

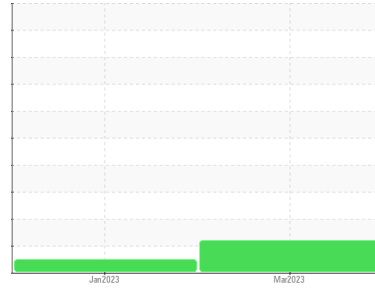


# OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION

Area  
**Coloring**  
 Machine Id  
**LN2 Preheater**  
 Component  
**Drive End Gearbox**  
 Fluid  
**293A (21 GAL)**



## DIAGNOSIS

### ▲ Recommendation

The oil is near the end of its useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### ▲ Fluid Condition

The AN level is at the top-end of the recommended limit. The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0782540</b>	WC0738819	---
Sample Date	Client Info		<b>22 Mar 2023</b>	14 Jan 2023	---
Machine Age	Client Info		<b>0</b>	0	---
Oil Age	Client Info		<b>0</b>	0	---
Oil Changed	Client Info		<b>N/A</b>	N/A	---
Sample Status			<b>ABNORMAL</b>	NORMAL	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	NEG	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m	>200	<b>50</b>	57	---
Chromium	ppm ASTM D5185m	>15	<b>&lt;1</b>	<1	---
Nickel	ppm ASTM D5185m	>15	<b>0</b>	<1	---
Titanium	ppm ASTM D5185m		<b>&lt;1</b>	<1	---
Silver	ppm ASTM D5185m		<b>0</b>	5	---
Aluminum	ppm ASTM D5185m	>25	<b>2</b>	2	---
Lead	ppm ASTM D5185m	>100	<b>0</b>	<1	---
Copper	ppm ASTM D5185m	>200	<b>&lt;1</b>	4	---
Tin	ppm ASTM D5185m	>25	<b>0</b>	<1	---
Vanadium	ppm ASTM D5185m		<b>0</b>	0	---
Cadmium	ppm ASTM D5185m		<b>0</b>	<1	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m		<b>104</b>	102	---
Barium	ppm ASTM D5185m		<b>1</b>	0	---
Molybdenum	ppm ASTM D5185m		<b>350</b>	375	---
Manganese	ppm ASTM D5185m		<b>&lt;1</b>	<1	---
Magnesium	ppm ASTM D5185m		<b>&lt;1</b>	3	---
Calcium	ppm ASTM D5185m		<b>29</b>	33	---
Phosphorus	ppm ASTM D5185m		<b>1057</b>	1027	---
Zinc	ppm ASTM D5185m		<b>19</b>	20	---
Sulfur	ppm ASTM D5185m		<b>24767</b>	24216	---

## CONTAMINANTS

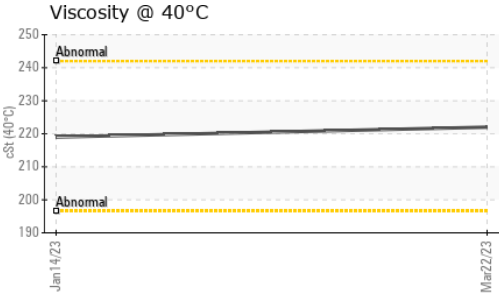
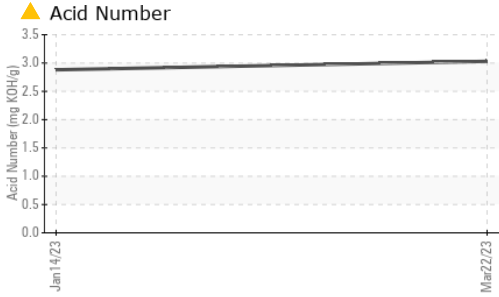
	method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m	>50	<b>10</b>	14	---
Sodium	ppm ASTM D5185m		<b>4</b>	3	---
Potassium	ppm ASTM D5185m	>20	<b>0</b>	0	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045		<b>▲ 3.03</b>	2.88	---



# OIL ANALYSIS REPORT



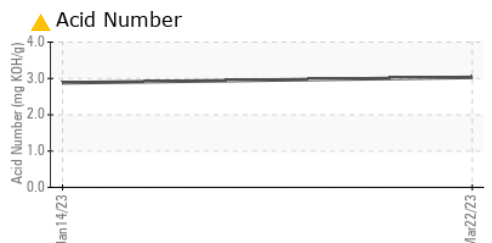
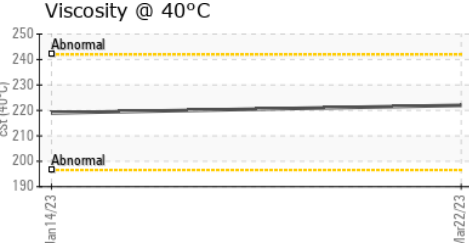
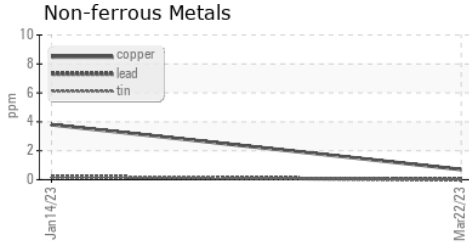
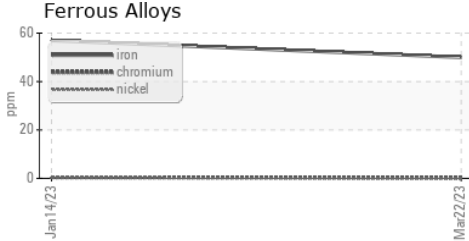
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	LIGHT	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	222	219	---

### SAMPLE IMAGES

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

### GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0782540     **Received** : 23 Mar 2023  
**Lab Number** : 05799831     **Diagnosed** : 28 Mar 2023  
**Unique Number** : 10389515     **Diagnostician** : Don Baldrige  
**Test Package** : IND 2

**3M - PITTSBORO**  
 4191 NC 87 S  
 MONCURE, NC  
 US 27559  
 Contact: General Account  
 bapoe@mmm.com

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)

T: x:

F: x: