

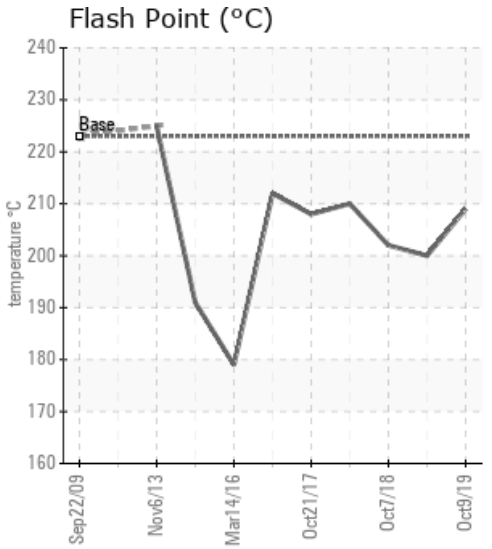
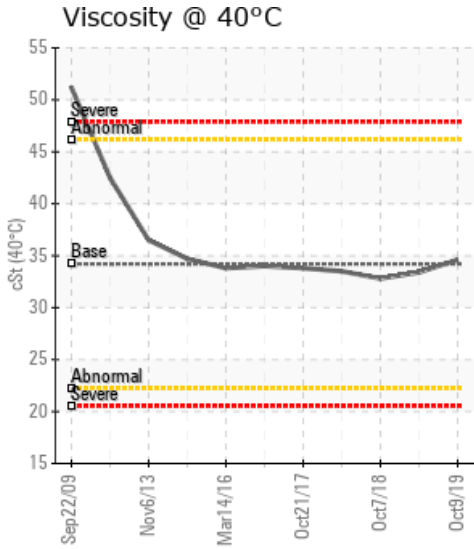
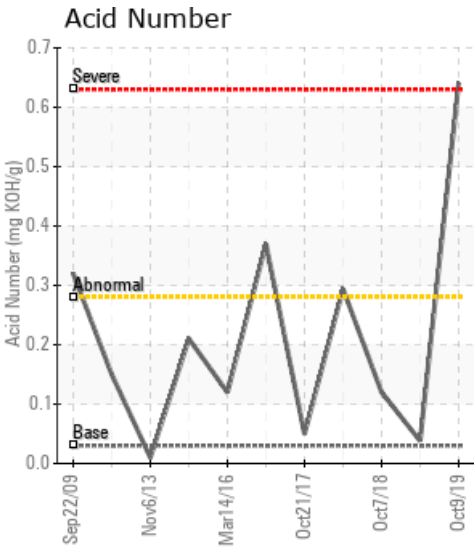
[4-21-55-23-W5] H-802

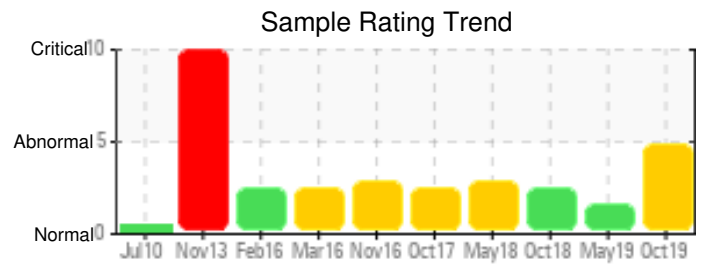
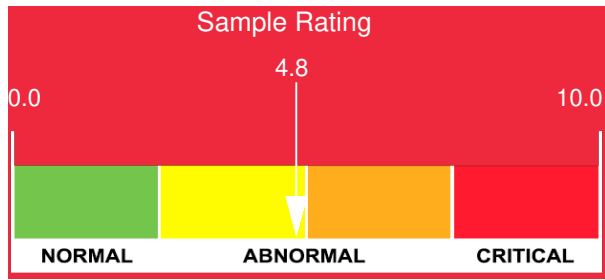
| Customer: PTRHTF20089 | System Information | Sample Information |
|--|--|--|
| PEYTO ENERGY TRUST - WILDHAY WILDHAY 4-21-55-23 , AB T4E 1V4 Canada Attn: Sonny Claybo Tel: (780)817-4339 E-Mail: sclaybo@peyto.com | System Volume: 15000 ltr Bulk Operating Temp: 338F / 170C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: ALCO | Lab No: 02314613 Analyst: Peter Hartevelde Sample Date: 10/09/19 Received Date: 10/16/19 Completed: 10/22/19 |

Recommendation: The fluid is in a reasonable condition and suitable for further use. The AN has increased as a result of fluid degradation. Low boiler vapor content is slight high. Please vent off low boiler vapor to atmosphere. The Pentane Insoluble (solids) content is double the reportable limit and therefore filtration of the fluid is recommended. To stop the fluid from becoming too acidic which will result in corrosion of the system it is recommended to sweeten the fill with 25% of it's total volume. Please re-sample after sweetening.

Comments: Pentane Insolubles levels are severely high. Acid Number (AN) is severely high.

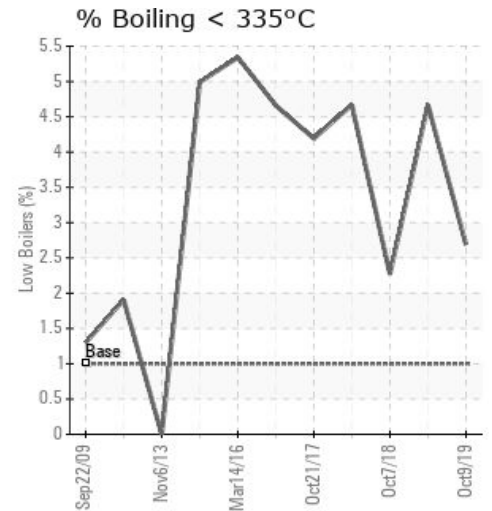
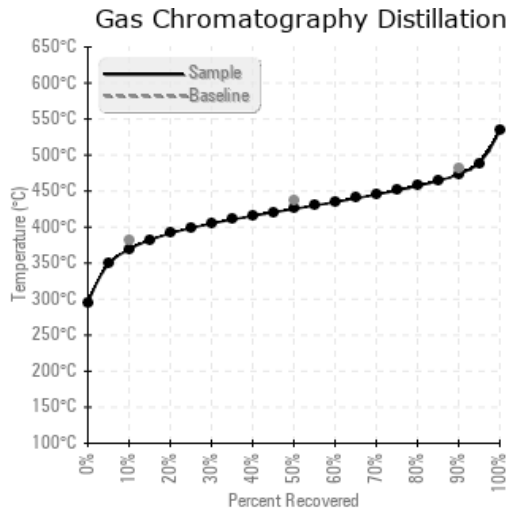
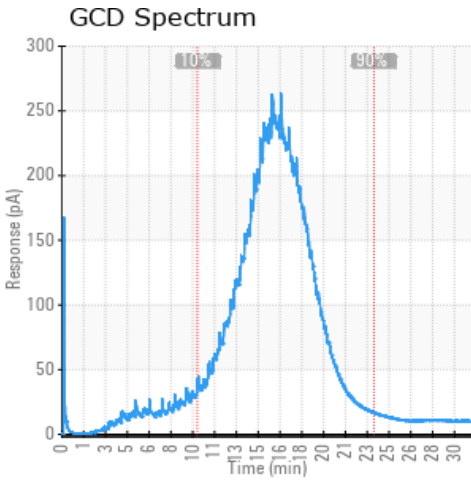
| Sample Date | Received Date | Fluid Age | Sample Location | Flash Point (COC) | Water (KF) | Viscosity (40°C) | Acid Number | Solids | GCD 10% | GCD 50% | GCD 90% | GCD % < 335°C |
|---------------|---------------|-----------|---------------------|-------------------|------------|------------------|-------------|--------|-----------|-----------|-----------|---------------|
| | mm/dd/yy | | | °F/°C | ppm | cSt | mg/KOH/g | %wt | °F/°C | °F/°C | °F/°C | % |
| 10/09/19 | 10/16/19 | 0m | | 408 / 209 | 11.0 | 34.6 | 0.641 | 0.987 | 697 / 369 | 797 / 425 | 884 / 473 | 2.69 |
| 05/24/19 | 06/03/19 | 0m | DISCHARGE SIDE PUMP | 392 / 200 | 24.3 | 33.4 | 0.038 | 1.37 | 685 / 363 | 798 / 426 | 897 / 480 | 4.67 |
| 10/07/18 | 10/17/18 | 0m | | 396 / 202 | 17.0 | 32.8 | 0.12 | 0.749 | 694 / 368 | 789 / 421 | 875 / 468 | 2.27 |
| 05/11/18 | 05/31/18 | 0m | DISCHARGE SIDE PUMP | 410 / 210 | 23.7 | 33.5 | 0.294 | 1.04 | 686 / 364 | 802 / 428 | 887 / 475 | 4.67 |
| 10/21/17 | 10/30/17 | 0m | DOWNSTREAM OF PUMP | 406 / 208 | 6.1 | 33.8 | 0.05 | 1.15 | 694 / 368 | 811 / 433 | 900 / 482 | 4.19 |
| 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 |
|----------------------|------|----------|--------|----------|--------|------|-----|---------|--------|----------|---------|--------|-----------|----------|------------|----------|-----------|---------|-------|-----------|---------|--------|------------|------|
| 10/09/19 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 05/24/19 | 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 |
| 10/07/18 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 |
| 05/11/18 | 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 10/21/17 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 1 | 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 | |
|---------------------|--|
| 05/24/19 | The fluid is in a reasonable condition and suitable for further use. A slightly low Flash Point and 10% GCD temperature in combination with an elevated low boiler vapor content of 4.67% are indications of thermal degradation of the fluid. Please vent off the low boiler vapor to atmosphere. The pentane insolubles (solids) content of the fluid is almost 3x the reportable limit of 0.5%. It is recommended to start filtration of the fluid. Please re-sample in 6 months. Pentane Insolubles levels are severely high. |
| 10/07/18 | The fluid is in a good condition and suitable for further use. A slightly low Flash Point and 10% GCD temperature in combination with 2.27% low boiler vapor indicates normal thermal degradation. 90% GCD temperature is slightly low. This is no problem for system operation at this time. It is recommended to vent low boiler vapor to atmosphere on a regular basis. The Pentane Insoluble (solids) content of the fluid is lower than before but still exceeds the reportable limit of 0.5%. Therefore filtration of the fluid is recommended. Pentane Insolubles levels are severely high. (GCD) 90% Distillation Point is marginally low. |
| 05/11/18 | The fluid is in reasonable condition but shows signs of thermal degradation. Fluid is suitable for further use. The low boiler vapor content is high (% boil-off <335C.) and the GCD 10% temperature is low. Pentane Insolubles (solids content) is high at 2x the limit (= 0.5%). It is recommended to vent off the low boiler vapors to atmosphere and start filtration of the fluid to lower the solids content. Please re-sample in 6 months. Pentane Insolubles levels are severely high. Acid Number (AN) is abnormally high. |
| 10/21/17 | The fluid is in a reasonable condition and suitable for further use but shows signs of thermal degradation. Indications of this are: Elevated % boil-off below 335 degrees C, slightly low 10% GCD temperature and increase in Pentane Insoluble (solids) content. It is recommended to vent off low boiler vapors to atmosphere on a regular basis and start filtration to lower the solids content. Please re-sample in 6 months and list the service life of the fluid at that time. Pentane Insolubles levels are severely high. |

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