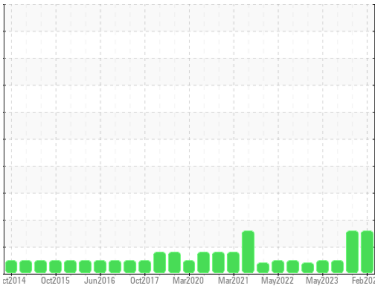
# OIL ANALYSIS REPORT

Sample Rating Trend



**VISCOSITY**

Area
## Harvest Gear Drives [413309551]
Machine Id
## 3110-120 Blood Chain - Maximo #2394 #1000029438 (S/N 0221-07742-1419)
Component
**Gearbox**
Fluid
**KLUBER KLUBEROIL 4 UH1-460 N (--- GAL)**

## DIAGNOSIS

**Recommendation**

We advise that you check all areas where contaminants can enter the system. We recommend that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. The fluid was specified as KLUBER KLUBEROIL 4 UH1-460 N, however, a fluid match indicates that this fluid is ISO 680 Gear Oil. Please confirm the oil type and grade on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

**Wear**

All component wear rates are normal.

**Contamination**

Lithium (Li) level marginal at 4ppm., indicates possible grease contamination. There is no indication of any contamination in the oil.

**Fluid Condition**

The viscosity of the oil is higher than normal, possibly indicating the addition of a heavier grade of oil. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0904613** | WC0892338 | WC0844329 |
| Sample Date | | Client Info | | **22 Feb 2024** | 16 Feb 2024 | 18 Aug 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** | ABNORMAL | NORMAL |

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

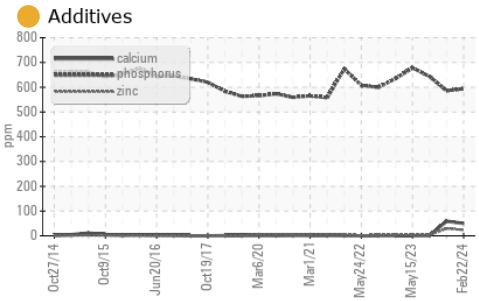
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184* | | **0** | 0 | 0 |
| Iron | ppm | ASTM D5185(m) | >200 | **7** | 8 | 5 |
| Chromium | ppm | ASTM D5185(m) | >15 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >15 | **<1** | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >25 | **<1** | <1 | <1 |
| Lead | ppm | ASTM D5185(m) | >100 | **<1** | <1 | 4 |
| Copper | ppm | ASTM D5185(m) | >200 | **7** | 8 | 92 |
| Tin | ppm | ASTM D5185(m) | >25 | **<1** | <1 | 12 |
| Antimony | ppm | ASTM D5185(m) | >5 | **0** | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |

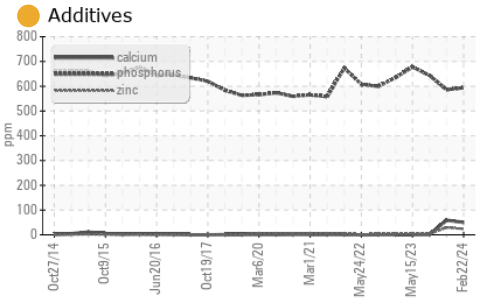
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | | **2** | 2 | <1 |
| Barium | ppm | ASTM D5185(m) | | **<1** | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | **3** | 3 | 0 |
| Manganese | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | | **<1** | <1 | 0 |
| Calcium | ppm | ASTM D5185(m) | | **50** | 59 | <1 |
| Phosphorus | ppm | ASTM D5185(m) | | **594** | 586 | 644 |
| Zinc | ppm | ASTM D5185(m) | | **24** | 29 | 4 |
| Sulfur | ppm | ASTM D5185(m) | | **695** | 805 | 608 |
| Lithium | ppm | ASTM D5185(m) | | **4** | 5 | <1 |

