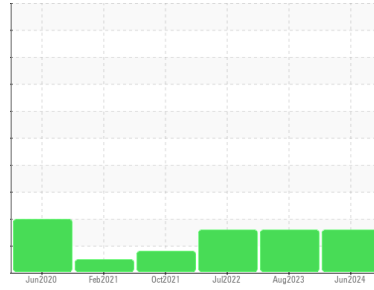




# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Area  
**METRO**  
 Machine Id  
**METRO 21038**  
 Component  
**Front Differential**  
 Fluid  
 {not provided} (--- GAL)

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

Gear wear is indicated.

### Contamination

There is a moderate amount of silt (particulates < 6 microns in size) present in the oil.

### Fluid Condition

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>WC0934589</b>	WC0843203	WC0728442
Sample Date	Client Info		<b>11 Jun 2024</b>	14 Aug 2023	20 Jul 2022
Machine Age	mls	Client Info	<b>421962</b>	356836	251424
Oil Age	mls	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >500	<b>▲ 946</b>	▲ 829	▲ 579
Chromium	ppm	ASTM D5185m >10	<b>7</b>	6	4
Nickel	ppm	ASTM D5185m >10	<b>7</b>	5	4
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>3</b>	6	2
Lead	ppm	ASTM D5185m >25	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >100	<b>3</b>	2	1
Tin	ppm	ASTM D5185m >10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185m >5	<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>79</b>	96	78
Barium	ppm	ASTM D5185m	<b>3</b>	28	0
Molybdenum	ppm	ASTM D5185m	<b>3</b>	2	1
Manganese	ppm	ASTM D5185m	<b>17</b>	16	11
Magnesium	ppm	ASTM D5185m	<b>148</b>	159	148
Calcium	ppm	ASTM D5185m	<b>4</b>	4	7
Phosphorus	ppm	ASTM D5185m	<b>1854</b>	1680	1588
Zinc	ppm	ASTM D5185m	<b>21</b>	43	10
Sulfur	ppm	ASTM D5185m	<b>23295</b>	25056	25056

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >75	<b>57</b>	57	46
Sodium	ppm	ASTM D5185m	<b>14</b>	16	13
Potassium	ppm	ASTM D5185m >20	<b>6</b>	3	2
Water	%	ASTM D6304 >.2	<b>0.031</b>	0.075	0.052
ppm Water	ppm	ASTM D6304 >2000	<b>318</b>	751.3	529.8

## FLUID CLEANLINESS

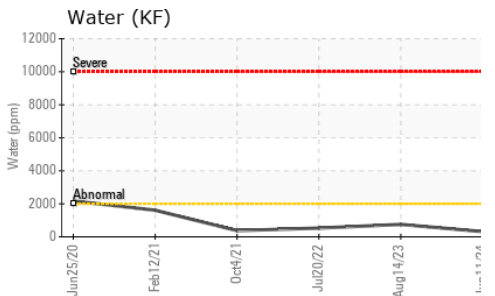
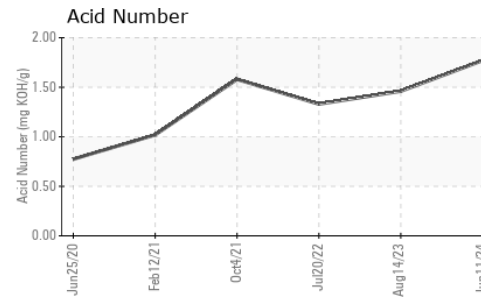
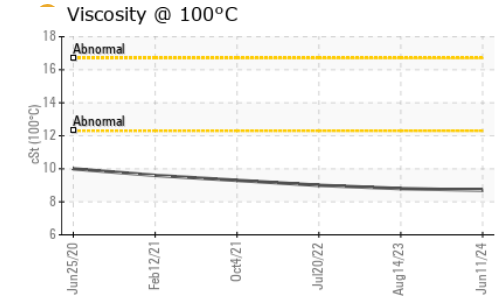
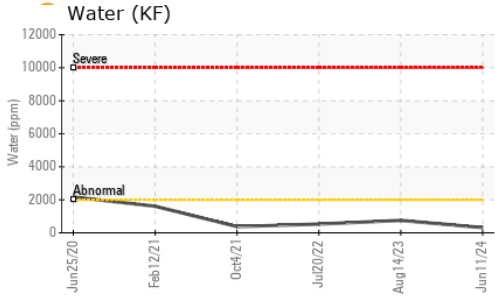
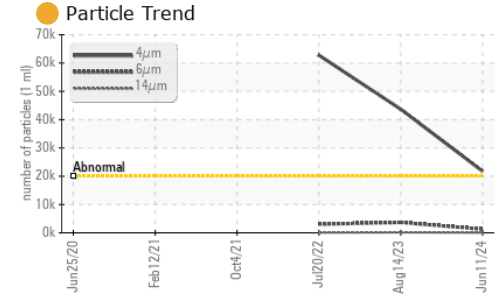
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>● 21751</b>	▲ 43676	▲ 62756
Particles >6µm	ASTM D7647	>5000	<b>1278</b>	3686	3029
Particles >14µm	ASTM D7647	>640	<b>76</b>	167	94
Particles >21µm	ASTM D7647	>160	<b>24</b>	46	9
Particles >38µm	ASTM D7647	>40	<b>1</b>	2	1
Particles >71µm	ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<b>● 22/17/13</b>	▲ 23/19/15	▲ 23/19/14

