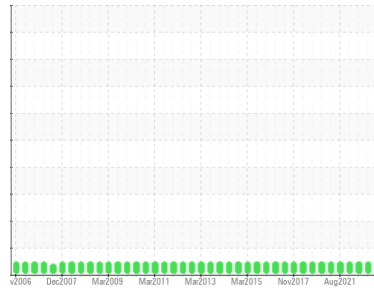




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
NOVA BUS EQ60022
 Component
Rear Diesel Engine
 Fluid
VALVOLINE 15W40 (24 LTR)

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 INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | WC0911684 | WC0770745 | WC0734895 |
| Sample Date | Client Info | | | 04 Apr 2024 | 27 Feb 2023 | 12 Oct 2022 |
| Machine Age | kms | Client Info | | 991900 | 969599 | 949055 |
| Oil Age | kms | Client Info | | 10000 | 10000 | 10000 |
| Oil Changed | Client Info | | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---------------|-----------|--------|------------|----------------|----------|----------|
| Fuel | WC Method | >3.0 | | <1.0 | <1.0 | <1.0 |
| Water | WC Method | >0.2 | | NEG | NEG | NEG |
| Glycol | WC Method | | | NEG | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185(m) | >75 | 18 | 15 | 28 |
| Chromium | ppm | ASTM D5185(m) | >5 | <1 | <1 | 2 |
| Nickel | ppm | ASTM D5185(m) | >4 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | <1 | <1 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >15 | 1 | 2 | 1 |
| Lead | ppm | ASTM D5185(m) | >25 | <1 | 1 | 2 |
| Copper | ppm | ASTM D5185(m) | >100 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >4 | 0 | <1 | <1 |
| Antimony | ppm | ASTM D5185(m) | | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) | 39 | 5 | 7 | <1 |
| Barium | ppm | ASTM D5185(m) | 1 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 49 | 62 | 62 | 60 |
| Manganese | ppm | ASTM D5185(m) | 1 | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 616 | 1007 | 992 | 959 |
| Calcium | ppm | ASTM D5185(m) | 1554 | 1094 | 1175 | 1088 |
| Phosphorus | ppm | ASTM D5185(m) | 899 | 1011 | 1099 | 1082 |
| Zinc | ppm | ASTM D5185(m) | 1069 | 1219 | 1253 | 1217 |
| Sulfur | ppm | ASTM D5185(m) | 2624 | 2522 | 2708 | 2587 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |

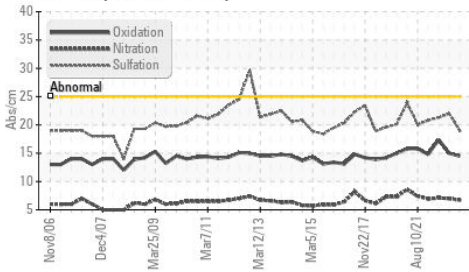
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|---------------|------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185(m) | >25 | 2 | 3 | 4 |
| Sodium | ppm | ASTM D5185(m) | | 3 | 4 | 5 |
| Potassium | ppm | ASTM D5185(m) | >20 | 0 | 0 | <1 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot % | % | ASTM D7844* | >6 | 0.2 | 0 | 0.3 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 6.7 | 7.0 | 7.1 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 19.0 | 22.0 | 21.3 |



OIL ANALYSIS REPORT

FT-IR (Direct Trend)



FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|----------|-------------|---------|----------|----------|
| Abs./1mm | ASTM D7414* | >25 | 15.0 | 17.4 |

VISUAL

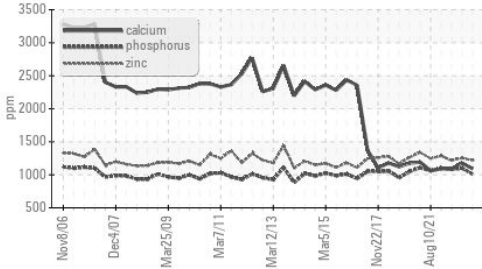
| method | limit/base | current | history1 | history2 |
|--------|------------|---------|----------|----------|
| scalar | Visual* | >0.2 | NEG | NEG |
| scalar | Visual* | NEG | NEG | NEG |

FLUID PROPERTIES

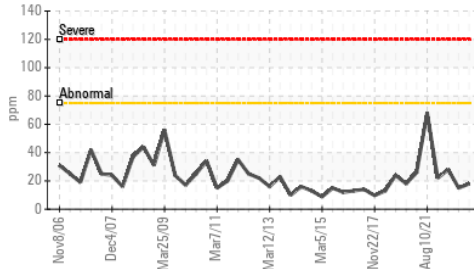
| method | limit/base | current | history1 | history2 |
|--------|---------------|---------|----------|----------|
| cSt | ASTM D7279(m) | 13.6 | 13.8 | 13.8 |

