

CRUDE OIL ASSAY REPORT

"Prime Pride Cargo Composite Sample"

CRUDE OIL ASSAY REPORT NUMBER : 2023-MMBI-001755-001.001

DATE OF ISSUE : 03-06-2023



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Job Reference Information

Date: 03/06/2023

Crude Oil Assay Report No: **2023-MMBI-001755-001.001**

FOR THE ATTENTION OF : Krishnan Raghavan

SAMPLE DETAILS : Prime Pride Cargo Composite Sample Received On 20th May 2023

SOURCE : Received from Intertek India on 20th May 2023

DESCRIPTION : " Prime Pride Cargo Composite Sample "

CONTAINERS : 1 X 20Ltr IATA cans

SEALS : No Seals

Reported by: Dattatray Ghadi
Laboratory Manager

Approved by: Pravin Poojary
Senior Manager -Business Development -AA

INTERTEK INDIA PRIVATE LIMITED
F Wing, Tex Centre,
Andheri (EAST),Mumbai 400072

INTERTEK INDIA PRIVATE LIMITED

F wing, TEX Centre,
Andheri (East), Mumbai 400072

Tel : + 91 022 42450100

Fax: + 91 022 42450250

Client: Hindustan Oil Exploration Co Limited.,

Client Contact: Krishnan Raghavan

Intertek Reference: 2023-MMBI-001755-001.001

Date Received: 10/05/2023

Date Completed: 02/06/2023

Subject: Assay Project

LABORATORY REPORT NO. FCA/1581/23

CRUDE OIL - DETAILED ASSAY ALL CUTS OVERVIEW

Prime Pride Cargo Composite Sample

| Tests | Methods | | Whole Crude | Light Ends | Fractions | | | | |
|----------------------------------|------------------------|-------------|-------------|------------|--------------|---------------|-------------|---------------|-------------|
| Initial BP | | °C | | C4 | C5 | 175 | 300 | 300 | 500+ |
| Final BP | | °C | | - | 175 | 300 | + | 500 | |
| Yield | ASTM D 2892 & D5236 | %Wt. | | 3.68 | 42.20 | 21.95 | 32.17 | 27.85 | 4.32 |
| | | %Vol. | | 5.02 | 44.57 | 20.96 | 29.45 | 25.78 | 3.67 |
| Position on Crude | ASTM D 2892 & D5236 | %Wt. | | 0 - 3.68 | 3.68 - 45.88 | 45.88 - 67.83 | 67.83 - 100 | 67.83 - 95.68 | 95.68 - 100 |
| | | %Vol. | | 0 - 5.02 | 5.02 - 49.59 | 49.59 - 70.55 | 70.55 - 100 | 70.55 - 96.33 | 96.33 - 100 |
| Density @ 15°C | ASTM D5002/D4052 | kg/L | 0.7945 | 0.5775 | 0.7522 | 0.8324 | 0.8678 | 0.8587 | 0.9365 |
| Specific Gravity @ 60/60°F | Conversion | | 0.7949 | | 0.7524 | 0.8328 | 0.8683 | 0.8592 | 0.9370 |
| API Gravity @ 60°F | Calculated | °API | 46.5 | | 56.6 | 38.4 | 31.5 | 33.2 | 19.5 |
| Composition (Upto C5) | GC | %Wt. | | See Page 8 | | | | | |
| Aromatics | | | | | | | | | |
| Mono | IP 391 | %Vol. | | | | 22.0 | | | |
| Di | | %Vol. | | | | 20.6 | | | |
| Tri | | %Vol. | | | | <1 | | | |
| Poly | | %Vol. | | | | 20.6 | | | |
| Asphaltene | IP 143 | %Wt. | <0.50 | | | | <0.50 | | 1.5 |
| Basic Nitrogen | UOP 269 | ppm wt | | | | 16 | | 120 | |
| Benzene | ASTM D6730 | %Wt | | | 3.43 | | | | |
| Carbon Residue- Micro | ASTM D4530/D189 | %Wt | 0.27 | | | | 1.00 | | 9.6 |
| Organic Chloride | ASTM D4929B | ppm wt | <1 | | <1 | | | | |
| Composition - Light HC | IP 601 | - | See Page 13 | | | | | | |
| Paraffins | ASTM D6730 | Vol% | | | 53.019 | | | | |
| Naphthene | | Vol% | | | 22.616 | | | | |
| Aromatics | | Vol% | | | 23.391 | | | | |
| Flash Point (PMCC) | ASTM D93/D 170 | °C | <-5 | | | 71.5 | | | |
| Freezing Point | ASTM D2386 | °C | | | | -24 | | | |
| Hydrogen Sulphide (Liquid Phase) | UOP163 | ppm wt | <0.40 | | <1 | | | | |
| Kinematic Viscosity @ 40°C | ASTM D445 | cSt | 1.361 | | | 1.684 | | | |
| Kinematic Viscosity @ 50°C | | cSt | # | | | | | | |
| Kinematic Viscosity @ 70°C | | cSt | # | | | | 6.89 | 5.4 | 181.4 |
| Kinematic Viscosity @ 100°C | | cSt | | | | | 3.77 | 3.174 | 32.12 |
| Kinematic Viscosity @ 135°C | | cSt | | | | | | | 11.95 |
| Mercaptan Sulphur | UOP163 | ppm wt | 1 | | <3 | | | | |
| Metals | | | | | | | | | |
| Copper | ICPOES | ppm wt | <1 | | | | <1 | <1 | |
| Iron | ICPOES | ppm wt | 1 | | | | 1 | <1 | |
| Nickel | ICPOES | ppm wt | <1 | | | | <1 | <1 | |
| Vanadium | ICPOES | ppm wt | <1 | | | | 1 | <1 | |
| Motor Octane Number | ASTM D2700 | Rating | | | 63 | | | | |
| Penetration | ASTM D5 | 0.1 mm | | | | | | | 98 |
| Pour Point-upper | ASTM D5853A | °C | | | | | | | |
| Pour Point | ASTM D97 | °C | <1 | | <-42 | -27 | +45 | +45 | +60 |
| Cloud Point | ASTM D2500 | °C | | | | -23 | | | |
| Aniline Point | ASTM D611 | °C | | | | 56.00 | | | |
| Cetane Index | ASTM D976 | Rating | | | | 43.7 | | | |
| Refractive Index @20°C | ASTM D1218 | - | | | | 1.47 | | | |
| Reid Vapour Pressure @37.8°C | ASTM D5191/D323 | psi | 10.6 | | 4.24 | | | | |
| Research Octane Number | ASTM D2699 | Rating | | | 64 | | | | |
| Salt Content | ASTM D3230 | lb/1000bbls | 0.5 | | | | | | |
| Smoke Point | ASTM D1322 | mm | | | | 14 | | | |
| Total Acid Number | ASTM D664 | mg KOH/g | 0.05 | | | | | | |
| Total Nitrogen | ASTM D4629/D5762/D3228 | ppm wt | 122 | | | 25 | | 248 | |
| Total Sulphur | ASTM D4294/D5453 | %Wt | 0.0287 | | 0.0002 | 0.0137 | 0.0771 | 0.0679 | 0.131 |
| Water Content | ASTM D4006 | %Vol | 0.05 | | | | | | |
| Wax Appearance Temperature | DSC | °C | 24 | | | | | | |
| Wax Disappearance Temperature | DSC | °C | 33 | | | | | | |
| Wax Content | UOP 46* | %Wt | 11.2 | | | | 34.00 | 36.00 | |
| Distillation | ASTM D86 / D1160 | °C | | | | See Below | See Below | See Below | |
| Initial Boiling Point | | °C | | | | 46.0 | 190.4 | 298.0 | |
| 5% recovered | | °C | | | | 70.0 | 202.9 | 331.0 | |
| 10% recovered | | °C | | | | 76.2 | 207.0 | 341.0 | |
| 20% recovered | | °C | | | | 84.7 | 212.1 | 348.0 | |
| 30% recovered | | °C | | | | 93.1 | 218.6 | 368.0 | |
| 40% recovered | | °C | | | | 101.4 | 225.7 | 385.0 | |
| 50% recovered | | °C | | | | 109.4 | 233.8 | 398.0 | |
| 60% recovered | | °C | | | | 117.6 | 242.1 | 418.0 | |
| 70% recovered | | °C | | | | 126.8 | 250.3 | 439.0 | |
| 80% recovered | | °C | | | | 136.8 | 258.3 | 455.0 | |
| 90% recovered | | °C | | | | 148.8 | 267.7 | 469.0 | |
| 95% recovered | | °C | | | | 156.9 | 274.3 | 486.0 | |
| Final Boiling Point | | °C | | | | 166.1 | 283.9 | 496.0 | |
| Recovery | | Vol% | | | | 99.1 | 98.1 | | |
| Residue | | Vol% | | | | 0.6 | 1.2 | | |
| Loss | | Vol% | | | | 0.3 | 0.7 | | |

