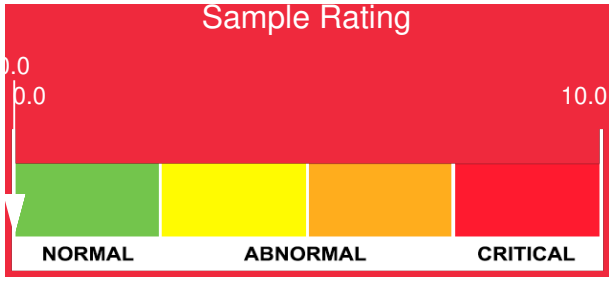
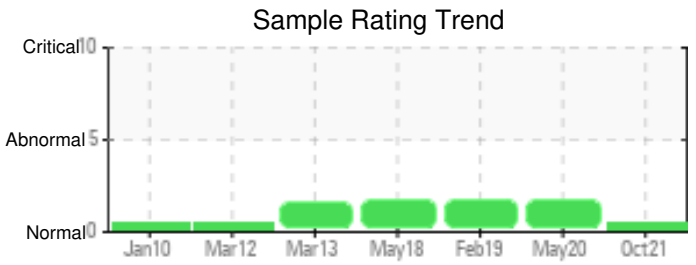


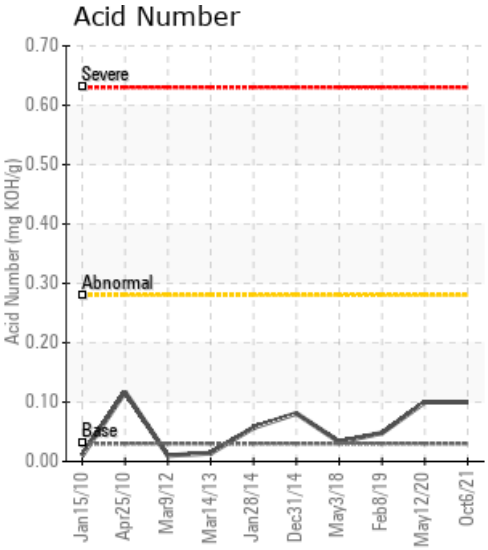

# MODIFIED ROOM SYSTEM

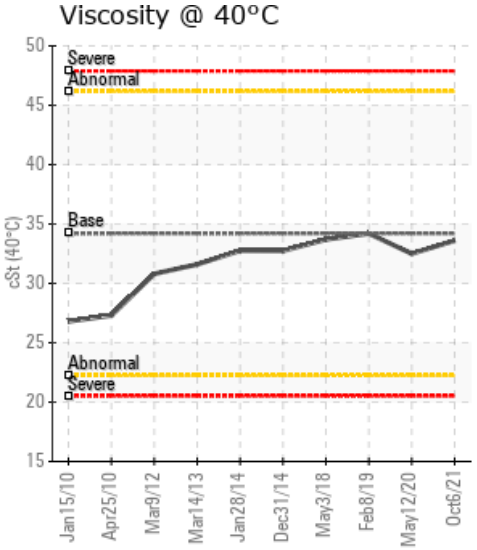
| Customer: PTRHTF10094 | System Information | Sample Information |
|---|---|---|
| CERTAINTEED CORPORATION - OXFORD<br>200 CERTAINTEED RD<br>OXFORD, NC 27565 USA<br>Attn: Seth Newton<br>Tel: (919)693-1141<br>E-Mail: Seth.newton@saint-gobain.com | System Volume: 0 gal<br>Bulk Operating Temp: 0F / -18C<br>Heating Source:<br>Blanket:<br>Fluid: PETRO CANADA PETRO-THERM<br>Make: | Lab No: 02450767<br>Analyst: Manny Garcia<br>Sample Date: 10/06/21<br>Received Date: 10/18/21<br>Completed: 10/22/21<br>Manny Garcia<br>manuel.garcia@hollyfrontier.com |

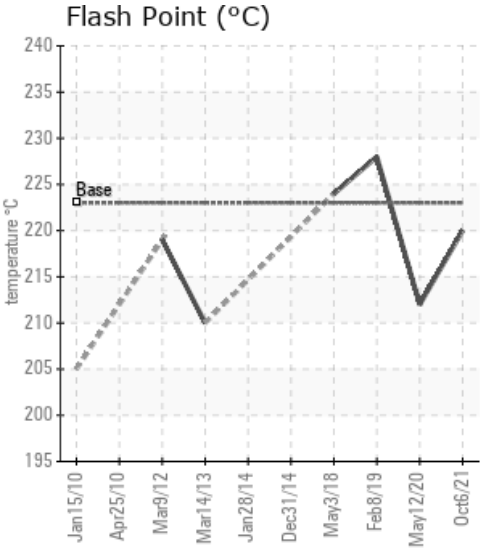
Recommendation: Fluid Condition looks excellent and is suitable for continued use. Please re-submit sample in October 2022.

