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LABORATORY LOCATION/ CENTRAL OFFICE: 	Alchemy Laboratory & Services Sdn Bhd 326B, 1st Floor, Lot 2520 Jalan Hiliran, Mukim Losong 20300 Kuala Terengganu, Terengganu , 20300, TERENGGANU MALAYSIA
ACCREDITED SINCE :	06 APRIL 2025
FIELD(S) OF TESTING:	BIOLOGICAL CHEMICAL MICROBIOLOGY

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).

CENTRAL LOCATION:	Alchemy Laboratory & Services Sdn Bhd 326B, 1st Floor, Lot 2520 Jalan Hiliran, Mukim Losong 20300 Kuala Terengganu, Terengganu , 20300, Terengganu
FIELD(S) OF TESTING :	BIOLOGICAL, CHEMICAL, MICROBIOLOGICAL

SCOPE OF TESTING : BIOLOGICAL

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Processed Water, River	None	based on APHA 10200 H
Surface Water, Aquaculture	Chlorophyll	In-house Method, ALC_B_1,
Water, Marine Water	None	None

SCOPE OF TESTING : CHEMICAL

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Aquaculture Effluent	Alkalinity	APHA 2320 B
	None	None
	Escherichia coli	APHA 9221 F2 (GAD procedure)
Environmental Monitoring	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	Aluminium	USEPA 6010 D (ICP OES)
	None	None
	Nitrate (as NO ₃ -• or	APHA E
	None	None
	Fluoride	APHA & D
	Colour (True & Apparent)	APHA 2120 C
	Total Coliform Count (TCC)	APHA 9221 B
	Total Nitrogen	In-house test method MKA TMO3 by TOC/TN Analyzer
	None	None
	Total Solid	2540 B
	None	None
	None	None
	None	None
	pH value	APHA 4500-H* B Electrometric
	None	None
	None	None
	Particulate Matter	MS 1596: 2003 Determination of
	Heavy Metals:	None
	None	None
	None	None
	Moisture	(i) Gravimetric Method: BS:EN
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	Metals	In-house Method PCL-HMW-01
	None	None
	None	None
	Turbidity	APHA 2130 B, 2005

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Turbidity	APHA 2130 B, 2005
	Biochemical Oxygen Demand	APHA 5210 B & C, 2005
	Biochemical Oxygen Demand	DOE 2019, Reference Method,
	pH	APHA 4500 H*B, 2005
	Metals by ICP	None
	Metals by ICP	None
	Metals by ICP	None
	None	In-house method, WI-TEC-S001,
	None	None
	None	None
	None	None
	Determination of Concentration and Mass Flow of Particulate	MS 1596: 2003
	Determination of Total Suspended Particulate Matter in	ASTM: D4096-91 (2003)
	Sound pressure level	Guidelines for Environmental Noise Limits and Control, Third Edition
	None	None
	None	None
	None	None
	Boron	APHA 4500-B C, 2005 APHA 4500-B C, 2017
	Sulphide	APHA 4500- D, 2005 APHA 4500- D, 2017
	Metal Analysis by ICP-OES	None
	Hydrocarbon	APHA 5520 F 2005
	None	None
	Hydrogen Bromide (HBr)	OSHA Method ID-165SG
	Temperature	APHA 2550 B, 2005
	None	None
	None	None
	Formaldehyde	In-house Method C/WTR/012
	None	None
	Aluminium	None
	Aluminium	None
	Nickel	APHA 3120 B, 24" Edition
	pH	APHA 4500 H*B
	pH	APHA 4500 H*B
	None	None
	None	None
	None	None
	COD	APHA 5220 D
	Heavy Metals	None
	Moisture	EPA Method 9000 (Karl Fischer Titration)
	None	EPA Method 1010 A
	None	Information Circular 8333,

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Total Bacteria Count	Compendium of Methods for the
	Aerobic Plate Count	In-house swab contact method
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
Industrial Effluent,	None	None
	Abundance	based on APHA 10500 C
	None	None
Marine Water	None	Calculations. Technical Report No. 74-1,
	None	(Membrane Filter)
	Preliminary Treatment of	APHA 3030 F
	None	None
	Fluoride	HACH 8029
	Semivolatile Organic	USEPA 3510C
	Staphylococcus aureus	APHA 9213 B-7
	None	None
	None	None
	Biochemical Oxygen Demand (BOD)	APHA 5210 B & APHA 4500- O G
	None	APHA 2550 B
	Escherichia coli	None
	Organophosphorus Pesticides	In-House No. G11 based on EPA
	None	None
	Salinity	APHA 2520B
	Anthracene	None
	n-Tritriacontane	None
	None	None
	None	(Membrane Filtration Procedure)
	Cobalt (Co)	None
	Iodide	None
	None	APHA 3120 B, 2017
	Unionised Ammonia	In House Method 0590 adopted
	None	None
	Total Suspended Solids	APHA 2540 D
	Chromium (III)	based on APHA 3120 B, APHA 3125 B and APHA 3500-Cr B (Calculation)

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Copper (Cu)	In-house method SGS-TM-ENVI-003 based on APHA 3125 B
	Cyanide (CN)	APHA 4500-CN C & E, 24" Edition
	Unionized Ammonia (NH3)	In-house method SGS-TM-ENVI-W- 097 based on APHA 4500-NHs F
	Ammoniacal nitrogen (NH3-N).	APHA 4500-NHs F, Edition
	Nitrite (NO2)	APHA 4500-NOz B, 24" Edition
	Nitrate (NO3)	APHA E, 24' Edition
	Ortho-Phosphate (as POs or P)	APHA 4500-P E, Edition
	Total Phosphate (as POs or P)	APHA 4500-P B & E, Edition
	Phenol	APHA 5530 B & C, Edition
	Total Suspended Solids	APHA 2540 D, 24" Edition
	Dissolved Oxygen (In-Situ)	APHA 4500-0 G, Edition
	Temperature (In-Situ)	APHA 2550 B, 24" Edition
	pH	APHA 4500-H* B, Edition
	Colour	APHA 2120 F, 24" Edition
	Paraquat & Diquat	In-house method SGS-TM-ENVI-109 based on EPA 549.2
	Chlorinated Phenoxyacid Compounds - 2,4-D, 2,4,5-TP, 2,4,5-T & Dinoseb	In-house method SGS-TM-ENVI-004 based on EPA 8321 B
	Lead, Pb	None
	Uranium, U	None
	None	In-house method, SGS-TM-MICR-
	Turbidity	APHA 2130 B, 2005
	Free, Combined and Total	In-House Method 0501 based on
	Free, Combined and Total	In House Method 0501 based on
	Salinity	APHA 2520. B
	Salinity	APHA 2520. B
Surface Water,	Unionised Ammonia	In-house Method, ALC_W_7, based on
	None	None
	Dissolved Solids	APHA 2540 C-Total Dissolved Solids
	Phenol	APHA 5530 B -Cleanup Procedure
	Organochlorinated Pesticides	Standard test methods:
	Fluoride, Chloride, Sulphate,	In-house Method JKM W 0303,
	Determination of Acrylamide in	JKM W 0410: (In-house)
	Surfactant, Anionic	HACH METHOD 8028
Water	Temperature	APHA 2550B
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None

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	MLSS	None
	Hydrocarbon, PAH	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	Selenium (Se) Chromium (Cr)	None
	None	None
	None	None
	None	None
	None	None
	None	None
	Ammonical Nitrogen	APHA 4500-NH3
	None	None
	Lead	APHA 3120 B
	Tin	None
	Iron	None
	Heterotropic plate count	APHA 9215 D
	Standard total coliform	APHA 9222 B
	None	None
	None	None
	pH	APHA - B
	Escherichia coli and Coliform	ISO 9308-1:2014 (E) / Enumeration by
	Bisphenol A	In-house test method MKA TMO6 based
	Total Hardness	HACH Method 8226, 8" Edition, 2015
	Hardness by Calculation	APHA 2340 B & In-house test method
	Color	HACH Method 8025, Edition, 2014
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	Determination of pH	APHA 4500-H* B, 2005
	Determination of chloride	APHA 4500-CI B, 2005
	Determination of sulphate	APHA B, 2005
	Determination of alkalinity	APHA 2320 B, 2005

