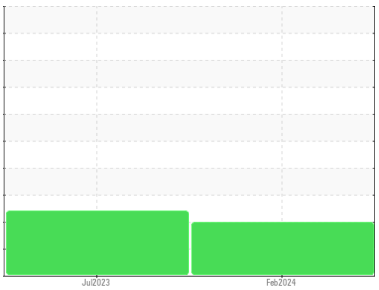
# OIL ANALYSIS REPORT

Sample Rating Trend




**DEGRADATION**

Area
**DICK LAVY**
Machine Id
**DICK LAVY 4949**
Component
**Rear Differential**
Fluid
**{not provided} (--- GAL)**

## DIAGNOSIS

**Recommendation**
The oil is near the end of it`s useful service life, recommend schedule an oil change. We recommend you service the filters on this component if applicable. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

**Wear**
All component wear rates are normal.

**Contamination**
There is a moderate amount of visible silt present in the sample.

**Fluid Condition**
The AN level is at the top-end of the recommended limit.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0900812** | WC0843204 | --- |
| Sample Date | | Client Info | | **15 Feb 2024** | 31 Jul 2023 | --- |
| Machine Age | mls | Client Info | | **56404** | 6280 | --- |
| Oil Age | mls | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **N/A** | N/A | --- |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >500 | **107** | 36 | --- |
| Chromium | ppm | ASTM D5185m | >10 | **<1** | <1 | --- |
| Nickel | ppm | ASTM D5185m | >10 | **<1** | 0 | --- |
| Titanium | ppm | ASTM D5185m | | **<1** | 0 | --- |
| Silver | ppm | ASTM D5185m | | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >25 | **2** | 3 | --- |
| Lead | ppm | ASTM D5185m | >25 | **<1** | 0 | --- |
| Copper | ppm | ASTM D5185m | >100 | **2** | 0 | --- |
| Tin | ppm | ASTM D5185m | >10 | **<1** | 0 | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185m | | **<1** | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **184** | 192 | --- |
| Barium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | | **<1** | 0 | --- |
| Manganese | ppm | ASTM D5185m | | **3** | 2 | --- |
| Magnesium | ppm | ASTM D5185m | | **6** | 1 | --- |
| Calcium | ppm | ASTM D5185m | | **19** | 13 | --- |
| Phosphorus | ppm | ASTM D5185m | | **1234** | 1113 | --- |
| Zinc | ppm | ASTM D5185m | | **7** | 0 | --- |
| Sulfur | ppm | ASTM D5185m | | **29862** | 30514 | --- |

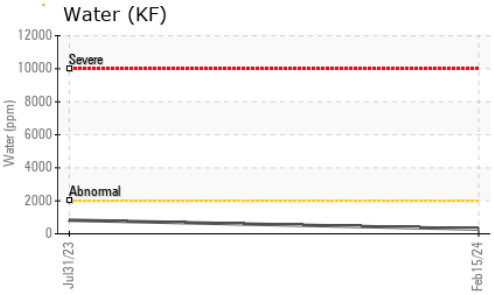
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >75 | **18** | 16 | --- |
| Sodium | ppm | ASTM D5185m | | **11** | 8 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 1 | --- |
| Water | % | ASTM D6304 | >.2 | **0.028** | 0.082 | --- |
| ppm Water | ppm | ASTM D6304 | >2000 | **290** | 827.6 | --- |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >20000 | --- | ▲ 128907 | --- |
| Particles >6µm | | ASTM D7647 | >5000 | --- | ▲ 21801 | --- |
| Particles >14µm | | ASTM D7647 | >640 | --- | 97 | --- |
| Particles >21µm | | ASTM D7647 | >160 | --- | 20 | --- |
| Particles >38µm | | ASTM D7647 | >40 | --- | 2 | --- |
| Particles >71µm | | ASTM D7647 | >10 | --- | 0 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | --- | ▲ 24/22/14 | --- |

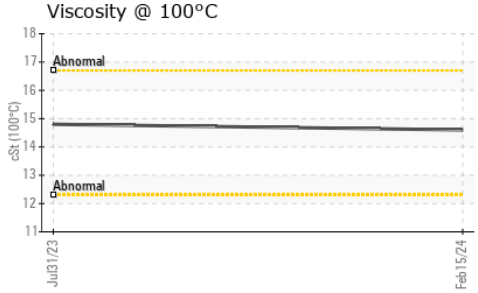
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | ▲ **3.76** | ● 3.55 | --- |

# OIL ANALYSIS REPORT

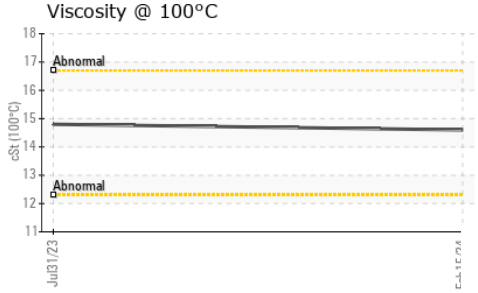
Water (KF)



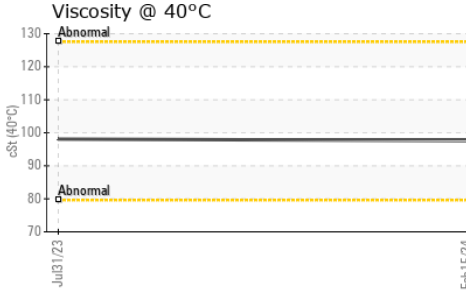

Viscosity @ 100°C




Viscosity @ 100°C




Viscosity @ 40°C



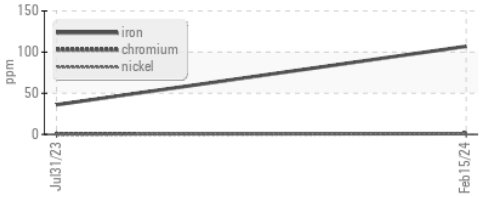

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | LIGHT | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silt | scalar | *Visual | NONE | ▲ **MODER** | NONE | --- |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | *Visual | >.2 | **NEG** | NEG | --- |
| Free Water | scalar | *Visual | | **NEG** | NEG | --- |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | | **97.6** | 98.1 | --- |
| Visc @ 100°C | cSt | ASTM D445 | | **14.6** | 14.8 | --- |
| Viscosity Index (VI) | Scale | ASTM D2270 | | **155** | 157 | --- |

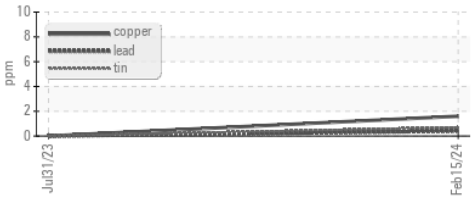
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  | *no image* |
| Bottom | | |  |  | *no image* |

## GRAPHS

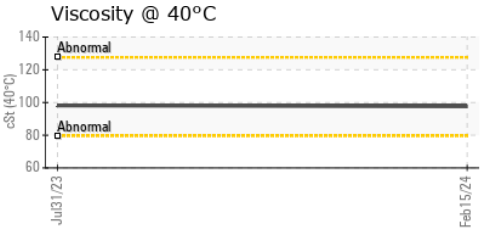
Ferrous Alloys



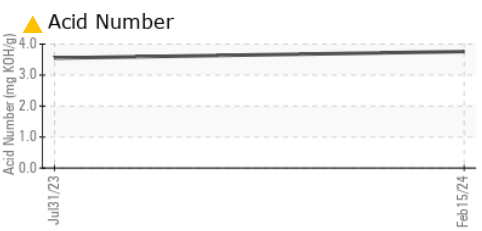

Non-ferrous Metals




Viscosity @ 40°C




▲ Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0900812 **Received** : 12 Apr 2024
**Lab Number** : 06148066 **Tested** : 17 Apr 2024
**Unique Number** : 10978144 **Diagnosed** : 17 Apr 2024 - Jonathan Hester
**Test Package** : MOB 2 ( Additional Tests: KF, KV100, PrtCount, VI )

*To discuss this sample report, contact Customer Service at 1-800-237-1369.*
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
*Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)*

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