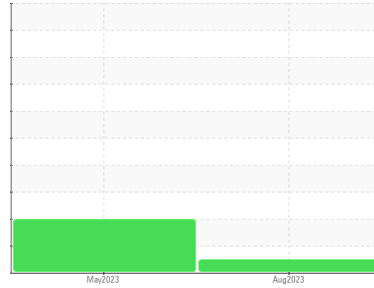




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id  
**W-4 W-4**

Component  
**Hydraulic System**

Fluid  
**AW HYDRAULIC OIL ISO 46 (--- 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. The amount and size of particulates present in the system are acceptable.

#### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION |             | method      | limit/base | current            | history1    | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|----------|
| Sample Number      | Client Info |             |            | <b>TLC0001007</b>  | TLC0001157  | ---      |
| Sample Date        | Client Info |             |            | <b>14 Aug 2023</b> | 10 May 2023 | ---      |
| Machine Age        | hrs         | Client Info |            | <b>0</b>           | 0           | ---      |
| Oil Age            | hrs         | Client Info |            | <b>0</b>           | 0           | ---      |
| Oil Changed        | Client Info |             |            | <b>N/A</b>         | N/A         | ---      |
| Sample Status      |             |             |            | <b>NORMAL</b>      | ABNORMAL    | ---      |

| WEAR METALS |     | method      | limit/base | current      | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185m | >20        | <b>&lt;1</b> | <1       | ---      |
| Chromium    | ppm | ASTM D5185m | >20        | <b>0</b>     | 0        | ---      |
| Nickel      | ppm | ASTM D5185m | >20        | <b>0</b>     | 0        | ---      |
| Titanium    | ppm | ASTM D5185m |            | <b>0</b>     | 0        | ---      |
| Silver      | ppm | ASTM D5185m |            | <b>0</b>     | 0        | ---      |
| Aluminum    | ppm | ASTM D5185m | >20        | <b>0</b>     | 1        | ---      |
| Lead        | ppm | ASTM D5185m | >20        | <b>0</b>     | 0        | ---      |
| Copper      | ppm | ASTM D5185m | >20        | <b>0</b>     | <1       | ---      |
| Tin         | ppm | ASTM D5185m | >20        | <b>0</b>     | 0        | ---      |
| Vanadium    | ppm | ASTM D5185m |            | <b>0</b>     | 0        | ---      |
| Cadmium     | ppm | ASTM D5185m |            | <b>0</b>     | 0        | ---      |

| ADDITIVES  |     | method      | limit/base | current     | history1 | history2 |
|------------|-----|-------------|------------|-------------|----------|----------|
| Boron      | ppm | ASTM D5185m | 5          | <b>0</b>    | 0        | ---      |
| Barium     | ppm | ASTM D5185m | 5          | <b>0</b>    | 0        | ---      |
| Molybdenum | ppm | ASTM D5185m | 5          | <b>0</b>    | 0        | ---      |
| Manganese  | ppm | ASTM D5185m |            | <b>0</b>    | <1       | ---      |
| Magnesium  | ppm | ASTM D5185m | 25         | <b>10</b>   | 5        | ---      |
| Calcium    | ppm | ASTM D5185m | 200        | <b>51</b>   | 56       | ---      |
| Phosphorus | ppm | ASTM D5185m | 300        | <b>306</b>  | 310      | ---      |
| Zinc       | ppm | ASTM D5185m | 370        | <b>467</b>  | 493      | ---      |
| Sulfur     | ppm | ASTM D5185m | 2500       | <b>1060</b> | 1122     | ---      |

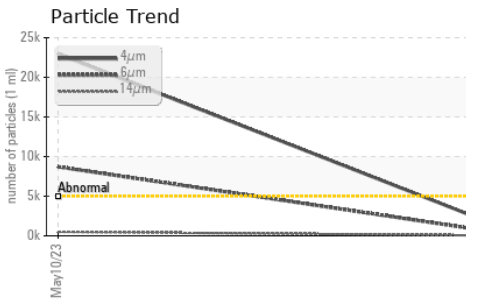
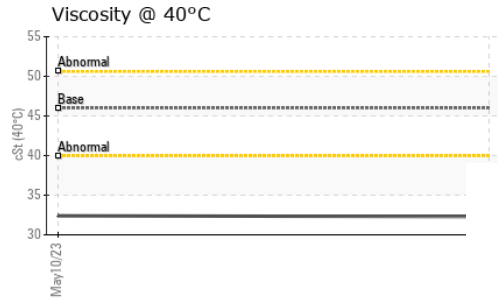
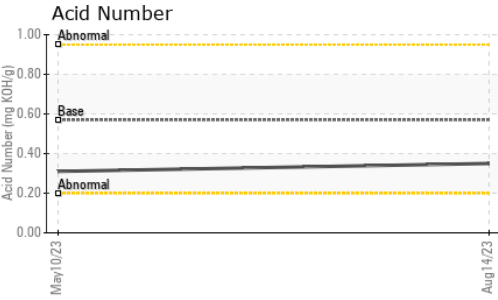
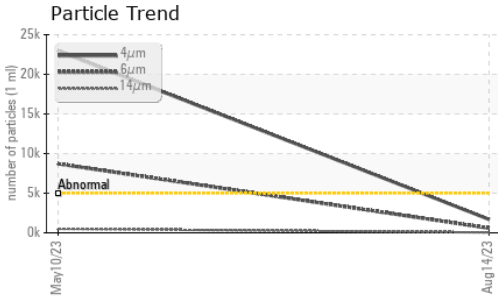
| CONTAMINANTS |     | method      | limit/base | current      | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >15        | <b>&lt;1</b> | <1       | ---      |
| Sodium       | ppm | ASTM D5185m |            | <b>&lt;1</b> | <1       | ---      |
| Potassium    | ppm | ASTM D5185m | >20        | <b>0</b>     | 0        | ---      |

| FLUID CLEANLINESS |  | method       | limit/base | current         | history1   | history2 |
|-------------------|--|--------------|------------|-----------------|------------|----------|
| Particles >4µm    |  | ASTM D7647   | >5000      | <b>1691</b>     | ▲ 22957    | ---      |
| Particles >6µm    |  | ASTM D7647   | >1300      | <b>590</b>      | ▲ 8713     | ---      |
| Particles >14µm   |  | ASTM D7647   | >160       | <b>38</b>       | ▲ 501      | ---      |
| Particles >21µm   |  | ASTM D7647   | >40        | <b>8</b>        | ▲ 52       | ---      |
| Particles >38µm   |  | ASTM D7647   | >10        | <b>0</b>        | 1          | ---      |
| Particles >71µm   |  | ASTM D7647   | >3         | <b>0</b>        | 0          | ---      |
| Oil Cleanliness   |  | ISO 4406 (c) | >19/17/14  | <b>18/16/12</b> | ▲ 22/20/16 | ---      |

| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 | 0.57       | <b>0.35</b> | 0.31     | ---      |



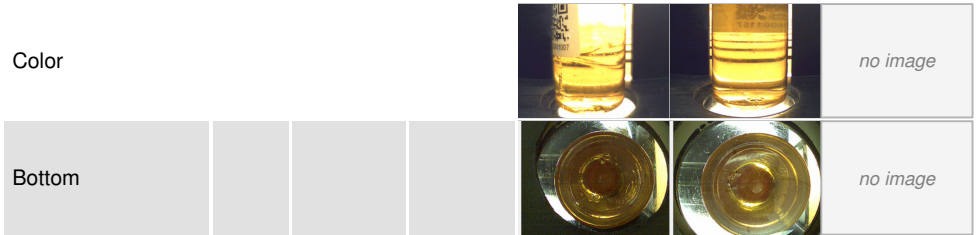
# OIL ANALYSIS REPORT



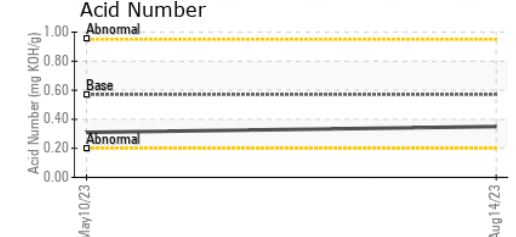
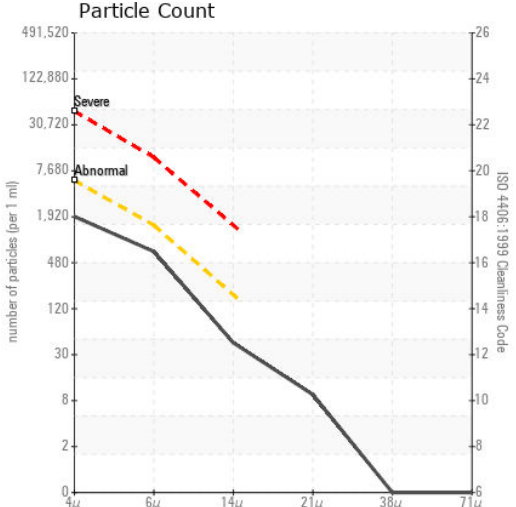
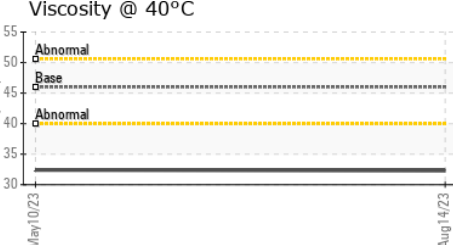
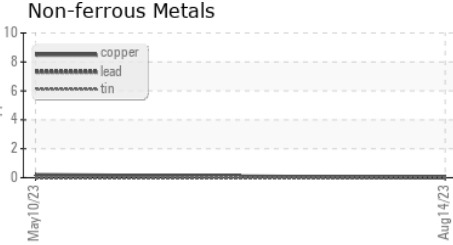
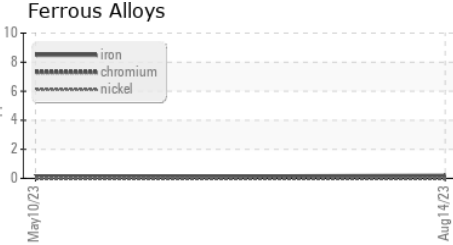
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | ---      |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | ---      |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | ---      |
| Silt             | scalar | *Visual    | NONE    | NONE     | ---      |
| Debris           | scalar | *Visual    | NONE    | NONE     | ---      |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | ---      |
| Appearance       | scalar | *Visual    | NORML   | NORML    | ---      |
| Odor             | scalar | *Visual    | NORML   | NORML    | ---      |
| Emulsified Water | scalar | *Visual    | >0.05   | NEG      | 0.2%     |
| Free Water       | scalar | *Visual    |         | NEG      | ---      |

| FLUID PROPERTIES | method | limit/base   | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445 46 | 32.3    | 32.4     | ---      |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|



## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : TLC0001007  
 Lab Number : 05924191  
 Unique Number : 10604138  
 Test Package : PLANT

Received : 14 Aug 2023  
 Diagnosed : 15 Aug 2023  
 Diagnostician : Doug Bogart

**TESLA**  
 1 Tesla Road, BIW E58  
 Austin, TX  
 US 78725  
 Contact: Dave Mitchell  
 davmitchell@tesla.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: (260)226-1968

F: