MOB I

Dura-Check Fluid Analysis

# OIL ANALYSIS REPORT

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

Machine Id
## FREIGHTLINER M31511
Component
## Diesel Engine
Fluid
## DIESEL ENGINE OIL SAE 15W40 (18 QTS)

## RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

## WEAR

All component wear rates are normal.

## CONTAMINATION

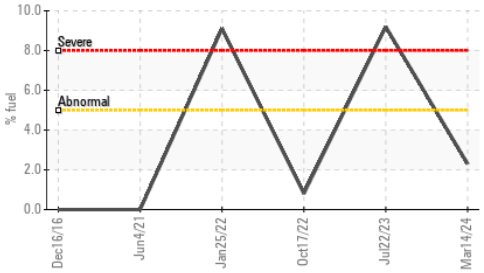
Light fuel dilution occurring. No other contaminants were detected in the oil.

## FLUID CONDITION

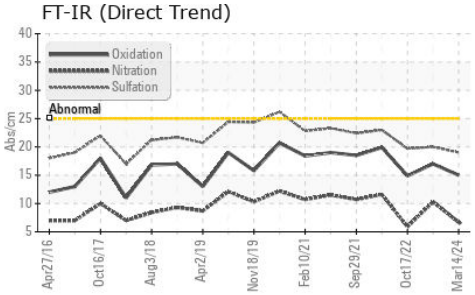
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | DC0032246 | DC0028308 | DC0024149 |
| Sample Date | | Client Info | | 14 Mar 2024 | 22 Jul 2023 | 17 Oct 2022 |
| Machine Age | mls | Client Info | | 222228 | 206116 | 200523 |
| Oil Age | mls | Client Info | | 13908 | 12880 | 12407 |
| Filter Age | mls | Client Info | | 13908 | 12880 | 12407 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | MARGINAL | SEVERE | NORMAL |
| Iron | ppm | ASTM D5185m | >80 | 13 | 33 | 10 |
| Chromium | ppm | ASTM D5185m | >5 | <1 | 1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >30 | 2 | 7 | 3 |
| Lead | ppm | ASTM D5185m | >30 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >150 | 2 | 1 | <1 |
| Tin | ppm | ASTM D5185m | >5 | 0 | <1 | <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 | >20 | 4 | 18 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 3 | 0 |
| Fuel | % | ASTM D3524 | >5 | ▲ 2.3 | ▲ 9.2 | 0.8 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.3 | 0.5 | 0.2 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.7 | 10.3 | 5.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.0 | 20.0 | 19.7 |
| 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 | >158 | 2 | 2 | 0 |
| Boron | ppm | ASTM D5185m | 250 | 3 | 6 | 1 |
| Barium | ppm | ASTM D5185m | 10 | 2 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 61 | 60 | 54 |
| Manganese | ppm | ASTM D5185m | | 1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | 969 | 971 | 854 |
| Calcium | ppm | ASTM D5185m | 3000 | 1055 | 1119 | 1041 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1087 | 1040 | 928 |
| Zinc | ppm | ASTM D5185m | 1350 | 1247 | 1271 | 1121 |
| Sulfur | ppm | ASTM D5185m | 4250 | 3719 | 3510 | 3519 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.0 | 17.0 | 14.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 9.5 | 8.3 | 8.58 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 12.6 | ▲ 11.7 | 14.5 |

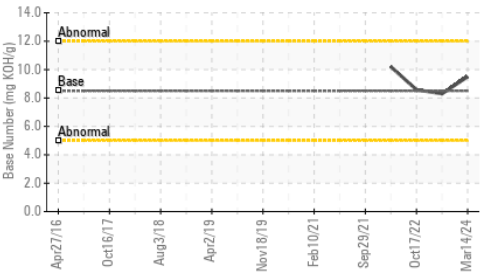
Fuel Dilution



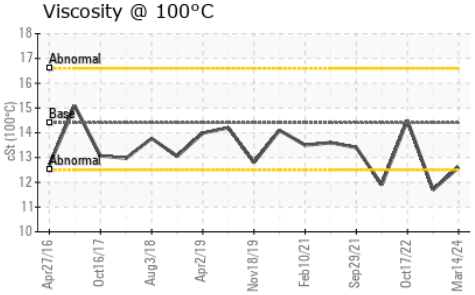

FT-IR (Direct Trend)



