

NO: SAMM 425

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|                                                                                   |                                                                                                                    |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>LABORATORY LOCATION/<br/>CENTRAL OFFICE:</b>                                   | FGV Analytical Laboratory Sabah<br>P.O 02, Pos Cenderawasih 91150, Lahad Datu, Sabah , 91150,<br>SABAH<br>MALAYSIA |
|  |                                                                                                                    |
| <b>ACCREDITED SINCE :</b>                                                         | 26 MARCH 2025                                                                                                      |
| <b>FIELD(S) OF TESTING:</b>                                                       | CHEMICAL                                                                                                           |

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).

|                              |                                                                                                        |
|------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>CENTRAL LOCATION:</b>     | FGV Analytical Laboratory Sabah<br>P.O 02, Pos Cenderawasih 91150, Lahad Datu, Sabah , 91150,<br>Sabah |
| <b>FIELD(S) OF TESTING :</b> | CHEMICAL,                                                                                              |

**SCOPE OF TESTING : CHEMICAL**

| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---------------------------|-----------------------------------------------------------|------------------------------------------------|
| (continued)               | None                                                      | (First Revision)                               |
|                           | Manganese                                                 | Based on MS 1.107: 1976                        |
|                           | None                                                      | None                                           |
|                           | None                                                      | None                                           |
|                           | Ammoniacal Nitrogen                                       | APHA B&F, Edition                              |
|                           | None                                                      | (Clause 11.5 and 11.6)                         |
|                           | None                                                      | None                                           |
|                           | None                                                      | None                                           |
|                           | None                                                      | None                                           |
|                           | None                                                      | None                                           |
|                           | moisture content relationship                             | BS 1377:1990, Part 4, Clause 3                 |
|                           | compressive strength                                      | BS 1377:1990, Part 7, Clause 7.2               |
|                           | distribution: wet sieving, dry                            | BS 1377:1990, Part 2, Clause 9.2,              |
|                           | number of a soil                                          | Equipment: glass beaker, test tube             |

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|---------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------|
|                           | test                                                       | None                                                                                   |
|                           | Power frequency magnetic field                             | IEC 61000-4-8:2009                                                                     |
|                           | 11. Determination of Viscosity                             | In-house ESL QPL A011                                                                  |
|                           | None                                                       | None                                                                                   |
|                           | Boron (as % B <sub>2</sub> O <sub>3</sub> )                | In-house Method P02-10 based on and Management unit PORIM pg.31                        |
|                           | None                                                       | 1994                                                                                   |
|                           | None                                                       | None                                                                                   |
|                           | Seal Degradation Test                                      | AS/NZS 4284: 2008 (Clause 8.10)                                                        |
|                           | Seismic and Wind Induced Inter                             | AAMA 501.4-2018 (Clause 7.0)                                                           |
|                           | None                                                       | None                                                                                   |
|                           | None                                                       | None                                                                                   |
|                           | None                                                       | None                                                                                   |
|                           | None                                                       | None                                                                                   |
|                           | Escherichia coli                                           | APHA 9221.F (MPN) APHA 9222.H (Membrane Filter)                                        |
|                           | Fecal Streptococci                                         | APHA 9230.C (Membrane Filter)                                                          |
|                           | Clostridium perfringens                                    | HPA NSM WS5 Issue 3 (Membrane Filter)                                                  |
|                           | Pseudomonas aeruginosa                                     | APHA 9213.E (Membrane Filter)                                                          |
|                           | Sulphite reducing anaerobes                                | ISO 6461-2:1986 (Membrane Filter)                                                      |
|                           | penetration)                                               | None                                                                                   |
|                           | Dynamic Water Penetration Test                             | AAMA 501.1-17                                                                          |
|                           | Seal Degradation Test                                      | AS/NZS 4284:2008                                                                       |
|                           | Seismic and Wind Induced Inter                             | AAMA 501.4-2009                                                                        |
|                           | None                                                       | ASTM E330/ E330M-14                                                                    |
|                           | of Transparent and Opaque Liquids                          | None                                                                                   |
|                           | Smoke Point                                                | ASTM D1322                                                                             |
|                           | Determination of Calcium                                   | MS 679: Part - V: Part IV, Clause 5,                                                   |
|                           | Force at Break(0-500N)<br>Elongation at break (0 -" 1000%) | None                                                                                   |
|                           | None                                                       | None                                                                                   |
|                           | None                                                       | None                                                                                   |
|                           | None                                                       | None                                                                                   |
|                           | None                                                       | None                                                                                   |
|                           | None                                                       | ASTM E 190:2014                                                                        |
|                           | a. Vickers (HvN)                                           | ASTM E384-2017                                                                         |
|                           | Nitrofurans residues:                                      | In-house Method, Ref. No. MOH D03-                                                     |
|                           | None                                                       | DIN ISO 34-1:2016 AS 1683.12: 2001 (2018)                                              |
|                           | Abrasion Resistance                                        | ASTM D5963-04 (2019) (Method A) ISO 4649: 2017 (Method A) DIN ISO 4649:2014 (Method A) |

