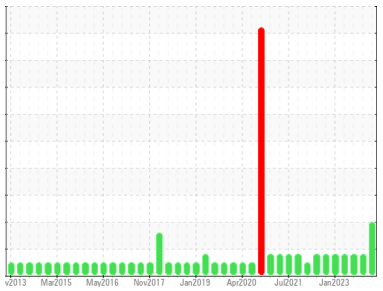
# OIL ANALYSIS REPORT

Sample Rating Trend




**WEAR**

Area
**SAB2**
Machine Id
**SAB2 G26**
Component
**Turbine Bearing**
Fluid
**ESSO TERESSO ISO 46 (273 LTR)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

**Wear**
Tin ppm levels are noted. All other component wear rates are normal.

**Contamination**
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

**Fluid Condition**
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC** | WC0858110 | WC0830410 |
| Sample Date | | Client Info | | **20 Dec 2023** | 25 Oct 2023 | 31 Jul 2023 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ABNORMAL** | ATTENTION | ATTENTION |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >2 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >7 | **1** | <1 | <1 |
| Chromium | ppm | ASTM D5185(m) | >2 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >2 | **<1** | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >2 | **<1** | 0 | <1 |
| Lead | ppm | ASTM D5185(m) | >33 | **1** | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >3 | **<1** | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >6 | ▲ **9** | ▲ 8 | ▲ 9 |
| Antimony | ppm | ASTM D5185(m) | | **<1** | <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 |

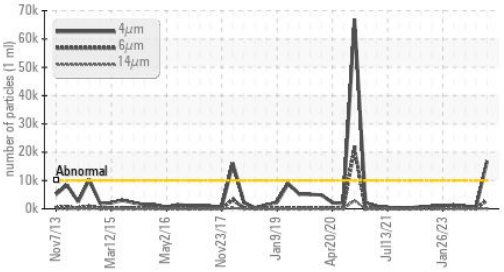
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 0 | **<1** | <1 | <1 |
| Barium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 0 | **0** | 0 | 0 |
| Calcium | ppm | ASTM D5185(m) | 0 | **0** | 0 | <1 |
| Phosphorus | ppm | ASTM D5185(m) | 2.4 | **3** | 3 | 3 |
| Zinc | ppm | ASTM D5185(m) | 0 | **2** | 2 | 3 |
| Sulfur | ppm | ASTM D5185(m) | | **1704** | 1599 | 1706 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

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

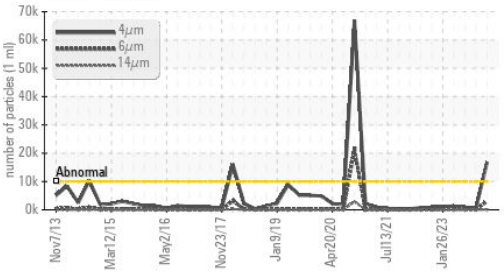
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >10000 | ▲ **16798** | 645 | 874 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **3050** | 129 | 226 |
| Particles >14µm | | ASTM D7647 | >160 | **100** | 7 | 23 |
| Particles >21µm | | ASTM D7647 | >40 | **18** | 3 | 6 |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **1** | 1 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >20/17/14 | ▲ **21/19/14** | 17/14/10 | 17/15/12 |