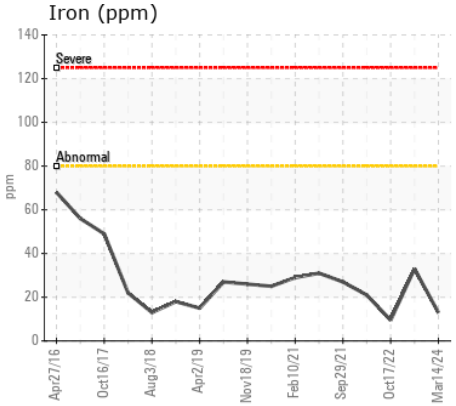

Base Number



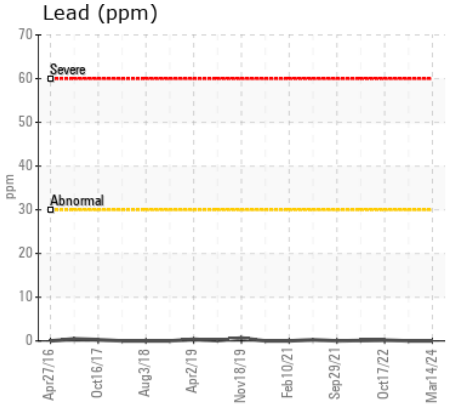

Viscosity @ 100°C



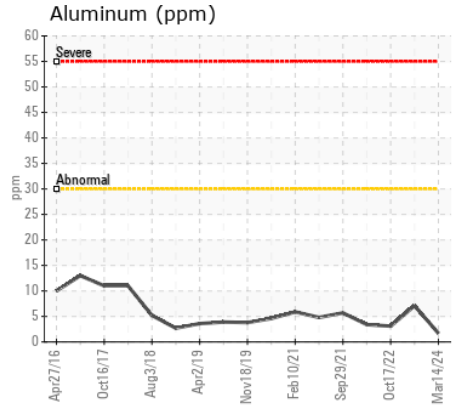

Iron (ppm)



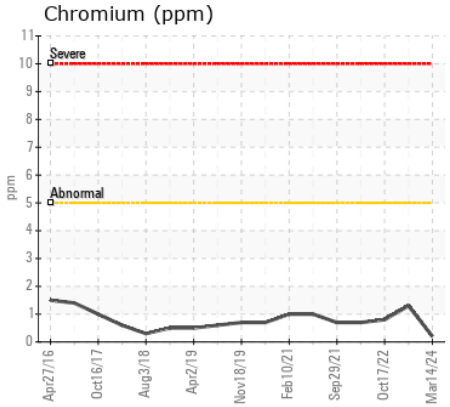

Lead (ppm)



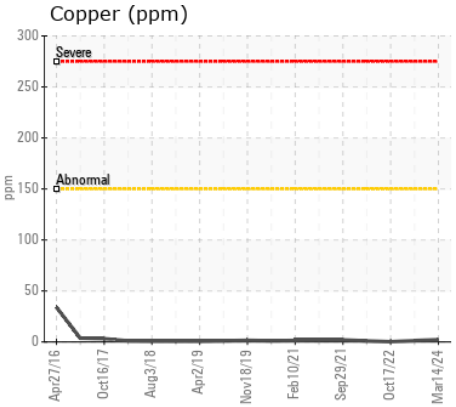

Aluminum (ppm)



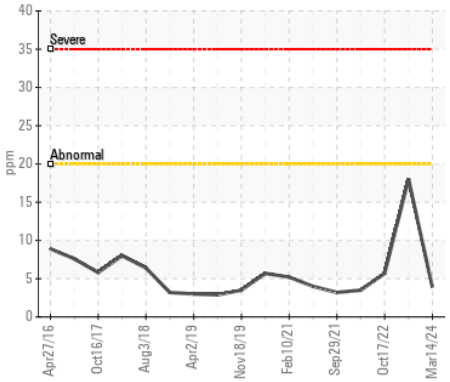

Chromium (ppm)



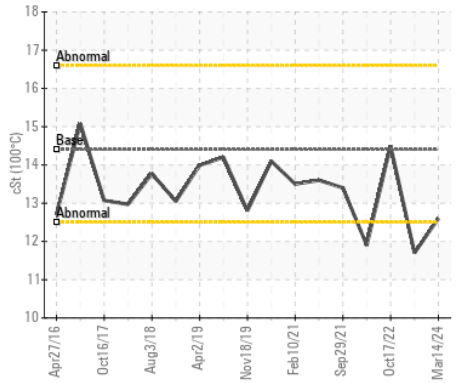

Copper (ppm)



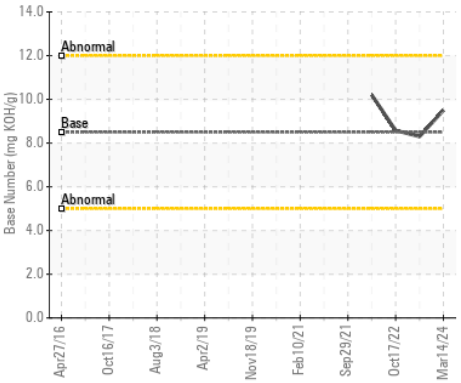

Silicon (ppm)




Viscosity @ 100°C




Base Number




ANAB ACCREDITED TESTING LABORATORY
Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : DC0032246 **Received** : 22 Apr 2024
**Lab Number** : 06155721 **Tested** : 25 Apr 2024
**Unique Number** : 10991144 **Diagnosed** : 25 Apr 2024 - Wes Davis
**Test Package** : MOB 1 ( Additional Tests: PercentFuel, 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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