CONST

WEAR CHECK

OIL ANALYSIS REPORT

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

Area
**Mobile Fleet**
Machine Id
**8041 8041**
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 10W30 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

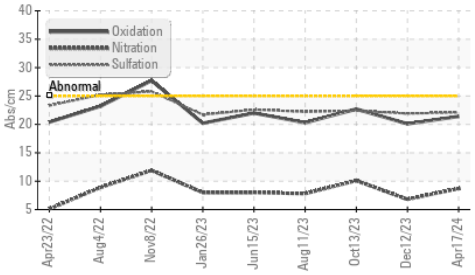
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

## FLUID CONDITION

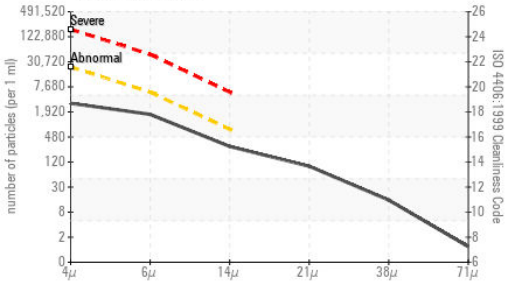
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0919091** | WC0861595 | WC0861968 |
| Sample Date | | Client Info | | **17 Apr 2024** | 12 Dec 2023 | 13 Oct 2023 |
| Machine Age | hrs | Client Info | | **4131** | 3767 | 3432 |
| Oil Age | hrs | Client Info | | **702** | 338 | 455 |
| Filter Age | hrs | Client Info | | **702** | 338 | 455 |
| Oil Changed | | Client Info | | **Changed** | Not Changd | Changed |
| Filter Changed | | Client Info | | **Changed** | Not Changd | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | ABNORMAL |
| Iron | ppm | ASTM D5185m | >100 | **17** | 9 | 23 |
| Chromium | ppm | ASTM D5185m | >20 | **<1** | 1 | 3 |
| Nickel | ppm | ASTM D5185m | >4 | **0** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **7** | 4 | 23 |
| Lead | ppm | ASTM D5185m | >40 | **0** | <1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | **3** | 3 | 11 |
| Tin | ppm | ASTM D5185m | >15 | **<1** | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | <1 |
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | **8** | 7 | 8 |
| Potassium | ppm | ASTM D5185m | >20 | **13** | 7 | 53 |
| 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 | **0.5** | 0.3 | 0.8 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.7** | 6.8 | 10.1 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **22.1** | 21.9 | 22.4 |
| Particles >4µm | | ASTM D7647 | >20000 | **2697** | 3393 | 17991 |
| Particles >6µm | | ASTM D7647 | >5000 | **1469** | 1848 | ▲ 9801 |
| Particles >14µm | | ASTM D7647 | >640 | **250** | 315 | ▲ 1668 |
| Particles >21µm | | ASTM D7647 | >160 | **84** | 106 | ▲ 562 |
| Particles >38µm | | ASTM D7647 | >40 | **13** | 16 | ▲ 87 |
| Particles >71µm | | ASTM D7647 | >10 | **1** | 2 | 9 |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | **19/18/15** | 19/18/15 | ▲ 21/20/18 |
| 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 | | **3** | 2 | 2 |
| Boron | ppm | ASTM D5185m | 250 | **32** | 37 | 17 |
| Barium | ppm | ASTM D5185m | 10 | **0** | 0 | 10 |
| Molybdenum | ppm | ASTM D5185m | 100 | **51** | 46 | 49 |
| Manganese | ppm | ASTM D5185m | | **<1** | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | **531** | 426 | 488 |
| Calcium | ppm | ASTM D5185m | 3000 | **1660** | 1616 | 1560 |
| Phosphorus | ppm | ASTM D5185m | 1150 | **765** | 703 | 696 |
| Zinc | ppm | ASTM D5185m | 1350 | **911** | 881 | 895 |
| Sulfur | ppm | ASTM D5185m | 4250 | **2677** | 1810 | 2330 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **21.4** | 20.1 | 22.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | **8.3** | 9.3 | 6.7 |
| Visc @ 100°C | cSt | ASTM D445 | 10.9 | **13.0** | 12.7 | 11.9 |

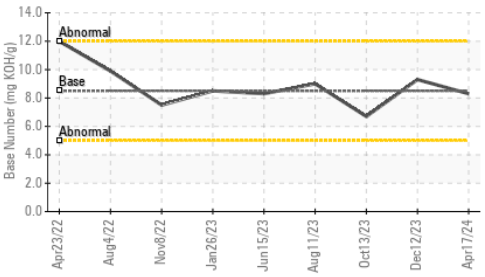
FT-IR (Direct Trend)



