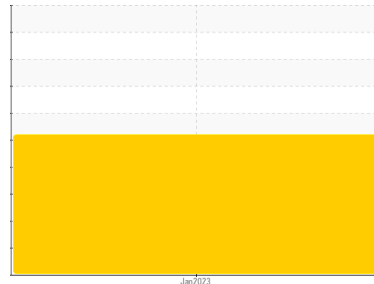




PROBLEM SUMMARY

Sample Rating Trend



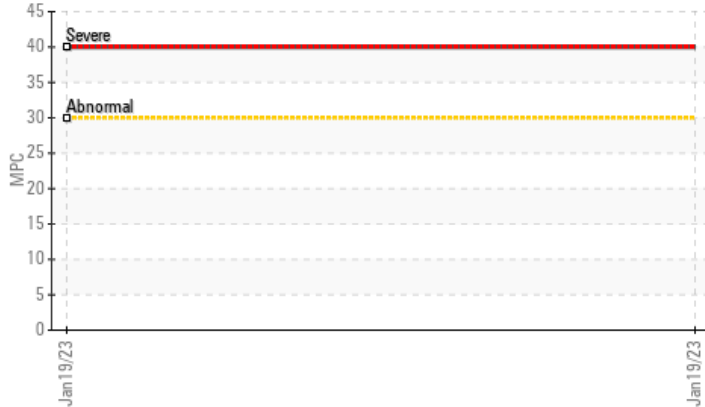
WATER



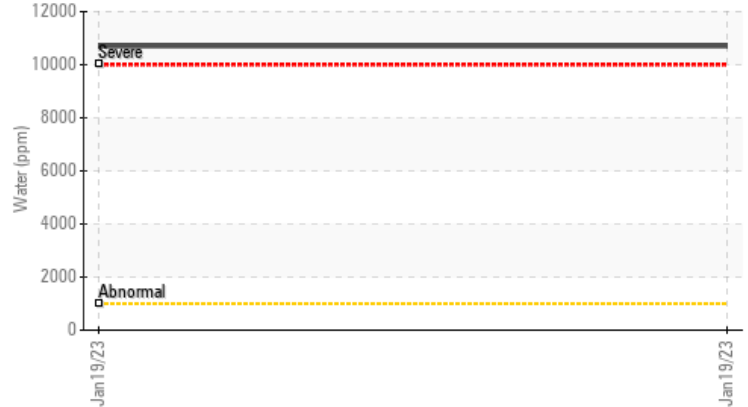
Machine Id
CATES FG1
 Component
Compressor
 Fluid
 {not provided} (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Varnish Potential



▲ Water (KF)



RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Else, we recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	---	---
Water	%	ASTM D6304	>0.1	▲ 1.07	---	---
ppm Water	ppm	ASTM D6304	>1000	▲ 10700	---	---
MPC Varnish Potential	Scale	ASTM D7843	>15	▲ 40	---	---
Debris	scalar	*Visual	NONE	▲ MODER	---	---
Emulsified Water	scalar	*Visual	>0.1	▲ 0.2%	---	---

Customer Id: NORRALNC
 Sample No.: WC0782416
 Lab Number: 05744639
 Test Package: AOM 1



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

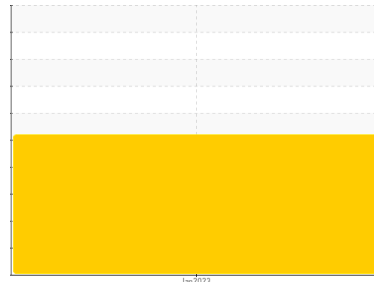
Action	Status	Date	Done By	Description
Change Fluid	MISSED	Mar 31 2023	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	MISSED	Mar 31 2023	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	MISSED	Mar 31 2023	?	We recommend an early resample to monitor this condition.
Alert	---	---	?	We were unable to perform a particle count due to a high concentration of particles present in this sample.
Filter Fluid	MISSED	Mar 31 2023	?	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
CATES FG1

Component
Compressor

Fluid
{not provided} (--- GAL)

DIAGNOSIS

▲ Recommendation

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Else, we recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Wear

All component wear rates are normal.

▲ Contamination

Appearance is unacceptable. MPC (Membrane Patch Colorimetry) test indicates a high concentration of varnish present. Moderate concentration of visible dirt/debris present in the oil. There is a high concentration of water present in the oil.

Fluid Condition

The AN level is acceptable for this fluid. Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0782416	---	---
Sample Date	Client Info		19 Jan 2023	---	---
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	>50	12	---
Chromium	ppm	ASTM D5185m	>5	0	---
Nickel	ppm	ASTM D5185m		0	---
Titanium	ppm	ASTM D5185m		<1	---
Silver	ppm	ASTM D5185m		0	---
Aluminum	ppm	ASTM D5185m	>15	0	---
Lead	ppm	ASTM D5185m	>65	0	---
Copper	ppm	ASTM D5185m	>65	<1	---
Tin	ppm	ASTM D5185m	>10	<1	---
Vanadium	ppm	ASTM D5185m		0	---
Cadmium	ppm	ASTM D5185m		<1	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		6	---
Barium	ppm	ASTM D5185m		0	---
Molybdenum	ppm	ASTM D5185m		0	---
Manganese	ppm	ASTM D5185m		<1	---
Magnesium	ppm	ASTM D5185m		1	---
Calcium	ppm	ASTM D5185m		7	---
Phosphorus	ppm	ASTM D5185m		160	---
Zinc	ppm	ASTM D5185m		8	---
Sulfur	ppm	ASTM D5185m		314	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>35	3	---
Sodium	ppm	ASTM D5185m		10	---
Potassium	ppm	ASTM D5185m	>20	1	---
Water	%	ASTM D6304	>0.1	▲ 1.07	---
ppm Water	ppm	ASTM D6304	>1000	▲ 10700	---

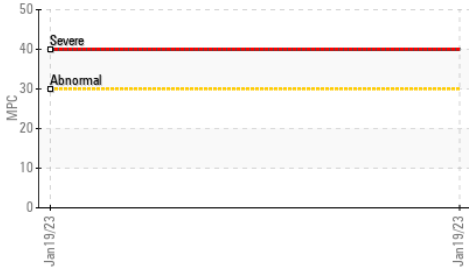
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.305	---
Anti-Oxidant 1	%	ASTM D6971	<25	84	---
Anti-Oxidant 2	%	ASTM D6971	<25	44	---
MPC Varnish Potential	Scale	ASTM D7843	>15	▲ 40	---

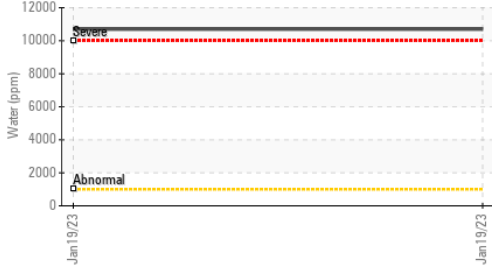


OIL ANALYSIS REPORT

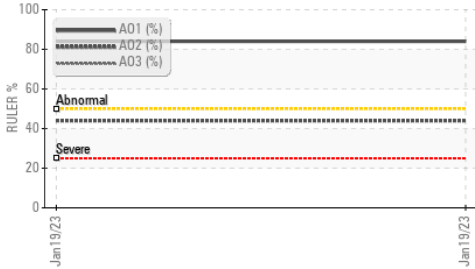
▲ Varnish Potential



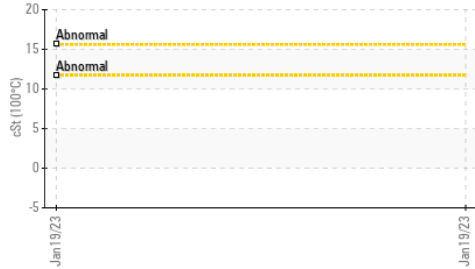
▲ Water (KF)



