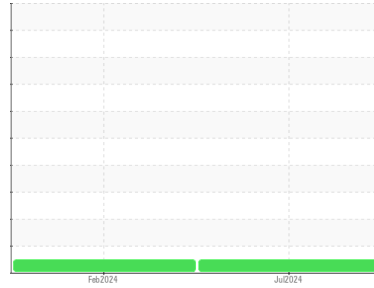




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
Stadler C15 DM1 (S/N 09211286)
 Component
1 Diesel Engine
 Fluid
PETRO CANADA DURON UHP 10W40 (--- 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|----------|
| Sample Number | Client Info | | WC0955164 | WC0902436 | --- |
| Sample Date | Client Info | | 14 Jul 2024 | 25 Feb 2024 | --- |
| Machine Age | hrs | Client Info | 1594 | 630 | --- |
| Oil Age | hrs | Client Info | 0 | 0 | --- |
| Oil Changed | Client Info | | Changed | N/A | --- |
| Sample Status | | | NORMAL | NORMAL | --- |

CONTAMINATION

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

WEAR METALS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|---------------|---------|--------------|----------|-----|
| Iron | ppm | ASTM D5185(m) | >100 | 10 | 13 | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | 3 | 3 | --- |
| Nickel | ppm | ASTM D5185(m) | >4 | 0 | 0 | --- |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Silver | ppm | ASTM D5185(m) | >3 | <1 | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | 1 | 2 | --- |
| Lead | ppm | ASTM D5185(m) | >40 | <1 | 2 | --- |
| Copper | ppm | ASTM D5185(m) | >330 | 11 | 15 | --- |
| Tin | ppm | ASTM D5185(m) | >15 | <1 | <1 | --- |
| Antimony | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| 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) | 2 | 68 | 8 | --- |
| Barium | ppm | ASTM D5185(m) | 0 | 1 | 6 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 60 | 42 | 11 | --- |
| Manganese | ppm | ASTM D5185(m) | 0 | <1 | <1 | --- |
| Magnesium | ppm | ASTM D5185(m) | 1010 | 770 | 59 | --- |
| Calcium | ppm | ASTM D5185(m) | 1070 | 1538 | 2327 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | 670 | 703 | --- |
| Zinc | ppm | ASTM D5185(m) | 1270 | 867 | 798 | --- |
| Sulfur | ppm | ASTM D5185(m) | 2060 | 1980 | 2324 | --- |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | --- |

CONTAMINANTS

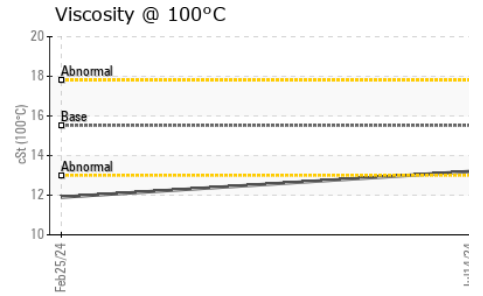
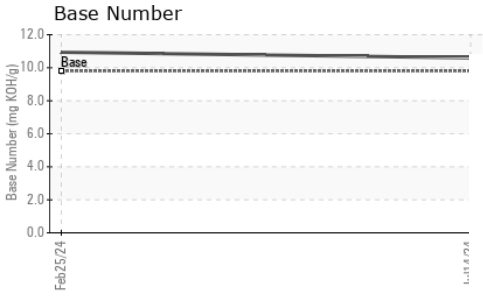
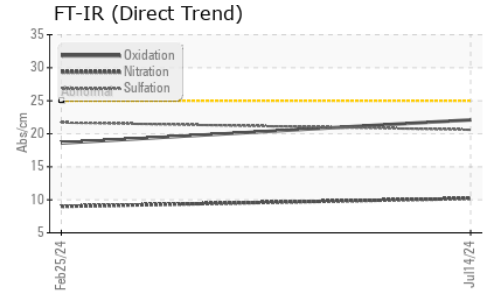
| | method | limit/base | current | history1 | history2 | |
|-----------|--------|---------------|---------|----------|----------|-----|
| Silicon | ppm | ASTM D5185(m) | >25 | 6 | 7 | --- |
| Sodium | ppm | ASTM D5185(m) | | 2 | 2 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | 2 | 2 | --- |

INFRA-RED

| | method | limit/base | current | history1 | history2 | |
|-----------|----------|-------------|---------|-------------|----------|-----|
| Soot % | % | ASTM D7844* | >3 | 0 | 0 | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | 10.2 | 9.0 | --- |
| Sulfation | Abs./1mm | ASTM D7415* | >30 | 20.6 | 21.7 | --- |



