



ENVIRONMENTAL PROTECTION AGENCY
GOVERNMENT OF THE PUNJAB
National Hockey Stadium, Gate No. 08
Gaddafi Stadium Complex, Lahore



Dated: 15/07/2025

CERTIFICATION AS AN ENVIRONMENTAL LABORATORY

In exercise of powers conferred by Clause (k) of subsection (1) of section 6 of Punjab Environmental Protection Act, 1997 (XXXIV of 1997); the provincial Agency is pleased to certify the Laboratory mentioned below as an Environmental Laboratory.

Name: Solution Environmental and Analytical Laboratory

Address: Plot No.12 Water Avenue Green View Society Near Kacha Jail Road Lahore

Certificate No. 156 /Dir (ML&I)/EPA/07/2025

This certificate is valid for following parameters of Punjab Environmental Quality Standards (PEQS):

- | | |
|--|--|
| a) Municipal & Liquid Effluent
as per Annex-A | Temperature, pH, COD, BOD ₅ , TDS, TSS, Oil & Grease, Phenolic Compounds as phenols, Cl ⁻ , F ⁻ , Cl ₂ , NH ₃ , SO ₄ ⁻² , S ⁻² , Cyanide, Anionic detergents, Heavy Metals (Cd, Cr, Cu, Pb, Ni, Ag, Fe, Mn, Zn, Hg, Se, As), Ba, B, Total toxic metals |
| b) Drinking Water Quality
as per Annex-B | E.Coli, Thermo Tolerant & Total Coliform, pH, Color, Odor, Taste, Turbidity, Total Hardness as CaCO ₃ , TDS, (Cl ⁻), F ⁻ , NO ₃ ⁻ , NO ₂ ⁻ , Residual Chlorine, Heavy Metals (Cd, Cr, Cu, Pb, Mn, Zn, Ni, Hg, Se, As, Ba, B, Al, Sb), CN ⁻ , Phenolic Compounds |
| c) Industrial & Gaseous Emission
as per Annex-C | Smoke, PM, CO, NO _x , Pb, Cu, Zn, As, Hg, Sb, Cd |
| d) Vehicular Exhaust & Noise
as per Annex-D | Smoke, CO and Noise |
| e) Ambient Air & Noise
as per Annex - E | SPM, PM 10 & PM2.5, SO ₂ , NO, NO ₂ , CO, O ₃ and Noise |

This Certification is subject to the conditions laid down in Regulation 9 of the Certification of Environmental Laboratories Regulations 2000, and QA/QC conditions contained in Annex-F to be complied by Service provider (i.e. Certified Laboratory), Service Receiver (i.e. industrial units).

This Certificate is Valid until /4 .07.2028 unless earlier suspended or revoked.

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**Director General
EPA Punjab**



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Annex-A

Environmental Laboratory Certificate No. 156/Dir (ML&I)/EPA/07/2025 in respect of "Certification as an Environmental Laboratory" read with conditions as Annex-F in favor of Solution Environmental and Analytical Laboratory (SEAL), Plot No.12 Water Avenue Green View Society Near Kacha Jail Road Lahore.

Municipal & Liquid Effluent

Sr. No.	Liquid Effluent/Waste Water Parameters	Standard Method/SOP	Test Capacity per Month
1.	Temperature, pH, Chemical Oxygen Demand (COD)	APHA 2550 B, APHA 4500 H ⁺ B, APHA 5220 B & APHA 5220 D	100 each
2.	Biological Oxygen Demand (BOD ₅)	APHA 5210 B	20
3.	Total suspended solids (TSS), Total dissolved solids (TDS)	APHA 2540 D, APHA 2540 C	100 each
4.	Oil & Grease, Phenolic Compounds as Phenols	APHA 5520 B, APHA 5530 D	30 each
5.	Sulfate (SO ₄ ²⁻), Sulfide (S ²⁻), Ammonia (NH ₃)	APHA 4500 SO ₄ ²⁻ E, APHA 4500- S ²⁻ F, APHA 4500- NH ₃ C	100 each
6.	Anionic Detergents	APHA 5540 C	50
7.	Heavy Metals (Cd, Cr, Cu, Pb, Ni, Ag, Fe, Mn, Zn, Hg, Se, As), Ba, B, Total toxic metals	APHA 3111 / 3110 (AAS), APHA 3112 B (Cold Vapor AAS), APHA 3114 C	70 each
8.	Cyanide (as CN ⁻), Chlorine (Cl ₂)	APHA 4500 CN- E, APHA 4500-Cl B, G	70 each

The Laboratory (Service Provider) and Service Receiver shall also comply all the conditions laid down in Regulation 9 of the Certification of Environmental Laboratories Regulations 2000, and QA/QC conditions contained in Annex-F.

