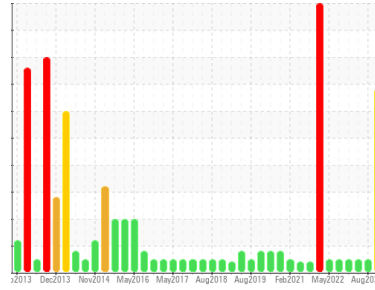




# PROBLEM SUMMARY

Sample Rating Trend



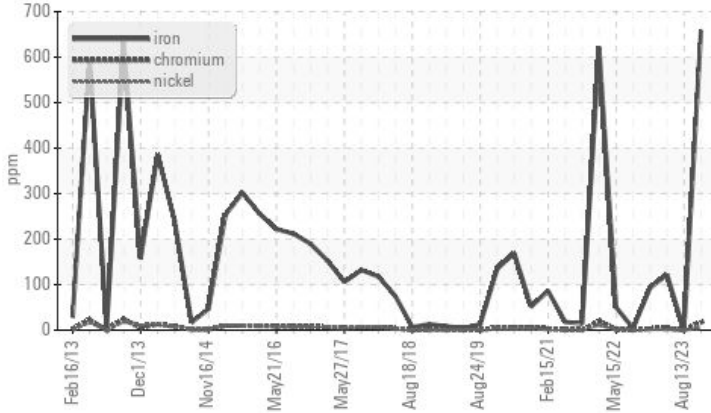
WEAR



Area  
[604138287]  
Machine Id  
**K-CHOC LECITHIN PMP (S/N 20061108)**  
Component  
**Gearbox**  
Fluid  
**GEAR OIL ISO 320 (--- GAL)**

## COMPONENT CONDITION SUMMARY

### Ferrous Alloys



## RECOMMENDATION

The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>200	658	0	122
Chromium	ppm	ASTM D5185m	>15	17	0	4

Customer Id: MARSCHI  
Sample No.: WC0562287  
Lab Number: 06008475  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

To change component or sample information:  
Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Resample	---	---	?	We recommend an early resample to monitor this condition.

## HISTORICAL DIAGNOSIS

### 13 Aug 2023 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 07 May 2023 Diag: Jonathan Hester

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 19 Feb 2023 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

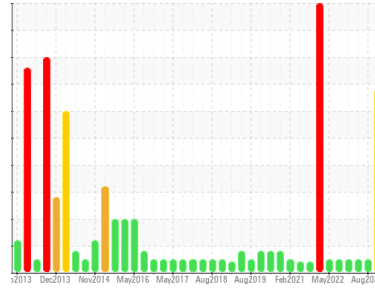
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area  
**[604138287]**  
 Machine Id  
**K-CHOC LECITHIN PMP (S/N 20061108)**  
 Component  
**Gearbox**  
 Fluid  
**GEAR OIL ISO 320 (--- GAL)**

## DIAGNOSIS

### Recommendation

The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

### Wear

A sharp increase in the iron level is noted. Gear wear is indicated.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The AN level is acceptable for this fluid.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0562287</b>	WC0562310	WC0605329
Sample Date	Client Info		<b>28 Oct 2023</b>	13 Aug 2023	07 May 2023
Machine Age	mls	Client Info	<b>0</b>	0	0
Oil Age	mls	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>SEVERE</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	<b>658</b>	0	122
Chromium	ppm	ASTM D5185m >15	<b>17</b>	0	4
Nickel	ppm	ASTM D5185m >15	<b>4</b>	0	1
Titanium	ppm	ASTM D5185m	<b>20</b>	0	5
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>14</b>	3	4
Lead	ppm	ASTM D5185m >100	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >200	<b>3</b>	0	<1
Tin	ppm	ASTM D5185m >25	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 50	<b>0</b>	0	0
Barium	ppm	ASTM D5185m 15	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 15	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>7</b>	0	1
Magnesium	ppm	ASTM D5185m 50	<b>6</b>	1	0
Calcium	ppm	ASTM D5185m 50	<b>636</b>	1	135
Phosphorus	ppm	ASTM D5185m 350	<b>134</b>	236	182
Zinc	ppm	ASTM D5185m 100	<b>128</b>	0	3
Sulfur	ppm	ASTM D5185m 12500	<b>1900</b>	2118	2358

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>15</b>	2	9
Sodium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Potassium	ppm	ASTM D5185m >20	<b>4</b>	2	2

