TRAAP
Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

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

Machine Id
## ONAN ONAN - ASRC FEDERAL
Component
## Diesel Engine
Fluid
## CJ-4 15W40 (12 QTS)

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

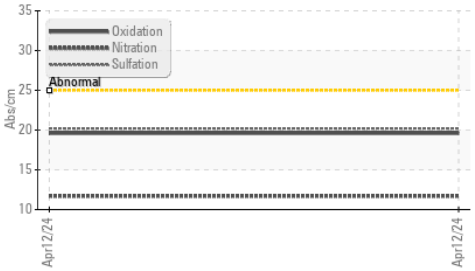
There is no indication of any contamination in the oil.

## FLUID CONDITION

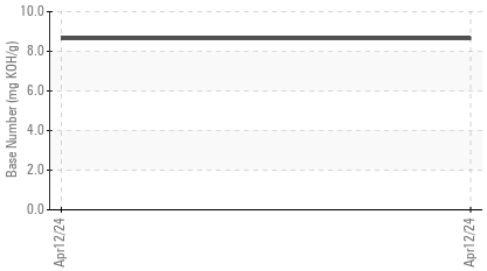
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | TR06193040 | --- | --- |
| Sample Date | | Client Info | | 12 Apr 2024 | --- | --- |
| Machine Age | hrs | Client Info | | 7930 | --- | --- |
| Oil Age | hrs | Client Info | | 300 | --- | --- |
| Filter Age | hrs | Client Info | | 300 | --- | --- |
| Oil Changed | | Client Info | | Changed | --- | --- |
| Filter Changed | | Client Info | | Changed | --- | --- |
| Sample Status | | | | NORMAL | --- | --- |
| Iron | ppm | ASTM D5185m | >90 | 10 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | 1 | --- | --- |
| Nickel | ppm | ASTM D5185m | >2 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185m | >2 | <1 | --- | --- |
| Silver | ppm | ASTM D5185m | >2 | 1 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 4 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | 4 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 2 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | --- | --- |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Silicon | ppm | ASTM D5185m | >25 | 8 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 2 | --- | --- |
| Fuel | | WC Method | >3.0 | <1.0 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | *ASTM D7844 | >6 | 0.5 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.7 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.2 | --- | --- |
| 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 | --- | --- |
| Sodium | ppm | ASTM D5185m | | 3 | --- | --- |
| Boron | ppm | ASTM D5185m | | 47 | --- | --- |
| Barium | ppm | ASTM D5185m | | <1 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | 75 | --- | --- |
| Manganese | ppm | ASTM D5185m | | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185m | | 69 | --- | --- |
| Calcium | ppm | ASTM D5185m | | 1736 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | 807 | --- | --- |
| Zinc | ppm | ASTM D5185m | | 989 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 3338 | --- | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 19.6 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 8.65 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | | 12.9 | --- | --- |

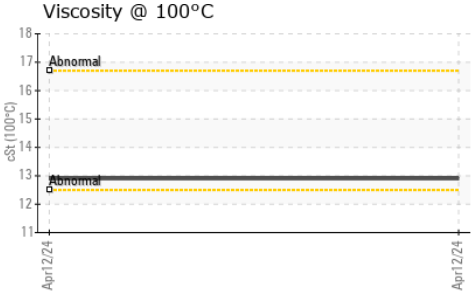
FT-IR (Direct Trend)



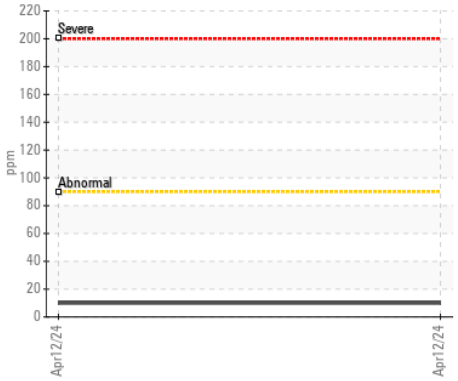

Base Number



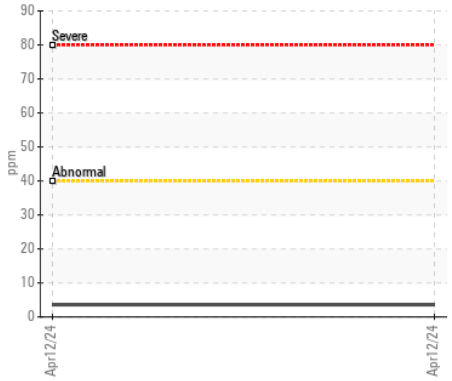

Viscosity @ 100°C



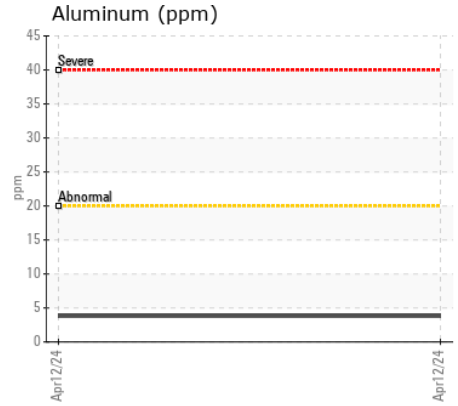

Iron (ppm)



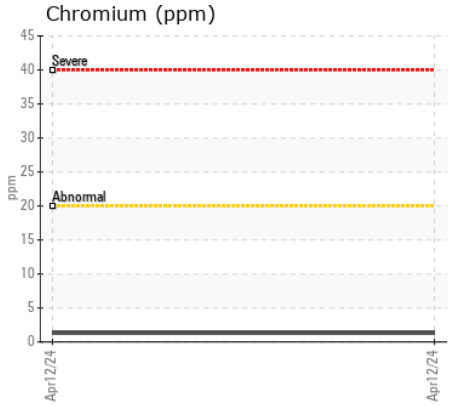

Lead (ppm)



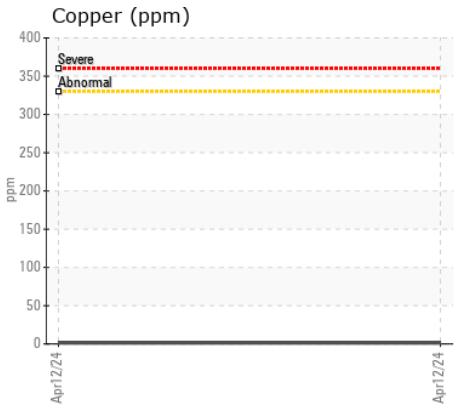

Aluminum (ppm)



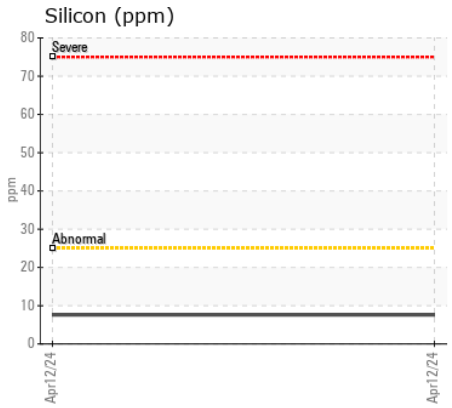

Chromium (ppm)



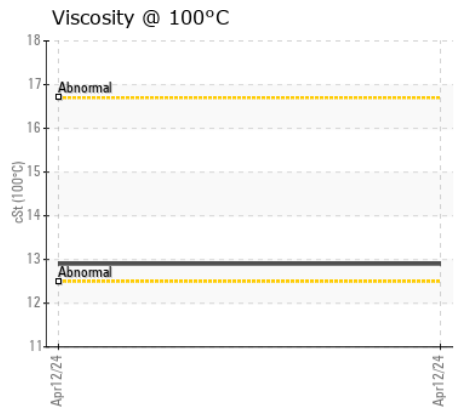

Copper (ppm)



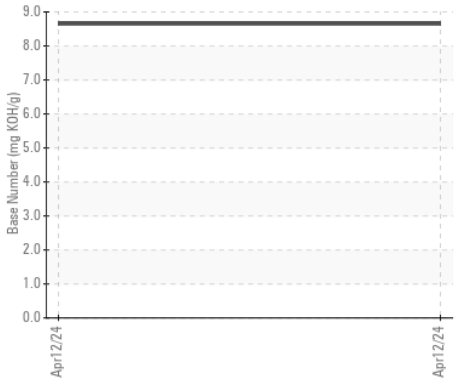

Silicon (ppm)




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TR06193040
**Lab Number** : 06193040
**Unique Number** : 11049792
**Test Package** : MOB 2

**Received** : 28 May 2024
**Tested** : 30 May 2024
**Diagnosed** : 30 May 2024 - Wes Davis

*To discuss this sample report, contact Customer Service at 1-800-827-0711.*
** - 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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