

FULL SPECTRUM
ANALYTICS INC.

FSA Ticket # 11500
Workorder # 10271
Region: F10
Vendor Ref #

8/15/2018

www.fsaservice.com/forms/Warranty.pdf

SITE LOCATION		BILL TO:	
Houston Forensics Science Center 1200 Travis St., Houston, TX 77002 Ms. Tanuja Sathiraj, tsathiraj@houstonforensicscience.org		Customer	
Service Rep: Lisa Busch		Service Type: Repair	Quality Level: Standard
Billing Type: Non-Billable		Payment Method: Service Contract	PO#: N/A
System ID	Manufacturer	Model	Serial#
GC/MS #3 - Dayong Lee's Dept., Toxicology	Agilent	5975 diffusion	US92013456
Additional Instruments	7890 CN10938061		

PROBLEM DESCRIPTION:

502 abundance is low. Customer ordered a new EM and requests assistance installing the EM.

WORK PERFORMED:

8-15-18 MS vented upon arrival. Removed existing electron multiplier and installed new electron multiplier (provided by the customer). Pumped MS back down. After about 30 minutes, ran an autotune. Water is still about 40% and air is about 15%. 502 abundance is about 4.5%. This meets the customer criteria for the 502. Customer will tune again after the MS is completely pumped down.
 8-17-18 Customer tuned again and 502 ratio is near 3%. Went onsite and tuned the MS. Tried various manual tuning configurations. MS is now tuning at 3-4% 502. Will return 8-20-18 to clean the source and change the rough pump oil.
 8-20-18 Performed a PM on the GC/MSD. For the GC, cleaned the inlet fan, cleaned GC inside/out, and oven fan/flap motors OK. Septum, liner and gold seal are new - not changed. Changed the split vent filter and cleaned the split vent line with methanol. Changed the liner o-ring. For the MSD, cleaned the source and installed a new repeller. Changed the rough pump oil and diff pump fluid. Cleaned the two MSD fans. PFTBA OK. Cleaned tray/tower guide rods and rotated tower belts. Tower fan OK. Pumped MS down for about an hour. Ran a tune and 502 is around 7.4%. Water is about 10%. Customer will allow MS to bake for a few hours and run the tune again. Will check back with customer 8-21-18.
 8-21-18 Customer advises 502 is above 6%, but nitrogen is 14% after changing helium tank. Will check back 8-22-18.
 8-22-18 Customer advises that autotune is acceptable - 502 is above 6% and no air/water present. Instrument operational.

FSA Part# (Inventory)	Description (manual)	Qty	Price Each	Total
HP-593-3088	Ultra Repeller	1	\$147.00	\$147.00

Parts Total: \$147.00

HOURS	RATE	TOTAL	
Labor Hours: 8.5	Labor Rate: \$300	Labor Total:	\$2550
Travel Hours: 7.0	Travel Rate: \$300	Travel Total:	\$2100
	Extended Travel: \$0	Misc. S&H:	\$0.00
	NOT AN INVOICE, TAXES NOT INCLUDED	Total Labor:	\$4650
		Report Total:	\$4797.00
		Credit Amount:	\$4797.00
		Balance Due:	\$0.00

Preventive Maintenance Checklist Agilent 5975 Mass Selective Detector

Purpose of Procedure

Preventive Maintenance is a factory recommended procedure designed to reduce the likelihood of electro-mechanical failures. Failure to perform preventive maintenance may reduce the long-term reliability of certain instrument systems.

Customer Responsibilities

Customers must ensure that all necessary operating supplies and consumables are available. Customers may be asked to provide a recent autotune report for reference. The tune report will be used to evaluate current system performance.

Preventive Maintenance Checklist

- Discuss any problems the customer is having with the instrument.
- Generate Pre-PM Tune Report and vent system (if system is not already vented)
- Perform general inspection of system.
- Clean interior and exterior of GC/MS system of dust and debris.
- Clean ion source as requested by customer. Verify that there is no continuity between ion source body and the individual lenses.
- Check mechanical vacuum pump for leaks and change pump oil.
- Replace diffusion pump oil, if applicable.
- Inspect side plate O-ring seal.
- Inspect vent knob O-ring. Clean or replace as necessary
- Clean and inspect vacuum pump cooling fan. Install fan fuse if applicable.
- Inspect and clean electronics cooling fan. Install fan fuse if applicable.
- Check PFTBA level in vial; add to 1/4 full if necessary.
- If CI MSD, check PFDTD level in vial; add to 1/4 full if necessary.
- Re-install side plate assembly and ion source and initiate pump down cycle.
- Check for proper vacuum readings.
- Check and *"Optimize Quadrupole Frequency"* as necessary.
- Run Tune (Atune, Stune or applicable CI Tune)
- Fill out customer's instrument maintenance logbook.
- Adjust maintenance counters.
- Fill out FSA PM sticker and attach to instrument.

Comments:

Customer:

System ID:

Service Rep.:

Date:

Preventive Maintenance Checklist 7890 Series and 7820 Series Gas Chromatographs

Purpose of Procedure

Preventive Maintenance is a factory recommended procedure designed to reduce the likelihood of electro-mechanical failures. Failure to perform preventive maintenance may reduce the long-term reliability of certain instrument systems.

Customer Responsibilities

Customers must ensure that all necessary operating supplies and consumables are available. Customers may be asked to provide results from recent calibrations or check standards.

Preventive Maintenance Checklist

- Discuss any problems the customer is having with the instrument.
- Perform general inspection of system and run startup tests.
- Clean interior and exterior of GC of dust and debris.
- Check oven motor for noise and vibration.
- Check oven flapper motor for 90° opening and closing (if accessible).
- Clean inlet-cooling fan of dust and debris. Install fan fuses if applicable
- Perform inlet maintenance (as per contract).
- Clean detector jets and collectors, if applicable.
- Verify detector gas flows and adjust if necessary.
- Run appropriate detector check standard (or customer standard) to verify operation.
- Fill out customer's instrument maintenance log.
- Fill out and provide completed PM Sticker to customer.

Comments: _____

Customer: _____

GC ID: _____

Service Rep.: _____

Date: _____