OIL ANALYSIS REPORT

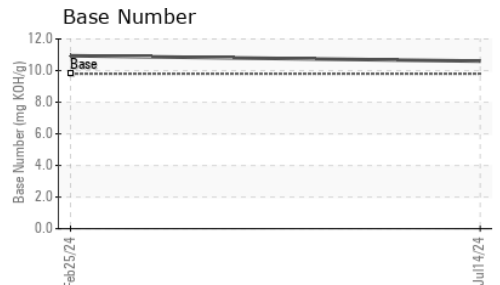
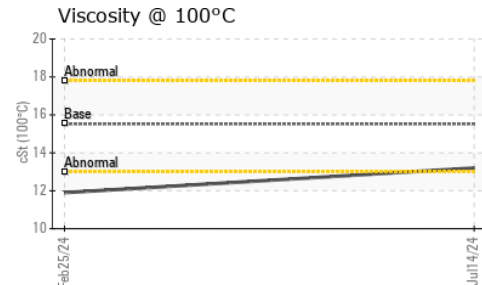
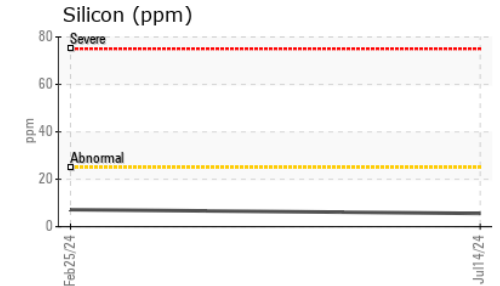
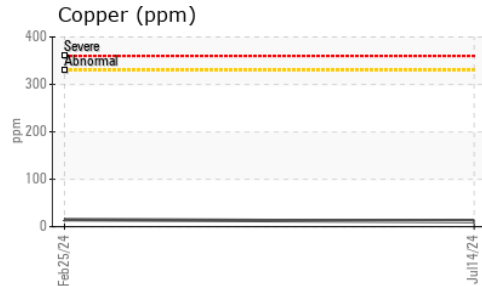
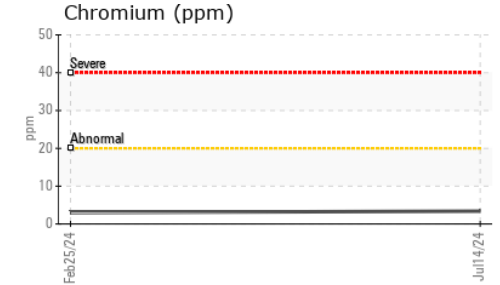
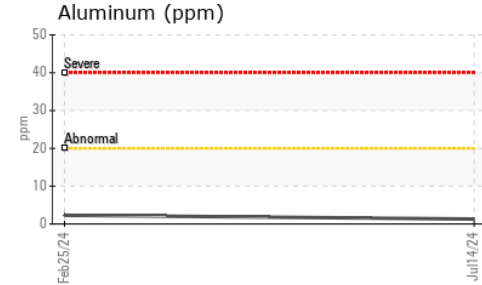
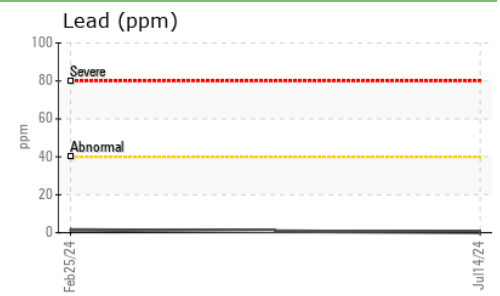
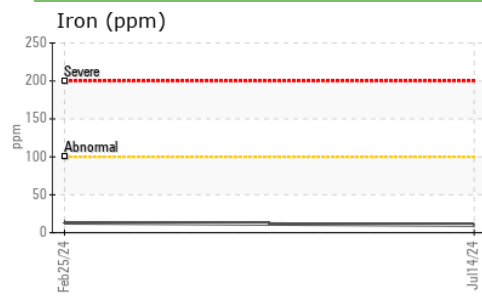


| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|-------------|------------|--------------|----------|----------|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 22.1 | 18.6 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896* | 9.8 | 10.60 | 10.94 | --- |

| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|------------|----------|----------|
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | --- |
| Free Water | scalar | Visual* | | NEG | NEG | --- |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|------------------|-----|---------------|------------|-------------|----------|----------|
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.52 | 13.2 | 11.9 | --- |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0955164 **Received** : 16 Jul 2024
Lab Number : **02648077** **Tested** : 16 Jul 2024
Unique Number : 5813629 **Diagnosed** : 16 Jul 2024 - Wes Davis
Test Package : MOB 2

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 Glenn.Skilton@atkinsrealis.com
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 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.