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.85	<b>0.55</b>	0.79	0.55

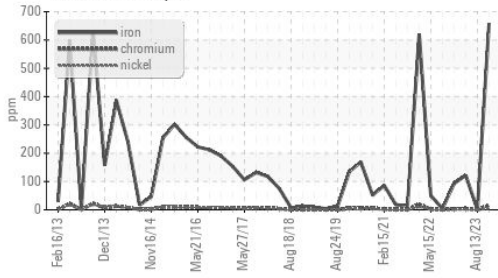
## VISUAL

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

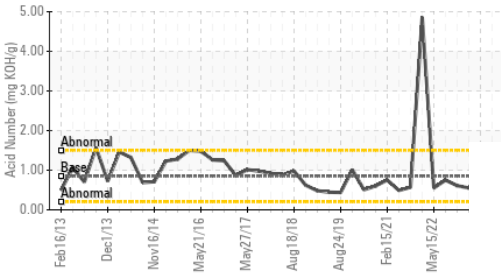


# OIL ANALYSIS REPORT

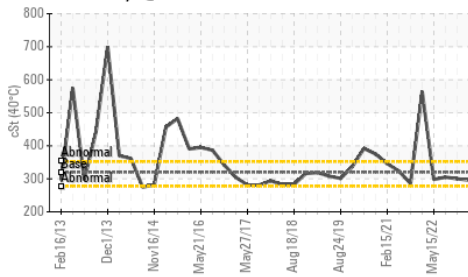
### Ferrous Alloys



### Acid Number

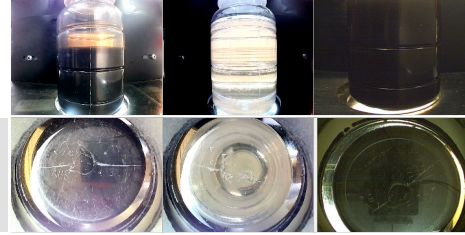


### Viscosity @ 40°C



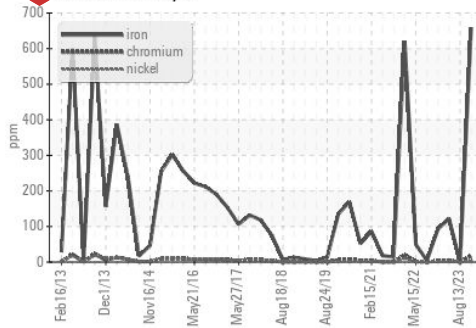
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 320	<b>318</b>	297	296

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

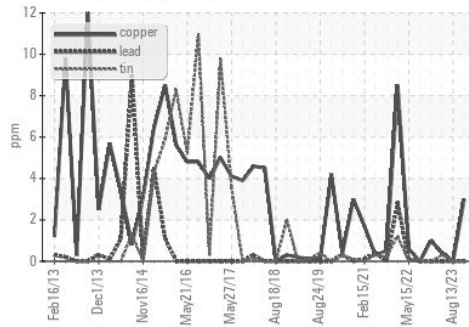


## GRAPHS

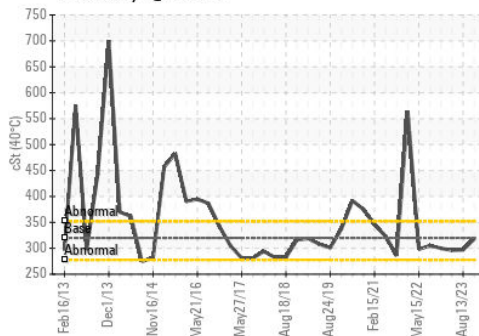
### Ferrous Alloys



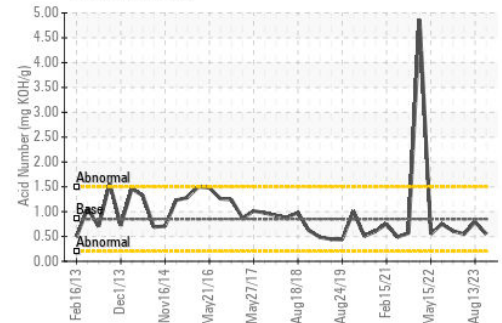
### Non-ferrous Metals



### Viscosity @ 40°C



### Acid Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0562287 **Received** : 15 Nov 2023  
**Lab Number** : 06008475 **Diagnosed** : 17 Nov 2023  
**Unique Number** : 10742237 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2

**MARS CHOCOLATE**  
 2019 NORTH OAK PARK  
 CHICAGO, IL  
 US 60707  
 Contact: TONY FIORE  
 tony.fiore@effem.com  
 T: (773)745-2279  
 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)