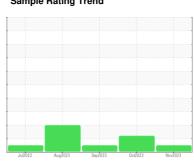


# **OIL ANALYSIS REPORT**

Sample Rating Trend







# MRC-296

Component

Compressor

LO-ASH ENGINE OIL SAE 40 (--- GAL)

|  |  | IS |
|--|--|----|
|  |  |    |
|  |  |    |

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

### **Fluid Condition**

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

|                  |          | Jul2023      | Aug2023    | Sep2023 Oct2023 | Nov2023         |             |
|------------------|----------|--------------|------------|-----------------|-----------------|-------------|
| SAMPLE INFORM    | MATION   | method       | limit/base | current         | history1        | history2    |
| Sample Number    |          | Client Info  |            | TO60001720      | TO60001666      | TO60001431  |
| Sample Date      |          | Client Info  |            | 04 Nov 2023     | 12 Oct 2023     | 05 Sep 2023 |
| Machine Age      | hrs      | Client Info  |            | 5854            | 5070            | 4869        |
| Oil Age          | hrs      | Client Info  |            | 0               | 0               | 0           |
| Oil Changed      |          | Client Info  |            | N/A             | N/A             | N/A         |
| Sample Status    |          |              |            | NORMAL          | ABNORMAL        | NORMAL      |
| WEAR METALS      |          | method       | limit/base | current         | history1        | history2    |
| Iron             | ppm      | ASTM D5185m  | >50        | 0               | 1               | 1           |
| Chromium         | ppm      | ASTM D5185m  | >10        | 0               | <1              | 0           |
| Nickel           | ppm      | ASTM D5185m  |            | 0               | 0               | 0           |
| Titanium         | ppm      | ASTM D5185m  |            | 0               | <1              | 0           |
| Silver           | ppm      | ASTM D5185m  |            | 0               | 0               | 0           |
| Aluminum         | ppm      | ASTM D5185m  | >25        | <1              | 2               | 0           |
| Lead             | ppm      | ASTM D5185m  | >25        | 0               | <1              | 0           |
| Copper           | ppm      | ASTM D5185m  | >50        | <1              | <1              | 0           |
| Tin              | ppm      | ASTM D5185m  | >15        | 0               | 0               | <1          |
| Vanadium         | ppm      | ASTM D5185m  |            | <1              | 0               | 0           |
| Cadmium          | ppm      | ASTM D5185m  |            | 0               | <1              | 0           |
| ADDITIVES        |          | method       | limit/base | current         | history1        | history2    |
| Boron            | ppm      | ASTM D5185m  | 37         | 62              | 57              | 127         |
| Barium           | ppm      | ASTM D5185m  | 12         | 0               | 3               | 0           |
| Molybdenum       | ppm      | ASTM D5185m  | 200        | <1              | 1               | 0           |
| Manganese        | ppm      | ASTM D5185m  |            | <1              | 0               | <1          |
| Magnesium        | ppm      | ASTM D5185m  | 5          | 6               | 5               | 9           |
| Calcium          | ppm      | ASTM D5185m  | 1600       | 1319            | 1282            | 1295        |
| Phosphorus       | ppm      | ASTM D5185m  | 300        | 328             | 294             | 269         |
| Zinc             | ppm      | ASTM D5185m  | 400        | 360             | 320             | 283         |
| Sulfur           | ppm      | ASTM D5185m  | 2600       | 2509            | 2228            | 1116        |
| CONTAMINANTS     |          | method       | limit/base | current         | history1        | history2    |
| Silicon          | ppm      | ASTM D5185m  | >25        | 2               | 5               | 2           |
| Sodium           | ppm      | ASTM D5185m  |            | 3               | <1              | 2           |
| Potassium        | ppm      | ASTM D5185m  | >20        | 2               | 4               | <1          |
| Water            | %        | ASTM D6304   | >0.1       | 0.019           | 0.018           | 0.038       |
| ppm Water        | ppm      | ASTM D6304   | >1000      | 192.3           | 182.2           | 386.6       |
| FLUID CLEANLIN   | ESS      | method       | limit/base | current         | history1        | history2    |
| Particles >4µm   |          | ASTM D7647   | >10000     | 878             | <b>△</b> 23760  | 1802        |
| Particles >6µm   |          | ASTM D7647   | >2500      | 234             | <u></u> 5571    | 197         |
| Particles >14µm  |          | ASTM D7647   | >320       | 9               | 157             | 11          |
| Particles >21µm  |          | ASTM D7647   | >80        | 1               | 31              | 6           |
| Particles >38µm  |          | ASTM D7647   | >20        | 0               | 0               | 1           |
| Particles >71µm  |          | ASTM D7647   | >4         | 0               | 0               | 1           |
| Oil Cleanliness  |          | ISO 4406 (c) | >20/18/15  | 17/15/10        | <u>22/20/14</u> | 18/15/11    |
| FLUID DEGRADA    | TION     | method       | limit/base | current         | history1        | history2    |
| Acid Number (AN) | mg KOH/g | ASTM D8045   |            | 0.27            | 0.646           | 0.88        |



## **OIL ANALYSIS REPORT**

