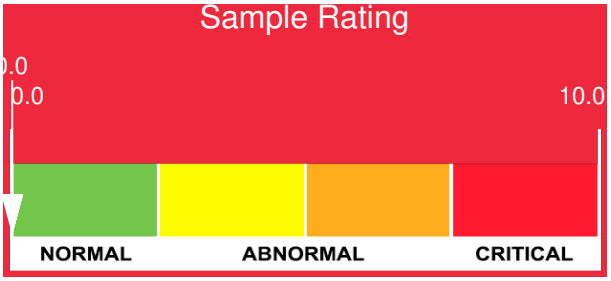
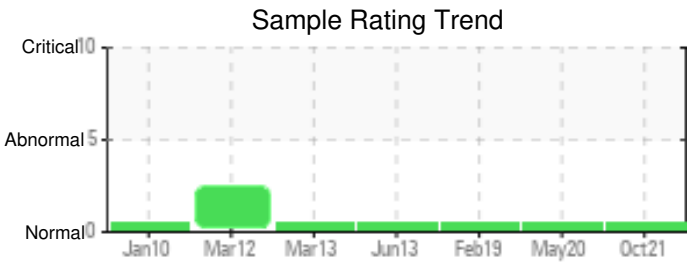
PETRO-CANADA LUBRICANTS



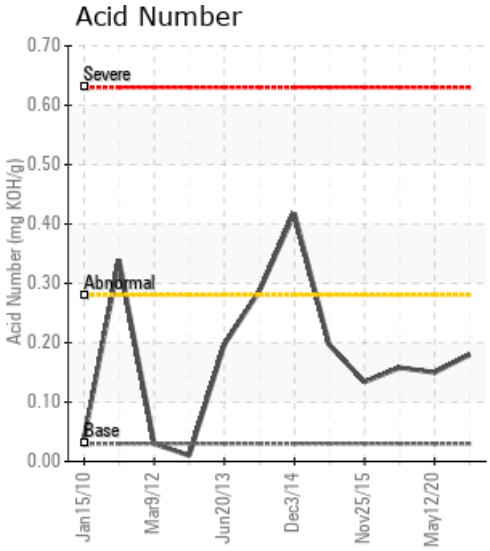

# STILLYARD HOT OIL SYSTEM

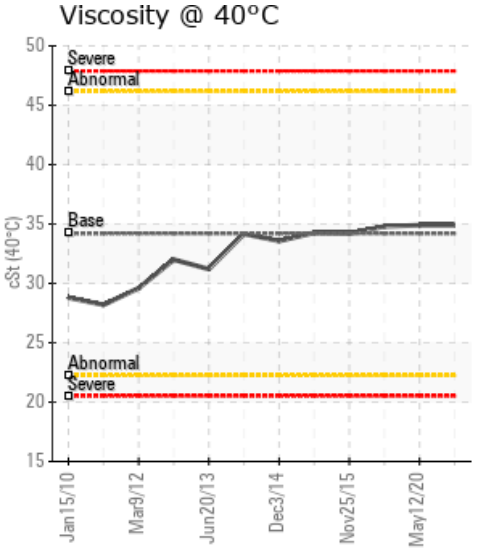
| Customer: PTRHTF10094 | System Information | Sample Information |
|---|---|---|
| CERTAINTEED CORPORATION - OXFORD<br>200 CERTAINTEED RD<br>OXFORD, NC 27565 USA<br>Attn: Seth Newton<br>Tel: (919)693-1141<br>E-Mail: Seth.newton@saint-gobain.com | System Volume: 0 gal<br>Bulk Operating Temp: 0F / -18C<br>Heating Source:<br>Blanket:<br>Fluid: PETRO CANADA PETRO-THERM<br>Make: | Lab No: 02450766<br>Analyst: Manny Garcia<br>Sample Date: 10/01/21<br>Received Date: 10/18/21<br>Completed: 10/22/21<br>Manny Garcia<br>manuel.garcia@hollyfrontier.com |

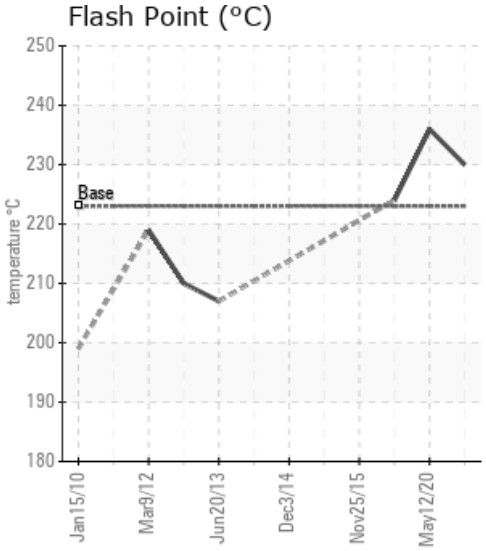
Recommendation: Fluid condition looks excellent. Please re-submit next oil sample in October 2022

