

NO: SAMM 701

Page: 1 of 19

LABORATORY LOCATION:
(PERMANENT LABORATORY)

CHEMSAIN KONSULTANT SDN. BHD.
(BUKIT JELUTONG LABORATORY)
NO. 29, JALAN ASTAKA U8/84A
TAMAN PERINDUSTRIAN BUKIT JELUTONG
SEKSYEN U8, 40150 SHAM ALAM
SELANGOR DARUL EHSAN
MALAYSIA

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

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

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

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water and Wastewater	Colour (Hazen/PtCo/CU Units)	APHA 2120 C 2005 APHA 2120 C 2017
	Colour, ADMI	APHA 2120 F, 2005 APHA 2120 F, 2017
	Turbidity	APHA 2130 B, 2005 APHA 2130 B, 2017
	Acidity	APHA 2310 B, 2005 APHA 2310 B, 2017
	Alkalinity	APHA 2320 B, 2005 APHA 2320 B, 2017
	Hardness by calculation	APHA 2340 B, 2005 APHA 2340 B, 2017
	Hardness, EDTA Titrimetric	APHA 2340 C, 2005 APHA 2340 C, 2017
	Conductivity	APHA 2510 B, 2005 APHA 2510 B, 2017
	Salinity	APHA 2520 B, 2005 APHA 2520 B, 2017
	Total solids	APHA 2540 B, 2005 APHA 2540 B, 2017

NO: SAMM 701

Page: 2 of 19

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water and Wastewater (continue)	Total dissolved solids	APHA 2540 C, 2005 APHA 2540 C, 2017
	Total suspended solids	APHA 2540 D, 2005 APHA 2540 D, 2017
	Temperature	APHA 2550 B, 2005 APHA 2550 B, 2017
	Chromium hexavalent	APHA 3500 Cr B, 2005 APHA 3500 Cr B, 2017
	Calcium Hardness, EDTA Titrimetric	APHA 3500 Ca B, 2005 APHA 3500 Ca B, 2017
	Magnesium Hardness. Calculation Method	APHA 3500 Mg B, 2005 APHA 3500 Mg B, 2017
	Boron (Not less than 20µg B)	APHA 4500 B C, 2005 APHA 4500 B C, 2017
	Chloride	APHA 4500 Cl ⁻ B, 2005 APHA 4500 Cl ⁻ B, 2017
	Free carbon dioxide	APHA 4500 CO ₂ C, 2005 APHA 4500 CO ₂ C, 2017
	Cyanide	APHA 4500-CN C & F, 2005 APHA 4500-CN C & F, 2017
	Fluoride	APHA 4500 F ⁻ C, 2005 APHA 4500 F ⁻ C, 2017
	pH	APHA 4500 H ⁺ B, 2005 APHA 4500 H ⁺ B, 2017
	Ammoniacal nitrogen	APHA 4500 NH ₃ B & C, 2005 APHA 4500 NH ₃ B & C, 2017
	Ammoniacal nitrogen	APHA 4500 NH ₃ B & F, 2005 APHA 4500 NH ₃ B & F, 2017
	Nitrate/ Nitrate-N	APHA 4500 NO ₃ ⁻ E, 2005 APHA 4500 NO ₃ ⁻ E, 2017
	Nitrite/ Nitrite-N	APHA 4500 NO ₂ ⁻ B, 2005 APHA 4500 NO ₂ ⁻ B, 2017

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation

NO: SAMM 701

Page: 3 of 19

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water and Wastewater (continue)	Oxygen (dissolved)	APHA 4500 O C, 2005 APHA 4500 O C, 2017
	Oxygen (dissolved)	APHA 4500 O G, 2005 APHA 4500 O G, 2017
	Oxygen (dissolved)	APHA 4500 O H, 2017
	Phosphorus	APHA 4500-P D, 2005 APHA 4500-P D, 2017
	Sulphide	APHA 4500 S ²⁻ D, 2005 APHA 4500 S ²⁻ D, 2017
	Sulphate	APHA 4500 SO ₄ ²⁻ E, 2005 APHA 4500 SO ₄ ²⁻ E, 2017
	Biochemical Oxygen Demand (BOD) 5 days @ 20°C	APHA 5210 B & 4500 OG, 2005 APHA 5210 B & 4500 OG, 2017
	Chemical Oxygen Demand	APHA 5220 C, 2005 APHA 5220 C, 2017
	Oil & Grease	APHA 5520 B, 2005 APHA 5520 B, 2017
	Hydrocarbon	APHA 5520 F, 2005 APHA 5520 F, 2017
	Phenol	APHA 5530 B & C, 2005 APHA 5530 B & C, 2017
	Phenol	APHA 5530 B & D, 2005 APHA 5530 B & D, 2017
	Free, Combined and Total Residual Chlorine	In House Method 0501 based on Palintest Comparator
	Formaldehyde	In House Method 0527 based on AOAC 931.08

NO: SAMM 701

Page: 4 of 19

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement		Standard Test Methods/ Equipment/Techniques
Water and Wastewater (continue)	Silver (Ag) Aluminium (Al) Arsenic (As) Boron (B) Barium (Ba) Beryllium (Be) Bismuth (Bi) Calcium (Ca) Cadmium (Cd) Cobalt (Co) Chromium (Cr) Copper (Cu) Iron (Fe) Potassium (K) Lithium (Li) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Sodium (Na)	Nickel (Ni) Phosphorus (P) Lead (Pb) Sulfur (S) Antimony (Sb) Selenium (Se) Silicone (Si) Tin (Sn) Strontium (Sr) Titanium (Ti) Thallium (Tl) Vanadium (V) Zinc (Zn) Tellurium (Te) Uranium (U) Platinum (Pt) Gold (Au) Palladium (Pd) Iridium (Ir)	APHA 3120 B, 2005 APHA 3120 B, 2017 Inductively Coupled Plasma – Optical Emission Spectrometry (ICP-OES)
	Mercury (Hg)		In House Method 6017 based on APHA 3120 B & APHA 3114 B, 2005 In House Method 6017 based on APHA 3120 B & APHA 3114 B, 2017
	Sample pre-treatment for metals analysis		APHA 3030 F, 2005 APHA 3030 F, 2017 (Recoverable HNO ₃ / HCl)

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation

NO: SAMM 701

Page: 5 of 19

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Marine Water Estuarine Water Formation / Produced Water	Colour (Hazen/PtCo/CU units)	APHA 2120 C, 2005 APHA 2120 C, 2017
	Turbidity	APHA 2130 B, 2005 APHA 2130 B, 2017
	Hardness, EDTA Titrimetric	APHA 2340 C, 2005 APHA 2340 C, 2017
	Conductivity	APHA 2510 B, 2005 APHA 2510 B, 2017
	Salinity	APHA 2520 B, 2005 APHA 2520 B, 2017
	Total solids	APHA 2540 B, 2005 APHA 2540 B, 2017
	Total dissolved solids	APHA 2540 C, 2005 APHA 2540 C, 2017
	Total suspended solids	APHA 2540 D, 2005 APHA 2540 D, 2017
	Temperature	APHA 2550 B, 2005 APHA 2550 B, 2017
	Calcium Hardness, EDTA Titrimetric	APHA 3500 Ca B, 2005 APHA 3500 Ca B, 2017
	Magnesium Hardness, Calculation Method	APHA 3500 Mg B, 2005 APHA 3500 Mg B, 2017
	Chromium hexavalent	APHA 3500 Cr B, 2005 APHA 3500 Cr B, 2017
	Boron (Not less than 20µg)	APHA 4500 B C, 2005 APHA 4500 B C, 2017
	Chloride	APHA 4500 Cl ⁻ B, 2005 APHA 4500 Cl ⁻ B, 2017

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation

NO: SAMM 701

Page: 6 of 19

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Marine Water Estuarine Water Formation / Produced Water (continue)	pH	APHA 4500 H ⁺ B, 2005 APHA 4500 H ⁺ B, 2017
	Ammoniacal Nitrogen	APHA 4500 NH ₃ B & C, 2005 APHA 4500 NH ₃ B & C, 2017
	Ammoniacal Nitrogen	APHA 4500 NH ₃ B & F, 2005 APHA 4500 NH ₃ B & F, 2017
	Nitrate/ Nitrate-N	APHA 4500-NO ₃ ⁻ E, 2005 APHA 4500-NO ₃ ⁻ E, 2017
	Nitrite/ Nitrite-N	APHA 4500-NO ₂ ⁻ B, 2005 APHA 4500-NO ₂ ⁻ B, 2017
	Oxygen (dissolved)	APHA 4500 O C, 2005 APHA 4500 O C, 2017
	Oxygen (dissolved)	APHA 4500 O G, 2005 APHA 4500 O G, 2017
	Oxygen (dissolved)	APHA 4500 O H, 2017
	Phosphorus	APHA 4500 P D, 2005 APHA 4500 P D, 2017
	Sulphide	APHA 4500 S ²⁻ D, 2005 APHA 4500 S ²⁻ D, 2017
	Biochemical Oxygen Demand (BOD) 5 days @ 20°C	APHA 5210 B & 4500 O G, 2005 APHA 5210 B & 4500 O G, 2017
	Oil & Grease	APHA 5520 B, 2005 APHA 5520 B, 2017
	Hydrocarbon	APHA 5520 F, 2005 APHA 5520 F, 2017
	Phenol	APHA 5530 B & C, 2005 APHA 5530 B & C, 2017
	Phenol	APHA 5530 B & D, 2005 APHA 5530 B & D, 2017

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation

NO: SAMM 701

Page: 7 of 19

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Marine Water Estuarine Water Formation / Produced Water (continue)	Free, Combined and Total Residual Chlorine Chromium, trivalent Chemical Oxygen Demand	In House Method 0501 based on Palintest Comparator In House Method 0508 based on APHA 3500-Cr B, 2005 In House Method 0508 based on APHA 3500-Cr B, 2017 In House Method 0560 based on APHA 5220 C, 2005/2017 & USGS – Method for analysis of organic substances in water – Chemical Oxygen Demand COD

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation

NO: SAMM 701

Page: 8 of 19

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water and Wastewater Marine Water Estuarine Water Formation / Produced Water (continue)	Aluminium (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Boron (B) Calcium (Ca) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Mercury (Hg) Molybdenum (Mo) Nickel (Ni) Selenium (Se) Silver (Ag) Strontium (Sr) Thallium (Tl) Tin (Sn) Titanium (Ti) Vanadium (V) Uranium (U) Zinc (Zn)	APHA 3125 B, 2005 APHA 3125 B, 2017 Inductively Coupled Plasma – Mass Spectrometry (ICP-MS)
	Sample pre-treatment for metals analysis (Nitric Acid Digestion)	APHA 3030 E, 2005 APHA 3030 E, 2017

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation

NO: SAMM 701

Page: 9 of 19

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Petroleum, Petroleum products	Density Water content Flash point	ASTM D 1298-12b (Reapproved 2017) ASTM D 6304-20 (Procedure C excluded) ASTM D 93-20 (Procedure A)
Biodiesel	Density Density correction Water content	ASTM 1298-12b (Reapproved 2017) EN 14214:2008 (E) Annex C ASTM D 6304-20 (Procedure C excluded)
Crude oil	Water content	ASTM D 4928-12

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation

NO: SAMM 701

Page: 10 of 19

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Filters from ambient personal sampling pump	Beryllium (Be) Boron (B) Copper (Cu) Cadmium (Cd) Lead (Pb) Nickel (Ni) Chromium (Cr) Manganese (Mn) Zinc (Zn) Aluminum (Al) Tin (Sn) Barium (Ba) Strontium (Sr) Molybdenum (Mo) Titanium (Ti) Vanadium (V) Cobalt (Co) Arsenic (As) Antimony (Sb) Thallium (Tl) Selenium (Se)	In House Method 0572 based NMAM 7303 4 th Edition

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation**Signatories:**

- | | | |
|----|---------------------------------------|--|
| 1. | Winnie Ling Siew Kiong | IKM No.: M/2749/4716/05/08 (Non resident) |
| 2. | Hii Lu Yong | IKM No.: M/1614/2646/96/98 (Non resident) |
| 3. | Chee Ong Koh | IKM No.: F/0060/77/71/94 |
| 4. | Fathin binti Karudin | IKM No.: M/5560/7852/17/20 |
| 5. | Muhammad Zulfadli bin Zulkefli | IKM No.: M/5099/7717/17/19 |

NO: SAMM 701

Page: 11 of 19

SCOPE OF TESTING: MICROBIOLOGICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water and Wastewater Marine Water Estuarine Water Formation / Produced Water	Heterotrophic Plate Count	APHA 9215 B 2017
	Total Coliform Count	APHA 9221 B 2017
	Thermotolerant (Fecal) Coliform Count	APHA 9221 E 2017
	<i>Escherichia coli</i> Count	APHA 9221 G 2017
	<i>Escherichia coli</i> Count	In House Method 0601 based on APHA 9221 E 2017 and AS 4276.6 1995
	Fecal <i>Enterococci</i>	APHA 9230 B, 2012
	Total Coliform & <i>E. coli</i> by Dual-Chromogen Membrane Filtration	In House method 0608 based on APHA 9222 J, 2017
	Thermotolerant (Fecal) Coliform in water by Membrane Filtration Method	APHA 9222 D, 2017
	Fecal <i>Enterococci</i> in water by Membrane Filtration Method	APHA 9230 C, 2017

Note: APHA 9221 E was formerly known as Fecal Coliform Count

Signatories:

- | | | |
|----|----------------------------|----------|
| 1. | Mogana Priya a/p Raj Kumar | MJMM0366 |
| 2. | Lim Huey Chen | MJMM0367 |
| 3. | Lina Chan | MJMM0478 |

NO: SAMM 701

Page: 12 of 19

SCOPE OF TESTING: CHEMICAL**SITE: CATEGORY I**

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water and Wastewater Marine Water Estuarine Water Formation/ Produced Water	Temperature	APHA 2550 B, 2005 APHA 2550 B, 2017
	pH Value	APHA 4500 H ⁺ B, 2005 APHA 4500 H ⁺ B, 2017
	Oxygen (Dissolved)	APHA 4500 O G, 2005 APHA 4500 O G, 2017
	Oxygen (Dissolved)	APHA 4500 O H, 2017
	Free, Combined and Total Residual Chlorine (DPD)	In-House Method 0501 based on Palintest Comparator
	Free Residual Chlorine	In House Method 0561 based on Hanna Test Kit H1701

Note:

- AOAC – Association of Official Analytical Chemists
- APHA – American Public Health Association (Standards Method for the Examination of Water and Wastewater)
- ASTM – American Society for Testing and Materials
- AS – Australia Standards
- EN – European Standard
- NMAM – NIOSH Manual of Analytical Method
- USEPA – United States Environmental Protection Agency
- USGS – United States Geological Survey

Signatories:

- | | |
|-----------------------------------|--|
| 1. Winnie Ling Siew Kiong | IKM No.: M/2749/4716/05/08 (Non resident) |
| 2. Hii Lu Yong | IKM No.: M/1614/2646/96/98 (Non resident) |
| 3. Chee Ong Koh | IKM No.: F/0060/77/71/94 |
| 4. Muhammad Zulfadli bin Zulkefli | IKM No.: M/5099/7717/17/19 |
| 5. Fathin binti Karudin | IKM No.: M/5560/7852/17/20 |

NO: SAMM 701

Page: 13 of 19

SCOPE OF TESTING: CHEMICAL**SITE: CATEGORY I**

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Ambient Air	Total Suspend Particulates PM10 PM2.5	AS/NZS 3580.9.3:2003 AS/NZS 3580 9.6:2015 AS/NZS 3580.9.14:2013
Stationary Air Emission	Particulates CO, SO ₂ , NO, H ₂ S Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn	MS 1596:2003 USEPA Method 5 In-house method 585 based on Testo 350 Flue Gas Analyser USEPA Method 29 & USEPA 6020 B

Note:

- AS/NZS – Australian/ New Zealand Standard
- ISO – International Standards Organization
- MS – Malaysian Standard
- USEPA – United States Environmental Protection Agency

Signatories:

- Winnie Ling Siew Kiong** IKM No.: M/2749/4716/05/08 (Non resident)
(Chemical, Ambient Air, Stationary Air Emission Analysis only)
- Hii Lu Yong** IKM No.: M/1614/2646/96/98 (Non resident)
(Chemical, Ambient Air, Stationary Air Emission Analysis only)
- Chee Ong Koh** IKM No.: F/0060/77/71/94
(Chemical, Ambient Air, Stationary Air Emission Analysis Only)
- Lina Chan** (Ambient Air Particulate Only)
- Zurida Binti A. Razak** (Ambient Air Particulate Only)
- Nur Lina Binti Zulkipeli** (Ambient Air Particulate, Stationary Air Emission Sampling and Field Testing only)
- Nor Aziah Binti Mamat** (Stationary Air Emission Sampling and Field Testing only)

NO: SAMM 701

Page: 14 of 19

SCOPE OF TESTING: MECHANICAL**SITE: CATEGORY I**

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Vibration	Measurement of vibration level	In house method 0591 based on Seismographs Manufacturer Manual
Noise	Measurement of Environmental Noise Levels	ISO 1996-1:2016 & ISO 1996-2:2017

Signatories:

1. Lina Chan
2. Nur Lina Zulkipeli
3. Zurida A. Razak

NO: SAMM 701

Page: 15 of 19

LABORATORY LOCATION:
(SITE TESTING CATEGORY II)

NO. 50 & 52
JALAN PELEPAS 4/9
TAMAN PERINDUSTRIAN TANJUNG PELEPAS
81550 GELANG PATAH
JOHOR DARUL TAKZIM
MALAYSIA

SCOPE OF TESTING: CHEMICAL

SITE: CATEGORY II

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water and Wastewater	Turbidity	APHA 2130 B, 2005 APHA 2130 B, 2017
	Conductivity	APHA 2510 B, 2005 APHA 2510 B, 2017
	Temperature	APHA 2550 B, 2005 APHA 2550 B, 2017
	Total Solids	APHA 2540 B, 2005 APHA 2540 B, 2017
	Total Dissolve Solids	APHA 2540 C, 2005 APHA 2540 C, 2017
	Total Suspended solids	APHA 2540 D, 2005 APHA 2540 D, 2017
	pH	APHA 4500 H*B, 2005 APHA 4500 H*B, 2017
	Oxygen (Dissolved)	APHA 4500 O C, 2005 APHA 4500 O C, 2017
	Oxygen (Dissolved)	APHA 4500 O G, 2005 APHA 4500 O G, 2017
	Oxygen (Dissolved)	APHA 4500 O H, 2017
	Biochemical Oxygen Demand	APHA 5210 B & 4500 O G, 2005 APHA 5210 B & 4500 O G, 2017

