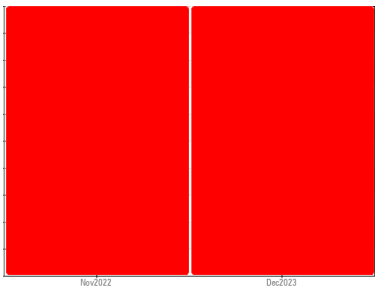
# COOLANT REPORT

Sample Rating Trend




**WEAR**

Area
**[6100224943]**
Machine Id
**DETROIT 3D180861**
Component
**Coolant**
Fluid
**CONVENTIONAL COOLANT (--- GAL)**

## DIAGNOSIS

**Recommendation**

We recommend drain system, and refill with 50/50 antifreeze water mixture. We advise that you replenish the supplemental coolant additives (SCAs) and add per manufacturer`s specifications. Recommend that you ensure the same technology coolant is being used for make-up. We recommend an early resample to monitor this condition.

**Corrosion**

Aluminum and iron and lead ppm levels are severe. PQ levels are severe. Copper ppm levels are abnormal. The iron level is high indicating rust in the system which clogs the cooling system. The high metal levels indicate corrosion in the system.

**Contaminants**

There is no indication of any contamination in the coolant.

**Coolant Condition**

The reserve alkalinity of this fluid is lower than acceptable. The coolant is cloudy indicating either an overconcentration of coolant additives, or a mixing of incompatible coolant technologies. The glycol level is too high which leads to over-heating and additive drop-out. The low nitrite level indicates reduced cavitation protection which leads to corrosion and ammonia formation. The pH is low which causes rust formation. The specific gravity is higher than typical indicating the addition of a different type of coolant.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WA0018426** | WA0012724 | --- |
| Sample Date | | Client Info | | **01 Dec 2023** | 04 Nov 2022 | --- |
| Machine Age | hrs | Client Info | | **0** | 254 | --- |
| Oil Age | hrs | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **N/A** | Not Changd | --- |
| Sample Status | | | | **SEVERE** | SEVERE | --- |

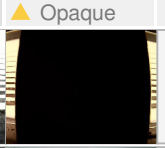
| PHYSICAL TEST RESULTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Specific Gravity | | ASTM D1298* | | ▲ **1.101** | ▲ 1.104 | --- |
| pH | Scale 0-14 | ASTM D1287* | 9.5 | ▲ **7.30** | ▲ 7.22 | --- |
| Nitrites | ppm | Alcan Test Kit* | 1500 | ▲ **0** | ▲ 480 | --- |
| Reserve Alkalinity | Scale 0-20 | ASTM D1121* | 8.5 | ▲ **5.0** | ▲ 3.8 | --- |
| Percentage Glycol | % | ASTM D3321* | 50 | ⬢ **80.5** | ⬢ 83.9 | --- |
| Freezing Point | °C | ASTM D3321* | -40 | ⬢ **-51** | ⬢ -41 | --- |
| Carboxylate | | | | **---** | --- | --- |

| CORROSION INHIBITORS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | | **182** | 97 | --- |
| Phosphorus | ppm | ASTM D5185(m) | | **22** | 16 | --- |
| Boron | ppm | ASTM D5185(m) | | **547** | 576 | --- |
| Molybdenum | ppm | ASTM D5185(m) | | **9** | 1 | --- |

| CORROSION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >15 | ⬢ **2594** | ⬢ 595 | --- |
| Aluminum | ppm | ASTM D5185(m) | >10 | ⬢ **151** | ▲ 28 | --- |
| Copper | ppm | ASTM D5185(m) | >10 | ▲ **9** | 3 | --- |
| Lead | ppm | ASTM D5185(m) | >10 | ⬢ **21** | 5 | --- |
| Tin | ppm | ASTM D5185(m) | >10 | **4** | 1 | --- |
| Silver | ppm | ASTM D5185(m) | >10 | **<1** | <1 | --- |
| Zinc | ppm | ASTM D5185(m) | | **8** | 5 | --- |

| CARRIER SALTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sodium | ppm | ASTM D5185(m) | | **4699** | 2606 | --- |
| Potassium | ppm | ASTM D5185(m) | | **2906** | 2024 | --- |

