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|                                                                                   |                                                                                                                              |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>LABORATORY LOCATION/<br/>CENTRAL OFFICE:</b>                                   | Jabatan Kimia Malaysia Cawangan Sib<br>Lot 2060, Jalan Tunku Abdul Rahman 96000 Sib, Sarawak , 96000,<br>SARAWAK<br>MALAYSIA |
|  |                                                                                                                              |
| <b>ACCREDITED SINCE :</b>                                                         | 06 APRIL 2025                                                                                                                |
| <b>FIELD(S) OF TESTING:</b>                                                       | CHEMICAL<br>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).

|                              |                                                                                                                  |
|------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>CENTRAL LOCATION:</b>     | Jabatan Kimia Malaysia Cawangan Sib<br>Lot 2060, Jalan Tunku Abdul Rahman 96000 Sib, Sarawak , 96000,<br>Sarawak |
| <b>FIELD(S) OF TESTING :</b> | CHEMICAL, MICROBIOLOGICAL                                                                                        |

**SCOPE OF TESTING : CHEMICAL**

| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques         |
|---------------------------|-----------------------------------------------------------|--------------------------------------------------------|
| (lpg)                     | Petroleum Gas (LPG)                                       | on MS 158:2007 : Liquefied                             |
|                           | Copper Corrosion                                          | ASTM D1838                                             |
| Alcoholic Beverages       | Determination of Ethanol in                               | In-House Method JKM K0106 based                        |
|                           | None                                                      | None                                                   |
|                           | Sulfur dioxide                                            | In-house method                                        |
|                           | None                                                      | Determination of Ethanol using                         |
|                           | Gas Chromatographic                                       | JKM K 0106                                             |
|                           | None                                                      | None                                                   |
|                           | Ethanol                                                   | In-house Method C/FOD/030 based on Journal of Food and |
|                           | Copper, Selenium, Zinc and                                | In-house method LWI-TEC-                               |
|                           | Total Bacteria Count                                      | FDA-™s BAM Chapter 3                                   |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques   |
|---------------------------|-----------------------------------------------------------|--------------------------------------------------|
| Environmental Monitoring  | Clostridium perfringens                                   | FDA-™s BAM Chapter 16                            |
|                           | Methanol & Ethyl Alcohol                                  | MOH Determination of                             |
|                           | None                                                      | None                                             |
|                           | None                                                      | None                                             |
|                           | None                                                      | None                                             |
|                           | None                                                      | None                                             |
|                           | Aluminium                                                 | USEPA 6010 D (ICP OES)                           |
|                           | None                                                      | None                                             |
|                           | Nitrate (as NOS-• 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                                |
|                           | 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                                             |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement   | Standard Test Methods / Equipment / Techniques                       |
|---------------------------|-------------------------------------------------------------|----------------------------------------------------------------------|
|                           | 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,                                           |
|                           | 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                                                                 |

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| Material / Product Tested    | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques          |
|------------------------------|-----------------------------------------------------------|---------------------------------------------------------|
|                              | None                                                      | None                                                    |
|                              | None                                                      | None                                                    |
|                              | None                                                      | None                                                    |
|                              | None                                                      | None                                                    |
| Industrial Effluent Leachate | pH                                                        | APHA 4500 H* B, 23 Edition,                             |
| Industry                     | None                                                      | None                                                    |
| Liquefied Petroleum Gas      | Detection of Liquefied                                    | In House Method JKM 01/14, based                        |
|                              | Composition                                               | IP 473                                                  |
| Palm Oil Mill Effluents      | BOD (3 days)                                              | Revised Standard Methods for                            |
|                              | None                                                      | Electrometric Method                                    |
| Surface Water                | Phosphate                                                 | APHA 4500-P Method D, Stannous Chloride Method, Edition |
|                              | None                                                      | APHA 4500-NOs E, 22"4 Edition,                          |
|                              | None                                                      | None                                                    |
|                              | None                                                      | None                                                    |
|                              | Chromium                                                  | None                                                    |
|                              | None                                                      | None                                                    |
|                              | pH Value                                                  | APHA 4500-H* (APHA Method 21*                           |
|                              | None                                                      | None                                                    |
|                              | None                                                      | None                                                    |
|                              | None                                                      | None                                                    |
|                              | None                                                      | None                                                    |
|                              | None                                                      | None                                                    |
|                              | None                                                      | None                                                    |
|                              | None                                                      | None                                                    |
|                              | e Arsenic                                                 | None                                                    |
|                              | None                                                      | None                                                    |
|                              | None                                                      | Technique                                               |
|                              | None                                                      | None                                                    |
|                              | None                                                      | Method Edition (2005)                                   |
|                              | Alkalinity                                                | APHA 2320 B Titration Method 21s                        |
|                              | None                                                      | Method by Discrete Analyzer                             |
|                              | Caustic Alkalinity as CaCO3                               | APHA - 2320B                                            |
|                              | Barium as Ba                                              | None                                                    |
|                              | None                                                      | (MPN Technique)                                         |
|                              | Conductivity                                              | APHA 2510 B, 2017                                       |
|                              | Chlorate                                                  | Metrohm IC Application, Note No.                        |
|                              | None                                                      | Metrohm Technical Note                                  |
|                              | Hydrocarbon                                               | APHA 5520 F 2017                                        |
|                              | Vanadium (V)                                              | APHA 3120 B, 2017                                       |
|                              | Free Carbon Dioxide (by calculation)                      | APHA 4500 COz D, 2017                                   |
|                              | None                                                      | None                                                    |
|                              | None                                                      | APHA 2550 B, 2017                                       |
|                              | Chromium, Cr                                              | None                                                    |
|                              | VOCs                                                      | EPA Method 5030B: 1996; EPA                             |
|                              | None                                                      | None                                                    |

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|---------------------------|-----------------------------------------------------------|------------------------------------------------|
| Water                     | None                                                      | None                                           |
|                           | None                                                      | (Membrane Filter Technique)                    |
|                           | None                                                      | None                                           |
|                           | None                                                      | None                                           |
|                           | Selenium (Se) Chromium (Cr)                               | 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-Cl B, 2005                           |
|                           | Determination of sulphate                                 | APHA B, 2005                                   |
|                           | Determination of alkalinity                               | APHA 2320 B, 2005                              |
|                           | 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                                           |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---------------------------|-----------------------------------------------------------|------------------------------------------------|
|                           | 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                                           |
|                           | 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             |
|                           | 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                                           |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques                      |
|---------------------------|-----------------------------------------------------------|---------------------------------------------------------------------|
|                           | E. coli                                                   | APHA 9221 F (MPN Method)                                            |
|                           | None                                                      | None                                                                |
|                           | Total Organic Carbon                                      | APHA 5310 C                                                         |
|                           | Heterotropic plate count                                  | APHA 9215 B, 22 <sup>nd</sup> Edition (2012)                        |
|                           | None                                                      | (Membrane Filtration Technique)                                     |
|                           | None                                                      | None                                                                |
|                           | Metals by ICP                                             | None                                                                |
|                           | None                                                      | None                                                                |
|                           | None                                                      | None                                                                |
|                           | None                                                      | None                                                                |
|                           | None                                                      | None                                                                |
|                           | None                                                      | None                                                                |
|                           | pH                                                        | ASTM D 1293-2005 (Method B)<br>APHA 4500 H <sup>+</sup> B 2005/2017 |
|                           | pH                                                        | ASTM D1293-2005 (Method B)<br>APHA 4500 H <sup>+</sup> 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 <sub>3</sub> ,                   | 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                                                                |
|                           | Aluminium                                                 | None                                                                |
|                           | None                                                      | None                                                                |
|                           | Organochlorine Pesticide                                  | APHA 6630 B, Edition                                                |
|                           | Ammoniacal Nitrogen                                       | APHA F, 24 <sup>th</sup> Edition                                    |
|                           | Arsenic                                                   | APHA 3125 B, Edition                                                |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques                                          |
|---------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------|
|                           | 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                                                                                    |
|                           | Lead as Pb                                                | None                                                                                    |
|                           | Silver as Ag                                              | None                                                                                    |
|                           | Selenium as Se                                            | None                                                                                    |
|                           | Thallium as TI                                            | None                                                                                    |
|                           | Mercury as Hg                                             | In-house Method LWI-MWE 037 based on APHA 3112 B by                                     |
|                           | Mercury as Hg                                             | Mercury Analyser                                                                        |



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

**SCOPE OF TESTING : MICROBIOLOGY**

| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques                    |
|---------------------------|-----------------------------------------------------------|-------------------------------------------------------------------|
| Raw Water                 | BOD (5 days)                                              | APHA 5210 B, 21* edition, 2005<br>APHA 4500-0G, 21* edition, 2005 |
|                           | Chemical Oxygen Demand                                    | APHA 5220 D, 21st edition, 2005<br>HACH Method 8000               |
|                           | Anionic Surfactants as MBAS                               | APHA 5540 C, 21° edition, 2005                                    |
|                           | None                                                      | APHA 4500-NHs D, 21% Edition,                                     |
|                           | Coliform and E. Coli (MPN)                                | JKM M 2033 (APHA 9221B and                                        |
|                           | None                                                      | None                                                              |
|                           | Biochemical Oxygen Demand                                 | APHA 5210 B, 4500-O G                                             |
|                           | Chemical Oxygen Demand                                    | HACH METHOD 8000                                                  |
|                           | Coliform and Escherichia coli                             | JKM M-2040, (MPN); APHA                                           |
|                           | On-site Sampling                                          | In-house Method -                                                 |
|                           | Fluoride                                                  | HACH Method No 10225                                              |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques                                          |
|---------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------|
|                           | On-site sampling                                          | In-house Method: LAB/PK/09                                                              |
|                           | Carbonate Alkalinity as CaCO <sub>3</sub>                 | APHA - 2320B                                                                            |
|                           | Thionazin                                                 | 525.3 (GCMS)                                                                            |
|                           | Hexachlorobenzene                                         | None                                                                                    |
|                           | Naphthalene                                               | Journal of Chemistry 3 (2): 51-54, Method)                                              |
|                           | None                                                      | None                                                                                    |
|                           | None                                                      | None                                                                                    |
|                           | None                                                      | None                                                                                    |
|                           | Anionic Surfactants as MBAS                               | APHA 5540 C                                                                             |
|                           | Turbidity                                                 | APHA 2130 B                                                                             |
|                           | pH                                                        | APHA 4500 - H*B                                                                         |
|                           | Color                                                     | HACH Method No. 8025                                                                    |
|                           | Lead as Pb                                                | APHA 3111 B                                                                             |
|                           | Total Solid                                               | APHA 2540 B                                                                             |
|                           | Beryllium as Be                                           | None                                                                                    |
| Treated Water             | Ammonia                                                   | Selective Electrode Method                                                              |
|                           | Total Dissolved Solids as Sodium Chloride                 | In-house Method, AIR 001 based on Orion Star A112 Conductivity Meter Instruction Manual |
|                           | Detection and Identification of                           | JKM M 2032 (Membrane Filter                                                             |
|                           | None                                                      | None                                                                                    |
|                           | None                                                      | None                                                                                    |
|                           | None                                                      | None                                                                                    |
|                           | Detection and Identification of                           | JKM M2032, Membrane Filtration                                                          |
|                           | pH                                                        | HACH Method (Senslon + pH1)                                                             |
|                           | Aluminum                                                  | HACH Method No . 8326                                                                   |
|                           | Detection of Coliform                                     | Colilert Method (IDEXX)                                                                 |
|                           | Copper (Cu)                                               | None                                                                                    |
|                           | Aluminium as Al                                           | None                                                                                    |
|                           | Potassium as K                                            | None                                                                                    |
|                           | Chloroform                                                | None                                                                                    |
|                           | Sulfotep                                                  | None                                                                                    |
|                           | Aplha-lindane                                             | None                                                                                    |
|                           | 2-Methylnaphthalene                                       | 2008) (GCMS)                                                                            |
|                           | 2-Chlorobiphenyl                                          | 525.3(GCMS)                                                                             |
|                           | n-Nonacosane                                              | None                                                                                    |
|                           | None                                                      | None                                                                                    |
|                           | Escherichia coli                                          | APHA 9221G.2; 2017 (MPN                                                                 |
|                           | (Clostridia) (100 ml)                                     | None                                                                                    |
|                           | None                                                      | None                                                                                    |
|                           | Free Chlorine, High Range                                 | HACH Method No . 10069                                                                  |
|                           | Turbidity                                                 | APHA 2130 B                                                                             |
|                           | pH                                                        | APHA 4500 - H*B                                                                         |
|                           | Color                                                     | HACH Method No. 8025                                                                    |
|                           | Chlorine, Free                                            | HACH Method No. 8021                                                                    |
|                           | Free Chlorine, High Range                                 | HACH Method No. 10069                                                                   |
|                           | Simultaneous Detection of Total                           | APHA 9223 B                                                                             |

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