- The certified laboratory will ensure the implementation of the standards for prohibition of dilution by mixing of freshwater to bring the effluent within the PEQS and the same may be calculated by water consumption per unit production. The concentration of pollutant will be corrected accordingly.
- The certified lab will also ensure the representativeness of the sample of the industry reported upon.

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Annex-B

Environmental Laboratory Certificate No. 156/Dir(ML&I)/EPA/07/2025 in respect of "Certification as an Environmental Laboratory" read with conditions as Annex-F in favor of Solution Environmental and Analytical Laboratory (SEAL), Plot No.12 Water Avenue Green View Society Near Kacha Jail Road Lahore.

Drinking Water Quality

Sr. No	Drinking Water Quality Parameter	Standard Method/SOP	Test Capacity per month
1.	E.Coli, Thermo Tolerant Coliform & Total Coliform	APHA 9221F, E & 9221D	50 each
2.	pH, Color, Odor, Taste, Turbidity, Total Hardness as CaCO ₃ , Total Dissolved Solids (TDS)	APHA -4500- H ⁺ B, APHA 2120 C, APHA 2150 B, APHA 2160 B, APHA - 2130 B, APHA -2340 C, APHA- 2540 C	100 each
3.	Chloride (Cl ⁻), Fluoride, Nitrate, Nitrite, Residual Chlorine, Cyanide (CN ⁻)	APHA 4500-Cl ⁻ B, APHA 4500-F ⁻ D, APHA 4500 NO ₃ ⁻ -e. APHA 4500 NO ₂ ⁻ - B, APHA 4500-Cl B & G, APHA 4500- CN ⁻ E	70 each
4.	Heavy Metals (Cd, Cr, Cu, Pb, Mn, Zn, Ni, Hg, Se, As, Ba, B, Al, Sb)	APHA 3111 B, APHA 3112 B, APHA- 3500Pb B, APHA 3114 C, APHA 3111 D, APHA 3114 C	70 each
5.	Phenolic Compounds as Phenols	APHA 5530 C	30

The Laboratory (Service Provider) and Service Receiver shall also comply all the conditions laid down in Regulation 9 of the Certification of Environmental Laboratories Regulations 2000, and QA/QC conditions contained in Annex-F.

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Annex-C

Environmental Laboratory Certificate No. 156/Dir (ML&I)/EPA/07/2025 in respect of "Certification as an Environmental Laboratory" read with conditions as Annex-F in favor of Solution Environmental and Analytical Laboratory (SEAL), Plot No.12 Water Avenue Green View Society Near Kacha Jail Road Lahore.

Industrial & Gaseous Emissions

Sr. No	Industrial & Gaseous Emission parameter	Standard Method/Equipment Name	Tests Capacity Per Month
1.	Smoke	Ringlemann Scale	100
2.	Particulate Matter	USEPA Method 5 & 17/ ISO kinetic	15-20 sites
3.	Carbon monoxide (CO) (for gas and oil-fired sources only)	M-10/OTM 39	25-30
4.	Oxides of Nitrogen (NO _x)	USEPA CTM-034	25-30
5.	Lead, Copper, Zinc, Arsenic, Mercury, Antimony, Cadmium	USEPA Method-29/Isokinetic	15-20 each

The Laboratory (Service Provider) and service Receiver shall also comply all the conditions laid down in Regulation 9 of the Certification of Environmental Laboratories Regulations 2000, and QA/QC conditions contained in Annex-F.

- Maximum limit is subject to availability of multiple emissions sources at single site and vice versa.
- The laboratory shall ensure the testing of CO₂ & O₂ during the testing of other parameters of emission sources. The dilution factor may be calculated and corrected concentrations of the pollutants will be reported as prescribed by the Agency.
- The permit of Lab for tests & monitoring from the reciprocating engines compression turbines, boilers and process heaters under CTM-34 shall be limited to natural gas and oil (Diesel & Petrol) fired system having dry pollution control system subject to fulfillment of sampling procedure and calibration verification check, repeatability checks as per CTM-34.
- Lab shall also ensure establishment of calibration check/verification facility for gases and particulate (Isokinetic PM) Assembly in accordance with Method and shall keep its record both in hard and soft form of every performed test.

