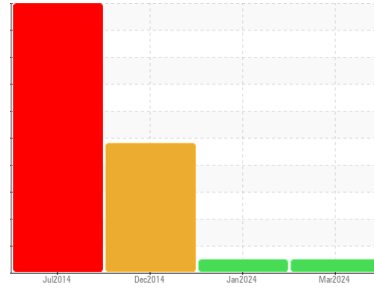




# GREASE ANALYSIS

Sample Rating Trend



**NORMAL**



Machine Id  
**FL 402-139-00 IV (S/N 20608582)**  
 Component  
**Top Grease**  
 Fluid  
**ROYAL PURPLE THERMAX 680 GREASE (--- GAL)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Please submit a sample of the new (unused) oil to establish a baseline.

### Wear

All component wear rates are normal.

### Grease Condition

The condition of the grease is acceptable for the time in service.

### Contaminants

There is no indication of any contamination in the grease.

## SAMPLE INFORMATION

|                 | method      | limit/base  | current            | history1    | history2    |
|-----------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number   | Client Info |             | <b>WC0892369</b>   | RP0008389   | RP158396    |
| Sample Date     | Client Info |             | <b>25 Mar 2024</b> | 25 Jan 2024 | 15 Dec 2014 |
| Machine Age     | mths        | Client Info | <b>0</b>           | 0           | 15          |
| Grease Age      | mths        | Client Info | <b>0</b>           | 0           | 15          |
| Grease Serviced | Client Info |             | <b>N/A</b>         | N/A         | Not Changd  |
| Sample Status   |             |             | <b>NORMAL</b>      | NORMAL      | ABNORMAL    |

## WEAR METALS

|          | method     | limit/base  | current   | history1     | history2 |        |
|----------|------------|-------------|-----------|--------------|----------|--------|
| PQ       | ASTM D8184 | >200        | <b>60</b> | 101          | 155      |        |
| Iron     | ppm        | ASTM D5185m | >250      | <b>249</b>   | 106      | ▲ 1086 |
| Chromium | ppm        | ASTM D5185m | >10       | <b>3</b>     | 1        | 5      |
| Nickel   | ppm        | ASTM D5185m | >5        | <b>12</b>    | <1       | 0      |
| Cadmium  | ppm        | ASTM D5185m |           | <b>&lt;1</b> | <1       | 0      |
| Titanium | ppm        | ASTM D5185m |           | <b>7</b>     | 3        | ▲ 39   |
| Vanadium | ppm        | ASTM D5185m |           | <b>1</b>     | <1       | <1     |
| Lead     | ppm        | ASTM D5185m | >25       | <b>8</b>     | 22       | ▲ 56   |
| Copper   | ppm        | ASTM D5185m | >75       | <b>6</b>     | <1       | 5      |
| Tin      | ppm        | ASTM D5185m | >5        | <b>&lt;1</b> | <1       | 0      |
| Silver   | ppm        | ASTM D5185m | >5        | <b>0</b>     | <1       | 1      |

## ADDITIVES

|            | method | limit/base  | current | history1   | history2 |      |
|------------|--------|-------------|---------|------------|----------|------|
| Boron      | ppm    | ASTM D5185m |         | <b>2</b>   | 493      | 46   |
| Magnesium  | ppm    | ASTM D5185m |         | <b>3</b>   | 1        | 467  |
| Manganese  | ppm    | ASTM D5185m |         | <b>3</b>   | 2        | 4    |
| Molybdenum | ppm    | ASTM D5185m |         | <b>6</b>   | 4        | 27   |
| Phosphorus | ppm    | ASTM D5185m |         | <b>564</b> | 284      | 134  |
| Zinc       | ppm    | ASTM D5185m |         | <b>411</b> | 180      | 1250 |
| Antimony   | ppm    | ASTM D5185m |         | <b>---</b> | ---      | 1668 |

## THICKENER/SOAP

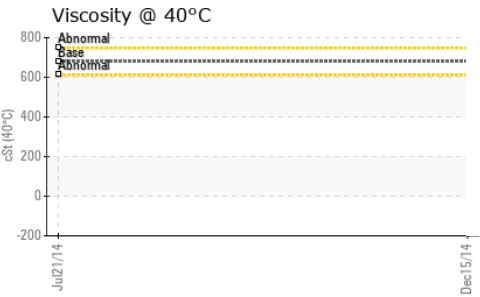
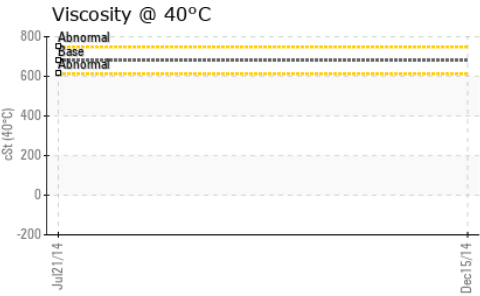
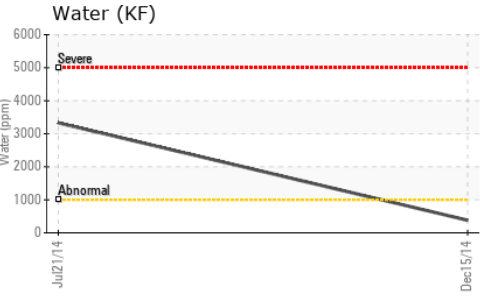
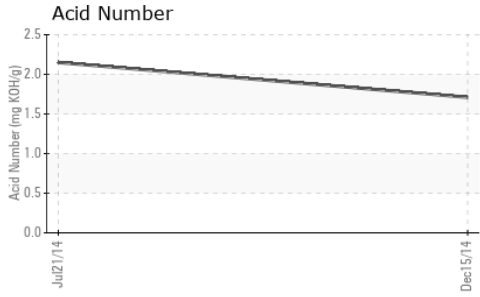
|          | method | limit/base  | current | history1     | history2 |        |
|----------|--------|-------------|---------|--------------|----------|--------|
| Aluminum | ppm    | ASTM D5185m |         | <b>8096</b>  | 5873     | ▲ 9795 |
| Barium   | ppm    | ASTM D5185m |         | <b>0</b>     | 0        | 0      |
| Calcium  | ppm    | ASTM D5185m |         | <b>107</b>   | 67       | 528    |
| Sodium   | ppm    | ASTM D5185m |         | <b>124</b>   | 6        | 42     |
| Lithium  | ppm    | ASTM D5185m |         | <b>---</b>   | 20       | ---    |
| Sulfur   | ppm    | ASTM D5185m |         | <b>29644</b> | 14277    | 16065  |

## CONTAMINANTS

|           | method | limit/base  | current | history1    | history2 |        |
|-----------|--------|-------------|---------|-------------|----------|--------|
| Silicon   | ppm    | ASTM D5185m | >150    | <b>9482</b> | 7317     | ▲ 7158 |
| Potassium | ppm    | ASTM D5185m |         | <b>8</b>    | 2        | 24     |
| Water     | %      | ASTM D6304  | >0.1    | <b>NEG</b>  | NEG      | 0.038  |
| ppm Water | ppm    | ASTM D6304  | >1000   | <b>---</b>  | ---      | 380    |

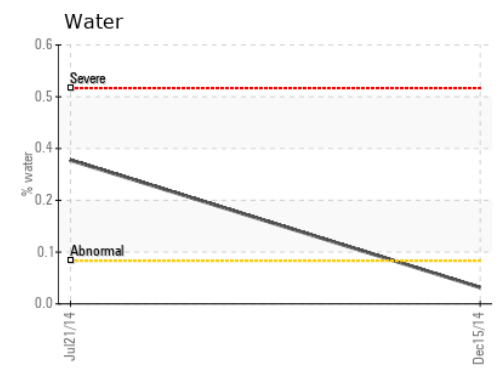
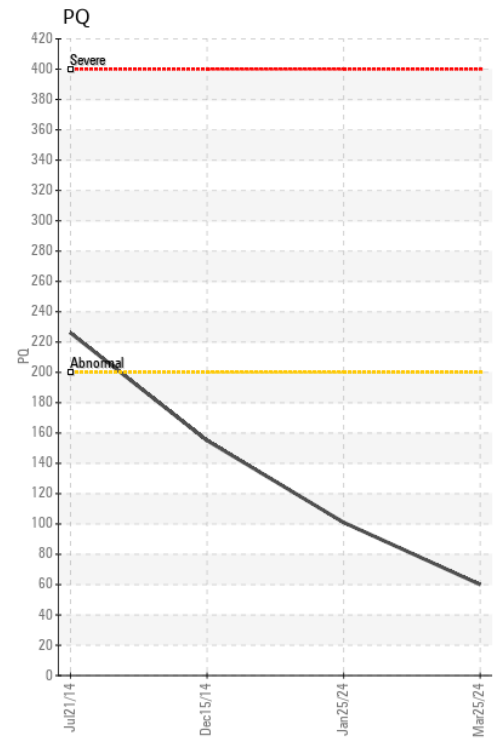
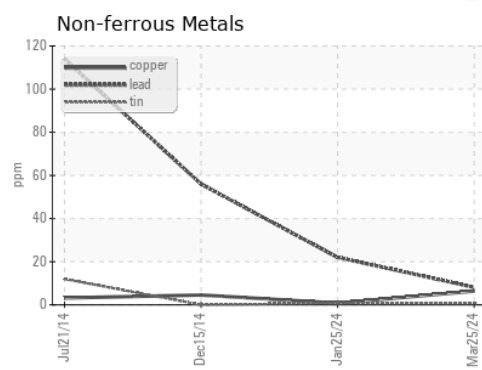
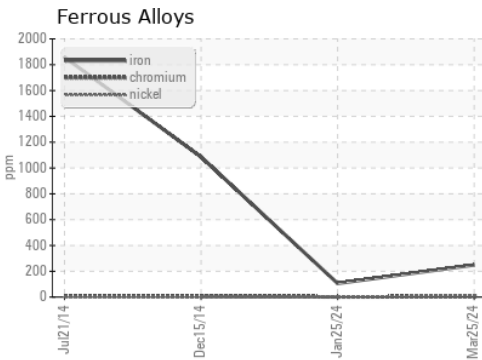


# GREASE ANALYSIS



| SAMPLE IMAGES | method | limit/base | current  | history1 | history2 |
|---------------|--------|------------|----------|----------|----------|
| Color         |        |            |          |          | no image |
| Bottom        |        |            |          |          | no image |
| PrtFilter     |        |            | no image | no image | no image |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0892369      **Received** : 27 Mar 2024  
**Lab Number** : 06131265      **Tested** : 15 Apr 2024  
**Unique Number** : 10950730      **Diagnosed** : 15 Apr 2024 - Doug Bogart  
**Test Package** : IND 2 ( Additional Tests: KF, PQ )

**INTERNATIONAL PAPER**  
 1785 Weyerhaeuser Road  
 VANCEBORO, NC  
 US 28586

Contact: DOUG WEIR  
 Doug.Weir@ipaper.com;jon.fazenbaker@wearcheck.com

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)

T: (252)633-7350

F: (252)633-7761