


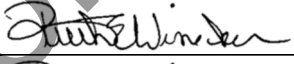
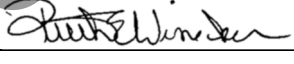
# SOP-062 NPD Bead Installation

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## SOP-062 NPD Bead Installation

SOP Name: <b>NPD Bead Installation</b>		SOP #: <b>062</b>
North Carolina Office of the Chief Medical Examiner Toxicology Laboratory	<b>Revision:</b>	<b>Revision Date/Initials:</b>
<b>Approving Authority Name</b>	<b>Approving Authority Signature</b>	<b>Approval Date</b>
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# SOP-062 NPD Bead Installation

## 1. Purpose

- 1.1. This procedure describes the proper way to install and condition an NPD bead for an Agilent GC instrument. Follow these steps for longer bead life and stability.
- 1.2. Information on troubleshooting and proper bead settings can be found in SERVICE NOTE G1530A-29 and SERVICE NOTE G1530A-15 located in the GCLC folder on the share drive

## 2. Procedure

- 2.1. Before beginning the bead installation process, make sure that the instrument is ready for installation.
- 2.2. Turn bead temperature down to 90° C
- 2.3. Turn the bead voltage down to 2.0.
- 2.4. Turn off the electrometer.
- 2.5. When the bead temperature is 90° C, disconnect the bead from the board connector.
- 2.6. Unscrew the 3 holding screws and remove the bead from the bead housing.
- 2.7. Use the 3 new holding screws that come with each new bead to install the new bead to the bead housing.
- 2.8. Connect the new bead to the board connector.
- 2.9. Make sure that the air and hydrogen gases are set to “ON”.
- 2.10. Turn the bead temperature to 150° C.
- 2.11. Wait 15 minutes.
- 2.12. Turn the bead temperature to 200° C.
- 2.13. Wait 15 min.
- 2.14. Turn the bead temperature to 250° C.
- 2.15. Wait 30 minutes.
- 2.16. Turn the bead temperature to operating temperature (290 °C).
- 2.17. When the bead temperature has stabilized turn the electrometer to the “ON” position. Check that the output is below 1.2pA by pressing the detector button on the gc and scrolling down to view the output.
- 2.18. If the output is above 1.2pA cool the bead and replace the ceramics around the bead. Reinstall the bead and screws and repeat steps 2.9 thru 2.17.
- 2.19. Turn the bead voltage to 1.00V. Hold for 2 minutes.
- 2.20. Turn the bead voltage to 1.5V. Hold for 2 minutes.
- 2.21. Turn the bead voltage to 2.0V. Hold for 2 minutes.
- 2.22. Turn the bead voltage to 2.2V. Hold for 2 minutes
- 2.23. Turn the bead voltage to 2.4V. Hold for 2 minutes

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- 2.24. Turn the bead voltage to 2.6V. Hold for 2 minutes
- 2.25. Turn the bead voltage to 2.8V. Hold for 2 minutes
- 2.26. Watch for the bead output to "ignite" (bead output jumps quickly to a higher pA – typically over 50pA)
- 2.27. When the bead "ignites" do not change the bead voltage and let it equilibrate for 12 hours.
- 2.28. After 12 hours inject a testmix and evaluate the baseline, response, separation, etc. for acceptability.

### 3. References

- 3.1. Agilent SERVICE NOTE G1530A-29
- 3.2. Agilent SERVICE NOTE G1530A-15
  - 3.2.1. <S:\toxicology\QAQC\SOP\Instrument Manuals>