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 | % |
| 10/06/21 | 10/18/21 | 0.0m | | 428 / 220 | 23.3 | 33.6 | 0.10 | 0.056 | 726 / 386 | 816 / 435 | 912 / 489 | 0.94 |
| 05/12/20 | 07/06/20 | 5.0m | | 414 / 212 | 14.1 | 32.5 | 0.10 | 0.140 | 717 / 381 | 813 / 434 | 911 / 489 | 2.13 |
| 02/08/19 | 02/28/19 | 1.0m | AT HEATER | 442 / 228 | 6.4 | 34.2 | 0.048 | 0.070 | 702 / 372 | 794 / 424 | 896 / 480 | 1.37 |
| 05/03/18 | 05/23/18 | 1.0m | MAIN SUPPLY LINE | 435 / 224 | 15.7 | 33.7 | 0.033 | 0.017 | 706 / 375 | 785 / 418 | 878 / 470 | 0.00 |
| 12/31/14 | 01/05/15 | 0.0m | | | | 32.74 | 0.081 | | | | | |
| Baseline Data | | | | 433 / 223 | | 34.2 | 0.03 | | 720 / 382 | 817 / 436 | 900 / 482 | 1.00 |

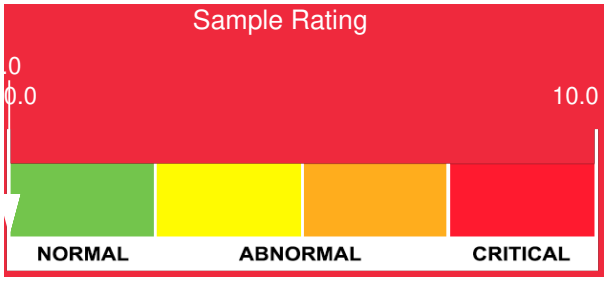


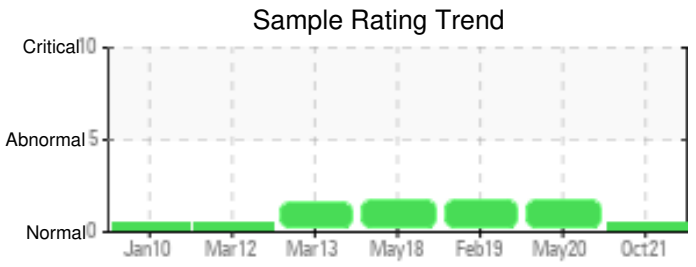



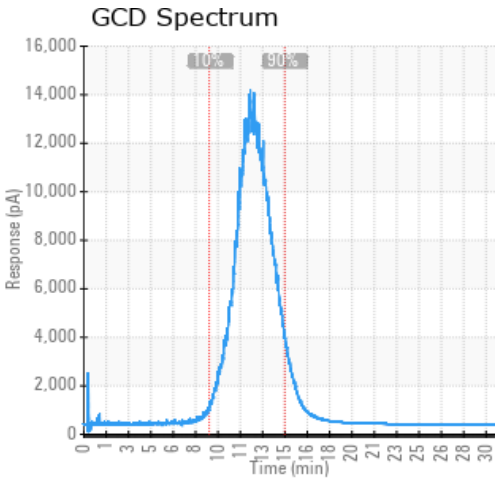
PETRO-CANADA LUBRICANTS

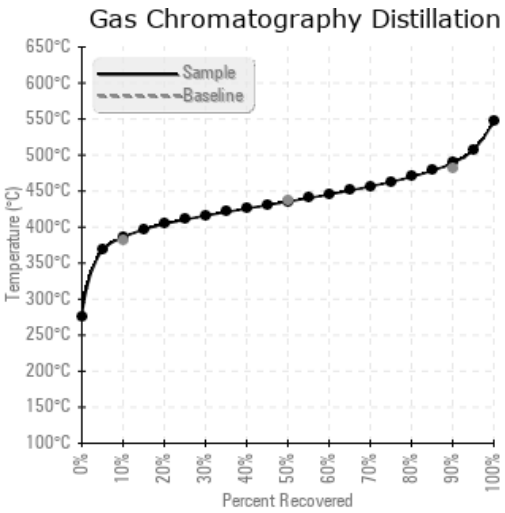


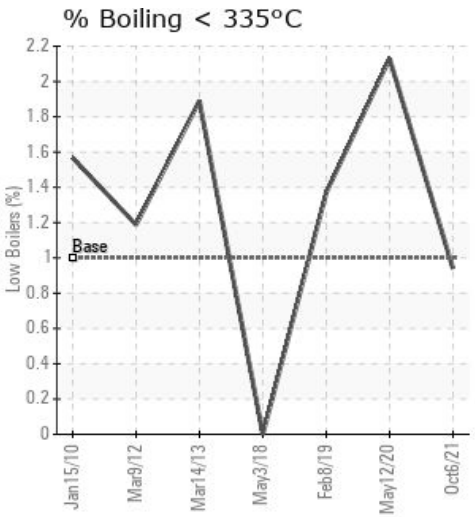




| Sample Date | Iron | Chromium | Nickel | Aluminum | Copper | Lead | Tin | Cadmium | Silver | Vanadium | Silicon | Sodium | Potassium | Titanium | Molybdenum | Antimony | Manganese | Lithium | Boron | Magnesium | Calcium | Barium | Phosphorus | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/06/21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05/12/20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 02/08/19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05/03/18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12/31/14 | 0 | 0 | 0 | 0 | 0 | 4 | 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 anaysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]




## Historical Comments

| | |
|---|---|
| 05/12/20 | Despite the dark appearance, which is normal for hot oils, the sample shows nothing abnormal or marginal to act upon. Re-sample at next scheduled interval. |
| 02/08/19 | This sample appears to be in decent condition. No vanadium and normal viscosity so no reason to believe that asphalt isleaking. Based on the results of this analysis no action seems to be needed at this time, unless feedback from your ownoperations and monitoring of your process warrants it. |
| 05/03/18 | Some of the test results from the previous samples are blank because they were tested as normal industrial oils. This sample appears to be in decent condition. No vanadium and normal viscosity so no reason to believe that asphalt is leaking. Based on the results of this analysis no action seems to be needed at this time, unless feedback from your own operations and monitoring of your process warrants it. (GCD) 90% Distillation Point is marginally low. |
| 12/31/14 | Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the component. The amount and size of particulates present in the system is acceptable. The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service. |
| | |