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|-------------------------------------|-----------------------------------------------------------|---------------------------------------------------------|
|                                     | DC to 1 kHz                                               | (of reading) 0.0035 Q                                   |
|                                     | at Frequency: 2.5 MHz to 1.3 GHz                          | (of reading)                                            |
|                                     | 1 kHz                                                     | 0.000048 nF                                             |
|                                     | 100 Q DC to 1 kHz                                         | 0.023 Q                                                 |
|                                     | None                                                      | 0.5 bar                                                 |
|                                     | None                                                      | None                                                    |
|                                     | Liquid Limit                                              | None                                                    |
|                                     | None                                                      | None                                                    |
|                                     | None                                                      | None                                                    |
|                                     | None                                                      | None                                                    |
| Agricultural Products And           | None                                                      | None                                                    |
|                                     | None                                                      | None                                                    |
|                                     | None                                                      | None                                                    |
|                                     | Phosphorus (as %                                          | In-House Method Ref. No.                                |
|                                     | None                                                      | None                                                    |
|                                     | None                                                      | None                                                    |
|                                     | None                                                      | None                                                    |
|                                     | None                                                      | None                                                    |
|                                     | None                                                      | None                                                    |
|                                     | Arsenic (as As)                                           | None                                                    |
|                                     | Moisture                                                  | In-house Method UHW02-02-1                              |
|                                     | Total Potassium                                           | In-house Method UHW02-06-1                              |
|                                     | None                                                      | None                                                    |
|                                     | None                                                      | None                                                    |
|                                     | Moisture                                                  | MS 417: Part 2 :1994 (Oven Drying                       |
|                                     | Total Magnesium (as MgO)                                  | MS 417-6:2020, Clause 6.1, Method                       |
|                                     | Moisture                                                  | MS 417: Part 2 : 1994 (Oven Drying                      |
|                                     | Moisture                                                  | MS 417: Part 2 :1994 (Oven Drying                       |
| Agricultural Products And Materials | Total Phosphorous (as                                     | In-house Method, Ref. No. F3,                           |
|                                     | None                                                      | None                                                    |
|                                     | Method of Sample Preparation                              | In-house Method ID T001-S based on MS 678: Part 1: 1980 |
|                                     | Sample preparation                                        | MS 677: Part I(a):1980                                  |
|                                     | Ashing and Preparation of Ash Solution                    | MS 677: Part                                            |
|                                     | Nitrogen (N)                                              | MS 677: Part                                            |
|                                     | None                                                      | None                                                    |
|                                     | Nitrogen Ammoniacal Nitrogen -                            | MS 417:Part 3: 1994 Clause 5                            |
|                                     | None                                                      | None                                                    |
| Compound                            | Phosphorus Potassium                                      | Based on MS 417: Part 3 - 6 :1994 (First Revision)      |
|                                     |                                                           |                                                         |
| Compound And Mixture                | None                                                      | Based on MS 417: Part 1: 1994                           |
|                                     | None                                                      | Based on MS 417: Part 4 1994                            |

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|---------------------------|-----------------------------------------------------------|------------------------------------------------|
| Effluent                  | Biochemical Oxygen Demand                                 | DOE Method (1985):                             |
|                           | Suspended Solids                                          | DOE Method (1985) :                            |
|                           | Biochemical Oxygen Demand                                 | DOE Method: 4" Edition, 2019,                  |
|                           | Temperature                                               | APHA 2550B, 2005                               |
|                           | None                                                      | None                                           |
|                           | None                                                      | None                                           |
|                           | None                                                      | None                                           |
|                           | Aluminium (Al)                                            | None                                           |
|                           | None                                                      | None                                           |
|                           | None                                                      | None                                           |
|                           | Total Dissolved Solids                                    | APHA - 2540C                                   |
|                           | None                                                      | APHA - 4500F-B&C                               |
|                           | Metals:                                                   | USEPA Method 6010D; Inductive                  |
|                           | Calcium as Ca                                             | HCl Digestion)                                 |
|                           | Sulphate as SO <sub>4</sub>                               | None                                           |
|                           | Nitrite Nitrogen as N                                     | APHA 4110B                                     |
|                           | @ 30 °C for 3 Days                                        | None                                           |
|                           | None                                                      | None                                           |
|                           | None                                                      | (by calculation)                               |
|                           | None                                                      | based on APHA -" 4500 Norg B, 21%              |
|                           | pH                                                        | APHA 4500-H*B                                  |
|                           | Temperature                                               | APHA 2550 A, B                                 |
|                           | Oxygen (Dissolved)                                        | APHA 4500-0 G                                  |
|                           | Free Chlorine                                             | HACH Method 8021                               |
|                           | Temperature                                               | APHA 2550 B                                    |
|                           | pH                                                        | APHA 4500 H*B                                  |
|                           | pH                                                        | APHA 4500 - H*B                                |
| Environmental Monitoring  | None                                                      | None                                           |
|                           | None                                                      | None                                           |
|                           | pH Value (pH)                                             | APHA 4500-H* B, edition                        |
|                           | 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 <sub>3</sub> -• or                         | APHA E                                         |
|                           | None                                                      | None                                           |

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|---------------------------|-------------------------------------------------------------|----------------------------------------------------------------------|
|                           | 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                                                    |
|                           | 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                                                                 |

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|-------------------------------------------|-----------------------------------------------------------|------------------------------------------------|
|                                           | 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,                     |
|                                           | 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                                           |
| Fertilizer Mixture And                    | Nitrogen                                                  | FELDA-LTM-A15                                  |
| Fertilizer Straight,                      | Preparation of Sample                                     | FELDA-LTM-A01                                  |
|                                           | Total Phosphorus                                          | FELDA-LTM-A08                                  |
| Fertilizer Straight, Compound And Mixture | Copper Zinc                                               | FELDA-LTM-A19                                  |
| Materials                                 | None                                                      | None                                           |