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Determination of total solids	APHA 2540 B, 2005
	pH	APHA 4500 H*B
	Color	APHA 2120 C (2017)
	Heterotrophic Plate Count	APHA 9215 B (2017)
	Standard Total Coliform	APHA 9221 B (2017)
	Escherichia coli	APHA 9221 F (2017)
	Examination for Legionella spp.	AS/NZS 3896:2008
	pneumophila	None
	Staphylococcus aureus count	APHA 9213 B (2017)
	Fecal Streptococcus	APHA 9230 C (2017)
	Pseudomonas aeruginosa	APHA 9213 F (2017)
	Identification of Escherichia coli	In-house Method GPS/QA/TM/001
	Identification of Shiga-toxigenic	In-house Method GPS/QA/TM/004
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	Ammonia	ASTM D1293
	None	None
	None	None
	None	None
	and Escherichia coli	None
	None	filtration)
	Clostridium perfringens	ISO 14189: 2013 (E)
	None	None
	None	None
	None	None
	None	(2005)
	None	21% Edition (2005)
	Colour	APHA 2120 C 2005
	Determination of Volatile	Method EPA 524.2 By Purge & Trap
	Oxygen Demand (COD) for High	APHA Method 5220D
	None	In-house Method JKM W 0502,
	None	on APHA 4110 B-"lon
	Colony Count at 36°C	JKM M 2038, ISO 6222:1999 (E)
	Intestinal Enterococci	i) WI 16 -" Sample Preparation for
	Enumeration of Clostridium	JKM M 2035
	Detection of pathogenic	JKM B 0201 Detection of pathogenic

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Identification and Quantification	JKM B 0406
	pH	APHA - 4500-H B
	None	None
	None	None
	None	None
	None	None
	Boron	HACH METHOD 8015
	None	None
	E. coli	APHA 9221 F (MPN Method)
	None	None
	Total Organic Carbon	APHA 5310 C
	Heterotrophic plate count	APHA 9215 B, 22 nd Edition (2012)
	None	(Membrane Filtration Technique)
	None	None
	Metals by ICP	None
	None	None
	None	None
	None	None
	None	None
	pH	ASTM D 1293-2005 (Method B) APHA 4500 H* B 2005/2017
	pH	ASTM D1293-2005 (Method B) APHA 4500 H* B 2005/2017
	None	None
	Turbidity	APHA 2130B
	On-site Sampling & Testing (pH Temperature, Turbidity)	In-house Method SOP-0222-2001 & SOP-0222-2003
	Coliform	APHA 9221 B, Edition, 2005
	Heterotrophic plate count in	APHA Method 9215 D, Edition,
	None	None
	None	None
	pH Value	BS 1377-3 : 2018 Clause 12
	pH Value	BS 1377-3 : 2018 Clause 12
	None	None
	Calcium Hardness as CaCO ₃ ,	APHA 3500-Ca B, 2017
	Magnesium (by Calculation Method)	APHA 3500-Mg B, 2017
	Nitrate	APHA E, 2017
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None

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	None	None
	None	None
	Aluminium	None
	None	None
	Organochlorine Pesticide	APHA 6630 B, Edition
	Ammoniacal Nitrogen	APHA F, 24" Edition
	Arsenic	APHA 3125 B, Edition
	Mercury	In-house method, SGS-TM-ENVI-003, based on APHA 3125 B
	2,4-dichlorophenoxyacetic acid (2,4-D)	In-house method, SGS-TM-02-045, based on Agilent Application Note 5991-5731 EN (LCMSMS)
	Heavy Metals by ICP-MS	None
	Endotoxin	Test for Bacterial Endotoxin, BP 2022
	pH	APHA 4500 H*B
	Oil & Grease	APHA 5520 B
	Color	APHA 2120 B
	Color	APHA 2120 F
	pH	APHA 4500 H* B
	Turbidity	APHA 2130 B
	Conductivity	APHA 2510 B
	None	None
	None	None
	None	None
	Escherichia coli and coliform	ISO 9308-1: 2014 (E) / Enumeration
	Pseudomonas aeruginosa	ISO 16266:2006 (E) / Detection and
	Ammonium nitrogen	BS 6068: Section 2.7:1984 ISO 5664:1984
	Chemical Oxygen Demand	BS 6068: Section 2.34:1988
	Suspended solids	BS 2690-Part 120:1981
	Dissolved solids	BS 2690-Part 121:1981
	None	ASTM D 523-82
	COD	APHA 5220 D
	None	None
	Free Chlorine	APHA' 4500 -" CI G
	Count	(Pour Plate, Spread Plate and
	Anaerobes (Clostridia)	BS 6068-4:9: 1993
	Gross Alpha & Gross Beta	None
	Arsenic as As	None
	Antimony as Sb	None
	Aluminium as Al	None
	Beryllium as Be	None
	Cadmium as Cd	None
	Chromium as Cr	None

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	Lead as Pb	None
	Silver as Ag	None
	Selenium as Se	None
	Thallium as Tl	None
	Mercury as Hg	In-house Method LWI-MWE 037 based on APHA 3112 B by
	Mercury as Hg	Mercury Analyser
	Nitrate	In-house Method LWI-MWE 032 based on HACH Nitrate
	Nitrate	Test Comparator
	Sulfide	HACH Method 8131
	Chlorine, Free Residual	In-house Method LWI-MWE
	Chlorine, Free Residual	034 based on DPD-Palintest
	Chlorine, Free Residual	Test Comparator
	Total Chlorine	In-house Method LWI-MWE
	Total Chlorine	035 based on DPD-Palintest
	Total Chlorine	Test Comparator
	Colour (ADMI)	APHA 2120 F
	Heterotrophic Plate Count	None
	Pseudomonas aeruginosa	In-house Method LWI-MME (APHA) 007
	Pseudomonas aeruginosa	based on APHA 9213 E, 2020
	Escherichia coli and Coliform	Escherichia coli and Coliform Bacteria. Part 1: Membrane filtration
	Escherichia coli and Coliform	method
	Escherichia coli and Coliform	Method No: MOH (1)
	Escherichia coli and Coliform	ISO 29981 : 2010 (E), IDF 220 :
	Escherichia coli and Coliform	2010 (E) Milk Products -
	None	None
	None	None
	None	None
	None	None
Water Surface Water, Aquaculture Processed Water, River Water, Marine Water	pH Oxygen (Dissolved) Biochemical Oxygen Demand	APHA 4500-H*B APHA 4500-O C APHA 5210 B
Water, River Water,	None	Aqueous Ammonia Equilibrium

SCOPE OF TESTING : MICROBIOLOGY

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Aquaculture Processed	None	APHA 4500-NH3 F, Thurston et al., (1974),
	Escherichia coli	APHA 9221 F2 (GAD procedure)
Environmental Monitoring Sewage Effluent, Industrial Effluent, Aquaculture Effluent	pH Oxygen (Dissolved)	APHA 4500-H* B APHA 4500-O C
Marine Water, Marine Water,	None	None
Sewage Effluent,	Magnesium	APHA 3500 -" Mg B
	Macrobenthos Composition and	In-house Method, ALC_B_4,
	Total coliform	APHA 9221 B
Surface Water, River Water,	Total coliform	APHA 9221 B

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