

TO WHOM IT MAY CONCERN

Report Number 85101/2118/23
Report Date 13-Aug-23

Lab Number 15099178
Date of Analysis 12-Aug-23
Date of Sampling 11-Aug-23
Date Received 12-Aug-23
Vessel MT RITI
Product Malaysian Light Crude Oil
Source Ship Tank Composite
Location Tompok Utara, Malaysia

CERTIFICATE OF QUALITY
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| TEST | UNIT | METHOD | SPEC | | RESULT |
|---------------------------------|--------------------|-------------|--------|-----|--------|
| | | | MIN | MAX | |
| Density @ 15 deg C | kg/L | ASTM D 5002 | Report | | 0.8609 |
| Specific Gravity at 60 deg F | kg/L | ASTM D 5002 | Report | | 0.8614 |
| Gravity API at 60 deg F | API | ASTM D 5002 | Report | | 32.8 |
| Kinematic Viscosity @ 10 deg C | mm ² /s | ASTM D 445 | Report | | 15.18 |
| Kinematic Viscosity @ 20 deg C | mm ² /s | ASTM D 445 | Report | | 10.96 |
| Kinematic Viscosity @ 40 deg C | mm ² /s | ASTM D 445 | Report | | 6.587 |
| Pour Point | deg C | ASTM D 97 | Report | | <-24 |
| Pour Point (Proc. A) | deg C | ASTM D 5853 | Report | | <-24 |
| Water By Distillation | vol % | ASTM D 4006 | Report | | 0.05 |
| Water and sediment | vol % | ASTM D 4007 | Report | | 0.05 |
| Sulphur(S) | mass % | ASTM D 4294 | Report | | 1.48 |
| Mercaptan, as S | mg/kg | UOP 163 | Report | | 88 |
| Micro Carbon Residue | mass % | ASTM D 4530 | Report | | 4.44 |
| Metals by ICP | | IP 501 | Report | | |
| Sodium(Na) | mg/kg | | Report | | <1 |
| Vanadium(V) | mg/kg | | Report | | 53 |
| Nickel(Ni) | mg/kg | | Report | | 15 |
| Iron(Fe) | mg/kg | | Report | | 2 |
| Lead (Pb) | mg/kg | | Report | | <1 |
| Copper (Cu) | mg/kg | | Report | | <1 |
| Zinc(Zn) | mg/kg | | Report | | <1 |
| Asphalttness | mass % | IP 143 | Report | | 1.4 |
| Wax Content | mass % | UOP 46 | Report | | <5.0 |
| Hydrogen Sulfide (Liquid Phase) | mg/kg | UOP 163 | Report | | <1 |
| Hydrogen Sulfide | mg/kg | IP 570 | Report | | <0.60 |
| Acid Number | mg KOH/g | ASTM D 664 | Report | | 0.08 |
| Nitrogen | mg/kg | ASTM D 5762 | Report | | 1700 |
| Salt Content | lb/1000bbl | ASTM D 3230 | Report | | 3.7 |
| Reid Vapour Pressure | kpa | ASTM D 323 | Report | | 2.90 |

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All results in this report refer to the sample(s) tested as taken or submitted like specified in this Analysis report. Uncertainties, available on request, apply in the evaluation of the test results. All tests are conducted according to the latest version of the methods, unless another version is specifically indicated. Where available and for convenience purposes, the tested sample has been checked for compliance with supplied specifications, without accepting any liability for the supplied information. In case of dispute or concern, we refer to the interpretation of test results as defined in ASTM D3244, IP 367, ISO 4259 or GOST 33701. This report shall not be partially copied and reproduced without the written permission of the laboratory.

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