

Reference: YOHO19Y
Crude: Yoho



Crude Summary Report

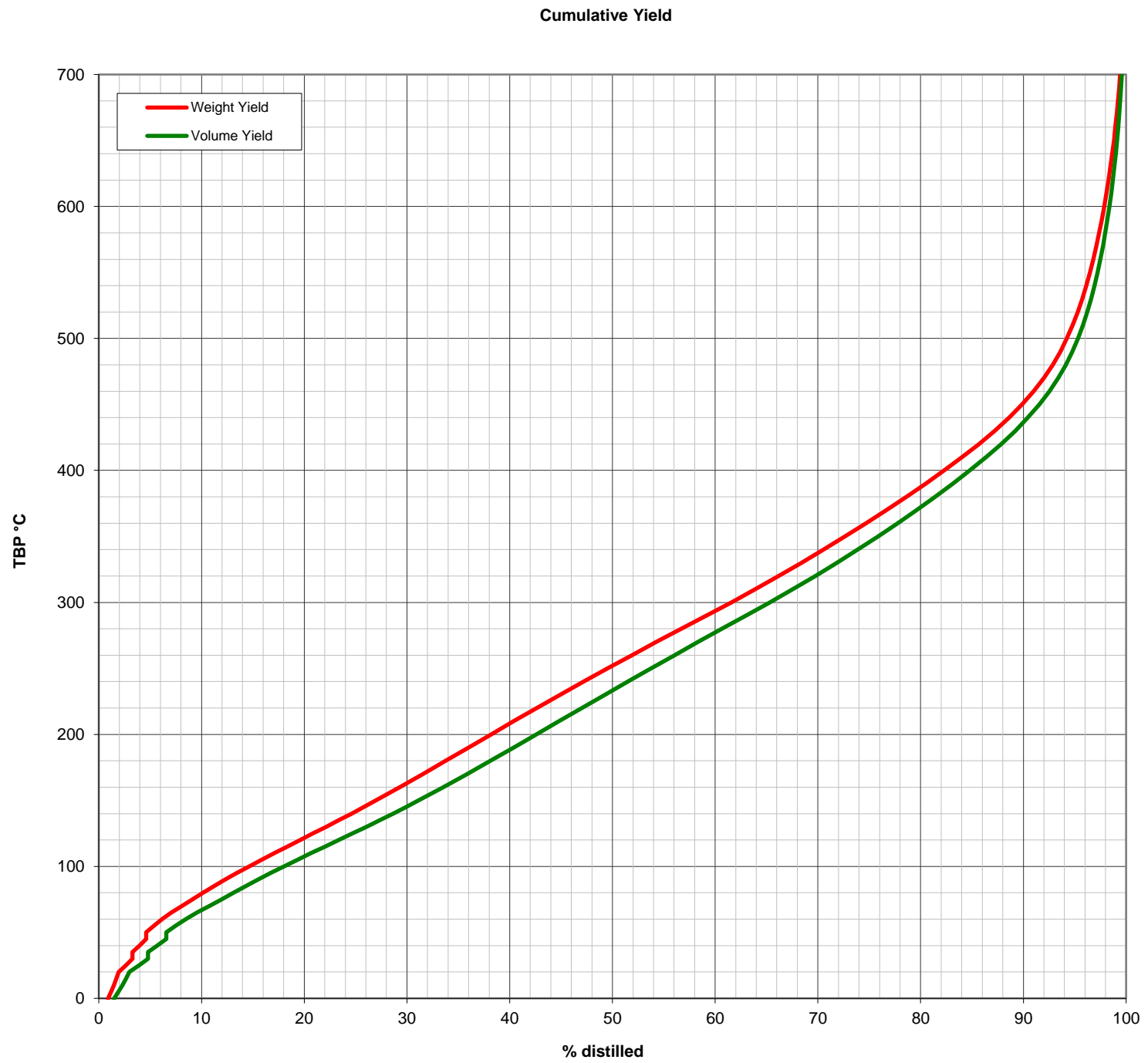
| General Information | | Molecules (%wt on crude) | | | Whole Crude Properties | | |
|---------------------|----------|--------------------------|------|-----------------------------|------------------------|--|--|
| Reference: | YOHO19Y | methane + ethane | 0.02 | Density @ 15°C (g/cc) | 0.8200 | | |
| Name: | Yoho | propane | 0.36 | API Gravity | 41.0 | | |
| Origin: | Nigeria | isobutane | 0.43 | Total Sulfur (% wt) | 0.06 | | |
| Assay Date: | 7/3/2019 | n-butane | 1.14 | Pour Point (°C) | 15 | | |
| Comments: | | isopentane | 1.24 | Viscosity @ 20°C (cSt) | 2.8 | | |
| | | n-pentane | 1.24 | Viscosity @ 40°C (cSt) | 2.1 | | |
| | | cyclopentane | 0.23 | Nickel (ppm) | 1.7 | | |
| | | C6 paraffins | 2.63 | Vanadium (ppm) | 0.2 | | |
| | | C6 naphthenes | 2.45 | Total Nitrogen (ppm) | 503 | | |
| | | benzene | 0.23 | Total Acid Number (mgKOH/g) | 0.23 | | |
| | | C7 paraffins | 2.14 | Mercaptan Sulfur (ppm) | 23.6 | | |
| | | C7 naphthenes | 4.01 | Hydrogen Sulfide (ppm) | 0.0 | | |
| | | toluene | 0.84 | Reid Vapor Pressure (kPa) | 51.9 | | |

