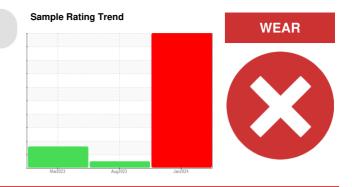


## **PROBLEM SUMMARY**

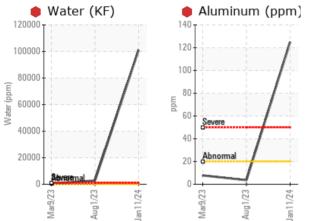


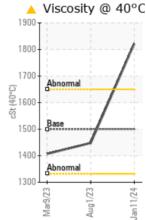
# PRESS 2 (S/N 420-280)

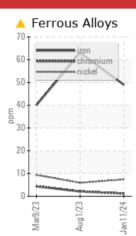
Northwest Roller Bearing

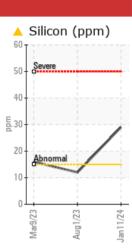
ROYAL PURPLE THERMYL-GLYDE 1500 (--- GAL)

### COMPONENT CONDITION SUMMARY









### RECOMMENDATION

We advise that you check for the source of water entry. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

| PROBLEMATIC TEST RESULTS |        |             |      |               |        |          |  |  |
|--------------------------|--------|-------------|------|---------------|--------|----------|--|--|
| Sample Status            |        |             |      | SEVERE        | NORMAL | ABNORMAL |  |  |
| Iron                     | ppm    | ASTM D5185m | >20  | <u> </u>      | 63     | 40       |  |  |
| Aluminum                 | ppm    | ASTM D5185m | >20  | 🛑 125         | 4      | 8        |  |  |
| Silicon                  | ppm    | ASTM D5185m | >15  | <u> </u>      | 12     | 16       |  |  |
| Water                    | %      | ASTM D6304  | >2   | <b>•</b> 10.1 | 0.277  | 0.052    |  |  |
| ppm Water                | ppm    | ASTM D6304  |      | 🛑 101000      | 2770   | 520      |  |  |
| Emulsified Water         | scalar | *Visual     | >2   | <b>0.2%</b>   | 0.2%   | 0.2%     |  |  |
| Visc @ 40°C              | cSt    | ASTM D445   | 1500 | <u> </u>      | 1448   | 1407     |  |  |

Customer Id: WEYNEW Sample No.: WC0432489 Lab Number: 06059349 Test Package: IND 2



To manage this report scan the QR code

*To discuss the diagnosis or test data:* Jonathan Hester +1 919-379-4092 x4092 <u>jhester@wearcheckusa.com</u>

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

| RECOMMENDED A       | CTIONS |      |         |   |
|---------------------|--------|------|---------|---|
| Action              | Status | Date | Done By | Description   |
| Inspect Wear Source |        |      | ?       | We advise that you inspect for the source(s) of wear.     |
| Resample            |        |      | ?       | We recommend an early resample to monitor this condition. |
| Check Water Access  |        |      | ?       | We advise that you check for the source of water entry.   |

### HISTORICAL DIAGNOSIS



01 Aug 2023 Diag: Don Baldridge

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



### 09 Mar 2023 Diag: Don Baldridge



We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component. Resample at the next service interval to monitor.All component wear rates are normal. Free water present. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.





### **OIL ANALYSIS REPORT**

Sample Rating Trend

WEAR

X

## PRESS 2 (S/N 420-280)

Northwest Roller Bearing

Fluid ROYAL PURPLE THERMYL-GLYDE 1500 (--- GAL)

### DIAGNOSIS

#### Recommendation

We advise that you check for the source of water entry. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

### 🛑 Wear

The iron level is abnormal. The aluminum level is severe.

### Contamination

There is a high concentration of water present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material.

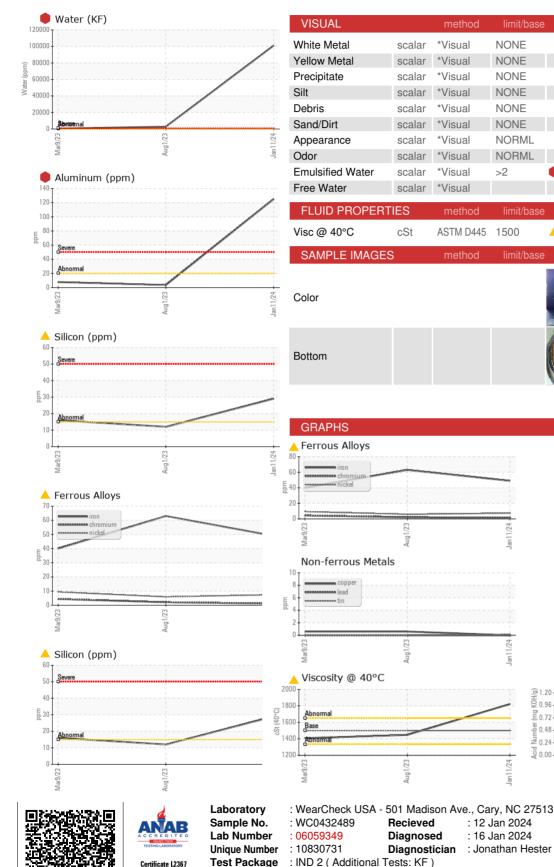
### Fluid Condition

The oil viscosity is higher than normal. The AN level is acceptable for this fluid.

