



# OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area  
**COWAN**  
 Machine Id  
**COWAN 224536**  
 Component  
**Front Differential**  
 Fluid  
**NOT GIVEN (--- GAL)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. The fluid was not specified, however, a fluid match indicates that this fluid is SAE 5W40 Gear Oil. Please confirm the oil type and grade, and specify the brand of the oil on your next sample. Please specify the component make and model with your next sample.

### Wear

All component wear rates are normal.

### Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

### Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

## SAMPLE INFORMATION

method	limit/base	current	history 1	history 2
Sample Number	Client Info	<b>WC0828688</b>	---	---
Sample Date	Client Info	<b>24 May 2023</b>	---	---
Machine Age	mls Client Info	<b>100</b>	---	---
Oil Age	mls Client Info	<b>0</b>	---	---
Oil Changed	Client Info	<b>N/A</b>	---	---
Sample Status		<b>ABNORMAL</b>	---	---

## WEAR METALS

method	limit/base	current	history 1	history 2
Iron ppm	ASTM D5185m >500	<b>23</b>	---	---
Chromium ppm	ASTM D5185m >10	<b>&lt;1</b>	---	---
Nickel ppm	ASTM D5185m >10	<b>&lt;1</b>	---	---
Titanium ppm	ASTM D5185m	<b>0</b>	---	---
Silver ppm	ASTM D5185m	<b>0</b>	---	---
Aluminum ppm	ASTM D5185m >25	<b>0</b>	---	---
Lead ppm	ASTM D5185m >25	<b>&lt;1</b>	---	---
Copper ppm	ASTM D5185m >100	<b>2</b>	---	---
Tin ppm	ASTM D5185m >10	<b>1</b>	---	---
Vanadium ppm	ASTM D5185m	<b>0</b>	---	---
Cadmium ppm	ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

method	limit/base	current	history 1	history 2
Boron ppm	ASTM D5185m	<b>277</b>	---	---
Barium ppm	ASTM D5185m	<b>3</b>	---	---
Molybdenum ppm	ASTM D5185m	<b>0</b>	---	---
Manganese ppm	ASTM D5185m	<b>4</b>	---	---
Magnesium ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Calcium ppm	ASTM D5185m	<b>5</b>	---	---
Phosphorus ppm	ASTM D5185m	<b>1534</b>	---	---
Zinc ppm	ASTM D5185m	<b>0</b>	---	---
Sulfur ppm	ASTM D5185m	<b>32775</b>	---	---

## CONTAMINANTS

method	limit/base	current	history 1	history 2
Silicon ppm	ASTM D5185m >75	<b>15</b>	---	---
Sodium ppm	ASTM D5185m	<b>8</b>	---	---
Potassium ppm	ASTM D5185m >20	<b>3</b>	---	---
Water %	ASTM D6304 >.2	<b>0.057</b>	---	---
ppm Water	ASTM D6304 >2000	<b>575.6</b>	---	---

## FLUID CLEANLINESS

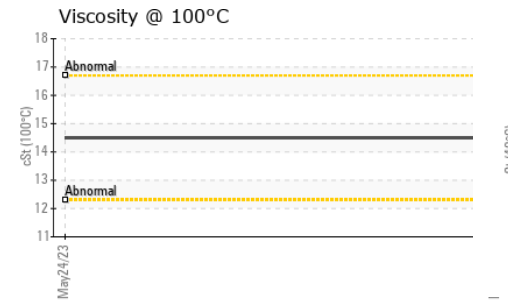
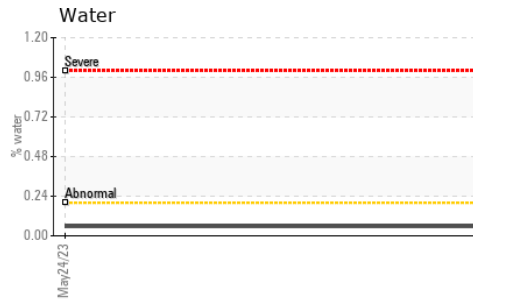
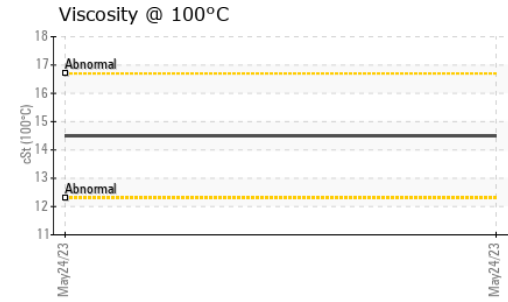
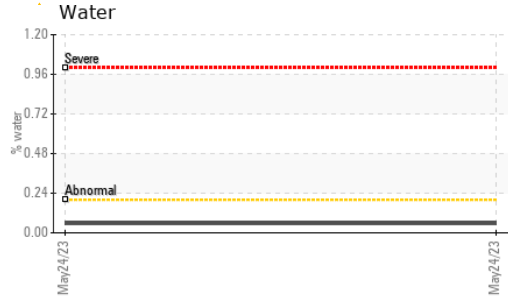
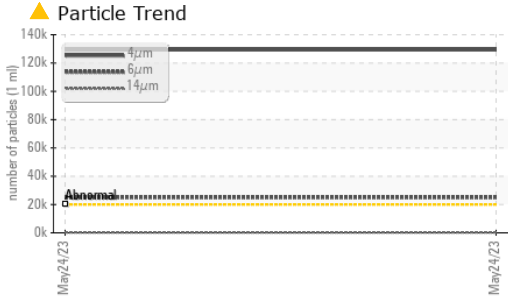
method	limit/base	current	history 1	history 2
Particles >4µm	ASTM D7647 >20000	<b>▲ 129324</b>	---	---
Particles >6µm	ASTM D7647 >5000	<b>▲ 25035</b>	---	---
Particles >14µm	ASTM D7647 >640	<b>285</b>	---	---
Particles >21µm	ASTM D7647 >160	<b>37</b>	---	---
Particles >38µm	ASTM D7647 >40	<b>1</b>	---	---
Particles >71µm	ASTM D7647 >10	<b>0</b>	---	---
Oil Cleanliness	ISO 4406 (c) >21/19/16	<b>▲ 24/22/15</b>	---	---

## FLUID DEGRADATION

method	limit/base	current	history 1	history 2
Acid Number (AN) mg KOH/g	ASTM D8045	<b>2.29</b>	---	---



# OIL ANALYSIS REPORT

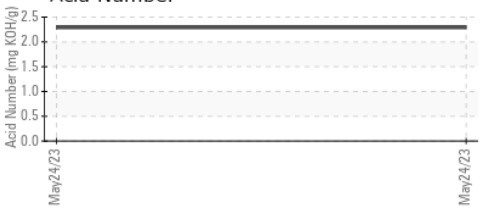
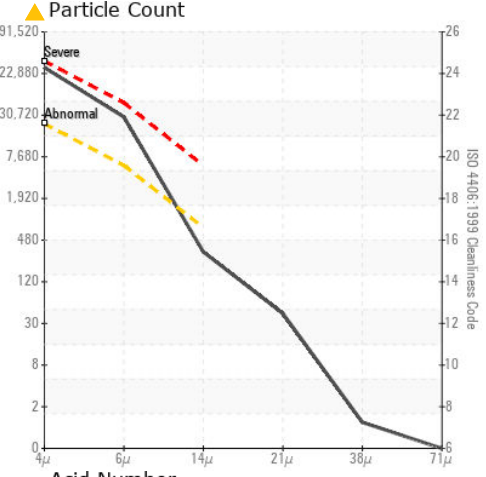
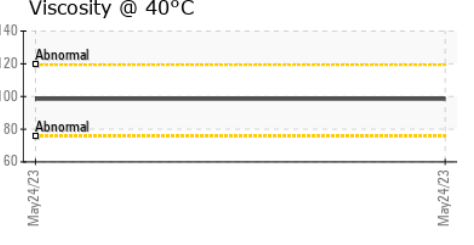
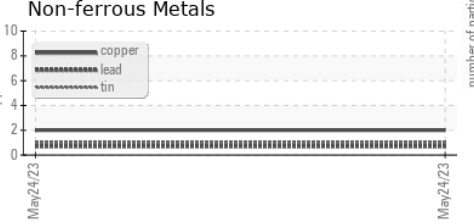
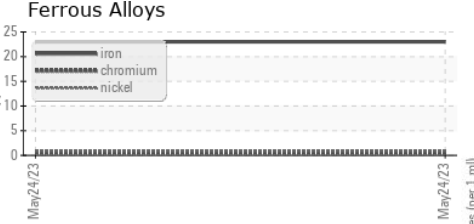


VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	LIGHT	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D445	98.5	---	---
Visc @ 100°C	cSt	ASTM D445	14.5	---	---
Viscosity Index (VI)	Scale	ASTM D2270	152	---	---

SAMPLE IMAGES	method	limit/base	current	history 1	history 2
Color				no image	no image
Bottom				no image	no image

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0828688 **Received** : 22 Jun 2023  
**Lab Number** : 05881473 **Diagnosed** : 30 Jun 2023  
**Unique Number** : 10526576 **Diagnostician** : Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: KF, KV100, PrtCount, VI )

**BASF - GIANNA CREDAROLI**  
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 US 10591  
 Contact: GIANNA CREDAROLI  
 gianna.credaroli@basf.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)