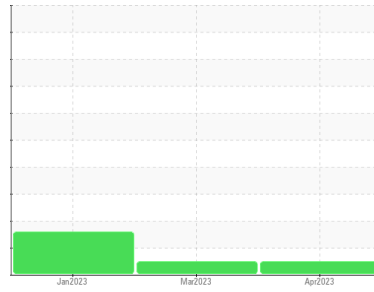




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id

**CATES FG2**

Component

**Compressor**

Fluid

**MOBIL SHC 627 (--- GAL)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

MPC (Membrane Patch Colorimetry) test indicates acceptable levels of varnish present. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

#### 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		<b>WC0782167</b>	WC0782169	WC0782417
Sample Date	Client Info		<b>07 Apr 2023</b>	21 Mar 2023	19 Jan 2023
Machine Age	hrs	Client Info	<b>87600</b>	0	0
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	ABNORMAL

### WEAR METALS

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

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m	<b>0</b>	0	<1
Calcium	ppm	ASTM D5185m	<b>&lt;1</b>	0	2
Phosphorus	ppm	ASTM D5185m	<b>128</b>	141	149
Zinc	ppm	ASTM D5185m	<b>&lt;1</b>	0	4
Sulfur	ppm	ASTM D5185m	<b>245</b>	310	250

### CONTAMINANTS

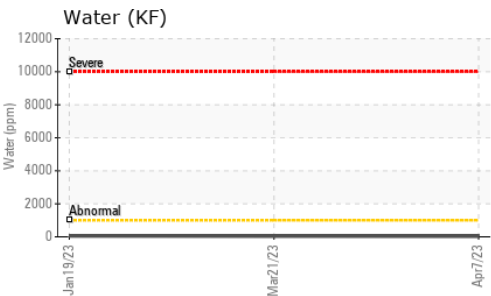
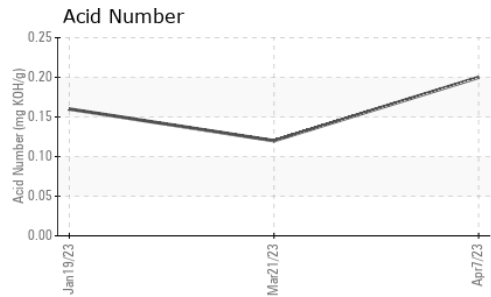
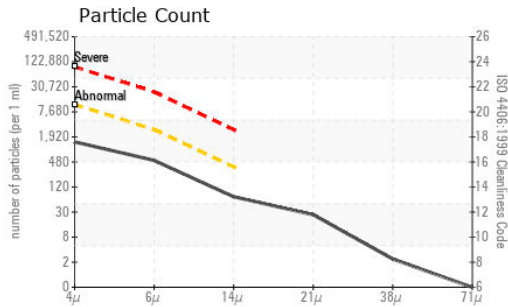
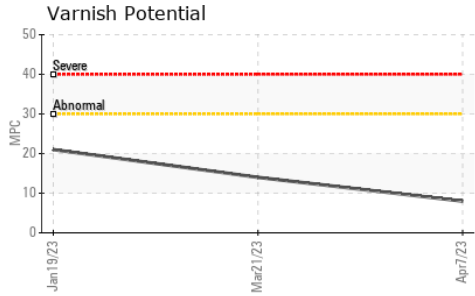
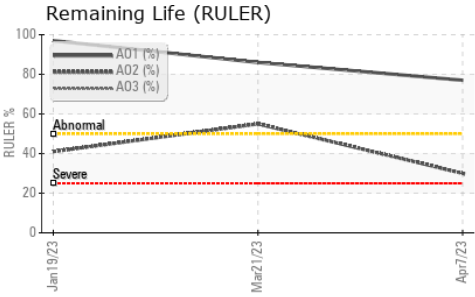
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >35	<b>&lt;1</b>	<1	<1
Sodium	ppm	ASTM D5185m	<b>0</b>	0	0
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	1
Water	%	ASTM D6304 >0.1	<b>0.003</b>	0.003	0.004
ppm Water	ppm	ASTM D6304 >1000	<b>25.3</b>	35.9	49.2

### FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	<b>1274</b>	2799	▲ 21536
Particles >6µm	ASTM D7647	>2500	<b>461</b>	745	● 3768
Particles >14µm	ASTM D7647	>320	<b>62</b>	43	58
Particles >21µm	ASTM D7647	>80	<b>23</b>	9	15
Particles >38µm	ASTM D7647	>20	<b>2</b>	0	2
Particles >71µm	ASTM D7647	>4	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/15	<b>17/16/13</b>	19/17/13	▲ 22/19/13



# OIL ANALYSIS REPORT



FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.20</b>	0.12	0.16
Anti-Oxidant 1	%	ASTM D6971	<b>77</b>	86	97
Anti-Oxidant 2	%	ASTM D6971	<b>30</b>	55	41
MPC Varnish Potential	Scale	ASTM D7843	<b>8</b>	14	▲ 21

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	LIGHT
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG
Free Water	scalar	*Visual		<b>NEG</b>	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	99.1	<b>119</b>	121

