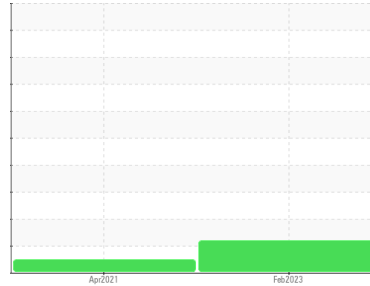




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area  
**CURING**  
Machine Id  
**[CURING] LINE 1 HYDRAULIC CURING PRESS**  
Component  
**Hydraulic System**  
Fluid  
**NOT GIVEN (500 LTR)**

## DIAGNOSIS

### Recommendation

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

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of silt (particulates < 14 microns in size) present 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      | limit/base | current            | history1    | history2 |
|---------------|-------------|------------|--------------------|-------------|----------|
| Sample Number | Client Info |            | <b>WC0755641</b>   | WC0551658   | ---      |
| Sample Date   | Client Info |            | <b>05 Feb 2023</b> | 15 Apr 2021 | ---      |
| Machine Age   | Client Info |            | <b>0</b>           | 0           | ---      |
| Oil Age       | Client Info |            | <b>0</b>           | 0           | ---      |
| Oil Changed   | Client Info |            | <b>N/A</b>         | N/A         | ---      |
| Sample Status |             |            | <b>ABNORMAL</b>    | NORMAL      | ---      |

## WEAR METALS

|          | method | limit/base      | current      | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >20 | <b>4</b>     | <1       | ---      |
| Chromium | ppm    | ASTM D5185m >20 | <b>&lt;1</b> | <1       | ---      |
| Nickel   | ppm    | ASTM D5185m >20 | <b>0</b>     | <1       | ---      |
| Titanium | ppm    | ASTM D5185m     | <b>0</b>     | 0        | ---      |
| Silver   | ppm    | ASTM D5185m     | <b>0</b>     | <1       | ---      |
| Aluminum | ppm    | ASTM D5185m >20 | <b>0</b>     | 0        | ---      |
| Lead     | ppm    | ASTM D5185m >20 | <b>0</b>     | <1       | ---      |
| Copper   | ppm    | ASTM D5185m >20 | <b>3</b>     | 3        | ---      |
| Tin      | ppm    | ASTM D5185m >20 | <b>0</b>     | <1       | ---      |
| Antimony | ppm    | ASTM D5185m     | <b>---</b>   | 0        | ---      |
| Vanadium | ppm    | ASTM D5185m     | <b>0</b>     | 0        | ---      |
| Cadmium  | ppm    | ASTM D5185m     | <b>0</b>     | 0        | ---      |

## ADDITIVES

|            | method | limit/base  | current      | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m | <b>0</b>     | 0        | ---      |
| Barium     | ppm    | ASTM D5185m | <b>0</b>     | 0        | ---      |
| Molybdenum | ppm    | ASTM D5185m | <b>0</b>     | <1       | ---      |
| Manganese  | ppm    | ASTM D5185m | <b>&lt;1</b> | 0        | ---      |
| Magnesium  | ppm    | ASTM D5185m | <b>0</b>     | <1       | ---      |
| Calcium    | ppm    | ASTM D5185m | <b>104</b>   | 117      | ---      |
| Phosphorus | ppm    | ASTM D5185m | <b>424</b>   | 480      | ---      |
| Zinc       | ppm    | ASTM D5185m | <b>36</b>    | 46       | ---      |
| Sulfur     | ppm    | ASTM D5185m | <b>2140</b>  | 1630     | ---      |

## CONTAMINANTS

|           | method | limit/base       | current    | history1 | history2 |
|-----------|--------|------------------|------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >15  | <b>2</b>   | 0        | ---      |
| Sodium    | ppm    | ASTM D5185m      | <b>2</b>   | 1        | ---      |
| Potassium | ppm    | ASTM D5185m >20  | <b>0</b>   | <1       | ---      |
| Water     | %      | ASTM D6304 >0.05 | <b>NEG</b> | NEG      | ---      |

## FLUID CLEANLINESS

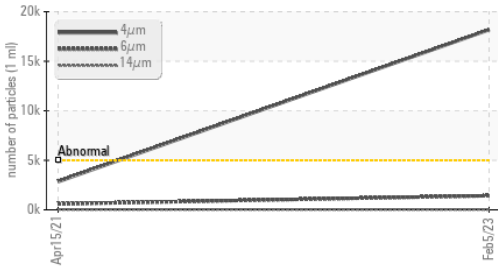
|                 | method       | limit/base | current           | history1 | history2 |
|-----------------|--------------|------------|-------------------|----------|----------|
| Particles >4µm  | ASTM D7647   | >5000      | <b>▲ 18184</b>    | 2841     | ---      |
| Particles >6µm  | ASTM D7647   | >1300      | <b>▲ 1425</b>     | 594      | ---      |
| Particles >14µm | ASTM D7647   | >160       | <b>28</b>         | 27       | ---      |
| Particles >21µm | ASTM D7647   | >40        | <b>7</b>          | 6        | ---      |
| Particles >38µm | ASTM D7647   | >10        | <b>1</b>          | 0        | ---      |
| Particles >71µm | ASTM D7647   | >3         | <b>0</b>          | 0        | ---      |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14  | <b>▲ 21/18/12</b> | 19/16/12 | ---      |