# OIL ANALYSIS REPORT

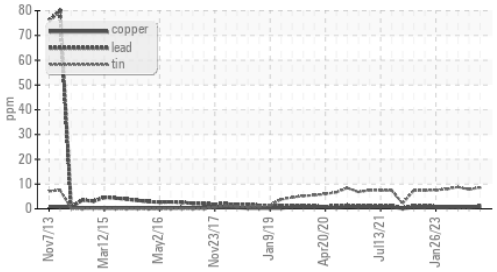
Particle Trend



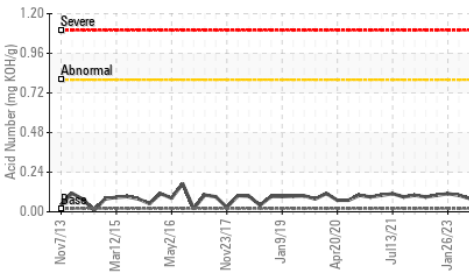

Particle Trend



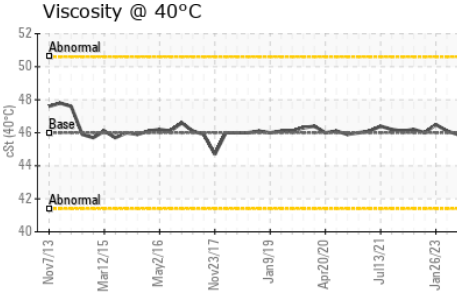

Non-ferrous Metals




Acid Number




Viscosity @ 40°C




| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.02 | **0.15** | 0.14 | 0.08 |

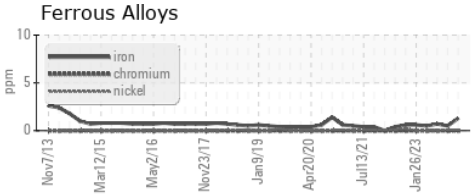
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Silt | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Debris | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Sand/Dirt | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Appearance | scalar | Visual* | NORML | **NORML** | NORML | NORML |
| Odor | scalar | Visual* | NORML | **NORML** | NORML | NORML |
| Emulsified Water | scalar | Visual* | >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) | 46 | **45.9** | 45.8 | 45.9 |

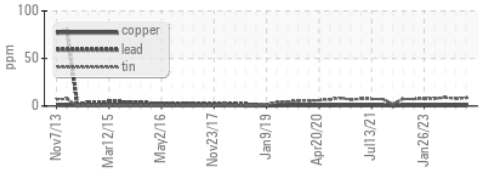
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

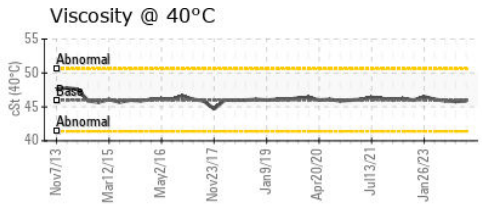
Ferrous Alloys



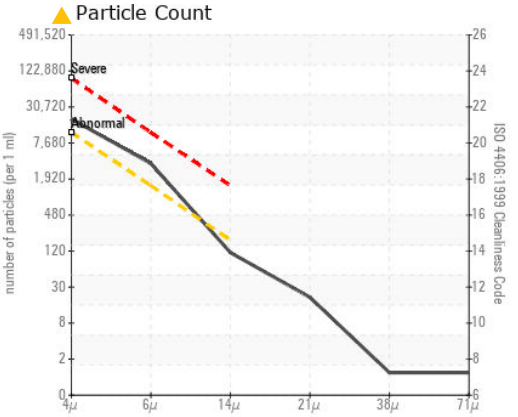

Non-ferrous Metals



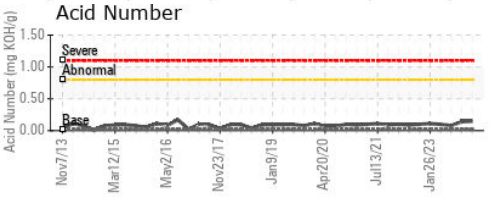

Viscosity @ 40°C




Particle Count




Acid Number




ISO 17025:2017 Accredited Laboratory

| | | | |
|---|---|---|---|
| **Laboratory** | : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 | | |
| **Sample No.** | : WC | **Recieved** | : 21 Dec 2023 |
| **Lab Number** | : 02604636 | **Diagnosed** | : 22 Dec 2023 |
| **Unique Number** | : 5697721 | **Diagnostician** | : Kevin Marson |
| **Test Package** | : IND 2 ( Additional Tests: TAN Man ) | | |

*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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