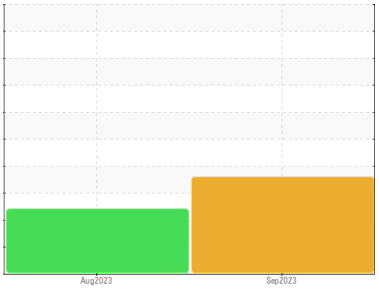
PROBLEM SUMMARY

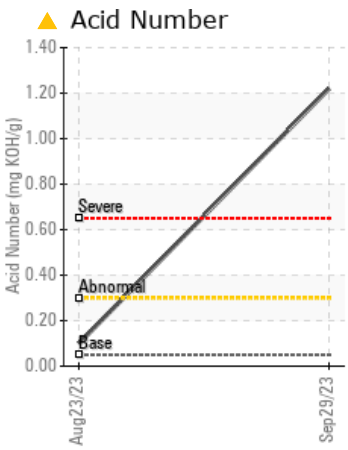
Sample Rating Trend

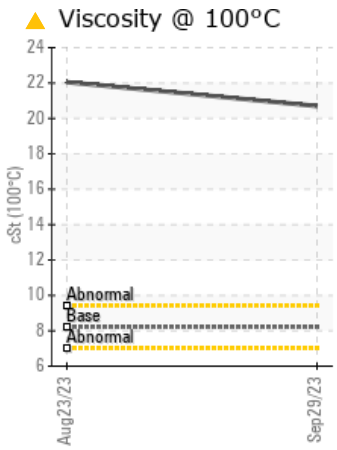


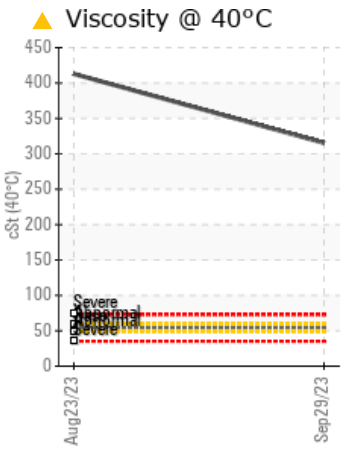
DEGRADATION

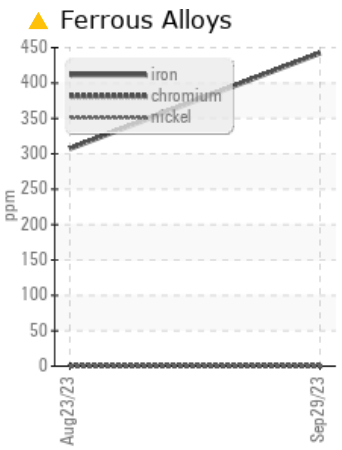
Area
[20249183/TN20]
Machine Id
HEATEC HC300G OH-1 (S/N H93056)
Component
Heat Transfer Fluid
Fluid
SHELL HEAT TRANSFER OIL S2 X (3000 GAL)

COMPONENT CONDITION SUMMARY









RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	---
Iron	ppm	ASTM D5185m	>200	▲ **442**	▲ 307	---
Acid Number (AN)	mg KOH/g	ASTM D8045	0.05	▲ **1.22**	0.10	---
Silt	scalar	*Visual	NONE	▲ **HEAVY**	▲ LIGHT	---
Visc @ 40°C	cSt	ASTM D445	54	▲ **315.4**	▲ 412.9	---
Visc @ 100°C	cSt	ASTM D445	8.2	▲ **20.7**	▲ 22.05	---

Customer Id: ERGKNO
Sample No.: TO10002912
Lab Number: 05968347
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@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 recommend you service the filters on this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

23 Aug 2023 Diag: Doug Bogart

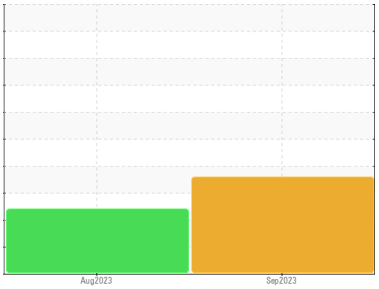
WEAR

We advise an early resample to confirm this situation.All metal levels are normal indicating no corrosion in the system. The water content is negligible. There is no indication of any contamination in the fluid. The amount and size of particulates present in the system are acceptable. The fluid viscosity is higher than normal. Confirm oil type. The AN level is acceptable for this fluid.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Area
[20249183/TN20]
Machine Id
HEATEC HC300G OH-1 (S/N H93056)
Component
Heat Transfer Fluid
Fluid
SHELL HEAT TRANSFER OIL S2 X (3000 GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear
The iron level is abnormal.

Contamination
There is a high amount of visible silt present in the sample.

Fluid Condition
The fluid viscosity is higher than normal. The AN level is above the recommended limit. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**TO10002912**	TO10002550	---
Sample Date		Client Info		**29 Sep 2023**	23 Aug 2023	---
Machine Age	hrs	Client Info		**0**	0	---
Oil Age	hrs	Client Info		**0**	0	---
Oil Changed		Client Info		**N/A**	N/A	---
Sample Status				**ABNORMAL**	ABNORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	▲ **442**	▲ 307	---
Chromium	ppm	ASTM D5185m	>21	**<1**	0	---
Nickel	ppm	ASTM D5185m	>21	**<1**	0	---
Titanium	ppm	ASTM D5185m	>21	**0**	0	---
Silver	ppm	ASTM D5185m	>21	**0**	0	---
Aluminum	ppm	ASTM D5185m	>21	**<1**	0	---
Lead	ppm	ASTM D5185m	>21	**0**	0	---
Copper	ppm	ASTM D5185m	>21	**<1**	<1	---
Tin	ppm	ASTM D5185m	>21	**<1**	<1	---
Vanadium	ppm	ASTM D5185m		**0**	<1	---
Cadmium	ppm	ASTM D5185m		**0**	0	---

