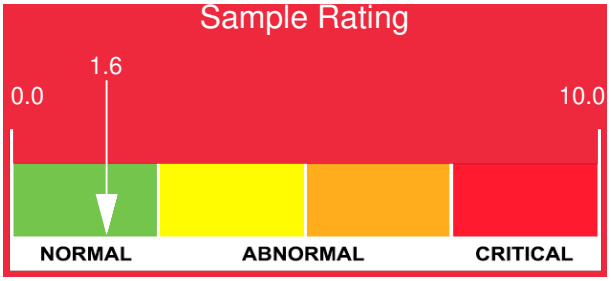
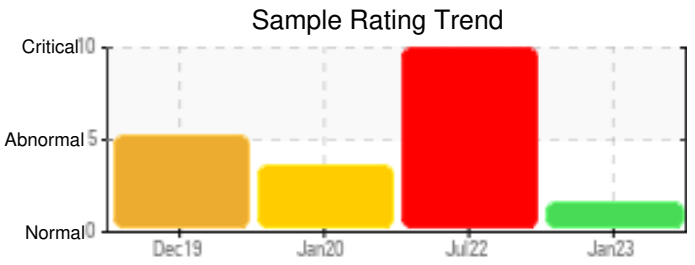


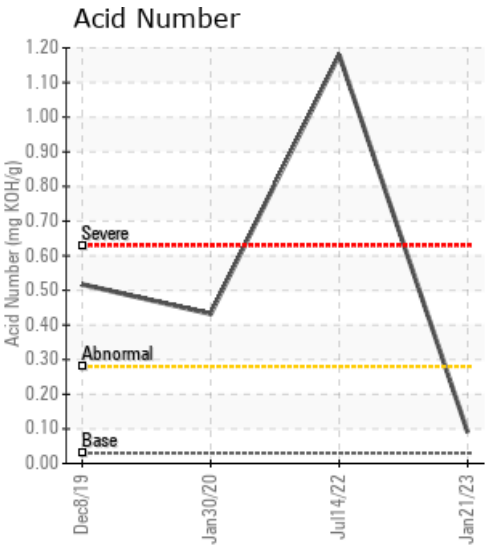

# [8-11-47-16W5] PECO

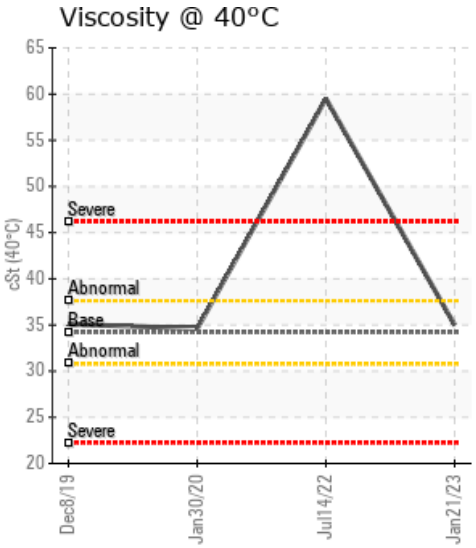
| Customer: PTRHTF20233 | System Information | Sample Information |
|---|---|---|
| CANLIN ENERGY<br>8-11-47-16W5<br>EDSON, AB Canada<br>Attn: Kyle Mathers<br>Tel:<br>E-Mail: kyle.mathers@canlinenergy.com | System Volume: 7000 ltr<br>Bulk Operating Temp: 410F / 210C<br>Heating Source:<br>Blanket:<br>Fluid: PETRO CANADA PETRO-THERM<br>Make: ALCO | Lab No: 02536545<br>Analyst: Lyle Dach<br>Sample Date: 01/21/23<br>Received Date: 01/30/23<br>Completed: 02/03/23<br>Lyle Dach<br>lyle.dach@HFSinclair.com |

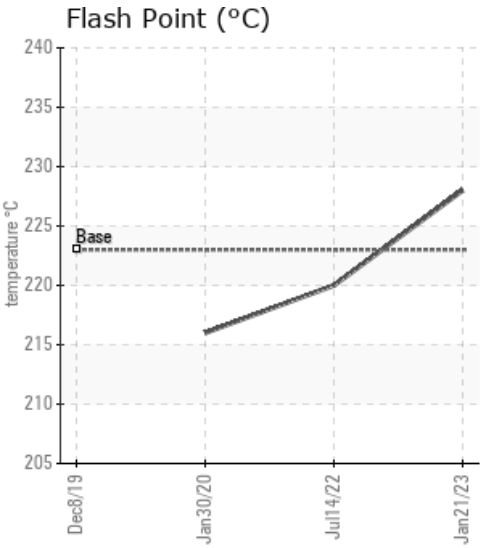
Recommendation: The sample had 1% free water, the water should be drained or vented off to prevent unwanted boil overs and increased risk of corrosion. Resample and send in for analysis after no free water is left in the system. All other parameters appear to be within acceptable levels.

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 | % |
| 01/21/23 | 01/30/23 | 1.0y | bottom of sightglass | 442 / 228 | 33.9 | 35.0 | 0.09 | 0.311 | 724 / 384 | 810 / 432 | 900 / 482 | 1.50 |
| 07/14/22 | 07/26/22 | 6.0y | | 428 / 220 | 276.9 | 59.5 | 1.18 | 3.35 | 724 / 385 | 811 / 433 | 909 / 487 | 1.51 |
| 01/30/20 | 02/12/20 | 2.0y | SIGHT GLASS | 421 / 216 | 26.0 | 34.6 | 0.432 | 0.625 | 738 / 392 | 834 / 446 | 925 / 496 | 0.27 |
| 12/08/19 | 12/17/19 | 2.0y | | | 1063.9 | 35.1 | 0.517 | 0.429 | 705 / 374 | 792 / 422 | 902 / 483 | 0.40 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Baseline Data | | | | 433 / 223 | | 34.2 | 0.03 | | 720 / 382 | 817 / 436 | 900 / 482 | 1.00 |

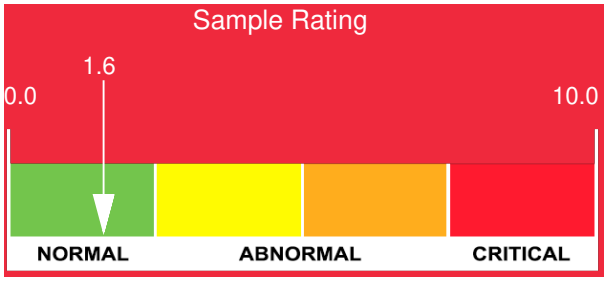


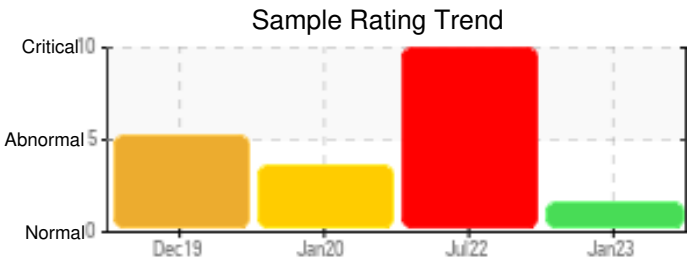



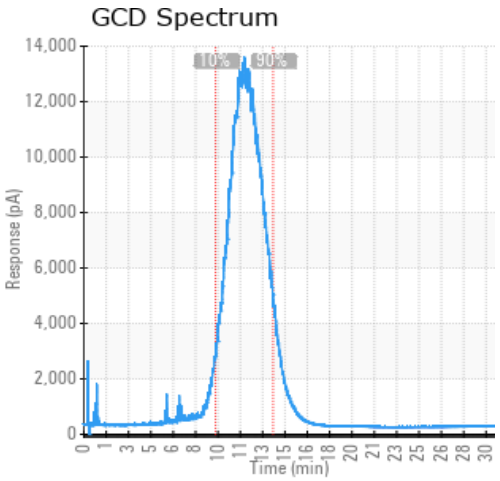
PETRO-CANADA LUBRICANTS

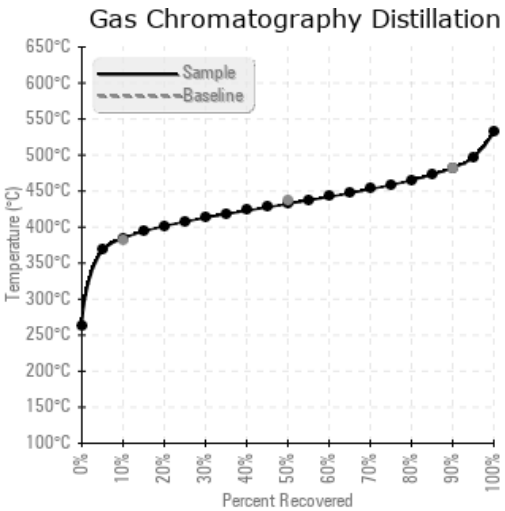


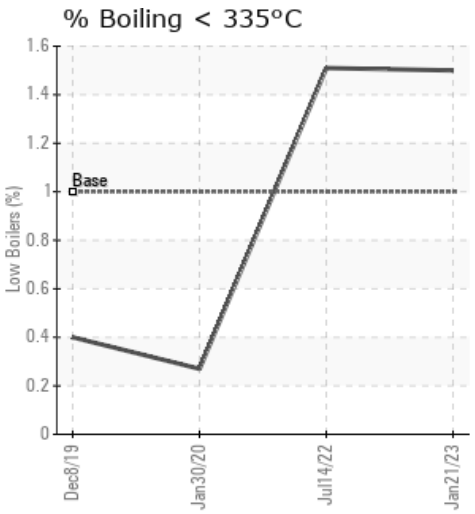




| Sample Date | Iron | Chromium | Nickel | Aluminum | Copper | Lead | Tin | Cadmium | Silver | Vanadium | Silicon | Sodium | Potassium | Titanium | Molybdenum | Antimony | Manganese | Lithium | Boron | Magnesium | Calcium | Barium | Phosphorus | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01/21/23 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 07/14/22 | 601 | 0 | 0 | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 4 | 0 | 0 | 0 | 8 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 01/30/20 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12/08/19 | 16 | 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 anaysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]




## Historical Comments

| | |
|---|---|
| 07/14/22 | This sample indicates the fluid is poor condition, resample to confirm condition. Ensure a system representative sample is collected, if possible the sample should be collect at a hot turbulent area of the system, pump discharge is best. If there are no system pumps, the sample location needs to be purged well and hot fluid needs to be flowing for several seconds to get any static residual fluid removed before collecting the sample. *** viscosity test performed twice (59.0 and 59.5 cSt). ***Iron ppm levels are severe. PQ levels are severe. Pentane Insolubles levels are severely high. Acid Number (AN) is severely high. Visc @ 40°C is severely high. |
| 01/30/20 | Pentane Insoluable and Acid Number are higher then normal. Fluid may have has some thermal cracking. Ensure gas blanker is in place and functioning. Consideration should be given to filtering the oil. Resample in 6 months. Pentane Insolubles levels are severely high. Acid Number (AN) is abnormally high. (GCD) 90% Distillation Point is marginally high. |
| 12/08/19 | Sample contains a significant amount of water. Please ensure the sample is taken from a circulated area and that the sample line has been purged sufficiently. Too much water in the system can be a safety concern due to risk of boiler over. Results indicate that the sample may not be representative. Please resample and resubmit ASAP. Water contamination levels are severely high. ppm Water contamination levels are severely high. ppm Water contamination levels are severely high.. Pentane Insolubles levels are abnormally high. Acid Number (AN) is abnormally high. |
| | |
| | |