



OIL ANALYSIS REPORT

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

Area
Store 9 - Marietta
Machine Id
WESTERN STAR 2406
Component
Diesel Engine
Fluid
MOBIL 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number | | Client Info | | LEC0048388 | --- | --- |
| Sample Date | | Client Info | | 14 May 2024 | --- | --- |
| Machine Age | mls | Client Info | | 10000 | --- | --- |
| Oil Age | mls | Client Info | | 10000 | --- | --- |
| Filter Age | mls | Client Info | | 10000 | --- | --- |
| Oil Changed | | Client Info | | Changed | --- | --- |
| Filter Changed | | Client Info | | Changed | --- | --- |
| Sample Status | | | | ATTENTION | --- | --- |

WEAR

Metal levels are typical for a new component breaking in.

| | | | | | | |
|--------------|--------|-------------|------|--------------|-----|-----|
| Iron | ppm | ASTM D5185m | >100 | 55 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | 3 | --- | --- |
| Nickel | ppm | ASTM D5185m | >4 | 1 | --- | --- |
| Titanium | ppm | ASTM D5185m | | <1 | --- | --- |
| Silver | ppm | ASTM D5185m | >3 | <1 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 31 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | <1 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 165 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | 4 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | --- | --- |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |

CONTAMINATION

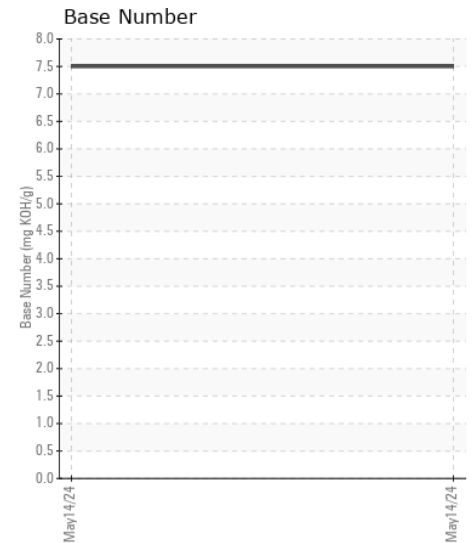
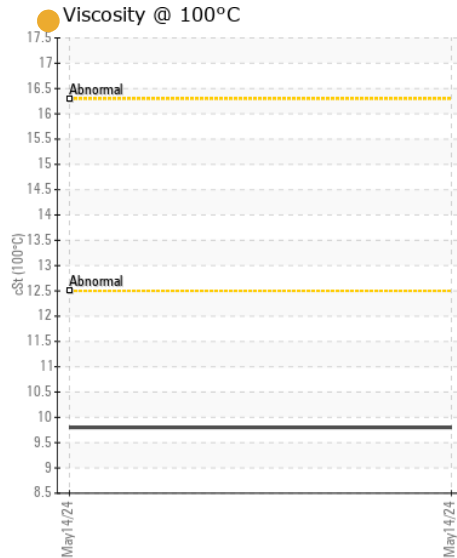
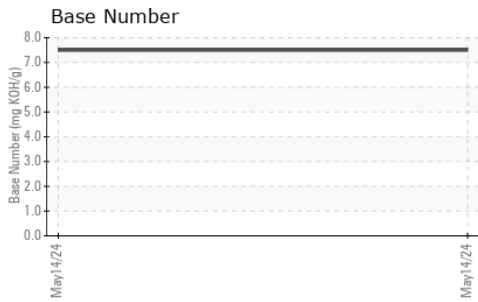
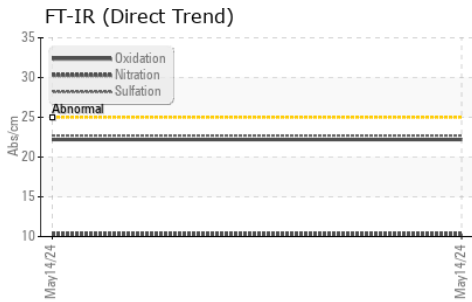
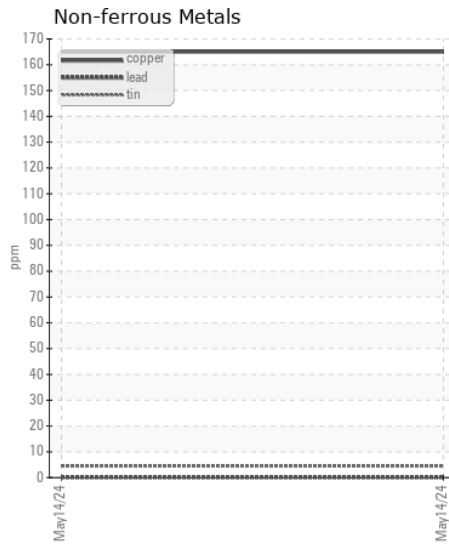
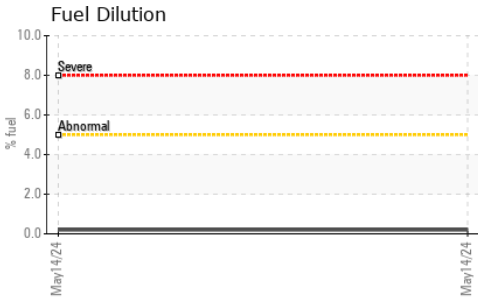
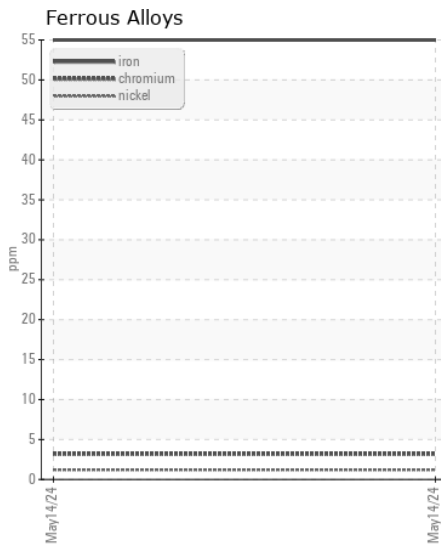