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 | % |
| 10/01/21 | 10/18/21 | 0.0m | | 446 / 230 | 16.2 | 34.9 | 0.18 | 0.055 | 729 / 387 | 817 / 436 | 913 / 490 | 0.48 |
| 05/12/20 | 07/06/20 | 5.0m | | 457 / 236 | 22.8 | 34.9 | 0.15 | 0.191 | 723 / 384 | 813 / 434 | 912 / 489 | 1.08 |
| 02/15/19 | 02/28/19 | 1.0m | DRAIN POINT | 435 / 224 | 9.7 | 34.8 | 0.158 | 0.029 | 698 / 370 | 788 / 420 | 892 / 478 | 1.34 |
| 11/25/15 | 11/27/15 | 0.0m | | | | 34.2 | 0.134 | | | | | |
| 04/15/15 | 04/21/15 | 0.0m | | | | 34.26 | 0.196 | | | | | |
| | | | | | | | | | | | | |
| Baseline Data | | | | 433 / 223 | | 34.2 | 0.03 | | 720 / 382 | 817 / 436 | 900 / 482 | 1.00 |

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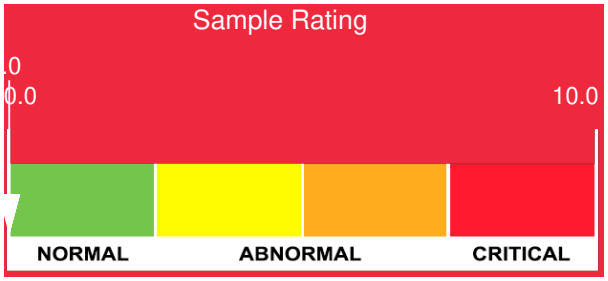
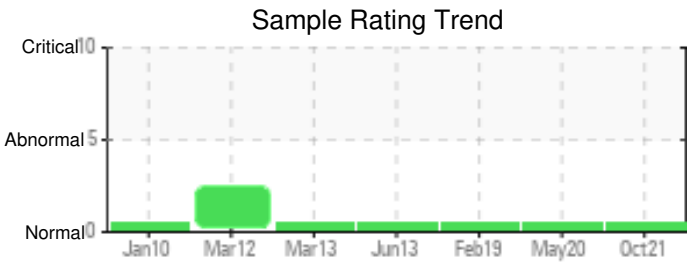
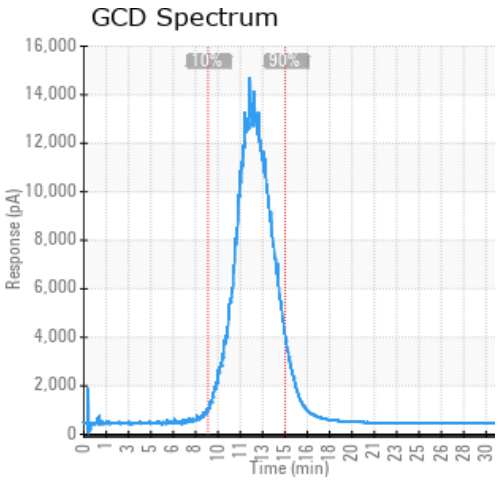
PETRO-CANADA LUBRICANTS

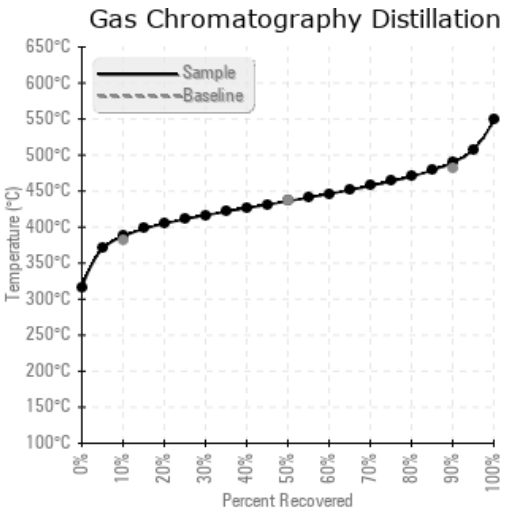


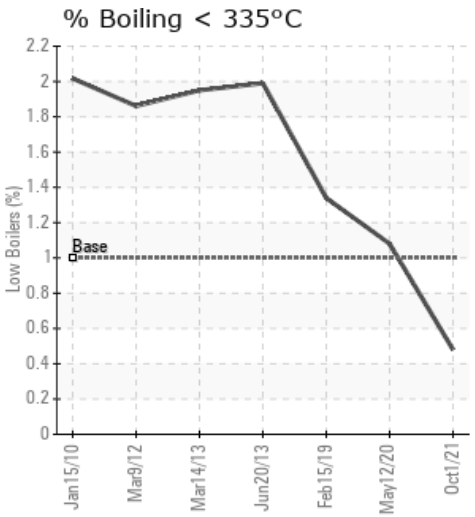




| Sample Date | Iron | Chromium | Nickel | Aluminum | Copper | Lead | Tin | Cadmium | Silver | Vanadium | Silicon | Sodium | Potassium | Titanium | Molybdenum | Antimony | Manganese | Lithium | Boron | Magnesium | Calcium | Barium | Phosphorus | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/01/21 | 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 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 02/15/19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11/25/15 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| 04/15/15 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 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. |
| 02/15/19 | Glad to see this system back on our normal Hot Oil testing program. All parameters are within acceptable limits, contamination by water is barely detectable, oxidation is very mild. Keep monitoring along with the other systems. No action needed at this time. |
| 11/25/15 | 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. |
| 04/15/15 | Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.All component wear rates are normal. There is no indication of any contamination in the component. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service. |
| | |

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