

# A Sage Guide to Preparing Annual BWON Reports

## Step 1. Collect annual operational data.

### Checklist:

- Collect analytical data (products, intermediates, points of generation, and end-of-line).
- Determine flow rates (sour water stripper effluent, desalter effluent, benzene stripper effluent, etc.).
- Gather and calculate benzene quantities from vacuum truck logs.
- Calculate the benzene impacts from wastes shipped off-site.
- Review management of change (MOC) forms from the previous year to determine BWON impacts.
- Determine the benzene contribution from spills or other unplanned releases not managed by vacuum trucks.
- Review maintenance records (pumps, filters, and exchangers).
- Update turnaround data.

### Helpful tips:

- Evaluate individual vacuum truck log forms to more accurately calculate TAB/BQ from these activities.
- Talk with Operations personnel to determine if any changes in the methods of operation took place in the previous year that would affect BWON.
- Discuss recent turnarounds with the turnaround and maintenance groups to evaluate waste quantities from equipment de-inventory and to determine the control status of these wastes.

### How Sage makes this step easy:

We can handle the process for you by sending an engineer on-site or collecting your data remotely. Call us to find out more!

## Step 2. Calculate annual benzene quantity.

$$TAB = \sum_{i=1}^n (Q_i \times C_{\text{benzene},i})$$

- TAB = total annual benzene (Mg/yr)
- Q = annual waste quantity (Mg/yr), calculated per §61.355(b)
- $C_{\text{benzene}}$  = flow-weighted annual average benzene concentration by weight (ppmw), calculated per §61.355(c)
- n = number of benzene streams containing > 10% water (or that co-mingle to become >10% water)

- Includes both oil and aqueous phases for each waste stream.

**Helpful tips:**

- Don't forget to calculate benzene quantities for both layers—organic and aqueous—for a mixed-phase waste.
- Maximum solubility of benzene in water is 1,800 ppm.
- Call Sage and get our Commonly Missed Waste Stream Checklist to ensure that you have all the points of generation the Agency is looking for!

**How Sage makes this step easy:**

We can perform the calculations for you. Send us your data, and we will have your report completed in no time!

### **Step 3. Verify the accuracy of your top TAB and compliance option contributors, and prepare the report.**

**Checklist:**

- Verify the flow rate.
  - Interview Operations.
  - Data historians.
  - Visually verify the flow rates.
- Sample high-flow-rate streams.
  - Analytical methods 8020, 8021, 8240, 8260, 602, or 624
- Generate a "leaker list" of inspection and monitoring failures from the previous year.

**Helpful tips:**

- Beware of dual-phase samples. Ask your laboratory to run an organic phase analysis and an aqueous phase analysis separately.
- Field-verify the accuracy of your controls. Make sure that what you are claiming as control can pass an EPA inspection.
- Review records of spills and unplanned releases to determine BWON impacts.

**How Sage makes this step easy:**

We can sample your streams in accordance with §61.355(c)(3), verify your top flow-rate streams, and perform a mini-audit of your waste-management unit's control status to ensure that your report reflects current operating conditions. We also can perform a quality assurance review to ensure that your report contains all of the reporting requirements.

**Step 4. Prepare, QA/QC, and submit reports to the Agency by April 7 or your alternative submittal date.**

**How Sage makes this step easy:**

We prepare your report accurately, on time, and in the format the EPA wants to see. And we can take care of the final submissions for you.

Call our experts today:

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