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Annex-D

Environmental Laboratory Certificate No. 156/Dir(ML&I)/EPA/05/2025 in respect of "Certification as an Environmental Laboratory" read with conditions as Annex-F in favor of Solution Environmental and Analytical Laboratory (SEAL), Plot No.12 Water Avenue Green View Society Near Kacha Jail Road Lahore.

Motor Vehicle Exhaust & Noise for In use Vehicles as prescribed in PEQS

Sr. No.	Motor Vehicle Exhaust Parameters	Standard Method/Equipment	Capacity Per Month
1.	Smoke	Ringlemann Scale	80-100
2.	Carbon Monoxide	NDIR	80-100
3.	Noise dB(A)	Noise Meter with Leq. Function	100

The Laboratory (Service Provider) and service Receiver shall also comply all the conditions laid down in Regulation 9 of the Certification of Environmental Laboratories Regulations 2000, and QA/QC conditions contained in Annex-F.

- Lab shall ensure calibration of Noise meter.
- The lab shall maintain calibration & calibration verification record of vehicle emission CO analyzer of each and every test both in hard and soft form.

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Annex-E

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Ambient Air Quality & Noise

Sr. No.	Ambient Air Parameter	Standard Method/Equipment	Capacity Per Month
1.	Respirable Particulate Matter PM ₁₀ & PM _{2.5}	Beta Ray Absorption Method	20-25 sites (each)
2.	Sulfur Dioxide (SO ₂)	UV Fluorescence	20-25 sites
3.	Oxide of Nitrogen as NO and NO ₂	Chemiluminescence (CLD)	20-25 sites (each)
4.	Carbon Monoxide (CO)	Non-dispersive infrared (NDIR)	20-25 sites
5.	Ozone O ₃	Ultraviolet (UV) absorption	20-25 sites
Noise			
6.	Noise (Residential, Commercial, Industrial Areas and Silence Zone)	Noise Meter with Leq. Function	100

The Laboratory (Service Provider) and service Receiver shall also comply all the conditions laid down in Regulation 9 of the Certification of Environmental Laboratories Regulations 2000, and QA/QC conditions contained in Annex-F.

- The internal temperature of the mobile van should be maintained for smooth operation of analyzers.
- The analyzers should not be operated outside the mobile van.
- The necessary conditioning of the sample before going into the analyzers may be performed.
- The procurement of calibration gases and its frequent check by Chief Analyst of SEAL lab.
- The lab shall be bound to ensure compliance of mandatory requirements of QA/QC like traceable and repeatable calibrations checks & verification as mentioned in the manufacturer's operating manual/USEPA protocol for permitted Ambient testing. The quarterly calibration & annual performance shall be duly validated by EPA Laboratory Officer not below the rank of Research Officer (RO).
- The air quality monitoring station (AQMS) will be installed at the industrial premises on the site representative of maximum ground level pollutant's concentration.

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Annex-F

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CONDITIONS OF CERTIFICATION

1. The Environmental Laboratory shall
 - a) Conduct tests, analyses, and measurements per Provisional Agency guidelines.
 - b) Maintain calibration records for its equipment and apparatus.
 - c) Follow QA/QC procedures and participate in audits and quality programs organized by Provincial Agency.
 - d) Keep its premises clean.
 - e) Allow EPA for inspections of equipment, reports, and records.
 - f) Retain test records for three years from the date thereof.
 - g) Implement safety measures, including fire hazard precautions and first aid.
 - h) Maintain adequate stocks of chemicals, backup equipment, and spare parts.
 - i) Ensure compliance with regulation 5, using equivalent or better replacements for staff and equipment.
 - j) Display its certification and fee list prominently in its premises.
 - k) Submit an annual report listing all environmental tests and analyses
2. **An environmental laboratory shall not, without the prior permission, in writing, of the Provisional Agency-**
 - a) Shift its location or remove any equipment or apparatus from its premises but the equipment or apparatus requiring repair or maintenance outside the premises may be removed for this purpose for a specific period under intimation to the Provisional Agency;
 - b) sub-contract any work to any other laboratory.
 - c) Use EPA logo for lab test reports.
3. **Certification of an environmental laboratory shall not be transferable to any other laboratory.**
4. **The Environmental Laboratory shall comply following conditions in the light of regulation 3, 9(1)(d), 12;**



