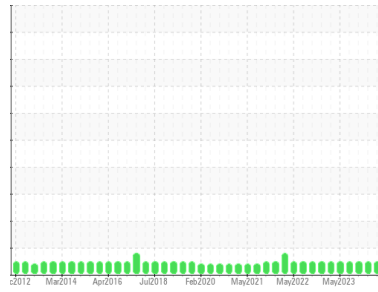


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**TEST STAND 2**

Component  
**Hydraulic System**

Fluid  
**SAFETY-KLEEN PERFORMANCE PLUS HYD. AW32 (300 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>ST46376</b>     | ST46388     | ST41951     |
| Sample Date        | Client Info |             |            | <b>28 May 2024</b> | 12 Feb 2024 | 14 Nov 2023 |
| Machine Age        | hrs         | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Age            | hrs         | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Changed        | Client Info |             |            | <b>N/A</b>         | N/A         | N/A         |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | NORMAL      |

| WEAR METALS |     | method      | limit/base | current      | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185m | >40        | <b>&lt;1</b> | 0        | <1       |
| Chromium    | ppm | ASTM D5185m | >4         | <b>&lt;1</b> | 0        | <1       |
| Nickel      | ppm | ASTM D5185m | >20        | <b>0</b>     | 0        | 0        |
| Titanium    | ppm | ASTM D5185m |            | <b>0</b>     | 0        | <1       |
| Silver      | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Aluminum    | ppm | ASTM D5185m | >4         | <b>3</b>     | 0        | 0        |
| Lead        | ppm | ASTM D5185m | >10        | <b>1</b>     | 1        | <1       |
| Copper      | ppm | ASTM D5185m | >60        | <b>19</b>    | 17       | 19       |
| Tin         | ppm | ASTM D5185m | >4         | <b>&lt;1</b> | <1       | 0        |
| Vanadium    | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Cadmium     | ppm | ASTM D5185m |            | <b>&lt;1</b> | <1       | <1       |

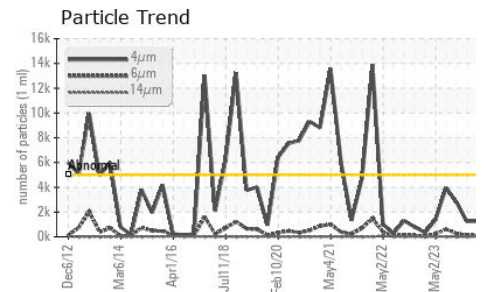
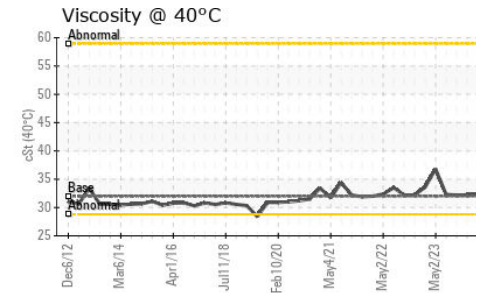
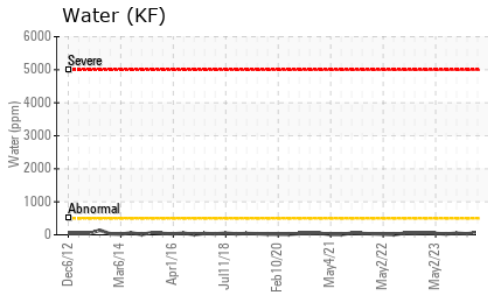
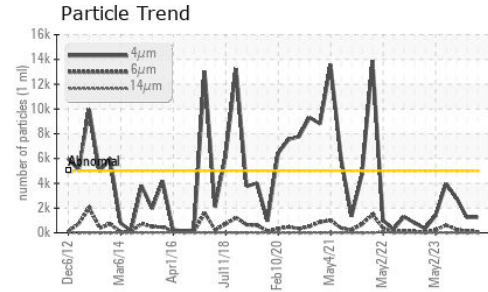
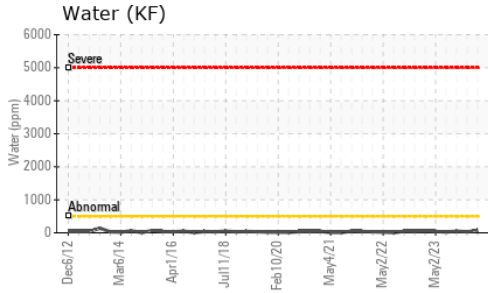
| ADDITIVES  |     | method      | limit/base | current      | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185m | 11         | <b>0</b>     | 0        | 0        |
| Barium     | ppm | ASTM D5185m | 0.0        | <b>0</b>     | <1       | 0        |
| Molybdenum | ppm | ASTM D5185m | 1.2        | <b>&lt;1</b> | 0        | <1       |
| Manganese  | ppm | ASTM D5185m |            | <b>&lt;1</b> | <1       | <1       |
| Magnesium  | ppm | ASTM D5185m | 0.0        | <b>2</b>     | 2        | <1       |
| Calcium    | ppm | ASTM D5185m | 35         | <b>45</b>    | 50       | 52       |
| Phosphorus | ppm | ASTM D5185m | 324        | <b>366</b>   | 378      | 466      |
| Zinc       | ppm | ASTM D5185m | 400        | <b>466</b>   | 421      | 457      |
| Sulfur     | ppm | ASTM D5185m | 1528       | <b>1061</b>  | 876      | 1019     |

| CONTAMINANTS |     | method      | limit/base | current      | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >20        | <b>&lt;1</b> | <1       | 1        |
| Sodium       | ppm | ASTM D5185m |            | <b>0</b>     | 2        | 0        |
| Potassium    | ppm | ASTM D5185m | >20        | <b>2</b>     | <1       | 1        |
| Water        | %   | ASTM D6304  | >0.05      | <b>0.007</b> | 0.003    | 0.004    |
| ppm Water    | ppm | ASTM D6304  | >500       | <b>71</b>    | 32       | 49       |

| FLUID CLEANLINESS |  | method       | limit/base | current         | history1 | history2 |
|-------------------|--|--------------|------------|-----------------|----------|----------|
| Particles >4µm    |  | ASTM D7647   | >5000      | <b>1239</b>     | 1234     | 2781     |
| Particles >6µm    |  | ASTM D7647   | >1300      | <b>83</b>       | 129      | 247      |
| Particles >14µm   |  | ASTM D7647   | >160       | <b>11</b>       | 5        | 5        |
| Particles >21µm   |  | ASTM D7647   | >40        | <b>7</b>        | 1        | 0        |
| Particles >38µm   |  | ASTM D7647   | >10        | <b>1</b>        | 0        | 0        |
| Particles >71µm   |  | ASTM D7647   | >3         | <b>0</b>        | 0        | 0        |
| Oil Cleanliness   |  | ISO 4406 (c) | >19/17/14  | <b>17/14/11</b> | 17/14/10 | 19/15/10 |

| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 |            | <b>0.41</b> | 0.38     | 0.35     |

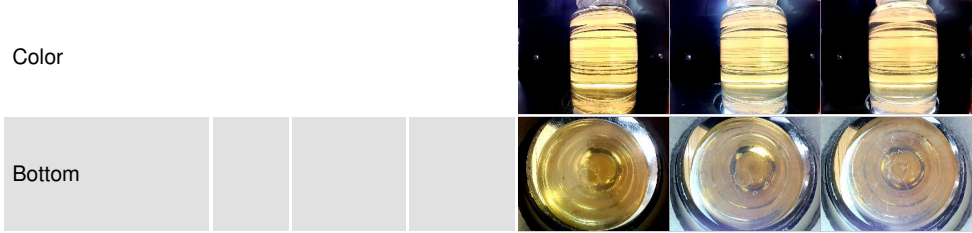
# OIL ANALYSIS REPORT



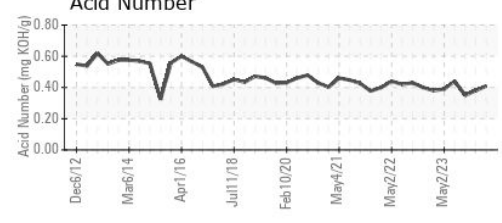
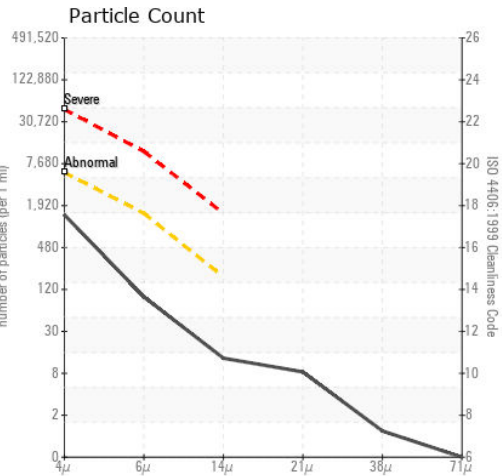
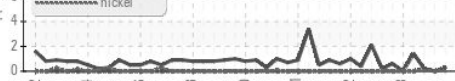
| VISUAL           | method | limit/base | current | history1     | history2 |
|------------------|--------|------------|---------|--------------|----------|
| White Metal      | scalar | *Visual    | NONE    | <b>NONE</b>  | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | <b>NONE</b>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

| FLUID PROPERTIES | method | limit/base | current | history1    | history2 |
|------------------|--------|------------|---------|-------------|----------|
| Visc @ 40°C      | cSt    | ASTM D445  | 32.0    | <b>32.3</b> | 32.22    |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ST46376  
**Lab Number** : 06199192  
**Unique Number** : 11061315  
**Test Package** : IND 2 ( Additional Tests: KF )  
**Received** : 04 Jun 2024  
**Tested** : 05 Jun 2024  
**Diagnosed** : 06 Jun 2024 - Don Baldrige

**WOOSTER HYDROSTATICS**  
 4570 W. OLD LINCOLN WAY  
 WOOSTER, OH  
 US 44691  
 Contact: EARL RHAMY  
 earlramy@woosterhydrostatics.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)