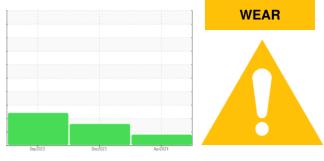


### **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

# **JOHN DEERE 529**

Front Differential

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

#### DIAGNOSIS

#### Recommendation

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

#### A Wear

Bearing and/or bushing wear is indicated.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

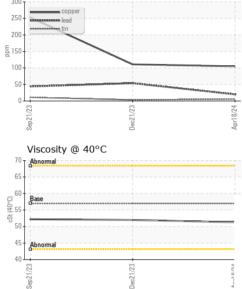
The condition of the oil is acceptable for the time in service.

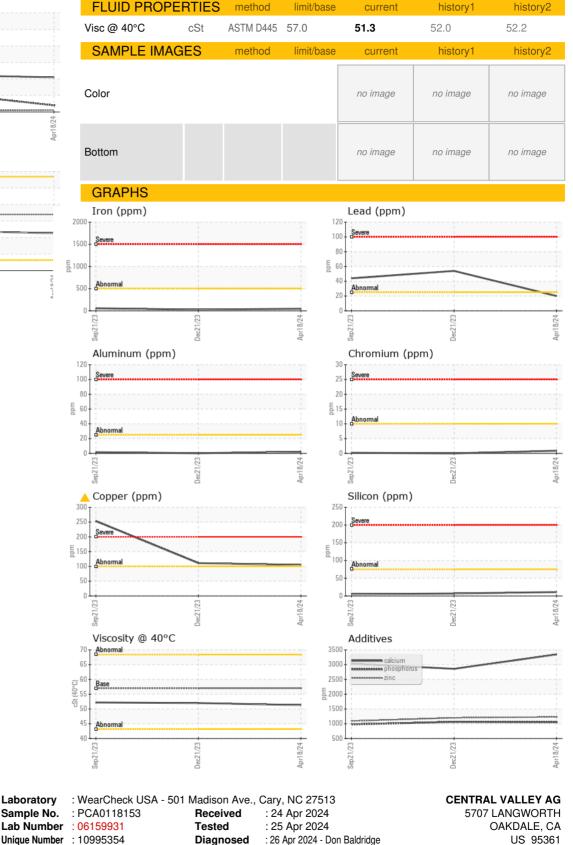
| SAMPLE INFOR  | MATION  | method  | limit/base  | current  | history1   | history2  |
|---|---|---|---|--|--|---|
| Sample Number   |   | Client Info   |   | PCA0118153   | PCA0107137   | PCA0066396  |
| Sample Date   |   | Client Info   |   | 18 Apr 2024  | 21 Dec 2023  | 21 Sep 2023   |
| Machine Age   | hrs   | Client Info   |   | 6123   | 4800   | 3635  |
| Oil Age   | hrs   | Client Info   |   | 500  | 1165   | 3635  |
| Oil Changed   |   | Client Info   |   | N/A  | N/A  | Changed   |
| Sample Status   |   |   |   | ABNORMAL   | ABNORMAL   | ABNORMAL  |
| CONTAMINAT  | ION   | method  | limit/base  | current  | history1   | history2  |
| Water   |   | WC Method   | >.2   | NEG  | NEG  | NEG   |
| WEAR METAL  | S   | method  | limit/base  | current  | history1   | history2  |
| Iron  | ppm   | ASTM D5185m   | >500  | 48   | 27   | 57  |
| Chromium  | ppm   | ASTM D5185m   | >10   | <1   | 0  | <1  |
| Nickel  | ppm   | ASTM D5185m   | >10   | 1  | 0  | <1  |
| Titanium  | ppm   | ASTM D5185m   |   | <1   | 0  | <1  |
| Silver  | ppm   | ASTM D5185m   |   | <1   | 0  | 0   |
| Aluminum  | ppm   | ASTM D5185m   | >25   | 2  | <1   | 2   |
| Lead  | ppm   | ASTM D5185m   | >25   | 20   | <b>5</b> 4   | <b>4</b> 4  |
| Copper  | ppm   | ASTM D5185m   | >100  | <u> </u>   | <b>1</b> 11  | <b>2</b> 53   |
| Tin   | ppm   | ASTM D5185m   | >10   | 6  | 3  | <b>A</b> 11   |
| Vanadium  | ppm   | ASTM D5185m   |   | <1   | 0  | 0   |
| Cadmium   | ppm   | ASTM D5185m   |   | <1   | 0  | 0   |
| ADDITIVES   |   | method  | limit/base  | current  | history1   | history2  |
| Boron   | ppm   | ASTM D5185m   | 6   | 16   | 80   | 20  |
| Barium  | ppm   | ASTM D5185m   | 0   | <1   | 0  | 4   |
| Molybdenum  | ppm   | ASTM D5185m   | 0   | 3  | 1  | 0   |
| Managara  | ppm   | ASTM D5185m   |   | 2  | <1   | 2   |
| Manganese   | ppin  | ASTIVI DJIOJIII   |   |  |  |   |
| Manganese<br>Magnesium  | ppm   | ASTM D5185m   | 145   | 94   | 68   | 81  |
|   |   | ASTM D5185m   | 145<br>3570   | 94<br>3346   |  | 81<br>3031  |
| Magnesium   | ppm   | ASTM D5185m   |   | -  | 68   |   |
| Magnesium<br>Calcium  | ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m  | 3570<br>1290  | 3346   | 68<br>2858   | 3031  |
| Magnesium<br>Calcium<br>Phosphorus  | ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 3570<br>1290  | 3346<br>1049   | 68<br>2858<br>1062   | 3031<br>978   |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc  | ppm<br>ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 3570<br>1290  | 3346<br>1049<br>1229<br>4069   | 68<br>2858<br>1062<br>1201   | 3031<br>978<br>1092   |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 3570<br>1290<br>1640<br>limit/base  | 3346<br>1049<br>1229<br>4069   | 68<br>2858<br>1062<br>1201<br>2910   | 3031<br>978<br>1092<br>3694   |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>method   | 3570<br>1290<br>1640<br>limit/base  | 3346<br>1049<br>1229<br>4069<br>current  | 68<br>2858<br>1062<br>1201<br>2910<br>history1   | 3031<br>978<br>1092<br>3694<br>history2   |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br><b>method</b><br>ASTM D5185m   | 3570<br>1290<br>1640<br>limit/base<br>>75   | 3346<br>1049<br>1229<br>4069<br>current<br>11  | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7  | 3031<br>978<br>1092<br>3694<br>history2<br>5  |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 3570<br>1290<br>1640<br>limit/base<br>>75   | 3346<br>1049<br>1229<br>4069<br>current<br>11<br>0<br>2  | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7<br>2   | 3031<br>978<br>1092<br>3694<br>history2<br>5<br>2   |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<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  | 3570<br>1290<br>1640<br>limit/base<br>>75<br>>20  | 3346<br>1049<br>1229<br>4069<br>current<br>11<br>0<br>2  | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7<br>2<br>0  | 3031<br>978<br>1092<br>3694<br>history2<br>5<br>2<br>2<br>2   |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>VISUAL  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<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>   | 3570<br>1290<br>1640<br>limit/base<br>>75<br>>20<br>limit/base  | 3346<br>1049<br>1229<br>4069<br>current<br>11<br>0<br>2<br>current   | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7<br>2<br>0<br>history1  | 3031<br>978<br>1092<br>3694<br>history2<br>5<br>2<br>2<br>2<br>history2   |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm<br>ppm<br>ppm<br>scalar   | 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>*Visual  | 3570<br>1290<br>1640<br>limit/base<br>>75<br>>20<br>limit/base<br>NONE  | 3346<br>1049<br>1229<br>4069<br>current<br>11<br>0<br>2<br>2<br>current<br>NONE  | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7<br>2<br>0<br>history1<br>NONE  | 3031<br>978<br>1092<br>3694<br>history2<br>5<br>2<br>2<br>2<br>history2<br>NONE   |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar  | 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>*Visual  | 3570<br>1290<br>1640<br>limit/base<br>>75<br>>20<br>limit/base<br>NONE<br>NONE  | 3346<br>1049<br>1229<br>4069<br>current<br>11<br>0<br>2<br>current<br>NONE<br>NONE   | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7<br>2<br>0<br>history1<br>NONE<br>NONE  | 3031<br>978<br>1092<br>3694<br>history2<br>5<br>2<br>2<br>2<br>history2<br>NONE<br>NONE   |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<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>TS<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar<br>scalar                                      | 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  | 3570<br>1290<br>1640<br>limit/base<br>>75<br>>20<br>limit/base<br>NONE<br>NONE<br>NONE<br>NONE  | 3346<br>1049<br>1229<br>4069<br>current<br>11<br>0<br>2<br>current<br>NONE<br>NONE<br>NONE<br>NONE                                     | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7<br>2<br>0<br>history1<br>NONE<br>NONE<br>NONE<br>NONE                                | 3031<br>978<br>1092<br>3694<br>history2<br>5<br>2<br>2<br>2<br>history2<br>NONE<br>NONE<br>NONE<br>NONE   |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<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>TS<br>ppm<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar                     | 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                                  | 3570<br>1290<br>1640<br>limit/base<br>>75<br>   | 3346<br>1049<br>1229<br>4069<br>current<br>11<br>0<br>2<br>current<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                             | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7<br>2<br>0<br>history1<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                        | 3031<br>978<br>1092<br>3694<br>history2<br>5<br>2<br>2<br>2<br>history2<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                                 |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<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>TS<br>ppm<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar           | 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                       | 3570<br>1290<br>1640<br>limit/base<br>>75<br>>20<br>limit/base<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  | 3346<br>1049<br>1229<br>4069<br>current<br>11<br>0<br>2<br>current<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                     | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7<br>2<br>0<br>0<br>history1<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE           | 3031<br>978<br>1092<br>3694<br><b>history2</b><br>5<br>2<br>2<br>2<br><b>history2</b><br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE           |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Yellow Metal<br>Precipitate<br>Silt<br>Debris<br>Sand/Dirt               | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar | 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            | 3570<br>1290<br>1640<br>Iimit/base<br>>75<br>>20<br>Iimit/base<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                                      | 3346<br>1049<br>1229<br>4069<br>current<br>11<br>0<br>2<br>current<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                     | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7<br>2<br>0<br>0<br>history1<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   | 3031<br>978<br>1092<br>3694<br><b>history2</b><br>5<br>2<br>2<br><b>history2</b><br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                |
| Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Yellow Metal<br>Precipitate<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar        | 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 | 3570<br>1290<br>1640<br>1640<br>>75<br>>75<br>>20<br>limit/base<br>>20<br>limit/base<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NON | 3346<br>1049<br>1229<br>4069<br>current<br>11<br>0<br>2<br>2<br>current<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NON | 68<br>2858<br>1062<br>1201<br>2910<br>history1<br>7<br>2<br>0<br>history1<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NON | 3031<br>978<br>1092<br>3694<br><b>history2</b><br>5<br>2<br>2<br><b>history2</b><br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NON |



## **OIL ANALYSIS REPORT**









Unique Number : 10995354 Diagnosed : 26 Apr 2024 - Don Baldridge Test Package : MOB 1 Certificate 12367 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)

Report Id: CENOAK [WUSCAR] 06159931 (Generated: 04/26/2024 12:31:44) Rev: 1

Laboratory

Sample No.

F:

Contact: S MCHENRY

smchenry@cv-ag.com T: (209)630-8094