

SOP: Friend or Foe?

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Friend?

- If in place, SOPs ensure correct instrument operation which ensures valid data collection



Foe?

- If SOPs are not in place, correct instrument operation and data collection become questionable and/or void.



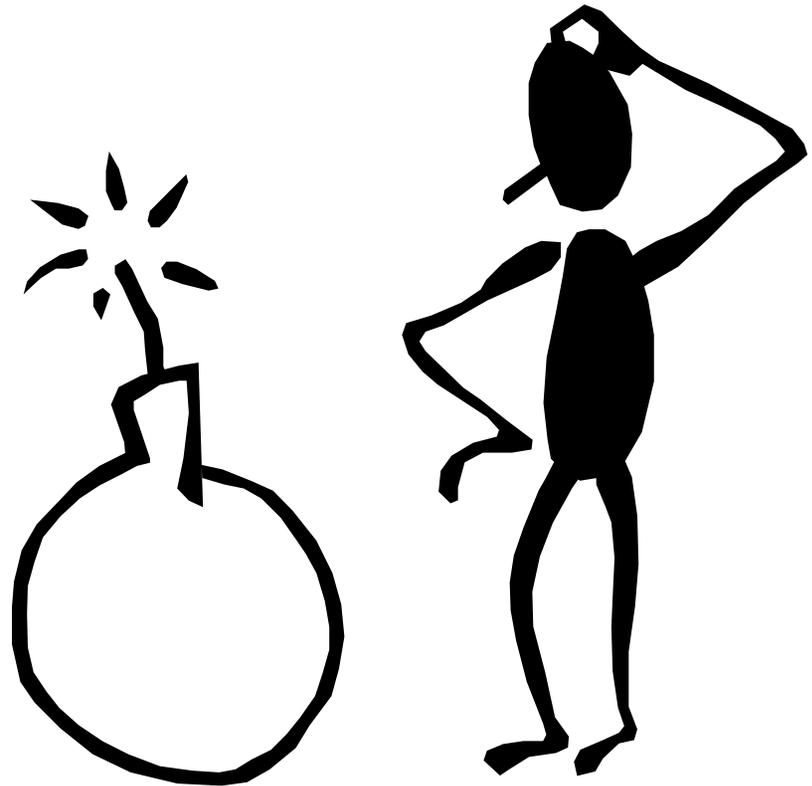
Writing an SOP?

Where to look?

EPA's Guidance Document,
*Guidance for Preparing
Standard Operating
Procedures, G-6*



- Be Clear & Concise – Direct & to the Point
- Write with “sufficient detail” (G-6, Section 2.1)
 - What is that?



Perform One point Quality Check:

API Model 400A (SN863) and all 400E

1. Press the button under CALS

2. Wait 10 minutes

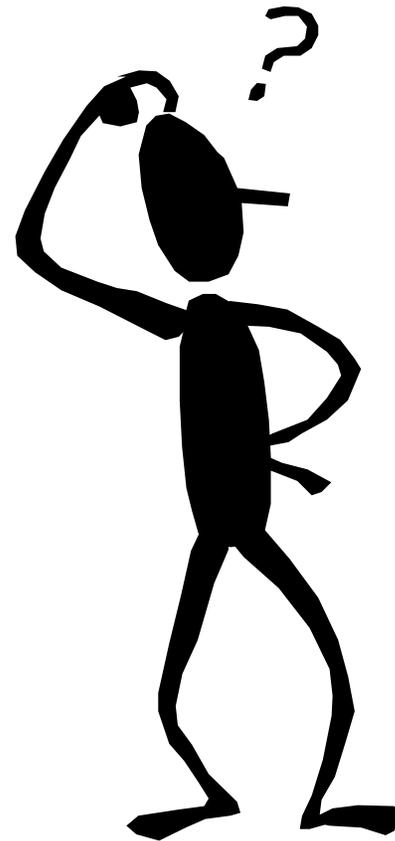
(Ozone readings in upper right hand corner turn to xxx; after several minutes ozone readings go to 100 ppb then stabilize around 85 ppb. Record the ozone value after the <TST TST> of the STABIL parameter <1.0)

3. Press the button under EXIT to exit out of the precision point and return to ambient air sampling

A co-worker tests the procedure.....