| Cut Data | IBP | Atmospheric Cuts | | | | | | | | | Vacuum Cuts | | | |
|-----------------------------|--------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------------|--------|--------|--------|
| | | C5 | 65 | 100 | 150 | 200 | 250 | 300 | 350 | 370 | 370 | 450 | 500 | 550 |
| Start (°C) | | | | | | | | | | | | | | |
| End (°C) | FBP | 65 | 100 | 150 | 200 | 250 | 300 | 350 | 370 | FBP | 450 | 500 | 550 | FBP |
| Yield (% wt) | | 5.4 | 7.6 | 12.3 | 11.2 | 11.3 | 12.0 | 11.1 | 4.0 | 23.3 | 13.2 | 4.4 | 2.2 | 3.5 |
| Yield (% vol) | | 6.9 | 8.5 | 13.1 | 11.5 | 11.2 | 11.5 | 10.5 | 3.8 | 20.4 | 11.9 | 3.8 | 1.9 | 2.8 |
| Cumulative Yield (% wt) | | 1.7 | 7.1 | 14.6 | 27.0 | 38.2 | 49.5 | 61.6 | 72.6 | 76.7 | 76.7 | 89.9 | 94.2 | 96.5 |
| Volume Average B.P. (°C) | 244 | 42.7 | 83 | 125 | 175 | 225 | 275 | 324 | 360 | 460 | 407 | 472 | 523 | 629 |
| Density @ 15°C (g/cc) | 0.8200 | 0.6354 | 0.7331 | 0.7713 | 0.8012 | 0.8316 | 0.8534 | 0.8621 | 0.8791 | 0.9375 | 0.9060 | 0.9482 | 0.9671 | 1.0382 |
| API Gravity | 41.0 | 91.2 | 61.5 | 51.9 | 45.0 | 38.6 | 34.2 | 32.6 | 29.4 | 19.4 | 24.6 | 17.6 | 14.7 | 4.7 |
| UOPK | 11.90 | | | 11.59 | 11.61 | 11.59 | 11.66 | 11.88 | 11.88 | 11.69 | 11.80 | 11.62 | 11.65 | 11.31 |
| Molecular Weight (g/mol) | | | | 109 | 136 | 169 | 207 | 254 | 290 | 404 | 339 | 421 | 527 | 845 |
| Total Sulfur (% wt) | 0.06 | 0.000 | 0.001 | 0.002 | 0.010 | 0.021 | 0.042 | 0.079 | 0.106 | 0.163 | 0.094 | 0.147 | 0.238 | 0.395 |
| Mercaptan Sulfur (ppm) | 23.6 | | | | | | | | | | | | | |
| Total Nitrogen (ppm) | 503 | | | | | 7 | 27 | 111 | 266 | 2039 | 549 | 1387 | 4192 | 7066 |
| Basic Nitrogen (ppm) | 235 | | | | | 6 | 27 | 84 | 183 | 919 | 307 | 655 | 1950 | 2888 |
| Total Acid Number (mgKOH/g) | 0.23 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.11 | 0.26 | 0.35 | 0.73 | 0.63 | 1.10 | 1.10 | 0.43 |
| Viscosity @ 20°C (cSt) | 2.77 | | | | 1.29 | | | | | | | | | |
| Viscosity @ 40°C (cSt) | 2.11 | | | | 0.99 | 1.65 | 2.93 | 5.36 | 10.1 | | | | | |
| Viscosity @ 50°C (cSt) | 1.87 | | | | | 1.43 | 2.42 | 4.21 | 7.47 | 145 | 25.8 | 263 | 1961 | |
| Viscosity @ 60°C (cSt) | | | | | | | | | | 82.0 | 17.6 | 139 | 818 | |
| Viscosity @ 100°C (cSt) | | | | | | | | | | 16.1 | 5.73 | 22.4 | 69.6 | 8308 |
| Viscosity @ 130°C (cSt) | | | | | | | | | | | | | | 772 |
| Viscosity @ 150°C (cSt) | | | | | | | | | | | | | | 242 |
| RON (Clear) | | 78.2 | 46.6 | 67.2 | 38.7 | | | | | | | | | |
| MON (Clear) | | 76.5 | 65.0 | 63.9 | 37.2 | | | | | | | | | |
| Paraffins (% wt) | 33.7 | 94.6 | 47.3 | 27.1 | 46.6 | | | | | | | | | |
| Naphthenes (%wt) | 40.1 | 5.4 | 49.3 | 56.2 | 34.3 | | | | | | | | | |
| Aromatics (% wt) | 26.2 | 0.0 | 3.4 | 16.7 | 19.0 | | | | | | | | | |
| Pour Point (°C) | 15 | | | | | -44 | -21 | 4 | 20 | 43 | 38 | 52 | 53 | 48 |
| Cloud Point (°C) | | | | | | -41 | -19 | 7 | | | | | | |
| Freeze Point (°C) | | | | | | -55 | -37 | -16 | | | | | | |
| Smoke Point (mm) | | | | | | 24 | 20 | 17 | | | | | | |
| Cetane Index (D4737A) | | | | | | 33 | 40 | 48 | 59 | 62 | | | | |
| Naphthalenes (% vol) | | | | | | 0.1 | 4.1 | 8.0 | 8.7 | | | | | |
| Aniline Point (°C) | | | | 48.6 | 52.2 | 59.8 | 66.9 | 75.1 | 80.6 | | 89.3 | 87.4 | 66.6 | |
| Hydrogen (% wt) | 13.5 | 16.5 | 15.0 | 13.9 | 14.0 | 13.1 | 13.4 | 13.3 | 13.2 | | 12.7 | 12.1 | 11.9 | |
| Total Wax (% wt) | 21.7 | | | | | | | | | 27.0 | 36.7 | 23.6 | 13.9 | 3.1 |
| C7 Asphaltene (% wt) | 0.0 | | | | | | | | | 0.1 | 0.0 | 0.0 | 0.6 | |
| Micro Carbon Residue (% wt) | 0.5 | | | | | | | | | 2.3 | 0.1 | 2.1 | 13.6 | |
| Vanadium (ppm) | 0.2 | | | | | | | | | 1.0 | 0.0 | 0.0 | 6.5 | |
| Nickel (ppm) | 1.7 | | | | | | | | | 7.3 | 0.0 | 0.0 | 48.8 | |
| Iron (ppm) | 1.7 | | | | | | | | | 7.3 | 0.0 | 0.0 | 48.8 | |
| Sodium (ppm) | 8.1 | | | | | | | | | | | | | |
| Mercury (ppb) | 1.0 | | | | | | | | | | | | | |
| Arsenic (ppb) | 138 | | | | | | | | | | | | | |

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Yield Distribution



Cumulative Volume % Distilled at 10 Degree C (TBP) Intervals

| | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
|-----|------|------|------|------|------|------|------|------|------|------|
| 0 | | | | 4.8 | 5.7 | 6.6 | 8.5 | 10.8 | 13.1 | 15.5 |
| 100 | 18.0 | 20.7 | 23.4 | 26.0 | 28.6 | 31.1 | 33.5 | 35.9 | 38.1 | 40.4 |
| 200 | 42.6 | 44.8 | 47.0 | 49.3 | 51.5 | 53.8 | 56.0 | 58.3 | 60.7 | 63.0 |
| 300 | 65.3 | 67.6 | 69.7 | 71.8 | 73.9 | 75.9 | 77.8 | 79.6 | 81.4 | 83.1 |
| 400 | 84.8 | 86.4 | 87.8 | 89.2 | 90.4 | 91.5 | 92.5 | 93.4 | 94.1 | 94.8 |
| 500 | 95.3 | 95.8 | 96.2 | 96.6 | 96.9 | 97.2 | 97.5 | 97.7 | 98.0 | 98.2 |