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color			
Bottom			
MPC			



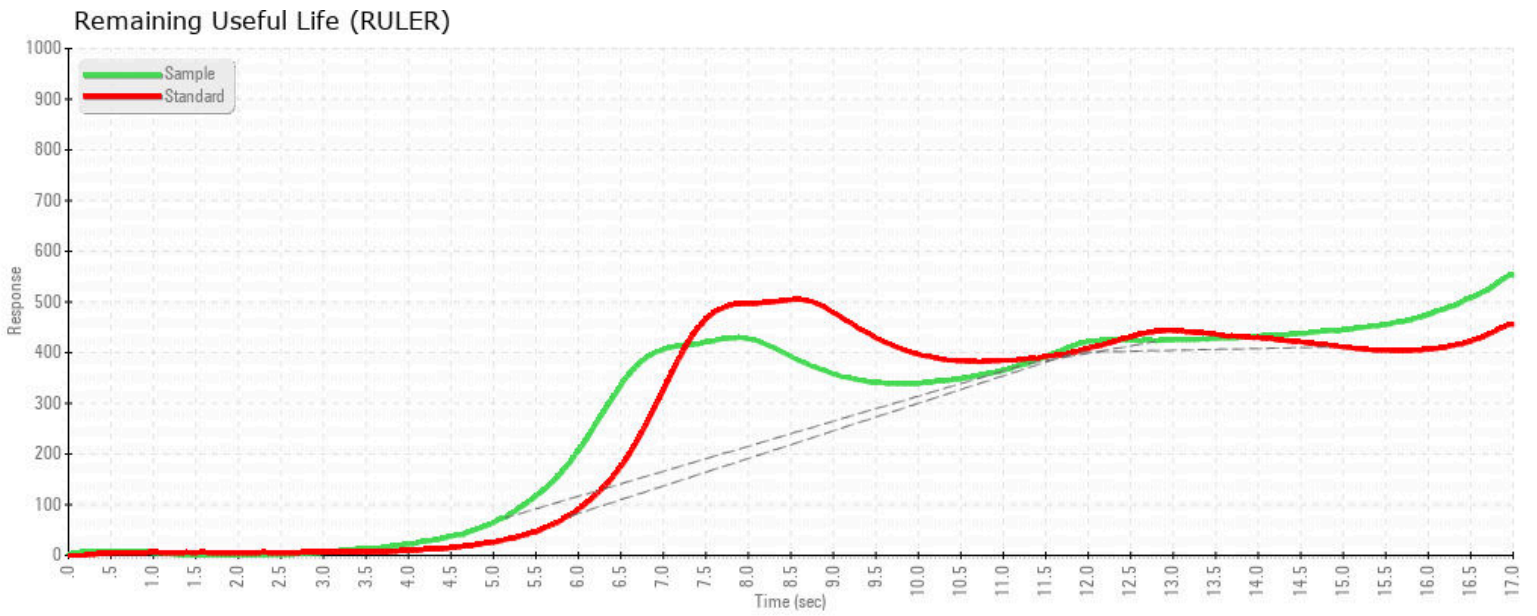
**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0782167      **Received** : 10 Apr 2023  
**Lab Number** : **05815297**      **Tested** : 19 Apr 2023  
**Unique Number** : 10418089      **Diagnosed** : 19 Apr 2023 - Doug Bogart  
**Test Package** : AOM 1 ( Additional Tests: KF )

**NORTH CAROLINA STATE UNIVERSITY**  
 621 MOTOR POOL DR, FACILITIES DIVISION WAREHOUSE  
 RALEIGH, NC  
 US 27607  
 Contact: PAUL WALKER  
 apwalke3@ncsu.edu  
 T: (919)513-3646  
 F:

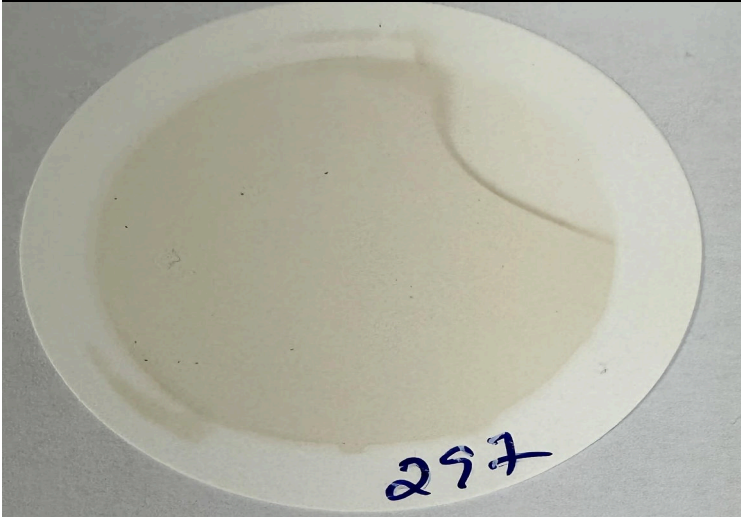
To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - 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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