sample Menu** scroll down and click on **Recalculate**. Do this for each group of samples.
11. To remove data, click on **Configuration Menu** scroll down to **Text Export Formats** click on properties and select your flash drive. Then highlight samples run and click on **Samples Menu** and scroll down to **Text Export Data**.

#### **Maintenance (For Technicians ONLY):**

- To maintain S-analyzer check on the Counter. Click on **Configuration Menu** scroll down to **Counters**. This will show how many days each part has run and when it needs to be changed.
- Follow instructions in the instruction manual to maintain S-analyzer.
- After each adjustment click on **Maintenance Menu** scroll down to **Login** and check off the adjustment that you made.