

SOQ

STATEMENT OF QUALIFICATIONS

FEBRUARY 2021

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*CRL Environmental
Corporation*



CRL Environmental Corporation (CRL) is a full service laboratory focused on environmental services that include industrial, process, and hazardous waste testing. With more than 20 years in the environmental industry, you can be assured of its quality environmental services. Its laboratory is strategically located in Clark Freeport Zone, Pampanga ready to serve the whole country and Asia.

CRL is equipped with state of the art instrumentation making it one of the most sophisticated laboratories in Asia. Its equipment's redundancy promotes just in time analysis results for its customers. CRLE is a DENR-Recognized laboratory and is also an ISO/IEC 17025:2005 certified company.

CRL technical staff have extensive experience in water, wastewater, air, and solid waste analyses; and hazardous waste site investigations, confirmation, and remediation that dates back to the infancy stage of that of the United States' environmental industry.

CRL maintains versatility in meeting client needs and is able to perform and develop specialized testing in compliance with routine and non-routine investigations. Organic and inorganic evaluation of water, air, gas, soil, biological tissue, and oil matrices are provided. United States Environmental Protection Agency (US EPA) and State of California Department of Health Services methods are used to perform all analyses and strict quality assurance programs validate results.

The CRL Group of Companies—comprised of CRL Environmental Corporation together with its air and industrial hygiene services company, CRL Calabarquez Corporation; its laboratory solutions company, ASSET PH; and their marketing arm, CRL Analytics Corporation—with a combined strong workforce of more than 200 technical and support personnel is the biggest and leading environmental testing services provider in the country.

Our commitment to quality and customer responsiveness is our trademark and the source of our continuing efforts for service improvement and expansion. The CRL Group of Companies achieves its commitment through its personnel who are highly competent and motivated working as a team in a safe and healthy environment.

Visit our site!

www.crlabs.com



OUR MISSION & VISION

MISSION: Our mission is to provide laboratory services to the customers in a timely manner, employing the highest degree of professionalism, with emphasis on quality and low cost, while keeping the employees and environment safe.

VISION: CRL Environmental Corporation is to distinguish itself as a premier environmental laboratory in Asia.

BENEFITS OF DOING BUSINESS WITH CRL

CRL is backed by array of networks and partners, of known competency, ranging from local to international laboratories. This ensures versatility in meeting your needs for specialized testing including the need for an on-site laboratory.



**CRL Environmental
Corporation**

■ **Sales Office:** Unit 609 Cityland 10 Tower 1 * 6815 H.V. dela Costa, Ayala Ave., North * Makati City, Philippines 1226
Tel: (632) 8840-4071 ; (632) 8817-5307 * Fax (632) 8816-0329 * E-mail: crl@crlabs.com * <http://www.crlabs.com>
■ **Laboratory:** Bldg. 2, Berthaphil Compound I, Berthaphil Business Park, CFZ, Clarkfield, Pampanga, Philippines 2023
Tel: (6345) 599-3943 * (6345) 499-6529 * (632) 8552-5100 * Fax: (6345) 599-3963

Our fleet of environmental samplers operates daily within mainland Luzon to collect and transport your samples to our laboratories. We provide pick-up services, at Manila and Clark airports, of samples that are coming from other regions outside mainland Luzon.

With state-of-the-art equipment, instrument redundancy, a computerized Laboratory Information Management System (LIMS), and highly competent personnel, CRL provides you with high quality analytical and technical reports and services.

By directly getting our services, you get savings from handling and operations costs.

HIGHLIGHTS

- ✓ **CRL is a full service laboratory**
 - Hazardous Waste Characterization – Soil, Water, Air
 - Air Samples Analyses – Emissions Testing, Ambient Air Quality, WEM, IH, IAQ
 - Wastewater/Groundwater Analyses – Monitoring Wells/NPDES compliance
 - Drinking Water Analyses – including Information Collection Rule (ICR)
 - Biological & Microbiological Testing
 - Mobile Laboratory – Luft Methods/Special Projects
 - Special Projects/Bench Scale Treatment Studies
 - Field Services – In-House/Commercial/Wastewater sampling
- ✓ **CRL is committed to providing excellent data quality**
 - Defensible data
 - Internal QA audits
 - External Performance Evaluation Sample Participation
 - Defensible Data
 - ISO/IEC 17025:2005 Certification
 - DENR Recognized Analytical Parameters
 - DOLE-OSHC Accredited Sampling and Laboratory
- ✓ **CRL is a service-oriented company**
 - Technical Project Manager assigned to a particular customer
 - Sample pickup anywhere in the Philippines and Asia
 - Excellent turnaround time
 - Report formatting tailored to specific project requirements
 - Technical Resources – library and/or analytical consulting
 - Quality service unmatched in the industry
 - Availability of support personnel
- ✓ **CRL is a financially stable company**
 - Profitable company
 - High bank credit line
- ✓ **CRL ha redundancy in equipment**
 - No downtime
 - “Just In Time” analyses
 - High volume capacity – will help client bid for big projects
 - Technical support from ASSET Laboratories in Philippines and USA



ACCREDITATIONS & RECOGNITIONS

- ✓ **DTI-PAB PNS ISO/IEC 17025:2005 accredited Laboratory**
Chemical and Biological Testing
- ✓ **DENR recognized Environmental Laboratory**
Water and Wastewater, Sediments, Transformer Oil and Waste Oil, Wastes, Ambient Air, Stationary Source Emission
- ✓ **OSHC-DOLE accredited WEM Provider**
Category II – Occupational Hygiene Laboratory
- ✓ **DOH accredited Laboratory for Drinking Water Analysis**
Bacteriological Analysis
Chemical Analysis
Physical Analysis

ENVIRONMENTAL SERVICES

Water & Wastewater

Bacteriology and microbiology	Inorganic chemistry	TOX
Drinking water analysis	Organic chemistry	TOC
Digester gas analysis	Toxicity bioassay	
ICR Rule testing compliance	Wastewater analyses	

NPDES Priority Pollutants

Benzidines	Nitroaromatics	Phthalates
Chlorinated hydrocarbons	Nitrosamines	PNAs
Halocarbons	Pesticides and PCBs	Toxic metals
Haloethers	Phenols	Volatile aromatics

Hazardous Waste

Laboratory-scale treatment studies	Sampling and monitoring of water & wastewater
Hazardous materials characterizations	Waste contamination
Pilot plant studies	
Professional consultation	

Work Environment Measurement or Industrial Hygiene (WEM or IH), Indoor Air Quality (IAQ) Testing & Indoor Environmental Quality (IEQ) Testing

Chemical Parameters (dusts & fibers, metals, organic solvents, acids, gases)
Biological Parameters (total bacteria)

Air Analyses (Stationary Source Emissions, Ambient Air)

NESSAP (National Emission Standards for Source Specific Air Pollutants)
NAAQS (National Ambient Air Quality Standards)
NAAQGV (National Ambient Air Quality Guideline Values)

Landfill Gases and Air Toxics

Fugitive emissions	Royalty Gas / Fixed Gas Analyses
Landfill Gas Analyses / Methane	Soil Vapor
Non Methane Organic Carbon	TO-14
Ozone Precursors	Toxic Hot Spots AB2588
Refinery Gas Analyses / Natural Gas Analyses	



Bioassay & Microbiology

Chronic Toxicity	NPDES Fish Bioassay
E.Coli, HPC, Coliform	Microbiology – Potable Water
ICR Coliform	Title 22 Hazardous Waste

Underground Storage Tank Investigations

Fuel Fingerprint	GC-FID Purgeable Aromatics	Method 602/8020
ICP Soil Vapor	GC-PID Petroleum Hydrocarbons	Method 7000 Series & 6010
IR Metals	Method 418.1	Method 8015

Industrial Services/Process Treatment

Wastewater and sludge treatment for managing hazardous materials
 Wastewater flow reduction, reuse and reclamation
 Soil Remediation, Wastewater and Oilfield Bench Scale & Pilot Plant Treatment Studies

Project Management

Project management is initiated for both large-scale projects and single batch samples. A computerized data tracking system monitors the progress of pending samples.

Each laboratory has a Client Services Section dedicated to communication and service. Client services representatives serve as a liaison between client and laboratory and can help with a variety of needs:

Project specification preparation	Quality Assurance
Regulatory liaison	Technical Information
Reference sample analysis	Problem Solving

Mobile Laboratory

CRL has a mobile laboratory, equipped with state-of-the-art instrumentation including AA, IR, GC, and UV-VIS and GC/MS. The mobile laboratory is equipped with extensive safety equipment providing a safe working environment and rapid on-site analysis of both physical and chemicals parameters.

Courier Services

CRL Courier Services provide refrigerated sample transport throughout the Philippines. Sampling kits are available from the courier fleet, which include containers appropriately preserved for organic and inorganic test requirements. The couriers are all OSHA 40-hr trained in addition to sample handling, preservation techniques, and approved sampling methods.

Field Services/Sampling

CRL Environmental Corporation maintains a full time 40-hr trained field services staff who conducts environmental sampling of wastewater, surface water, groundwater, soil/sediments, gases, and air. Statistical sampling of hazardous waste site is also routinely done at CRL.



DETAILED LIST OF ANALYTICAL SERVICES

Parameter	Test Reference
Water and Wastewater	
Ammonia (as NH ₃ -N)	SMEWW 4500-NH ₃ D (Ammonia – Selective Electrode Method)
	SMEWW 4500-NH ₃ F (Phenate Method)
Arsenic	SMEWW 3500-As B (Silver Diethyldithiocarbamate Method)
	SMEWW 3114 B (Manual Hydride Generation / Atomic Absorption Spectrometric Method)
	SMEWW 3120 [SMEWW 3030 F] (Inductively Coupled Plasma – Emission Spectroscopy Method) [Nitric Acid – Hydrochloric Acid / Hotplate Digestion]
Barium	SMEWW 3111 D [SMEWW 3030 F] (Direct Nitrous Oxide – Acetylene Flame Method) [Nitric Acid – Hydrochloric Acid / Hotplate Digestion]
	SMEWW 3120 [SMEWW 3030 F] (Inductively Coupled Plasma – Emission Spectroscopy Method) [Nitric Acid – Hydrochloric Acid / Hotplate Digestion]
Biological Oxygen Demand (BOD)	SMEWW 5210 B (5-Day BOD Test)
Boron	SMEWW 4500-B B (Carmines Method)
	SMEWW 4500-B C (Curcumin Method)
BTEX (Benzene, Toluene, Ethylbenzene, Xylene, Trichloroethylene)	SMEWW 6200 B (Purge and Trap Capillary – Column Gas Chromatographic / Mass Spectrometric Method)
Cadmium, Iron, Manganese, Nickel, Zinc	SMEWW 3111 D [SMEWW 3030 F] (Direct Air – Acetylene Flame Method) [Nitric Acid – Hydrochloric Acid / Hotplate Digestion]
	SMEWW 3120 [SMEWW 3030 F] (Inductively Coupled Plasma – Emission Spectroscopy Method) [Nitric Acid – Hydrochloric Acid / Hotplate Digestion]
Chemical Oxygen Demand (COD)	SMEWW 5220 B (Open Reflux Method)
Chloride	SMEWW 4500-Cl ⁻ B (Argentometric Method)
Chromium (as Hexavalent Chromium, Cr ⁶⁺)	SMEWW 3500-Cr B (Colorimetric Method)
Coliform, Fecal	SMEWW 9221 E (Multiple Tube Fermentation Technique – Fecal Coliform Procedure)
Coliform, Total	SMEWW 9221 B



Parameter	Test Reference
	(Multiple Tube Fermentation Technique – Standard Total Coliform Fermentation Technique)
Color, Apparent	SMEWW 2120 B (Visual Comparison Method)
Color, True	SMEWW 2120 B (Visual Comparison Method)
Copper, Dissolve	SMEWW 3111 B [SMEWW 3030 B and SMEWW 3030 F] (Direct Air – Acetylene Flame Method) [Nitric Acid – Hydrochloric Acid / Hotplate Digestion]
	SMEWW 3120 [SMEWW 3030 B and SMEWW 3030 F] (Inductively Coupled Plasma – Emission Spectroscopy Method) [Nitric Acid – Hydrochloric Acid / Hotplate Digestion]
Copper, Total	SMEWW 3111 B [SMEWW 3030 F] (Direct Air – Acetylene Flame Method) [Nitric Acid – Hydrochloric Acid / Hotplate Digestion]
	SMEWW 3120 [SMEWW 3030 F] (Inductively Coupled Plasma – Emission Spectroscopy Method) [Nitric Acid – Hydrochloric Acid / Hotplate Digestion]
Cyanide (as Free Cyanide)	SMEWW 4500-CN-F (Cyanide – Selective Electrode Method, without distillation)
Dissolved Oxygen	SMEWW 4500-O C (Iodometric Method – Azide Modification)
Fluoride	SMEWW 4500-F D (SPADNS Method)
Lead	SMEWW 3111 B [SMEWW 3030 E] (Direct Air – Acetylene Flame Method) [Nitric Acid – Hotplate Digestion]
	SMEWW 3113 [SMEWW 3030 E] (Electrothermal Atomic Absorption Spectrophotometric Method) [Nitric Acid – Hotplate Digestion]
	SMEWW 3120 [SMEWW 3030 E] (Inductively Coupled Plasma – Emission Spectroscopy Method) [Nitric Acid – Hotplate Digestion]
Mercury	SMEWW 3112 B (Cold-Vapor Atomic Spectrophotometric Method)
Nitrate (as NO ₃ -N)	US EPA 352.1 (Colorometric, Brucine)
	SMEWW 4500-NO ₃ ⁻ -E SMEWW 4500-NO ₂ ⁻ -B (Cadmium Reduction Method with Nitrite correction using Colorimetric Method)
	SMEWW 4500-NO ₃ D (Nitrate Electrode Method)
Oil and Grease	SMEWW 5520 B (Liquid – Liquid, Partition – Gravimetric Method)
Organochlorine Pesticides	US EPA 8081



Parameter	Test Reference
	(Gas Chromatographic / Electron Capture Detector Method)
pH	SMEWW 4500-H ⁺ B (Electrometric Method)
Phenols	SMEWW 5530 C (Chloroform Extraction Method)
Phenol and Phenolic Substances	US EPA 8041 (Gas Chromatographic Method)
Phosphate	SMEWW 4500-P D (Stannous Chloride Method)
	SMEWW 4500-P E (Ascorbic Acid Method)
Polychlorinated Biphenyls	US EPA 8082 (Gas Chromatographic / Electron Capture Detector Method)
	SMEWW 3114 B (Manual Hydride Generation / Atomic Absorption Spectrometric Method)
Selenium	SMEWW 3120 [SMEWW 3030 F] (Inductively Coupled Plasma – Emission Spectroscopy Method) [Nitric Acid – Hydrochloric Acid / Hotplate Digestion]
Settleable Solids	SMEWW 2540 F (Imhoff Cone Method)
Sulfate	SMEWW 4500-SO ₄ ²⁻ E (Turbidimetric Method)
Surfactants (Methylene Blue Active Substances)	SMEWW 5540 C (Anionic Surfactants as MBAS)
Temperature	SMEWW 2550 B (Laboratory and Field Methods)
Total Dissolved Solids	SMEWW 2540 C (Gravimetric, Dried at 180°C)
Total Suspended Solids	SMEWW 2540 D (Gravimetric, Dried at 103 – 105°C)

Sediments

Arsenic
Cadmium, Total
Copper
Iron
Lead
Manganese
Mercury, Total
Nickel
Organochlorine Pesticides
Polychlorinated Biphenyls
Silver



Parameter	Test Reference
Zinc	
Transformer Oil and Waste Oil	
Polychlorinated Biphenyls	
Wastes	
Arsenic and its compounds	
Barium and its compounds	
Cadmium and its compounds	
Chromium compounds	
Lead compounds	
Mercury and Mercury compounds	
Selenium and its compounds	
Silver and its compounds	
Ambient Air	
Ammonia (NH ₃)	MASA Method 401 (Indophenol Method)
Hydrogen Sulfide (H ₂ S)	MASA Method 701 (Methylene Blue Colorimetry Method)
Lead (Pb)	40 CFR Part 50, Appendix G
Nitrogen Dioxide (NO ₂)	MASA Method 406 (Griess-Saltzman Method)
Particulate Matter 10 microns (PM ₁₀)	40 CFR Part 50, Appendix J
Sulfur Dioxide (SO ₂)	40 CFR Part 50, Appendix A-2 / MASA Method 704A (Pararosaniline Method)
Total Suspended Particulates (TSP)	40 CFR Part 50, Appendix B
Stationary Source Emission	
NESSAP (National Emission Standards for Source Specific Air Pollutants)	
Hydrogen Sulfide (H ₂ S)	US EPA Method 11
Metals [Antimony (Sb), Arsenic (As), Cadmium (Cd), Copper (Cu), Lead (Pb), Mercury (Hg), Zinc (Zn), and their compounds]	US EPA Method 29
Sulfur Oxides (as SO ₂)	US EPA Methods 6/8