Note : (#) Not possible due to the nature of sample (*)Withdrawn method

WHOLE CRUDE PROPERTIES

Sample Descriptions / Label :

Prime Pride Cargo Composite Sample

| Tests | Methods | Units | Results |
|----------------------------------|-------------|--------------|-------------|
| Density @ 15°C | ASTM D5002 | kg/L | 0.7945 |
| Specific Gravity @ 60/60°F | Conversion | | 0.7949 |
| API Gravity @ 60°F | Calculated | °API | 46.5 |
| Asphaltene | IP 143 | % Wt | <0.50 |
| Carbon Residue- Micro | ASTM D4530 | % Wt | 0.27 |
| Organic Chloride | ASTM D4929B | ppm wt | <1 |
| Composition (Upto C9) | IP 601 | % Wt & %Vol. | See Page 13 |
| Flash Point | IP 170 | °C | <-5 |
| Hydrogen Sulphide (Liquid Phase) | UOP163 | ppm wt | <0.40 |
| Kinematic Viscosity @ 40°C | ASTM D445 | cSt | 1.361 |
| Kinematic Viscosity @ 50°C | | | # |
| Kinematic Viscosity @ 70°C | | | # |
| Mercaptan Sulfur | UOP 163 | ppm wt | 1 |
| Copper | ICPOES | ppm wt | <1 |
| Iron | ICPOES | ppm wt | 1 |
| Nickel | ICPOES | ppm wt | <1 |
| Vanadium | ICPOES | ppm wt | <1 |
| Pour Point | ASTM D97 | °C | <1 |
| Reid Vapour Pressure @ 100°F | ASTM D323 | psi | 10.6 |
| Salt Content | ASTM D3230 | PTB | 0.50 |
| Total Acid Number | ASTM D664 | mg KOH/g | 0.05 |
| Total Nitrogen | ASTM D5762 | ppm wt | 122 |
| Total Sulphur | ASTM D4294 | % Wt | 0.0287 |
| Water Content | ASTM D4006 | % Vol | 0.05 |
| Wax Appearance Temperature | DSC | °C | 24 |
| Wax Disappearance Temperature | DSC | °C | 33 |
| Wax Content | UOP 46* | % Wt | 11.2 |

