



OIL ANALYSIS REPORT

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

Machine Id
11760
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 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 | | DC0032891 | --- | --- |
| Sample Date | | Client Info | | 19 Dec 2023 | --- | --- |
| Machine Age | hrs | Client Info | | 3882 | --- | --- |
| Oil Age | hrs | Client Info | | 250 | --- | --- |
| Filter Age | hrs | Client Info | | 250 | --- | --- |
| Oil Changed | | Client Info | | Changed | --- | --- |
| Filter Changed | | Client Info | | Changed | --- | --- |
| Sample Status | | | | ABNORMAL | --- | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|------|-----|-----|
| Iron | ppm | ASTM D5185m | >100 | 26 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | 9 | --- | --- |
| Nickel | ppm | ASTM D5185m | >4 | 0 | --- | --- |
| Titanium | ppm | ASTM D5185m | | <1 | --- | --- |
| Silver | ppm | ASTM D5185m | >3 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 4 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | 11 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 4 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | --- | --- |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |

CONTAMINATION

Elemental level of silicon (Si) above normal.

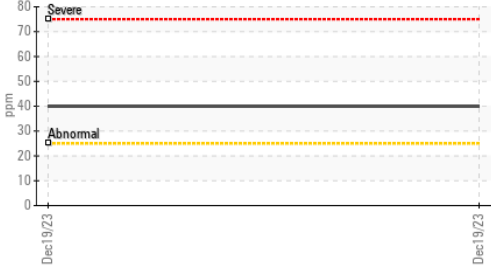
| | | | | | | |
|------------------|----------|-------------|-------|-------|-----|-----|
| Silicon | ppm | ASTM D5185m | >25 | ▲ 40 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | <1 | --- | --- |
| Fuel | | WC Method | >5 | <1.0 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | *ASTM D7844 | >3 | 0.2 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.6 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 21.0 | --- | --- |
| 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

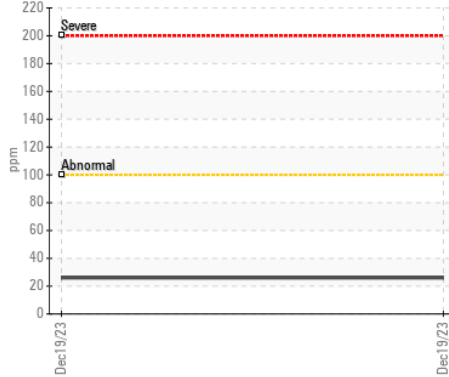
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

| | | | | | | |
|------------------|----------|-------------|------|------|-----|-----|
| Sodium | ppm | ASTM D5185m | >158 | 6 | --- | --- |
| Boron | ppm | ASTM D5185m | 250 | 35 | --- | --- |
| Barium | ppm | ASTM D5185m | 10 | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | 100 | 39 | --- | --- |
| Manganese | ppm | ASTM D5185m | | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185m | 450 | 535 | --- | --- |
| Calcium | ppm | ASTM D5185m | 3000 | 1831 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | 1150 | 904 | --- | --- |
| Zinc | ppm | ASTM D5185m | 1350 | 1094 | --- | --- |
| Sulfur | ppm | ASTM D5185m | 4250 | 2908 | --- | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 20.1 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 9.2 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.5 | --- | --- |

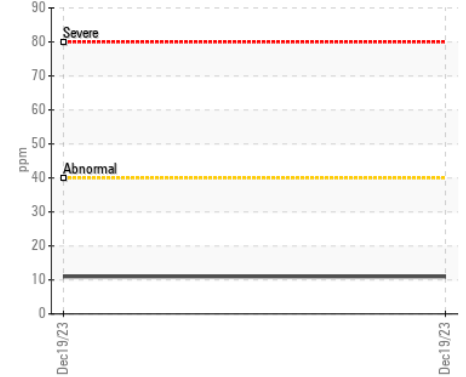
▲ Silicon (ppm)



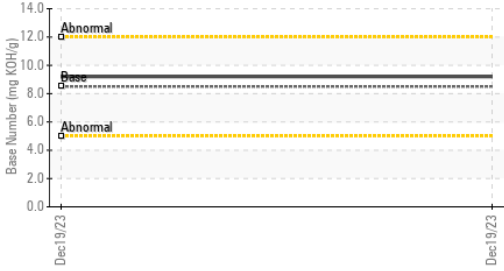
Iron (ppm)



