



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

Machine Id
INTERNATIONAL 5012614
Component
Diesel Engine
Fluid
VALVOLINE 15W40 (--- GAL)

RECOMMENDATION

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

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | IL0035070 | IL0033203 | IL05934633 |
| Sample Date | | Client Info | | 25 Jan 2024 | 25 Oct 2023 | 27 Jul 2023 |
| Machine Age | mls | Client Info | | 307802 | 294198 | 281173 |
| Oil Age | mls | Client Info | | 0 | 0 | 0 |
| Filter Age | mls | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | N/A |
| Filter Changed | | Client Info | | Changed | Changed | N/A |
| Sample Status | | | | ATTENTION | ATTENTION | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 13 | 21 | 22 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | 5 | 6 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | <1 | 1 | 1 |
| Tin | ppm | ASTM D5185m | >15 | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

There is no indication of any contamination in the oil.

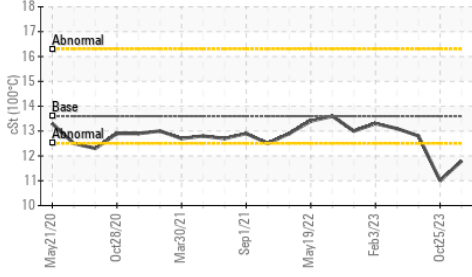
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 3 | 4 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 10 | 6 |
| Fuel | % | ASTM D3524 | >5 | <1.0 | 0.6 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.3 | 0.3 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.6 | 10.5 | 12.4 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.1 | 22.3 | 23.9 |
| 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 |

FLUID CONDITION

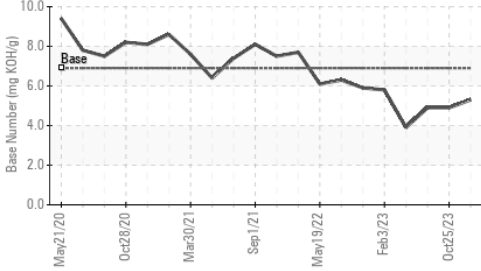
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

| | | | | | | |
|------------------|----------|-------------|------|---------------|--------|------|
| Sodium | ppm | ASTM D5185m | | 2 | 0 | 5 |
| Boron | ppm | ASTM D5185m | 39 | 43 | 40 | 32 |
| Barium | ppm | ASTM D5185m | 1 | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | 49 | 67 | 95 | 81 |
| Manganese | ppm | ASTM D5185m | 1 | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 616 | 430 | 547 | 706 |
| Calcium | ppm | ASTM D5185m | 1554 | 1013 | 1306 | 1481 |
| Phosphorus | ppm | ASTM D5185m | 899 | 604 | 745 | 833 |
| Zinc | ppm | ASTM D5185m | 1069 | 775 | 925 | 1087 |
| Sulfur | ppm | ASTM D5185m | 2624 | 1875 | 2700 | 3213 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 19.5 | 18.3 | 21.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 6.9 | 5.3 | 4.9 | 4.9 |
| Visc @ 100°C | cSt | ASTM D445 | 13.6 | ▲ 11.8 | ▲ 11.0 | 12.8 |

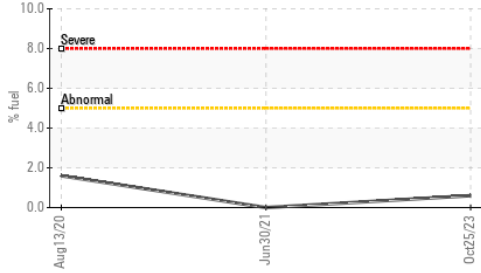
▲ Viscosity @ 100°C



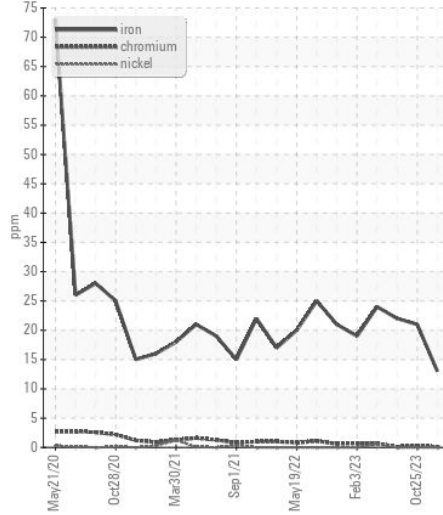
Base Number



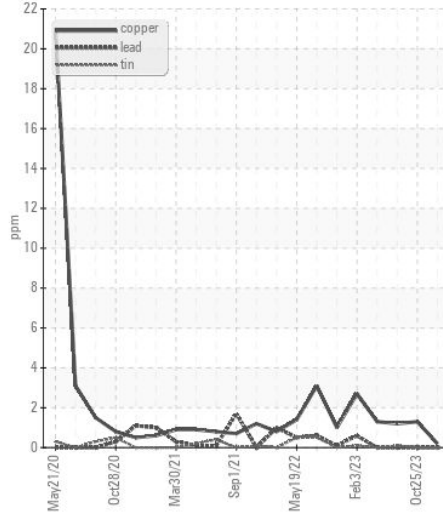
Fuel Dilution



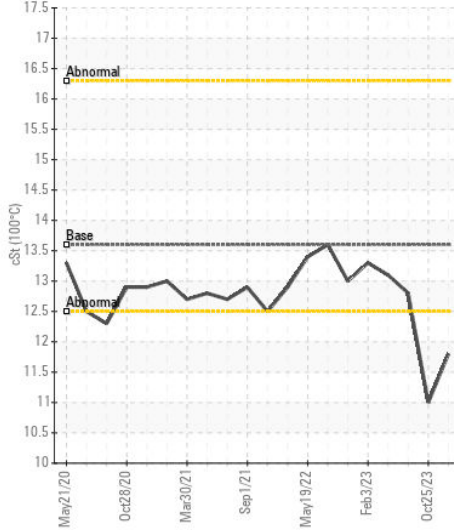
Ferrous Alloys



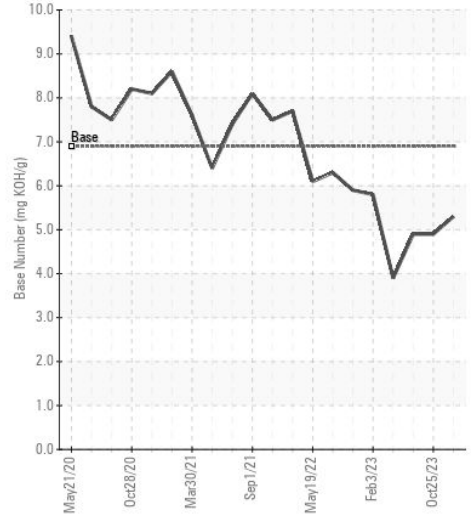
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : IL0035070

Lab Number : 06084603

Unique Number : 10872048

Test Package : FLEET (Additional Tests: FuelDilution)

Received : 09 Feb 2024

Tested : 12 Feb 2024

Diagnosed : 12 Feb 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)

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