
Component
Pluid
SHELL MORLINA S4 B 320 (--- GAL)

DIAGNOSIS

## 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 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 |  | WC0855702 | WC0743378 | WC0608965 |
| Sample Date |  | Client Info |  | 08 Jan 2024 | 27 Oct 2022 | 11 Nov 2021 |
| Machine Age | hrs | Client Info |  | 20394 | 17550 | 13247 |
| Oil Age | hrs | Client Info |  | 2002 | 2238 | 2063 |
| Oil Changed |  | Client Info |  | Changed | Changed | Changed |
| Sample Status |  |  |  | NORMAL | NORMAL | ATTENTION |
| CONTAMINATION |  | method | limitbase | current | history ${ }^{1}$ | history2 |
| Water |  | WC Method | >. 1 | NEG | NEG | NEG |
| WEAR METALS |  | method | limitbase | current | history 1 | history2 |
| Iron | ppm | ASTM D5185m | >90 | 0 | <1 | <1 |
| Chromium | ppm | ASTM D5185m | >5 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | 0 | $<1$ | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | $>7$ | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | $>12$ | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >30 | 0 | <1 | 0 |
| Tin | ppm | ASTM D5185m | >9 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185m |  | --- | --- | 0 |
| Vanadium | ppm | ASTM D5185m |  | 0 | 1 | 0 |
| Cadmium | ppm | ASTM D5185m |  | 0 | 0 | 0 |


| ADDITIVES |  | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Boron | ppm | ASTM D5185m |  | 0 | 0 | 2 |
| Barium | ppm | ASTM D5185m |  | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m |  | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m |  | 0 | 2 | 0 |
| Magnesium | ppm | ASTM D5185m |  | 0 | 0 | 0 |
| Calcium | ppm | ASTM D5185m |  | 0 | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m |  | 88 | 265 | 237 |
| Zinc | ppm | ASTM D5185m |  | 0 | 0 | 0 |
| Sulfur | ppm | ASTM D5185m |  | 268 | 543 | 461 |
| CONTAMINANTS |  | method | limitbase | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >60 | <1 | <1 | 0 |
| Sodium | ppm | ASTM D5185m |  | 0 | 2 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | <1 | 0 |
| FLUID DEGRADATION |  | method | limitbase | current | history1 | history2 |
| Acid Number (AN) | mg KOHg | ASTM D8045 |  | 0.18 | 0.54 | 0.651 |

## OIL ANALYSIS REPORT



| VISUAL |  | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | VLITE | 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 | >. 1 | NEG | NEG | NEG |
| Free Water | scalar | *Visual |  | NEG | NEG | NEG |
| FLUID PROPERTIES |  | method | limitbase | current | history1 | history2 |
| Visc @ $40^{\circ} \mathrm{C}$ | cSt | ASTM D445 | 320 | 313 | 315 | $\triangle 301$ |
| SAMPLE IMAGES |  | method | limitbase | current | history 1 | history2 |

Color $\quad$ Bottom




| Sample No. | : WC0855702 | Recieved | : 11 Jan 2024 |
| :--- | :--- | :--- | :--- |
| Lab Number | $: 06058258$ | Diagnosed | : 14 Jan 2024 |
| Unique Number | $: 10829640$ | Diagnostician | $:$ Don Baldridge |