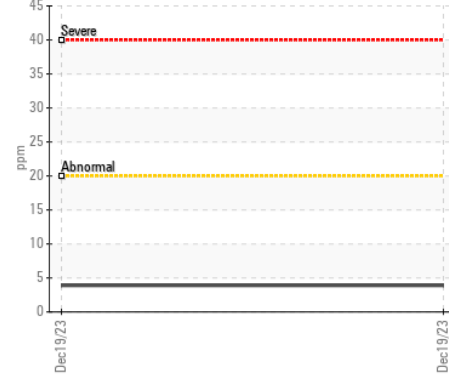
Lead (ppm)



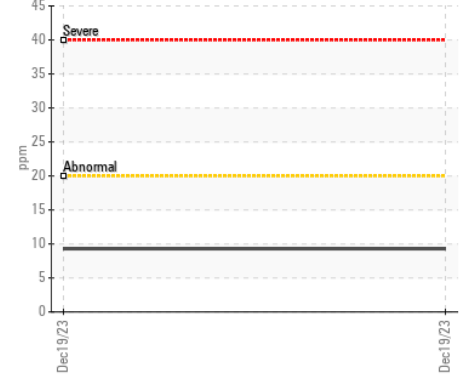
Base Number



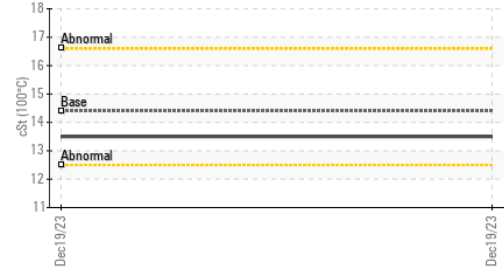
Aluminum (ppm)



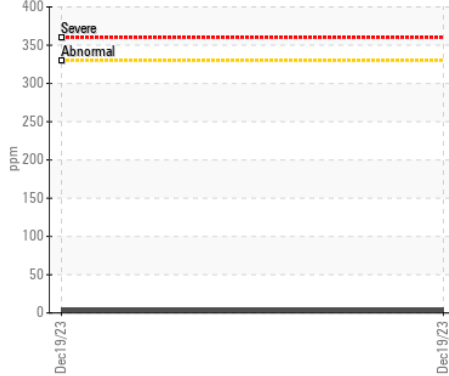
Chromium (ppm)



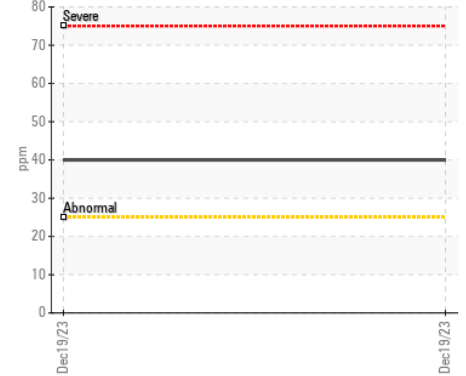
Viscosity @ 100°C



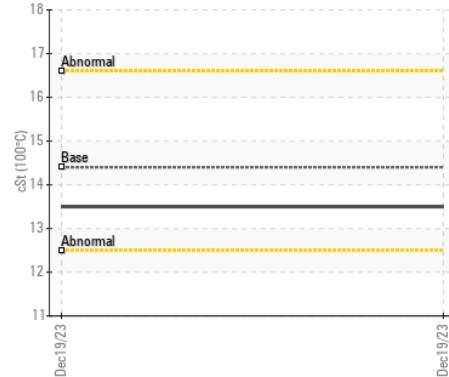
Copper (ppm)



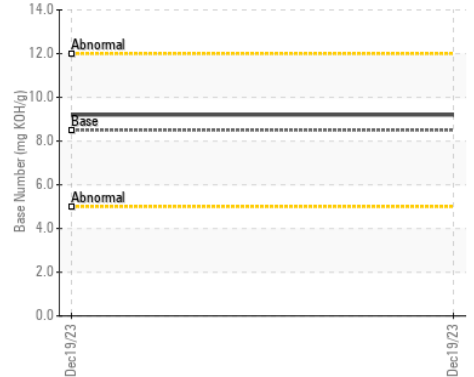
▲ Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0032891 **Received** : 10 Jan 2024
Lab Number : 06056505 **Diagnosed** : 11 Jan 2024
Unique Number : 10822454 **Diagnostician** : Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

FRANCIS O DAY
 14900 SOUTHLAWN LN
 ROCKVILLE, MD
 US 20850
 Contact: JAMIE FORESTER

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)

T:
F: