



OIL ANALYSIS REPORT

| | |
|-----------------|-----------------|
| WEAR | ABNORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Area
4000 Series
 Machine Id
Navistar 4300
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (16 LTR)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0915473 | WC0864019 | WC0828234 |
| Sample Date | | Client Info | | 31 Mar 2024 | 21 Oct 2023 | 13 Jul 2023 |
| Machine Age | mls | Client Info | | 212731 | 330588 | 167561 |
| Oil Age | mls | Client Info | | 7316 | 7856 | 9124 |
| Filter Age | mls | Client Info | | 7316 | 7856 | 9124 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | ABNORMAL | NORMAL | NORMAL |

WEAR

Aluminum ppm levels are abnormal. Piston wear is indicated.

| | | | | | | |
|----------|-----|---------------|------|--------------|----|----|
| Iron | ppm | ASTM D5185(m) | >130 | 55 | 25 | 18 |
| Chromium | ppm | ASTM D5185(m) | >10 | 1 | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >4 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | ▲ 24 | 15 | 12 |
| Lead | ppm | ASTM D5185(m) | >20 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185(m) | >125 | 2 | 1 | 1 |
| Tin | ppm | ASTM D5185(m) | >4 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

CONTAMINATION

There is no indication of any contamination in the oil.

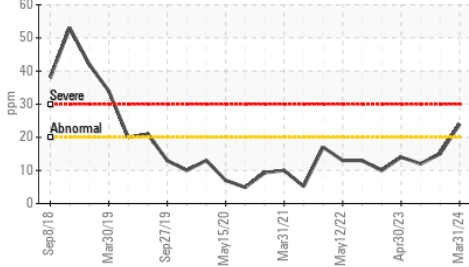
| | | | | | | |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon | ppm | ASTM D5185(m) | >25 | 4 | 4 | 4 |
| Potassium | ppm | ASTM D5185(m) | >20 | 11 | 14 | 11 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | % | ASTM D7922* | | 0.0 | 0.0 | 0.0 |
| Soot % | % | ASTM D7844* | >6 | 1.3 | 0.5 | 0.1 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 13.7 | 10.9 | 8.9 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 24.7 | 22.1 | 20.4 |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

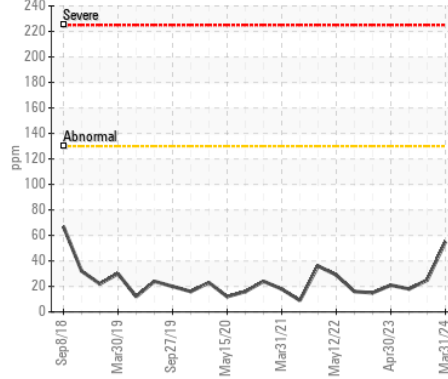
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

| | | | | | | |
|--------------|----------|---------------|-------|-------------|------|------|
| Sodium | ppm | ASTM D5185(m) | | 2 | 2 | 2 |
| Boron | ppm | ASTM D5185(m) | 2 | 4 | 7 | 4 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 50 | 66 | 66 | 61 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 950 | 1035 | 1033 | 1011 |
| Calcium | ppm | ASTM D5185(m) | 1050 | 1159 | 1182 | 1082 |
| Phosphorus | ppm | ASTM D5185(m) | 995 | 1035 | 1071 | 1071 |
| Zinc | ppm | ASTM D5185(m) | 1180 | 1275 | 1302 | 1222 |
| Sulfur | ppm | ASTM D5185(m) | 2600 | 2500 | 2588 | 2514 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 22.3 | 20.7 | 17.0 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 12.00 | 11.9 | 11.2 | 11.5 |

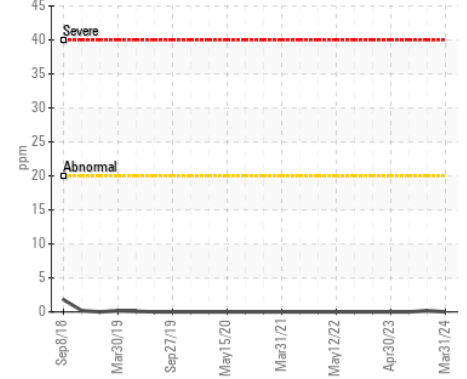
▲ Aluminum (ppm)



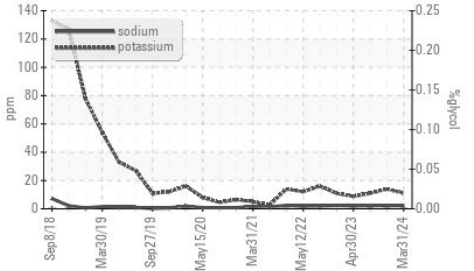
Iron (ppm)



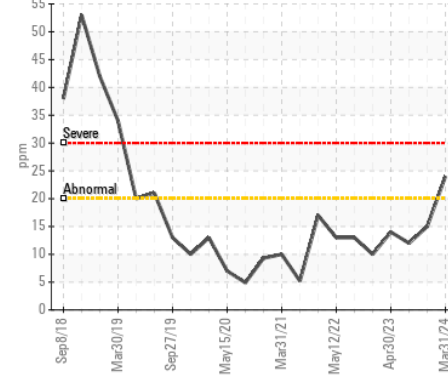
Lead (ppm)



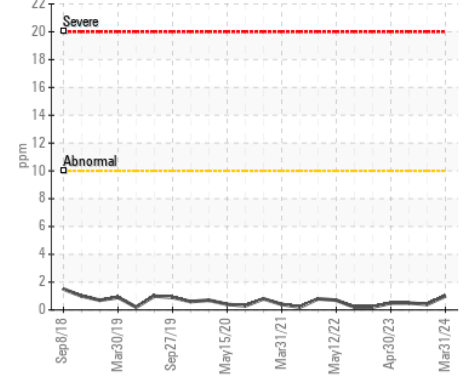
Glycol Contamination



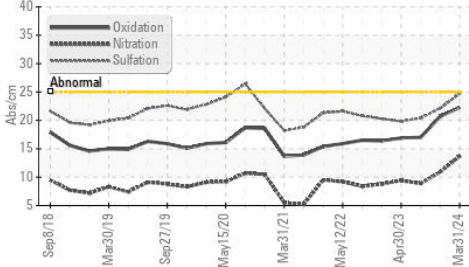
▲ Aluminum (ppm)



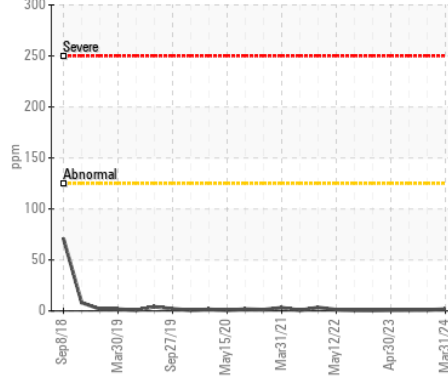
Chromium (ppm)



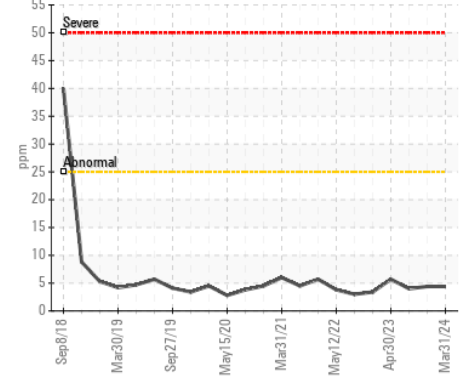
FT-IR (Direct Trend)



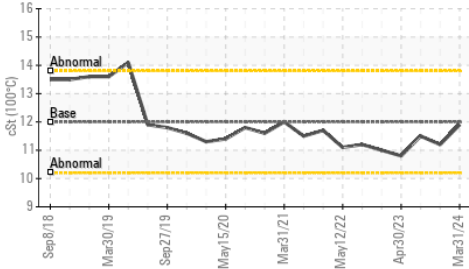
Copper (ppm)



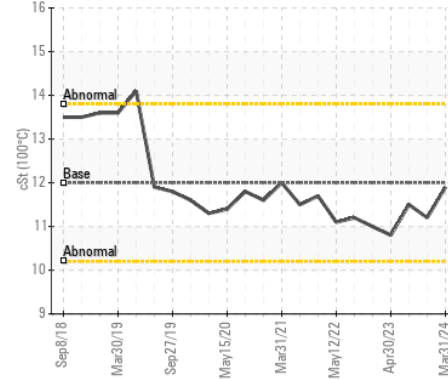
Silicon (ppm)



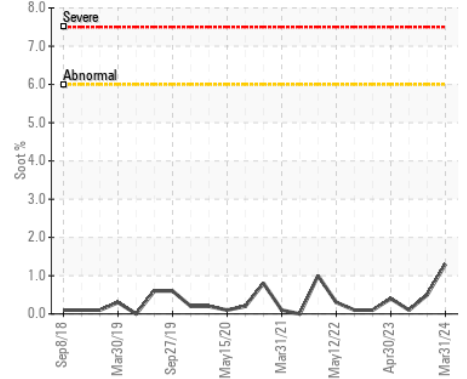
Viscosity @ 100°C



Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0915473 **Received** : 05 Apr 2024
Lab Number : 02626897 **Tested** : 05 Apr 2024
Unique Number : 5760029 **Diagnosed** : 05 Apr 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol)

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 F: x:

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.