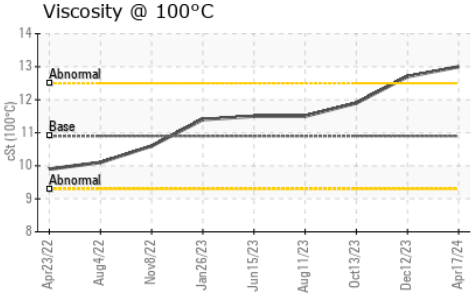

Particle Count



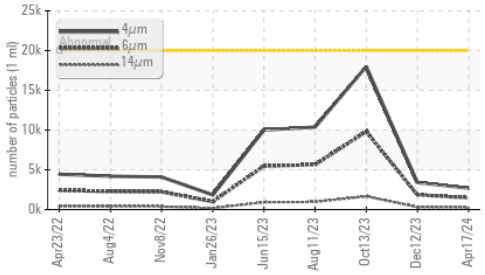

Base Number



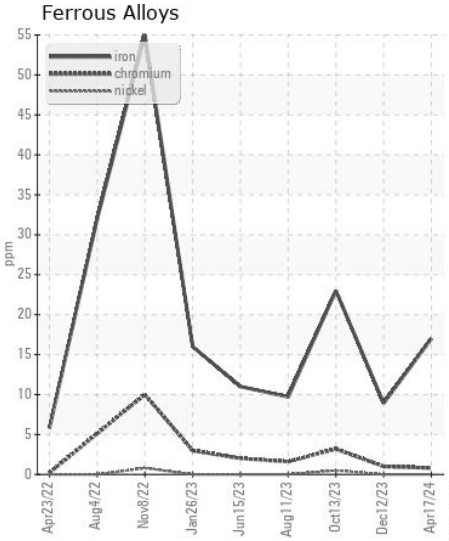

Viscosity @ 100°C



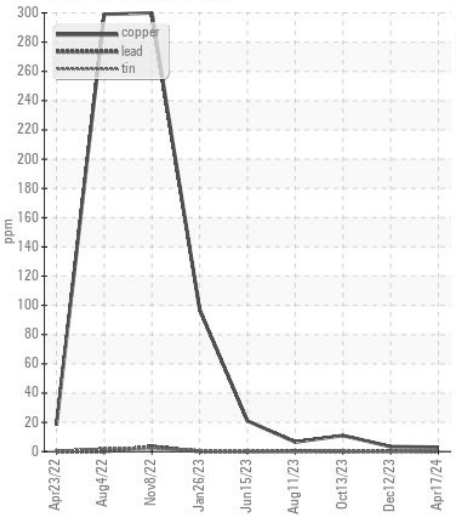

Particle Trend



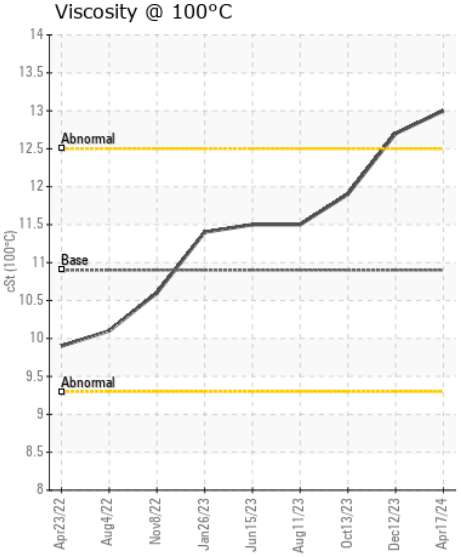

Ferrous Alloys



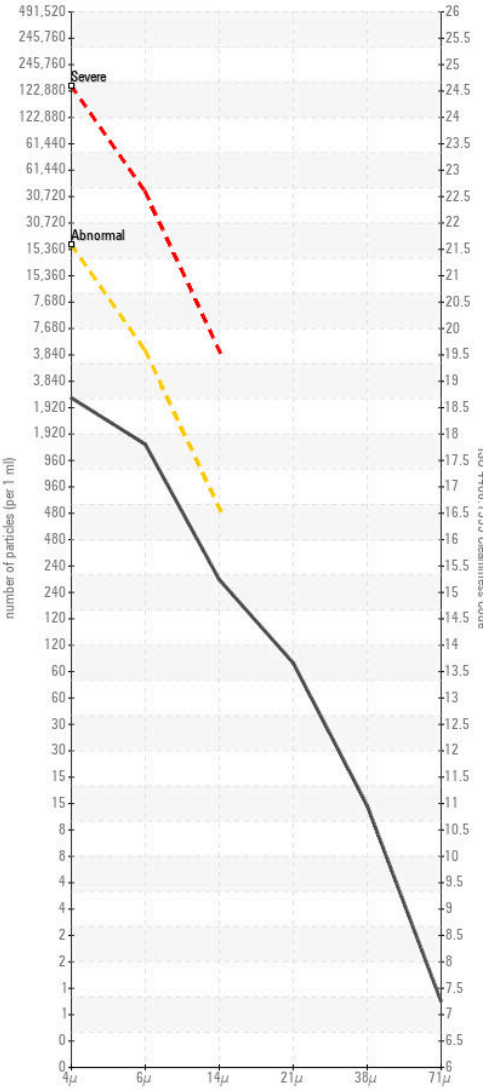

Non-ferrous Metals



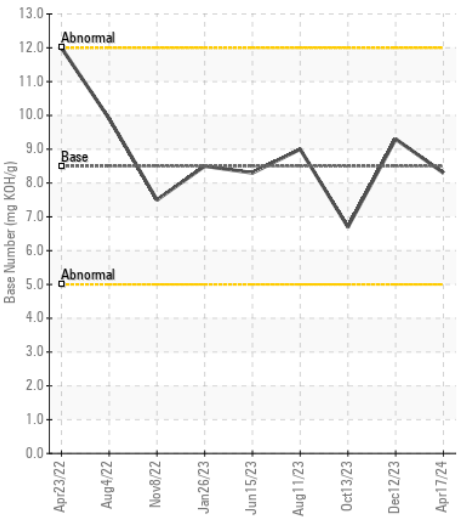

Viscosity @ 100°C




Particle Count




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0919091 **Received** : 22 Apr 2024
**Lab Number** : 06156802 **Tested** : 24 Apr 2024
**Unique Number** : 10992225 **Diagnosed** : 24 Apr 2024 - Sean Felton
**Test Package** : CONST ( Additional Tests: PrtCount, TBN )

*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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