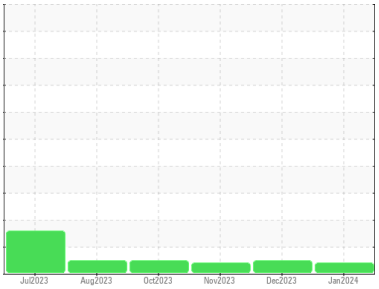
# OIL ANALYSIS REPORT

Sample Rating Trend




**VISCOSITY**

Machine Id
## KENWORTH 775
Component
**Diesel Engine**
Fluid
**SHELL ROTELLA T 15W40 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

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

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

**Fluid Condition**
The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0838315** | WC0838290 | WC06014698 |
| Sample Date | | Client Info | | **30 Jan 2024** | 25 Dec 2023 | 21 Nov 2023 |
| Machine Age | mls | Client Info | | **935165** | 0 | 908250 |
| Oil Age | mls | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Changed** | N/A | Changed |
| Sample Status | | | | **ABNORMAL** | NORMAL | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >100 | **4** | 2 | 2 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **<1** | <1 | 1 |
| Lead | ppm | ASTM D5185m | >40 | **0** | <1 | 2 |
| Copper | ppm | ASTM D5185m | >330 | **<1** | 11 | 2 |
| Tin | ppm | ASTM D5185m | >15 | **0** | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 316 | **78** | 118 | 81 |
| Barium | ppm | ASTM D5185m | 0.0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 1.2 | **1** | 13 | 10 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 24 | **13** | 82 | 86 |
| Calcium | ppm | ASTM D5185m | 2292 | **1975** | 1766 | 1702 |
| Phosphorus | ppm | ASTM D5185m | 1064 | **840** | 848 | 704 |
| Zinc | ppm | ASTM D5185m | 1160 | **992** | 979 | 942 |
| Sulfur | ppm | ASTM D5185m | 4996 | **3550** | 2895 | 2711 |

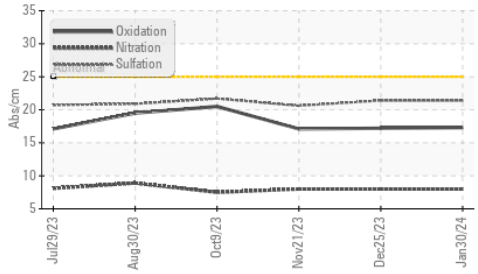
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **4** | 5 | 5 |
| Sodium | ppm | ASTM D5185m | | **2** | 4 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **7** | 5 | 4 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.1** | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.0** | 8.0 | 8.0 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **21.4** | 21.4 | 20.6 |

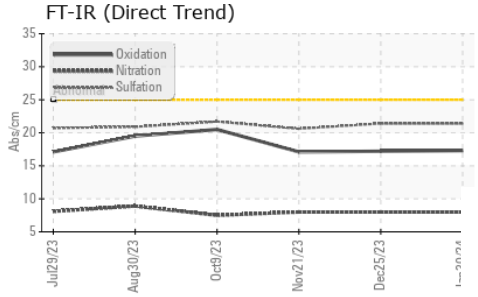
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **17.3** | 17.2 | 17.1 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.1 | **5.3** | 5.8 | 5.5 |

# OIL ANALYSIS REPORT

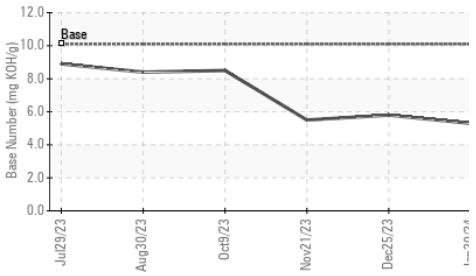
FT-IR (Direct Trend)




FT-IR (Direct Trend)




Base Number

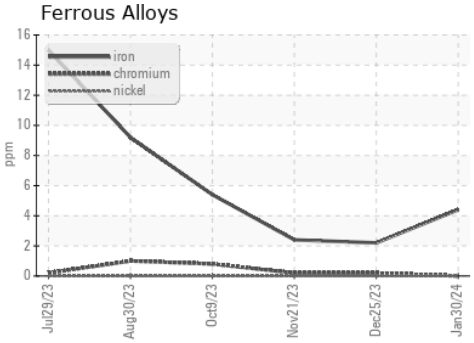



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

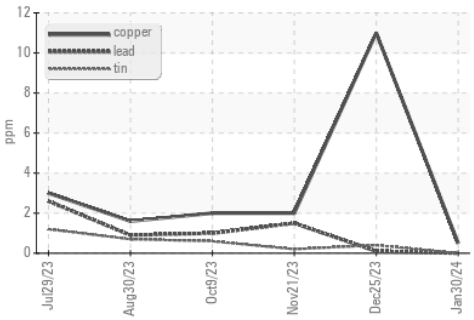
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.7 | ▲ **19.4** | 17.9 | ▲ 18.8 |

## GRAPHS

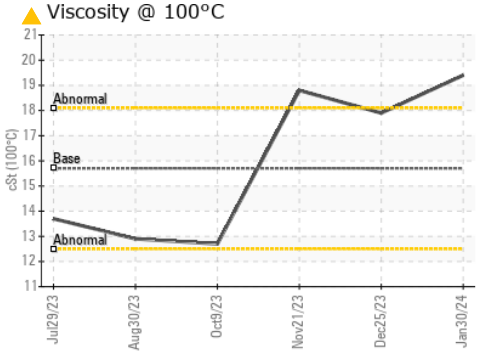
Ferrous Alloys



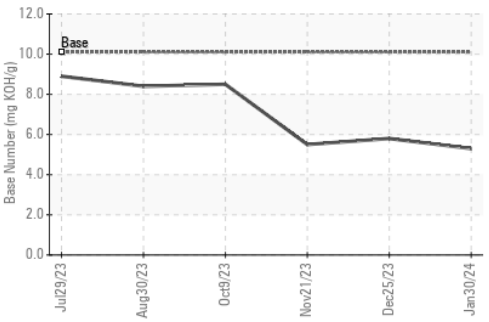

Non-ferrous Metals




▲ Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0838315
**Lab Number** : 06135539
**Unique Number** : 10955004
**Test Package** : FLEET

**Received** : 01 Apr 2024
**Tested** : 02 Apr 2024
**Diagnosed** : 04 Apr 2024 - Sean Felton

*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)*

**KGR TRANSPORT**
742 HWY 145
CHOUDRANT, LA
US 71227
Contact: CHAD REEVES
CHADREEVES98@GMAIL.COM
T:
F: