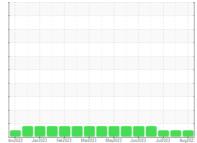


# **OIL ANALYSIS REPORT**

#### Sample Rating Trend





NORMAL

| SAMPLE INFORM    |          | method      | limit/base  | 23 May2023 Jun2023 Jul20<br>Current | <sup>23</sup> Aug202:<br>history1 | history2    |
|------------------|----------|-------------|-------------|-------------------------------------|-----------------------------------|-------------|
|                  | ATION    |             | IIIIII/Dase |                                     |                                   |             |
| Sample Number    |          | Client Info |             | HPL0003200                          | HPL0003239                        | HPL0003235  |
| Sample Date      |          | Client Info |             | 15 Aug 2023                         | 01 Aug 2023                       | 13 Jul 2023 |
| Machine Age      | hrs      | Client Info |             | 0                                   | 0                                 | 0           |
| Oil Age          | hrs      | Client Info |             | 0                                   | 0                                 | 0           |
| Oil Changed      |          | Client Info |             | N/A                                 | N/A                               | N/A         |
| Sample Status    |          |             |             | NORMAL                              | NORMAL                            | NORMAL      |
| WEAR METALS      |          | method      | limit/base  | current                             | history1                          | history2    |
| Iron             | ppm      | ASTM D5185m | >50         | 33                                  | 38                                | 40          |
| Chromium         | ppm      | ASTM D5185m | >10         | 0                                   | 0                                 | 0           |
| Nickel           | ppm      | ASTM D5185m |             | 0                                   | 0                                 | 0           |
| Titanium         | ppm      | ASTM D5185m |             | 0                                   | 0                                 | 0           |
| Silver           | ppm      | ASTM D5185m |             | 0                                   | 0                                 | 0           |
| Aluminum         | ppm      | ASTM D5185m | >25         | 0                                   | <1                                | 2           |
| Lead             | ppm      | ASTM D5185m | >25         | 0                                   | <1                                | <1          |
| Copper           | ppm      | ASTM D5185m | >50         | 16                                  | 17                                | 16          |
| Tin              | ppm      | ASTM D5185m | >15         | 14                                  | 16                                | 17          |
| 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 | 5           | 0                                   | 0                                 | 0           |
| Barium           | ppm      | ASTM D5185m | 5           | 0                                   | 0                                 | 0           |
| Molybdenum       | ppm      | ASTM D5185m | 5           | 0                                   | 0                                 | 0           |
| Manganese        | ppm      | ASTM D5185m |             | <1                                  | <1                                | <1          |
| Magnesium        | ppm      | ASTM D5185m | 5           | <1                                  | 2                                 | <1          |
| Calcium          | ppm      | ASTM D5185m |             | 4                                   | 2                                 | 6           |
| Phosphorus       | ppm      | ASTM D5185m | 100         | 189                                 | 206                               | 189         |
| Zinc             | ppm      | ASTM D5185m |             | 0                                   | 3                                 | 4           |
| Sulfur           | ppm      | ASTM D5185m | 1500        | 18574                               | 19131                             | 17085       |
|                  |          |             |             |                                     |                                   |             |
| CONTAMINANTS     |          | method      | limit/base  | current                             | history1                          | history2    |
| Silicon          | ppm      | ASTM D5185m | >25         | 6                                   | 6                                 | 8           |
| Sodium           | ppm      | ASTM D5185m | 00          | <1                                  | 1                                 | 0           |
| Potassium        | ppm      | ASTM D5185m |             | <1                                  | 2                                 | <1          |
| FLUID DEGRADA    |          | method      | limit/base  | current                             | history1                          | history2    |
| Acid Number (AN) | mg KOH/g |             |             | 0.60                                | 0.60                              | 0.55        |
| VISUAL           |          | method      | limit/base  |                                     | history1                          | history2    |
| White Metal      | scalar   | *Visual     | NONE        | LIGHT                               | 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                                | NONE                              | 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     | >0.1        | NEG                                 | NEG                               | NEG         |
|                  |          |             |             |                                     |                                   |             |

## Machine Id 16K-3A Component Compressor Fluid

**R&O OIL ISO 100 (--- GAL)** 

#### 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.

Free Water

scalar \*Visual

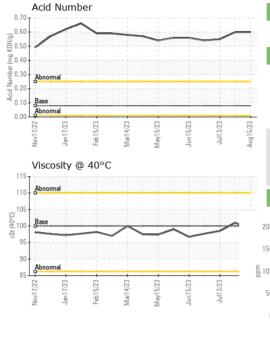
Contact/Location: M.S. MANHART - MARROB

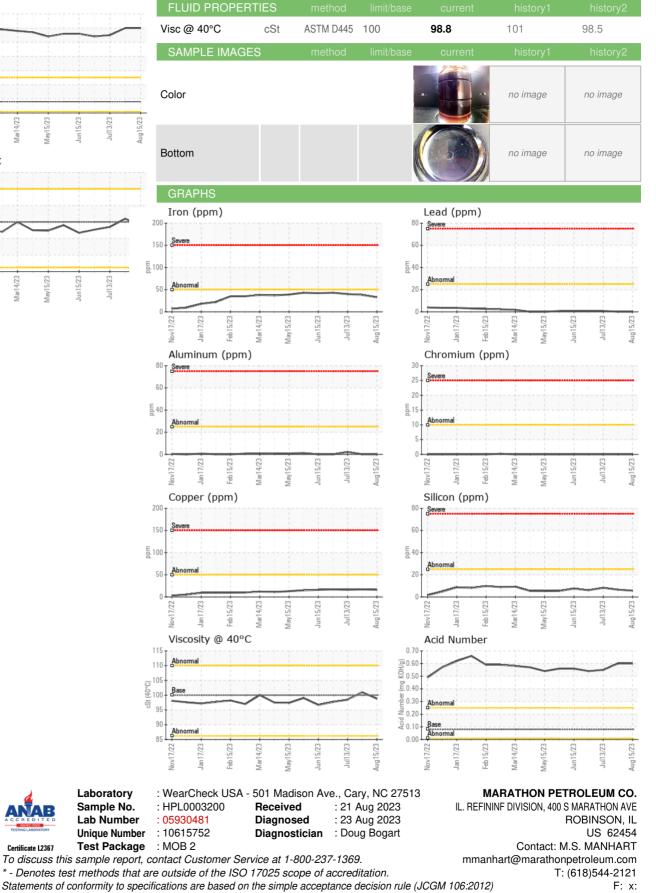
NEG NEG

NEG



# **OIL ANALYSIS REPORT**





Certificate L2367

Contact/Location: M.S. MANHART - MARROB