

GGL SUSTAINABLE BIOMASS DIALOGUE

FROM COMPLIANCE TO IMPACT: THE
FUTURE OF BIOMASS CERTIFICATION

19th February 2025
2:30pm - 5:20pm (GMT+8)
Sheraton Petaling Jaya Hotel



Topic Title

Control Union Malaysia: Analytical Lab

Presented by

Ms. Monica Grace Robin

Organized by



CONTROLUNION

ADVANCING ANALYTICAL CAPABILITIES

- Enhancing Service Delivery through an In-House Laboratory
- Need for In-House Lab:-
 - a) **Reduce outsourcing costs**
 - b) **Improve turnaround time**
 - Vietnam, Korea, Japan, Australia, BEL, TLR
 - c) **Strengthen client trust and satisfaction**

VISION & MISSION

Vision: To be ASEAN's leading analytical service provider.

Mission: Deliver high-quality, sustainable, and innovative testing solutions.

Phase 1: Biomass, Palm Oil, Metals & Minerals testing

- Core testing infrastructure

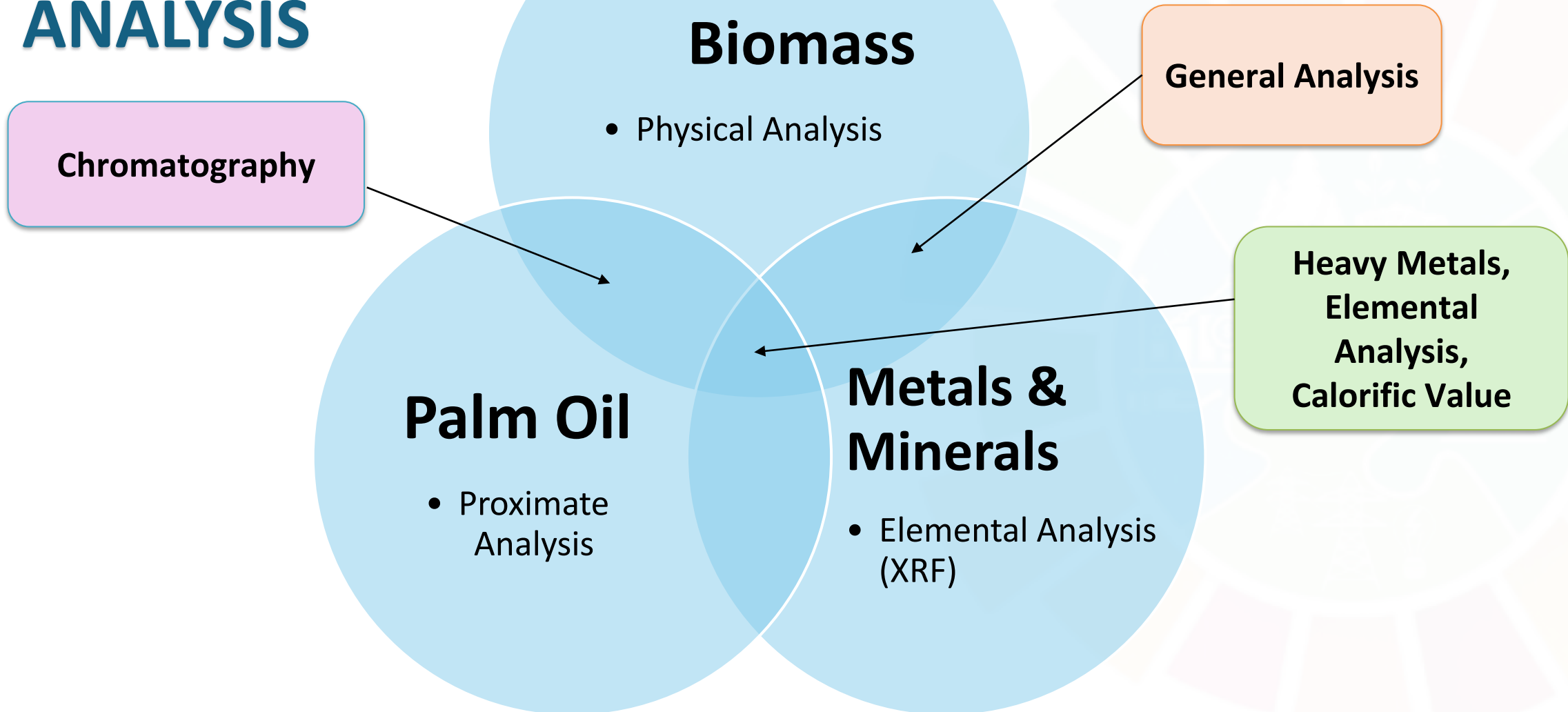
Phase 2: Gas, Petroleum, Food, and Environmental testing

- Advanced instrumentation

COMPLIANCE & ACCREDITATION

- Meeting International Standards ([ISO](#), [ASTM](#), [AOCS](#), [MPOB](#), [GAFTA](#), [MS](#), etc.)
- Ensuring Data Integrity & Quality Assurance.
- Obtain accreditation under ISO/IEC 17025:2017 Certification.
- Meet Regulatory Compliance:
 - Department of Environment (DOE)
 - Malaysian Palm Oil Board (MPOB)
 - Department of Standard Malaysia (SAMM)

SCOPE OF ANALYSIS



GENERAL ANALYSIS



Furnace (Ash)

- Ash Content (550°C / 815°C)
- Ash Melting (up to 1500°C)



UV-Vis Spectrophotometer

- Phosphorous
- Carotenoids
- DOBI



Oven

- Moisture (105°C)
- Volatile matter (900°C)



PHYSICAL ANALYSIS



Riffle Divider



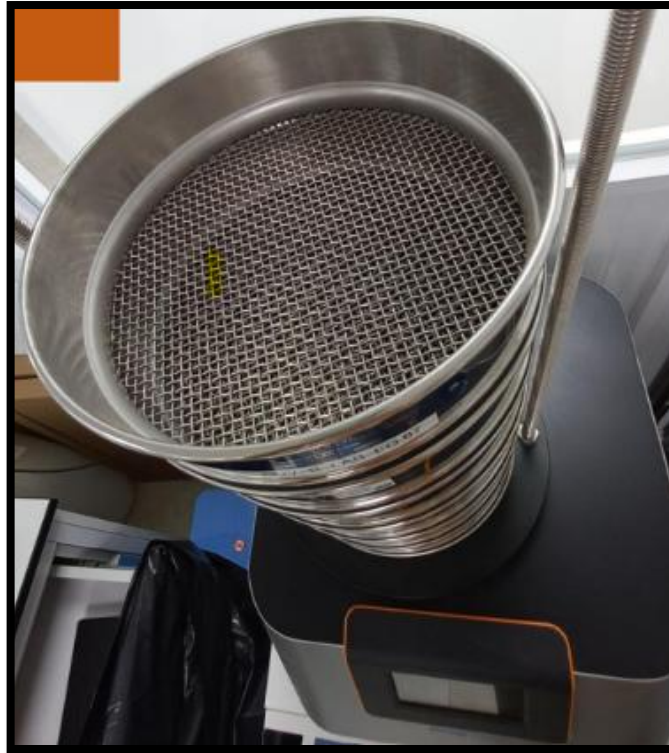
Measuring Calliper

- Length
- Diameter



Cutting Mill

- Size Reduction



Particle Size Measurement

- Round holes
- Square holes
- Big round holes (Fines determination)



Bulk Density Measurement

PROXIMATE ANALYSIS

Palm Oil Analyzer /Gravimetric/Titration

- Anisidine Value (AV)
- Peroxide Value (PV)
- Iodine Value (IV)
- Saponification Value (SV)
- Volatile Matter
- Moisture & Impurities
- Free Fatty Acid (FFA)



FTIR

- Oil content
- Trans Fatty Acid

Tintometer

- Color
- Chlorophyll
- Beta Carotene



ELEMENTAL ANALYSIS & XRF

XRF

- Iron ore
- Coal & Coke



CHNS-O Analyzer



Ion Chromatography

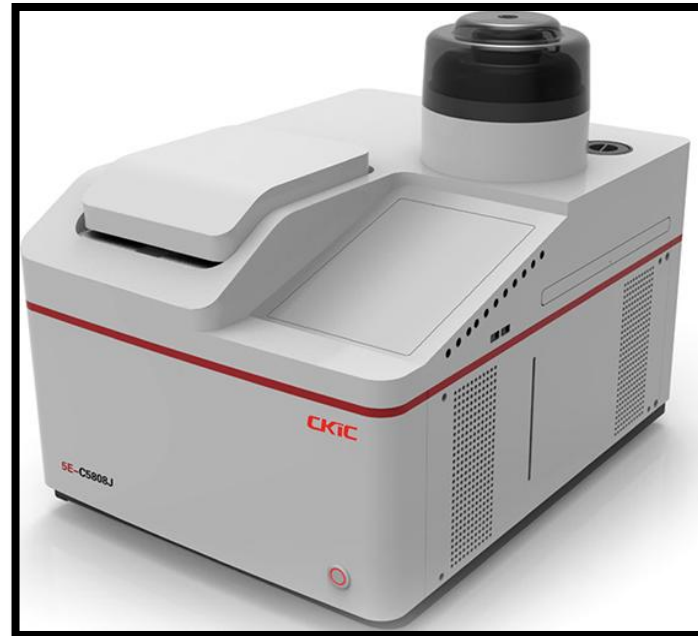
- F, Cl, S Analysis

HEAVY METALS & CALORIFIC VALUE



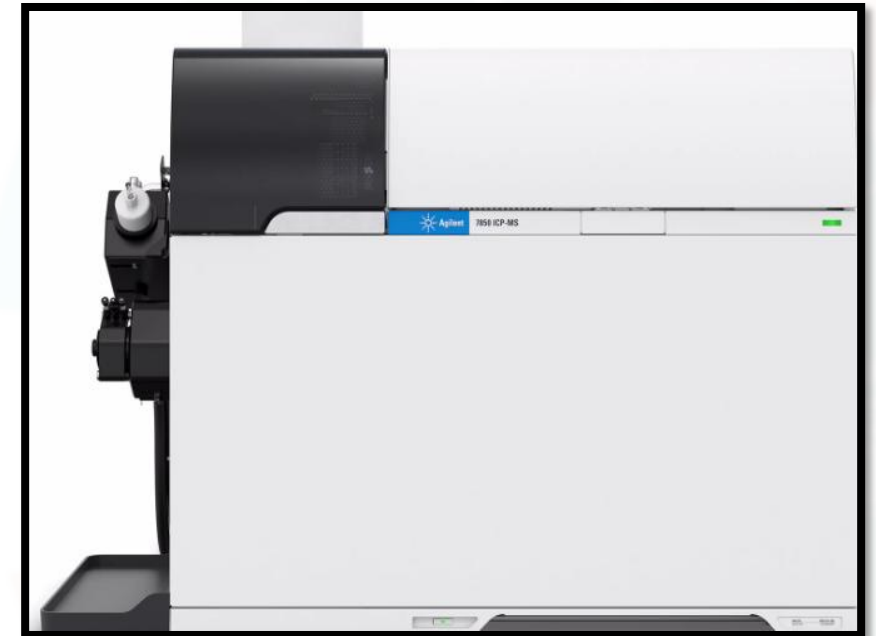
ICP-OES (High cont. ppm)

- Heavy metals
- Trace elements



Bomb Calorimeter

- Calorific Value



ICP-MS (Low cont. ppb)

- Heavy Metals (Hg, As)
- Trace elements

CHROMATOGRAPHY



GC MS/MS

- Fatty acid composition
- Monoglyceride content
- Free glycerol content
- Triglyceride composition
- 3-MCPD, GE
- Mineral oil
- PAH, Dioxins



HPLC-GC-FID

- MOSH
- MOAH



HPLC – FLD

- Antioxidant (BHA, BHT, TBHQ)
- Benzo(a)pyrene
- Tocopherol (Vit E)

UNIQUE BENEFITS OF OUR LAB

- **Specialized Testing Services:** Offering **3-MCPD, GE, MOSH, MOAH & Dioxin** tests—capabilities that are not widely available in Malaysia.
- **Comprehensive One-Hub Center:** Providing testing services for multiple sectors (biomass, palm oil & MMM) under one roof.
- **Advanced Reporting through LIMS:** Clients can directly **access their reports online** via LIMS, enhancing convenience and efficiency.
- **Reduced Testing Costs:** **Competitive local pricing** compared to overseas laboratories, etc (shipping fees, custom charges, taxes).

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THANK YOU!