INSTRUMENTATION

Instrument / Equipment	Brand (Model, Serial No.)
Air Compressor	Vespa
Air Compressor	Vespa
Air Vacuum/Pressure Pum (High Output)	Millipore (Model WP6222050, SN 051500004144)
Air Vacuum Pump/ Compressor	GAST (Model DOA-P704-BN, SN 1116003831)
Air Vacuum Pump/ Compressor	GAST (Model DOA-P704-BN, SN 0217006381)
Air Vacuum Pump/ Compressor	GAST (Model DOA-P504-BN, SN 1217009994)
Air Pump	Aquarium Air Pump (Model PR9500)
Air Pump	Atec (AR-7500)
Air Pump	Atec (AR-7500)
Ammonia ISE meter/set-up	Thermo Orion Star A214
Analytical Balance	Kern-Germany 2010
Analytical Balance	Kern (ABS 220-4)
Analytical Balance	Adam/PW 254
Analytical Balance	Kern (ABS-N_ABJ-NM)
Analytical Balance	Shimadzu (AUW220D) Unibloc/ D450014163
Analytical Balance	Mettler (AM 100)
Anemometer, Hot Wire (Humidity/Temperature)	Lutron (Model YK-2004AH, SN R.041740)
Autoclave	Market Forge (Model STME-L)
Autoclave	Hirayama (HV-50, SN: 30317052219)
Autoclave (Portable)	Biobase Portable Autoclave (Model BKM-P24, SN 1803011)
Autosampler 1 (for GC-ECD1)	HP 7673
Controller	HP (18594B, SN 3018A22036)
Tray	HP (18596M, SN 3344A33724)
Injector	HP (SN 3033A23000)
Autosampler 2 (for GC-ECD2)	HP 7673
Controller	HP (18594A, SN 2929A15765)
Tray	HP (18596B, SN 3213A28178)
Injector	HP (18593B, SN 3426A39209)
Autosampler 3 (for Dual FID)	HP 7673
Controller	HP (18594B, SN 3214A282276)
Tray	HP (18596M, SN 3304A31154)



Instrument / Equipment	Brand (Model, Serial No.)
Injector	HP (18593B, SN 3445A40882)
Autosampler 4 (for FID)	
Controller	HP/G1512A/SN: 3630A05810
Autosampler for EO-GC-009	
Tray	G4514-64000, SN: CN16360026
Injector	G4513-64000, SN: CN16320011
Bacti-Cinerator	Thomas Scientific, Infrared Microsterilizer; HM-11-14550
Biological Safety Cabinet	Nuaire; Model: NU -425-400; SN: 17290TV
Blender	Kyowa
Blender	Imarflex/IB350F6
Bottletop Dispenser	Scharlau; SN 101783
Bottletop Dispenser	Scharlau; SN 101787
Camera 003	Canon (green)
Camera 008	Sony (Black)
Camera 009	Canon (Black)
Camera 010	Olympus (water proof)
Camera (Sony)	Sony DSC W800
Canopy Hood (for BOD)	Fabricated
Canopy Hood (ECD 1) - Duct-type	Fabricated
Canopy Hood (ECD 3) - Duct-type	Fabricated
Canopy Hood (ECD 2) - Duct-type	Fabricated
Canopy Hood (FID dual) - Duct-type	Fabricated
Canopy Hood (VOC Instrumentation)	Fabricated
Canopy Hood (VOC Sample Prep)	Fabricated
Canopy Hood (BTEX Room)	Fabricated
Canopy Hood (Hg sample prep.)	Fabricated
Canopy Hood (Shimadzu)	Fabricated
Canopy Hood (Perkin Elmer 1)	Fabricated
Canopy Hood (AAS 400)	Fabricated
Canopy Hood (Graphite)	Fabricated
Canopy Hood (Mercury Analyzer)	Fabricated
Canopy Hood (Metal Prep Area)	Fabricated



Instrument / Equipment	Brand (Model, Serial No.)
Canopy Hood (Metal Prep Area-TCLP)	Fabricated
Canopy Hood (Hot Room/Furnace)	Fabricated
Canopy Hood (for Spectrometer)	Fabricated
Canopy Hood (Distillation)	Fabricated
Canopy Hood (Distillation)	Fabricated
Canopy Hood (Distillation)	Fabricated
Canopy Hood (Distillation)	Fabricated
Canopy Hood (Distillation)	Fabricated
Canopy Hood, semi enclosure	Labworks-Australia
Canopy Hood (for furnace)	Fabricated
Canopy Hood (balance)	Fabricated
Canopy Hood (sample receiving)	Fabricated
Canopy Hood, Movable (Spectro, Wetchem Dept.)	Fabricated
Canopy Hood, Movable (Spectro, Air Dept.)	Fabricated
Colony Counter	Boeco Model CC-1 2011
Centrifugal Blower/Motor-Big	Niagara
Centrifugal Blower/Motor-Small	F
Chlorine Meter	Lutron Chlorine Meter CL-2006; AJ35160
COD Reactor 10 holes	Jetty (Fabricated)
COD Reactor 10 holes	Jetty (Fabricated)
COD Reactor 10 holes	Jetty (Fabricated)
COD Reactor 10 holes	Jetty (Fabricated)
Concentrator 2	Zymark/TurboVap 500
Concentrator 3	Zymark/TurboVap 500
Conductivity Meter	Eutech Cyberscan Con 11, SN:2204253
Conductivity Meter	Eutech Cyberscan Con 110, SN:2266587
CN set up	BSL Co.
Cyanide Electrode	Orion
Dehumidifier (Automatic, Frost-free)	OASIS/ SN:9738537496
Dehumidifier (Automatic, Frost-free)	OASIS/ SN:9738537493
Desiccating Cabinet	Labline
Desiccating Cabinet	Scienceware/ SAN12902015



Instrument / Equipment	Brand (Model, Serial No.)
Desiccating Cabinet	Fabricated; Pacific Ream
Desiccating Cabinet	Sibata; EUV-12; SN: 047550-12
Desiccator 3	Jetty Lab.
Desiccator 5	Jetty Lab.
Desiccator 6	Jetty Lab.
Desiccator 7	Jetty Lab.
Desiccator 8	Jetty Lab.
Desiccator 9	Jetty Lab.
Distillation Apparatus	Yana (Brand- Monodest 3000)
DO Meter	Eutech Instruments DO6+
DO Meter	Horiba ; LAQUAAct DO110-K; SN: DC8DC026
Dissolved Oxygen (DO) Meter	Trans Instruments; HD3030; SN: 1159871
Digital Thermometer	Testo 922; SN: 33640438/801
Flowmeter (water/air)	Flowwatch (Swiss)/General (FW 450) 2010
Flowmeter (water/air) & current Sensor	Flowwatch - Swiss made 2011
Flowmeter	Restek Proflow 6000 Flowmeter
Fluoride Ion Selective Electrode (ISE)	Thermo Orion 9609BNWP
Freezer	Fujidenzo, Model FCG-40PDF SL; SN: SL20170
Fume Hood	PL E & I Lewis Plastics
Fume Hood	ATL-F
Fume Hood (SVOC)	Fabricated
Fume Hood	Labtraders; Fumehood FH1800X; SN: FH1509018
Fume Hood (SVOC)	Fabricated
Furnace	Vulcan Furnace (NEY) 3-550
Furnace	Vulcan Furnace (NEY) 3-550, SN: DKW1530110V
Gas Chromatograph 5890 series (ECD 1)	Hewlett Packard 5890Series II/SN: 2950A27201
Gas Chromatograph (FID/PID)	Varian 3800/SN: 03395
Gas Chromatograph 5890 series (VOC)	Hewlett Packard 5890 Series II/SN: 3336A56381
Gas Chromatograph (dual FID)	Hewlett Packard 5890 Series II/SN: 3121A42736
Gas Chromatograph 5890 series (ECD2)	Hewlett Packard 5890Series II/SN: 313337584
Gas Chromatograph 5890 series (FID)	Hewlett Packard 5890Series II/SN: 2950A27099
Gas Chromatograph 7890B	Agilent Technologies 7890B; SN: US16393017



Instrument / Equipment	Brand (Model, Serial No.)
Gas Chromatograph 7890B	Agilent Technologies 7890B; SN: CN193534076
Generator Set 3500 OHV	Coleman 3500 KVA
GPS 76	Garmin (S/N803422350)
GPS 76	Garmin (S/N14113755)
GPS eTrex H	Garmin
GPS eTrex	eTrex 20X Garmin
GPS eTrex	eTrex 20X Garmin
GPS eTrex	eTrex 20X Garmin
Harness (Full Body)	Model FS1010
Hazardous Waste Filtration System	Millipore Cat # YT30 142HW
Heating Block	Baxter
HotPLate (12" x 24")	Jetty Lab.
HotPLate (12" x 24")	Jetty Lab.
Hotplate	Barnstead/Thermolyne; Model SP18425; SN: 1725070306546
HotPLate (12" x 24")	Jetty Lab.
Hotplate	La Germania
HotPlate	Hanabishi/ HES-60F
HotPlate	Hanabishi/ HES-60F
HotPlate	Union, Model UGES-710
HotPlate	La Germania Model E106W; SN: 1601-Q-4962
Hotplate	La Germania Model E106W; SN: 1809-R-9191
HotPLate (12" x 24")	Jetty Lab.
Hot Plate (12" x 24")	Jetty Lab.; Fabricated
HotPlate	La Germania
Hotplate	La Germania; Model E106W; SN: 1503-Q-1524
Hygrometer/Thermometer (RH)	Control Company/ Model 4040; SN: 160434673
Thermometer/Hygrometer (RH)	Control Company/ Model 4040; SN: 170599932
Thermometer/Hygrometer (RH)	Control Company/ Model 4040; SN: 181341680
Hygrometer/Thermometer (RH)	VWR
Hygrometer/Thermometer (RH)	Control Company/ Model 4040; SN: 180018619
Hygrometer/Thermometer (RH)	VWR



Instrument / Equipment	Brand (Model, Serial No.)
Hygrometer/Thermometer (RH)	VWR
Hygrometer/Thermometer (RH)	VWR
Hygrometer/Thermometer (RH)	VWR
Thermometer/Hygrometer (RH)	Control Company/ Model 4040; SN: 181341293
Thermometer/Hygrometer (RH)	Control Company/ Model 4040; SN: 181341265
Hygrometer/Thermometer (RH)	Control Company/ Model 4040; SN: 160473967
Hygrometer/Thermometer (RH)	Control Company/ Model 4040; SN: 160434681
Hygrometer/Thermometer (RH)	Control Company/ Model 4040; SN: 170397555
Hygrometer/Thermometer (RH)	Control Company/ Model 4040; SN: 170397551
Hygrometer/Thermometer (RH)	VWR
ICP- OES	Agilent Tech.; Model 5110-SVDV; SN: MY17260002
Incubator	Lorenza/SN: 1.3166567
Incubator	Delta
Incubator	Tefcold SD 1380
Incubator	VWR 1520
Incubator	Memmert
Incubator	Precision
Incubator-Coliform	Lorenza 2011
Incubator	Memmert
Magnetic Stirrer	VWR
Magnetic Stirrer	Corning Model: PC 410D; SN155215195073
Magnetic Stirrer	Corning
Mass Selective Detector 3	HP 5972
Mercury Analyzer (Teledyne)	Hydra II AA SN: US18162002
Microscope	Nikon Eclipse 2600
Microscope	Biological Microscope Model XSZ-107BN
Microwave	Mabe; ME12340DVSL
Mixer-Vortex	Burnstead-Thermolyne
Mixer-Vortex	Digisystem, VW 2000, SN: VM2-16010012
Multiparameter Meter	Thermo Model Meter, 1219000 S/N A17118
pH meter	pH probe
Conductivity meter	conductivity probe



Instrument / Equipment	Brand (Model, Serial No.)
Dissolved Oxygen	Dissolved Oxygen probe
Nitrate ISE	Thermo Scientific Orion 9700BNWP
ORPTester 10	ORPTester-Eutech; SN: 2403636
Oven	Memert
Oven	Memmert(Modell 300) D 06059
Oven	Heraeus/Lab.Ind.
Oven	Memmert-Germany-53L 2010
Oven	Raven from Lorenza
Oven	Memmert, UN55, SN: B217.2773
Oven	Memmert, UN110, SN: B418.1627
Pensky-Martens closed cup flash pt. Tester	Koeler
pH meter (Horiba, Model D-51E)	Horiba, Model D51-E, SN S304161
pH Meter	Hanna (pH211)
pH Meter	Adwa S/N 886829 Model AD 1040 3-2012
pH Meter	Eutech-SN 608802 3-2012
pH Meter	Eutech S/N 2523584
pH Meter	Horiba
pH meter/ ISE meter	Thermo Scientific; Orion Versa Star Pro
pH Meter pH 5+	Eutech S/N 2766399
pH Meter	Eutech 02Plusk 2010
pH Meter	
pH Meter	Eutech S/N897202
pH Meter pH5+	Eutech S/N 954318
pH Meter pH5+	Eutech S/N 2027720
pH Meter pH5+	Eutech S/N 2330371
pH Meter pH5+	Eutech S/N 2330357
pH Meter pH5+	Eutech S/N 2518962
pH Meter pH5+	Eutech S/N 2523588
pH Meter pH5+	Eutech S/N 2523582
pH Meter pH5+	Eutech S/N 2518974
pH Meter pH5+	Eutech S/N 2518971
pH Meter pH5+	Eutech S/N 2393665



Instrument / Equipment	Brand (Model, Serial No.)
pH Meter pH5+	Eutech S/N 2554324
pH Meter pH5+	Eutech S/N 2393688
pH Meter pH 5+	Eutech S/N 2708204
pH Meter pH 5+	Eutech S/N 2766402
pH Meter pH 5+	Eutech S/N 2766398
pH Meter pH 5+	Eutech S/N 2766405
pH Meter pH 5+	Eutech S/N 2861633
pH Meter pH 5+	Eutech S/N 2861634
pH Meter pH 5+	Eutech S/N 2861636
pH Meter pH 5+	Eutech S/N 2861635
pH Meter pH 5+	Eutech S/N 2861631
pH Meter pH 5+	Eutech S/N 2861639
pH Meter pH 5+	Eutech S/N 2861638
pH Meter pH 5+	Eutech S/N 2861637
pH Meter pH5+	Eutech S/N 2393658
pH Meter pH 5+	Eutech S/N 2861640
pH Meter pH5+	Eutech S/N 2393669
pH meter	Sper Scientific Advanced pH meter Model 850055; SN: 10317040
Pipettor 10 uL to 100 uL	Dragon Lab Micropette Pipettor, SN YL4A058702
Pipettor 100 uL to 1000 uL	Dragon Lab Micropette Pipettor, SN YL5G131472
Pipettor 10 uL to 100 uL	Thermo (Finnpipette) HH19269
Pipettor 25 uL	Bio-Hit Proline
Pipettor 10-100 uL	Bio-Hit Proline/ 1117189
Pipettor 10-100 uL	Brand Transferpette; SN :18F61774
Pipettor 100-1000 uL	Brand Transferpette; SN :18J18991
Pipettor 1-10 mL	Thermo-Finnpipette HH24017 (April 2012)
Pipettor 100-1000 uL	DragonLab Micropette Pipettor
Pipettor 1-10 ml	Brand Transferpette; SN: 18M84943
Pipettor 10-100 uL	Dragon Lab Micropette Pipettor, SN YL4A058690
Pipettor 10-100 uL	Transferpette (Brand): SN: 17E57099
Pipettor 100 uL to 1000 uL	Transferpette (Brand): SN: 17E49934



Instrument / Equipment	Brand (Model, Serial No.)
Pipettor 10-100 uL	Brand Transferpette; SN :18F61770
Pipettor 100-1000 uL	Brand Transferpette; SN :18J18978
Pressure Gauge	for All American Model 930
Purge and Trap (for VOC)	
ALS 2016	Tekmar (Gentek)
LSC 2000	Tekmar (Gentek)
Purge and Trap (for BTEX)	
ALS 2016-2	Tekmar (Gentek)
LSC 2000-2	Tekmar (Gentek)
Rough Pump # 2	Edwards
Refrigerator 3-door	Hung Mei (Frozone)
Refrigerator 2-door	DEI-635(Frozone)
Refrigerator	LG
Refrigerator	Fujidenzo
Refrigerator	Fujidenzo
Refrigerator	Fujidenzo
Refrigerator	Fujidenzo
Refrigerator	Fujidenzo
Refrigerator	Fujidenzo
Refrigerator	Whirpool
Refrigerator	Fujidenzo
Refrigerator	LG
Refrigerator	from Lorenza
Refrigerator	ATL-Volatiles-Air
Refrigerator	LG
Refrigerator	GE
Refrigerator	Electrolux/ETB 2100PA
Refrigerator	Electrolux/ERM 1400A-RPH
Refrigerator	Sanyo/RS-8K
Refrigerator	Fujidenzo; ISU-140A; SN: 16745-40
Refrigerator (2-Door)	Panasonic; Model NR-B7413ES; SN: 950686207
Refrigerator	Sanyo



