HUTCHENS RENTZ-EDEN

# OIL ANALYSIS REPORT

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

Machine Id
**1955**
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 5W30 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

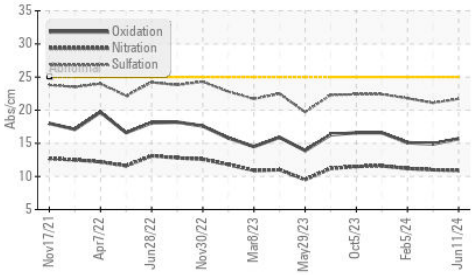
There is no indication of any contamination in the oil.

## FLUID CONDITION

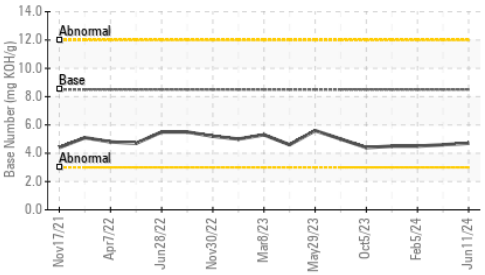
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | HRE0000503 | HRE0000131 | WC0887585 |
| Sample Date | | Client Info | | 11 Jun 2024 | 09 Apr 2024 | 05 Feb 2024 |
| Machine Age | mls | Client Info | | 115627 | 0 | 0 |
| Oil Age | mls | Client Info | | 0 | 0 | 0 |
| Filter Age | mls | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >100 | 16 | 12 | 9 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 4 | 4 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 0 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | LIGHT | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 18 | 18 | 17 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 2 | 2 |
| 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 | 0.1 | 0 | 0 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.9 | 11.0 | 11.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 21.7 | 21.1 | 21.8 |
| 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 |
| Sodium | ppm | ASTM D5185m | | 1 | 1 | 1 |
| Boron | ppm | ASTM D5185m | 250 | 18 | 32 | 23 |
| Barium | ppm | ASTM D5185m | 10 | 0 | <1 | 10 |
| Molybdenum | ppm | ASTM D5185m | 100 | 216 | 204 | 187 |
| Manganese | ppm | ASTM D5185m | | 33 | 4 | 4 |
| Magnesium | ppm | ASTM D5185m | 450 | 674 | 543 | 557 |
| Calcium | ppm | ASTM D5185m | 3000 | 1420 | 1150 | 1068 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 615 | 520 | 597 |
| Zinc | ppm | ASTM D5185m | 1350 | 782 | 637 | 667 |
| Sulfur | ppm | ASTM D5185m | 4250 | 3210 | 2264 | 2641 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.7 | 14.9 | 15.1 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 4.7 | 4.6 | 4.5 |
| Visc @ 100°C | cSt | ASTM D445 | 10.9 | 10.5 | 10.1 | 10.2 |

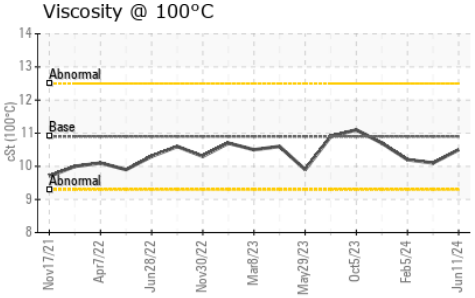
FT-IR (Direct Trend)



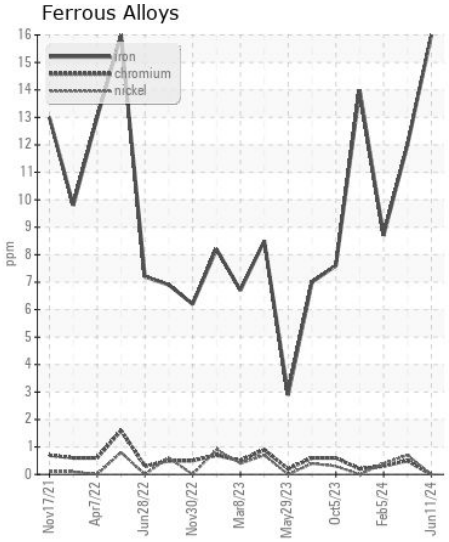

Base Number



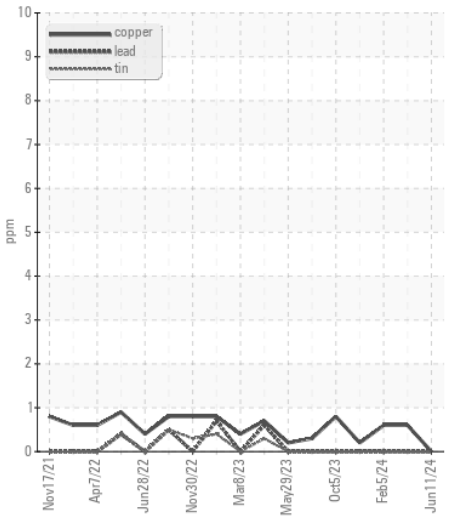

Viscosity @ 100°C



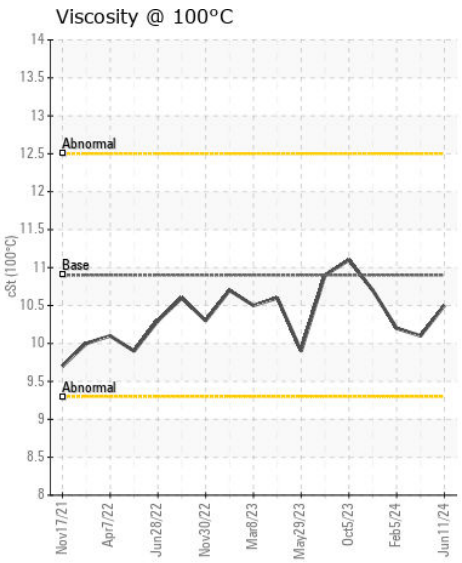

Ferrous Alloys



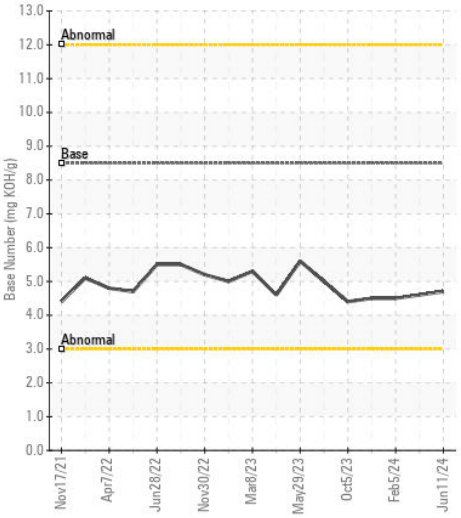

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : HRE0000503
**Lab Number** : 06213225
**Unique Number** : 11086089
**Test Package** : FLEET

**Received** : 18 Jun 2024
**Tested** : 19 Jun 2024
**Diagnosed** : 20 Jun 2024 - Don Baldridge

*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)*

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