



OIL ANALYSIS REPORT

Sample Rating Trend



INSOLUBLES



Machine Id

CATES FG2

Component

Compressor

Fluid

{not provided} (--- 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 high amount of silt (particulates < 14 microns in size) present in the oil. MPC (Membrane Patch Colorimetry) test indicates a moderate concentration of varnish present.

Fluid Condition

Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present in the oil. 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		WC0782417	---	---
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			ABNORMAL	---	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	1	---	---
Chromium	ppm	ASTM D5185m >5	0	---	---
Nickel	ppm	ASTM D5185m	0	---	---
Titanium	ppm	ASTM D5185m	0	---	---
Silver	ppm	ASTM D5185m	0	---	---
Aluminum	ppm	ASTM D5185m >15	0	---	---
Lead	ppm	ASTM D5185m >65	0	---	---
Copper	ppm	ASTM D5185m >65	0	---	---
Tin	ppm	ASTM D5185m >10	0	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	---	---
Barium	ppm	ASTM D5185m	0	---	---
Molybdenum	ppm	ASTM D5185m	0	---	---
Manganese	ppm	ASTM D5185m	<1	---	---
Magnesium	ppm	ASTM D5185m	<1	---	---
Calcium	ppm	ASTM D5185m	2	---	---
Phosphorus	ppm	ASTM D5185m	149	---	---
Zinc	ppm	ASTM D5185m	4	---	---
Sulfur	ppm	ASTM D5185m	250	---	---

CONTAMINANTS

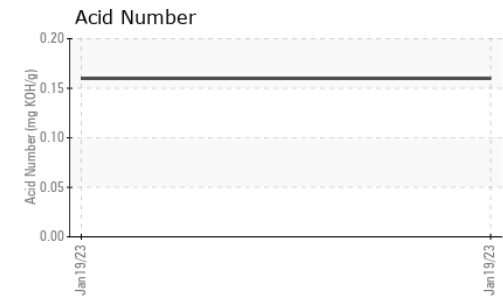
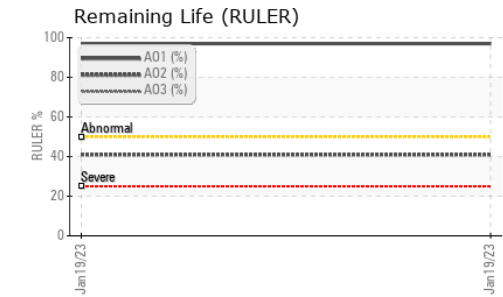
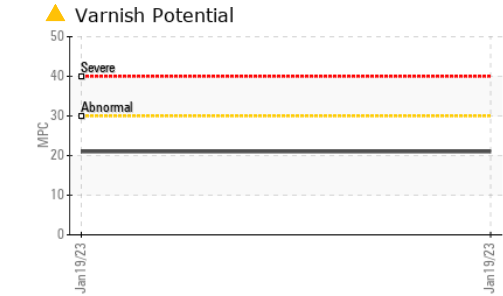
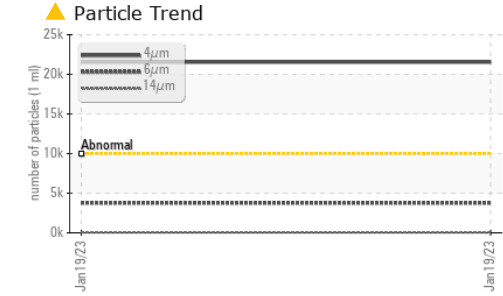
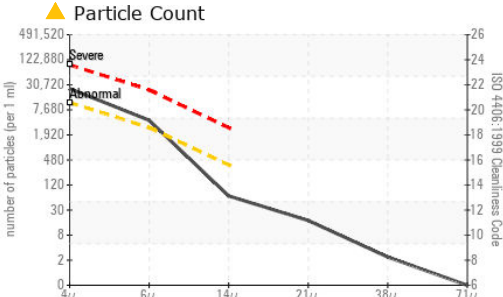
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >35	<1	---	---
Sodium	ppm	ASTM D5185m	0	---	---
Potassium	ppm	ASTM D5185m >20	1	---	---
Water	%	ASTM D6304 >0.1	0.004	---	---
ppm Water	ppm	ASTM D6304 >1000	49.2	---	---

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	▲ 21536	---	---
Particles >6µm	ASTM D7647	>2500	● 3768	---	---
Particles >14µm	ASTM D7647	>320	58	---	---
Particles >21µm	ASTM D7647	>80	15	---	---
Particles >38µm	ASTM D7647	>20	2	---	---
Particles >71µm	ASTM D7647	>4	0	---	---
Oil Cleanliness	ISO 4406 (c)	>20/18/15	▲ 22/19/13	---	---



OIL ANALYSIS REPORT



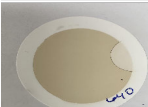


FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.16	---	---
Anti-Oxidant 1	%	ASTM D6971	97	---	---
Anti-Oxidant 2	%	ASTM D6971	41	---	---
MPC Varnish Potential	Scale	ASTM D7843	▲ 21	---	---

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	LIGHT	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	NEG	---
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
---------------	--------	------------	---------	----------	----------

Color					no image	no image
Bottom					no image	no image
MPC					no image	no image



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0782417 **Received** : 20 Jan 2023
Lab Number : **05744640** **Tested** : 02 Feb 2023
Unique Number : 10299239 **Diagnosed** : 02 Feb 2023 - Doug Bogart
Test Package : AOM 1 (Additional Tests: KF)

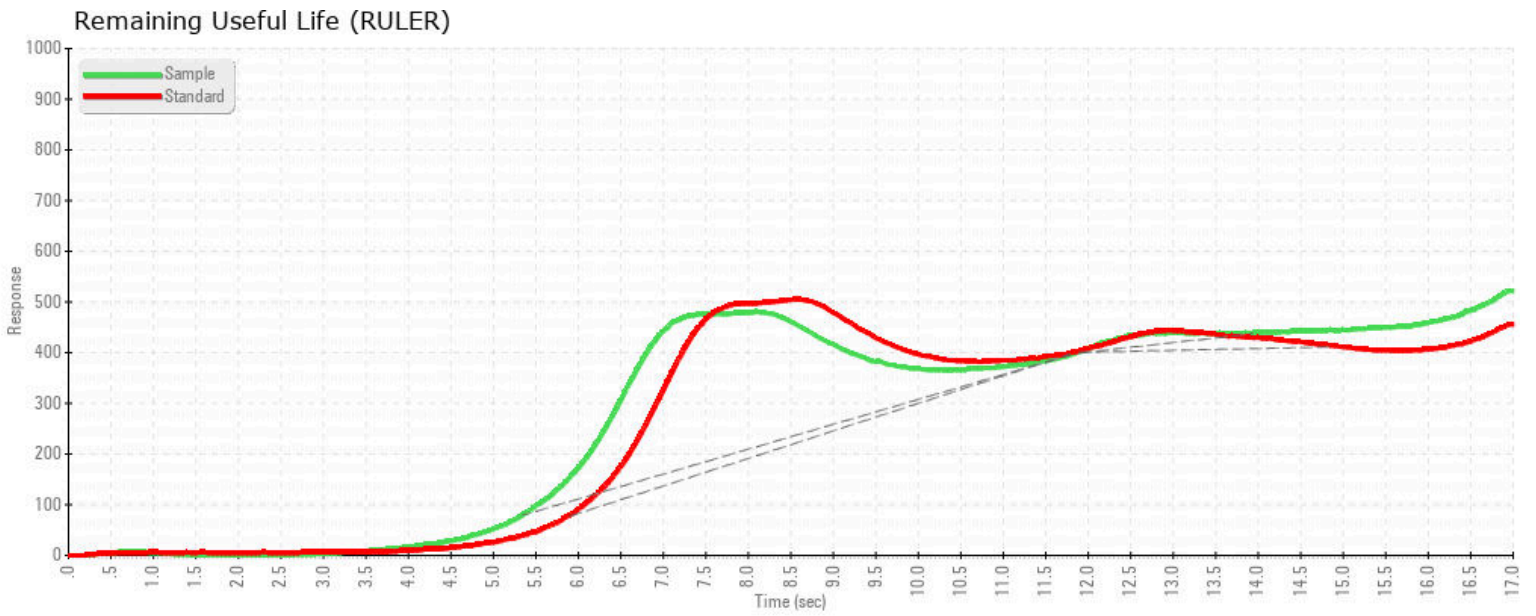
NORTH CAROLINA STATE UNIVERSITY
 621 MOTOR POOL DR, FACILITIES DIVISION WAREHOUSE
 RALEIGH, NC
 US 27607

