# OIL ANALYSIS REPORT

Sample Rating Trend


**DEGRADATION**

Machine Id
**4549-4**
Component
**4 Gearbox**
Fluid
**OPTIGEAR RMO 150 (--- GAL)**

## DIAGNOSIS

**Recommendation**
The oil is near the end of it`s useful service life, recommend schedule an oil change. Resample at the next service interval to monitor. Please note that this is a corrected copy for diagnostic comment updates per supplied limits.

**Wear**
The lead level is abnormal. All other component wear rates are normal.

**Contamination**
There is no indication of any contamination in the oil.

**Fluid Condition**
The AN level is above the recommended limit.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0920084** | --- | --- |
| Sample Date | | Client Info | | **24 Apr 2024** | --- | --- |
| Machine Age | mls | Client Info | | **10380** | --- | --- |
| Oil Age | mls | Client Info | | **10380** | --- | --- |
| Oil Changed | | Client Info | | **Not Changd** | --- | --- |
| Sample Status | | | | **ABNORMAL** | --- | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.2 | **NEG** | --- | --- |

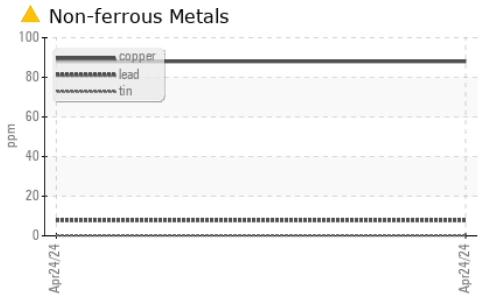
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | **36** | --- | --- |
| Chromium | ppm | ASTM D5185m | >10 | **<1** | --- | --- |
| Nickel | ppm | ASTM D5185m | >10 | **<1** | --- | --- |
| Titanium | ppm | ASTM D5185m | | **<1** | --- | --- |
| Silver | ppm | ASTM D5185m | | **0** | --- | --- |
| Aluminum | ppm | ASTM D5185m | >25 | **10** | --- | --- |
| Lead | ppm | ASTM D5185m | >50 | ▲ **8** | --- | --- |
| Copper | ppm | ASTM D5185m | >200 | **88** | --- | --- |
| Tin | ppm | ASTM D5185m | >10 | **<1** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **<1** | --- | --- |
| Cadmium | ppm | ASTM D5185m | | **<1** | --- | --- |

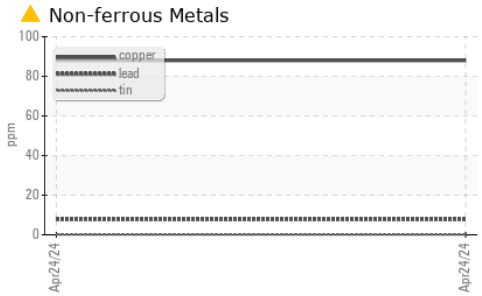
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **8** | --- | --- |
| Barium | ppm | ASTM D5185m | | **30** | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | **948** | --- | --- |
| Manganese | ppm | ASTM D5185m | | **2** | --- | --- |
| Magnesium | ppm | ASTM D5185m | | **26** | --- | --- |
| Calcium | ppm | ASTM D5185m | | **94** | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | **2069** | --- | --- |
| Zinc | ppm | ASTM D5185m | | **354** | --- | --- |
| Sulfur | ppm | ASTM D5185m | | **22292** | --- | --- |

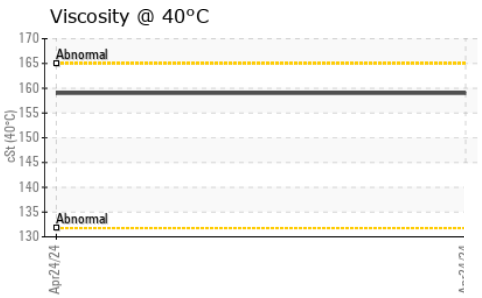
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **11** | --- | --- |
| Sodium | ppm | ASTM D5185m | | **5** | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | **3** | --- | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | ▲ **2.43** | --- | --- |

# OIL ANALYSIS REPORT



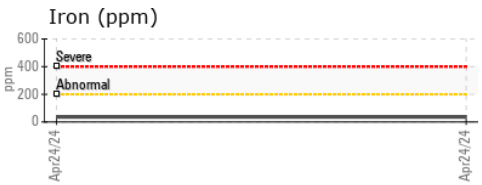



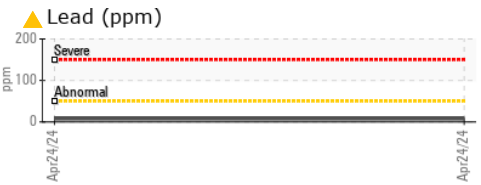

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | --- | --- |
| Silt |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

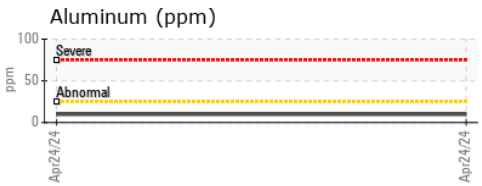
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | | **159** | --- | --- |

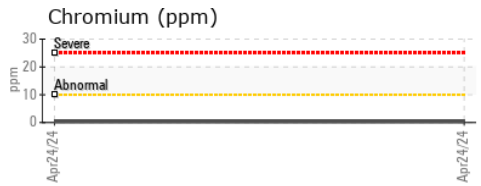
| SAMPLE IMAGES | | | | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Color | | | | *no image* | *no image* | *no image* |
| Bottom | | | | *no image* | *no image* | *no image* |

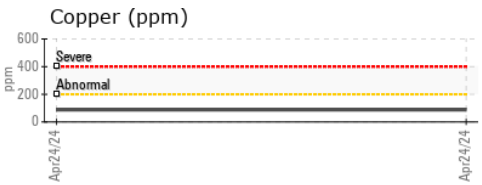
## GRAPHS

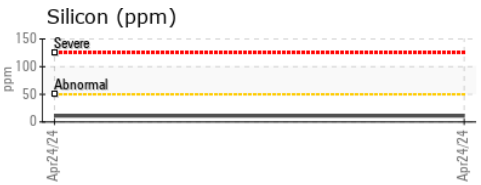


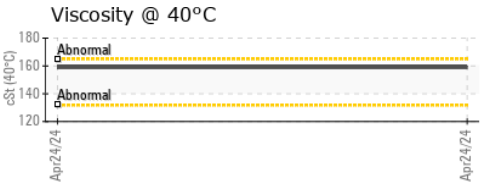



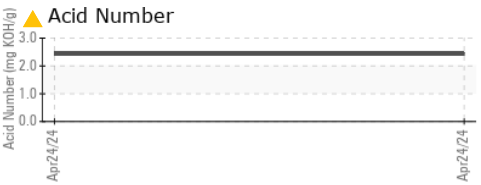




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0920084
**Lab Number** : 06178970
**Unique Number** : 11030296
**Test Package** : MOB 2

**Received** : 14 May 2024
**Tested** : 15 May 2024
**Diagnosed** : 20 Jun 2024 - Doug Bogart

**ALSTOM C/O NEW JERSEY TRANSIT**
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*To discuss this sample report, contact Customer Service at 1-800-237-1369.*
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*Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)*