

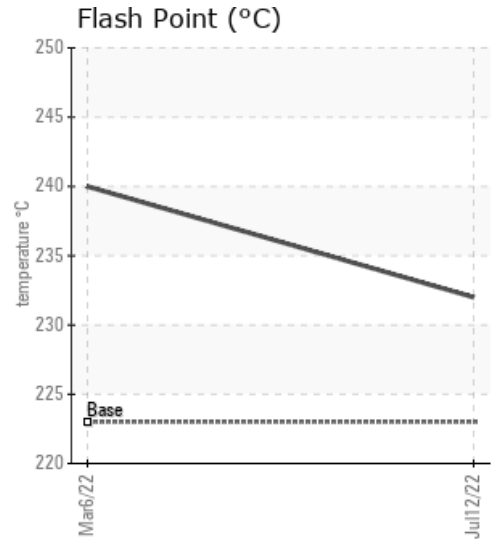
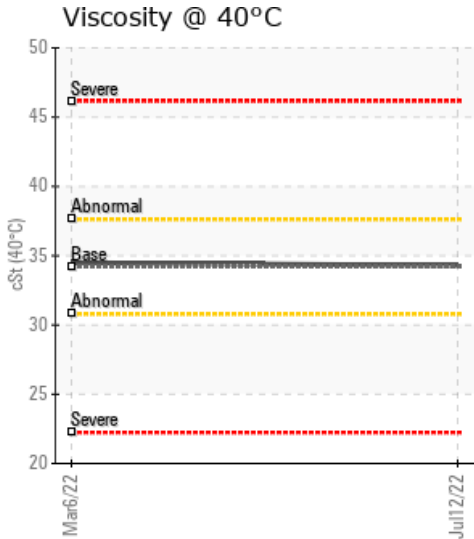
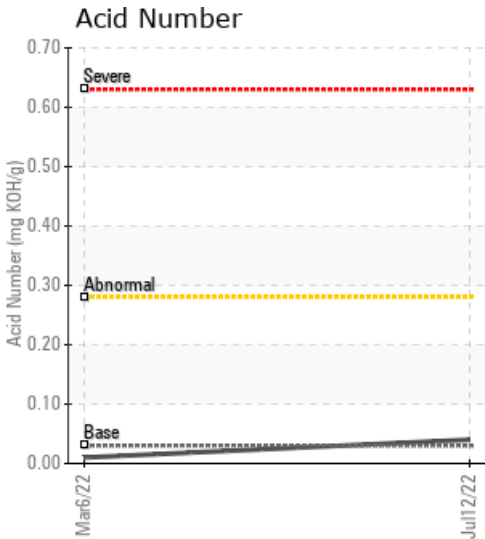
[LSD: 10-14-82-20W6] Crew Energy Wilder

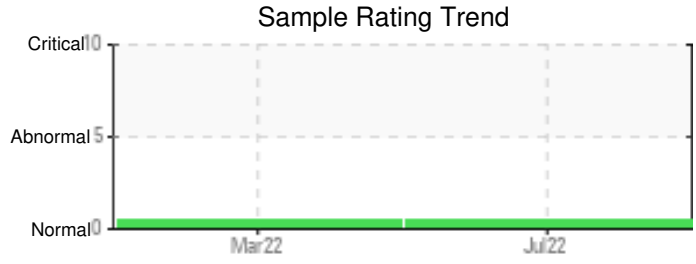
| Customer: PTRHTF20175 | System Information | Sample Information |
|--|---|--|
| QUADRA CHEMICALS 7802 98 STREET CLAIRMONT, AB T0H 0W0 Canada Attn: Quadra Samples Tel: E-Mail: quadra_samples@quadra.ca | System Volume: 38000 ltr Bulk Operating Temp: 399F / 204C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: | Lab No: 02501864 Analyst: Clinton Buhler Sample Date: 07/12/22 Received Date: 07/25/22 Completed: 07/27/22 Clinton Buhler Clinton.Buhler@hollyfrontier.com |

Recommendation: Sample results indicate that the fluid is in suitable condition for continued service. Low boiling vapor content is much improved from the initial sample. Please re-sample in 12 months

Comments:

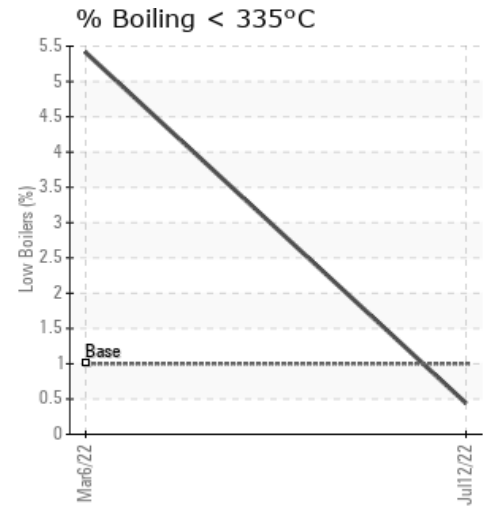
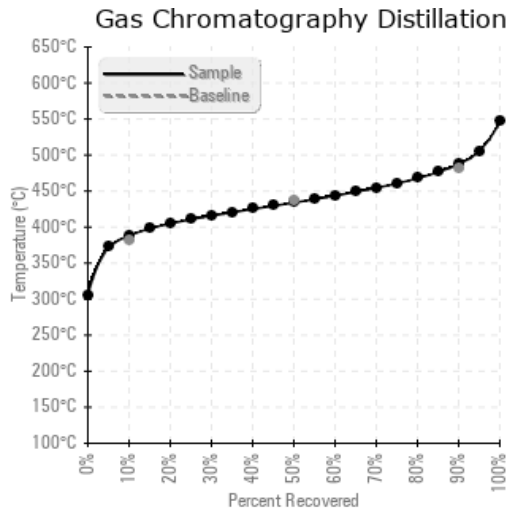
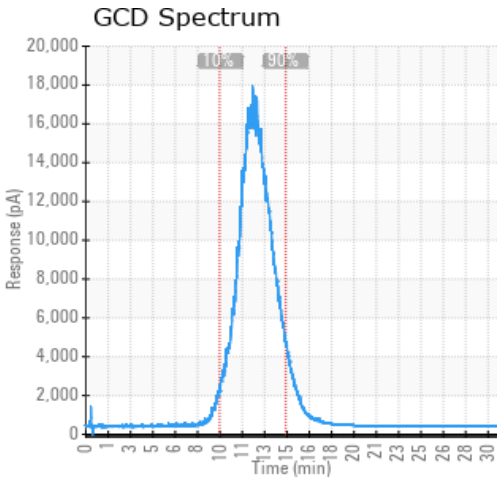
| Sample Date | Received Date | Fluid Age | Sample Location | Flash Point (COC) | Water (KF) | Viscosity (40°C) | Acid Number | Solids | GCD 10% | GCD 50% | GCD 90% | GCD % < 335°C |
|---------------|---------------|-----------|-----------------|-------------------|------------|------------------|-------------|--------|-----------|-----------|-----------|---------------|
| | mm/dd/yy | | | °F/°C | ppm | cSt | mg/KOH/g | %wt | °F/°C | °F/°C | °F/°C | % |
| 07/12/22 | 07/25/22 | 0.0m | | 450 / 232 | 308.5 | 34.3 | 0.04 | 0.035 | 731 / 388 | 813 / 434 | 910 / 488 | 0.44 |
| 03/06/22 | 04/25/22 | 0.0m | | 464 / 240 | 90.7 | 34.5 | 0.01 | 0.036 | 715 / 380 | 813 / 434 | 911 / 489 | 5.41 |
| 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 |
|---------------|------|----------|--------|----------|--------|------|-----|---------|--------|----------|---------|--------|-----------|----------|------------|----------|-----------|---------|-------|-----------|---------|--------|------------|------|
| 07/12/22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 03/06/22 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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

| | |
|----------|---|
| 03/06/22 | Sample results indicate the fluid is in suitable condition for continued service. Low boiling vapor content is at 5.41%. As part of good maintenance practices, please vent off these vapors and then re-sample in 6 months. Please ensure blanket gas is operational before and after venting of expansion tank. |
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| | |
| | |

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