



LUBE PLUS+

OIL ANALYSIS REPORT

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



Machine Id
KOMATSU HD605.7 76 (S/N 11164)
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (23 GAL)

RECOMMENDATION

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | LP0002065 | LP0000712 | WC0661770 |
| Sample Date | | Client Info | | 20 Jun 2024 | 06 Jul 2023 | 17 Apr 2023 |
| Machine Age | hrs | Client Info | | 0 | 16790 | 16337 |
| Oil Age | hrs | Client Info | | 0 | 453 | 383 |
| Filter Age | hrs | Client Info | | 0 | 453 | 383 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 6 | 11 | 10 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | <1 | 1 | <1 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 0 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

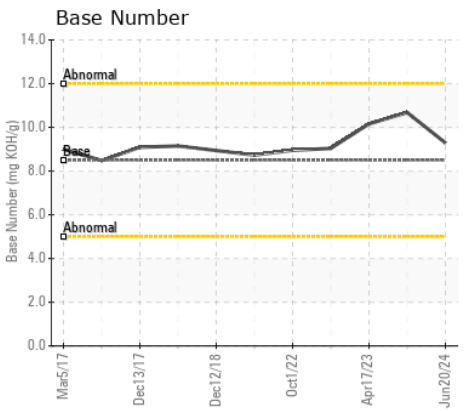
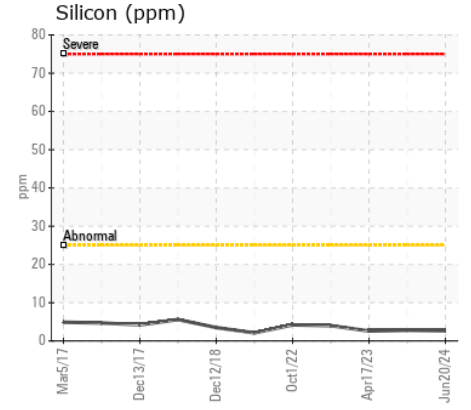
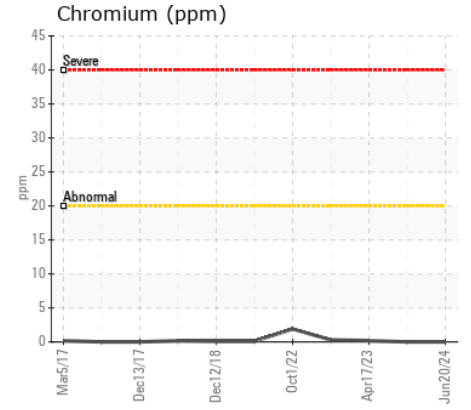
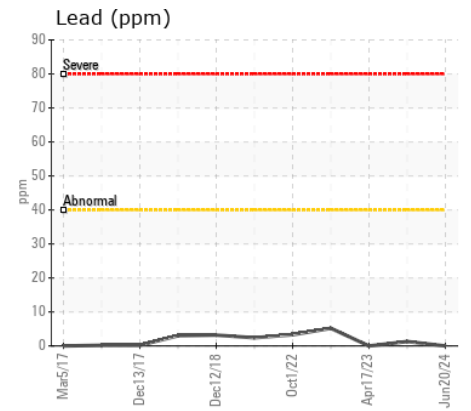
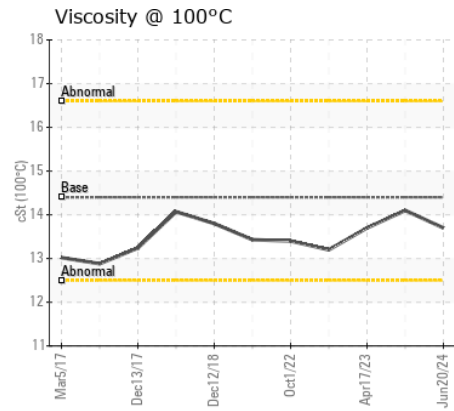
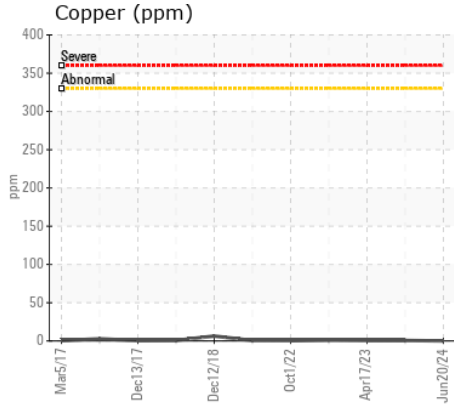
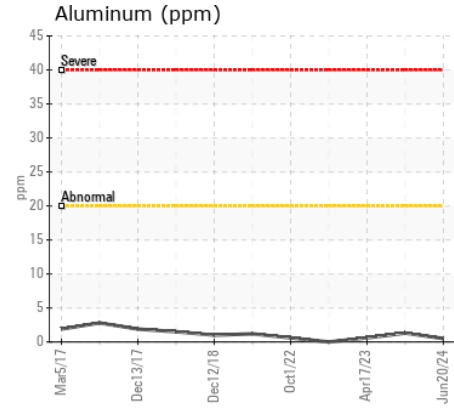
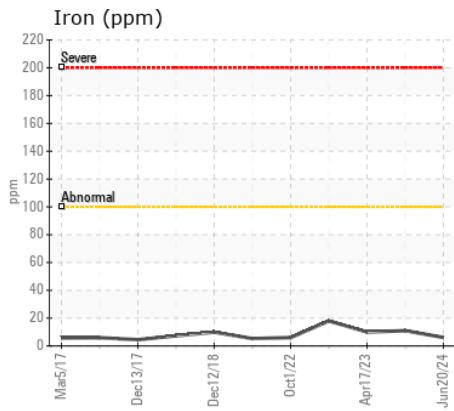
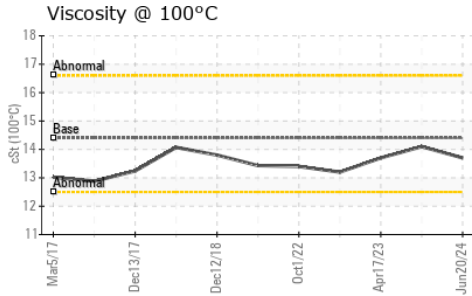
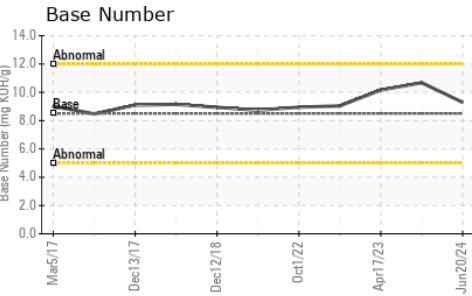
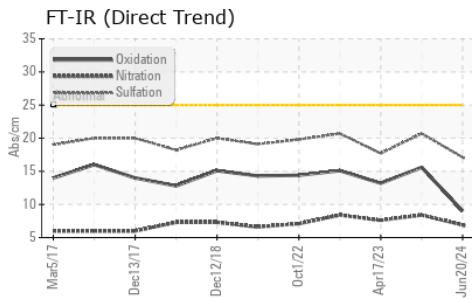
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 3 | 3 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 4 | 0 |
| 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 | 1.2 | 1.1 | 0.9 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.9 | 8.4 | 7.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 17.1 | 20.7 | 17.7 |
| 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 |

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.

| | | | | | | |
|------------------|----------|-------------|------|-------------|-------|-------|
| Sodium | ppm | ASTM D5185m | >216 | 2 | 4 | 3 |
| Boron | ppm | ASTM D5185m | 250 | 4 | 27 | 32 |
| Barium | ppm | ASTM D5185m | 10 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 5 | 72 | 72 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | 43 | 447 | 547 |
| Calcium | ppm | ASTM D5185m | 3000 | 2341 | 1715 | 1635 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 916 | 1008 | 1055 |
| Zinc | ppm | ASTM D5185m | 1350 | 1080 | 1217 | 1260 |
| Sulfur | ppm | ASTM D5185m | 4250 | 4186 | 4092 | 4177 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 9.0 | 15.6 | 13.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 9.29 | 10.68 | 10.16 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.7 | 14.1 | 13.7 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0002065
Lab Number : 06215947
Unique Number : 11088811
Test Package : MOB 2

Received : 20 Jun 2024
Tested : 22 Jun 2024
Diagnosed : 22 Jun 2024 - Wes Davis

S.M. LORUSSO & SONS
 221 NORFOLK ST.
 WALPOLE, MA
 US 02081

Contact: PAUL BECKMAN
 pbeckman@smlorusso.com
 T: (508)668-2603
 F: (508)660-0232

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)