

[PURATOS] BELDEM SANKT-VITH

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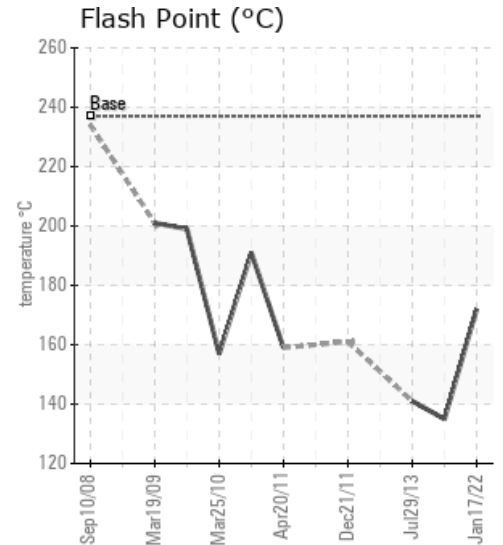
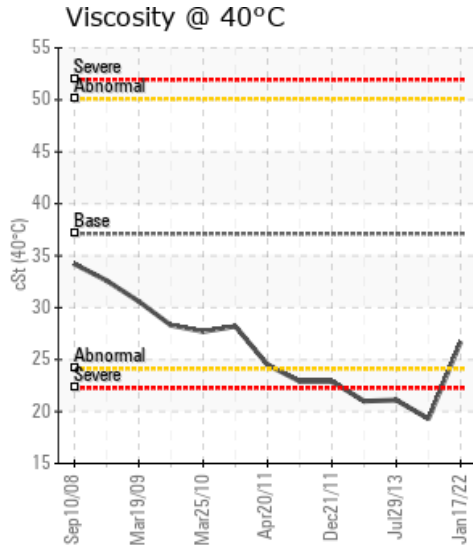
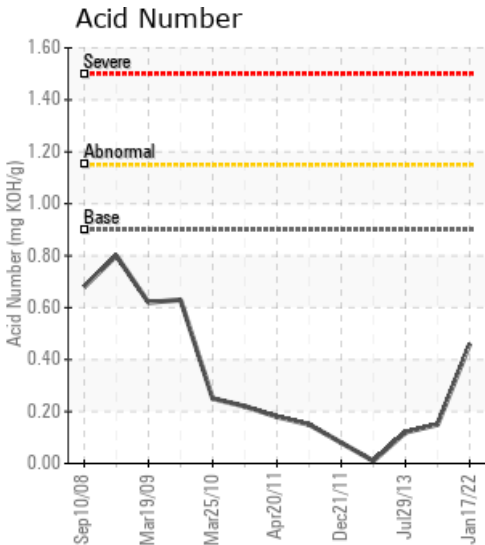
System Information
 System Volume: 7500 ltr
 Bulk Operating Temp: 572F / 300C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID
 Make:

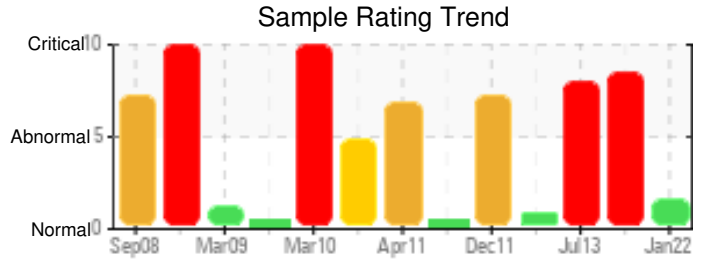
Sample Information
 Lab No: 02470765
 Analyst: Bill Quesnel CLS,OMA II,MLA-III,LLA-I
 Sample Date: 01/17/22
 Received Date: 02/08/22
 Completed: 02/09/22
 Bill Quesnel CLS,OMA II,MLA-III,LLA-I

Recommendation: Appears that an at least a partial oil change has been carried out, the viscosity has increased, however, the flash point remains severely low. Continue to vent in an attempt to remove and low boilers present in the fluid.

Comments: COC Flash Point is severely low.

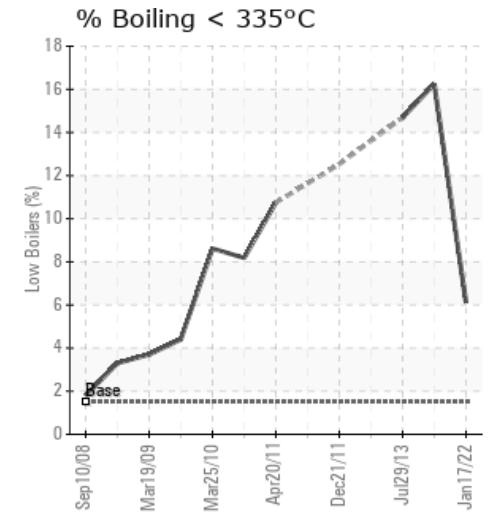
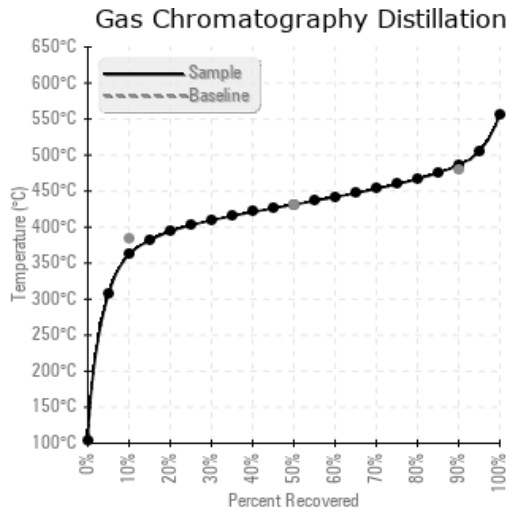
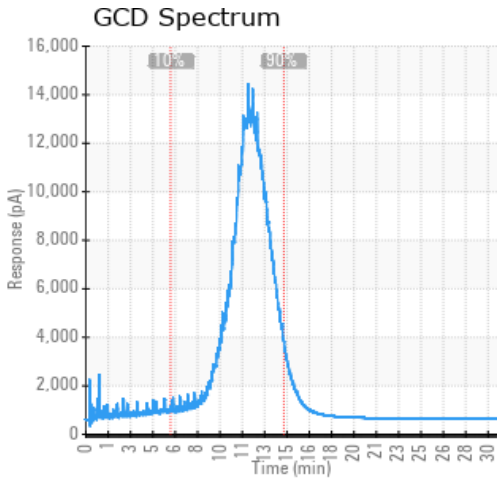
| Sample Date | Received Date | Fluid Age | Sample Location | Flash Point (COC) | Water (KF) | Viscosity (40°C) | Acid Number | Solids | GCD 10% | GCD 50% | GCD 90% | GCD % < 335°C |
|---------------|---------------|-----------|-----------------|-------------------|------------|------------------|-------------|--------|-----------|-----------|-----------|---------------|
| | mm/dd/yy | | | °F/°C | ppm | cSt | mg/KOH/g | %wt | °F/°C | °F/°C | °F/°C | % |
| 01/17/22 | 02/08/22 | 2.0y | | 342 / 172 | 16.4 | 26.7 | 0.46 | 0.035 | 684 / 362 | 808 / 431 | 907 / 486 | 6.11 |
| 11/14/13 | 11/25/13 | 5.0y | | 275 / 135 | 52.3 | 19.3 | 0.15 | 0.094 | 547 / 286 | 786 / 419 | 896 / 480 | 16.25 |
| 07/29/13 | 09/13/13 | 5.0y | | 286 / 141 | 0.00 | 21.1 | 0.12 | 0.507 | 571 / 299 | 790 / 421 | 898 / 481 | 14.69 |
| 06/26/12 | 07/13/12 | | NA | | | 21 | 0.01 | | | | | |
| 12/21/11 | 12/27/11 | | NA | 322 / 161 | 23 | 22.9 | 0.08 | 0.043 | 600 / 316 | 790 / 421 | 887 / 475 | 12.52 |
| Baseline Data | | | | 459 / 237 | | 37.12 | 0.90 | | 721 / 383 | 807 / 431 | 892 / 478 | 1.5 |





| 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 |
|---------------|------|----------|--------|----------|--------|------|-----|---------|--------|----------|---------|--------|-----------|----------|------------|----------|-----------|---------|-------|-----------|---------|--------|------------|------|
| 01/17/22 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 0 |
| 11/14/13 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 15 | 2 |
| 07/29/13 | 115 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 13 | 3 | 44 | 0 |
| 06/26/12 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 18 | 1 |
| 12/21/11 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 23 | 0 | 24 | 14 |
| Baseline Data | | | 0 | 0 | | | | | | 0 | | | 0 | 0 | | | | 0 | 0 | | | | 230 | |

Elemental analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]



| Historical Comments | |
|---------------------|---|
| 11/14/13 | The oil is still showing signs of low boilers and no changes have been made during the last 6 months .Oil is at the end of its useful life .Suggest prepare to change oil. (GCD) % < 335°C is severely high. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. Visc @ 40°C is severely low. |
| 07/29/13 | Fluid is nearing the end of its life suggest change at next maintenance interval Pentane Insolubles levels are abnormally high. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. Visc @ 40°C is severely low. (GCD) % < 335°C is abnormally high. (GCD) 90% Distillation Point is abnormally low. |
| 06/26/12 | System is showing some signs of deterioration with an increase in Low Boilers.If low boilers can be removed oil may improve.Another sample in 6 months to determine if deterioration is continuing.If deterioration of oil continues then there will be a case to change the oil. |
| 12/21/11 | Sample still contains some low boilers suggest another sample within 6 months for trend. |

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