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|---------------------------|-----------------------------------------------------------|-------------------------------------------------|
|                           | None                                                      | None                                            |
|                           | None                                                      | None                                            |
|                           | None                                                      | Based on:                                       |
|                           | None                                                      | None                                            |
|                           | None                                                      | None                                            |
|                           | None                                                      | None                                            |
|                           | None                                                      | None                                            |
|                           | None                                                      | None                                            |
|                           | None                                                      | None                                            |
|                           | None                                                      | None                                            |
|                           | None                                                      | None                                            |
|                           | None                                                      | None                                            |
|                           | None                                                      | based on MS 417: Part 2: 1994 (First            |
|                           | Vickers Hardness 1 gf to 30 kgf (0.1 kgf and 1 kgf load)  | E384-2017                                       |
|                           | ii Lead (Pb)                                              | None                                            |
|                           | None                                                      | on BS EN 14084:2003                             |
|                           | None                                                      | based on MS 417: Part 3: 2020,                  |
|                           | None                                                      | Analysis: The Johan Kjeldahl                    |
|                           | None                                                      | based on MS 417: Part 3: 2020,                  |
|                           | N)                                                        | Analysis: The Johan Kjeldahl                    |
|                           | None                                                      | based on MS 417 Part 7:2020,                    |
|                           | Fertilizers                                               | None                                            |
|                           | None                                                      | None                                            |
|                           | Vickers Hardness 1 gf to 30 kgf (0.1 kgf and 1 kgf load)  | E384-2017                                       |
|                           | Volume Resistance or Resistivity                          | None                                            |
|                           | None                                                      | ANSI/ESD STM 11.12-2015                         |
|                           | None                                                      | None                                            |
|                           | None                                                      | Method)                                         |
|                           | None                                                      | Based on MS 417: Part 2 : 1994                  |
|                           | None                                                      | 1: Atomic Absorption                            |
|                           | None                                                      | Method)                                         |
|                           | None                                                      | Based                                           |
|                           | None                                                      | on MS 417-3: 2020, Clause 12,                   |
|                           | None                                                      | Based on MS 417-4: 2020, Clause                 |
| Organic Fertilizer        | Organic Matter and Organic Carbon Content                 | FELDA - LTM - A22 Based on MS 417: Pt. 8 : 1997 |
| Plant                     | Sample Preparation:                                       | None                                            |
|                           | Ash                                                       | MS 677: Pt. 1980, Part II                       |
|                           | Nitrogen (N)                                              | MS 677 Pt. -VIII 1980, Part III                 |
|                           | Phosphorus (P)                                            | MS 677 Pt. -VIII 1980, Part IV                  |
|                           | Potassium (K)                                             | MS 677 Pt. I-VIII 1980, Part V                  |
|                           | Calcium (Ca)                                              | MS 677 Pt. 1980, Part VI                        |
|                           | Magnesium (Mg)                                            | MS 677: Pt. 1980, Part VII                      |
|                           | None                                                      | In-house method (Ref. No. P1)                   |
|                           | Sample Preparation                                        | MS 677: Part (a): 1980                          |
|                           | Ashing and Preparation of Ash Solution                    | MS 677: Part II: 1980                           |

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|                           | Ash Content                                               | In-house Method ITC/TM/P02 based on AOAC 923.03 20" Edition, 2016     |
|                           | Nitrogen                                                  | MS 677: Part III: 1980 Clause 2                                       |
|                           | Phosphorus                                                | MS 677: Part IV: 1980                                                 |
|                           | Potassium                                                 | MS 677: Part V: 1980                                                  |
|                           | Calcium                                                   | MS 677: Part VI: 1980                                                 |
|                           | Magnesium                                                 | MS 677: Part VII: 1980                                                |
|                           | Total Boron                                               | In-house Method ITC/TM/P12 based on MS 417: Part 7: 2001-Clause 6.2.3 |
|                           | Copper                                                    | In-house Method ITC/TM/P08 based on AOAC 975.03 20" Edition, 2016     |
|                           | Zinc                                                      | In-house Method ITC/TM/P09 based on AOAC 975.03 20" Edition, 2016     |
|                           | Iron                                                      | In-house Method ITC/TM/P10 based on AOAC 975.03 20" Edition, 2016     |
|                           | Manganese                                                 | In-house Method ITC/TM/P11 based on AOAC 975.03 20" Edition, 2016     |
|                           | Ash                                                       | MS 677:Pt. I-VIII:1980, Part II                                       |
|                           | Manganese (Mn)                                            | In-house Method, P3, Based on                                         |
|                           | Sample Preparation for Plant                              | In-house Method, Ref. No. P5,                                         |
|                           | N                                                         | n-house Method PBL/LTM/P1,                                            |
|                           | Fe                                                        | In-house Method PBL/LTM/P9,                                           |
|                           | Preparation of Leaves for                                 | MS 677: Pt I - VIII: Part I: 1980                                     |
|                           | Ash                                                       | MS 677: Part II: 1980                                                 |
| Plant (continued)         | Phosphorus                                                | FELDA - LTM -                                                         |
| Urea Fertilizer           | Total Nitrogen                                            | FELDA-LTM-A05                                                         |

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