| SAMPLE INFORM   | <b>IATION</b>  | method   | limit/base               | current  | history1   | history2  |
|---|--|--|--------------------------|--|--|---|
| Sample Number   |  | Client Info  |                          | WC0432489  | WC0432460  | RP0008567   |
| Sample Date   |  | Client Info  |                          | 11 Jan 2024  | 01 Aug 2023  | 09 Mar 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   |  |  |                          | SEVERE   | NORMAL   | ABNORMAL  |
| WEAR METALS   |  | method   | limit/base               | current  | history1   | history2  |
| Iron  | ppm  | ASTM D5185m  | >20                      | <u> </u>   | 63   | 40  |
| Chromium  | ppm  | ASTM D5185m  | >20                      | 1  | 2  | 4   |
| Nickel  | ppm  | ASTM D5185m  | >20                      | 7  | 6  | 9   |
| Titanium  | ppm  | ASTM D5185m  |                          | 0  | 0  | 0   |
| Silver  | ppm  | ASTM D5185m  |                          | 0  | 0  | 0   |
| Aluminum  | ppm  | ASTM D5185m  | >20                      | 🛑 125  | 4  | 8   |
| Lead  | ppm  | ASTM D5185m  | >20                      | 0  | 0  | 0   |
| Copper  | ppm  | ASTM D5185m  | >20                      | 0  | <1   | <1  |
| Tin   | ppm  | ASTM D5185m  | >20                      | <1   | 0  | 0   |
| Vanadium  | ppm  | ASTM D5185m  |                          | 0  | 0  | 0   |
| Cadmium   | ppm  | ASTM D5185m  |                          | 0  | 0  | 0   |
|   |  |  |                          |  |  |   |
| ADDITIVES   |  | method   | limit/base               | current  | history1   | history2  |
| ADDITIVES<br>Boron  | ppm  | method<br>ASTM D5185m  | limit/base               | current<br>5   | history1<br>0  | history2<br>0   |
|   | ppm<br>ppm   |  | limit/base               |  |  |   |
| Boron   |  | ASTM D5185m  | limit/base               | 5  | 0  | 0   |
| Boron<br>Barium   | ppm  | ASTM D5185m<br>ASTM D5185m   | limit/base               | 5<br>0<br>0<br><1  | 0  | 0   |
| Boron<br>Barium<br>Molybdenum   | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | limit/base               | 5<br>0<br>0  | 0<br>0<br><1   | 0<br>4<br>0   |
| Boron<br>Barium<br>Molybdenum<br>Manganese  | ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | limit/base               | 5<br>0<br>0<br><1  | 0<br>0<br><1<br><1   | 0<br>4<br>0<br><1   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium   | ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | limit/base               | 5<br>0<br>0<br><1<br>2   | 0<br>0<br><1<br><1<br><1<br><1   | 0<br>4<br>0<br><1<br>1  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm                                    | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | limit/base               | 5<br>0<br>0<br><1<br>2<br>18   | 0<br>0<br><1<br><1<br><1<br><1<br>54   | 0<br>4<br>0<br><1<br>1<br>17  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | limit/base               | 5<br>0<br>2<br>1<br>18<br>440  | 0<br>0<br><1<br><1<br><1<br><1<br><1<br>54<br>119                                    | 0<br>4<br>0<br><1<br>1<br>17<br>51  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | limit/base               | 5<br>0<br>2<br>1<br>18<br>440<br>7   | 0<br>0<br><1<br><1<br><1<br><1<br>54<br>119<br>13                                    | 0<br>4<br>0<br><1<br>1<br>17<br>51<br>31  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   |                          | 5<br>0<br>2<br>1<br>2<br>18<br>440<br>7<br>16273   | 0<br>0<br><1<br><1<br><1<br>54<br>119<br>13<br>26126                                 | 0<br>4<br>0<br><1<br>1<br>17<br>51<br>31<br>8644  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | limit/base               | 5<br>0<br>2<br>18<br>440<br>7<br>16273<br>current  | 0<br>0<br><1<br><1<br><1<br>54<br>119<br>13<br>26126<br>history1                     | 0<br>4<br>0<br><1<br>1<br>17<br>51<br>31<br>8644<br>history2                                |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon                                 | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br><b>method</b><br>ASTM D5185m                             | limit/base               | 5<br>0<br>0<br><1<br>2<br>18<br>440<br>7<br>16273<br>Current<br>29<br>61<br>3                  | 0<br>0<br><1<br><1<br><1<br>54<br>119<br>13<br>26126<br>history1<br>12               | 0<br>4<br>0<br><1<br>1<br>17<br>51<br>31<br>8644<br>history2<br>16                          |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium                       | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br><b>method</b><br>ASTM D5185m<br>ASTM D5185m              | limit/base<br>>15<br>>20 | 5<br>0<br>0<br><1<br>2<br>18<br>440<br>7<br>16273<br>Current<br>29<br>61                       | 0<br>0<br><1<br><1<br><1<br>54<br>119<br>13<br>26126<br>history1<br>12<br>40         | 0<br>4<br>0<br><1<br>1<br>17<br>51<br>31<br>8644<br>history2<br>16<br>10                    |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium          | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m | limit/base<br>>15<br>>20 | 5<br>0<br>0<br><1<br>2<br>18<br>440<br>7<br>16273<br>Current<br>29<br>61<br>3                  | 0<br>0<br><1<br><1<br><1<br>54<br>119<br>13<br>26126<br>history1<br>12<br>40<br>2    | 0<br>4<br>0<br><1<br>1<br>17<br>51<br>31<br>8644<br>history2<br>16<br>10<br>1               |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>Water | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m | limit/base<br>>15<br>>20 | 5<br>0<br>0<br><1<br>2<br>18<br>440<br>7<br>16273<br>Current<br>▲ 29<br>61<br>3<br>3<br>• 10.1 | 0<br>0<br><1<br><1<br>54<br>119<br>13<br>26126<br>history1<br>12<br>40<br>2<br>0.277 | 0<br>4<br>0<br><1<br>1<br>17<br>51<br>31<br>8644<br>history2<br>16<br>10<br>1<br>1<br>0.052 |



## **OIL ANALYSIS REPORT**



**INTERNATIONAL PAPER** 1785 Weyerhaeuser Road VANCEBORO, NC US 28586 Contact: DOUG WEIR Doug.Weir@ipaper.com;jon.fazenbaker@wearcheck.com T: (252)633-7350 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (252)633-7761

Aug1/23 -

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

0.2%

NEG

1448

NONE

NONE

NONE

NONE

LIGHT

NONE

NORML

NORML

history

0.2%

1407

1.0

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

0.2%

NEG

Acid Number

(B) 1.20 HOX 0.96

E 0.72

ළි 0.48

Ja 0.24

0.00 PC

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.

Contact/Location: DOUG WEIR - WEYNEW

, LE