

COMPANY PROFILE

WELCOS

WATER, ENVIRONMENT LABORATORIES &
CONSULTANCY SERVICES



“SAVE NATURE; THERE IS NO OTHER PLANET TO LIVE”



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WELCOS (*Water, Environment Laboratories & Consultancy Services*) is a service providing entity in environmental sector. WELCOS is a platform for environmental needs and requirements of different sectors we provide solution under one roof. The organization is providing commercial & industrial analytical testing services like drinking water, industrial & municipal waste water, ambient air quality, noise, ambient gases, particulate matter, industrial gaseous emissions (flue gases, particulate matter, smoke etc.) and vehicular emission monitoring. We are also helping to get Environmental approvals, Environmental Impact Assessment (EIA), Initial Environmental Examination (IEE), Analytical monitoring, air emission control devices, legal services, wastewater treatment systems, planning & design of water supply & sewerage system networks for new or existing setups as well. The company also deals in import and manufacturing of different industrial water & wastewater treatment plants.

VISION

Our vision is to work for the sustainable Development. Team members are “hands-on” and are directly in charge of each case or matter because our client is our first priority. We never fail to exceed the client's expectations.

MISSION

WELCOS intend to expand our business operation by consistently meeting customer expectations and satisfaction achieved by providing the best possible laboratory and on-site services in a timely manner with emphases on quality, cost effective results, safety and a regard for the sustainable environment through effective application of our processes for continual improvement.



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CERTIFICATIONS

- ✚ ISO/IEC 17025:2017
- ✚ ISO 9001:2015
- ✚ ISO 14001:2015
- ✚ ISO 45001:2018
- ✚ 169/DD(Lab)/EPA/05/2019
- ✚ OHSAS 18001:2015

WELCOS SERVICES

Our services consist of following major cores.

- Initial Environmental Examination (IEE)
- Environmental Impact Assessment (EIA)
- Environmental Site Assessment (ESA)
- Compliance Status Report (CSR)
- Solid Waste Management Plan
- Environmental Management Plan
- Water Audit
- Rehabilitation Plan
- Occupational Health And Safety Plan
- Environmental Strategic Plan
- Baseline Environmental Assessment
- Risk Assessment
- Environmental Audits
- Soil Sampling & Assessment
- Sludge Analysis



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- Baseline Effluent Studies For ETP Plants
- Water Quality Testing
- Soil & Groundwater Contamination Studies
- Noise Impact Studies
- Ambient & Indoor Air Quality Monitoring
- Gaseous Emissions Monitoring
- Liquid Effluent Discharges/Waste Water
- Drinking (Portable) Water
- Light Monitoring
- Noise Pollution Measurement
- Ambient Air Dispersion Modeling
- Vehicular Emission Monitoring
- Geo-Technical Investigations
- Topographic Survey



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ENVIRONMENTAL MONITORING SERVICES

Drinking Water Analysis

WELCOS Laboratory is fully equipped with latest instrumentation for environmental analysis and monitoring in accordance with the standards USEPA, APHA, ISO.

Parameters for Microbiological Analysis

Parameter	Reference Method	Certification Status
Total Coliform	APHA:9222 B	PNAC/ EPA
Faecal Coliform (<i>E. coli</i>)	APHA:9222 D	PNAC/ EPA
Total Plate Count	APHA:9215 B	-
Swab Test	APHA:9215 B	-
Yeast	APHA: 9610E	-
Mold	APHA:9610E	-

Parameters for Chemical Analysis

SR.	Parameter	Method		Certification Status
		Technique	Reference	
1.	pH	Electrometric	APHA -4500 H ⁺ B	EPA/PNAC
2.	Total Dissolved Solids (TDS)	Gravimetric	APHA- 2540 C	EPA/PNAC
3.	Total Hardness	EDTA Titration	APHA -2340 C	EPA/PNAC
4.	Colour	Physical	Sensory Method	EPA
5.	Odour	Physical	Sensory Method	EPA
6.	Turbidity	Nephelometric	APHA -2130 B	EPA
7.	Taste	Physical	Sensory Method	EPA
8.	Aluminium	AAS	APHA 3113 B, APHA 3111 B	EPA
9.	Antimony	AAS	APHA 3113 B, APHA 3111 B	EPA
10.	Arsenic	AAS	APHA 3114 B	EPA/PNAC
11.	Barium	AAS	APHA 3113 B, APHA 3111 B	EPA
12.	Boron	AAS	APHA 3113 B, APHA 3111 B	EPA
13.	Cadmium	AAS	APHA 3113 B, APHA 3111 B	EPA/PNAC



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14.	Chloride	Titration	APHA 4500 Cl ⁻ B	EPA/PNAC
15.	Copper	AAS	APHA 3113 B, APHA 3111 B	EPA/PNAC
16.	Cyanide	Colorimetric Method	APHA 4500 CN ⁻ B&E	EPA
17.	Fluoride	Spadns Method	APHA 4500 F D	EPA/PNAC
18.	Chromium	AAS	APHA 3113 B, APHA 3111 B	EPA/PNAC
19.	Lead	AAS	APHA 3113 B, APHA 3111 B	EPA/PNAC
20.	Manganese	AAS	APHA 3113 B, APHA 3111 B	EPA
21.	Mercury	AAS	APHA 3114 B	EPA
22.	Nickel	AAS	APHA 3113 B, APHA 3111 B	EPA
23.	Nitrite	UV-Vis Spectrophotometer	APHA 4500 NO ₃ ⁻ B	EPA
24.	Nitrate	UV-Vis Spectrophotometer	APHA 4500 NO ₂ ⁻ B	EPA/PNAC
25.	Selenium	AAS	APHA 3114 B	EPA
26.	Phenol	Photometric Method	APHA 5530 C&D	EPA
27.	Residual Chlorine	DPD/Titration	APHA 4500 Cl G&B	EPA
28.	Zinc	AAS	APHA 3113 B, APHA 3111 B	EPA
29.	Alkalinity/ Bicarbonates	Titration Method	APHA 2320 B	PNAC
30.	Conductivity	Electrometer	APHA 2510 B	PNAC
31.	Sodium	Flame Photometer Method	APHA 3500 Na	PNAC
32.	Potassium	Flame Photometer Method	APHA 3500 K	PNAC
33.	Calcium	EDTA Titrimetric Method	APHA 3500 Ca	PNAC
34.	Magnesium	EDTA Titrimetric Method	APHA 3500 Mg	PNAC
35.	Iron	AAS/Photometric Method	APHA 3500 Fe/ APHA 3113 B	PNAC



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Waste Water Analysis

SR.	Parameter	Method		Certification Status
		Technique	Reference	
1.	Temperature	Thermometer	APHA 2550	EPA/PNAC
2.	pH	Electrometric	APHA 4500 H ⁺ B	EPA/PNAC
3.	Biochemical Oxygen Demand (BOD ₅)	Respirometric	APHA 5210 B/D	EPA
4.	Chemical Oxygen Demand (COD)	Digestion, Colorimetric	APHA 5220 D	EPA/PNAC
5.	Total Suspended Solids (TSS)	Gravimetric	APHA 2540 D	EPA
6.	Total Dissolved Solids (TDS)	Gravimetric	APHA 2540 C	EPA/PNAC
7.	Oil & Grease	Gravimetric	APHA 5520 B	EPA/PNAC
8.	Phenolic Compounds	Photometric Method	APHA 5530 C&D	EPA
9.	Chloride	Titration Method	APHA 4500 Cl ⁻ B	EPA/PNAC
10.	Fluoride	Spadns Method	APHA 4500 F D	EPA/PNAC
11.	Cyanide	Colorimetric Method	APHA 4500 CN ⁻ B&E	EPA
12.	Detergents	UV-Vis Spectrophotometer	APHA 5540 C	EPA
13.	Sulphate	Turbidimetric Method	APHA 4500 SO ₄ E	EPA/PNAC
14.	Sulphide	Titration	APHA 4500 SO ₂ F	EPA
15.	Ammonia	Titration	APHA 4500 NH ₃ C	EPA
16.	Cadmium	AAS	APHA 3113 B, APHA 3111 B	EPA/PNAC
17.	Chromium	AAS	APHA 3113 B, APHA 3111 B	EPA/PNAC
18.	Copper	AAS	APHA 3113 B, APHA 3111 B	EPA/PNAC
19.	Lead	AAS	APHA 3113 B, APHA 3111 B	EPA/PNAC
20.	Mercury	AAS	APHA 3114 B	EPA
21.	Selenium	AAS	APHA 3114 B	EPA
22.	Nickel	AAS	APHA 3113 B, APHA 3111 B	EPA
23.	Sliver	AAS	APHA 3113 B, APHA 3111 B	EPA
24.	Zinc	AAS	APHA 3113 B, APHA 3111 B	EPA/PNAC



