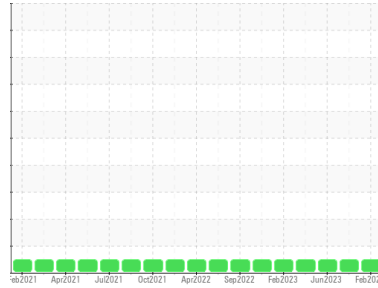


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
DR188

Component
Diesel Engine

Fluid
PETRO CANADA DURON UHP 5W40 (38 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 | | | PC0078298 | PC0078518 | PC0075766 |
| Sample Date | Client Info | | | 09 Feb 2024 | 14 Aug 2023 | 23 Jun 2023 |
| Machine Age | hrs | Client Info | | 7614 | 6680 | 6417 |
| Oil Age | hrs | Client Info | | 0 | 250 | 250 |
| Oil Changed | Client Info | | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---------------|-----------|--------|------------|----------------|----------|----------|
| Fuel | WC Method | >5 | | <1.0 | <1.0 | <1.0 |
| Water | WC Method | >0.2 | | NEG | NEG | NEG |
| Glycol | WC Method | | | NEG | NEG | NEG |

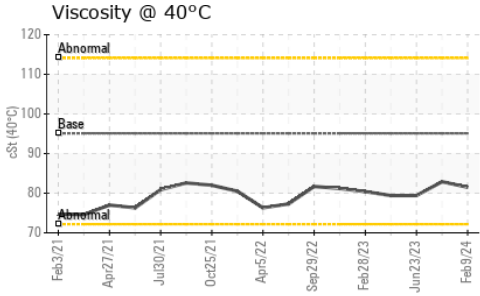
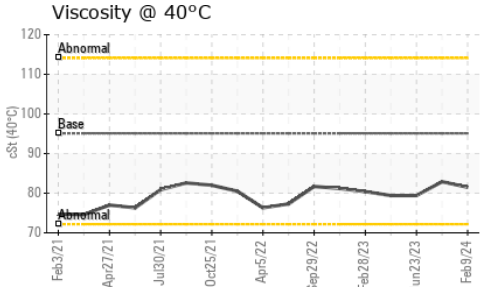
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185(m) | >100 | 6 | 8 | 10 |
| Chromium | ppm | ASTM D5185(m) | >20 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >4 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | 2 | 2 | 1 |
| Lead | ppm | ASTM D5185(m) | >40 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >330 | 2 | 2 | 3 |
| Tin | ppm | ASTM D5185(m) | >15 | 0 | <1 | <1 |
| Antimony | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| 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) | 65 | 39 | 27 | 21 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 65 | 57 | 57 | 54 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 1160 | 1098 | 1120 | 1073 |
| Calcium | ppm | ASTM D5185(m) | 820 | 810 | 836 | 804 |
| Phosphorus | ppm | ASTM D5185(m) | 1160 | 1010 | 1032 | 1006 |
| Zinc | ppm | ASTM D5185(m) | 1260 | 1170 | 1180 | 1133 |
| Sulfur | ppm | ASTM D5185(m) | 3000 | 2949 | 2753 | 2644 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |

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

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot % | % | ASTM D7844* | >3 | 0 | 0.1 | 0.1 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 8.5 | 8.6 | 9.1 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 20.2 | 21.2 | 20.1 |

OIL ANALYSIS REPORT

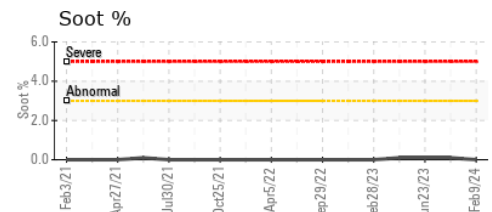
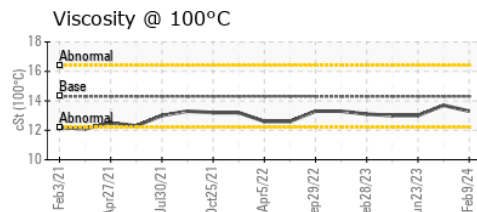
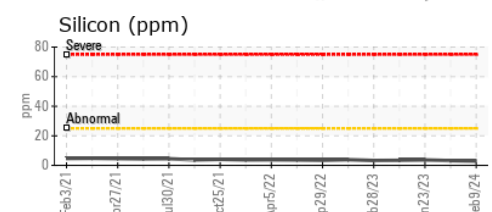
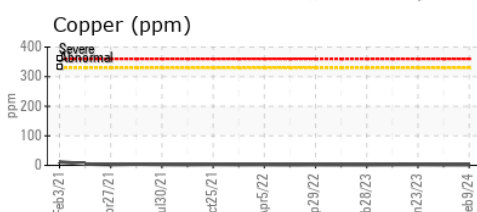
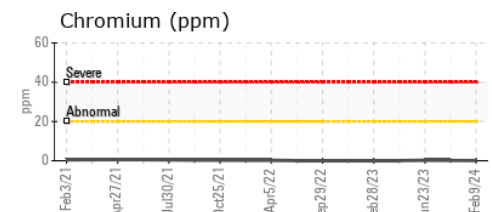
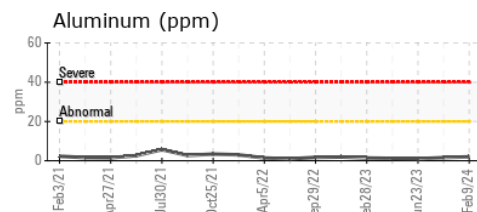
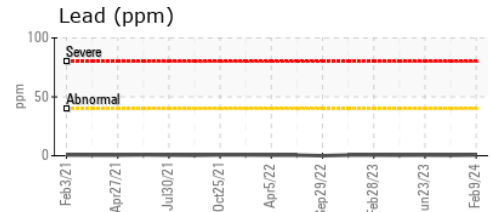
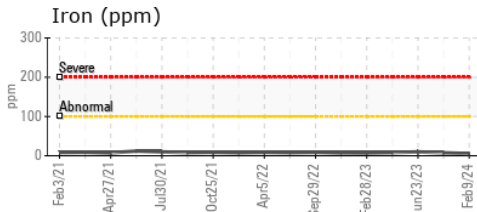


| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation | Abs./1mm | ASTM D7414* | >25 | 18.3 | 17.9 | 18.0 |

| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Precipitate | scalar | Visual* | NONE | NONE | --- | --- |
| Silt | scalar | Visual* | NONE | NONE | --- | --- |
| Debris | scalar | Visual* | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | NONE | --- | --- |
| Appearance | scalar | Visual* | NORML | NORML | --- | --- |
| Odor | scalar | Visual* | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | NEG |
| Free Water | scalar | Visual* | | NEG | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|----------------------|-------|---------------|------------|-------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 95.1 | 81.5 | 82.9 | 79.4 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 14.3 | 13.3 | 13.7 | 13.0 |
| Viscosity Index (VI) | Scale | ASTM D2270* | 169 | 165 | 169 | 165 |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0078298
Lab Number : 02615546
Unique Number : 5724641
Test Package : MOB 1 (Additional Tests: KV40, VI, Visual)

Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations
 151 Ram Forest Rd,
 Stouffville, ON
 CA L4A 2G8
 Contact: Shannon Abbott
 sabbott@gipi.com
 T: (905)750-5900
 F:

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.