Note : (#) Sample is boiled at this temperature

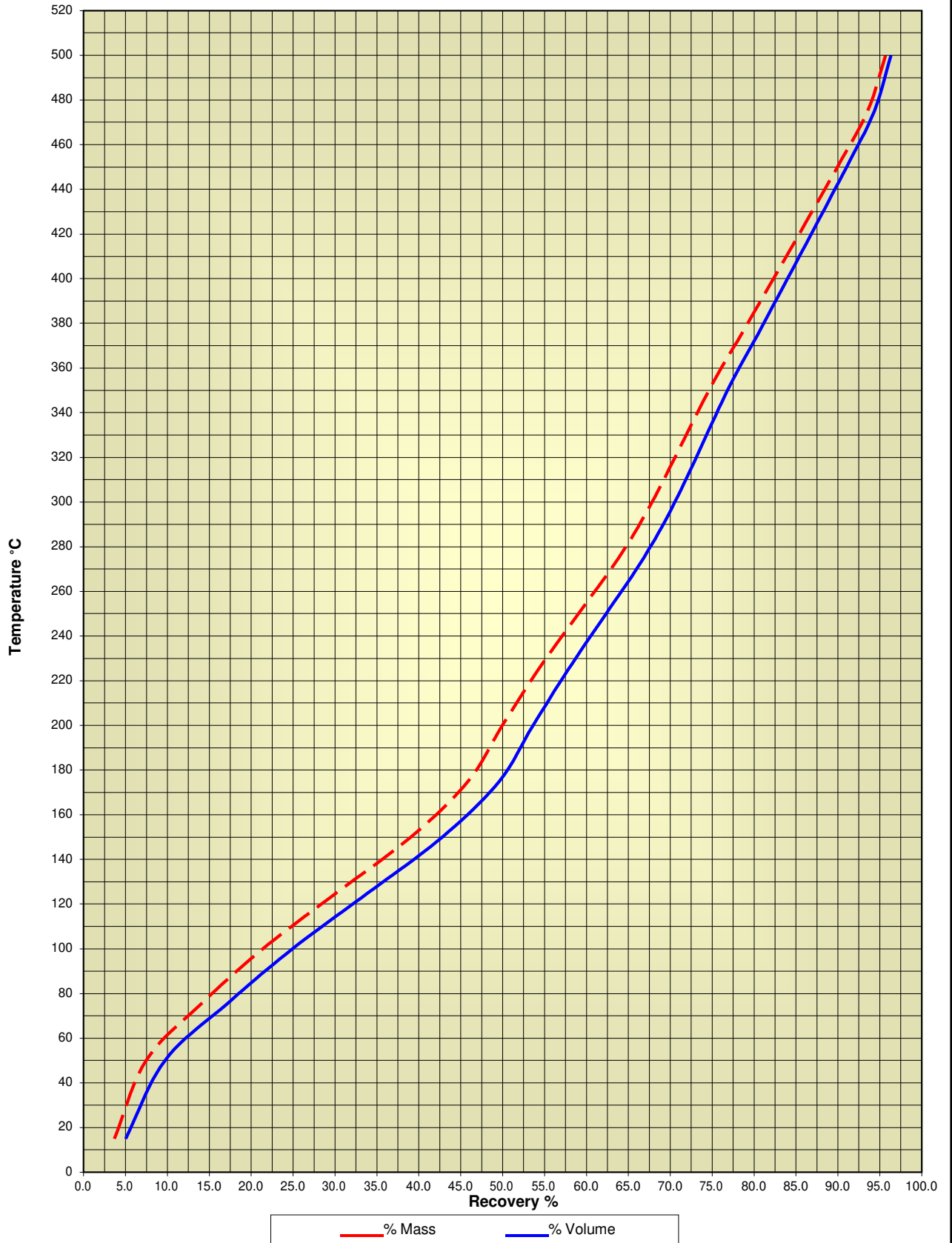
Sample Descriptions / Label :

Prime Pride Cargo Composite Sample

| Sl. No. | Method | Vapour Temperature °C | % Mass | Cumulative % Mass | % Volume | Cumulative % Volume |
|---------|------------|-----------------------|--------|-------------------|----------|---------------------|
| 1 | ASTM D2892 | Gas | 3.68 | 3.68 | 5.02 | 5.02 |
| 2 | | 15 - 50 | 3.77 | 7.45 | 4.70 | 9.72 |
| 3 | | 50 - 75 | 6.45 | 13.90 | 7.26 | 16.98 |
| 4 | | 75 - 100 | 7.48 | 21.38 | 7.94 | 24.92 |
| 5 | | 100 - 125 | 8.76 | 30.14 | 9.00 | 33.92 |
| 6 | | 125 - 150 | 8.88 | 39.02 | 8.88 | 42.80 |
| 7 | | 150 - 175 | 6.86 | 45.88 | 6.79 | 49.59 |
| 8 | | 175 - 200 | 4.07 | 49.95 | 4.03 | 53.62 |
| 9 | | 200 - 225 | 4.30 | 54.25 | 4.20 | 57.82 |
| 10 | | 225 - 250 | 4.77 | 59.02 | 4.52 | 62.34 |
| 11 | | 250 - 275 | 4.81 | 63.83 | 4.49 | 66.83 |
| 12 | | 275 - 300 | 4.00 | 67.83 | 3.72 | 70.55 |
| 13 | ASTM D5236 | 300 - 350 | 6.77 | 74.60 | 6.29 | 76.84 |
| 14 | | 350 - 375 | 3.86 | 78.46 | 3.58 | 80.42 |
| 15 | | 375 - 400 | 3.85 | 82.31 | 3.57 | 83.99 |
| 16 | | 400 - 425 | 3.82 | 86.13 | 3.53 | 87.52 |
| 17 | | 425 - 450 | 3.80 | 89.93 | 3.51 | 91.03 |
| 18 | | 450 - 475 | 3.60 | 93.53 | 3.32 | 94.35 |
| 19 | | 475 - 500 | 2.15 | 95.68 | 1.98 | 96.33 |
| 20 | | 500 + Residue | 4.32 | 100.00 | 3.67 | 100.00 |

TRUE BOILING POINT DISTILLATION CURVE
(ASTM D 2892 & ASTM D 5236)

"Prime Pride Cargo Composite Sample"