NO: SAMM 701

Page: 16 of 19

SCOPE OF TESTING: CHEMICAL**SITE: CATEGORY II**

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water and Wastewater	Chemical Oxygen Demand	APHA 5220 C, 2005 APHA 5220 C, 2017
	Oil & Grease	APHA 5520 B, 2005 APHA 5520 B, 2017
	Free, Combined and Total Residual Chlorine	In-House Method 0501 based Palintest Comparator
	Chloride	APHA 4500 Cl ⁻ B, 2005 APHA 4500 Cl ⁻ B, 2017
	Ammoniacal Nitrogen	APHA 4500 NH ₃ B & C, 2005 APHA 4500 NH ₃ B & C, 2017
Marine Water Estuarine Water Formation/ Produced Water	Turbidity	APHA 2130 B, 2005 APHA 2130 B, 2017
	Conductivity	APHA 2510 B, 2005 APHA 2510 B, 2017
	Salinity	APHA 2520 B, 2005 APHA 2520 B, 2017
	Temperature	APHA 2550 B, 2005 APHA 2550 B, 2017
	Total Solids	APHA 2540 B, 2005 APHA 2540 B, 2017
	Total Dissolve Solids	APHA 2540 C, 2005 APHA 2540 C, 2017
	Total Suspended Solids	APHA 2540 D, 2005 APHA 2540 D, 2017
	pH	APHA 4500 H ⁺ B, 2005 APHA 4500 H ⁺ B, 2017
	Oxygen (Dissolved)	APHA 4500 O C, 2005 APHA 4500 O C, 2017

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation

NO: SAMM 701

Page: 17 of 19

SCOPE OF TESTING: CHEMICAL**SITE: CATEGORY II**

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Marine Water Estuarine Water Formation/ Produced Water (continue)	Oxygen (Dissolved)	APHA 4500 O G, 2005 APHA 4500 O G, 2017
	Oxygen (Dissolved)	APHA 4500 O H, 2017
	Biochemical Oxygen Demand	APHA 5210 B & 4500 O G, 2005 APHA 5210 B & 4500 O G, 2017
	Chemical Oxygen Demand	In-House Method 0560 based on APHA 5220 C, 2005/2017 & USGS – Method for analysis of organic substances in water – Chemical Oxygen Demand COD
	Oil & Grease	APHA 5520 B, 2005 APHA 5520 B, 2017
	Chloride	APHA 4500 Cl ⁻ B, 2005 APHA 4500 Cl ⁻ B, 2017

Note:

- APHA – American Public Health Association (Standards Method for the Examination of Water and Wastewater)

Signatories:

- | | |
|-----------------------------------|--|
| 1. Hii Lu Yong | IKM No.: M/1614/2646/96/98 (Non resident) |
| 2. Fathin binti Karudin | IKM No.: M/5560/7852/17/20 (Non resident) |
| 3. Muhammad Zulfadli bin Zulkefli | IKM No.: M/5099/7717/17/19 |

NO: SAMM 701

Page: 18 of 19

SCOPE OF TESTING: CHEMICAL**SITE: CATEGORY II**

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Refinery Products	Acid Number	ASTM D 664-18e2 (Procedure A) by Potentiometric Titration
	Water	ASTM D 6304-20 (Procedure C excluded)
	Flash Point	ASTM D 93-20 (Procedure A)
	Vanadium, Nickel, Iron, Sodium, Calcium, Zinc	In house method 6016 by ICP based on ASTM D 5863-11
	Density, Relative Density, and API Gravity of liquids	ASTM D 4052-18
Crude Oil	Water	ASTM D 4928-19
	Density and Relative Density	ASTM D 5002-19
Lubricant	Viscosity @ 40°C and 100°C	ASTM D445-19
	Cleveland Open Cup Flash Point	ASTM D92-18

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation

NO: SAMM 701

Page: 19 of 19

SCOPE OF TESTING: CHEMICAL**SITE: CATEGORY II**

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
JET-A1	Saybolt Color	ASTM D 156-15
	Density	ASTM D 4052-18
	Distillation	ASTM D 86-20a
	Electrical Conductivity, pS/m	ASTM D 2624-15
	Flash Point Abel	IP-170-14
	Freezing Point	ASTM D 2386-19
	Water Separation Characteristics	ASTM D 3948-20

Signatories:

1. Kuan Ho Tai
2. Ahmad Al Ashir Bin Amat
3. Lahung Lah Keding

IKM No.: M/4411/7318/16
 IKM No.: L/2832/8394/19
 IKM No.: M/4886/7415/16/18 (Non resident)