

### **OIL ANALYSIS REPORT**

# [W47172] JOHN DEERE 824P 1DW824PAEPLX06866

Component Front Differential

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

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

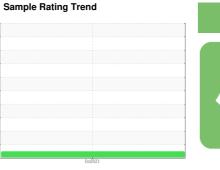
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

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





NORMAL

| SAMPLE INFORM  | IATION   | method  | limit/base  | current  | history1   | history2   |
|--|--|---|---|--|--|--|
| Sample Number  |  | Client Info   |   | JR0179376  |  |  |
| Sample Date  |  | Client Info   |   | 10 Oct 2023  |  |  |
| Machine Age  | hrs  | Client Info   |   | 546  |  |  |
| Oil Age  | hrs  | Client Info   |   | 0  |  |  |
| Oil Changed  |  | Client Info   |   | Changed  |  |  |
| Sample Status  |  |   |   | NORMAL   |  |  |
| WEAR METALS  |  | method  | limit/base  | current  | history1   | history2   |
| PQ   |  | ASTM D8184  |   | 18   |  |  |
| Iron   | ppm  | ASTM D5185m   | >500  | 27   |  |  |
| Chromium   | ppm  | ASTM D5185m   | >10   | 0  |  |  |
| Nickel   | ppm  | ASTM D5185m   | >10   | 0  |  |  |
| Titanium   | ppm  | ASTM D5185m   |   | 0  |  |  |
| Silver   | ppm  | ASTM D5185m   |   | 0  |  |  |
| Aluminum   | ppm  | ASTM D5185m   | >25   | 0  |  |  |
| Lead   | ppm  | ASTM D5185m   | >25   | 0  |  |  |
| Copper   | ppm  | ASTM D5185m   | >100  | 25   |  |  |
| Tin  | ppm  | ASTM D5185m   | >10   | <1   |  |  |
| Vanadium   | ppm  | ASTM D5185m   |   | 0  |  |  |
| Cadmium  | ppm  | ASTM D5185m   |   | 0  |  |  |
| ADDITIVES  |  | method  | limit/base  | current  | history1   | history2   |
| Boron  | ppm  | ASTM D5185m   | 6   | <1   |  |  |
| Barium   |  |   |   |  |  |  |
| Dallulli   | ppm  | ASTM D5185m   | 0   | 6  |  |  |
| Molybdenum   | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m  | 0   | 6<br>0   |  |  |
|  |  |   |   | -  |  |  |
| Molybdenum   | ppm  | ASTM D5185m   |   | 0  |  |  |
| Molybdenum<br>Manganese  | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m  | 0   | 0 2  |  |  |
| Molybdenum<br>Manganese<br>Magnesium   | ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 0<br>145  | 0<br>2<br>101  |  |  |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium  | ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 0<br>145<br>3570  | 0<br>2<br>101<br>3362  |  |  |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus  | ppm<br>ppm<br>ppm<br>ppm<br>ppm                                    | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 0<br>145<br>3570<br>1290  | 0<br>2<br>101<br>3362<br>1036  | <br><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  | 0<br>145<br>3570<br>1290  | 0<br>2<br>101<br>3362<br>1036<br>1234  | <br><br>   | <br><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   | 0<br>145<br>3570<br>1290<br>1640  | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420  | <br><br><br>   | <br><br><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                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 0<br>145<br>3570<br>1290<br>1640  | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br>current   | <br><br><br><br><br>history1   | <br><br><br><br><br>history2                                 |
| 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                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br><b>method</b><br>ASTM D5185m  | 0<br>145<br>3570<br>1290<br>1640<br>Imit/base<br>>75  | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br>current<br>4  | <br><br><br><br><br>history1   | <br><br><br><br>history2                                     |
| 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                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br><b>method</b><br>ASTM D5185m  | 0<br>145<br>3570<br>1290<br>1640<br>Imit/base<br>>75  | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br>current<br>4<br>4   | <br><br><br><br><br>history1   | <br><br><br><br>history2<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                      | 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<br>ASTM D5185m  | 0<br>145<br>3570<br>1290<br>1640<br>>75<br>>20  | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br>current<br>4<br>4<br>0  | <br><br><br><br>history1<br>   | <br><br><br><br>history2<br><br>                             |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>VISUAL  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m   | 0<br>145<br>3570<br>1290<br>1640<br>ilimit/base<br>>75<br>>20<br>limit/base   | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br>current<br>4<br>4<br>0<br>Current   | <br><br><br><br>history1<br><br><br>history1                                 | <br><br><br><br>history2<br><br><br>history2                 |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m<br>XFM D5185m   | 0<br>145<br>3570<br>1290<br>1640<br><b>imit/base</b><br>>75<br>>20<br><b>imit/base</b><br>NONE  | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br>current<br>4<br>4<br>0<br>current<br>NONE   | <br><br><br><br>history1<br><br><br>history1<br><br>history1                 | <br><br><br><br>history2<br><br><br>history2                 |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m<br>Yisual   | 0<br>145<br>3570<br>1290<br>1640<br><b>limit/base</b><br>>75<br>>20<br><b>limit/base</b><br>NONE<br>NONE  | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br>current<br>4<br>4<br>4<br>0<br>current<br>NONE<br>NONE  | <br><br><br><br>history1<br><br><br>history1<br><br>history1                 | <br><br><br><br>history2<br><br>history2<br><br>history2     |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Precipitate                                | ppm<br>ppm<br>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>ASTM D5185m<br>ASTM D5185m<br>*Visual<br>*Visual  | 0<br>145<br>3570<br>1290<br>1640<br><b>imit/base</b><br>>75<br>>20<br><b>imit/base</b><br>NONE<br>NONE<br>NONE  | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br><u>current</u><br>4<br>4<br>4<br>0<br><u>current</u><br>NONE<br>NONE<br>NONE                          | <br><br><br><br>history1<br><br><br>history1<br><br>history1                 | <br><br><br><br>history2<br><br><br>history2                 |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Precipitate<br>Silt                        | ppm<br>ppm<br>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>ASTM D5185m<br>ASTM D5185m<br>*Visual<br>*Visual<br>*Visual   | 0<br>145<br>3570<br>1290<br>1640<br>1640<br>1640<br>1640<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>100 | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br>current<br>4<br>4<br>0<br>current<br>NONE<br>NONE<br>NONE<br>NONE                                     | <br><br><br><br>history1<br><br>history1<br><br>history1                     | <br><br><br><br>history2<br><br>history2<br><br>history2     |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Precipitate<br>Silt<br>Debris              | ppm<br>ppm<br>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>ASTM D5185m<br>ASTM D5185m<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual                       | 0<br>145<br>3570<br>1290<br>1640<br><b>imit/base</b><br>>75<br>20<br><b>imit/base</b><br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br>current<br>4<br>4<br>0<br>current<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                     | <br><br><br><br>history1<br><br><br>history1<br><br><br>history1             | <br><br><br><br>history2<br><br><br>history2<br><br>history2 |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Precipitate<br>Silt<br>Debris<br>Sand/Dirt | ppm<br>ppm<br>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>ASTM D5185m<br>ASTM D5185m<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual | 0<br>145<br>3570<br>1290<br>1640<br><b>imit/base</b><br>>75<br>>20<br><b>imit/base</b><br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  | 0<br>2<br>101<br>3362<br>1036<br>1234<br>3420<br>current<br>4<br>4<br>4<br>0<br>current<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NON | <br><br><br><br><br>history1<br><br><br>history1<br><br><br><br><br><br><br> | <br><br><br><br>history2<br><br><br>history2<br><br>history2 |

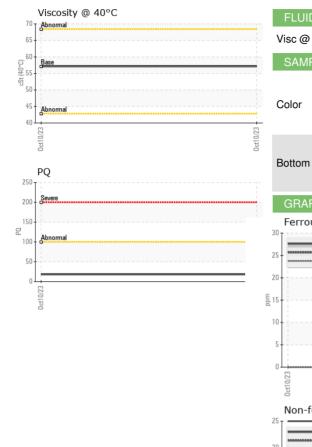
Free Water

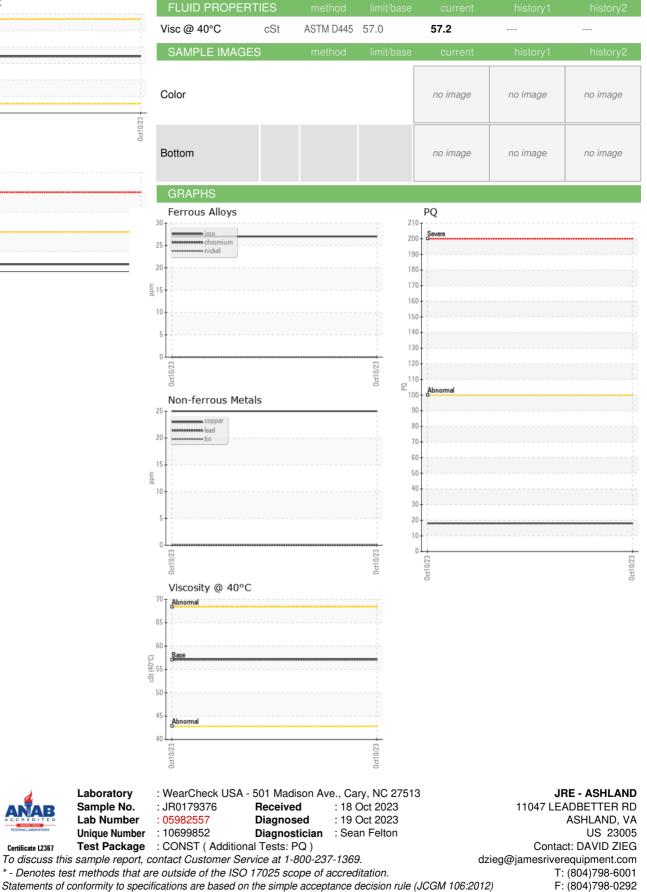
scalar \*Visual

NEG



## **OIL ANALYSIS REPORT**





Certificate L2367

Contact/Location: DAVID ZIEG - JAMASH

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