UiTM - A&A LABORATORY

CORPORATE PROFILE

A&A SCIENTIFIC RESOURCES SDN BHD

MS ISO/IEC 17025:2017
SAMM NO: 084
627922-U

"Less pollution is the best solution.
Need solution for your environment ?"

Malaysia's 1st University Affiliated Environmental Laboratory

Contents

UiTM - A&A LABORATORY

01 COMPANY BACKGROUND

A&A Scientific Resources Sdn Bhd manages the operation of UiTM-A&A Laboratory. We received our accreditation from the Department Standard Malaysia (DSM) on 24th November 1995 under the Laboratory Accreditation Scheme of Malaysia SAMM, MS ISO/IEC 17025.

UiTM-A&A Laboratory is a joint entity when A&A Scientific Resources Sdn Bhd officially formed an alliance with Universiti Teknologi MARA in September 2005 via the Faculty of Chemical Engineering. We provide services to consultancy companies, various industries, government bodies, private companies and universities on Environmental & Health sampling and testing.

With the highest of ethical standards and pure dedication to excellence in all operational aspects, we aspire to exceed our customers' expectations.

UiTM - A&A LABORATORY

02 OUR SAMM ACCRREDITATION

UiTM - A&A LABORATORY

The management and employees of UiTM-A&A Laboratory are guided by our Quality Policy in all decisions and actions on a daily basis. Our goal is to provide the following:

- Striving to our utmost ability to meets or exceeds our customer's needs and satisfaction.
- A highly trustworthy and ethical work environment that provides long-term employment, development, and growth for all employees.
- Providing all employees with the training and tools necessary to perform the job in the most efficient manner possible.
- Providing the necessary resources and personal support required for success implementation of our MS ISO/IEC 17025:2005 Quality System and Quality Objectives.
- Continuous improvements in whatever we do.

"Let's Make the Future Green Again".

Issue date: 3 June 2022
Valid until: 24 November 2023

NO: SAMM 084
(Issue 2, 3 June 2022 replacement
of SAMM 084 dated 9 February 2021) (if applicable)

LABORATORY LOCATION:
(PERMANENT LABORATORY)

UiTM - A & A LABORATORY
A&A SCIENTIFIC RESOURCES SDN. BHD.
BANGUNAN MAKMAL PENYELIDIKAN ALAM SEKITAR,
KOLEJ KEDIAMAN KENANGA 2, ZON C,
JALAN BERNAS 1/10 D,
UNIVERSITI TEKNOLOGI MARA,
40450 SHAH ALAM,
SELANGOR.

FIELDS OF TESTING: **CHEMICAL, MECHANICAL & MICROBIOLOGICAL**

This laboratory has demonstrated its technical competence to operate in accordance with MS ISO/IEC 17025:2017 (ISO/IEC 17025:2017).

This laboratory's fulfillment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001 (see Joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Environmental Monitoring Industrial Effluent- Waste Water **Water** Water- River Water, Drinking Water, Ground Water	pH	APHA 4500 - H^+B (2005)
	Temperature	APHA 2550 (2005)
	BOD_5	APHA 5210B (2005)
	COD	APHA 5220B (2005)
	Ammoniacal Nitrogen	APHA 4500-NH_3 B (2005)
	Total Suspended Solids	APHA 2540 D (2005)
	Total Solids	APHA 2540 B (2005)
	Oil and Grease	APHA 5520 B, D (1998)

Schedule

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Environmental Monitoring Industrial Effluent- Waste Water (continued) **Water** Water- River Water, Drinking Water, Ground Water (continued)	Dissolved Oxygen	APHA 4500 - O G (2005)
	Cadmium Copper Iron Nickel Lead Manganese Zinc	APHA 3111-B, APHA- 3030 F (2005)
	Boron	APHA 4500 – B C (2005)
	Arsenic	APHA 3114 - B (2005)
	Chromium (VI)	APHA 3500 - Cr B (2005)
	Phenol	APHA 5530 A, B, C (2005)
	Cyanide	APHA 4500-CN, C, D (2005)
	COD, Closed Reflux	APHA 5220 C, (2005)
	Silver (Ag)	APHA 3030 F, (2005) APHA 3011-B, (2005)
	Selenium (Se)	APHA 3500-Se C, (2005)
	Formaldehyde	LTM 1.18, In-house method based on Merck Application Note, UV-Vis Spectroscopy by Christopher Lynch, Perkin Elmer USA (2009)

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SKIM AKREDITASI MAKMAL MALAYSIA (SAMM)
LABORATORY ACCREDITATION SCHEME OF MALAYSIA

