

# OIL ANALYSIS REPORT

Sample Rating Trend



**WATER**



Machine Id  
**CASCADES PAPER**  
 Component  
**Hydraulic System**  
 Fluid  
**D-A PRESSUREFLOW 46 AW (--- GAL)**

## DIAGNOSIS

- ▲ Recommendation**  
 No corrective action is recommended at this time. Resample at the next service interval to monitor.
- Wear**  
 All component wear rates are normal.
- ▲ Contamination**  
 There is a light concentration of water present in the oil. The amount and size of particulates present in the system are acceptable.
- Fluid Condition**  
 Viscosity of sample indicates oil is within ISO 68 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>TO10003245</b>	---	---
Sample Date	Client Info	<b>21 May 2024</b>	---	---
Machine Age	hrs Client Info	<b>0</b>	---	---
Oil Age	hrs Client Info	<b>0</b>	---	---
Oil Changed	Client Info	<b>N/A</b>	---	---
Sample Status		<b>ABNORMAL</b>	---	---

## WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185m	>20	<b>6</b>	---	---
Chromium ppm ASTM D5185m	>20	<b>0</b>	---	---
Nickel ppm ASTM D5185m	>20	<b>0</b>	---	---
Titanium ppm ASTM D5185m		<b>&lt;1</b>	---	---
Silver ppm ASTM D5185m		<b>&lt;1</b>	---	---
Aluminum ppm ASTM D5185m	>20	<b>&lt;1</b>	---	---
Lead ppm ASTM D5185m	>20	<b>1</b>	---	---
Copper ppm ASTM D5185m	>20	<b>2</b>	---	---
Tin ppm ASTM D5185m	>20	<b>&lt;1</b>	---	---
Vanadium ppm ASTM D5185m		<b>&lt;1</b>	---	---
Cadmium ppm ASTM D5185m		<b>&lt;1</b>	---	---

## ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185m		<b>&lt;1</b>	---	---
Barium ppm ASTM D5185m		<b>0</b>	---	---
Molybdenum ppm ASTM D5185m		<b>0</b>	---	---
Manganese ppm ASTM D5185m		<b>&lt;1</b>	---	---
Magnesium ppm ASTM D5185m		<b>42</b>	---	---
Calcium ppm ASTM D5185m		<b>104</b>	---	---
Phosphorus ppm ASTM D5185m		<b>321</b>	---	---
Zinc ppm ASTM D5185m		<b>371</b>	---	---
Sulfur ppm ASTM D5185m		<b>2723</b>	---	---

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m	>15	<b>1</b>	---	---
Sodium ppm ASTM D5185m		<b>2</b>	---	---
Potassium ppm ASTM D5185m	>20	<b>1</b>	---	---
Water % ASTM D6304	>0.05	<b>▲ 0.112</b>	---	---
ppm Water ppm ASTM D6304	>500	<b>▲ 1120</b>	---	---

