

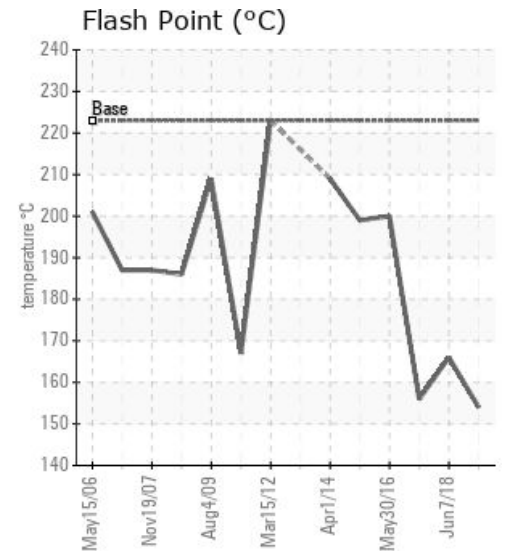
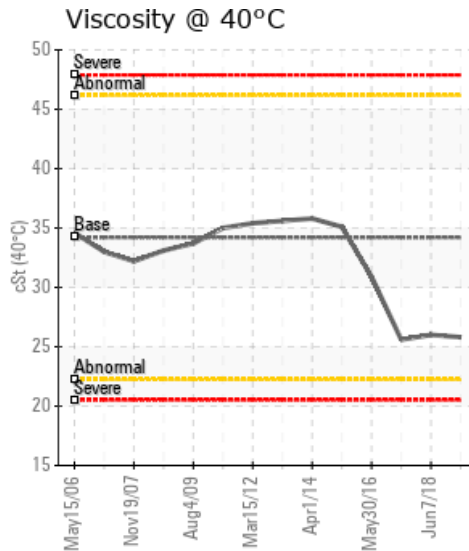
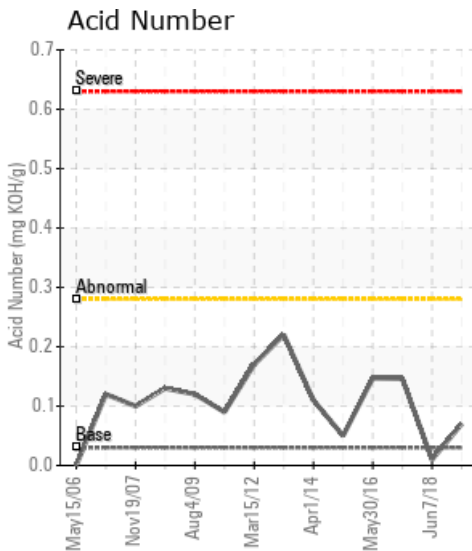
WANSON 5000 BH

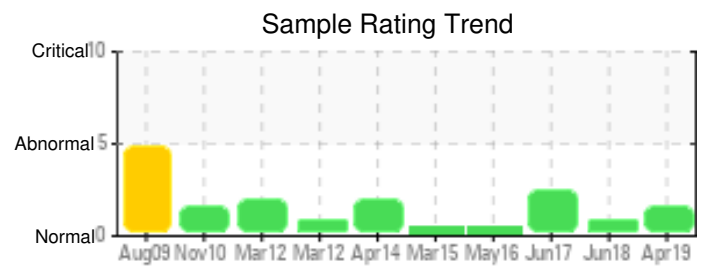
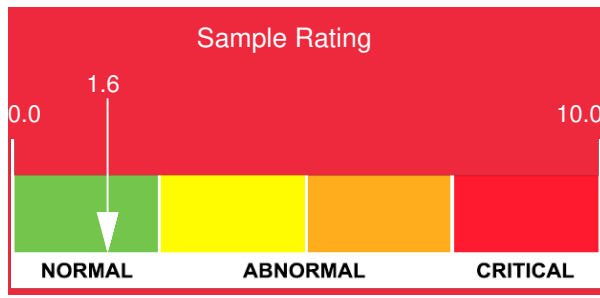
| Customer: PTRHTF40051 | System Information | Sample Information |
|---|---|--|
| Onion Specialties International B.V... Nisseweg 8 Kruiningen, 4416PK Netherlands Attn: WILBERT SNIJERS Tel: E-Mail: w.snijers@klt.nl | System Volume: 7000 ltr Bulk Operating Temp: 290F / 143C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: WANSON | Lab No: 02281304 Analyst: Philip Riley Sample Date: 04/16/19 Received Date: 04/24/19 Completed: 04/29/19 |

Recommendation: Looks to have less light end molecules than last sample, yet flash point still drops. Try to (further) vent the system if safe and check if can recover flash point. A;; other parameters seem within limits. If flash point cannot be recovered recommend a change out including a flush and clean

Comments: COC Flash Point is severely low.