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Environmental Monitoring Industrial Effluent- Waste Water (continued) **Water** Water- River Water, Drinking Water, Ground Water (continued)	Color	APHA 2120 F, (2005)
	Nitrite, NO_{2^-}	APHA 4500- NO_{2^-} B, (2005)
	Nitrate, NO_{3^-}	APHA 4500- NO_{3^-} B (2005)
	Chloride	APHA 4500 - Cl^- B (2005)
	Fluoride	APHA 4500 - F^- D (2005)
	Chlorine (Residual)	APHA 4500 - Cl B (2005)
	Phosphorus	APHA 4500 – P B, C (2005)
	Potassium	APHA 3500 - K B (2005) APHA 3030 - B (2005)
	Sodium	APHA 3500 - Na B (2005) APHA 3030 - B (2005)
	Sulphide	APHA 4500 - S^{2-} C (2005) APHA 4500 - S^{2-} F (2005)
	Mercury	APHA 3112 - B (2005)
	Turbidity	APHA 2130 - B (2005)
	Total Chromium	APHA 3111 - B (2005) APHA 3030 - F (2005)
	Calcium & Calcium Hardness	APHA 3500 - Ca B (2005)
	Hardness	APHA 2340 - C (2005)

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Environmental Monitoring Industrial Effluent- Waste Water (continued) **Water** Water- River Water, Drinking Water, Ground Water (continued)	Magnesium	APHA 3500 - Mg B (2005)
	Sulphate	APHA 4500 - SO_4^{2-} E (2005)
	Tin	LTM 1.13, In-House Method based on MH15 Mercury Hydride System (Perkin Elmer) (2005)
Environmental Monitoring Rubber and Palm Oil Effluents	BOD_3	Standard Methods for Analysis of Rubber & Palm Oil Mill Effluent (ALT) 4th. Edition (2019) Department of Environment Malaysia
	COD	Standard Methods for Analysis of Rubber & Palm Oil Mill Effluent (REF) (ALT) 4th. Edition (2019) Department of Environment Malaysia
	Ammoniacal Nitrogen	Standard Methods for Analysis of Rubber & Palm Oil Mill Effluent (REF) 4th. Edition (2019) Department of Environment Malaysia
	Total Kjeldahl Nitrogen	Standard Methods for Analysis of Rubber & Palm Oil Mill Effluent (REF) 4th. Edition (2019) Department of Environment Malaysia
	Total Suspended Solids	Standard Methods for Analysis of Rubber & Palm Oil Mill Effluent (ALT) 4th. Edition (2019) Department of Environment Malaysia
	Oil and Grease	Standard Methods for Analysis of Rubber & Palm Oil Mill Effluent (REF) 4th. Edition (2019) Department of Environment Malaysia
Workplace Environmental Hazards Air sample (Analysis Only) Charcoal Tube	Methanol	NIOSH 2000, Issue 3, using Gas Chromatography FID
Charcoal Tube	Ethanol, 2-Propanol	NIOSH 1400, Issue 2, using Gas Chromatography FID
Charcoal Tube	n-Hexane	NIOSH 1500, Issue 3, using Gas Chromatography FID
Charcoal Tube	Acetone	NIOSH 1300, Issue 2, using Gas Chromatography FID
Charcoal Tube	Hydrocarbon Aromatic (BTEX) (Benzene,toluene, ethyl-benzene,*o*-xylene, *m*-xylene, *p*-xylene)	NIOSH 1501, Issue 3, using Gas Chromatography FID

SCOPE OF TESTING: CHEMICAL

SITE: CATEGORY I

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Environmental Monitoring Water- Waste Water, River, Drain, Sea, Ground and Boiler Water	pH	APHA 4500 - H^+B (2005)
	Temperature	APHA 2550 (2005)
	Dissolved Oxygen	APHA 4500 – OG (2005)
	Dissolved Oxygen/Salinity/ Temperature	SM 4.4 In-house Method based on YSI PRO 2030 User Manual
	Conductivity	APHA 2520 B
	Total Dissolved Solids	SM 4.6 In house method based on EUTECH Cyberscan Con 11 User Manual
Ambient Air Monitoring	Total Suspended Particulate	APHA 1C 11101-01-70T
	PM10	EPA Appendix J to Part 50
	Nitrogen Dioxide	APHA IC 42602 03-73T
	Sulfur Dioxide	SM 3.4 based on APHA IC 42401 01-69T
Stack Monitoring	Isokinetic Stack Monitoring- Particulate Matter	MS 1596:2003

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SCOPE OF TESTING: CHEMICAL

SITE: CATEGORY I

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Environmental Monitoring Stack Monitoring	Measurement of CO_2, CO, O_2, NO, NO_2, SO_2, H_2S using Portable Gas Analyzer	SM 2.5 - In-house Method Based on FEM- 7 Manual
	I) Dark Smoke	SM 2.6- Ringelmann Smoke Chart (Revision of IC 7718) US Bureau of Mines, May 1967
Ambient Air Monitoring	a) PM 2.5/ PM 10/ TSP	SM 3.5 - In-house Method based on Airmetrics Minivol Portable Air Sampler Manual
	b) PM 2.5 & PM 10	SM 3.8 - In-house Method Based on Thermo Environmental Instrument Combined Sampler TEI-451 Manual
	c) Ozone	SM 3.7 - In-house Method Based on Series 500 User Guide. Aeroqual Manufacturer
	d) Carbon Monoxide	SM 3.6 - In-house Method Based on Carbon Monoxide Detector Tube Instruction Manual Kitagawa Manufacturer

Note:

DOE	Standard Methods for Analysis of Rubber & Palm Oil Mill Effluents, 4th. Edition, (2019), Department of Environment Malaysia
REF	Reference Method of DOE revised standard procedure
ALT	Alternative Method of DOE revised standard procedure
APHA	American Public Health Association, 20th. Edition, 1998
APHA	American Public Health Association, 21th. Edition, 2005
IMR	IMR ® Environmental Equipment
APHA IC	APHA Inter-science Committee
ISO	International Organisation for Standardisation
NIOSH	National Institue of Occupational Safety and Health
LTM	Laboratory Test Method (In-house)
SM	Sampling Method (In-house)

Signatories:

1. **Azita Ayu Bt. Abdul Halim** **IKM No. M/2448/5081/2007**
2. **Nurul Syahnidz Adila Zaini** **IKM No. M/5098/7213/15/19**

SKIM AKREDITASI MAKMAL MALAYSIA (SAMM)
LABORATORY ACCREDITATION SCHEME OF MALAYSIA

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Stack Monitoring (Analysis Only) Solutions	a) Hydrogen Chloride	LTM 1.49- In-house Method Based on APHA IC 12203-01-68T
Solutions	b) Hydrogen Sulfide	LTM 1.59- In-house Method Based on USEPA Method 11
Solutions, Cellulose Thimble	c) Hydrogen Fluoride	LTM 1.50- In-house Method Based on USEPA Method 13A
Charcoal Tube	d) Mercury	LTM 1.51- In-house Method Based on NIOSH 6009
Cellulose Thimble	e) Cadmium	LTM 1.52- In-house Method Based on APHA IC 12110-02-73T (Sample Preparation), APHA 3030 F (Analysis)
Cellulose Thimble	f) Lead	LTM 1.53- In-house Method Based on APHA IC 12128-02-73T (Sample Preparation), APHA 3030 F (Analysis)
Cellulose Thimble	g) Manganese	LTM 1.54- In-house Method Based on APHA IC 12132-02-73T (Sample Preparation), APHA 3030 F (Analysis)
Cellulose Thimble	h) Arsenic	LTM 1.55- In-house Method Based on on NIOSH 7900
Cellulose Thimble	i) Copper	LTM 1.56- In-house Method Based on APHA IC 12114-01-73T (Sample Preparation), APHA 3030 F (Analysis)
Cellulose Thimble	j) Nickel	LTM 1.57- In-house Method Based on APHA IC 12136-01-73T (Sample Preparation), APHA 3030 F (Analysis)
Cellulose Thimble	k) Zinc	LTM 1.58- In-house Method Based on APHA IC 12167-01-73T (Sample Preparation), APHA 3030 F (Analysis)

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water	a) Aluminium	APHA 3500 AL B (Eriochrome Cyanine R)
	b) Chlorophyll-a	APHA 10200 H (Trichromatic Method)
Soil	pH	MS 678: Part 1:1980

Note:

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APHA	American Public Health Association, 21th. Edition, 2005
IMR	IMR ® Environmental Equipment
APHA IC	APHA Inter-science Committee
ISO	International Organisation for Standardisation
NIOSH	National Institue of Occupational Safety and Health
LTM	Laboratory Test Method (In-house)
SM	Sampling Method (In-house)

Signatories:

1. **Azita Ayu Bt. Abdul Halim** **IKM No. M/2448/5081/2007**
2. **Nurul Syahnidz Adila Zaini** **IKM No. M/5098/7213/15/19**

SKIM AKREDITASI MAKMAL MALAYSIA (SAMM)
LABORATORY ACCREDITATION SCHEME OF MALAYSIA

SCOPE OF TESTING: CHEMICAL

SITE: CATEGORY I

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Indoor Air Quality	a) Carbon Monoxide	SM 11.1- In-house Method Based on Quest EVM-7 User Guide (2011)
	b) Carbon Dioxide	SM 11.1- In-house Method Based on Quest EVM-7 User Guide (2011)
	c) Total Volatile Organic Compound (TVOC)	SM 11.1- In-house Method Based on Quest EVM-7 User Guide (2011)
	d) Formaldehyde	SM 11.2- In-house Method Based on Portable Formaldehyde Meter User Guide
	e) Relative Humidity	SM 11.2- In-house Method Based on Portable Formaldehyde Meter User Guide
	f) Temperature	SM 11.2- In-house Method Based on Portable Formaldehyde Meter User Guide
	g) Ozone	SM 11.3- In-house Method Based on Aeroqual Series 500 User Guide

Note:

