

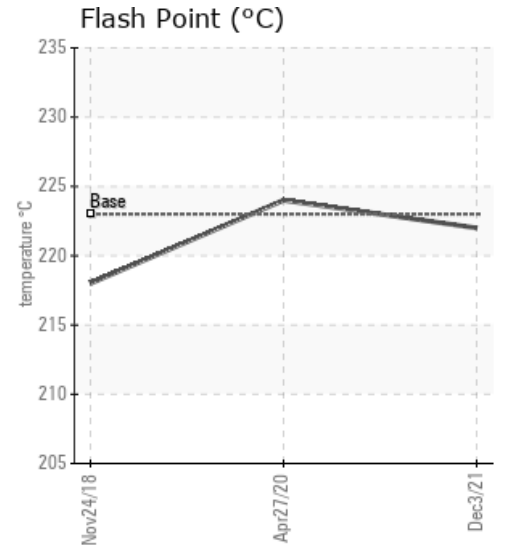
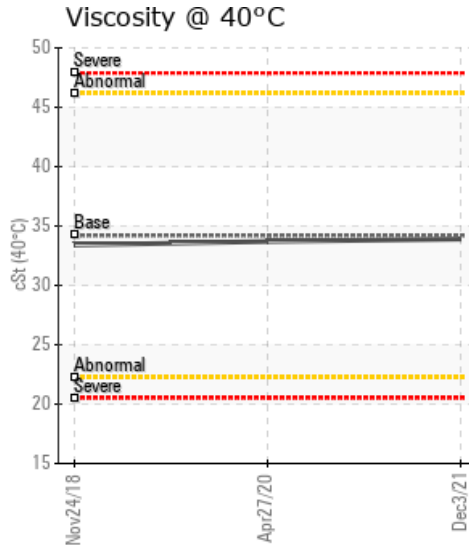
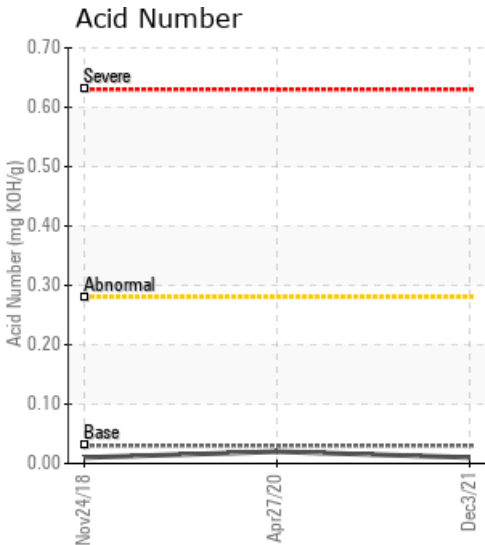
[2-11-080-16W6M] H5500-1 Train 2

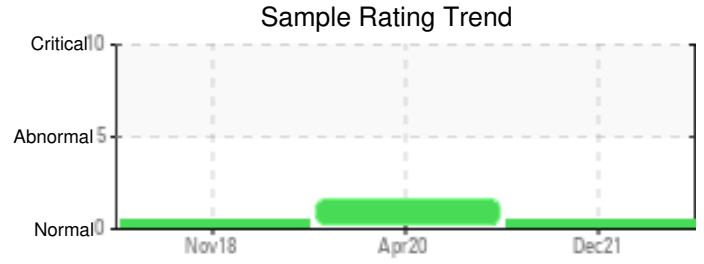
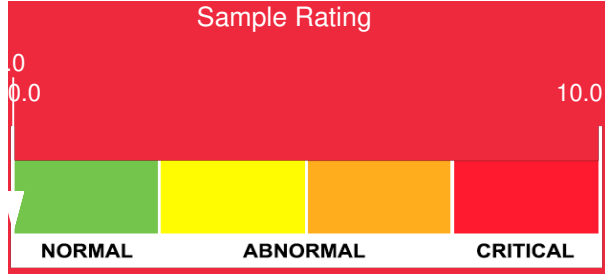
| Customer: PTRHTF20156 | System Information | Sample Information |
|---|---|--|
| TOURMALINE OIL 9920 98a Ave FORT ST. JOHN, BC V1J 1S2 Canada Attn: Brandon Braun Tel: (250)262-5420 E-Mail: Brandon.braun@tourmalineoil.com | System Volume: 0 ltr Bulk Operating Temp: 345F / 174C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: | Lab No: 02476624 Analyst: Clinton Buhler Sample Date: 12/03/21 Received Date: 03/10/22 Completed: 03/16/22 Clinton Buhler Clinton.Buhler@hollyfrontier.com |

Recommendation: Sample results indicate that the fluid is in suitable condition for continued service. Please re-sample in 12 months

Comments:

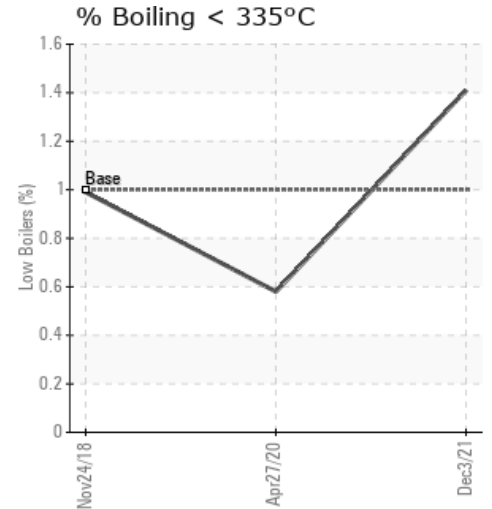
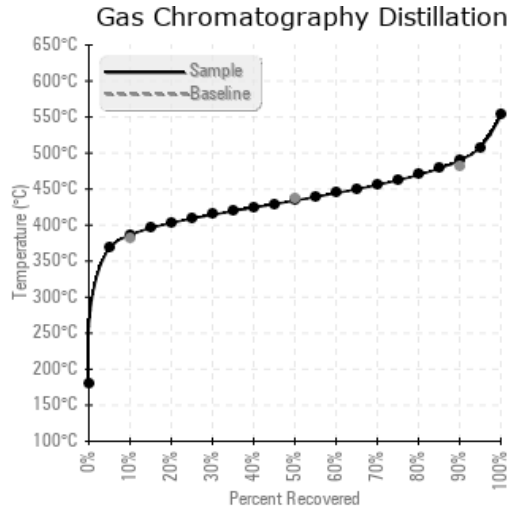
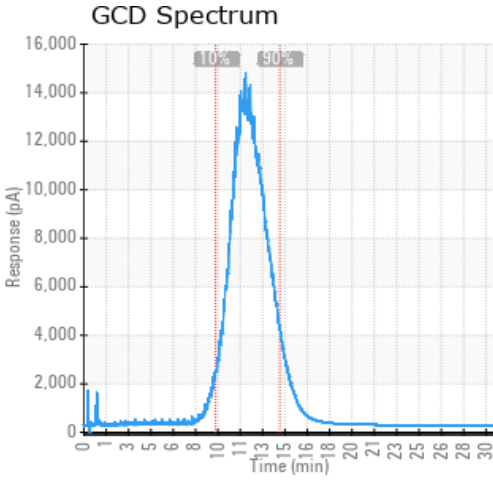
| Sample Date | Received Date | Fluid Age | Sample Location | Flash Point (COC) | Water (KF) | Viscosity (40°C) | Acid Number | Solids | GCD 10% | GCD 50% | GCD 90% | GCD % < 335°C |
|---------------|---------------|-----------|----------------------|-------------------|------------|------------------|-------------|--------|-----------|-----------|-----------|---------------|
| | mm/dd/yy | | | °F/°C | ppm | cSt | mg/KOH/g | %wt | °F/°C | °F/°C | °F/°C | % |
| 12/03/21 | 03/10/22 | 3.0m | Exp tank disch line | 432 / 222 | 150.8 | 33.9 | 0.01 | 0.056 | 727 / 386 | 813 / 434 | 913 / 490 | 1.41 |
| 04/27/20 | 04/29/20 | 17.0m | EXPANSION TANK SUCTI | 435 / 224 | 722.6 | 33.7 | 0.02 | 0.060 | 731 / 389 | 814 / 434 | 913 / 489 | 0.58 |
| 11/24/18 | 12/18/18 | 2.5m | | 424 / 218 | 123.3 | 33.4 | 0.01 | 0.044 | 720 / 382 | 807 / 431 | 910 / 488 | 0.99 |
| 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 | |
|----------------------|------|----------|--------|----------|--------|------|-----|---------|--------|----------|---------|--------|-----------|----------|------------|----------|-----------|---------|-------|-----------|---------|--------|------------|------|---|
| 12/03/21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 04/27/20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11/24/18 | 0 | 0 | 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

| | |
|----------|---|
| 04/27/20 | Sample results indicate that the heat transfer fluid is suitable for continued service. However, there is 722ppm of water in the sample. this could indicate that the sample point and hardware may not have been purged thoroughly prior to taking the sample or, if a representative sample, indicates water contamination. Carefully vent off steam from system to get rid of the water. Re-sample in 6 months after water has been safely vented from the system. Water contamination levels are abnormally high. ppm Water contamination levels are abnormally high. |
| 11/24/18 | The fluid is in excellent condition and suitable for further use. Please re-sample in 6 months. |
| | |
| | |

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