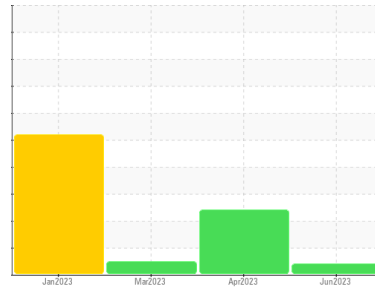




OIL ANALYSIS REPORT

Sample Rating Trend



INSOLUBLES



Machine Id
CATES FG1

Component
Compressor

Fluid
MOBIL SHC 627 (--- 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

MPC (Membrane Patch Colorimetry) test indicates a light concentration of varnish present. The amount and size of particulates present in the system are acceptable.

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 condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0782160	WC0782166	WC0782171
Sample Date	Client Info		07 Jun 2023	07 Apr 2023	21 Mar 2023
Machine Age	hrs	Client Info	99600	87600	0
Oil Age	hrs	Client Info	22000	87600	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			MARGINAL	ABNORMAL	NORMAL

WEAR METALS

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

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	0
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	<1	0	0
Magnesium	ppm	ASTM D5185m	1	0	0
Calcium	ppm	ASTM D5185m	0	<1	0
Phosphorus	ppm	ASTM D5185m	152	141	153
Zinc	ppm	ASTM D5185m	0	<1	0
Sulfur	ppm	ASTM D5185m	383	278	371

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >35	0	<1	0
Sodium	ppm	ASTM D5185m	0	0	0
Potassium	ppm	ASTM D5185m >20	1	<1	0
Water	%	ASTM D6304 >0.1	0.001	0.003	0.003
ppm Water	ppm	ASTM D6304 >1000	13.8	29.6	32.0

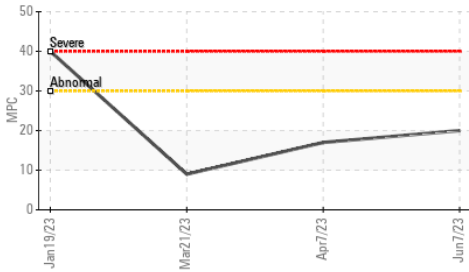
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	2271	▲ 38749	2179
Particles >6µm	ASTM D7647	>2500	629	▲ 10167	569
Particles >14µm	ASTM D7647	>320	41	▲ 621	36
Particles >21µm	ASTM D7647	>80	9	▲ 139	7
Particles >38µm	ASTM D7647	>20	1	3	0
Particles >71µm	ASTM D7647	>4	0	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/15	18/16/13	▲ 22/21/16	18/16/12

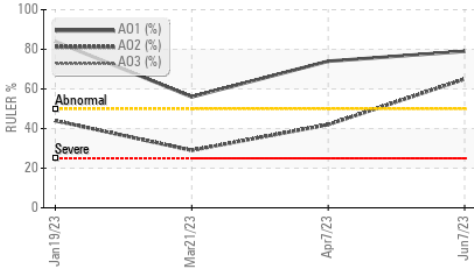


OIL ANALYSIS REPORT

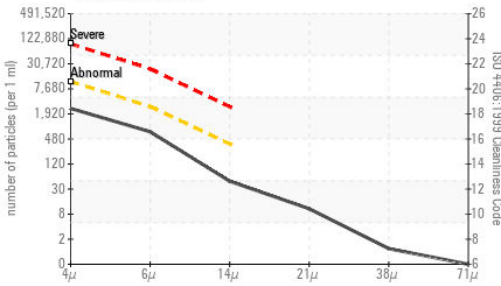
▲ Varnish Potential



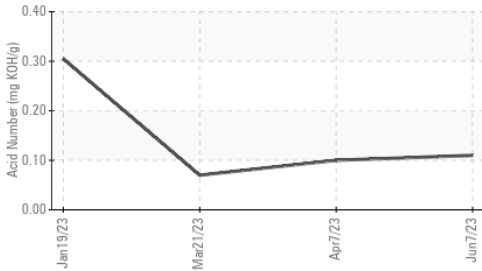
Remaining Life (RULER)



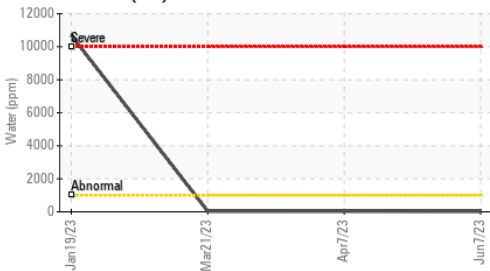
Particle Count



Acid Number



Water (KF)



Certificate L2367

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

Sample No. : WC0782160

Lab Number : 05866829

Unique Number : 10506613

Test Package : AOM 1 (Additional Tests: KF)

Received : 07 Jun 2023

Tested : 14 Jun 2023

Diagnosed : 14 Jun 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.

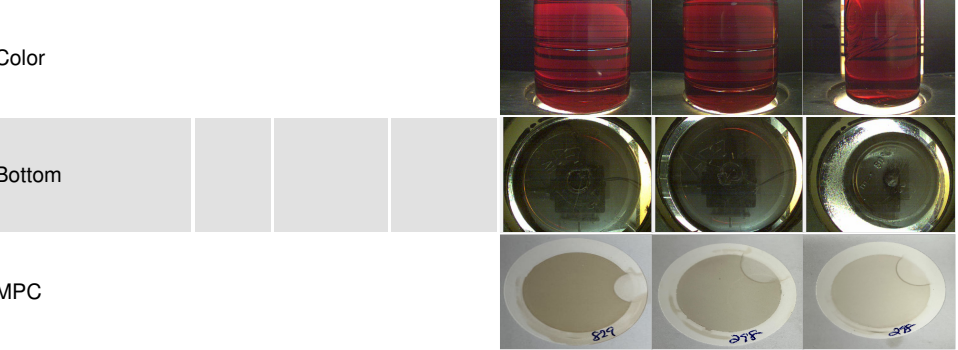
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

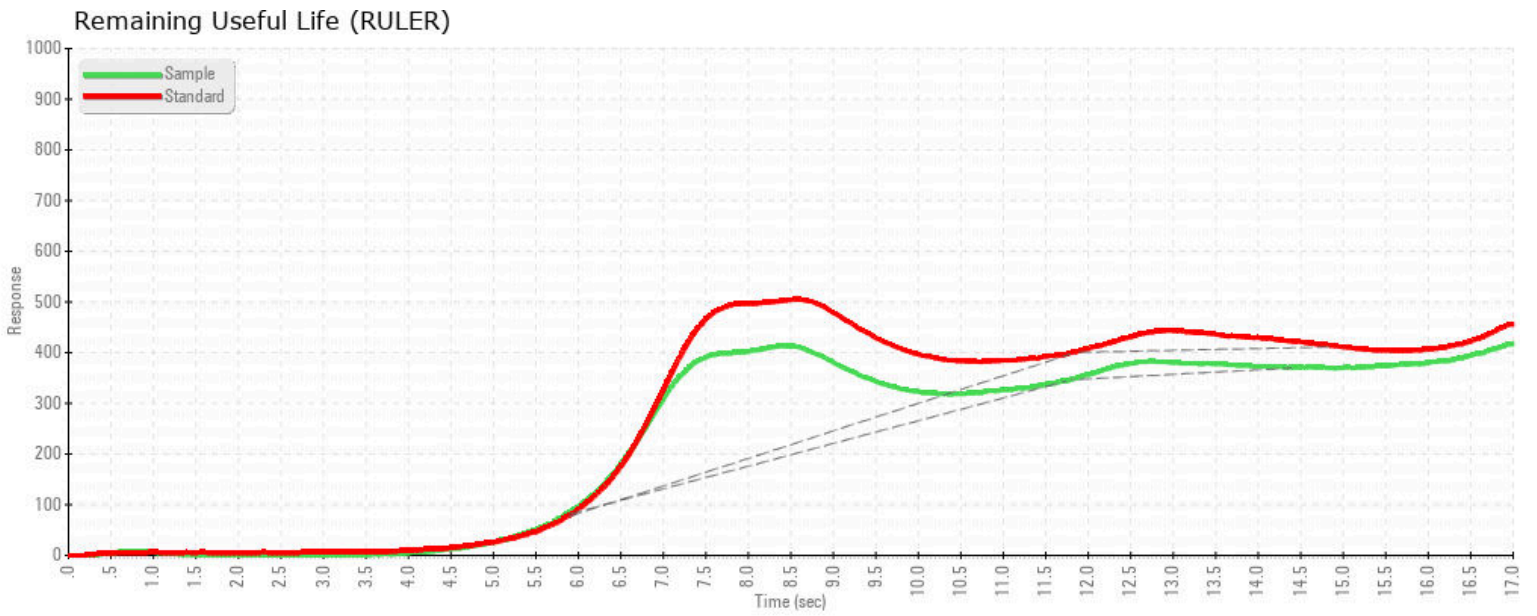
FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.11	0.10	0.07
Anti-Oxidant 1	%	ASTM D6971	79	74	56
Anti-Oxidant 2	%	ASTM D6971	65	42	29
MPC Varnish Potential	Scale	ASTM D7843	▲ 20	▲ 17	9

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	NONE	NONE
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	NEG	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

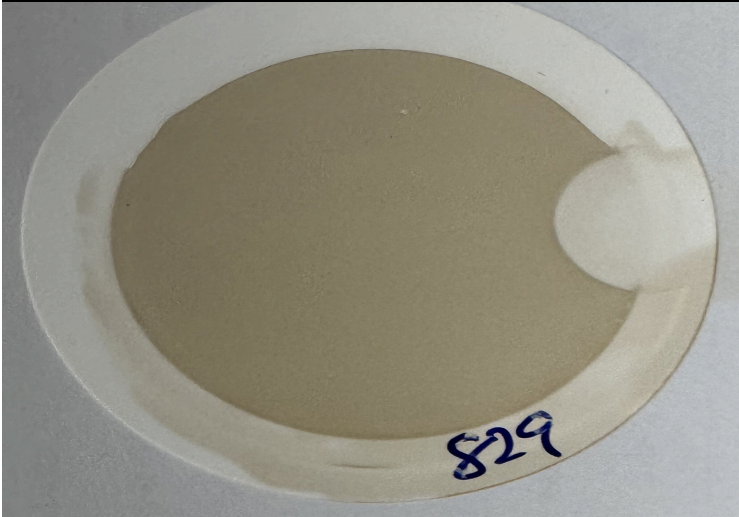
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	118	117	118

SAMPLE IMAGES	method	limit/base	current	history1	history2
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MPC (Varnish Test)



Sample Color & Clarity



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