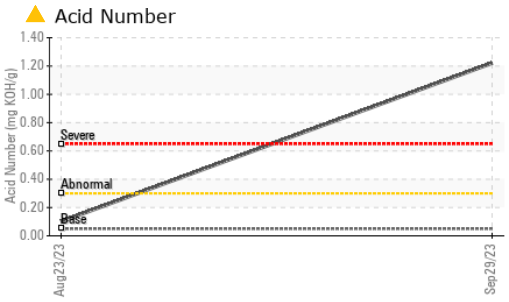
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**<1**	0	---
Barium	ppm	ASTM D5185m		**0**	0	---
Molybdenum	ppm	ASTM D5185m		**0**	0	---
Manganese	ppm	ASTM D5185m		**5**	3	---
Magnesium	ppm	ASTM D5185m		**2**	0	---
Calcium	ppm	ASTM D5185m		**0**	9	---
Phosphorus	ppm	ASTM D5185m		**8**	1	---
Zinc	ppm	ASTM D5185m		**0**	0	---
Sulfur	ppm	ASTM D5185m		**1821**	590	---

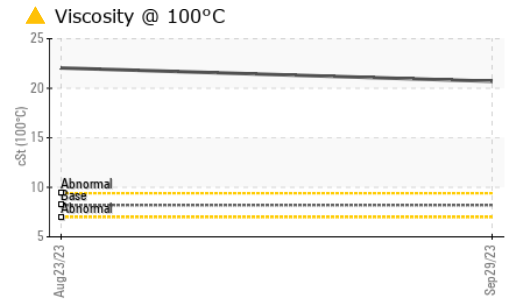
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**3**	<1	---
Sodium	ppm	ASTM D5185m	>21	**<1**	1	---
Potassium	ppm	ASTM D5185m	>20	**<1**	0	---
Water	%	ASTM D6304	>0.0601	**0.010**	0.012	---
ppm Water	ppm	ASTM D6304	>601	**103.8**	126.7	---

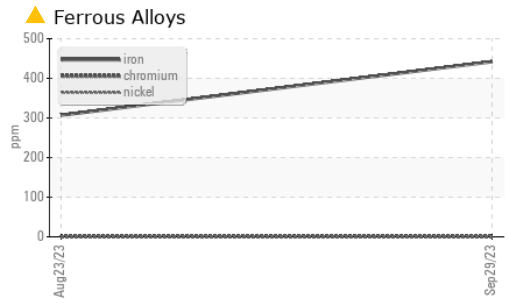
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**---**	2053	---
Particles >6µm		ASTM D7647	>10240000	**---**	1118	---
Particles >14µm		ASTM D7647	>10240000	**---**	190	---
Particles >21µm		ASTM D7647	>2560000	**---**	64	---
Particles >38µm		ASTM D7647	>640000	**---**	10	---
Particles >71µm		ASTM D7647	>160000	**---**	1	---
Oil Cleanliness		ISO 4406 (c)	>--/30/30	**---**	18/17/15	---

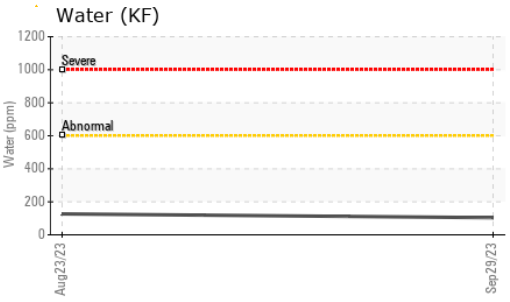
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.05	▲ **1.22**	0.10	---

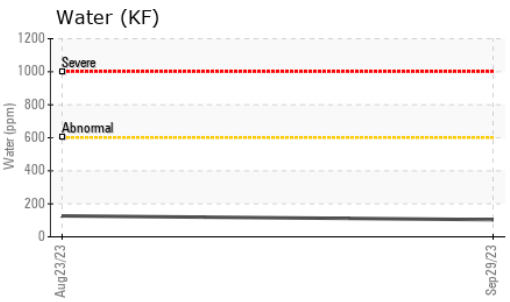
OIL ANALYSIS REPORT





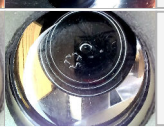




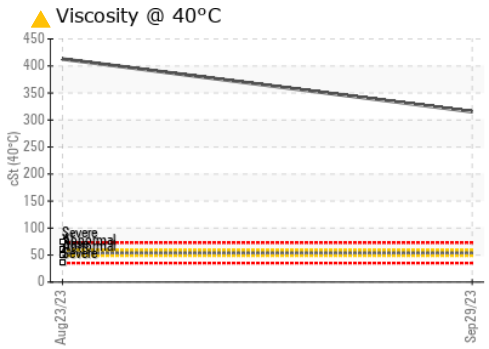


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	▲ **HEAVY**	▲ LIGHT	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>0.0601	**NEG**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	54	▲ **315.4**	▲ 412.9	---
Visc @ 100°C	cSt	ASTM D445	8.2	▲ **20.7**	▲ 22.05	---
Viscosity Index (VI)	Scale	ASTM D2270	96	**73**	54	---

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

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10002912 **Received** : 03 Oct 2023
Lab Number : 05968347 **Diagnosed** : 11 Oct 2023
Unique Number : 10674898 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: KF, KV100, PrtCount, VI)

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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