



# PROBLEM SUMMARY

Sample Rating Trend

ISO



Machine Id

**JOHN DEERE 1N0C770PHR4249013**

Component

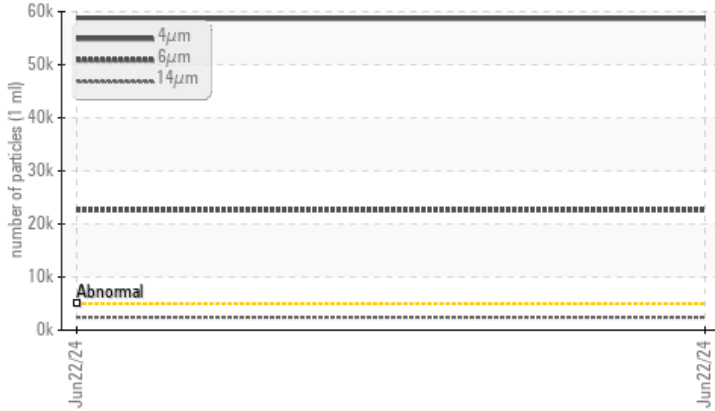
**Left Hydraulic System**

Fluid

**JOHN DEERE HY-GARD HYD/TRANS (--- GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Particle Trend



## RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

## PROBLEMATIC TEST RESULTS

| Sample Status   | SEVERE     | --- | --- |
|-----------------|------------|-----|-----|
| Particles >4µm  | ▲ 58681    | --- | --- |
| Particles >6µm  | ▲ 22612    | --- | --- |
| Particles >14µm | ▲ 2399     | --- | --- |
| Particles >21µm | ▲ 554      | --- | --- |
| Oil Cleanliness | ▲ 23/22/18 | --- | --- |

Customer Id: JOHJOHUS  
 Sample No.: WC0818513  
 Lab Number: 06219567  
 Test Package: CONST



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Wes Davis +1 905-569-8600 x223  
[wesd@wearcheck.ca](mailto:wesd@wearcheck.ca)

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

**RECOMMENDED ACTIONS**

| <b>Action</b>     | <b>Status</b> | <b>Date</b> | <b>Done By</b> | <b>Description</b>   |
|-------------------|---------------|-------------|----------------|--|
| Change Filter     | ---           | ---         | ?              | We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.   |
| Resample          | ---           | ---         | ?              | Resample in 30-45 days to monitor this situation.  |
| Check Breathers   | ---           | ---         | ?              | The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. |
| Check Dirt Access | ---           | ---         | ?              | We advise that you check all areas where contaminants can enter the system.  |
| Filter Fluid      | ---           | ---         | ?              | We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.   |

**HISTORICAL DIAGNOSIS**



# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id

**JOHN DEERE 1N0C770PHR4249013**

Component

**Left Hydraulic System**

Fluid

**JOHN DEERE HY-GARD HYD/TRANS (--- GAL)**

## DIAGNOSIS

### ▲ Recommendation

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

### Wear

All component wear rates are normal.

### ▲ Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil.

### Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1 | history2 |
|---------------|-------------|-------------|--------------------|----------|----------|
| Sample Number | Client Info |             | <b>WC0818513</b>   | ---      | ---      |
| Sample Date   | Client Info |             | <b>22 Jun 2024</b> | ---      | ---      |
| Machine Age   | hrs         | Client Info | <b>91</b>          | ---      | ---      |
| Oil Age       | hrs         | Client Info | <b>91</b>          | ---      | ---      |
| Oil Changed   | Client Info |             | <b>Not Chngd</b>   | ---      | ---      |
| Sample Status |             |             | <b>SEVERE</b>      | ---      | ---      |

## CONTAMINATION

|       | method    | limit/base | current    | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.1       | <b>NEG</b> | ---      | ---      |

