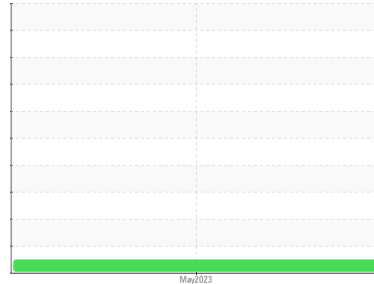




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**102-LYO-901**

Component  
**Hydraulic System**

Fluid  
**NAVI-GUARD PREMIUM AW-32 HYDRAULIC (--- LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please submit a sample of the new (unused) oil to establish a baseline for RULer.

### Wear

All component wear rates are normal.

### Contamination

MPC (Membrane Patch Colorimetry) test indicates acceptable levels of varnish present. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

### 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>WC0770764</b>	---	---
Sample Date	Client Info	<b>28 May 2023</b>	---	---
Machine Age	yrs Client Info	<b>0</b>	---	---
Oil Age	yrs Client Info	<b>0</b>	---	---
Oil Changed	Client Info	<b>N/A</b>	---	---
Sample Status		<b>NORMAL</b>	---	---

## WEAR METALS

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

## ADDITIVES

method	limit/base	current	history1	history2
Boron ppm	ASTM D5185m	<b>0</b>	---	---
Barium ppm	ASTM D5185m	<b>0</b>	---	---
Molybdenum ppm	ASTM D5185m	<b>4</b>	---	---
Manganese ppm	ASTM D5185m	<b>0</b>	---	---
Magnesium ppm	ASTM D5185m	<b>8</b>	---	---
Calcium ppm	ASTM D5185m	<b>80</b>	---	---
Phosphorus ppm	ASTM D5185m	<b>272</b>	---	---
Zinc ppm	ASTM D5185m	<b>342</b>	---	---
Sulfur ppm	ASTM D5185m	<b>4353</b>	---	---

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm	ASTM D5185m >15	<b>1</b>	---	---
Sodium ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Potassium ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---
Water %	ASTM D6304 >0.05	<b>0.003</b>	---	---
ppm Water	ASTM D6304 >500	<b>30.5</b>	---	---

## FLUID CLEANLINESS

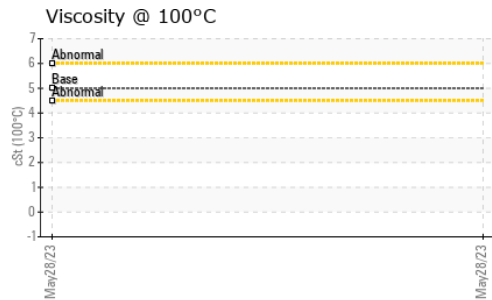
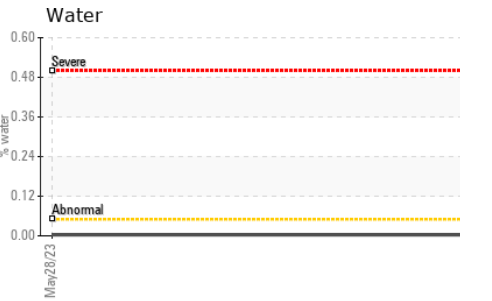
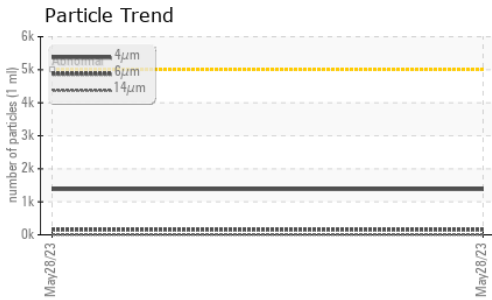
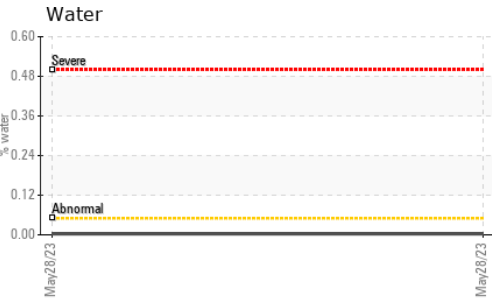
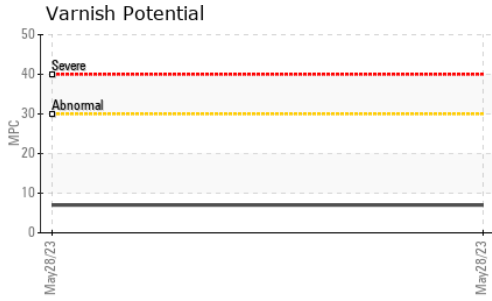
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	<b>1381</b>	---	---
Particles >6µm	ASTM D7647 >1300	<b>157</b>	---	---
Particles >14µm	ASTM D7647 >160	<b>8</b>	---	---
Particles >21µm	ASTM D7647 >40	<b>2</b>	---	---
Particles >38µm	ASTM D7647 >10	<b>0</b>	---	---
Particles >71µm	ASTM D7647 >3	<b>0</b>	---	---
Oil Cleanliness	ISO 4406 (c) >19/17/14	<b>18/14/10</b>	---	---

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g	ASTM D8045	<b>0.35</b>	---	---
MPC Varnish Potential Scale	ASTM D7843 >15	<b>7</b>	---	---



# OIL ANALYSIS REPORT



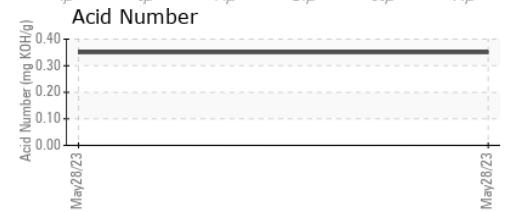
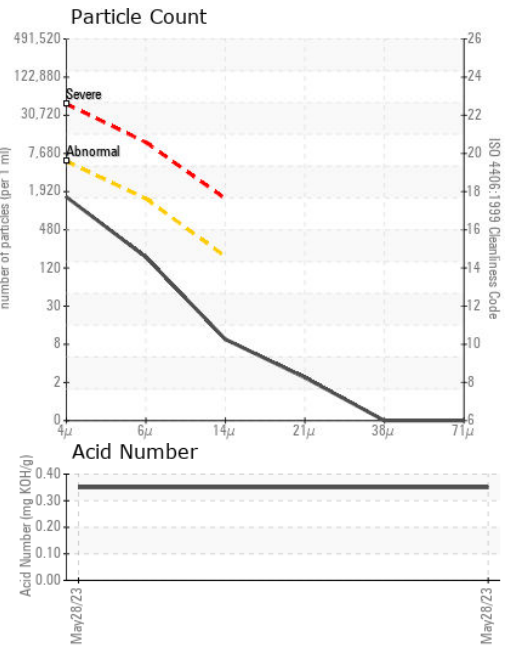
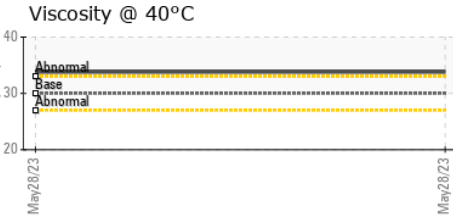
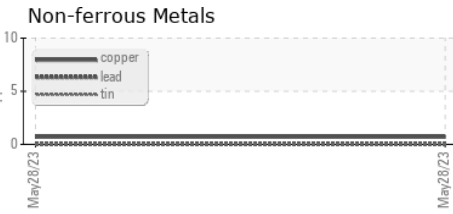
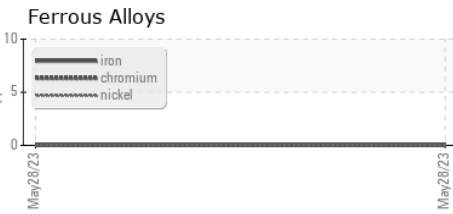
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	30	33.8	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color				no image	no image
Bottom				no image	no image
MPC				no image	no image

## GRAPHS

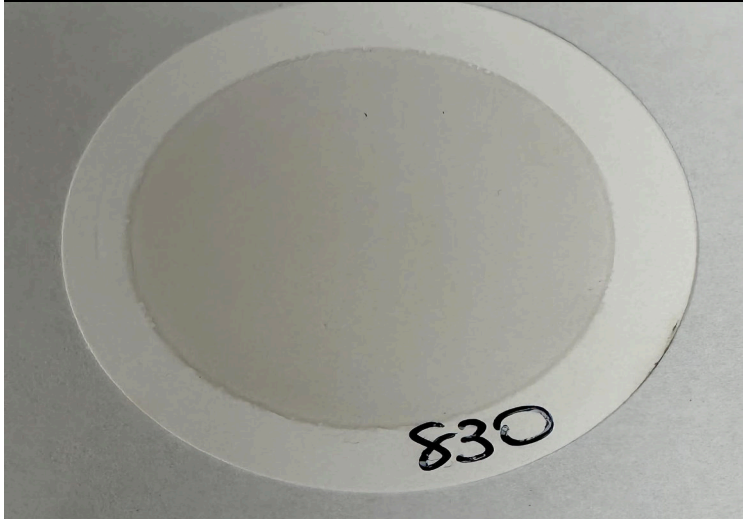


**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0770764 **Received** : 17 Aug 2023  
**Lab Number** : 05927830 **Diagnosed** : 23 Aug 2023  
**Unique Number** : 10607777 **Diagnostician** : Doug Bogart  
**Test Package** : AOM 1 ( Additional Tests: KF )

**MERCK & COMPANY**  
 5325 OLD OXFORD RD  
 DURHAM, NC  
 US 27712  
 Contact: Mark Montalvo  
 mark\_montalvo@merck.com  
 T: (919)884-4103  
 F:

Certificate L2367  
 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)

MPC (Varnish Test)



Sample Color & Clarity



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