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APHA IC	APHA Inter-science Committee
ISO	International Organisation for Standardisation
NIOSH	National Institue of Occupational Safety and Health
LTM	Laboratory Test Method (In-house)
SM	Sampling Method (In-house)

Signatories:

1. **Anuar Bin Amir** **IKM No. M/3119/5840/11**
2. **Faridah Hanum Binti Mohd Amir**

Schedule

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SCOPE OF TESTING: MECHANICAL

SITE: CATEGORY I

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Environmental Monitoring		
Noise Measurement	Sound Pressure Level	SM 5.1 - In-house Method Based on ISO 1996-1;2003-1 and ISO 1996-2; 2007
Vibration	Vibration	SM 6.1 - In-house Method Vibrock V901 Instruction Manual

Note:

DOE	Standard Methods for Analysis of Rubber & Palm Oil Mill Effluents, 4th. Edition, (2019), Department of Environment Malaysia
REF	Reference Method of DOE revised standard procedure
ALT	Alternative Method of DOE revised standard procedure
APHA	American Public Health Association, 20th. Edition, 1998
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IMR	IMR ® Environmental Equipment
APHA IC	APHA Inter-science Committee
ISO	International Organisation for Standardisation
NIOSH	National Institue of Occupational Safety and Health
LTM	Laboratory Test Method (In-house)
SM	Sampling Method (In-house)

Signatory:

1. **Azita Ayu Bt. Abdul Halim** **IKM No. M/2448/5081/2007**

SCOPE OF TESTING: MICROBIOLOGY

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Workplace Environmental & Hazards Indoor Air Quality	a) Air Monitoring for Total Bacteria Count	NIOSH Manual of Analytical Method 0800: Bioaerosol Sampling (Indoor Air) (Issue 1:15 January 1998)
	b) Air Monitoring for Total Fungus Count	NIOSH Manual of Analytical Method 0800: Bioaerosol Sampling (Indoor Air) (Issue 1:15 January 1998)
Water Drinking Water, Potable Water and Processed Water, Mineral Water, Ground Water and River Water	a) Total Coliform (Membrane filtration)	LTM 9.1- In-house Method Based on APHA 9222 B (2005)
	b) E. coli (Membrane filtration)	LTM 9.2- In-house Method Based on APHA 9222 B (2005)
	c) Faecal coliform (Membrane filtration)	APHA 9222 D (2005)
	d) Faecal streptococcus (Membrane filtration)	APHA 9230 C (2005)
	e) Enterococci (Membrane filtration)	APHA 9230 C (2005)
	f) *Pseudomonas aeruginosa* (Membrane filtration)	APHA 9213 E (2005)

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SCOPE OF TESTING: MICROBIOLOGY

Note:

REF	Reference Method of DOE revised standard procedure
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APHA	American Public Health Association, 20th. Edition, 1998
APHA	American Public Health Association, 21th. Edition, 2005
IMR	IMR ® Environmental Equipment
APHA IC	APHA Inter-science Committee
ISO	International Organisation for Standardisation
NIOSH	National Institue of Occupational Safety and Health
LTM	Laboratory Test Method (In-house)

Signatory:

1. **Nadira Binti Azuar**

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SKIM AKREDITASI MAKMAL MALAYSIA (SAMM)
LABORATORY ACCREDITATION SCHEME OF MALAYSIA

SCOPE OF TESTING: MECHANICAL

SITE: CATEGORY I

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Workplace Environmental & Hazards Indoor Air Quality	a) Air monitoring for Total Bacteria Count	NIOSH Manual of Analytical Method 0800: Bioaerosol Sampling (Indoor Air) (Issue 1:15 January 1998)
	a) Air monitoring for Total Fungus Count	NIOSH Manual of Analytical Method 0800: Bioaerosol Sampling (Indoor Air) (Issue 1:15 January 1998)

Note:

REF	Reference Method of DOE revised standard procedure
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NIOSH	National Institue of Occupational Safety and Health
LTM	Laboratory Test Method (In-house)

Signatory:

1. **Nadira Binti Azuar**

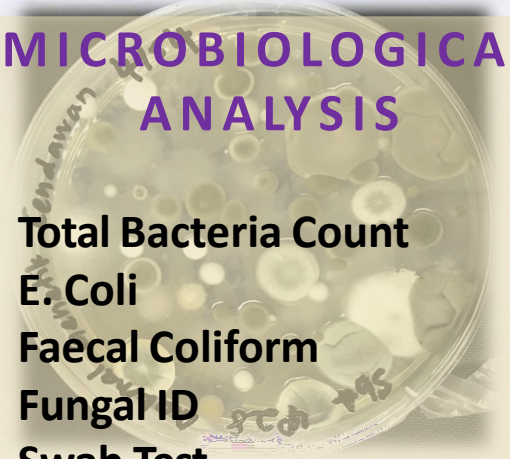
03 SCOPE SERVICES

UiTM - A&A LABORATORY

LABORATORY ANALYTICAL SERVICES

- Industrial Effluent & Influent
- Soil
- Sludge
- Air analysis
- Sewage
- Drinking Water
- Ground Water
- Swimming Pool Water

MICROBIOLOGICAL ANALYSIS



- Total Bacteria Count
- E. Coli
- Faecal Coliform
- Fungal ID
- Swab Test

OCCUPATIONAL SAFETY AND HEALTH

- Chemical Exposure Monitoring
- Chemical Health Risk Assessment
- Indoor Air Quality
- Noise Risk Assessment
- Local Exhaust Ventilation

ECOLOGICAL ASSESSMENT

- Macrobenthos
- Phytoplankton
- Zooplanktons
- Chlorophyll A
- Algae Identification

ENVIRONMENTAL SAMPLING AND MONITORING

- Ambient Air Quality Monitoring
- Boundary Noise Monitoring
- Industrial Effluent Characteristic Study
- Stack / Chimney / Air Emission Monitoring
- Vibration Monitoring
- Atmospheric Monitoring at Weather Station Monitoring

OTHERS

- Written Notification and Written Declaration
- Environmental Monitoring For EIA & EMP

LABORATORY ANALYTICAL SERVICES

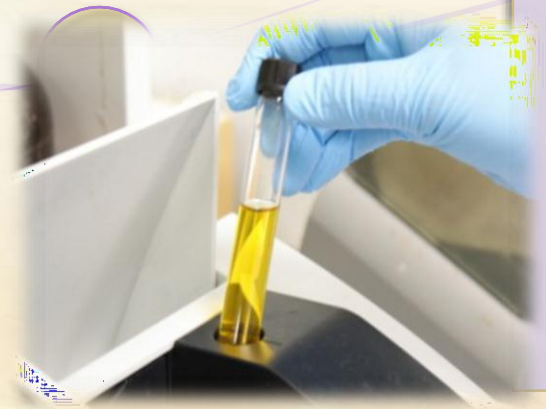
UiTM - A&A LABORATORY

LABORATORY ANALYTICAL SERVICES

We do analysis on the chemical contents of **Industrial Effluent & Influent**, **Soil**, **Sludge**, **Air**, **Sea Water**, **Sewage**, **Drinking Water**, **Ground Water**, **Boiler Water**, **Swimming Pool and more**.

These chemicals are analyzed qualitative and quantitatively against related Malaysian Regulations.

The methods are based on or as per International and Malaysian Standards i.e. USEPA, APHA, British Standard, ASTM, WHO, DOE, DOSH

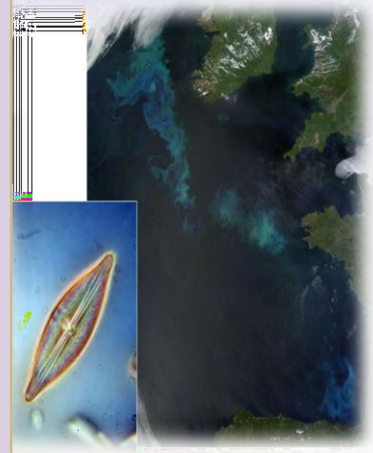


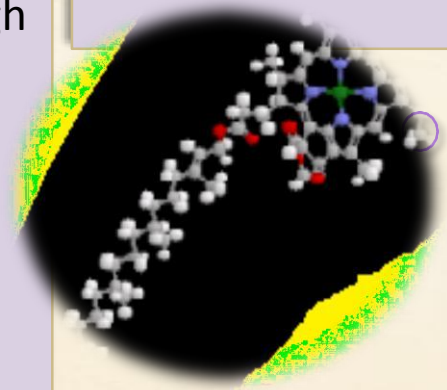
CHOROPHYLL-A

CHLOROPHYLLS are complex molecules found in all photosynthetic plants, including phytoplankton. Chlorophyll, contained within the plant's cells, allows the plant to utilize sunlight as part of their metabolism. There are several types of chlorophyll identified by slight differences in their molecular structure and constituents. These include chlorophyll a, b, c, and d. Chlorophyll a is the principal photosynthetic pigment and is common to all phytoplankton. Chlorophyll a can thus be used as a measure of phytoplankton biomass. Most phytoplankton is too small to be individually seen with the unaided eye. However, when present in high enough numbers, they may appear as a green discoloration of the water due to the presence of chlorophyll within their cells (although the actual color may vary with the species of phytoplankton present due to varying levels of chlorophyll or the presence of accessory pigments such as phycobiliproteins, xanthophylls, etc).

INTERPRETATION OF DATA USES AMONG OTHERS THE FOLLOWING INDICES:

Shannon Diversity Index
Simpson Dominance Index
Margaleff Richness Index
Equitability Index
AZTI's Marine Biotic Index (AMBI)
Feeding Guild Analysis





UiTM - A&A LABORATORY

ECOLOGICAL ASSESSMENT

ECOLOGICAL ASSESSMENT

UiTM - A&A LABORATORY

MACROBENTHOS ANALYSIS

Due to the ecological importance, our laboratory had started to provide the macrobenthos analysis used to evaluate the health of the marine environments. Several equations are used to intepret the abundance and presence of macrobenthos at the sampling sites.

PHYTOPLANKTONS

are tiny photosynthetic organisms that are the major producers of marine life. Phytoplanktons are in a group because of the ecological role, or niche, that they play. They consist of plants, animals, archaea and bacteria. Three of the major types of phytoplankton include diatoms, dinoflagellates and micro flagellates.


phyto - dinoflagellate (Ceratium)

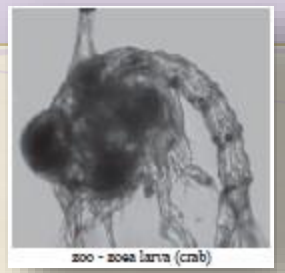

phyto - diatom (Coscinodiscus)


phyto - diatom chain (Chaetoceros)

ZOOPLANKTONS

are the tiny animals that float around on the surface of the ocean and feed on the microscopic plants that make up the phytoplankton, or on each other.


zoo - echinopluteus larva (sand dollar)


zoo - zoea larva (crab)


zoo - bivalve veliger larva (clam)

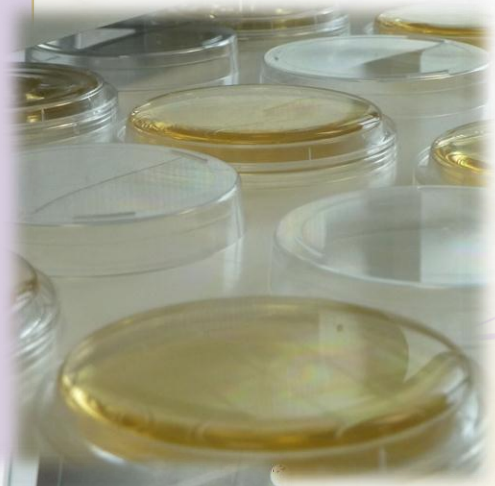
STATUS /SIGNIFICANCE

ZOOPLANKTON is found to be transferring biological production from phytoplankton to large organisms in the marine food web and to the sea floor. Most grazing on phytoplankton is carried out by microscopic protozoa, tunicates, copepods, and other Crustacea. These in turn become food for other animals further along the food web. Therefore, variability in the reproduction of copepods would affect the survival of young fish that depend on them.

MICROBIOLOGICAL ANALYSIS

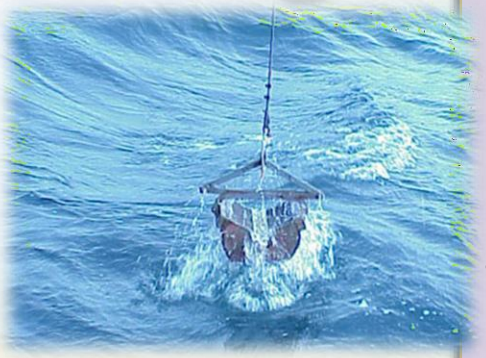
UiTM - A&A LABORATORY

E.COLI, TOTAL COLIFORM , FAECAL COLIFORM & HETEROTROPHIC PLATE COUNT IN WATER, TOTAL FUNGUS & TOTAL BACTERIA IN AIR, RODAC, SWAB TEST (FOR TOTAL BACTERIA & TOTAL FUNGUS) & FUNGAL ID



ENVIRONMENTAL SAMPLING AND MONITORING

UiTM - A&A LABORATORY



WATER SAMPLING AND ANALYSIS

We do the sampling for water, marine water, ground water, sewage, industrial effluent, and more.

The Full Standard parameters being measured as per specified by the Department of Environment (DOE) and beyond. The analyses on the parameters (i.e. chemical contents and other impurities) from these kinds of samples are done against corresponding Environmental Quality Act 1974 regulation.

ENVIRONMENTAL SAMPLING AND MONITORING

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AIR QUALITY MONITORING

We do the monitoring for ambient air / air quality against corresponding Malaysian Ambient Air Quality Guidelines. Parameter to be tested including Total Suspended Particulate, Oxides of Sulphur, and Oxides of Nitrogen, Volatile Organic Compound, Humidity, Wind Rose, Metals and other gaseous substances.

BOUNDARY NOISE MONITORING

Monitoring for boundary noise done during the day, evening, and night for all kind of industries. This exercise is to measure whether the noise level emitted is within the stipulated limit at the boundaries of that particular place/ premise. The findings are normally compared against the Malaysian Noise Guidelines.