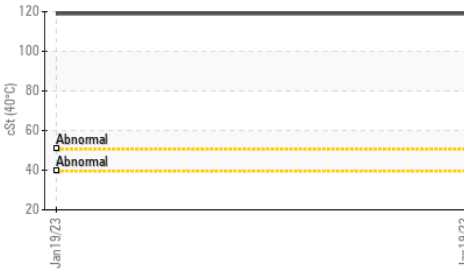
Remaining Life (RULER)



Viscosity @ 100°C



Viscosity @ 40°C



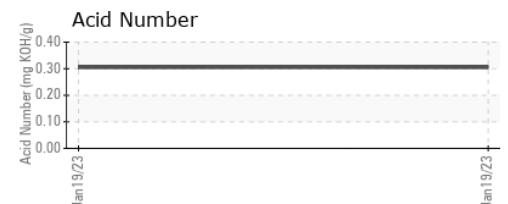
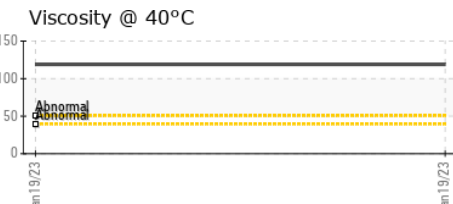
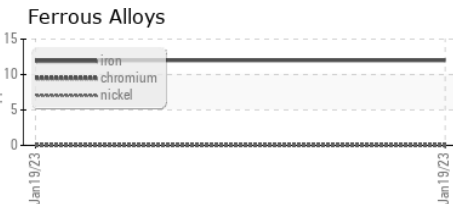
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	▲ MODER	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	● MILKY	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	▲ 0.2%	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	119	---	---

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



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0782416

Lab Number : 05744639

Unique Number : 10299238

Test Package : AOM 1 (Additional Tests: KF)

