

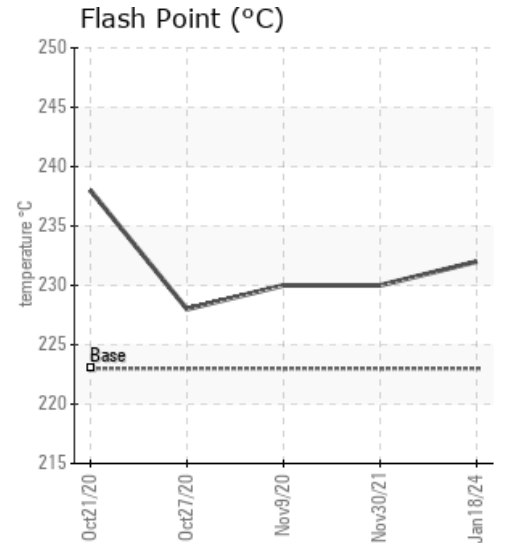
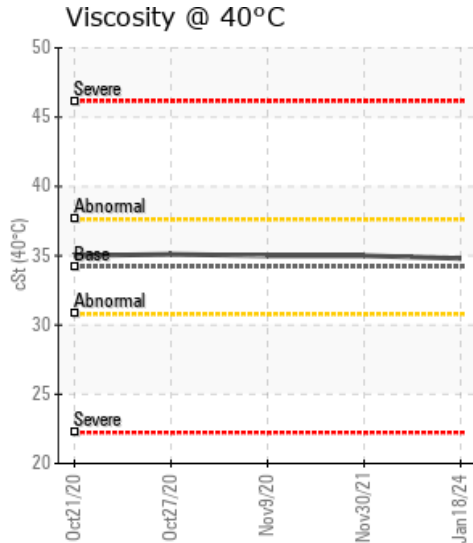
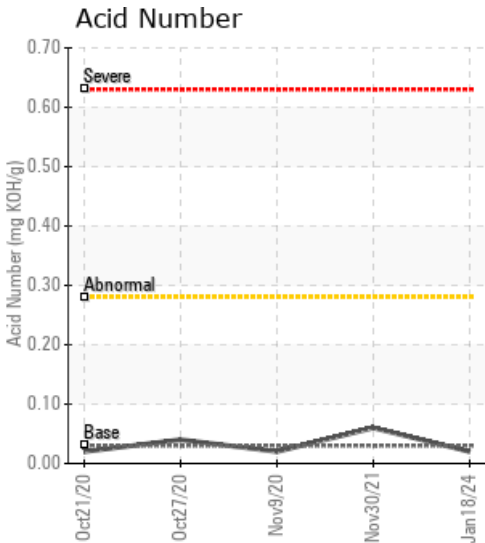
[16-28-71-9 W6M] PIPESTONE NORTH

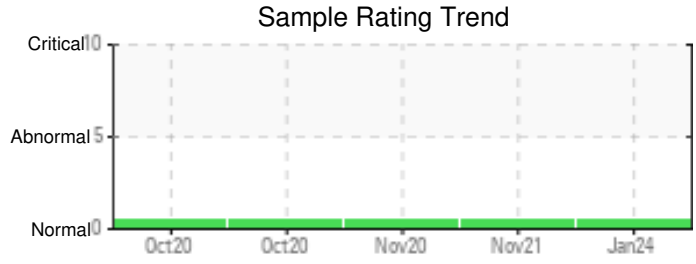
| Customer: PTRHTF20245 | System Information | Sample Information |
|---|---|---|
| NUVISTA ENERGY LTD RR 93 WEMBLY, AB T8W 0H6 CA Attn: Eldon Weaver Tel: (780)831-5603 E-Mail: eweaver@nvaenergy.com | System Volume: 65000 ltr Bulk Operating Temp: 392F / 200C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: HEATECH | Lab No: 02614845 Analyst: Clinton Buhler Sample Date: 01/18/24 Received Date: 02/09/24 Completed: 02/20/24 Clinton Buhler Clinton.Buhler@HFSinclair.com |

Recommendation: Sample results indicate that the fluid is in suitable condition for continued service. Please re-sample in 12 months.

Comments:

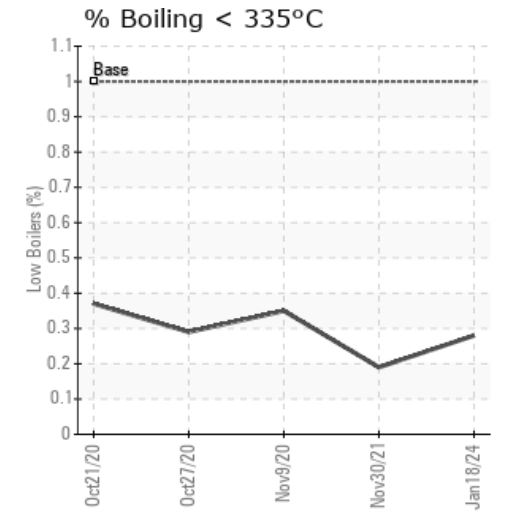
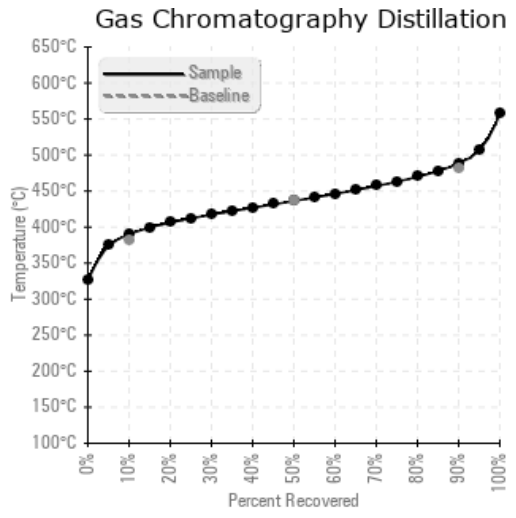
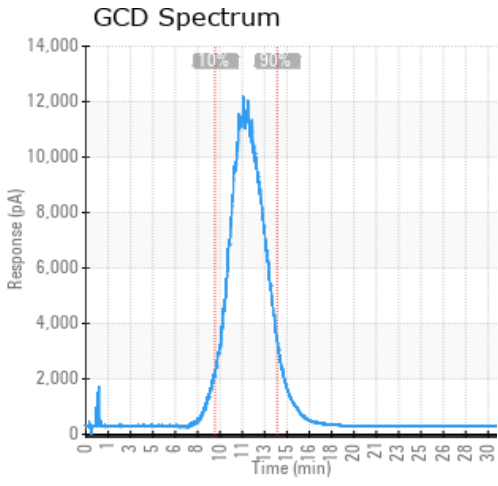
| Sample Date | Received Date | Fluid Age | Sample Location | Flash Point (COC) | Water (KF) | Viscosity (40°C) | Acid Number | Solids | GCD 10% | GCD 50% | GCD 90% | GCD % < 335°C |
|---------------|---------------|-----------|--------------------|-------------------|------------|------------------|-------------|--------|-----------|-----------|-----------|---------------|
| | mm/dd/yy | | | °F/°C | ppm | cSt | mg/KOH/g | %wt | °F/°C | °F/°C | °F/°C | % |
| 01/18/24 | 02/09/24 | 3.0y | | 450 / 232 | 6 | 34.8 | 0.02 | 0.038 | 734 / 390 | 817 / 436 | 911 / 489 | 0.28 |
| 11/30/21 | 01/06/22 | 0.0y | pump inlet | 446 / 230 | 60.3 | 35.0 | 0.06 | 0.038 | 734 / 390 | 816 / 435 | 908 / 486 | 0.19 |
| 11/09/20 | 11/16/20 | 20.0y | PUMP DISCHARGE | 446 / 230 | 13.0 | 35.0 | 0.02 | 0.046 | 736 / 391 | 818 / 437 | 910 / 488 | 0.35 |
| 10/27/20 | 11/04/20 | 7.0y | Piping from heater | 442 / 228 | 22.0 | 35.1 | 0.04 | 0.069 | 735 / 391 | 818 / 436 | 909 / 487 | 0.29 |
| 10/21/20 | 10/28/20 | 0.0y | | 460 / 238 | 39.0 | 35.0 | 0.02 | 0.104 | 735 / 390 | 814 / 435 | 901 / 483 | 0.37 |
| 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 |
|---------------|------|----------|--------|----------|--------|------|-----|---------|--------|----------|---------|--------|-----------|----------|------------|----------|-----------|---------|-------|-----------|---------|--------|------------|------|
| 01/18/24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11/30/21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 11/09/20 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 |
| 10/27/20 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 |
| 10/21/20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 |
| 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 | |
|---------------------|---|
| 11/30/21 | Sample results indicate the fluid is in suitable condition for continued service. Please re-sample in 12 months |
| 11/09/20 | Final sample of the fluid after filtering has been completed. ISO particle count remains at 23/21/14 yet solids has gone from 0.069% to 0.046% which is also an indication of efficient filtering. Please re-sample once system is operational at normal operating temperatures. |
| 10/27/20 | Sample is after filtering of the fluid has began. Filtering is improving cleanliness as ISO particle count has gone from 24/22/17 to 23/21/14; solids has gone from 0.104% to 0.069%. Please re-sample once system is operational at normal operating temperatures. |
| 10/21/20 | This sample is of new Petro-Therm in the Pipestone facility heater circulating without full system temperature. ISO particle count (Fluid Cleanliness) is at 24/22/17. All other parameters indicate fresh and healthy Petro-Therm. Please re-sample fluid after filtering is complete and after it has ran at operating temperature for at least 24 hours. For future samples, please indicate blanket gas pressure and time on oil. |

Petro-Canada makes no representation or warranty of any kind, either express or implied, as to the accuracy or completeness of the analysis and assumes no responsibility and shall have no liability whatsoever with respect to such analysis, or a party's use of it. Petro-Canada is a division of HollyFrontier Corporation.