OIL ANALYSIS REPORT


## Ewing Hauling MACK 6707

Component
Diesel Engine
Fluid
GIBRALTAR 15W/40 SUPER S-3 LX (11)

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

| SAMPLE INFORMATION |  | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sample Number |  | Client Info |  | WC0840452 | WC0840445 | --- |
| Sample Date |  | Client Info |  | 16 Sep 2023 | 08 Sep 2023 | --- |
| Machine Age | hrs | Client Info |  | 14358 | 14287 | --- |
| Oil Age | hrs | Client Info |  | 450 | 150 | --- |
| Oil Changed |  | Client Info |  | Changed | Filtered | --- |
| Sample Status |  |  |  | NORMAL | NORMAL | --- |
| CONTAMINATION |  | method | limitbase | current | history 1 | history2 |
| Fuel |  | WC Method | >3.0 | <1.0 | <1.0 | --- |
| Glycol |  | WC Method |  | NEG | NEG | --- |
| WEAR METALS |  | method | limitbase | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >120 | 11 | 10 | --- |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | --- |
| Nickel | ppm | ASTM D5185m | >5 | 0 | 0 | --- |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | --- |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | 3 | --- |
| Lead | ppm | ASTM D5185m | >40 | 1 | <1 | --- |
| Copper | ppm | ASTM D5185m | >330 | <1 | <1 | --- |
| Tin | ppm | ASTM D5185m | >15 | <1 | <1 | --- |
| Vanadium | ppm | ASTM D5185m |  | 0 | <1 | --- |
| Cadmium | ppm | ASTM D5185m |  | 0 | 0 | --- |


| ADDITIVES |  | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Boron | ppm | ASTM D5185m |  | 12 | 13 | --- |
| Barium | ppm | ASTM D5185m |  | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 66 | 66 | 65 | --- |
| Manganese | ppm | ASTM D5185m |  | <1 | <1 | --- |
| Magnesium | ppm | ASTM D5185m | 1000 | 842 | 831 | --- |
| Calcium | ppm | ASTM D5185m | 1050 | 1354 | 1393 | --- |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1065 | 1034 | --- |
| Zinc | ppm | ASTM D5185m | 1270 | 1307 | 1286 | --- |
| Sulfur | ppm | ASTM D5185m |  | 3596 | 3951 | --- |
| CONTAMINANTS |  | method | limitbase | current | history 1 | history2 |
| Silicon | ppm | ASTM D5185m | >25 | 13 | 13 | --- |
| Sodium | ppm | ASTM D5185m |  | 3 | 3 | --- |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 3 | --- |
| INFRA-RED |  | method | limitbase | current | history1 | history2 |
| Soot \% | \% | *ASTM D7844 | >4 | 0.3 | 0.3 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.9 | 8.1 | --- |
| Sulfation | Abs. 1 mm | *ASTM D7415 | >30 | 19.7 | 19.0 | --- |
| FLUID DEGRADA | TION | method | limitbase | current | history1 | history2 |
| Oxidation | Abs/ 1 mm | *ASTM D7414 | >25 | 15.3 | 14.4 | --- |
| Base Number (BN) | $\mathrm{mg} \mathrm{KOH} / \mathrm{g}$ | ASTM D2896 | 10.1 | 7.5 | 7.6 | -- |

## OIL ANALYSIS REPORT



| 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 | --- |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | --- |
| Free Water | scalar | *Visual |  | NEG | NEG | -- |

FLUID PROPERTIES method limitbase current history1 history2

## GRAPHS <br> 

Aluminum (ppm)


Copper (ppm)




Chromium (ppm)


Silicon (ppm)


Base Number