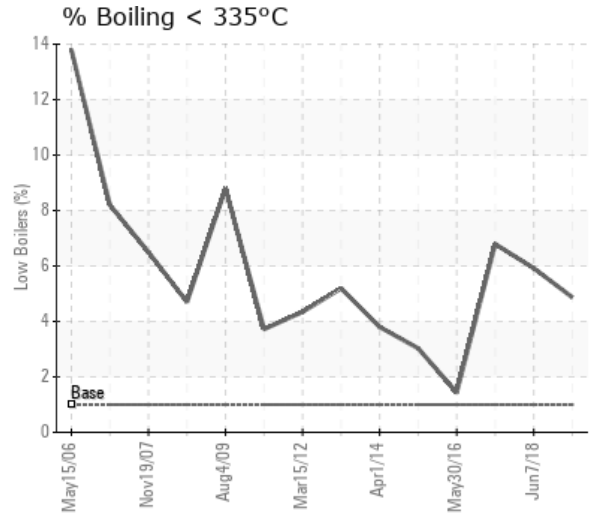
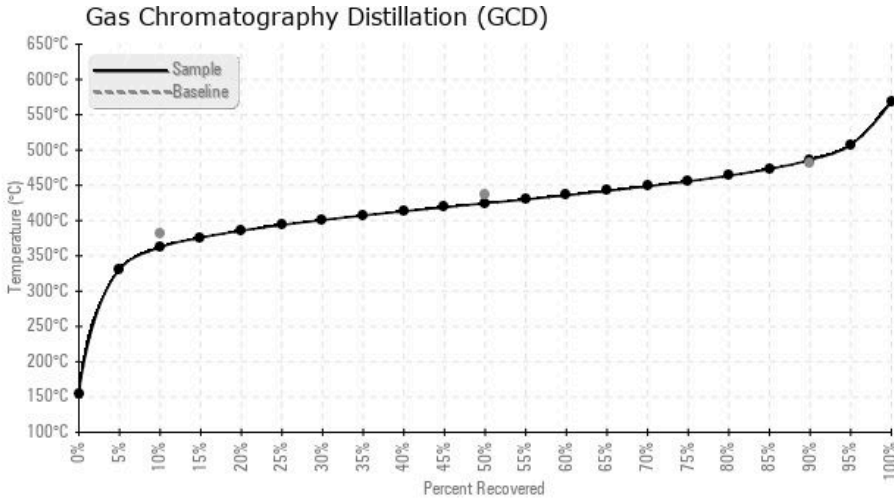
| Sample Date | Received Date | Fluid Age | Sample Location | Flash Point (COC) | Water (KF) | Viscosity (40°C) | Acid Number | Solids | GCD 10% | GCD 50% | GCD 90% | GCD % < 335°C |
|---------------|---------------|-----------|-----------------|-------------------|------------|------------------|-------------|--------|-----------|-----------|-----------|---------------|
| | mm/dd/yy | | | °F/°C | ppm | cSt | mg/KOH/g | %wt | °F/°C | °F/°C | °F/°C | % |
| 04/16/19 | 04/24/19 | 0y | | 309 / 154 | 24.3 | 25.8 | 0.07 | 0.108 | 684 / 362 | 796 / 425 | 907 / 486 | 4.87 |
| 06/07/18 | 06/11/18 | 4y | | 331 / 166 | 26.2 | 26.0 | 0.01 | 0.209 | 679 / 359 | 801 / 427 | 914 / 490 | 5.92 |
| 06/16/17 | 06/26/17 | 3y | | 313 / 156 | 26.2 | 25.6 | 0.146 | 0.075 | 667 / 353 | 793 / 423 | 931 / 499 | 6.79 |
| 05/30/16 | 06/03/16 | 2y | PTRHTF40051 | 392 / 200 | 24.0 | 30.9 | 0.147 | 0.098 | 701 / 372 | 802 / 428 | 916 / 491 | 1.44 |
| 03/13/15 | 03/19/15 | 1y | | 390 / 199 | 9.5 | 35.1 | 0.05 | 0.349 | 689 / 365 | 794 / 423 | 910 / 488 | 3.03 |
| 04/01/14 | 04/07/14 | 3y | | 408 / 209 | 76.4 | 35.8 | 0.11 | 0.037 | 694 / 368 | 810 / 432 | 947 / 509 | 3.80 |
| Baseline Data | | | | 433 / 223 | | 34.2 | 0.03 | | 720 / 382 | 817 / 436 | 900 / 482 | 1.00 |





| Sample Date | Iron | Chromium | Nickel | Aluminum | Copper | Lead | Tin | Cadmium | Silver | Vanadium | Silicon | Sodium | Potassium | Titanium | Molybdenum | Antimony | Manganese | Lithium | Boron | Magnesium | Calcium | Barium | Phosphorus | Zinc |
|---------------|------|----------|--------|----------|--------|------|-----|---------|--------|----------|---------|--------|-----------|----------|------------|----------|-----------|---------|-------|-----------|---------|--------|------------|------|
| 04/16/19 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| 06/07/18 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |
| 06/16/17 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| 05/30/16 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| 03/13/15 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04/01/14 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Baseline Data | | | 0 | 0 | | | | | | 0 | | | 0 | 0 | | | | | 0 | | | | 0 | |

Elemental analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]



| Historical Comments | |
|---------------------|--|
| 06/07/18 | COC Flash Point low but not critical at this stage. Evidence of light molecules in the GCD, increasing from last sample. If it can be done safely try to vent off the system and lose some of the light ends and raise the flash pt. Also evidence of some cracking as the viscosity has reduced from original. Sample following vent and see if fluid recovered sufficiently COC Flash Point is abnormally low. |
| 06/16/17 | Product contains low boilers and has lost viscosity. Suggest a change of oil at the next maintenance interval. COC Flash Point is severely low. (GCD) 90% Distillation Point is abnormally high. |
| 05/30/16 | The oil appears to be in good condition and fit for further service. Suggest sample at next scheduled maintenance interval. |
| 03/13/15 | Oil appears to be in good condition and fit for further service. Sample at next scheduled maintenance interval. |
| 04/01/14 | Oil appears to be in good condition. Sample at next scheduled maintenance interval. (GCD) 90% Distillation Point is severely high. |

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