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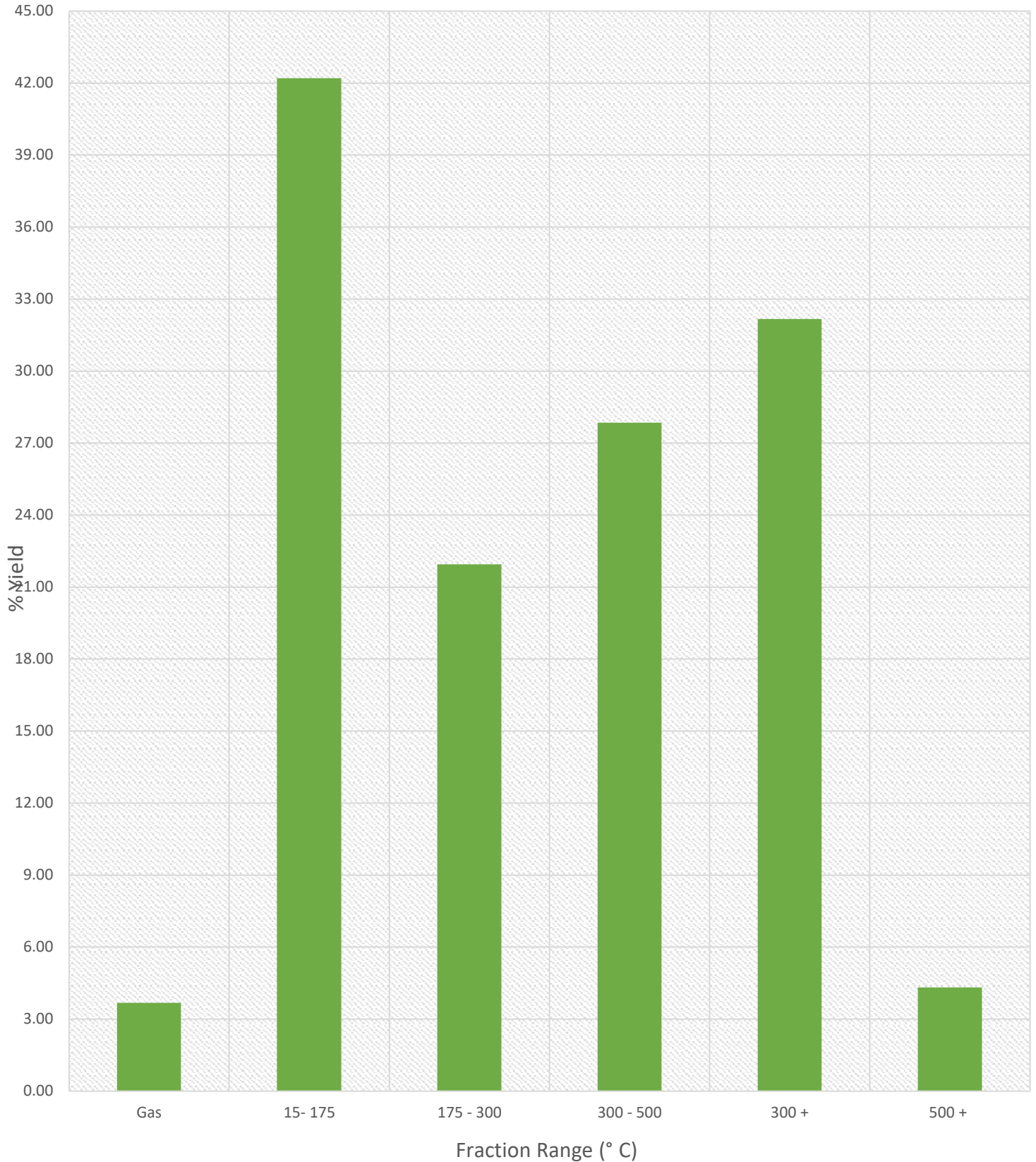
SUMMARY OF PRODUCT / RESIDUE CUT POINTS AND YIELDS

Sample Descriptions: Prime Pride Cargo Composite Sample

| Products | Cut Points (°C) | Yield | |
|----------------|--------------------|--------|----------|
| | | % Mass | Volume % |
| Gas | Below 15 | 3.68 | 5.02 |
| Naphtha | 15- 175 | 42.20 | 44.57 |
| Gas Oil | 175 - 300 | 21.95 | 20.96 |
| Vacuum Gas Oil | 300 - 500 | 27.85 | 25.78 |
| Residues | 300 + | 32.17 | 29.45 |
| | 500 + | 4.32 | 3.67 |

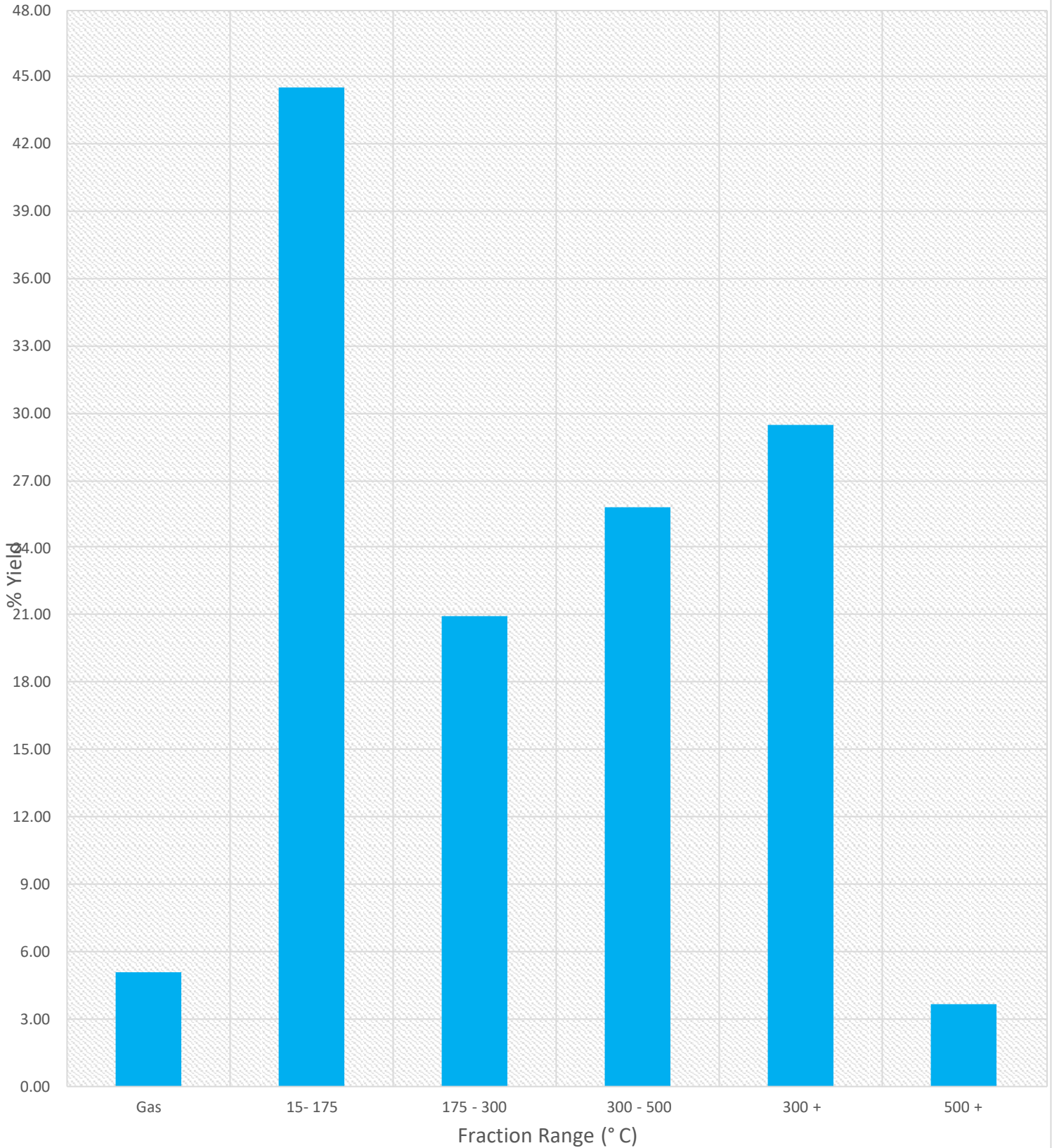
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Yield Distribution-Graph (% Mass)
"Prime Pride Cargo Composite Sample"