ENVIRONMENTAL SAMPLING AND MONITORING

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STACK/CHIMNEY/ AIR EMISSION MONITORING

To ensure quality, we are now accredited for Isokinetic Stack/ Chimney sampling. Trained and certified technicians have the ability and skill to carry out sampling of gasses from chimneys and stacks of different sources including from boilers, fume hoods, exhaust, paint shops, power generators, etc.
The main standard of gases emission sampling is Malaysian Standard MS 1569:2003.The parameters of testing are mainly based on the Clean Air Regulation 2014.
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VIBRATION ANALYSIS

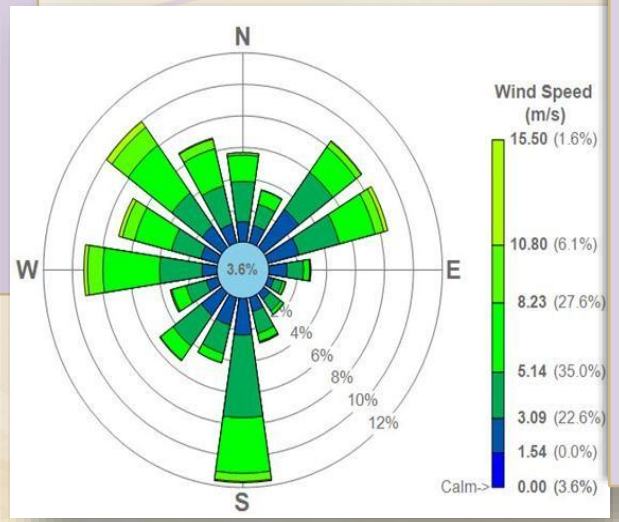
Applying up-to-date technology, our Seismograph is able to measure vibration level at any potentially unstable environmental spot, be it construction site, damn, railways, ship liners, airliners, roads, etc.. The data logging capability allows us monitor and record vibration level at any specified length of time. This monitoring is mainly to satisfy requirement of Environmental Impact Assessment. This monitoring is also required by the ISO 6954 (for noise/ vibration on ship/ vessel), also by the International Maritime Organization.

ENVIRONMENTAL SAMPLING AND MONITORING

UiTM - A&A LABORATORY

Atmospheric Monitoring @WEATHER STATION

Our laboratory is providing a service on observing atmospheric conditions to supply information for weather forecast and to study the weather and climate. The portable AWS (Automatic Weather Station) allows us to document the real-time weather condition at any sites. The measurements taken include temperature, barometric pressure, humidity, wind speed, wind direction, and precipitation amounts. Combinations with other sensors are also available upon special request.



READING WIND ROSES:

Wind roses are a graphical way of summarizing the frequency of wind directions and speeds over a period of time. The rings labeled with percentages are the scale for the spokes. If a spoke reaches a ring labeled 12%, this means that the wind blew from that direction about 12% of the time. Each spoke is partitioned into several sections which correspond to the wind speed categories (in the legend). The length of each section represents how often the wind speed was in that category. "Wind speed" refers to the average speed. The Calm: x% label on the bottom-left indicates that the wind was calm (no direction) x% of the time. The wind rose here has 16 spokes (N, NW, ...)

OCCUPATIONAL SAFETY AND HEALTH

UiTM - A&A LABORATORY

CHEMICAL EXPOSURE MONITORING (CEM), LOCAL EXHAUST VENTILATION (LEV) SYSTEM MONITORING

We conduct both the monitoring as well as the analysis of the chemical contents in indoor air. These are also under the governance of Occupational Safety & Health Act 1994, USECHH 2000 Regulations.

CHEMICAL HEALTH RISK ASSESSMENT (CHRA)

Our certified Hygiene Technician assesses the level of chemical exposure towards workers, the chemical and workstation classification. Also identifies the level of danger in factories. This is in line with the Occupational Safety & Health Act 1994, USECHH 2000 Regulation.

OCCUPATIONAL SAFETY AND HEALTH

UiTM - A&A LABORATORY

INDOOR AIR QUALITY MONITORING (IAQ)

Indoor Air Quality is a relatively recent phenomenon being related in many cases to modern building occupants. It is associated with Sick Building Syndrome, Building Related Illness, Multiple Chemical Sensitivity and many more.

The assessment protocols were based on the Malaysian Department of Occupational Safety Health (DOSH) Industrial Code of Practice (ICOP) for Indoor Air Quality.

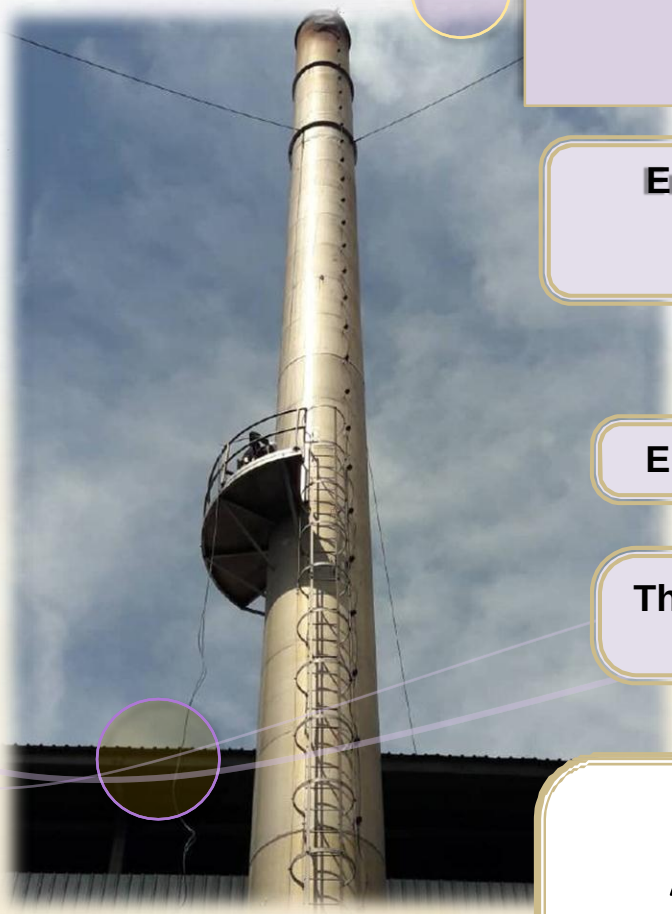
The sampling and analysis of indoor air quality parameters were performed in accordance to international accepted methods and techniques.

This includes NIOSH Manual Analytical Method (NMAM), American Society of Heating, Refrigeration, and Air Conditioning Engineering (ASHRAE) and Manufacturer's manual for direct reading gas monitor.

OTHER SERVICES

UiTM - A&A LABORATORY

WRITTEN NOTIFICATION AND WRITTEN DECLARATION



Environmental Quality (Clean Air) Regulation 1978
&
Environmental Quality (Dioxin & Furan) 2004

↓

Environmental Quality (Clean Air) Regulation 2014

Therefore, Written Approval (KB) for control system is no longer applicable

Apply to who??

Any premises which matter is burnt in connection with any industrial including waste, every chimney, every industrial plant, every fuel burning equipment.

04 COMPANY REGISTRATION & BUSINESS

UiTM - A&A LABORATORY

REGISTERED NAME	**A&A SCIENTIFIC RESOURCES SDN BHD**
REGISTERED ADDRESS	**UiTM-A&A LABORATORY** Bangunan Makmal Penyelidikan Alam Sekitar, Kolej kediaman Kenanga 2,Universiti Teknologi Mara, 40450 Shah Alam, Selangor Darul Ehsan. Tel: 03-5512 0663 Fax: 03-5510 3701
WEBSITE URL	http:// environment.com.my
EMAIL ADDRESS	info@environment.com.my
DATE OF INCORPORATION	12th of September, 2003 (CETEC Laboratory commenced its operation in September 1993)
MOH REGISTERED NUMBER	357-02026928
SST REGISTERED NUMBER	B16-1904-380000015
CO. REGISTRATION NO.	627922-U

05 ORGANIZATION CHART

UiTM - A&A LABORATORY

Managing Director
Anuar Amir

Managing Director QM/TM
Azita Ayu Abd Halim

Business Dev/Human Resource/Finance Manager
Anuar bin Amir, AMIC

Operation/Lab Manager (Sampling/Laboratory)
Azita Ayu bt Abd Halim, AMIC

Business Development

- **Business Dev. Executive** Hanum
- **Business Dev. Executive** Nur Diyana
- **Business Dev. Executive** Molin
- **Business Dev. Executive** Baizura
- **Sales Executive** Farhana

Human Resource / Finance

- **Account Executive** Norazlinda
  - **Account Assistant** Yasmin
- **HR & Admin Executive** Rohaniza
  - **Dispatch** Haris

Site Testing / Sampling

- **Sampling Executive** Hafiz
- **Sampling Supervisor** Norkhairi
- **Sampling Technician** Mohd Fadly
- **Sampling Technician** Zunaidi
- **Sampling Technician** Affendi
- **Sampling Technician** Mohd Kamal
- **Sampling Technician** Khairul Anas
- **Sampling Technician** Asyraf
- **Sampling Technician** Vacant

Project Management

- **Project Officer** Hazirah
  - **Assistant Project Officer** Nabiha

IAQ Department

- **IAQ Assessor** Anuar
  - **IAQ Technician** Hanum
    - **IAQ Technician** Hasliza

Laboratory

- **Chemist / DTM** Syahnidz
  - **Marine Biologist** Syazwina
- **Chemist / DQM** Sallyza
  - **Lab Technician** Nurul Edayu
    - **Lab Technician** Nurul Nathasha
      - **Lab Technician** Caroline
        - **Lab Technician** Vacant
          - **Operation Support** Vacant
            - **Lab Attendance** Kalsom Hanom
- **Chemist** Syarifah Nur Adila
  - **Microbiologist** Nadira

06 AMONG VALUED CUSTOMER