## FLUID DEGRADATION

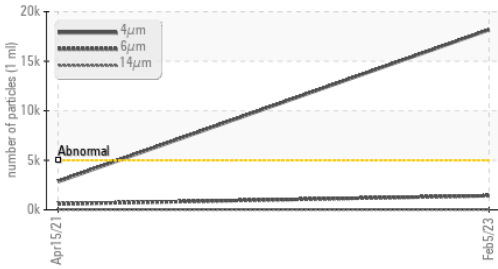
|                  | method   | limit/base | current      | history1 | history2 |
|------------------|----------|------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | <b>0.124</b> | 0.194    | ---      |

# OIL ANALYSIS REPORT

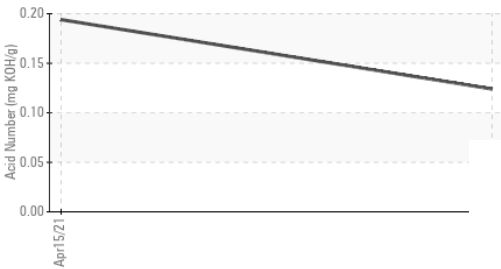
### ▲ Particle Trend



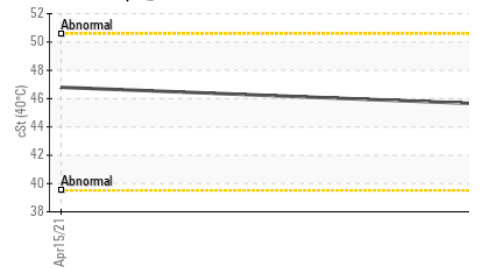
### ▲ Particle Trend



### Acid Number



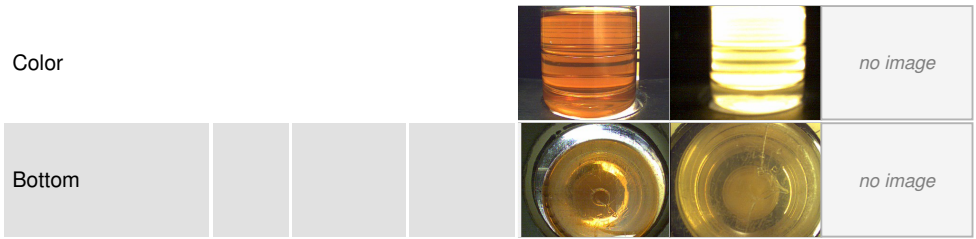
### Viscosity @ 40°C



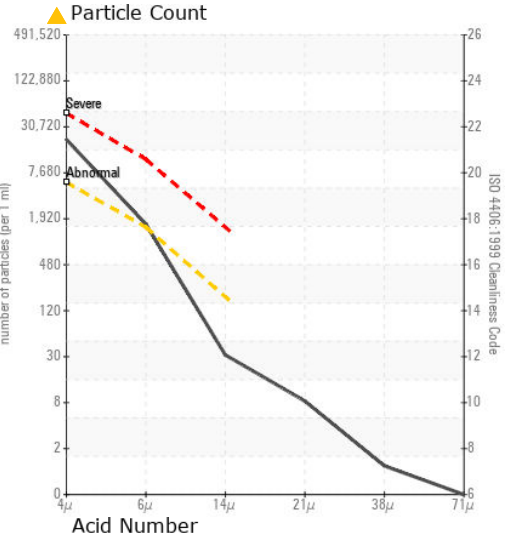
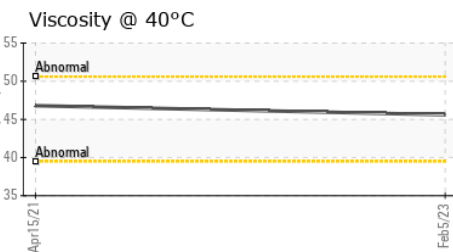
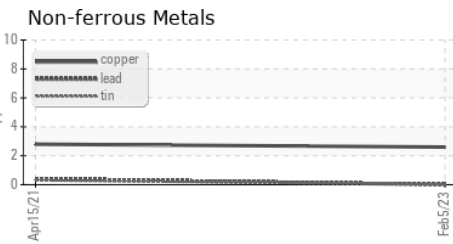
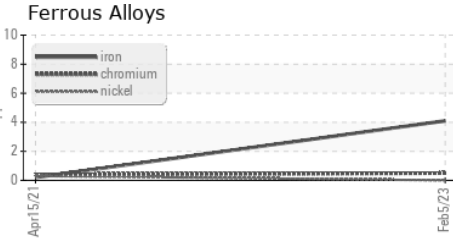
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | ---      |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | ---      |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | ---      |
| Silt             | scalar | *Visual    | NONE    | NONE     | ---      |
| Debris           | scalar | *Visual    | NONE    | NONE     | ---      |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | ---      |
| Appearance       | scalar | *Visual    | NORML   | NORML    | ---      |
| Odor             | scalar | *Visual    | NORML   | NORML    | ---      |
| Emulsified Water | scalar | *Visual    | >0.05   | NEG      | ---      |
| Free Water       | scalar | *Visual    |         | NEG      | ---      |

| FLUID PROPERTIES | method | limit/base | current     | history1 | history2 |
|------------------|--------|------------|-------------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445  | <b>45.6</b> | 46.8     | ---      |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|



### GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0755641 **Received** : 06 Feb 2023  
**Lab Number** : **05759400** **Diagnosed** : 07 Feb 2023  
**Unique Number** : 10324007 **Diagnostician** : Jonathan Hester  
**Test Package** : PLANT

**NOKIAN TYRES US OPERATIONS LLC**  
 520 NOKIAN TYRES DRIVE  
 DAYTON, TN  
 US 37321  
 Contact: CHRIS NAPIER  
 christopher.napier@nokiantyres.com  
 T: (423)457-3121  
 F:

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)