



LIEBHERR

OIL ANALYSIS REPORT

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



Machine Id
LIEBHERR R926 048474-1565
Component
Diesel Engine
Fluid
PETRO CANADA 10W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | LH0281115 | LH0226750 | LH0214952 |
| Sample Date | | Client Info | | 05 Jan 2024 | 18 May 2022 | 22 Nov 2021 |
| Machine Age | hrs | Client Info | | 1956 | 2674 | 461 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Not Changd |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|----------|-----|---------------|------|--------------|----|----|
| Iron | ppm | ASTM D5185(m) | >100 | 13 | 21 | 3 |
| Chromium | ppm | ASTM D5185(m) | >5 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >5 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >3 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >15 | 2 | 2 | 1 |
| Lead | ppm | ASTM D5185(m) | >30 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >125 | 1 | 7 | 3 |
| Tin | ppm | ASTM D5185(m) | >5 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

CONTAMINATION

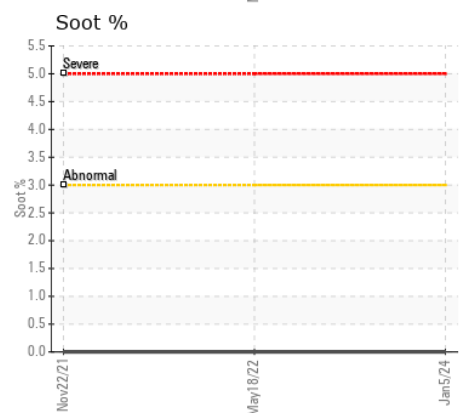
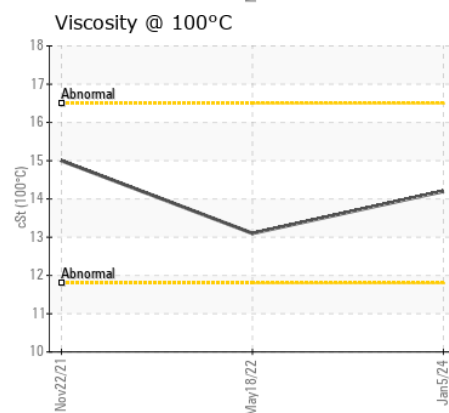
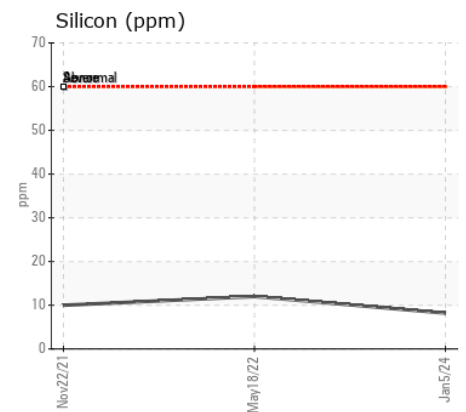
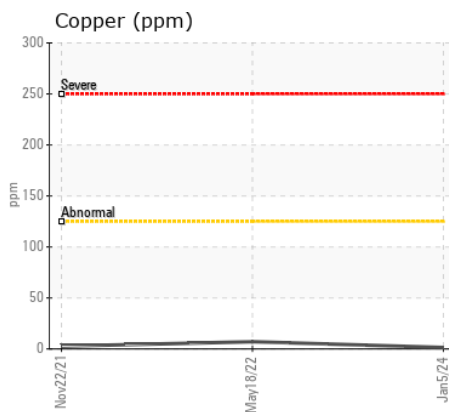
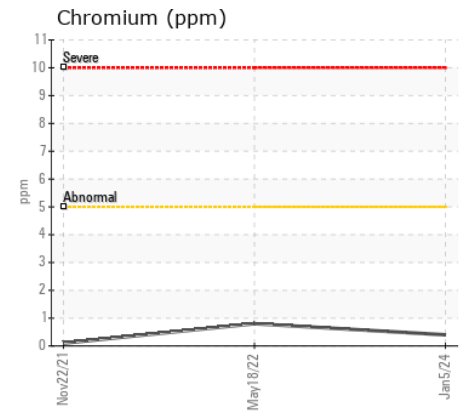
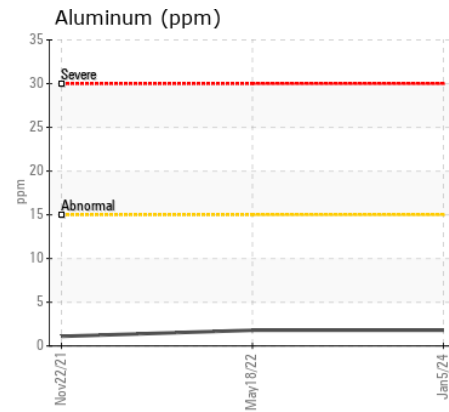
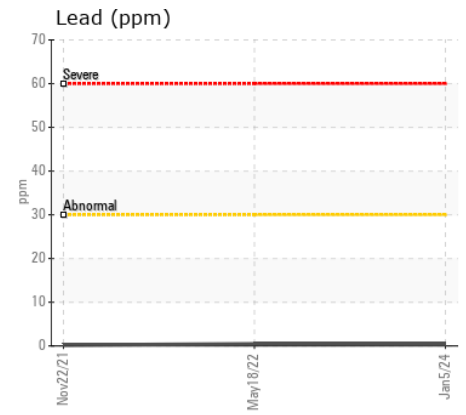
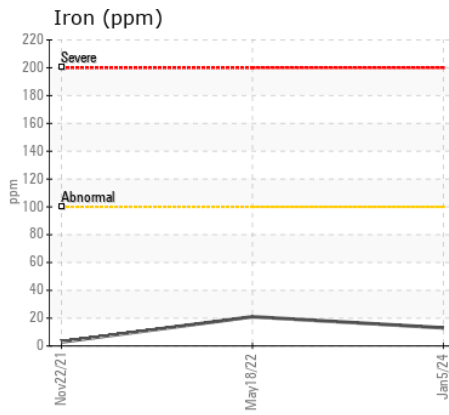
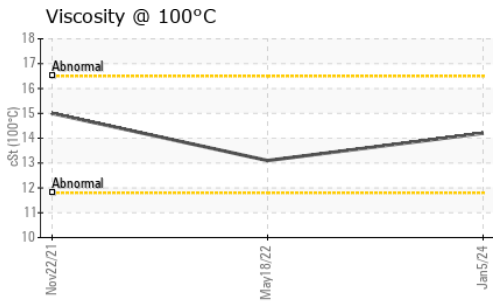
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon | ppm | ASTM D5185(m) | >60 | 8 | 12 | 10 |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | 1 | <1 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | ASTM D7844* | >3 | 0 | 0 | 0 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 7.5 | 8.3 | 4.8 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 20.1 | 22.6 | 19.7 |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

