

Group Duty: Gas Chromatograph

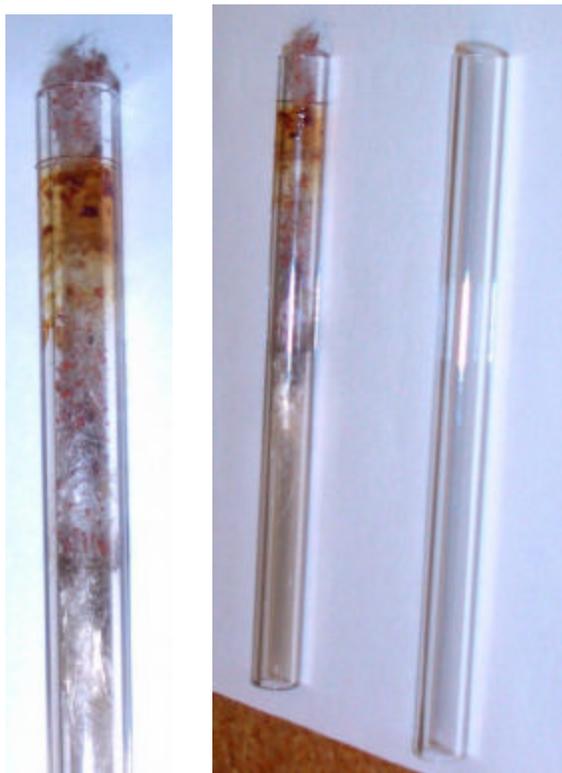
Aside from the obvious need to make certain Gas tanks are full, other maintainance needs to be performed to keep the GC running smoothly. Our GC averages 21 injections per day, that includes Saturday and sunday. Preventive maintainance is critical to it's continuing to function...

Monthly (or approximately every 600 injections):

Replace the septum: This may be required more often if problems are seen. A typical septum is good for between 200 and 400 injections. At this rate, we're pushing over 600 injections out of one, but we should still be ok. This is outlined on pages 26-38 of *HP 6890 Series Gas Chromatograph Operating Manual Vol 2: Inlets*.

Check the Liner: When you are replacing the septum, go ahead and inspect the inlet liner for dirt and debris. If it is dirty, it will adsorb analyte and greatly decrease the selectivity of the GC. If it is dirty, replace it. This is outlined on pages 19-20 of *HP 6890 Series Gas Chromatograph Operating Manual Vol 2: Inlets*.

The following photographs show the importance of performing the above tasks. On the left is a liner that should have been replaced long before it was. The right photo shows a clean liner alongside. Look closely and you'll see pieces of septa embedded in the quartz wool.



Bake out the column: use the bake-out method and run a blank sample. This will prolong column life.

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Bi-yearly (every 6 months... about every 4000 injections)

Clean or replace the FID jet: This should also be done if the FID does not light on startup. Attempt the cleaning procedure first, and if the problem is not solved, replace it. This is outlined on pages 27-33 of *HP 6890 Series Gas Chromatograph Operating Manual Vol 3: Detectors*.

Clean the collector: This should be done when you clean the FID or when a loss of sensitivity is seen. This is outlined on pages 24-39 of *HP 6890 Series Gas Chromatograph Operating Manual Vol 3: Detectors*.

Yearly or longer

Trim the column: This can only be done a few times per column. Use a ceramic cutter to trim off the first 5-6" of the column. Follow the procedures for installing a new column to replace it. This is outlined on pages 98-99 of *HP 6890 Series Gas Chromatograph Operating Manual Vol 1: General Information*.