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LABORATORY LOCATION: CHEMSAIN KONSULTANT SDN. BHD.

(PERMANENT LABORATORY)

(LABUAN LABORATORY)

LOT NO. 31, BLOCK D

LAZENDA WAREHOUSE 3

JALAN RANCHA RANCHA

87000 WILAYAH PERSEKUTUAN LABUAN

**MALAYSIA** 

FIELD OF TESTING: 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).

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Crude Oil	Density @15°C  Relative Density (Specific Gravity) @60/60°F  API Gravity	ASTM D 1298 – 12b (Reapproved 2017)  ASTM D 1298 – 12b (Reapproved 2017)  ASTM D 1298 – 12b (Reapproved 2017)
	Density Specific Gravity API	ASTM D5002-19
	Water Content	ASTM D4928-12 (Reapproved 2018) (Coulometric Karl Fischer)
Biodiesel Blend	Density @15°C Flash Point	ASTM D 1298 – 12b (Reapproved 2017)  ASTM D 93 - 19 (Procedure A)

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## SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water	рН	ASTM D 1293-2005 (Method B) APHA 4500 H <sup>+</sup> B 2005/2017
	Temperature	APHA 2550 B 2005/2017
Gas	Pressure (0-800 psi)	In House Method 0564
Petroleum Products	Water Content	ASTM D6304-16e1 (Procedure A) (Coulometric Karl Fischer)
	Density Specific Gravity API	ASTM D4052-18
	Distillation	ASTM D86-20a
	Flash Point	ASTM D93-19 (Procedure A)
Transparent and Opaque Liquid	Kinematic Viscosity @ 40°C	ASTM D445-19a
Aviation Fuel	Freezing Point	ASTM D2386-19

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## SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
River Water, Industrial Effluent & Marine Water	Ammoniacal Nitrogen	APHA 4500 NH3 B & C, 2005/2017
	Biochemical Oxygen Demand BOD	APHA 5210 B & 4500 OG, 2005/ 2017
	Dissolved Oxygen DO	APHA 4500 OG, 2005/2017 (by Probe)
	Dissolved Oxygen DO	APHA 4500 OC, 2005/2017
	Total Suspended Solid (TSS)	APHA 2540 D, 2005/2017
River Water & Industrial Effluent	Chemical Oxygen Demand COD	APHA 5220 C, 2005/2017
Natural Gas	Gas composition by gas chromatography	GPA 2261-00
Biodiesel	Water by KF	ASTM D 6304-16e1
Schedule Waste (Spent Lubricating Oil)	Flash Point	ASTM D93-19 (Procedure B)
Kerosine and Aviation Turbine Fuel	Smoke point	ASTM D 1322-18
Liquid Petroleum Products	Hydrocarbon Types	ASTM D 1319-18 (Fluorescent Indicator Absorption, FIA)

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#### SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Hydrocarbon Liquids	Refractive Index	ASTM D 1218-12 (Procedure A) (Reapproved 2016)
Jet Fuel	Flash Point	IP 170-14

### Signatories:

Kuan Ho Tai
 Arnie Ann Johnny
 IKM No.: M/4411/7318/16
 IKM No.: M/3121/5857/11

Teo Wei Chin
 Hii Lu Yong
 Sim Hang Thiew
 IKM No.: M/3136/5711/10/11 (Non-resident)
 IKM No.: M/1614/2646/96/98 (Non-resident)
 IKM No.: M/0688/1530/83 (Non-resident)

SCOPE OF TESTING: CHEMICAL

SITE: CATEGORY I

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water	рН	ASTM D1293-2005 (Method B) APHA 4500 H <sup>+</sup> B 2005/2017
	Temperature	APHA 2550 B 2005/2017
Gas	Pressure (0-800 psi)	In House Method 0564

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