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

| | | | | | | |
|--------------|----------|---------------|-----|--------------|------|------|
| Sodium | ppm | ASTM D5185(m) | >20 | 2 | 2 | 2 |
| Boron | ppm | ASTM D5185(m) | | <1 | 7 | 9 |
| Barium | ppm | ASTM D5185(m) | | 0 | <1 | <1 |
| Molybdenum | ppm | ASTM D5185(m) | | 57 | 58 | 55 |
| Manganese | ppm | ASTM D5185(m) | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | | 947 | 1010 | 967 |
| Calcium | ppm | ASTM D5185(m) | | 1022 | 1117 | 1058 |
| Phosphorus | ppm | ASTM D5185(m) | | 963 | 1049 | 1017 |
| Zinc | ppm | ASTM D5185(m) | | 1150 | 1218 | 1167 |
| Sulfur | ppm | ASTM D5185(m) | | 2473 | 2455 | 2612 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 16.2 | 18.3 | 14.8 |
| Visc @ 100°C | cSt | ASTM D7279(m) | | 14.2 | 13.1 | 15.0 |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0281115 **Received** : 10 Jan 2024
Lab Number : 02607776 **Diagnosed** : 10 Jan 2024
Unique Number : 5708862 **Diagnostician** : Kevin Marson
Test Package : MOB 1

VICTORIA STONESCAPES
 1870 KEATING CROSS ROAD
 SAANICHTON, BC
 CA V8M 1W9
 Contact: Service Manager

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.

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