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25.	Arsenic	AAS	APHA 3114 B	EPA/PNAC
26.	Barium	AAS	APHA 3113 B, APHA 3111 B	EPA
27.	Boron	AAS	APHA 3113 B, APHA 3111 B	EPA
28.	Manganese	AAS	APHA 3113 B, APHA 3111 B	EPA
29.	Iron	AAS/Photometric Method	APHA 3500 Fe/ APHA 3113 B	PNAC
30.	Total Chlorine	DPD/Titration	APHA 4500 Cl G&B	EPA Scope in ext. process
31.	Total Toxic Metals	By Calculation		EPA

Gaseous Emission

SR.	Parameter	Instrument
1.	Smoke	Ringlemann Scale
2.	Particulate Matter	APEX Isokinetic 572
3.	Carbon monoxide (CO)	Testo 340 & 350
4.	Sulphur Dioxide (SO ₂)	
5.	Oxygen (O ₂)	
6.	Oxides of Nitrogen (NO _x)	
7.	Carbon dioxide (CO ₂)	

Motor Vehicles Exhaust & Noise

SR.	Parameter	Instrument
1.	Smoke	Ringlemann Scale
2.	Carbon Monoxide	Kane EGA-4
3.	Noise	ISO 1996-2:2007 (E)



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Ambient Air Quality Monitoring

SR.	Parameter	Instrument
1.	Sulphur Dioxide (SO ₂)	Horiba (Analytikjena) APSA-370
2.	Oxides of Nitrogen (NO _x)	Horiba (Analytikjena) APNA-370
3.	Ozone (O ₃)	BMT 930
4.	Respirable Particulate Matter (PM ₁₀)	Zetian DPM-6000
5.	Respirable Particulate Matter (PM _{2.5})	Zetian DPM-6000
6.	Carbon Monoxide (CO)	AM 5300
7.	Ambient Noise	Casella CEL-246/AMPROBE SM-20-A

Light (LUX) Monitoring

SR.	Parameter	Instrument
1.	Light Intensity	AMPROBE LM-120

Noise Monitoring

SR.	Parameter	Instrument
1.	Noise	Casella CEL-246/AMPROBE SM-20-A

Indoor Air Quality Monitoring

SR.	Parameter	Instrument
1.	TVOC	VSON WP6912
2.	HCHO	
3.	PM _{2.5}	
4.	PM ₁₀	



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Weather Station Monitoring

SR.	Parameter	Instrument
1.	Wind Speed	Misol WA-1092
2.	Ambient Temperature	
3.	Precipitation	
4.	Wind Directions	
5.	Relative Humidity	
6.	Ambient Pressure	
7.	Mixing Index	



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AIR QUALITY MONITORING

WELCOS provides a complete range of air quality services including

- Ambient Air Monitoring
- Indoor Air Monitoring
- Compressed Air Quality Testing
- Ammonia Testing
- Volatile Organic Compound (VOC) Testing
- Hydrogen Sulphate H₂S
- Ozone Testing





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METROLOGICAL MONITORING

WELCOS provides Meteorological Monitoring services including

- Wind Speed
- Ambient Temperature
- Precipitation
- Radiation
- Wind Directions
- Relative Humidity
- Ambient Pressure
- Mixing Index





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STACKEMISSION MONITORING

- Stack Emission Monitoring Includes
- Determination Of Particulates (Dust)
- Stack Gas Temperature and Dew Point. Moisture Content.
- Stack Gas Composition.
- Stack Gas Velocity, Pressure and Volumetric Gas Flow.
- Particulate Matter.
- Gases Such As Sulphur Dioxide, Oxides of Nitrogen, Ammonia, Hydrogen Chlorides, Chlorine, Fluorides Etc.
- Regulatory Compliance Dispersion Modeling
- Boiler Inspection





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VEHICLE EMISSION MONIOTING

We can provide our vehicle emission monitoring services on a one-time or ongoing basis using precision emission measurement equipment.

- Passenger Cars
- Light Commercial Vehicle
- Heavy Duty Diesel Engine
- Large Goods Vehicle
- Newly Manufactured Vehicles
- Motor Rikshaws
- Fork Lifters





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WATER SAMPLING

We can provide our sampling services on a one-time or ongoing basis using sterilized bottles for microbiological samples and fresh bottles with added preservatives as per standard requirements for sampling.

- Drinking water
- Waste water
- Surface water
- Ground water
- Process water





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NOISE MONIOTING

We can provide our noise monitoring services on a one-time or ongoing basis using precision noise measurement equipment.

- Construction projects
- Environmental noise issues
- Oil and gas drilling, Cracking and production
- Industrial facilities
- Indoor Laboratories
- Roads/ Highway
- Generator Areas/ Canopy





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WASTEWATER TREATMENT PLANT DESIGNING & INSTALLATION

We have significant expertise wastewater liquid stream and solids stream treatment ranging from conventional plants for organic removals to complex nutrient removal/resource recovery processes covering scopes from compliance evaluations to turnkey delivery of complete operational facilities.

- Preliminary treatment
- Primary and secondary treatment e Tertiary treatment/disinfection
- Treatment technology
- Biological nutrient removal
- Operator training

*Process start-up and commissioning

*Equipment analysis and evaluation

Flow Measurement

- We provide accurate flow measurement services for clean water, wastewater and environmental applications.





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OUR CLIENTS

- SUI NORTHAN GAS PIPELINE LIMITED (SNGPL)
- WATER AND SANITATION AGENCY (WASA)
- KSB PUMPS PRIVATE LIMITED
- QARSHI INDUSTRIES
- NISHAT HYUNDAI MOTORS
- KAMAL HOSIERY MILLS FSD
- UNITED INDUSTRIES LIMITED
- IHSAN COTTON
- UNITED MOTORS
- SILVER STAR
- KM ASHRAF AND SONS
- LAHORE WATER
- KHATOON INDUSTRY
- PACKAGES DYNAMICS
- KAUSAR PROCESSING INDUSTRIES
- UNITED DETERGENTS
- NAVEENA EXPORTS
- WE APPAREL
- IMAGE GARMENTS
- AZ APPAREL
- KHAWAJA COTTON
- RUSTAM TOWEL
- FIRHAJ FOOT WEAR
- PENNA OVER SEAS
- CHAMPION PAINTS
- NEVTECH LAHORE
- MA CLOTHING
- WALI LAMINATED



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- HUMAN APPEAL
- PUNJAB AB-E-PAK AUTHORITY
- PAKISTAN ORDINANCE FACTORY RAWALPINDI
- PAKISTAN ATOMIC ENERGY COMMISSION
- EMCO INDUSTRIES LIMITED
- SARENA TEXTILE LIMITED
- 1223 MW RLNG BALLOKI POWER PLANT
- AYESHA KNITWEAR
- LAHORE GARDEN
- CUREXA HEALTH
- MAP RICE MILL
- SAMAN GHEE
- SAHIB TEXTILE
- FATIMA VEGETABLE OIL
- BUREAU VERITAS
- CRAFTSMAN PVT LTD
- MALMO FOODS
- CHROMATEX CHEMICAL
- ZKB SIALKOT
- ZKB SAHIWAL
- AZGARD NINE
- SHEZAN INTERNATIONAL
- ALLIED PAINTS
- AL HAMRA
- CHAMPIONS PAINTS



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OUR EIA/IEE PROJECTS

- ADDOS COPERATION SIALKOT (IEE)
- SOLEHERI BROTHERS SIALKOT (IEE)
- MEHR PROTEIN FARM (IEE)
- SHIEKH OF SIALKOT (IEE)
- NISHAT HUNDAI FAISALABD (EIA)
- MATCO FOODS PVT. LTD (EIA)
- FAZAL PAPER MILLS OKARA (OEMP)
- ASIA YARN DYING FSD (IEE)
- ZAMZAMA HOUSING SCHEME FSD (IEE)
- AL-JANNAT INTERLINING& PROCESSING (EIA)
- CRAFTSMAN SIALKOT (IEE)
- ROYAL RETREAT RESIDENCIA MURREE (IEE)
- BBJ PIPES PVT. LTD (IEE)
- MAHEEN TEXTILES PVT LTD
- KANSAI PAINTS PVT. LTD
- COAL MINING CASES (EIA) BY CITY PHARMA & YAQOOB BUILDERS
- REHBAR MAJEED TEXTILE MILLS PVT. LTD (EIA)
- SAYYED HEALTHCARE PVT. LTD (EIA)
- KANSAI PAINT (OMEP)
- RAFIQ JAMIL (EIA)
- Vega Pharma (IEE)



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