Instrument / Equipment	Brand (Model, Serial No.)
Refrigerator	Sanyo
Refrigerator	Fujidenzo; Model SU-90A
Set of Weights	Fisher
100 grams	Fisher
200 grams	Fisher
2 grams	Fisher
10 grams	Fisher
20 grams	Fisher
(1) 100 gms	Troemner
(1) 50 gms	Troemner
(2) 20 gms	Troemner
(1) 10 gms	Troemner
(1) 5 gms	Troemner
(2) 2 gms	Troemner
(1) gm	Troemner
(1) 500 mg	Troemner
(2) 200 mg	Troemner
(1) 100 mg	Troemner
(1) 50 mg	Troemner
	Troemner
(1) 10 mg	Troemner
Printer	HP D5560
APC	Back up UPS (ES-500)
SpectroAAS (AA 7000)	Shimadzu
Graphite Furnace	Shimadzu
Monitor	Dell
Keyboard	Dell
CPU	Dell
Printer	HP
APC	Back up UPS (ES-500)
Isolation Transformer	
Water Circulating System	Eyela



Instrument / Equipment	Brand (Model, Serial No.)
Spectrophotometer	Analytik Jena/ Specord 200 Plus BU
Monitor	Hp
Printer	Hp Deskjet 2010
Keyboard	Hp/ KU-0316
CPU	Hp/ hp pro
Spectrophotometer	Biobase Double Beam UV/VIS Spectro Model: BK-D-590; SN: UTC15G0008
Stopwatch	VWR/SN: 130315956
Titrator (Titrette)	Brand/11M93181
Titrator (Titrette)	Brand (SN: 17F63684)
Titrator (Titrette) - 25mL	Brand (SN: 1843734)
Titrator (Titrette) - 50mL	Brand (SN: 19B17991)
Titrator (Titrette) - 50mL	Brand (SN: 19B17252)
Triple-Display Timer	Control Company; Cat # 5025, SN: 151943586
TCLP Extractor 1 (Big)	Dayton
TCLP Extractor 3 (Big) spare	F-ATL
TCLP Extractor small	F-ATL
Thermometer-Ref/Freezer	VWR
Thermometer-Ref/Freezer	VWR
Thermometer-Ref/Freezer	Control Company
Thermometer-Ref	Control Company; Model 4127; SN: 170696807
Thermometer-Ref	Control Company; Model 4127; SN: 170696796
Thermometer-Ref/Freezer	VWR
Thermometer-Ref/Freezer	VWR
Thermometer-Ref/Freezer	VWR
Thermometer-Ref/Freezer	VWR
Thermometer-Ref/Freezer	Control Company; SN: 160452630
Thermometer-Ref	Control Company; SN: 170696792
Thermometer-Ref	Control Company; SN: 170696794
Thermometer-Ref	Control Company; SN: 192347205
Thermometer-Ref/Freezer	VWR
Thermometer-Ref	VWR; Model 12777-838; SN: 192104675



Instrument / Equipment	Brand (Model, Serial No.)
Thermometer-Ref	VWR; Model 12777-838; SN: 181753288
Thermometer-Ref	VWR; Model 12777-838; SN: 181753233
Thermometer-Ref	VWR; Model 12777-838; SN: 181753309
Thermometer-Ref	VWR; Model 12777-838; SN: 181753283
Thermometer-Ref	VWR; Model 12777-838; SN: 181674770
Thermometer-Ref/Freezer	VWR
Thermometer-Ref/Freezer	VWR
Thermometer-Ref/Freezer	VWR
Thermometer-Ref	VWR; Model 12777-838; SN: 181753317
Thermometer-Ref	VWR; Model 12777-838; SN: 181674933
Thermometer-Ref/Freezer	Control Company, SN: 160452544
Thermometer-Infrared	VWR
Thermometer-Infrared	VWR
Thermometer-Infrared	VWR
Thermometer -Liquid in Glass 110	Alcohol
Thermometer-Liquid in Glass 50	ThermCo; SN: 337280
Thermometer-Liquid in Glass 50	ThermCo; SN: 336688
Thermometer-Liquid in Glass 50	ThermCo; SN: 337233
Thermometer -Liquid in Glass 105	Brand (800103)
Thermometer - Digital (Big Digit Memory)	Control Company; Cat # 4126; SN 140621222
Thermometer - Digital (Big Digit Memory)	Control Company; Cat # 4126; SN 181171974
TKN Distillation	VELP Scientifica
TKN Digestor	VELP Scientifica
Top Loading Balance	KERN
TOC Analyzer	OI Analytical
Turbidimeter	Thermo Orion AquaFast AQ3010; SN: 2784692
Turbidimeter	Thermo Orion AquaFast AQ3010; SN: 2856340
Turbidimeter	Thermo Orion AQ3010; SN: 2737982
Ultrasonic Bath	Ney (Model 19H)
Ultrasonic Homogenizer	Cole Parmer/4710 Series
Van Dorn (1920-1940 Vertical Beta Bottles)	Ben Meadows - Wildco Instruments P/N 223470
Water Bath	Jettly Lab.



Instrument / Equipment	Brand (Model, Serial No.)
Water Bath	Lab. Industries
Water Bath	Jetty
Water Bath	Tecam/Taylor(S/N 81820018070)
Water Bath	Memmert/SN: DINI2877-KL:1
Water Bath	Jetty
Water Bath	Memmert; WNB22; SN: L516.0496
Water Bath	Jetty
Water Bath	Jetty
Water Bath	Jetty
Water Bath	Lorenza
Water Purification System	Merck Synergy UV; SN: F7NA77485K
Walk-In Ref 1	Norlake
Walk-In Ref 2	Norlake

KEY PERSONNEL

Engr. Elizabeth P. Romualdo | President and CEO

Engr. Elizabeth P. Romualdo graduated from the University of Santo Tomas with a degree in chemical engineering and became a licensed chemical engineer shortly thereafter.

Early in her career, she rose from the ranks as an information analyst to eventually become President and General Manager of Dataprep Phils., the exclusive distributor for Data General USA, a leading main-frame computer manufacturer.

She has also been a major part of STI College, one of the Philippines' pioneering computer schools, where she managed various STI schools/training centers in La Union, Laoag, Baguio and Alabang as the President and CEO. She is presently a member of the board of directors of STI College – Cubao.

Her experiences as a manager, entrepreneur, and her education as an engineer, led her to set up CRL ENVIRONMENTAL CORPORATION, the first mobile environmental lab in the country in 1998, where the laboratory has grown from an 8 sq. meter office space to a 1,050 sq. meter stationary lab facility in Clark Freeport Zone, Pampanga. Two more companies have been spun off to complement the needs of the laboratory and the growing demand of the industry. In 2004, CRL Calabarquez Corporation was founded to cater to air monitoring requirements. CRL's marketing and sales arm, CRL Analytics Corporation was founded in 2005.

She co-founded Analytical Support Services for Environmental Testing (ASSET) in 2014. The business involves analytical support, as a remotely-located environmental testing laboratory using instrument-based analyses, data validation, laboratory information management system (LIMS) software, and also offers specialized organics tests in the Philippines

She is, presently and concurrently, the President and Chief Executive officer of these companies.



**CRL Environmental
Corporation**

■ **Sales Office:** Unit 609 Cityland 10 Tower 1 * 6815 H.V. dela Costa, Ayala Ave., North * Makati City, Philippines 1226
Tel: (632) 8840-4071 ; (632) 8817-5307 * Fax (632) 8816-0329 * E-mail: crl@crllabs.com * <http://www.crllabs.com>
■ **Laboratory:** Bldg. 2, Berthaphil Compound I, Berthaphil Business Park, CFZ, Clarkfield, Pampanga, Philippines 2023
Tel: (6345) 599-3943 * (6345) 499-6529 * (632) 8552-5100 * Fax: (6345) 599-3963

Dr. Maria Carmela Q. Capule, RCh, PhD Chief Operating Officer (COO)

Ms. Capule has a B.S. Chemistry degree from the Polytechnic University of the Philippines in Manila and graduated Cum Laude. She has a post graduate Master of Professional Studies in Science Education at Pampanga Agricultural State University. She obtained her Master of Science in Environmental Science at the University of the Philippines, Diliman, QC and currently a PhD Candidate on Environmental Science in the same university (UP-D).

She worked at EMB-DENR Region 3 as head of the laboratory. She had been part of Laboratory Inspection Assessment Team (LIAT) for Recognition of 3rd party laboratories.

Ronald A. Agabin Chief Business Development Officer (CBDO)

Ronald concurrently handles operations, business development, sales and marketing for the CRL and ASSET group of companies. He has 26 years of combined experience as a chemist, project manager, and salesman. He has been essential to the growth and success of the group of companies. He graduated as an academic scholar of the Centro Escolar University (CEU) with a degree in Chemistry.

Ferdinand L. Perez Chief Financial Officer (CFO)

As the chief financial officer for the group of companies, he is the focal person for financial strategies, needs, and funding requirements. He has been an integral part of CRL's growth through the years. He has 27 years of accumulated experience in accounting. He graduated with a bachelor's degree in Commerce, major in Accounting from the Regina Carmel College in Bulacan.

Timothy Dexter A. Ocampo Chief Marketing Officer (CMO)

With 22 years of experience as a sales and marketing professional, Timothy, has been a key contributor to the growth of the CRL organization. He joined the company as an account executive and rose through the ranks; now the CMO for the CRL group of companies. He has a degree in Computer Science from Systems Technology Institute in Makati.

Juliana C. Oriña, RCh Laboratory Director

Juliana has 18 years of combined experience in laboratory operations, environmental compliance, project management, and quality control. A licensed chemist, she graduated Cum Laude from the Central Luzon State University (CLSU). She is one of the pillars of the laboratory.

Chas C. Arroyo, RCh QA/QC Manager

One of the pioneers of the CRL laboratory group, Chas has more than 33 years of experience as a practicing chemist, manager, and QA/QC officer. He ranked "Top 20" in the 1986 Chemist Licensure Examination of the Philippines' Professional Regulation Commission (PRC). He has accumulated 21 years of experience in the QA/QC field. A recognized authority in his field, he is also an external auditor for the DTI's Philippine Accreditation Bureau (PAO-DTI).



PROJECT EXPERIENCE

List of customers, project experience, and track records are available upon request.

ANNEXES

✓ Accreditation and Recognition Certificates and Business Permit

DTI-PAB PNS ISO/IEC 17025:2005 Accreditation

DENR Certificate of Recognition

OSHC-DOLE Certificate of Accreditation

DOH Accreditation

CDC Certificate of Registration & Tax Exemption (CORTE)



LOCATION MAP

CLARK

**Bldg. 2, Berthaphil Compound I
Berthaphil Business Park, CFZ
Clarkfield, Pampanga 2023**

- > from Manila/south take the **NLEX SCTEX/Clark Exit (right after Dau exit)**
- > at the fork, proceed to **SCTEX Clark South/Subic way**
- > take **SCTEX Clark South exit**
- > turn right to **DMIA Gateway**
- > then right to **NAIA Gateway**
- > then right to **Manuel A. Roxas Hwy**
- > at the fork, take **Jose Abad Santos Ave.**
- > turn right to **Andre Hercz St.**
- > enter **Berthaphil** via it's main gate
- > proceed to **CRL Environmental facility**



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