# OIL ANALYSIS REPORT

| | |
|---|---|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
**46515**
Component
**Diesel Engine**
Fluid
**MOBIL 15W40 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

## WEAR

All component wear rates are normal.

## CONTAMINATION

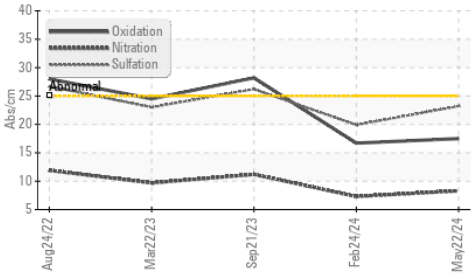
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

## FLUID CONDITION

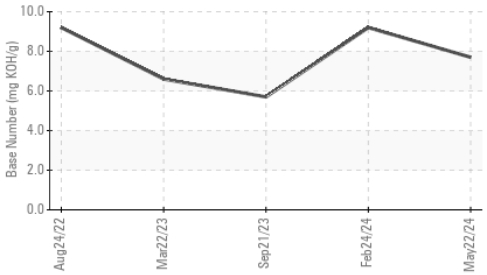
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0915929** | WC0904415 | WC0829660 |
| Sample Date | | Client Info | | **22 May 2024** | 24 Feb 2024 | 21 Sep 2023 |
| Machine Age | mls | Client Info | | **85016** | 0 | 69014 |
| Oil Age | mls | Client Info | | **0** | 0 | 0 |
| Filter Age | mls | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | Changed |
| Filter Changed | | Client Info | | **N/A** | N/A | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >100 | **18** | 10 | 62 |
| Chromium | ppm | ASTM D5185m | >20 | **1** | <1 | 2 |
| Nickel | ppm | ASTM D5185m | >4 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **<1** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | **12** | 5 | 13 |
| Lead | ppm | ASTM D5185m | >40 | **<1** | 0 | <1 |
| Copper | ppm | ASTM D5185m | >330 | **<1** | <1 | 102 |
| Tin | ppm | ASTM D5185m | >15 | **0** | 0 | 1 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | **8** | 3 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | **23** | 5 | 38 |
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | **0.4** | 0.3 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.3** | 7.3 | 11.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **23.2** | 19.9 | 26.2 |
| 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 |
| Sodium | ppm | ASTM D5185m | >118 | **<1** | 0 | 5 |
| Boron | ppm | ASTM D5185m | | **247** | 0 | 3 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **117** | 57 | 66 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | 2 |
| Magnesium | ppm | ASTM D5185m | | **684** | 915 | 1006 |
| Calcium | ppm | ASTM D5185m | | **1712** | 1075 | 1159 |
| Phosphorus | ppm | ASTM D5185m | | **992** | 1001 | 1022 |
| Zinc | ppm | ASTM D5185m | | **1205** | 1223 | 1273 |
| Sulfur | ppm | ASTM D5185m | | **3628** | 2909 | 2611 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **17.5** | 16.7 | 28.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **7.7** | 9.2 | 5.7 |
| Visc @ 100°C | cSt | ASTM D445 | | **12.8** | 12.5 | 12.6 |

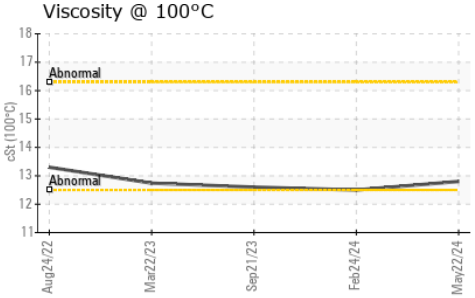
FT-IR (Direct Trend)



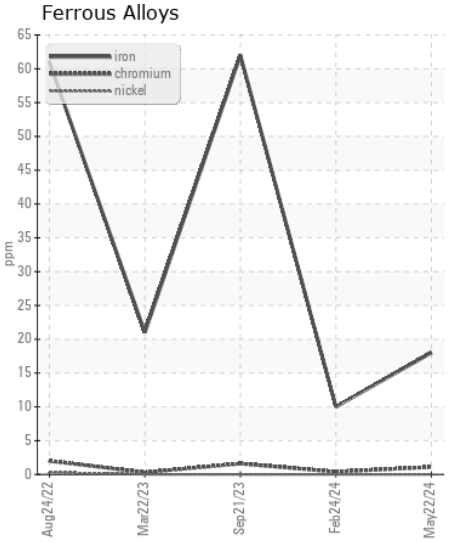

Base Number



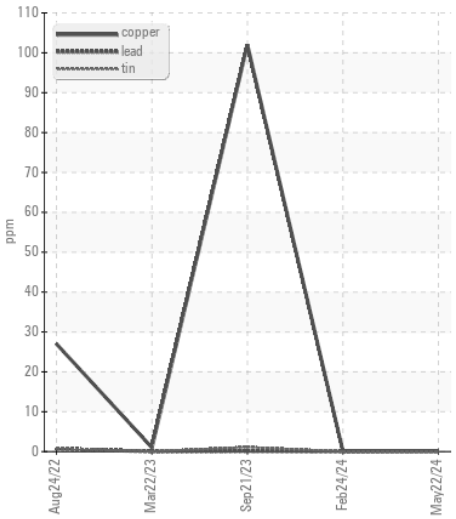

Viscosity @ 100°C



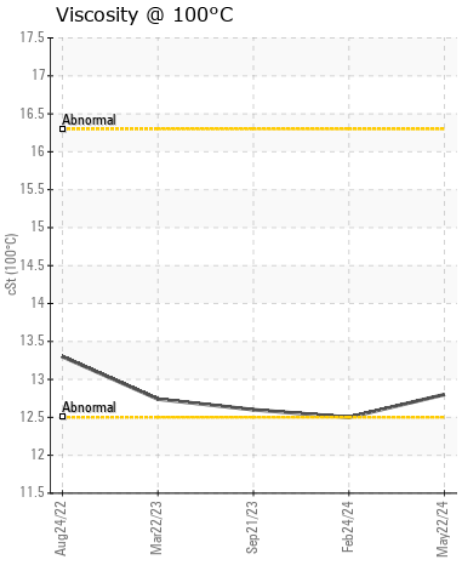

Ferrous Alloys



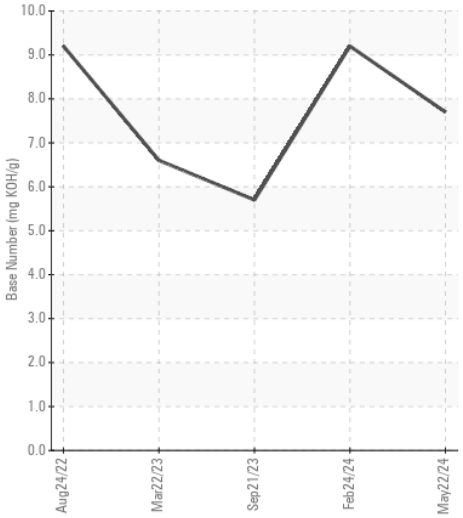

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0915929
**Lab Number** : 06193323
**Unique Number** : 11050075
**Test Package** : FLEET

**Received** : 28 May 2024
**Tested** : 30 May 2024
**Diagnosed** : 30 May 2024 - Wes Davis

*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)*

**SALEM NATIONALEASE CORPORATION**
198 PARK PLAZA DRIVE
WINSTON SALEM, NC
US 27105
Contact: Audrey Hopkins
Audrey.Hopkins@salemcorp.com
T: (336)767-9642
F: x: