



OIL ANALYSIS REPORT

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



Machine Id
MACK FL-48
Component
Diesel Engine
Fluid
GIBRALTAR 15W/40 SUPER S-3 LX (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number | | Client Info | | WC0875385 | --- | --- |
| Sample Date | | Client Info | | 11 May 2024 | --- | --- |
| Machine Age | hrs | Client Info | | 8895 | --- | --- |
| Oil Age | hrs | Client Info | | 600 | --- | --- |
| Filter Age | hrs | Client Info | | 600 | --- | --- |
| Oil Changed | | Client Info | | Changed | --- | --- |
| Filter Changed | | Client Info | | Changed | --- | --- |
| Sample Status | | | | NORMAL | --- | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|-----|-----|
| Iron | ppm | ASTM D5185m | >120 | 13 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | 0 | --- | --- |
| Nickel | ppm | ASTM D5185m | >5 | 0 | --- | --- |
| Titanium | ppm | ASTM D5185m | >2 | 0 | --- | --- |
| Silver | ppm | ASTM D5185m | >2 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | <1 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 2 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | --- | --- |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |

CONTAMINATION

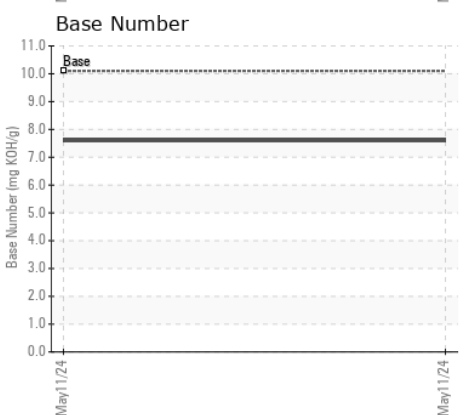
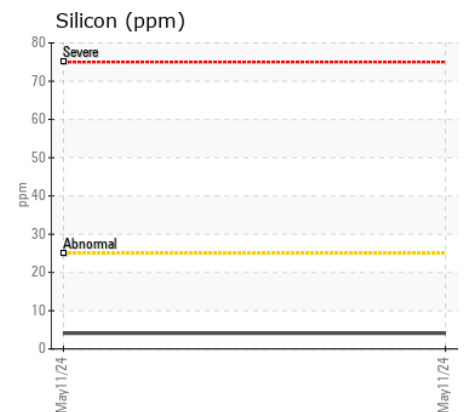
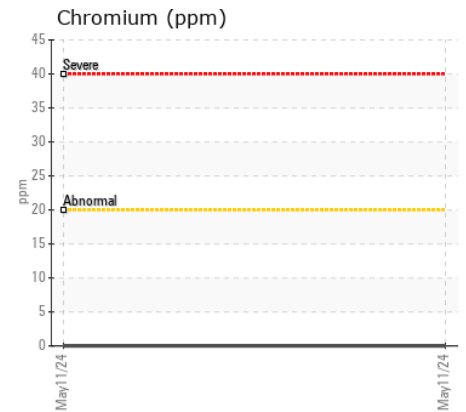
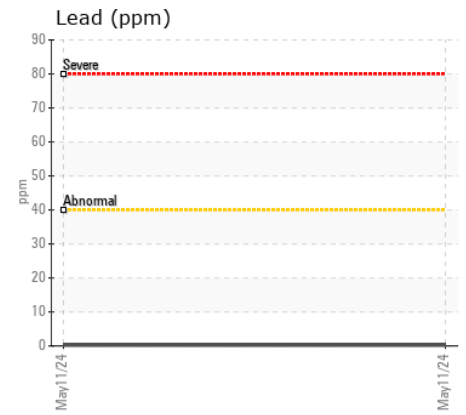
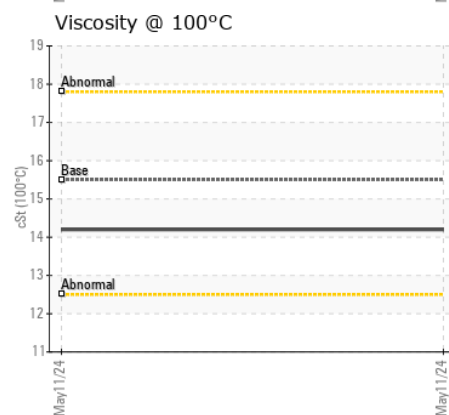
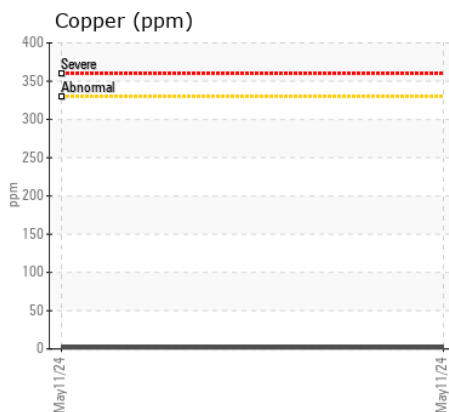
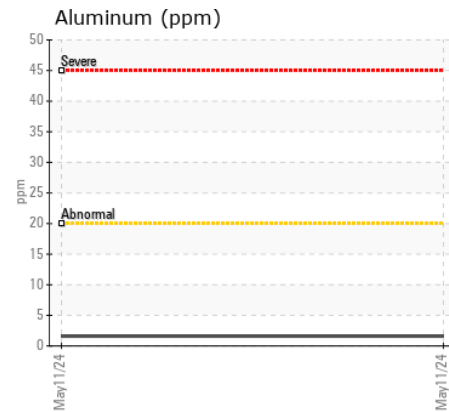
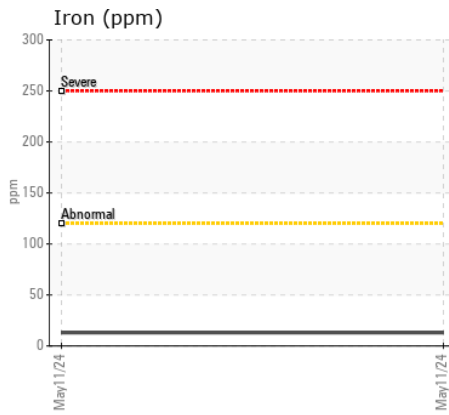
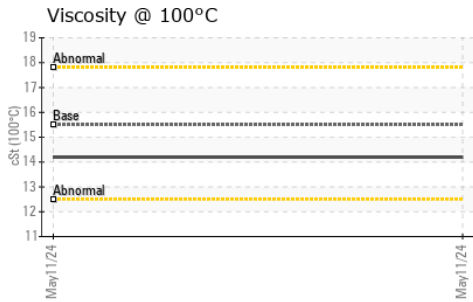
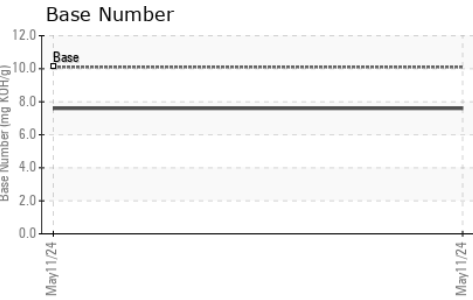
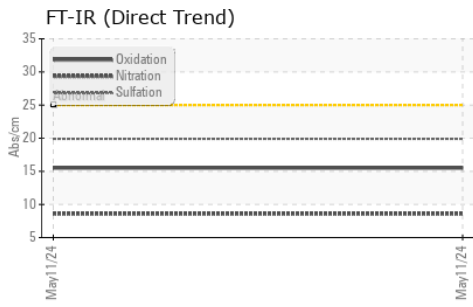
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-----|-----|
| Silicon | ppm | ASTM D5185m | >25 | 4 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 0 | --- | --- |
| Fuel | | WC Method | >3.0 | <1.0 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | *ASTM D7844 | >4 | 0.5 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.6 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.9 | --- | --- |
| Silt | scalar | *Visual | NONE | NONE | --- | --- |
| Debris | scalar | *Visual | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | --- | --- |
| Appearance | scalar | *Visual | NORML | NORML | --- | --- |
| Odor | scalar | *Visual | NORML | NORML | --- | --- |
| Emulsified Water | scalar | *Visual | >0.2 | 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 | | 2 | --- | --- |
| Boron | ppm | ASTM D5185m | | 7 | --- | --- |
| Barium | ppm | ASTM D5185m | | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | 66 | 61 | --- | --- |
| Manganese | ppm | ASTM D5185m | | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185m | 1000 | 885 | --- | --- |
| Calcium | ppm | ASTM D5185m | 1050 | 1120 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1028 | --- | --- |
| Zinc | ppm | ASTM D5185m | 1270 | 1246 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 3316 | --- | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.5 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.1 | 7.6 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | 15.5 | 14.2 | --- | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0875385 **Received** : 23 May 2024
Lab Number : 06188915 **Tested** : 24 May 2024
Unique Number : 11045667 **Diagnosed** : 24 May 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: TBN)

OAKRIDGE WASTE
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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)