OPTIMAL LABORATORIES, INC.

Since 1997

Accreditation and Recognition
PNS ISO/IEC 17025:2017
Department of Health
Food and Drug Administration
DENR - Environmental Management Bureau
DA - Bureau of Animal Industry

WATER, WASTEWATER AND AIR QUALITY SAMPLING AND ANALYSIS

Environmental protection and conservation are the basis for sustaining our community and economy. Population growth, infrastructure and development, inefficient water management system and global warming caused pollution to the environment.

Laws were implemented to ensure compliance of the industries to mitigate the significant effects of pollution to the environment.

Republic Act 8749, or the "Philippine Clean Air Act of 1999" was created to strengthen air pollution prevention management. This act focuses on the improvement of air quality as well as the management of air pollution in the country. Air sampling and testing is an assessment of air quality to protect human and environment.

Department of Environment and Natural Resources (DENR) Administrative Order No. 2016-08: Water Quality Guidelines and General Effluent Standards of 2016 was issued to manage water quality and prevent water pollution by constructing standard parameters of wastewater and effluents before being released back into water bodies.

Philippine National Standard for Drinking Water of 2017 under the Department of Health focuses on setting safe quality drinking water. It shall apply to all water service providers, water refilling stations, ice manufacturers, food establishments, and those other establishments that serve the public its drinking water.

Optimal Laboratories, Inc. has comprehensive testing capabilities for air, water and wastewater analysis to help industries comply with the regulatory standards.

CAPABILITIES AND SERVICES

Water and Wastewater Analysis
- Physico-chemical Analysis
- Minerals and Heavy Metals Analysis
- Microbiological Analysis

Air Quality Sampling and Analysis
- Stack Emission Sources
- Ambient Air

Vibration Monitoring
- Acceleration (1hr)
- Acceleration, Vibrometer - Peak Particle Velocity (24hr)

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• Water and Wastewater Analysis

PHYSICO-CHEMICAL ANALYSIS	
Analyte	**Method**
Acidity	Titrimetric
Ammonia as NH_3-N	ISE (Ion Selective Electrode)
Biochemical Oxygen Demand (BOD)	5-Day BOD Test
Chemical Oxygen Demand (COD)	Open Reflux
Chloramines	DPD - Chlorine Photometer
Chloride	Argentometric
Chlorine (Residual)	DPD - Chlorine Photometer
Chlorine (Total)	DPD - Chlorine Photometer
Chlorine (Free)	DPD - Chlorine Photometer
Chromium Hexavalent (Cr VI)	Colorimetric
Color (Apparent)	Visual Comparison
Color (True Color)	Visual Comparison
Conductivity	Conductivity Meter
Dissolved Oxygen (DO)	Azide Modification
Flouride	ISE (Ion Selective Electrode)
Mixed Liquor Suspended Solids (MLSS)	Gravimetric
Mixed Liquor Volatile Suspended Solids (MLVSS)	Gravimetric
Nitrate-N	Brucine Colorimetric
Nitrate-N	ISE (Ion Selective Electrode)
Nitrite-N	Colorimetric
Odor (Drinking Water only)	Sensory Evaluation
Oil and Grease	Liquid-Liquid Partition - Gravimetric (N-Hexane Extraction)
pH	Electrometric
Phenols	Chloroform Extraction
Phosphate as Phosphorus	Stannous Chloride
Resistivity	Electrometric (Conductivity Meter)
Salinity	Electrometric (Conductivity Meter)
Setteable Solids	Imboff Cone
Silica	Molybdosilicate
Sulfate	Turbidimetric
Sulfite	Iodometric
Surfactants (MBAS)	Anionic Surfactants as MBAS
Taste (Drinking Water only)	Sensory Evaluation
Temperature (On-site)	Field Method
Temperature (Walk-in)	Laboratory Method
Total Alkalinity (Bicarbonates, Carbonates)	Titrimetric
Total Dissolved Solids	Gravimetric, Dried at 180°C
Total Hardness	Titrimetric
Total Kjeldahl Nitrogen	Semi-micro Kjeldahl Distillation
Total Nitrogen	By Calculation (Organic N, Nitrite-N, Nitrate-N, Ammonia-N)
Total Phosphorus	Stannous Chloride
Total Solids	Gravimetric, Dried at 103-105°C
Total Suspended Solids	Gravimetric Dried at 103-105°C
Turbidity	Nephelometric

MINERALS AND HEAVY METALS	
Analyte	**Method**
Aluminum	GFAAS
Antimony	GFAAS
Arsenic	AAS – Hydride Generation
Arsenic	GFAAS
Barium	GFAAS
Beryllium	GFAAS
Boron	GFAAS
Cadmium	AAS
Cadmium	GFAAS
Calcium	AAS
Chromium	AAS
Chromium	GFAAS
Cobalt	AAS
Copper	AAS
Copper	GFAAS
Iron	AAS
Lead	AAS
Lead	GFAAS
Magnesium	AAS
Manganese	AAS
Mercury	Cold Vapor – Atomic Fluorescence Spectroscopy
Molybdenum	GFAAS
Nickel	AAS
Potassium	AAS
Selenium (Wastewater)	GFAAS
Selenium (Water)	GFAAS
Silver	GFAAS
Sodium	AAS
Zinc	AAS
Zinc	GFAAS
Toxicity Characteristic Leaching Procedure (TCLP) - As, Cd, Cr, Hg, Pb, Ag, Ba, Se	EPA Method 1311

MICROBIOLOGICAL ANALYSIS	
Analyte	**Method**
Total Coliform Count	Multiple Tube Fermentation Technique
Fecal Coliform Count	Multiple Tube Fermentation Technique
Heterotrophic Plate Count	Pour Plate
Escherichia coli (E.coli)	Multiple Tube Fermentation Technique

FOR SUBCONTRACTING (WATER & WASTEWATER)

Benzo(a) pyrene (Gas Chromatography)
BTEX (Gas Chromatography)
Cyanide (Gas Chromatography)
Formaldehyde (Gas Chromatography)
Pesticide Residue-Organochlorine Pesticides (Gas Chromatography)
Phenols and Phenolic Substances (Gas Chromatography)
Polychlorinated Biphenyls (Gas Chromatography)
Total Organic Carbon (Gas Chromatography)

• Air Quality Monitoring Sampling and Analysis

STACK EMISSION SOURCES ANALYTE
Carbon Monoxide
Nitrogen Oxide (analyzed as NO_2)
Particulate Matter
Sulfur Oxide (analyzed as SO_2)

VIBRATION
Acceleration (1hr)
Acceleration, Vibrometer - Peak Particle Velocity (24hrs)

AMBIENT AIR ANALYTE
Carbon Monoxide
Nitrogen Dioxide (NO_2)
Noise (1hr / 24hrs)
Particulate Matter 10 (1hr / 24hrs)
Particulate Matter 2.5 (24hrs)
Total Suspended Particulates
Ammonia
Cadmium
Calcium
Chloride
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Nickel
Ozone
Potassium
Sodium
Sulfuric Acid as Sulfate
Zinc

FOR SUBCONTRACTING (AMBIENT AIR)

Aluminum / Barium / Hydrogen Sulfide (Colorimetric) / Opacity / Silver / Volatile Organic Carbon (Gas Chromatography)

Vicinity Map

DENR-EMB recognized training organization/institution for Basic PCO Training Course for Category A & B and Managing Heads