* VERMONT FORENSIC LAB *

2/13/2012 HT3 AND GC RECEIVED FROM HEALTH LAB; SET UP AS PER SETTINGS IN P-ALC 102. TLC/TT/RS (APPENDIX B & C)

2/28/12 Benchmark test & leak check test of HT3 DLB

3/30/12 Leack Check test HT3 DLB

5/15/12 Cleaned castle on GC DLB

7/3/12 Changed He and air tanks. Shut system off due to lack of new tanks. Baked column @ 180°C for 30 minutes prior to restarting system A. Bold

7/18/12 Checked castle, cleaning not needed DLB

11/5/12/ 11/6/12 After changing air tanks, it was noticed that the standby pressure did not return to 0.0 psi. Performed a leak check which passed. Performed a benchmark test which failed. Pressure valve NO failed to pressurized. Contacted Tekmar for advice. Tekmar advised to replace valve (done) and check needle (done) then perform another leak check (passed). Ran 3 blanks and 10 CCS to check unit. Cleaned castle (collector). DLB

3/1/13 Cleaned castle on GC RZM/DLB

4/17/13* Changed sample loop on HT3 250µl new loop. Changed split on GC from 1:60 to 1:15 DLB Performed passing leak check

4/18/13* Changed split ratio from 1:15 to 1:25. Increased max temperature in ramp on GC method 10 degrees. Checked new loop to ensure a tight fit. Performed passing leak check. RLM 4/18/13

4/19/13* Changed sample loop on HT3 back to 1mL loop. Returned to using 1:60 split ratio and previously used temperature program on the GC. Performed passing leak check. RLM 4/19/13

4/22/13* Increased standby flow on HT3 from 80 mL/m to 90mL/min DLB 4/22/13

Cleaned needle and housing. Baked out GC column @ 260° for ~4 hours. Checked loop to ensure a tight fit. Performed passing leak check. RLM/4/22/13 DLB

*Loop on HT3 changed as part of method optimization. After changing the loop, carryover was observed. Changes made 4/18–4/22/13 were troubleshooting steps to remove the carryover observed. As of 4/23/13, the settings necessary to prevent carryover have been determined. The maximum temperature on the burn out ramp in the GC method has been increased 20°. RLM 4/23/13 DLB

4/25/13 Used various combinations of increased GC maximum ramp temperature, valve oven temperature, and transfer line temperature to try to resolve carryover issue that resurfaced 4/24/13. A small amount of carryover (~0.0013) is still present following a 0.4 standard. RLM 4/26/13 DLB

4/26/13 Replaced end of restrictor tubing and removed small portion per Tekmar recommendation. Performed a series of Benchmark tests to isolate leak. Replaced pressurized valve with a spare. Swapped pressurized and vent valves. Replaced vent valve with valve taken from pressurized side previously. Performed an additional series of leak checks per Tekmar gu

DLB/RLM 4/26/13

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4/29/13 Replaced pressurized and vent valves. Performed passing leak check and benchmark test.
AeB/ RRM 4/30/13

5/1/13 Replaced needle and tubing from needle to 8-port valve. Performed passing leak check and benchmark test. Baked out GC column @ 250°C for ~1 hour.
AeB/ RRM 5/1/13

5/2/13 Carryover following 0.4 standard still noted (~0.0018) Retrimmed the valve end of restrictor tubing to ensure cleaner cut. Increased valve oven temp and transfer line temp and standby flow rate. AeB 5/2/13

5/2/13 Baked out oven on HT3 @ 300°C w/ flow rate @ 300mL/min for 1 hour. Ran GC with no injection from HT3, ran GC with injection but no vial and ran w/ injection w/ vial set to 15psi for vial pressurization per Susan (Technician) @ Teledyne Tekmar AeB

5/3/13 Cleaned lines from needle to 8-port valve, valve to valve and valve to 8-port w/ MeOH per Susan AeB

5/7/13 Removed 8-port valve from HT3 and cleaned the valve & rotor w/ MeOH. Reassembled and baked out the HT3 oven and the GC for 1 hour. Performed Benchmark + Leak Check, both passed
AeB

5/8/13 Two successful runs with no significant carryover after either the timing mix or the high standard (0.40) 5/9/13 AeB

6/6/13 SeB System is running through He @ faster than normal rate. Troubleshoot system to find leak. Removed and cleaned inlet, replaced liner, gold seals and inlet septum. Clipped column and reassem 6/7/13 @ ~~leak p~~ High flow on He persists.

6/7/13 Continuing to troubleshoot per Agilent tech guidance, we disassembled split line and cleaned and inspected castle. No clogs found.
RLM 6/7/13

6/18/13 Continued troubleshooting. Removed and inspected EPC controller board. No issues observed, replaced. Installed new EPC capillary manifold per Agilent recommendation. Problem persists. SeB

6/19/13 Continued troubleshooting with Agilent tech guidance. Discovered Column 2 to be assigned to Inlet 1. Changed Column 2 to unassigned. Total flow returned to normal and FID shutdowns stopped.
RLM 6/21/13

6/21/13 Replaced new EPC capillary manifold with the previous EPC capillary manifold.
RLM 6/21/13