LABORATORY REPORT NO. FCA/1581/23

Yield Distribution-Graph (% Volume)
"Prime Pride Cargo Composite Sample"



SUMMARY OF LIGHT END COMPOSITION

Sample Descriptions : Prime Pride Cargo Composite Sample

| Tests | Methods | Units | Results |
|-------------------|-----------------|--------|----------|
| Yield | ASTM D 2892 | % Wt. | 3.68 |
| Yield | | % Vol. | 5.02 |
| Position on Crude | ASTM D 2892 | % Wt. | 0 - 3.68 |
| | | % Vol. | 0 - 5.02 |
| Density @ 15°C | GC / Calculated | kg/L | 0.5775 |
| Methane | GC | % Wt. | <0.010 |
| Ethane | | | 0.027 |
| Propane | | | 21.361 |
| i-butane | | | 19.656 |
| n-Butane | | | 54.630 |
| i-pentane | | | 3.524 |
| n-Pentane | | | 0.716 |

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Sample Descriptions:

Prime Pride Cargo Composite Sample

| Tests | Methods | Units | Results |
|----------------------------------|-------------|--------|--------------|
| Initial BP | | °C | 15 |
| Final BP | | °C | 175 |
| Yield | ASTM D2892 | % Wt. | 42.20 |
| | | % Vol. | 44.57 |
| Position on Crude | ASTM D2892 | % Wt. | 3.68 - 45.88 |
| | | % Vol. | 5.02 - 49.59 |
| Density @ 15°C | ASTM D4052 | kg/L | 0.7522 |
| Specific Gravity @ 60/60°F | Conversion | | 0.7524 |
| API Gravity @ 60°F | Calculated | °API | 56.6 |
| Benzene | ASTM D6730 | % Wt. | 3.43 |
| Paraffins | ASTM D6730 | % Vol. | 53.019 |
| Naphthene | | % Vol. | 22.616 |
| Aromatics | | % Vol. | 23.391 |
| Hydrogen Sulphide (Liquid Phase) | UOP163 | ppm wt | <1 |
| Mercaptan Sulphur | UOP 163 | ppm wt | <3 |
| Organic Chloride | ASTM D4929B | ppm wt | <1 |
| Motor Octane Number | ASTM D2700 | Rating | 63 |
| Pour Point | ASTM D97 | °C | <-42 |
| Reid Vapour Pressure @ 100°F | ASTM D5191 | psi | 4.24 |
| Research Octane Number | ASTM D2699 | Rating | 64 |
| Sulphur | ASTM D5453 | % Wt. | 0.0002 |
| Distillation | | | |
| Initial Boiling Point | ASTM D86 | °C | 46.0 |
| 5% recovered | | °C | 70.0 |
| 10% recovered | | °C | 76.2 |
| 20% recovered | | °C | 84.7 |
| 30% recovered | | °C | 93.1 |
| 40% recovered | | °C | 101.4 |
| 50% recovered | | °C | 109.4 |
| 60% recovered | | °C | 117.6 |
| 70% recovered | | °C | 126.8 |
| 80% recovered | | °C | 136.8 |
| 90% recovered | | °C | 148.8 |
| 95% recovered | | °C | 156.9 |
| Final Boiling Point | | °C | 166.1 |
| Recovery | | Vol % | 99.1 |
| Residue | | Vol % | 0.6 |
| Loss | Vol % | 0.3 | |

LABORATORY REPORT NO. FCA/1581/23

Sample Descriptions:

Prime Pride Cargo Composite Sample

| Tests | Methods | Units | Results |
|----------------------------|------------|--------|---------------|
| Initial BP | | °C | 175 |
| Final BP | | °C | 300 |
| Yield | ASTM D2892 | % Wt. | 21.95 |
| Yield | | % Vol. | 20.96 |
| Position on Crude | ASTM D2892 | % Wt. | 45.88 - 67.83 |
| | | % Vol. | 49.59 - 70.55 |
| Density @ 15°C | ASTM D4052 | kg/L | 0.8324 |
| Specific Gravity @ 60/60°F | Conversion | | 0.8328 |
| API Gravity @ 60°F | Calculated | °API | 38.4 |
| Aromatics | | | |
| Mono | IP 391 | % Wt. | 22.0 |
| Di | | % Wt. | 20.6 |
| Tri | | % Wt. | <1 |
| Poly | | % Wt. | 20.6 |
| Basic Nitrogen | UOP 269 | ppm wt | 16 |
| Flash Point (PMCC) | ASTM D93 | °C | 71.5 |
| Freezing Point | ASTM D2386 | °C | -24 |
| Kinematic Viscosity @ 40°C | ASTM D445 | cSt | 1.684 |
| Pour Point | ASTM D97 | °C | -27 |
| Cloud Point | ASTM D2500 | °C | -23 |
| Aniline Point | ASTM D611 | °C | 56.0 |
| Cetane Index | ASTM D976 | Rating | 43.7 |
| Refractive Index @20°C | ASTM D1218 | - | 1.4709 |
| Smoke Point | ASTM D1322 | mm | 14 |
| Total Nitrogen | ASTM D4629 | ppm wt | 25 |
| Total Sulphur | ASTM D5453 | % Wt | 0.0137 |
| Distillation | | | |
| Initial Boiling Point | ASTM D86 | °C | 190.4 |
| 5% recovered | | °C | 202.9 |
| 10% recovered | | °C | 207.0 |
| 20% recovered | | °C | 212.1 |
| 30% recovered | | °C | 218.6 |
| 40% recovered | | °C | 225.7 |
| 50% recovered | | °C | 233.8 |
| 60% recovered | | °C | 242.1 |
| 70% recovered | | °C | 250.3 |
| 80% recovered | | °C | 258.3 |
| 90% recovered | | °C | 267.7 |
| 95% recovered | | °C | 274.3 |
| Final Boiling Point | | °C | 283.9 |
| Recovery | | Vol % | 98.1 |
| Residue | | Vol % | 1.2 |
| Loss | | Vol % | 0.7 |