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>1.77</b>	1.46	1.33



# OIL ANALYSIS REPORT

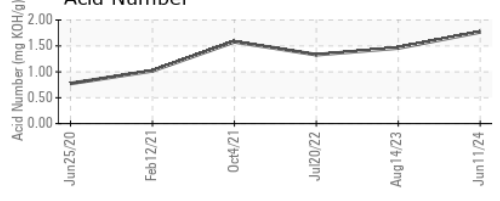
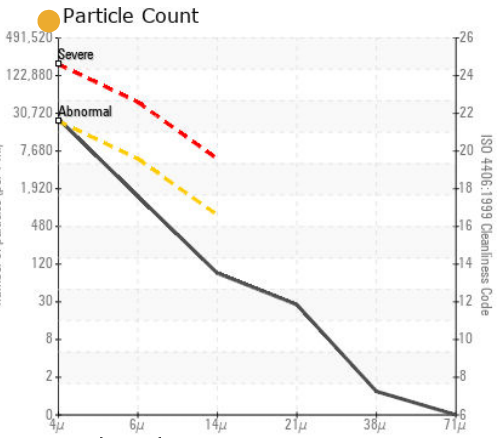
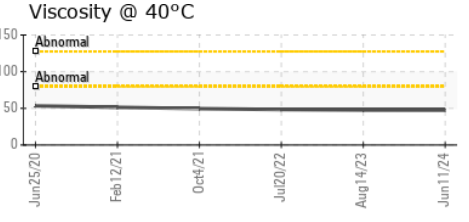
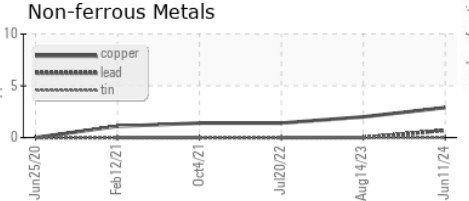
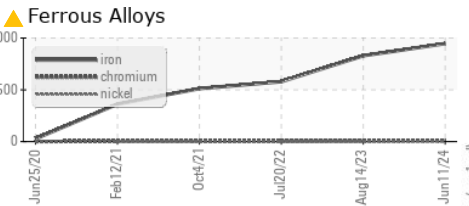


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	47.5	47.6	48.4
Visc @ 100°C	cSt	ASTM D445	8.7	8.8	9
Viscosity Index (VI)	Scale	ASTM D2270	163	166	169

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0934589      **Received** : 19 Jun 2024  
**Lab Number** : 06214690      **Tested** : 25 Jun 2024  
**Unique Number** : 11087554      **Diagnosed** : 25 Jun 2024 - Jonathan Hester  
**Test Package** : MOB 2 ( Additional Tests: KF, KV100, PrtCount, VI )

**BASF - GIANNA CREDAROLI**  
 500 WHITE PLAINS RD  
 TARRYTOWN, NY  
 US 10591  
 Contact: ARJUN GOYAL  
 ARJUN.GOYAL@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)