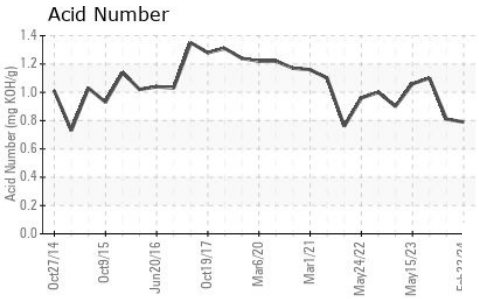
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >50 | **15** | 13 | 23 |
| Sodium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Potassium | ppm | ASTM D5185(m) | >20 | **2** | 2 | <1 |

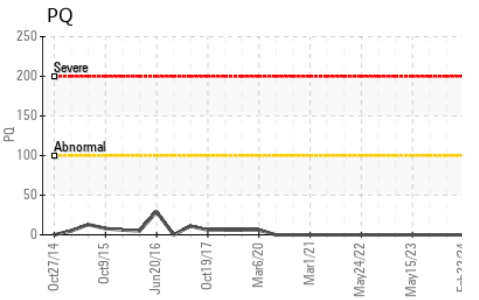
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | | **0.79** | 0.81 | 1.10 |

# OIL ANALYSIS REPORT



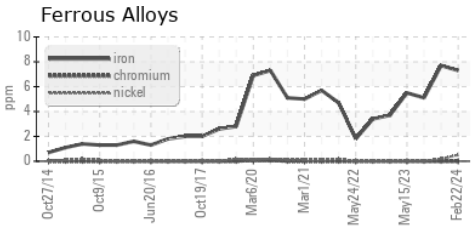



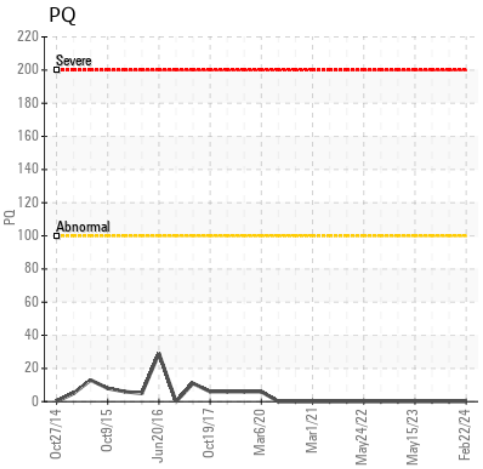

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | NONE | VLITE |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Silt | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Debris | scalar | Visual* | NONE | **NONE** | NONE | VLITE |
| Sand/Dirt | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Appearance | scalar | Visual* | NORML | **NORML** | NORML | WGOIL |
| Odor | scalar | Visual* | NORML | **NORML** | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.2 | **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) | 460 | ▲ **573** | ▲ 575 | 413 |

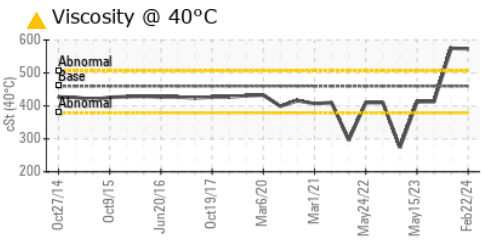
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

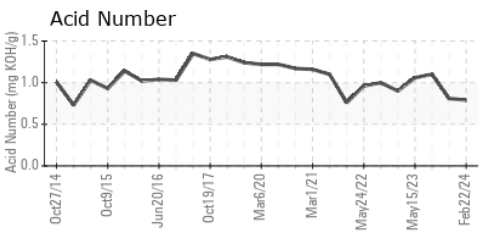
## GRAPHS








ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0904613 **Received** : 14 Mar 2024
**Lab Number** : 02622132 **Tested** : 14 Mar 2024
**Unique Number** : 5747251 **Diagnosed** : 15 Mar 2024 - 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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