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- a) Ensure treatment of waste water and air emission of the Laboratory to comply PEQS limits. EPA shall randomly check the compliance of PEQS.
- b) Shall comply to EPA-Notified Rates issued vide Notification No. 1011/LS/f-227/LAB dated 09-09-2013) for minimum testing charges.
- c) The lab shall conduct testing of at least certified priority parameters for any specific industry to be reported upon.
- d) The compliance of EPA rates shall be applicable on service provider as well as service receiver.
- e) The Certified Laboratory shall submit monthly progress report on first week of every month indicating the scope of the parameters, compliance of test rates by the laboratory to the office of Director General EPA.
- f) GPS Map Camera (Google Play) must be used for pictorial evidence in reports, showing location, date, and time for EPA verification.
- g) Labs must only conduct tests within their certified scope; violations may lead to certificate suspension/revocation.
- h) The lab having its own calibration facility may extend its services to the other certified lab;
- i) Lab shall ensure compliance to regular supply or generation of reagent water to meet reagent grade water of Type-I & Type-II in accordance with latest ASTM standard.
- j) The testing report issued by the lab on the format of Schedule VI under Regulation 12 will exhibit the following disclaimer on the top of the page:
"Report Limitation: This report is not valid for Court cases, Environment Protection Orders, Compliance Report for Operational Phase Approvals, or any regulatory action under Punjab Environmental Protection (Smog Prevention and Control) Rules, 2023 etc."
- k) The Environmental Samples Rule, 2001 for sampling, testing & reporting shall not be applicable on Private Certified Laboratory.
- l) The Technical & Scientific Staff of Certified Laboratory will collect sample on request of Service Receiver under Regulation 3(a). The sampling/monitoring staff of certified laboratory shall not be below the rank of Assistant/Deputy Analyst.
- m) The collected sample under Regulation 3(a) shall be preserved in right container as per protocol prescribed with relevant Standard Method & the quality control check of sample under Regulation 9(1)(d) during its collection & preservation shall be additionally ensured by Validation Performa.
- n) If a factory/individual provides the sample under Regulation 3(a) to the certified laboratory for analysis, the "Remarks" column should be omitted from the test report.
- o) The sampling of waste water will be validated by designated officer of EPA which includes inspectors, RAs, ROs, ADs, DDs. The field test of waste water like pH, Temperature etc. will only be validated by Directorate of ML&I representative not below the rank of RA. The sampling / monitoring/ on-site testing related to ambient air monitoring, stack emission,



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- vehicular emissions, noise monitoring shall only be validated by representative of EPA official laboratory not below the rank of Research Assistant (RA).
- p) The tests reports of which sampling /monitoring has been validated, may be used for non-punitive actions such as baseline study EIA/IEE, Self-monitoring & reporting, Industrial periodic reporting under conditions of EIA/IEE.
- q) The report of Certified Laboratory is not applicable for punitive actions and in such cases reports of EPA official Laboratory shall only be applicable for punitive actions as well as regulatory and compliance purposes.
- r) The validation process witnesses the performance of the sampling at site and validation sheet cannot be produced as supporting document of the Chemical analysis report.
- s) The Chemical Analysis Report (Schedule VI) will clearly mention the name and designation of validating officer for sampling.
- t) The Certified Laboratory is not impartial third party because its revenue is dependent on Service Receiver.
- u) The violation of conditions of certificate will lead to legal proceedings under Regulation 14 of Regulation ibid.
- v) Laboratories will be bound to keep their auditable five years testing record and record backup of ICP, AAS, Spectrophotometer, Stack emission equipment, ambient air lab, dead stock items, soft record saved into instruments memory etc.
- w) The lab will maintain suitable record of procurement of spares and consumables for five years which will be checked accordingly.
- x) In case of conflict of interest, the certified lab shall hire service of another certified Laboratory.
- y) Private laboratories may file complaints with the Director General, EPA if a service receiver (industrial unit) awards a contract to the EPA-certified lab at rates lower than the notified rates. If a complaint is lodged, the service receiver must provide additional information to the EPA.
- z) The request for validation shall be submitted to the office of Director (ML&I) at least one week prior to the sampling/monitoring.
- aa) No tests & Analysis report shall be entertained by EPA officers for allowed purpose/scope without validation.
- bb) Any other previously imposed conditions / instructions shall be null & void.

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