Machine Id

## Rel162225

## Diesel Engine

\{not provided ( -- GAL)

## DIAGNOSIS

## $\triangle$ Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

## Wear

All component wear rates are normal.

## Contamination

Sodium and/or potassium levels are high.

## Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

| SAMPLE INFORMATION |  | method | limit/base | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sample Number |  | Client Info |  | PCA0122547 | --- | --- |
| Sample Date |  | Client Info |  | 27 Jun 2024 | --- | --- |
| Machine Age | hrs | Client Info |  | 16755 | --- | --- |
| Oil Age | hrs | Client Info |  | 16755 | --- | --- |
| Oil Changed |  | Client Info |  | N/A | --- | --- |
| Sample Status |  |  |  | ABNORMAL | --- | --- |
| CONTAMINATION |  | method | limit/base | current | history1 | history2 |
| Fuel |  | WC Method | >5 | <1.0 | --- | --- |
| Water |  | WC Method | $>0.2$ | NEG | --- | --- |
| WEAR METALS |  | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 37 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | 2 | --- | --- |
| Nickel | ppm | ASTM D5185m | >4 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185m |  | <1 | --- | --- |
| Silver | ppm | ASTM D5185m | >3 | <1 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 14 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | <1 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 4 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | 0 | --- | --- |
| Vanadium | ppm | ASTM D5185m |  | <1 | --- | --- |
| Cadmium | ppm | ASTM D5185m |  | 0 | --- | --- |
| ADDITIVES |  | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m |  | 12 | --- | --- |
| Barium | ppm | ASTM D5185m |  | <1 | --- | --- |
| Molybdenum | ppm | ASTM D5185m |  | 193 | --- | --- |
| Manganese | ppm | ASTM D5185m |  | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185m |  | 905 | --- | --- |
| Calcium | ppm | ASTM D5185m |  | 1114 | -- | --- |
| Phosphorus | ppm | ASTM D5185m |  | 930 | --- | --- |
| Zinc | ppm | ASTM D5185m |  | 1250 | --- | --- |
| Sulfur | ppm | ASTM D5185m |  | 3992 | --- | --- |


| CONTAMINANTS |  | method | limit/base | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Silicon | ppm | ASTM D5185m | >25 | 11 | --- | --- |
| Sodium | ppm | ASTM D5185m |  | - 1288 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | $\triangle 1371$ | --- | --- |
| Glycol | \% | *ASTM D2982 |  | NEG | --- | --- |
| INFRA-RED |  | method | limit/base | current | history1 | history2 |
| Soot \% | \% | *ASTM D7844 | >3 | 0.6 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 15.7 | --- | --- |
| Sulfation | Abs/. 1 mm | *ASTM D7415 | >30 | 24.1 | --- | --- |
| FLUID DEGRADATION |  | method | limit/base | current | history1 | history2 |
| Oxidation | Abs/. 1 mm | *ASTM D7414 | >25 | 20.3 | --- | --- |
| Base Number (BN) | $\mathrm{mg} \mathrm{KOH} / \mathrm{g}$ | ASTM D2896 |  | 11.06 | --- | --- |

OIL
DIAGNOSTICS

## OIL ANALYSIS REPORT



| VISUAL |  | method | limit/base | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- | --- |
| 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 | --- | --- |
| Free Water | scalar | *Visual |  | NEG | --- | --- |


| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Visc @ $100^{\circ} \mathrm{C}$ | cSt | ASTM D445 | $\mathbf{1 2 . 6}$ | --- | --- |
| GRAPHS |  |  |  |  |  |





Viscosity @ $100^{\circ} \mathrm{C}$


Chromium (ppm)


Silicon (ppm)


Base Number


## ANAB

 Certificate L2367 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)UMM - Shop 401 - Norton 186 South Washington Street Norton, MA US 02766
Contact: P Cohen pcohen@win-waste.com
Laboratory : WearCheck USA-501 Madison Ave., Cary, NC 27513
Received : 05 Jul 2024

Tested : 09 Jul 2024
Diagnosed : 09 Jul 2024 - Jonathan Hester

| Lab Number : 06228855 | Tested | $: 09$ Jul 2024 |
| :--- | :--- | :--- |
| Unique Number $: 11112348$ | Diagnosed | $: 09$ Jul 2024 - Jonathan Hester |

Unique Number : 11112348
Test Package : MOB 2 ( Additional Tests: Glycol )