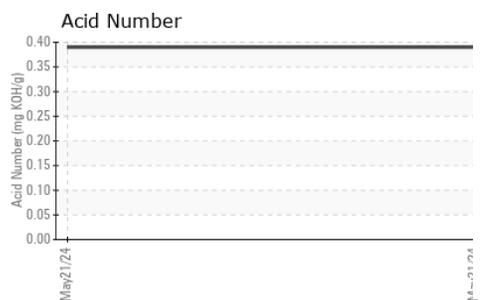
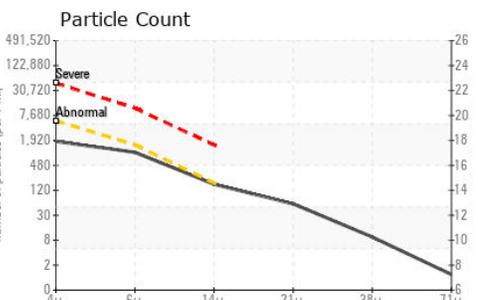
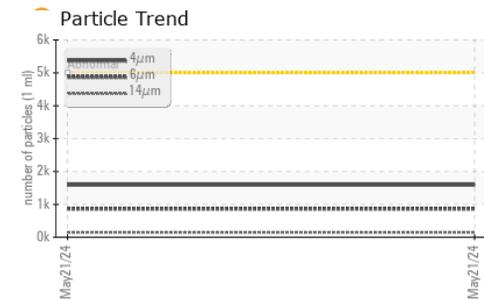
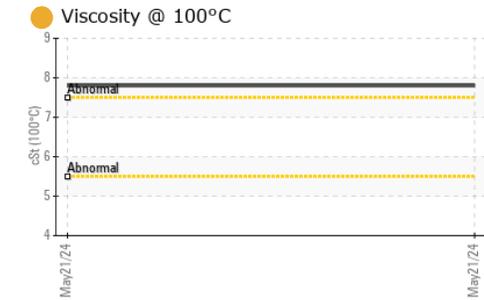
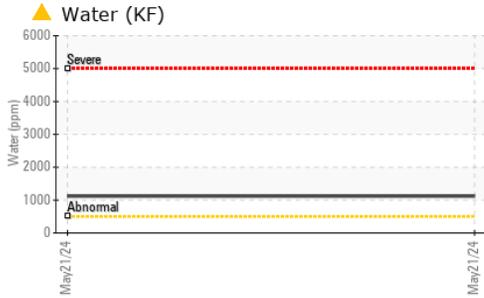
## FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm ASTM D7647	>5000	<b>1592</b>	---	---
Particles >6µm ASTM D7647	>1300	<b>867</b>	---	---
Particles >14µm ASTM D7647	>160	<b>148</b>	---	---
Particles >21µm ASTM D7647	>40	<b>50</b>	---	---
Particles >38µm ASTM D7647	>10	<b>8</b>	---	---
Particles >71µm ASTM D7647	>3	<b>1</b>	---	---
Oil Cleanliness ISO 4406 (c)	>19/17/14	<b>18/17/14</b>	---	---

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045		<b>0.39</b>	---	---

# OIL ANALYSIS REPORT



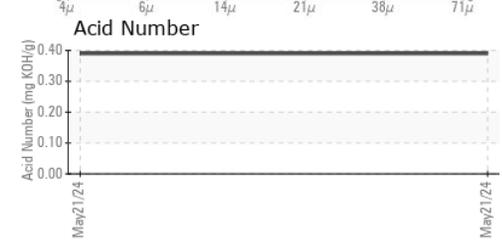
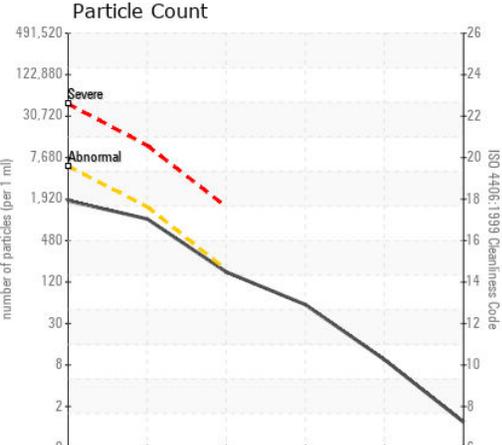
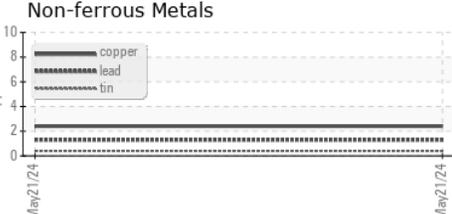
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
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	>0.05	▲ <b>0.2%</b>	---	---
Free Water	scalar	*Visual		<b>NEG</b>	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	● <b>60.2</b>	---	---
Visc @ 100°C	cSt	ASTM D445	● <b>7.8</b>	---	---
Viscosity Index (VI)	Scale	ASTM D2270	<b>92</b>	---	---

### SAMPLE IMAGES

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10003245 **Received** : 29 May 2024  
**Lab Number** : 06193970 **Tested** : 03 Jun 2024  
**Unique Number** : 11056093 **Diagnosed** : 03 Jun 2024 - Jonathan Hester  
**Test Package** : IND 2 ( Additional Tests: KF, KV100, VI )

**TULCO OILS INC (001-TULSA DIVISION)**  
 5240 EAST PINE  
 TULSA, OK  
 US 74115

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: DYLAN COPE  
 dylancope@tulco.com  
 T: (800)375-2347

\* - 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)

F: x: