



# OIL ANALYSIS REPORT

|                 |                 |
|-----------------|-----------------|
| WEAR            | <b>ABNORMAL</b> |
| CONTAMINATION   | <b>NORMAL</b>   |
| FLUID CONDITION | <b>NORMAL</b>   |

Machine Id  
**16K-3B**  
 Component  
**Compressor**  
 Fluid  
**HP R&O ISO 100 (--- GAL)**

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

## WEAR

The iron level is abnormal. All other 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 acceptable for the time in service.

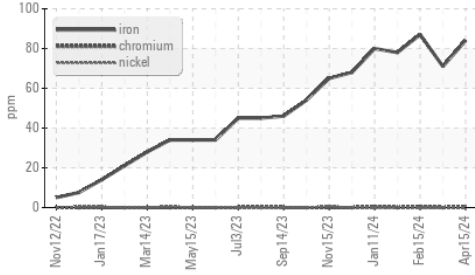
| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>HPL0005078</b>  | HPL0004529  | HPL0004469  |
| Sample Date    |     | Client Info |           | <b>15 Apr 2024</b> | 13 Mar 2024 | 15 Feb 2024 |
| Machine Age    | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | ABNORMAL    | ABNORMAL    |

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >50  | <b>▲ 84</b>  | ▲ 71 | ▲ 87 |
| Chromium     | ppm    | ASTM D5185m | >10  | <b>&lt;1</b> | 0    | <1   |
| Nickel       | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| Silver       | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>0</b>     | 1    | 2    |
| Lead         | ppm    | ASTM D5185m | >25  | <b>2</b>     | 2    | <1   |
| Copper       | ppm    | ASTM D5185m | >50  | <b>36</b>    | 29   | 26   |
| Tin          | ppm    | ASTM D5185m | >15  | <b>19</b>    | 19   | 20   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

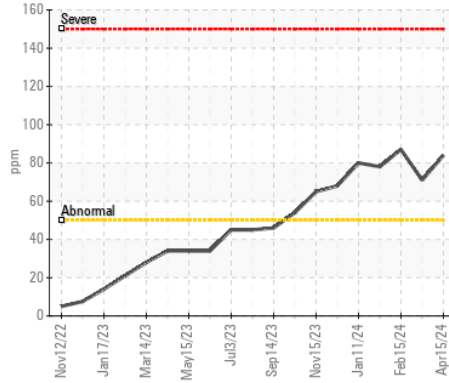
|                  |        |             |       |              |       |       |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm    | ASTM D5185m | >25   | <b>1</b>     | 2     | 2     |
| Potassium        | ppm    | ASTM D5185m | >20   | <b>&lt;1</b> | 1     | <1    |
| Water            |        | WC Method   | >0.1  | <b>NEG</b>   | NEG   | NEG   |
| Silt             | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Debris           | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Sand/Dirt        | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Appearance       | scalar | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Odor             | scalar | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Emulsified Water | scalar | *Visual     | >0.1  | <b>NEG</b>   | NEG   | NEG   |

|                  |          |             |  |              |       |       |
|------------------|----------|-------------|--|--------------|-------|-------|
| Sodium           | ppm      | ASTM D5185m |  | <b>1</b>     | <1    | 0     |
| Boron            | ppm      | ASTM D5185m |  | <b>0</b>     | 0     | 0     |
| Barium           | ppm      | ASTM D5185m |  | <b>1</b>     | 0     | <1    |
| Molybdenum       | ppm      | ASTM D5185m |  | <b>0</b>     | 0     | 0     |
| Manganese        | ppm      | ASTM D5185m |  | <b>1</b>     | <1    | 0     |
| Magnesium        | ppm      | ASTM D5185m |  | <b>1</b>     | <1    | 0     |
| Calcium          | ppm      | ASTM D5185m |  | <b>4</b>     | 1     | 1     |
| Phosphorus       | ppm      | ASTM D5185m |  | <b>194</b>   | 187   | 196   |
| Zinc             | ppm      | ASTM D5185m |  | <b>24</b>    | 16    | 15    |
| Sulfur           | ppm      | ASTM D5185m |  | <b>17393</b> | 17710 | 15188 |
| Acid Number (AN) | mg KOH/g | ASTM D8045  |  | <b>0.55</b>  | 0.64  | 0.54  |
| Visc @ 40°C      | cSt      | ASTM D445   |  | <b>101</b>   | 101   | 101   |

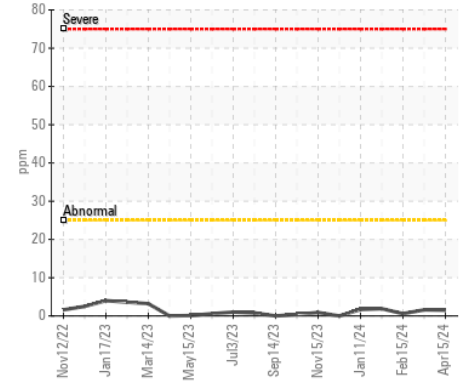
▲ Ferrous Alloys



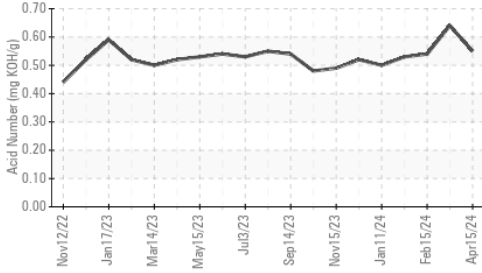
▲ Iron (ppm)



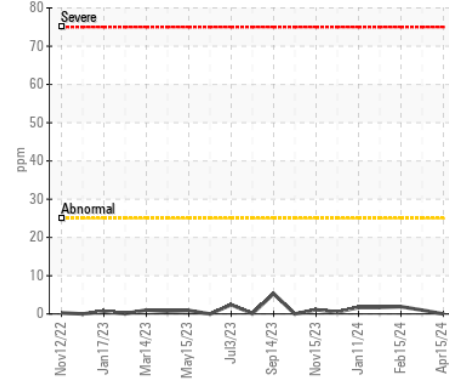
Lead (ppm)



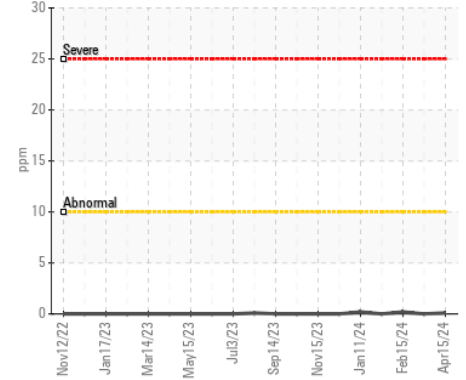
Acid Number



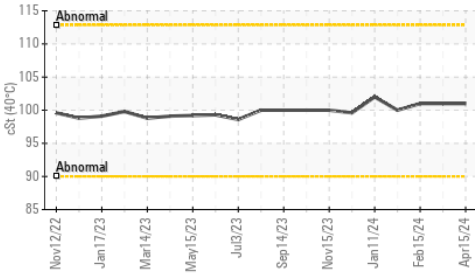
Aluminum (ppm)



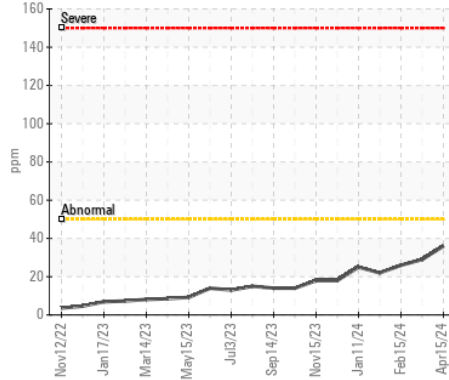
Chromium (ppm)



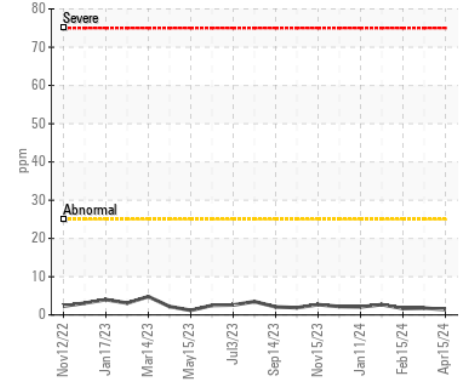
Viscosity @ 40°C



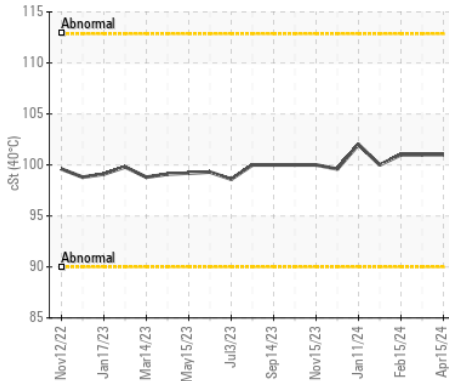
Copper (ppm)



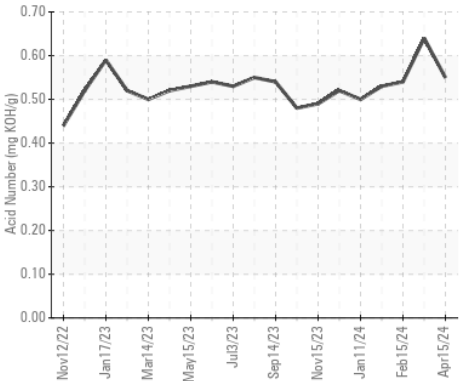
Silicon (ppm)



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : HPL0005078

Lab Number : 06156180

Unique Number : 10991603

Test Package : MOB 2

Received : 22 Apr 2024

Tested : 23 Apr 2024

Diagnosed : 24 Apr 2024 - Angela Borella

MARATHON PETROLEUM CO.

IL. REFINING DIVISION, 400 S MARATHON AVE

ROBINSON, IL

US 62454

Contact: M.S. MANHART

mmanhart@marathonpetroleum.com

T: (618)544-2121

F: x:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)