

OIL ANALYSIS REPORT

Sample Rating Trend





Area **RONI** Machine Id **148** Component **Diesel Engine** Fluid

PETRO CANADA 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

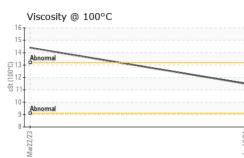
The condition of the oil is acceptable for the time in service.

| SAMPLE INFORM | IATION | method | limit/base | current | history1 | history2 |
|---------------|----------|---------------|------------|-------------|-------------|----------|
| Sample Number | | Client Info | | WC0888473 | LH0218902 | |
| Sample Date | | Client Info | | 10 Jan 2024 | 22 Mar 2023 | |
| Machine Age | hrs | Client Info | | 0 | 1000 | |
| Oil Age | hrs | Client Info | | 0 | 0 | |
| Oil Changed | | Client Info | | Changed | Changed | |
| Sample Status | | | | NORMAL | NORMAL | |
| CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | |
| Water | | WC Method | >0.2 | NEG | NEG | |
| Glycol | | WC Method | 20.L | NEG | NEG | |
| - | | | | - | | |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185(m) | >100 | 2 | 22 | |
| Chromium | ppm | ASTM D5185(m) | >20 | 0 | <1 | |
| Nickel | ppm | ASTM D5185(m) | >2 | 0 | <1 | |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | <1 | |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | 0 | |
| Aluminum | ppm | ASTM D5185(m) | >25 | 2 | 19 | |
| Lead | ppm | ASTM D5185(m) | >40 | 0 | 0 | |
| Copper | ppm | ASTM D5185(m) | >330 | <1 | 2 | |
| Tin | ppm | ASTM D5185(m) | >15 | 0 | 0 | |
| Antimony | ppm | ASTM D5185(m) | | 0 | <1 | |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185(m) | | <1 | 77 | |
| Barium | ppm | ASTM D5185(m) | | 0 | 0 | |
| Molybdenum | ppm | ASTM D5185(m) | | 55 | 5 | |
| Manganese | ppm | ASTM D5185(m) | | 0 | <1 | |
| Magnesium | ppm | ASTM D5185(m) | | 957 | 84 | |
| Calcium | ppm | ASTM D5185(m) | | 1015 | 2196 | |
| Phosphorus | ppm | ASTM D5185(m) | | 1006 | 1095 | |
| Zinc | ppm | ASTM D5185(m) | | 1138 | 1176 | |
| Sulfur | ppm | ASTM D5185(m) | | 2754 | 3072 | |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185(m) | >25 | 4 | 6 | |
| Sodium | ppm | ASTM D5185(m) | | <1 | 2 | |
| Potassium | ppm | ASTM D5185(m) | >20 | 0 | 8 | |
| INFRA-RED | | method | limit/base | current | history1 | history2 |
| Soot % | % | ASTM D7844* | >3 | 0 | 0.2 | |
| Nitration | Abs/cm | ASTM D7624* | >20 | 4.3 | 8.1 | |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 17.9 | 22.2 | |



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FLUID DEGRADATION method limit/base



| FLUID DEGRAL | DATION | method | limit/base | current | history1 | history2 |
|---|---|---|---|---------------|----------|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 13.0 | 14.7 | |
| VISUAL | | method | limit/base | current | history1 | history2 |
| White Metal | scalar | Visual* | NONE | NONE | | |
| Yellow Metal | scalar | Visual* | NONE | NONE | | |
| Precipitate | scalar | Visual* | NONE | VLITE | | |
| ⁴ Z ₂ Silt | scalar | Visual* | NONE | NONE | | |
| FZOL Silt Debris | scalar | Visual* | NONE | NONE | | |
| Sand/Dirt | scalar | Visual* | NONE | NONE | | |
| Appearance | scalar | Visual* | NORML | NORML | | |
| Odor | scalar | Visual* | NORML | NORML | NORML | |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | |
| Free Water | scalar | Visual* | | NEG | NEG | |
| FLUID PROPER | RTIES | method | limit/base | current | history1 | history2 |
| Visc @ 100°C | cSt | ASTM D7279(m) | | 11.5 | 14.4 | |
| GRAPHS | | | | | | |
| Iron (ppm) | | | 100- | Lead (ppm) | | |
| 200 Severe | | | 80 | Severe | | |
| § 150 - Abnormal | | | 60- | Ahnormal | | |
| 읍 100 - Abnormal 50 | | ******* | 40· 20· | Abnormal | | - |
| 0 | | | 0 | | | |
| Mat2/23 | | | Jan 10/24 | Mar22/23 | | Jan 10/24 |
| | | | Jar | |) | Jar |
| Aluminum (ppm) |) | | 50- | L= | m) | |
| 40 - Severe | | | 40 | Severe | | |
| E 30 Abnormal | | | ====================================== | Abnormal | | |
| 10 | | | - 20. | | | |
| o L | | | | | | |
| Mar2.2.2 | | | Jan 10/24 | Mar22/23 | | Jan 10/24 |
| ≊ Copper (ppm) | | | Ja | | | La |
| 400 Assessed | | | 80- | Silicon (ppm) | | |
| 300 - | | | 60 | | | |
| 틆 200 | | | 틆 40 | | | |
| 100 - | | | 20 | Abnormal | | |
| | | | 0· | 22 | | 4 |
| Mar2.22 | | | Jan 10/24 | Mar22/23 | | Jan 10/24 |
| ≥ Viscosity @ 100° | C | | -j | ≥ Soot % | | ت ت |
| 16 | | | 6.0 | Severe | | |
| e ¹⁴ Abnormal | | | 4.0· | T | | |
| G14 6 12 3 10 | | | ^{هو 4.0} | Abnormal | | |
| ¹³ 10 Abnormal | | | 2.0 | | | |
| 844 | | | -0.0 | 23 | | 24 |
| Mar2.22 | | | Jan 10/24 | Mar22/23 | | Jan 10/24 |
| CALLA Iso 17025:2017 Accredited Laboratory Test Package : MOBCE (Addition To discuss this sample report, contact Customer Ser Test denoted (*) outside scope of accreditation, (m) r Validity of results and interpretation are based on r | Recieved Diagnos Diagnos al Tests: V vice at 1-8 method mo | d : 17 ed : 17 tician : We /isual) 200-268-213 polified, (e) te | Jan 2024 Jan 2024 s Davis 1. sted at extern | al lab. | 100 MAC | CAVATING LTD. INTOSH BLVD VAUGHAN, ON CA L4K 4P3 : Service Team e.team@roni.ca T: F: |
| Validity of results and interpretation are based on the | e sample a | na mormatio | n as supplied | | | F: |