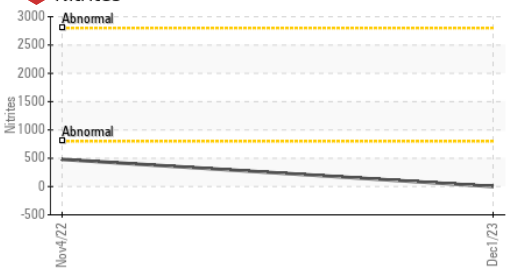
| SCALE POTENTIAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Calcium | ppm | ASTM D5185(m) | >100 | **22** | 24 | --- |
| Magnesium | ppm | ASTM D5185(m) | >40 | **2** | 2 | --- |
| Hardness | mg/L CaCO3 | In-house* | <75 | **61** | 66 | --- |

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Coolant Color | | Visual* | Green | **Other** | Other | --- |
| Coolant Appearance | | Visual* | Clear | ▲ **Opaque** | ▲ Opaque | --- |
| Color | | | |  |  | *no image* |
| Bottom | | | |  |  | *no image* |

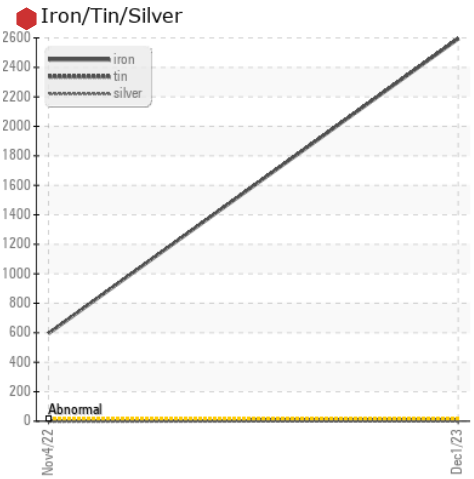
# COOLANT REPORT

## GRAPHS

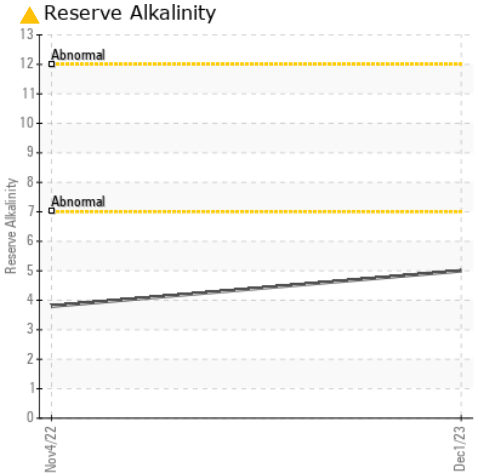
Nitrites



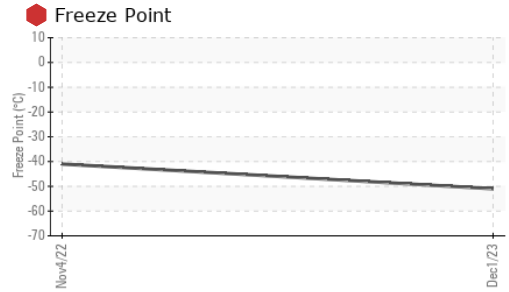

Iron/Tin/Silver



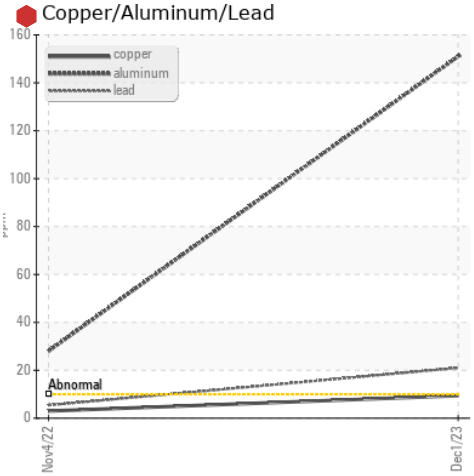

Reserve Alkalinity



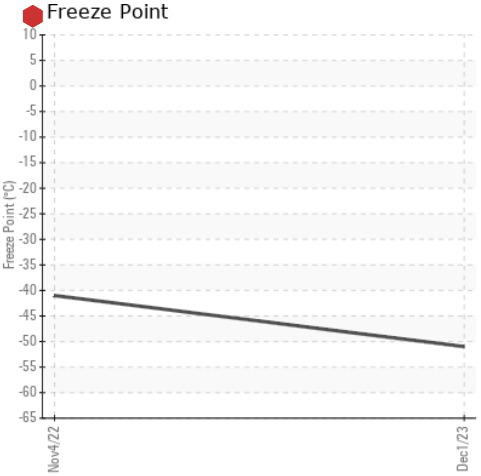

