

Field Technician Quick-Reference Checklist: NOx Analyzer

Bi-Weekly Verification & Converter Efficiency Log

Station / Site ID:		Date & Time:	
Analyzer Model / Serial:		PMT Detector Temp:	-15.0°C ± 1.0°C

Step	Task / Verification Description	Acceptance Criteria	Result
1. Datalogger Flagging	Flag NO/NO2/NOx channels on datalogger during maintenance.	Channels flagged 'M'	☐ Pass ☐ Fail
2. PMT Cooler Temp	Inspect photomultiplier tube (PMT) cooling temperature.	$T_{PMT} \leq -15.0^{\circ}\text{C}$	☐ Pass ☐ Fail
3. Sample Flow Rate	Audit sample chamber vacuum and capillary flow rate.	Flow $= 0.60 \pm 0.05 \text{ L/min}$	☐ Pass ☐ Fail
4. Ozone Generator Flow	Verify internal ozonator dry air supply flow.	O3 Flow $= 80 \pm 10 \text{ cc/min}$	☐ Pass ☐ Fail
5. Zero Baseline Check	Supply zero air for 15 min; record NO, NO2, NOx zero response.	Zero $= 0.0 \pm 1.0 \text{ ppb}$	☐ Pass ☐ Fail
6. Span Response Check	Inject 400 ppb NO standard gas; verify NO/NOx response.	Span $\leq \pm 2.0\%$ drift	☐ Pass ☐ Fail
7. Converter Temp Check	Verify molybdenum converter furnace temperature.	$T = 315.0 \pm 5.0^{\circ}\text{C}$	☐ Pass ☐ Fail
8. GPT Converter Test	Execute Gas Phase Titration (GPT) to evaluate converter efficiency (%CE).	Efficiency $\geq 96.0\%$	☐ Pass ☐ Fail
9. PTFE Filter Swap	Replace 47mm 5.0µm Teflon particulate filter disc.	New filter installed	☐ Pass ☐ Fail
10. Unflag Channels	Unflag channels on datalogger and record logbook entry.	Logger operational	☐ Pass ☐ Fail

FIELD VERIFICATION & APPROVAL SIGN-OFF	
Prepared & Approved By:	Kadeem Manning (Lead Field Specialist)
Technician Signature:	Kadeem Manning
Verification Date:	September 16, 2026
Calibration Status:	☒ PASSED & VERIFIED ☐ REJECTED