MOBIL LUBE PLUS+ II

OIL ANALYSIS REPORT

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

Area
**LOADER**
Machine Id
**CATERPILLAR Loader - 17` CAT 988K 05-02020-051**
Component
**Diesel Engine**
Fluid
**PETRO CANADA 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

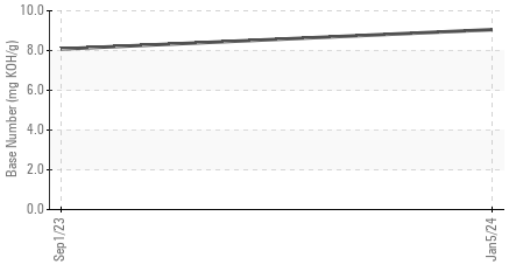
There is no indication of any contamination in the oil.

## FLUID CONDITION

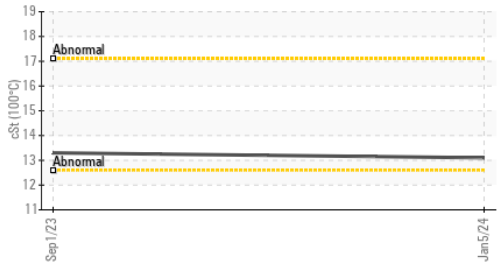
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | LP0000019 | LP0000157 | --- |
| Sample Date | | Client Info | | 05 Jan 2024 | 01 Sep 2023 | --- |
| Machine Age | hrs | Client Info | | 20515 | 19921 | --- |
| Oil Age | hrs | Client Info | | 0 | 500 | --- |
| Filter Age | hrs | Client Info | | 0 | 500 | --- |
| Oil Changed | | Client Info | | Not Changd | Not Changd | --- |
| Filter Changed | | Client Info | | N/A | N/A | --- |
| Sample Status | | | | NORMAL | ABNORMAL | --- |
| Iron | ppm | ASTM D5185m | >100 | 27 | 40 | --- |
| Chromium | ppm | ASTM D5185m | >20 | 1 | 2 | --- |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | --- |
| Titanium | ppm | ASTM D5185m | >2 | 0 | <1 | --- |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >25 | 3 | 8 | --- |
| Lead | ppm | ASTM D5185m | >40 | 2 | 8 | --- |
| Copper | ppm | ASTM D5185m | >330 | 102 | ▲ 639 | --- |
| Tin | ppm | ASTM D5185m | >15 | 1 | 3 | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | --- |
| White Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Silicon | ppm | ASTM D5185m | >25 | 5 | 8 | --- |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 7 | --- |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | --- |
| Water | | WC Method | >0.2 | NEG | NEG | --- |
| Glycol | | WC Method | | NEG | NEG | --- |
| Soot % | % | *ASTM D7844 | >3 | 0.4 | 0.4 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.9 | 11.0 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.4 | 23.8 | --- |
| Silt | scalar | *Visual | NONE | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | NONE | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | --- |
| Appearance | scalar | *Visual | NORML | NORML | NORML | --- |
| Odor | scalar | *Visual | NORML | NORML | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | --- |
| Sodium | ppm | ASTM D5185m | | 2 | 17 | --- |
| Boron | ppm | ASTM D5185m | | 6 | 22 | --- |
| Barium | ppm | ASTM D5185m | | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | | 64 | 50 | --- |
| Manganese | ppm | ASTM D5185m | | <1 | 2 | --- |
| Magnesium | ppm | ASTM D5185m | | 926 | 655 | --- |
| Calcium | ppm | ASTM D5185m | | 1120 | 1614 | --- |
| Phosphorus | ppm | ASTM D5185m | | 1017 | 968 | --- |
| Zinc | ppm | ASTM D5185m | | 1291 | 1164 | --- |
| Sulfur | ppm | ASTM D5185m | | 2774 | 3202 | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 18.5 | 22.3 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 9.05 | 8.08 | --- |
| Visc @ 100°C | cSt | ASTM D445 | | 13.1 | 13.3 | --- |

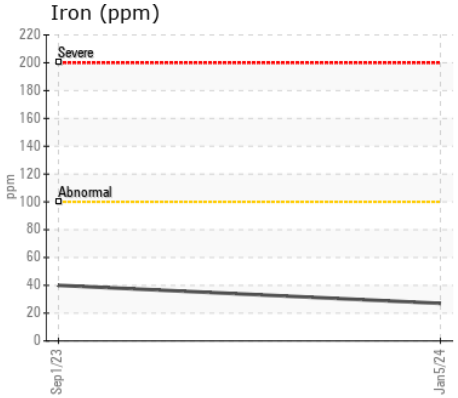
Base Number



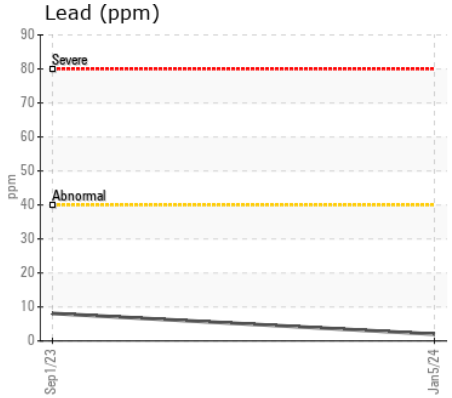

Viscosity @ 100°C



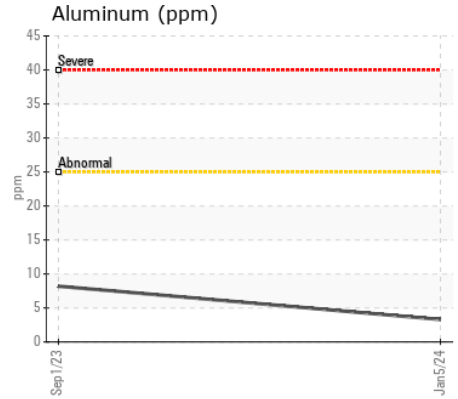

Iron (ppm)



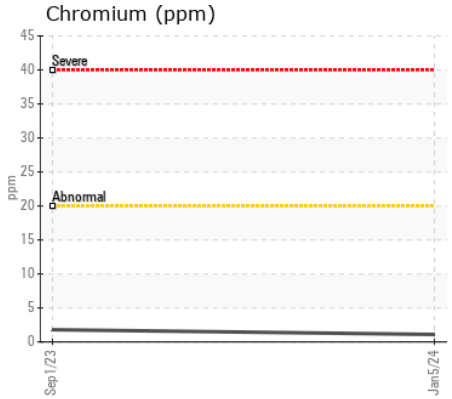

Lead (ppm)



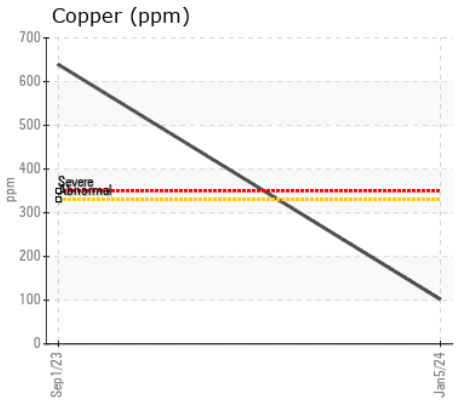

Aluminum (ppm)



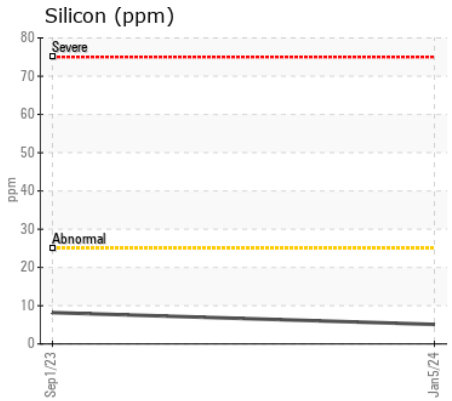

Chromium (ppm)



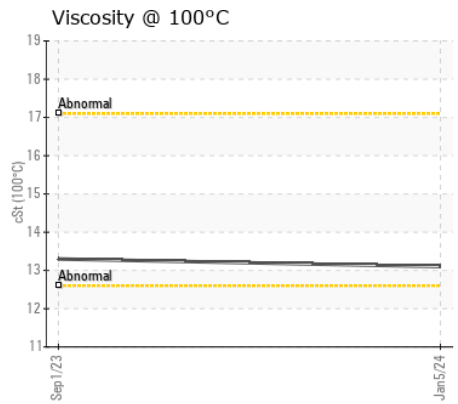

Copper (ppm)



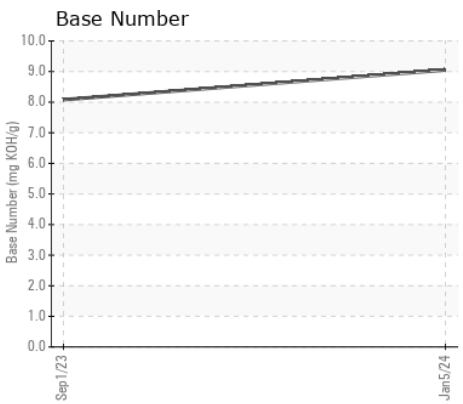

Silicon (ppm)




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : LP0000019 **Recieved** : 12 Jan 2024
**Lab Number** : 06060401 **Diagnosed** : 16 Jan 2024
**Unique Number** : 10831783 **Diagnostician** : Wes Davis
**Test Package** : MOB 2

*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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