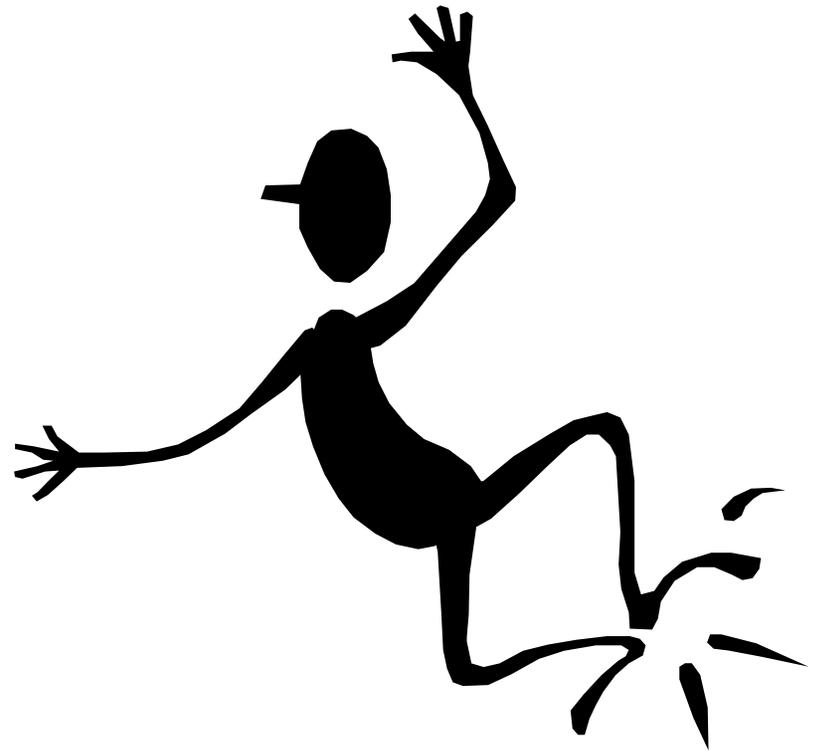
WHOOOPS! There isn't enough information to correctly perform the one point quality check!

More details are needed!



Adding three more steps,

The task is
accomplished
with ease!



1. Press the button under CALS
2. Wait 10 minutes for the point to stabilize
3. **Check the Stability reading: toggle the second button from the left <TST> until STABIL appears at the top of the screen. Stability readings should be less than 1.0. Once this occurs, record the stability reading.**

- 4. Record other required parameters in succession by pressing the second from left <TST> button. Record these parameters by following the sample log book and moving right across the page. Note: while running the one point quality check, the SAMPLE FL, is considered the precision flow. Record this value in the appropriate column.**
- 5. Once the other parameters have been recorded and it has been determined the instrument is running correctly, record the one point quality check concentration.**

6. Press the button under **EXIT** to exit out of the precision point and return to ambient air sampling

These steps left out important information essential to correctly executing a one point quality check:

1. Wait until your instrument is stable before recording the values for the parameters
2. Recording the other parameters at all. In the first example, no direction is given to perform this step.

- Do Not Assume **ANYTHING** when writing an SOP even if the potential users have familiarity with the same or similar equipment.
- Different models of the same instrument can have different formats for operation.

➤ In smaller monitoring organizations and/or where there is a high turnover rate of field personnel, SOPs can never have too much detail.

- Provides specific instructions
- Ensures data quality consistently specifically during the training period
- Serve as a teaching tool
 - The more detail provides a new employee more comfort when performing the work
 - Also when performing the steps, allows time to think through the process

6. Determine the correct sample flow: right flow meter

A. Sample flow, right flow meter, should be at 2.0 center of ball

B. Note flow meter reading in log book

C. If necessary, adjust to 2.0

If flow is low, 1.5 or lower, or it is not possible to adjust flow meter to 2.0, then it is likely the vacuum pump on exhaust side of instrument is failing. Replace pump or turn on interior pump, if working, using right pump switch located on the front panel of the ozone instrument. Adjust to 2.0. Notify per 1D.

Review and Revision

- Create and store SOPs electronically
- Review and revise annually or more frequently
 - Documents stay up-to-date
 - Eliminate the need for hurried revisions which can lead to leaving out important steps
 - Ensure Data Quality

When writing an SOP

- Be clear and concise
- Write with sufficient detail
- Have a co-worker walk through the SOP
- Review and revise frequently