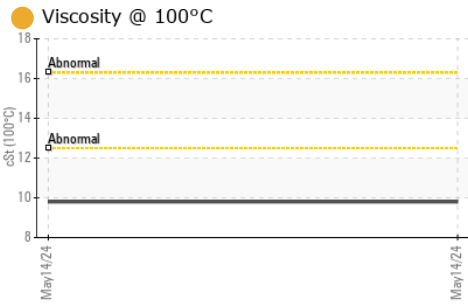
Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|--------------|-----|-----|
| Silicon | ppm | ASTM D5185m | >120 | 10 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 108 | --- | --- |
| Fuel | % | ASTM D3524 | >5 | 0.2 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | *ASTM D7844 | >3 | 0.4 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.3 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.7 | --- | --- |
| 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 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 | >118 | 4 | --- | --- |
| Boron | ppm | ASTM D5185m | | 40 | --- | --- |
| Barium | ppm | ASTM D5185m | | <1 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | 51 | --- | --- |
| Manganese | ppm | ASTM D5185m | | 4 | --- | --- |
| Magnesium | ppm | ASTM D5185m | | 526 | --- | --- |
| Calcium | ppm | ASTM D5185m | | 1707 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | 765 | --- | --- |
| Zinc | ppm | ASTM D5185m | | 915 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 2411 | --- | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 22.2 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 7.5 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | | 9.8 | --- | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0048388 **Received** : 03 Jun 2024
Lab Number : 06197495 **Tested** : 05 Jun 2024
Unique Number : 11059618 **Diagnosed** : 05 Jun 2024 - Sean Felton
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

RUSSELL TREE EXPERTS
 3427 E DUBLIN GRANVILLE RD
 WESTERVILLE, OH
 US 43081
 Contact: DAN ROMINE
 dromine@russelltreeexperts.com
 T: (614)895-7000
 F:

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)