## WEAR METALS

|          | method     | limit/base      | current   | history1 | history2 |
|----------|------------|-----------------|-----------|----------|----------|
| PQ       | ASTM D8184 |                 | <b>16</b> | ---      | ---      |
| Iron     | ppm        | ASTM D5185m >20 | <b>0</b>  | ---      | ---      |
| Chromium | ppm        | ASTM D5185m >10 | <b>0</b>  | ---      | ---      |
| Nickel   | ppm        | ASTM D5185m >10 | <b>0</b>  | ---      | ---      |
| Titanium | ppm        | ASTM D5185m     | <b>0</b>  | ---      | ---      |
| Silver   | ppm        | ASTM D5185m     | <b>0</b>  | ---      | ---      |
| Aluminum | ppm        | ASTM D5185m >10 | <b>0</b>  | ---      | ---      |
| Lead     | ppm        | ASTM D5185m >10 | <b>0</b>  | ---      | ---      |
| Copper   | ppm        | ASTM D5185m >75 | <b>2</b>  | ---      | ---      |
| Tin      | ppm        | ASTM D5185m >10 | <b>0</b>  | ---      | ---      |
| Vanadium | ppm        | ASTM D5185m     | <b>0</b>  | ---      | ---      |
| Cadmium  | ppm        | ASTM D5185m     | <b>0</b>  | ---      | ---      |

## ADDITIVES

|            | method | limit/base       | current      | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 6    | <b>6</b>     | ---      | ---      |
| Barium     | ppm    | ASTM D5185m 0    | <b>&lt;1</b> | ---      | ---      |
| Molybdenum | ppm    | ASTM D5185m 0    | <b>0</b>     | ---      | ---      |
| Manganese  | ppm    | ASTM D5185m      | <b>&lt;1</b> | ---      | ---      |
| Magnesium  | ppm    | ASTM D5185m 145  | <b>105</b>   | ---      | ---      |
| Calcium    | ppm    | ASTM D5185m 3570 | <b>3681</b>  | ---      | ---      |
| Phosphorus | ppm    | ASTM D5185m 1290 | <b>1082</b>  | ---      | ---      |
| Zinc       | ppm    | ASTM D5185m 1640 | <b>1244</b>  | ---      | ---      |
| Sulfur     | ppm    | ASTM D5185m      | <b>4189</b>  | ---      | ---      |

## CONTAMINANTS

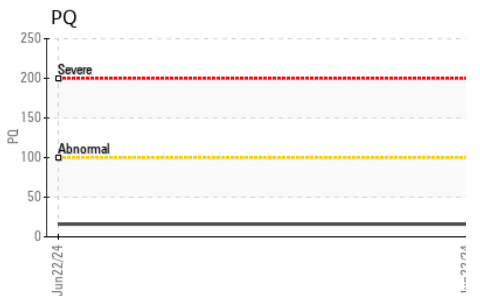
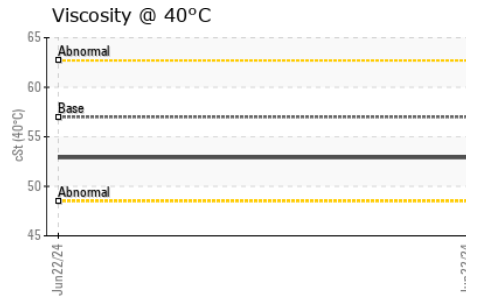
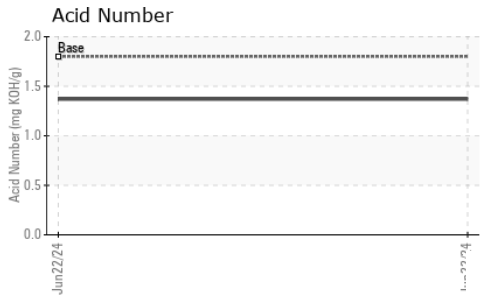
|           | method | limit/base      | current   | history1 | history2 |
|-----------|--------|-----------------|-----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >20 | <b>12</b> | ---      | ---      |
| Sodium    | ppm    | ASTM D5185m     | <b>4</b>  | ---      | ---      |
| Potassium | ppm    | ASTM D5185m >20 | <b>2</b>  | ---      | ---      |

## FLUID CLEANLINESS

|                 | method       | limit/base | current           | history1 | history2 |
|-----------------|--------------|------------|-------------------|----------|----------|
| Particles >4µm  | ASTM D7647   | >5000      | <b>▲ 58681</b>    | ---      | ---      |
| Particles >6µm  | ASTM D7647   | >1300      | <b>▲ 22612</b>    | ---      | ---      |
| Particles >14µm | ASTM D7647   | >160       | <b>▲ 2399</b>     | ---      | ---      |
| Particles >21µm | ASTM D7647   | >40        | <b>▲ 554</b>      | ---      | ---      |
| Particles >38µm | ASTM D7647   | >10        | <b>● 18</b>       | ---      | ---      |
| Particles >71µm | ASTM D7647   | >3         | <b>2</b>          | ---      | ---      |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14  | <b>▲ 23/22/18</b> | ---      | ---      |





# OIL ANALYSIS REPORT



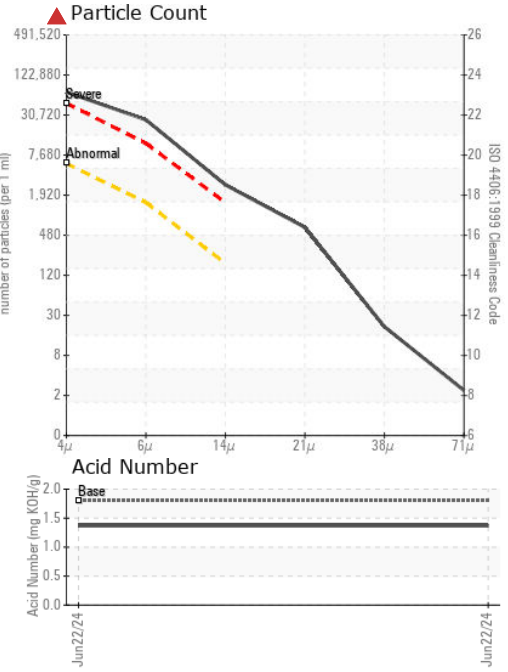
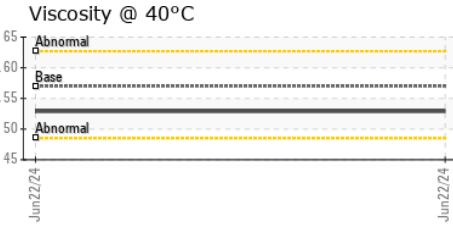
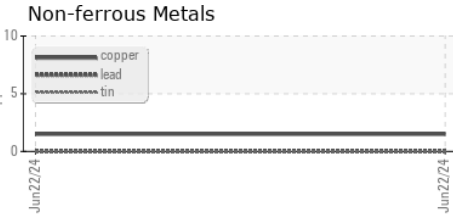
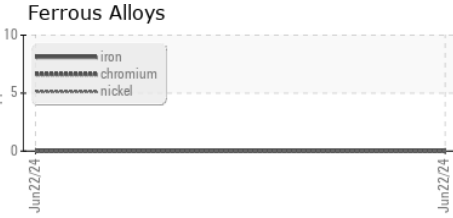
| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 | 1.8        | <b>1.37</b> | ---      | ---      |

| VISUAL           |        | method  | limit/base | current      | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal      | scalar | *Visual | NONE       | <b>NONE</b>  | ---      | ---      |
| Yellow Metal     | scalar | *Visual | NONE       | <b>NONE</b>  | ---      | ---      |
| Precipitate      | scalar | *Visual | NONE       | <b>NONE</b>  | ---      | ---      |
| Silt             | scalar | *Visual | NONE       | <b>NONE</b>  | ---      | ---      |
| Debris           | scalar | *Visual | NONE       | <b>LIGHT</b> | ---      | ---      |
| Sand/Dirt        | scalar | *Visual | NONE       | <b>NONE</b>  | ---      | ---      |
| Appearance       | scalar | *Visual | NORML      | <b>NORML</b> | ---      | ---      |
| Odor             | scalar | *Visual | NORML      | <b>NORML</b> | ---      | ---      |
| Emulsified Water | scalar | *Visual | >0.1       | <b>NEG</b>   | ---      | ---      |
| Free Water       | scalar | *Visual |            | <b>NEG</b>   | ---      | ---      |

| FLUID PROPERTIES |     | method    | limit/base | current     | history1 | history2 |
|------------------|-----|-----------|------------|-------------|----------|----------|
| Visc @ 40°C      | cSt | ASTM D445 | 57.0       | <b>52.9</b> | ---      | ---      |

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

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0818513      **Received** : 25 Jun 2024  
**Lab Number** : **06219567**      **Tested** : 26 Jun 2024  
**Unique Number** : 11097764      **Diagnosed** : 26 Jun 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: PQ )

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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)