Freeze Point



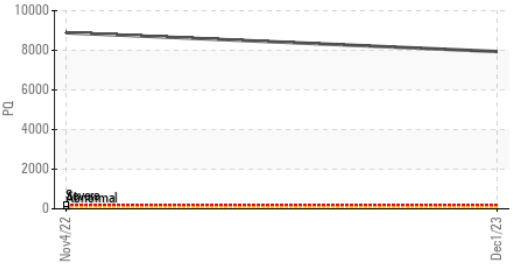

Copper/Aluminum/Lead



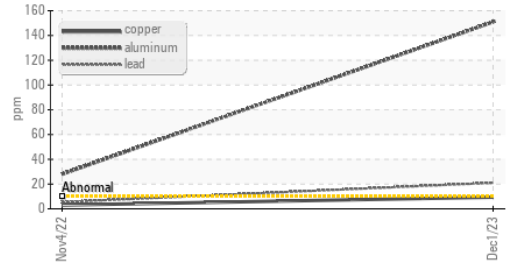

Freeze Point



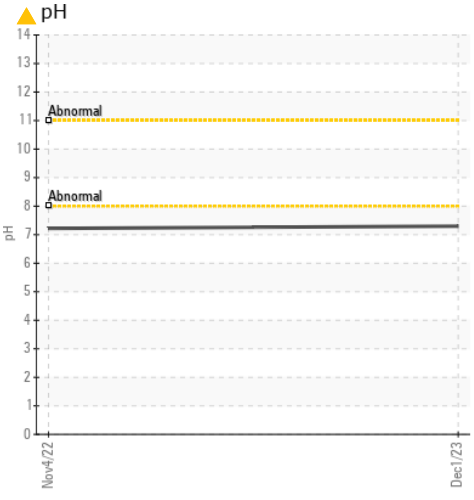

PQ



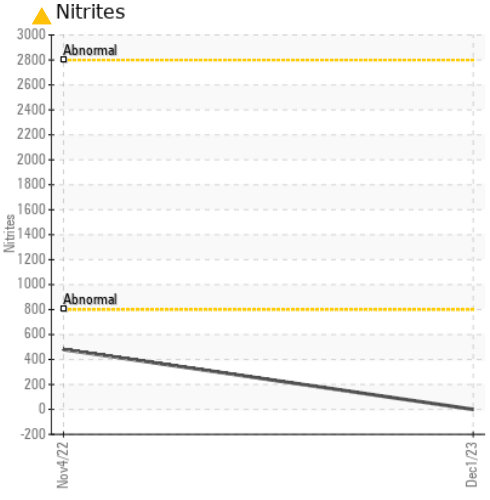

Copper/Aluminum/Lead




pH




Nitrites




Iron/Tin/Silver


ISO 17025:2017 Accredited Laboratory

| | | | |
|---|---|---|---|
| **Laboratory** | : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 | | |
| **Sample No.** | : WA0018426 | **Received** | : 05 Dec 2023 |
| **Lab Number** | : 02601068 | **Diagnosed** | : 07 Dec 2023 |
| **Unique Number** | : 5694153 | **Diagnostician** | : Kevin Marson |
| **Test Package** | : COOL ( Additional Tests: PQ ) | | |

*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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