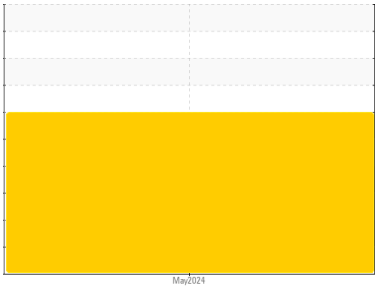
PROBLEM SUMMARY

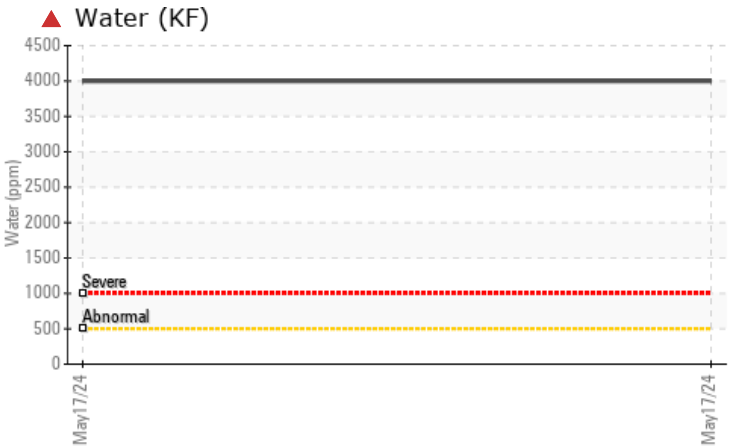
Sample Rating Trend

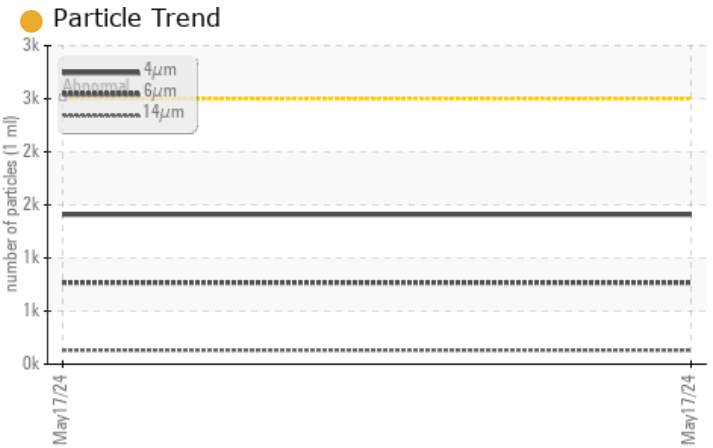


WATER

Machine Id
MIDDLE
Component
Hydraulic System
Fluid
PANOLIN HLP SYNTH 46 (100 GAL)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We advise that you check for the source of water entry. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	---	---
Water	%	ASTM D6304	>0.05	▲ **0.400**	---	---
ppm Water	ppm	ASTM D6304	>500	▲ **4000**	---	---
Emulsified Water	scalar	*Visual	>0.05	▲ **0.2%**	---	---

Customer Id: NORPLAMA
Sample No.: LP0002173
Lab Number: 06184254
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

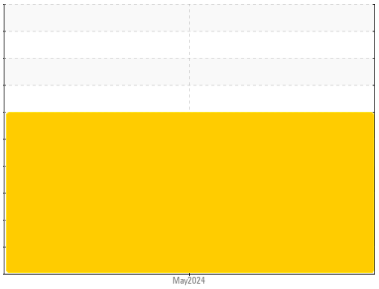
RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Water Access	---	---	?	We advise that you check for the source of water entry.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Machine Id
MIDDLE
Component
Hydraulic System
Fluid
PANOLIN HLP SYNTH 46 (100 GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of water entry. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
Appearance is hazy. There is a moderate amount of particulates present in the oil. There is a moderate concentration of water present in the oil.

Fluid Condition
The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**LP0002173**	---	---
Sample Date		Client Info		**17 May 2024**	---	---
Machine Age	hrs	Client Info		**0**	---	---
Oil Age	hrs	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**SEVERE**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**4**	---	---
Chromium	ppm	ASTM D5185m	>20	**0**	---	---
Nickel	ppm	ASTM D5185m	>20	**0**	---	---
Titanium	ppm	ASTM D5185m		**1**	---	---
Silver	ppm	ASTM D5185m		**0**	---	---
Aluminum	ppm	ASTM D5185m	>20	**2**	---	---
Lead	ppm	ASTM D5185m	>20	**<1**	---	---
Copper	ppm	ASTM D5185m	>20	**0**	---	---
Tin	ppm	ASTM D5185m	>20	**0**	---	---
Vanadium	ppm	ASTM D5185m		**0**	---	---
Cadmium	ppm	ASTM D5185m		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	---	---
Barium	ppm	ASTM D5185m	0	**0**	---	---
Molybdenum	ppm	ASTM D5185m	0	**0**	---	---
Manganese	ppm	ASTM D5185m	0	**<1**	---	---
Magnesium	ppm	ASTM D5185m	0	**1**	---	---
Calcium	ppm	ASTM D5185m	0	**4**	---	---
Phosphorus	ppm	ASTM D5185m	1700	**1341**	---	---
Zinc	ppm	ASTM D5185m	0	**23**	---	---
Sulfur	ppm	ASTM D5185m	1350	**773**	---	---

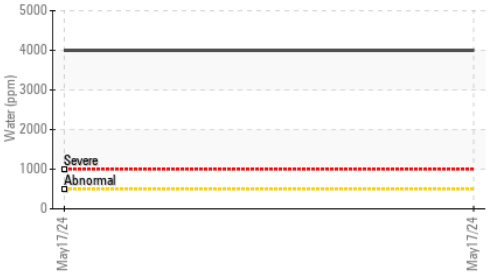
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**1**	---	---
Sodium	ppm	ASTM D5185m		**0**	---	---
Potassium	ppm	ASTM D5185m	>20	**0**	---	---
Water	%	ASTM D6304	>0.05	▲ **0.400**	---	---
ppm Water	ppm	ASTM D6304	>500	▲ **4000**	---	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	**1409**	---	---
Particles >6µm		ASTM D7647	>640	● **768**	---	---
Particles >14µm		ASTM D7647	>80	● **131**	---	---
Particles >21µm		ASTM D7647	>20	● **44**	---	---
Particles >38µm		ASTM D7647	>4	● **7**	---	---
Particles >71µm		ASTM D7647	>3	**1**	---	---
Oil Cleanliness		ISO 4406 (c)	>18/16/13	● **18/17/14**	---	---

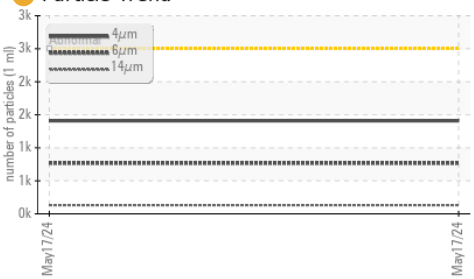
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.64**	---	---

OIL ANALYSIS REPORT

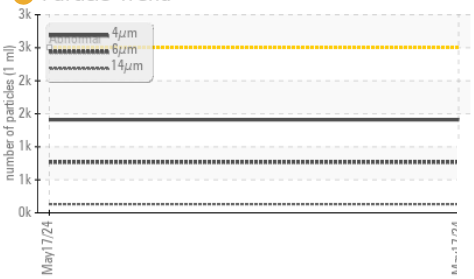
Water (KF)



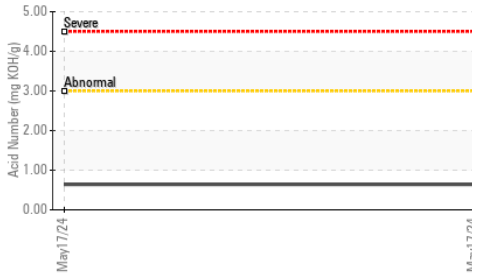
Particle Trend



Particle Trend



Acid Number



Viscosity @ 40°C

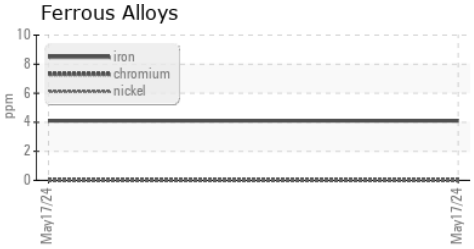
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	47.0	**45.2**	---	---

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

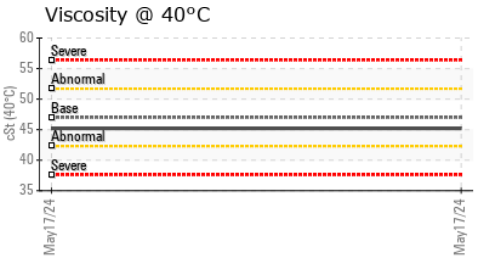
GRAPHS

Ferrous Alloys

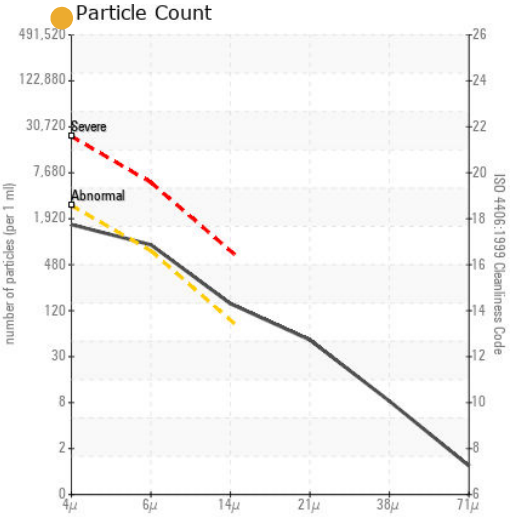


Non-ferrous Metals

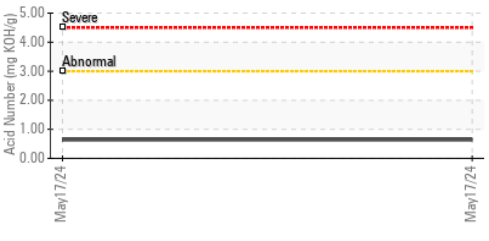
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0002173
Lab Number : 06184254
Unique Number : 11035580
Test Package : IND 2 (Additional Tests: KF)

Received : 20 May 2024
Tested : 29 May 2024
Diagnosed : 29 May 2024 - Jonathan Hester

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)

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