

## DIAGNOSIS

## Recommendation

If not recently done change any filter driers to reduce moisture level. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

## Wear

All component wear rates are normal.

## Contamination

The elevated moisture content is associated with POE oils which are hygroscopic, and can absorb moisture from sampling and processing.

## Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION |  | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sample Number |  | Client Info |  | GTT0001132 | GTT0001211 | GTT62207 |
| Sample Date |  | Client Info |  | 28 Mar 2024 | 29 Nov 2023 | 23 Feb 2023 |
| Machine Age | hrs | Client Info |  | 0 | 0 | --- |
| Oil Age | hrs | Client Info |  | 0 | 0 | --- |
| Oil Changed |  | Client Info |  | N/A | N/A | N/A |
| Sample Status |  |  |  | ATTENTION | NORMAL | ATTENTION |
| WEAR METALS |  | method | limitbase | current | history 1 | history2 |
| Iron | ppm | ASTM D5185(m) | >8 | <1 | <1 | <1 |
| Chromium | ppm | ASTM D5185(m) | >2 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185(m) |  | <1 | <1 | --- |
| Titanium | ppm | ASTM D5185(m) |  | 0 | 0 | --- |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | <1 | --- |
| Aluminum | ppm | ASTM D5185(m) | >3 | <1 | 0 | <1 |
| Lead | ppm | ASTM D5185(m) | >2 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185(m) | >8 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >4 | 0 | 0 | <1 |
| Antimony | ppm | ASTM D5185(m) |  | 0 | 0 | --- |
| Vanadium | ppm | ASTM D5185(m) |  | 0 | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) |  | 0 | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) |  | 0 | 0 | --- |


| ADDITIVES |  | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Boron | ppm | ASTM D5185(m) | 0 | 1 | <1 | --- |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | <1 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 0 | 0 | 0 | --- |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 | --- |
| Magnesium | ppm | ASTM D5185(m) | 0 | 0 | 0 | --- |
| Calcium | ppm | ASTM D5185(m) | 10 | 0 | 0 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 250 | <1 | 0 | --- |
| Zinc | ppm | ASTM D5185(m) | 0 | <1 | <1 | <1 |
| Sulfur | ppm | ASTM D5185(m) | 400 | 13 | 39 | --- |
| Lithium | ppm | ASTM D5185(m) |  | <1 | <1 | --- |


| CONTAMINANTS |  | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Silicon | ppm | ASTM D5185(m) | >15 | 4 | 6 | --- |
| Sodium | ppm | ASTM D5185(m) |  | 0 | 2 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | 4 | --- |
| ppm Water | ppm | ASTM D6304* | >300 | 689 | 107 | 474 |
| FLUID DEGRADATION |  | method | limitbase | current | history 1 | history2 |
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.07 | 0.03 | 0.0 | 0.001 |


| VISUAL |  | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| White Metal | scalar | Visual* | NONE | NONE | NONE | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE | --- |
| Precipitate | scalar | Visual* | NONE | NONE | NONE | --- |
| Silt | scalar | Visual* | NONE | NONE | NONE | --- |
| Debris | scalar | Visual* | NONE | NONE | NONE | --- |
| Sand/Dirt | scalar | Visual* | NONE | NONE | NONE | --- |
| Appearance | scalar | Visual* | NORML | NORML | NORML | --- |
| Odor | scalar | Visual* | NORML | NORML | NORML | --- |


| FLUID PROPERTIES | method | limitbase | current | history1 | history2 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Visc @ $40^{\circ} \mathrm{C}$ | cSt | ASTM D7279(m) |  | $\mathbf{1 9 . 1}$ | 30.1 | --- |
| SAMPLE IMAGES | method | limitbase | current | history1 | history2 |  |




## Johnson Controls- Quebec

| Sample No. $:$ : GTT0001132 | Received | $: 02$ Jul 2024 |  |
| :--- | :--- | :--- | :--- |
| Lab Number | $: 02645071$ | Tested | $: 05$ Jul 2024 |
| Unique Number | $: 5802610$ | Diagnosed | $: 05$ Jul 2024 - Bill Quesnel |

Sa No. : GTT0001132
Unique Number : 5802610 Tested

05 Jul 2024
Test Package : IND 2 ( Additional Tests: KF, TAN Man )