GRAPHS

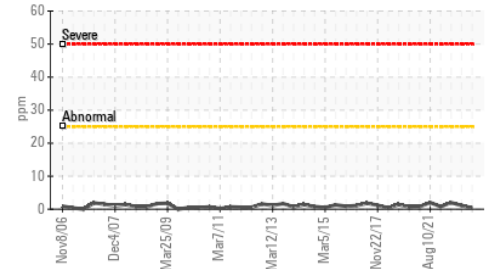
Additives



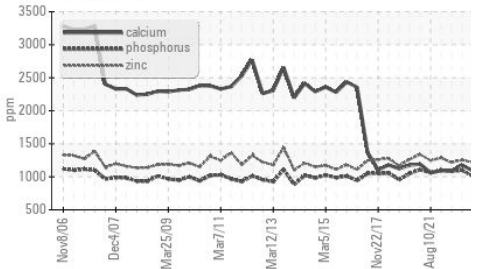
Iron (ppm)



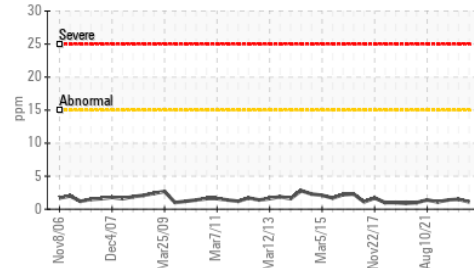
Lead (ppm)



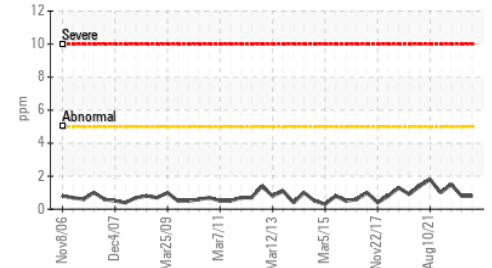
Additives



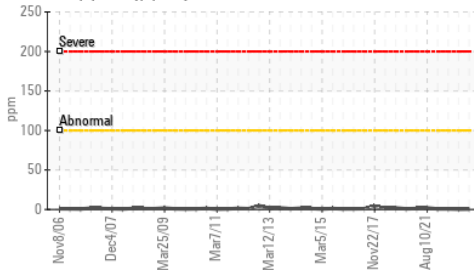
Aluminum (ppm)



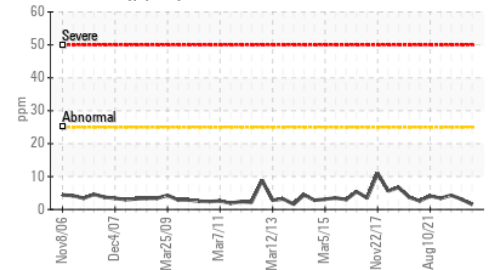
Chromium (ppm)



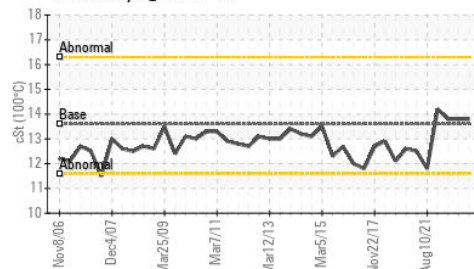
Copper (ppm)



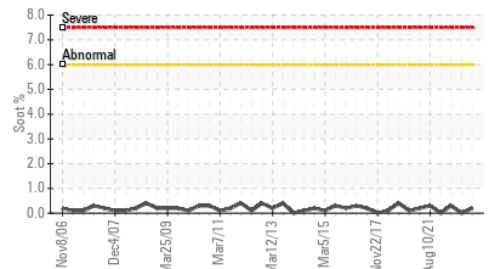
Silicon (ppm)



Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0911684
Lab Number : 02626915
Unique Number : 5760047
Test Package : MOB 1

Received : 05 Apr 2024
Tested : 05 Apr 2024
Diagnosed : 05 Apr 2024 - Wes Davis

CITY OF PETERBOROUGH
 791 WEBBER AVENUE., MUNICIPAL OPERATIONS CENTRE
 PETERBOROUGH, ON
 CA K9J 8N3

Contact: Frank Curran
 fcurran@peterborough.ca
 T: (705)742-7777
 F: (705)743-3223

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.