Received : 20 Jan 2023

Tested : 02 Feb 2023

Diagnosed : 02 Feb 2023 - Doug Bogart

NORTH CAROLINA STATE UNIVERSITY

621 MOTOR POOL DR, FACILITIES DIVISION WAREHOUSE

RALEIGH, NC

US 27607

Contact: PAUL WALKER

apwalke3@ncsu.edu

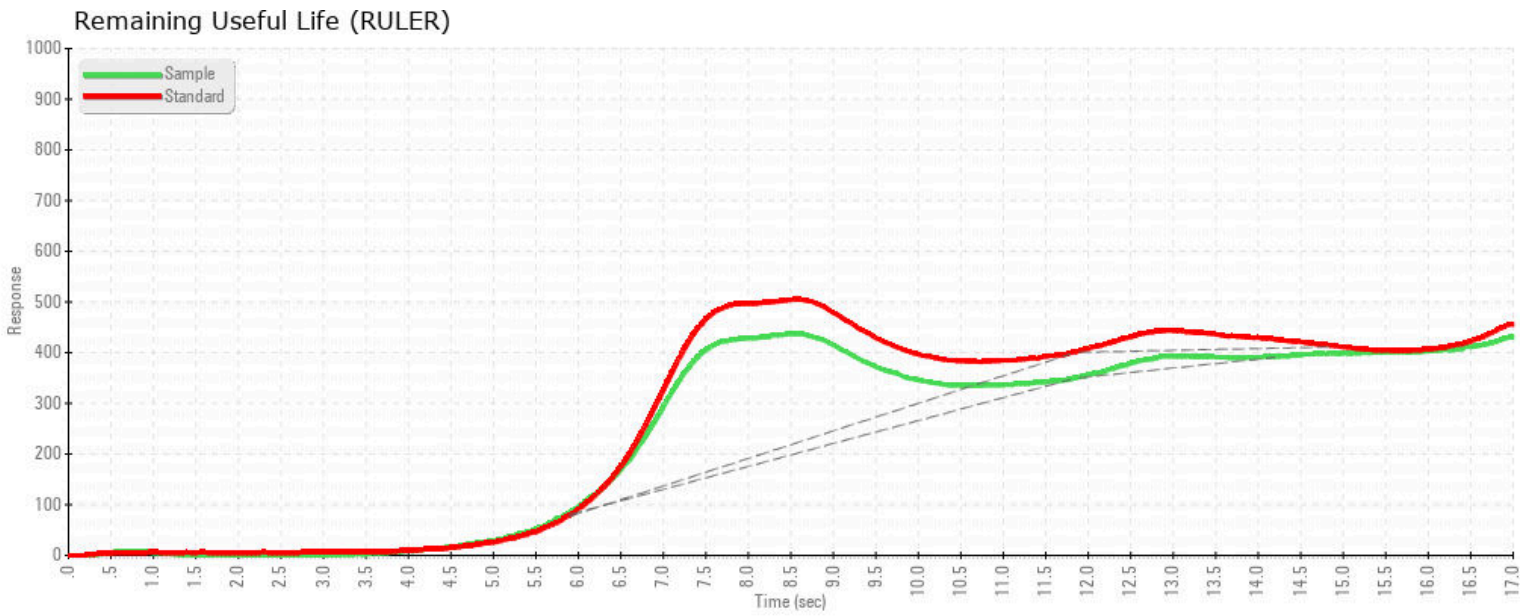
T: (919)513-3646

F:

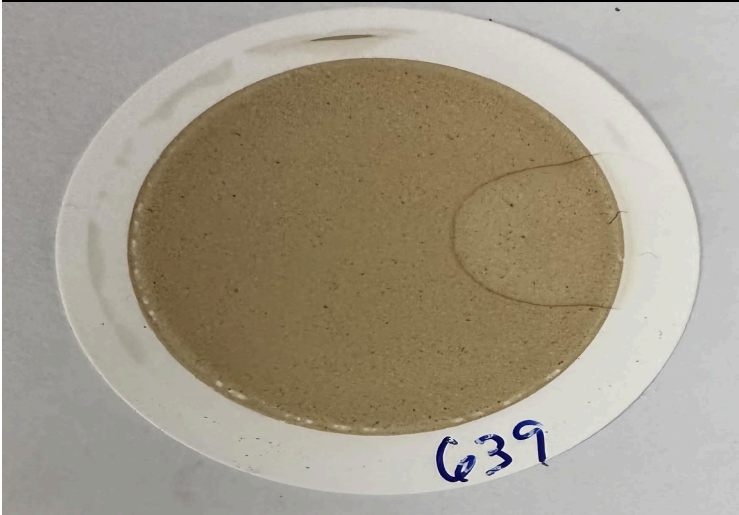
To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

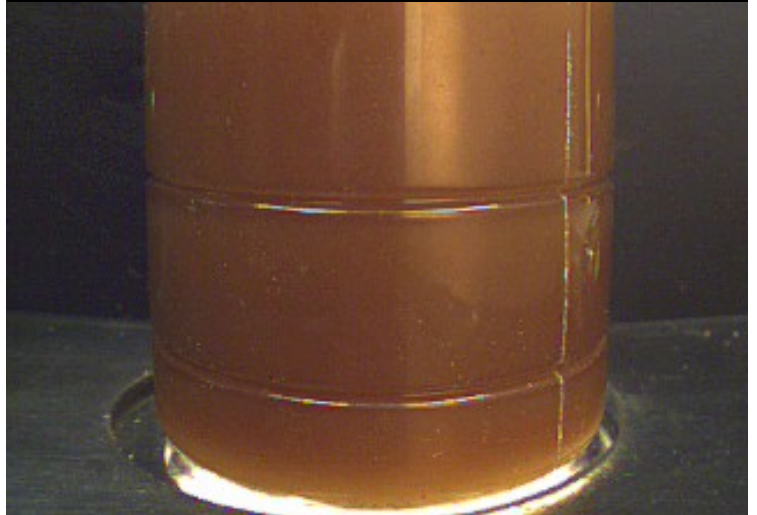
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)



MPC (Varnish Test)



Sample Color & Clarity



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