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

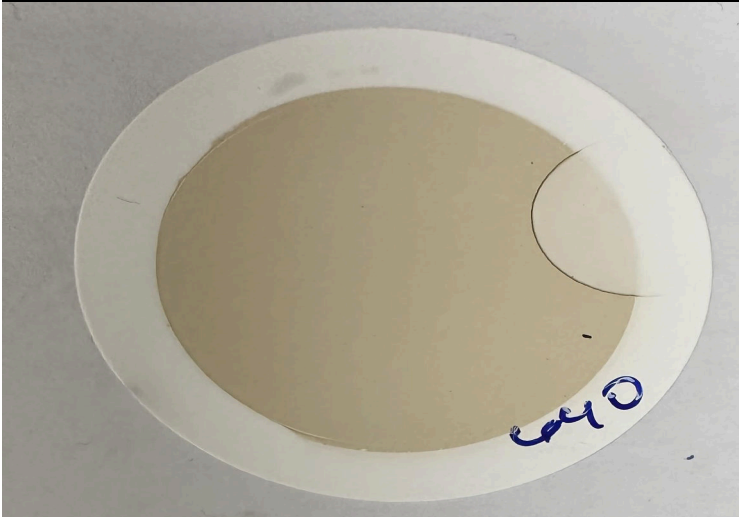
* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

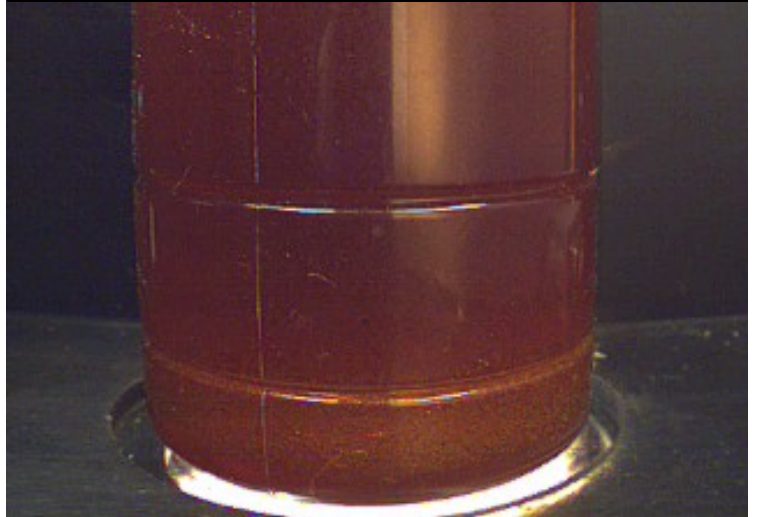
Contact: PAUL WALKER
 apwalke3@ncsu.edu
 T: (919)513-3646
 F:



MPC (Varnish Test)



Sample Color & Clarity



This page left intentionally blank