LABORATORY REPORT NO. FCA/1581/23

Sample Descriptions:

Prime Pride Cargo Composite Sample

| Tests | Methods | Units | Results |
|-----------------------------|------------------|--------|---------------|
| Initial BP | | °C | 300 |
| Final BP | | °C | 500 |
| Yield | ASTM D2892/D5236 | % Wt. | 27.85 |
| Yield | | % Vol. | 25.78 |
| Position on Crude | ASTM D2892/D5236 | % Wt. | 67.83 - 95.68 |
| | | % Vol. | 70.55 - 96.33 |
| Density @ 15°C | ASTM D4052 | kg/L | 0.8587 |
| Specific Gravity @ 60/60°F | Conversion | | 0.8592 |
| API Gravity @ 60°F | Calculated | °API | 33.2 |
| Basic Nitrogen | UOP 269 | ppm wt | 120 |
| Kinematic Viscosity @ 70°C | ASTM D445 | cSt | 5.387 |
| Kinematic Viscosity @ 100°C | ASTM D445 | cSt | 3.174 |
| Copper | ICPOES | ppm wt | <1 |
| Iron | ICPOES | ppm wt | <1 |
| Nickel | ICPOES | ppm wt | <1 |
| Vanadium | ICPOES | ppm wt | <1 |
| Pour Point | ASTM D97 | °C | +45 |
| Total Nitrogen | ASTM D5762 | ppm wt | 248 |
| Total Sulphur | ASTM D4294 | % Wt | 0.0679 |
| Wax Content | UOP 46* | % Wt | 36.00 |

Note: (*) Withdrawn method

LABORATORY REPORT NO. FCA/1581/23

Sample Descriptions:

Prime Pride Cargo Composite Sample

| Tests | Methods | Units | Results | |
|-----------------------------|------------------|--------|---------------|---------------|
| Initial BP | | °C | 300 + Residue | 500 + Residue |
| Final BP | | °C | | |
| Yield | ASTM D2892/D5236 | % Wt. | 32.17 | 4.32 |
| Yield | | % Vol. | 29.45 | 3.67 |
| Position on Crude | ASTM D2892/D5236 | % Wt. | 67.83 - 100 | 95.68 - 100 |
| | | % Vol. | 70.55 - 100 | 96.33 - 100 |
| Density @ 15°C | IP 365 | kg/L | 0.8678 | 0.9365 |
| Specific Gravity @ 60/60°F | Conversion | | 0.8683 | 0.9370 |
| API Gravity @ 60°F | Calculated | °API | 31.5 | 19.5 |
| Asphaltene | IP 143 | % Wt. | <0.50 | 1.5 |
| Carbon Residue- Micro | ASTM D4530 | % Wt. | 1.0 | 9.6 |
| Kinematic Viscosity @ 70°C | ASTM D445 | cSt | 6.886 | 181.4 |
| Kinematic Viscosity @ 100°C | | | 3.766 | 32.12 |
| Kinematic Viscosity @ 135°C | | | | 11.95 |
| Copper | ICPOES | ppm wt | <1 | |
| Iron | | | 1 | |
| Nickel | | | <1 | |
| Vanadium | | | 1 | |
| Penetration | ASTM D5 | 0.1 mm | | 98 |
| Pour Point | ASTM D97 | °C | +45 | +60 |
| Total Sulphur | ASTM D4294 | % Wt. | 0.0771 | 0.131 |
| Wax Content | UOP 46* | % Wt. | 34.00 | |
| Initial boiling point | ASTM D1160 | °C | 298.0 | |
| AET @ 5% Recovery | | °C | 331.0 | |
| AET @ 10% Recovery | | °C | 341.0 | |
| AET @ 20% Recovery | | °C | 348.0 | |
| AET @ 30% Recovery | | °C | 368.0 | |
| AET @ 40% Recovery | | °C | 385.0 | |
| AET @ 50% Recovery | | °C | 398.0 | |
| AET @ 60% Recovery | | °C | 418.0 | |
| AET @ 70% Recovery | | °C | 439.0 | |
| AET @ 80% Recovery | | °C | 455.0 | |
| AET @ 90% Recovery | | °C | 469.0 | |
| AET @ 95% Recovery | | °C | 486.0 | |
| Final Boiling Point | | °C | 496.0 | |

Note: (*) Withdrawn method

LABORATORY REPORT NO. FCA/1581/23

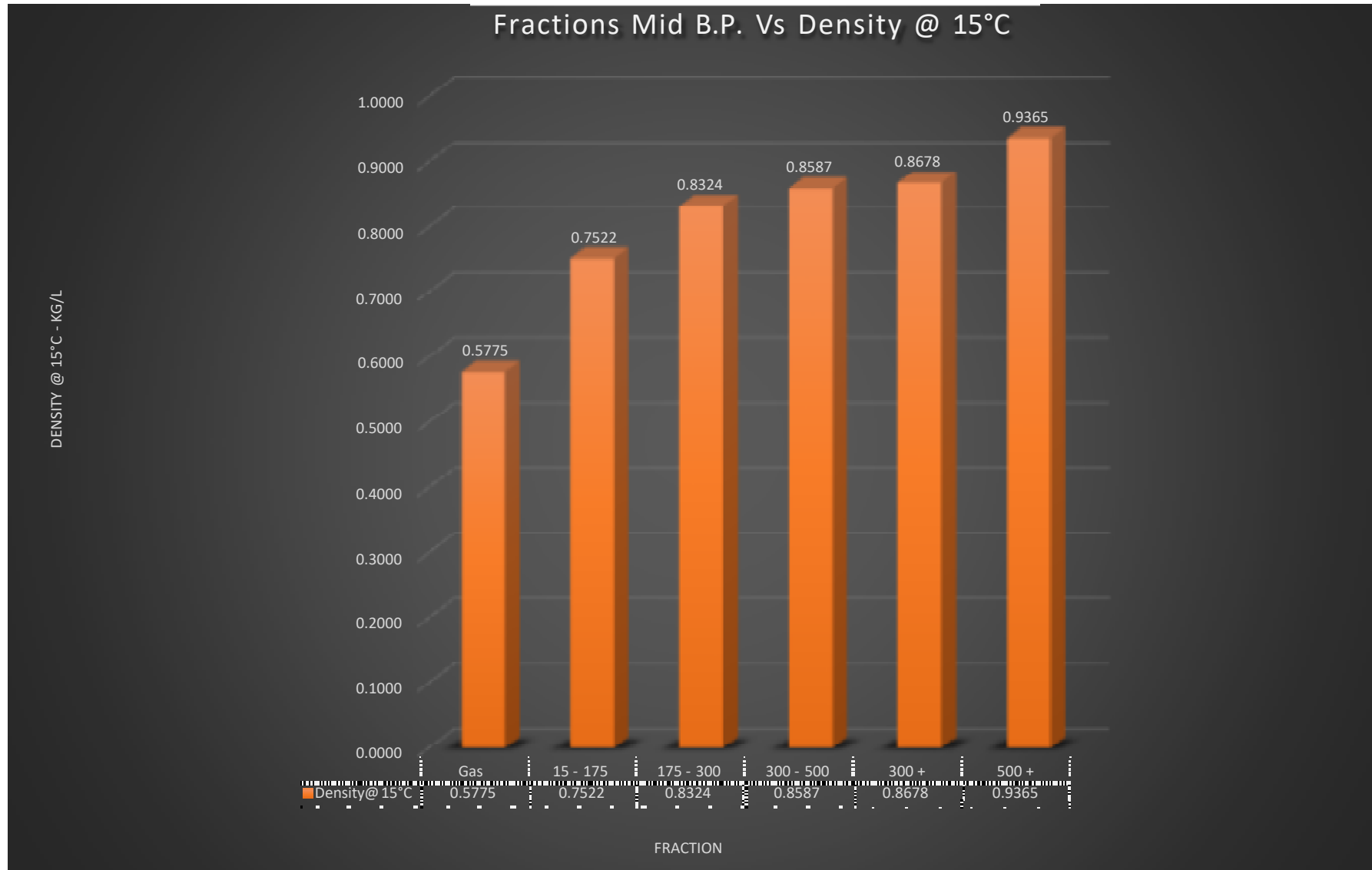
Sample Descriptions / Label :

Prime Pride Cargo Composite Sample

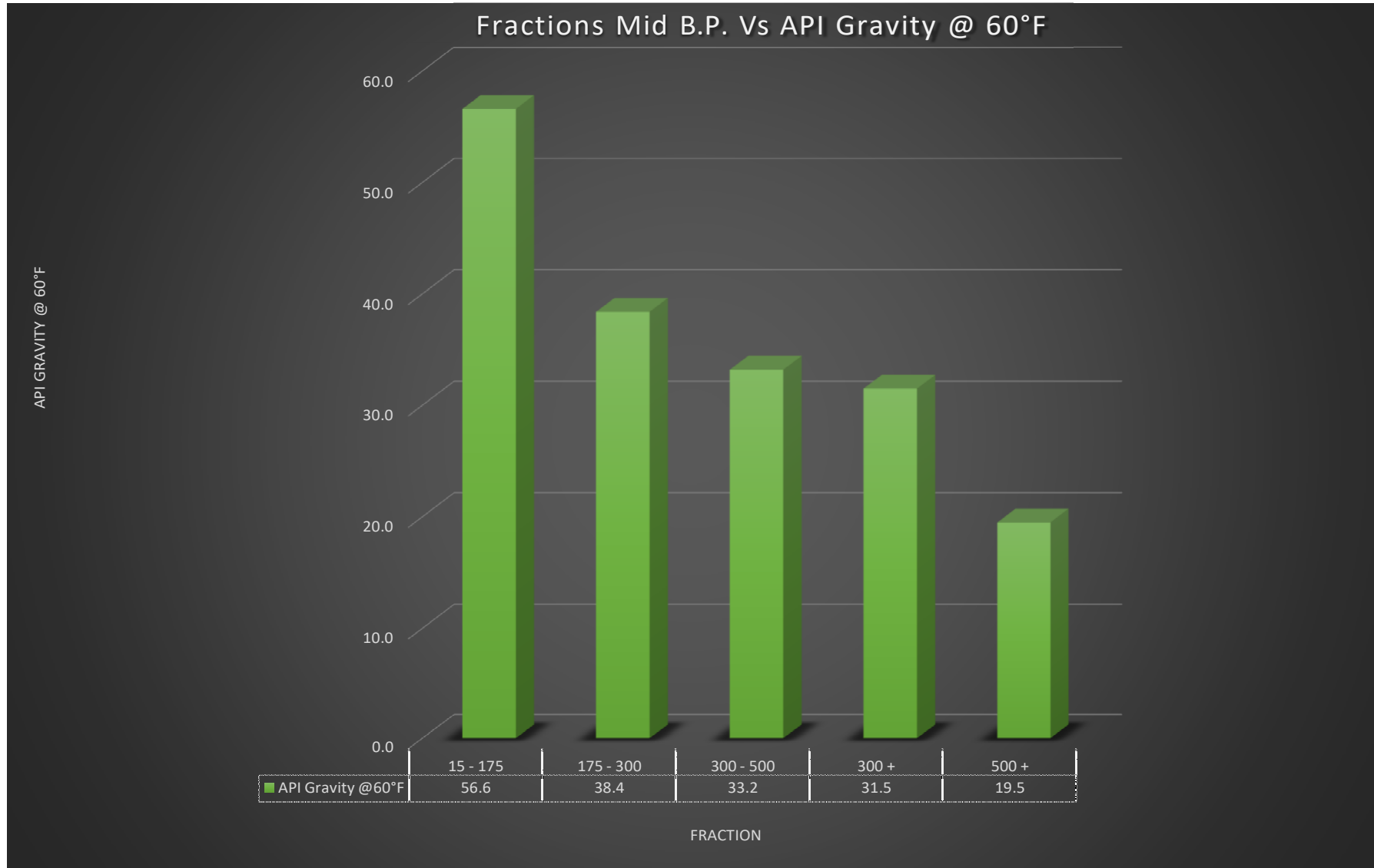
COMPOSITION UP TO C9

| Component | Mass % | Volume % | Component | Mass % | Volume % |
|-------------------------------|--------|----------|-------------------------------|--------|----------|
| ethane | 0.023 | 0.068 | 3-methylheptane | 0.246 | 0.348 |
| propane | 0.605 | 1.209 | 1t,4-dimethylcyclohexane | 0.024 | 0.032 |
| i-butane | 0.578 | 1.037 | 1c,2t,3-trimethylcyclopentane | 0.604 | 0.784 |
| n-butane | 1.982 | 3.424 | unknown | 0.019 | 0.027 |
| i-pentane | 1.499 | 2.419 | 1,1-dimethylcyclohexane | 0.199 | 0.255 |
| n-pentane | 2.638 | 4.212 | 3c-ethylmethylcyclopentane | 0.061 | 0.080 |
| 2,2-dimethylbutane | 0.033 | 0.051 | 3t-ethylmethylcyclopentane | 0.069 | 0.090 |
| cyclopentane | 0.248 | 0.333 | 2t-ethylmethylcyclopentane | 0.064 | 0.084 |
| 2,3-dimethylbutane | 0.173 | 0.262 | 1,1-methylethylcyclopentane | 0.087 | 0.111 |
| 2-methylpentane | 1.236 | 1.893 | unknown | 0.011 | 0.016 |
| 3-methylpentane | 0.621 | 0.934 | 1c,2c,3-trimethylcyclopentane | 0.203 | 0.260 |
| n-hexane | 2.678 | 4.061 | n-octane | 2.035 | 2.896 |
| 2,2-dimethylpentane | 0.023 | 0.035 | 1c,4-dimethylcyclohexane | 0.016 | 0.021 |
| methylcyclopentane | 1.021 | 1.363 | unknown | 0.164 | 0.234 |
| 2,4-dimethylpentane | 0.068 | 0.101 | 2,4,4-trimethylhexane | 0.027 | 0.037 |
| benzene | 1.541 | 1.753 | N3 | 0.012 | 0.015 |
| 3,3-dimethylpentane | 0.017 | 0.025 | unknown | 0.011 | 0.015 |
| cyclohexane | 1.650 | 2.119 | 2,2-dimethylheptane | 0.029 | 0.041 |
| 2-methylhexane | 0.540 | 0.796 | N4 | 0.053 | 0.067 |
| 2,3-dimethylpentane | 0.174 | 0.250 | ethylcyclohexane | 0.060 | 0.076 |
| 1,1-dimethylcyclopentane | 0.082 | 0.109 | 2,4-dimethylheptane | 0.709 | 0.991 |
| 3-methylhexane | 0.500 | 0.728 | 4,4-dimethylheptane | 0.093 | 0.130 |
| 1c,3-dimethylcyclopentane | 0.232 | 0.311 | 2,5-dimethylheptane | 0.078 | 0.109 |
| 1t,3-dimethylcyclopentane | 0.227 | 0.303 | 3,3-dimethylheptane | 0.043 | 0.059 |
| 3-ethylpentane | 0.024 | 0.034 | 3,5-dimethylheptane | 0.015 | 0.020 |
| 1t,2-dimethylcyclopentane | 0.327 | 0.436 | 2,6-dimethylheptane | 0.019 | 0.027 |
| n-heptane | 2.402 | 3.514 | 1,1,3-trimethylcyclohexane | 0.019 | 0.024 |
| unknown | 0.039 | 0.056 | ethylbenzene | 0.397 | 0.458 |
| methylcyclohexane | 3.111 | 4.043 | 1c,2t,4t-trimethylcyclohexane | 0.048 | 0.061 |
| unknown | 0.011 | 0.016 | 1,3-dimethylbenzene | 2.600 | 3.008 |
| 2,2-dimethylhexane | 0.075 | 0.108 | 1,4-dimethylbenzene | 0.760 | 0.883 |
| ethylcyclopentane | 0.252 | 0.329 | I7 | 0.059 | 0.081 |
| unknown | 0.053 | 0.076 | 4-methyloctane | 0.100 | 0.138 |
| 1c,2t,4-trimethylcyclopentane | 0.110 | 0.144 | I4 | 0.177 | 0.243 |
| 3,3-dimethylhexane | 0.016 | 0.023 | 3-ethylheptane | 0.029 | 0.040 |
| 1t,2c,3-trimethylcyclopentane | 0.096 | 0.124 | 3-methyloctane | 0.164 | 0.227 |
| toluene | 3.443 | 3.971 | 1,2-dimethylbenzene | 0.780 | 0.886 |
| unknown | 0.011 | 0.016 | I6 | 0.062 | 0.085 |
| 2,3-dimethylhexane | 0.050 | 0.071 | N18 | 0.153 | 0.197 |
| 2-methyl-3-ethylpentane | 0.051 | 0.072 | I8 | 0.065 | 0.088 |
| 2-methylheptane | 0.562 | 0.805 | N20 | 0.012 | 0.0154 |
| 4-methylheptane | 0.116 | 0.164 | N22 | 0.018 | 0.023 |
| 3,4-dimethylhexane | 0.014 | 0.019 | unknown | 0.0194 | 0.0277 |
| unknown | 0.016 | 0.023 | n-nonane | 1.7696 | 2.466 |

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