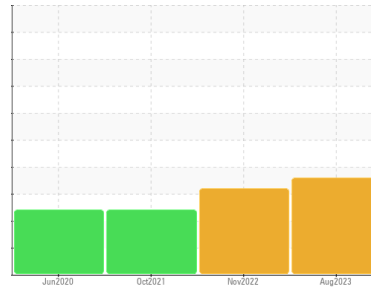




# OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Area  
**METRO**  
 Machine Id  
**METRO 21032**  
 Component  
**Front Differential**  
 Fluid  
**NOT GIVEN (--- 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 high amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material.

### 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>WC0843177</b>	WC0765905	WC0631730
Sample Date	Client Info		<b>10 Aug 2023</b>	02 Nov 2022	11 Oct 2021
Machine Age	mls	Client Info	<b>326717</b>	271568	151794
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>▲ 749</b>	▲ 722	▲ 601
Chromium	ppm	ASTM D5185m >10	<b>6</b>	6	5
Nickel	ppm	ASTM D5185m >10	<b>5</b>	3	4
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>5</b>	5	2
Lead	ppm	ASTM D5185m >25	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >100	<b>3</b>	3	3
Tin	ppm	ASTM D5185m >10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185m >5	<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>229</b>	219	268
Barium	ppm	ASTM D5185m	<b>4</b>	0	3
Molybdenum	ppm	ASTM D5185m	<b>2</b>	2	<1
Manganese	ppm	ASTM D5185m	<b>30</b>	28	25
Magnesium	ppm	ASTM D5185m	<b>12</b>	13	11
Calcium	ppm	ASTM D5185m	<b>33</b>	29	24
Phosphorus	ppm	ASTM D5185m	<b>1832</b>	1912	1882
Zinc	ppm	ASTM D5185m	<b>23</b>	21	20
Sulfur	ppm	ASTM D5185m	<b>26558</b>	26462	21544

## CONTAMINANTS

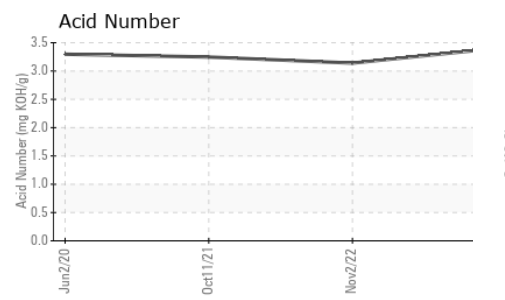
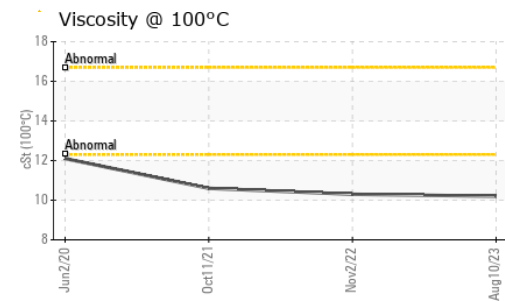
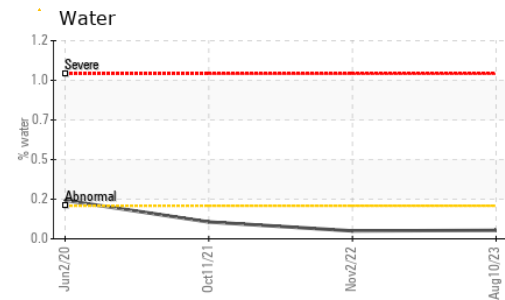
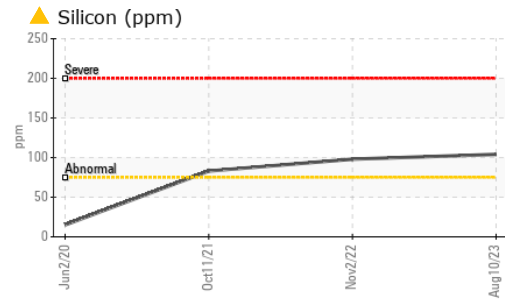
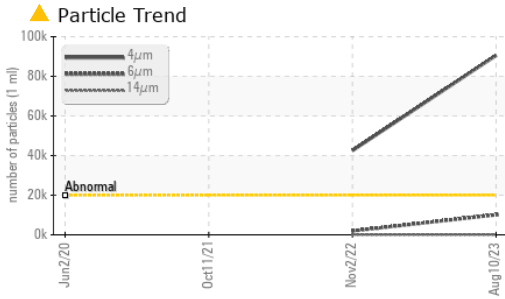
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >75	<b>▲ 104</b>	▲ 98	▲ 83
Sodium	ppm	ASTM D5185m	<b>11</b>	11	12
Potassium	ppm	ASTM D5185m >20	<b>5</b>	6	4
Water	%	ASTM D6304 >.2	<b>0.051</b>	0.048	0.102
ppm Water	ppm	ASTM D6304 >2000	<b>518.0</b>	484.7	1025.9

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>▲ 90575</b>	▲ 42508	---
Particles >6µm	ASTM D7647	>5000	<b>▲ 10102</b>	1937	---
Particles >14µm	ASTM D7647	>640	<b>58</b>	37	---
Particles >21µm	ASTM D7647	>160	<b>9</b>	10	---
Particles >38µm	ASTM D7647	>40	<b>0</b>	1	---
Particles >71µm	ASTM D7647	>10	<b>0</b>	0	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<b>▲ 24/21/13</b>	▲ 23/18/12	---

## FLUID DEGRADATION

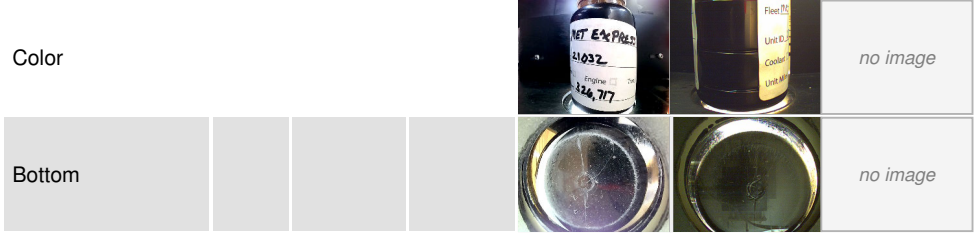
	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>3.40</b>	3.14	3.247



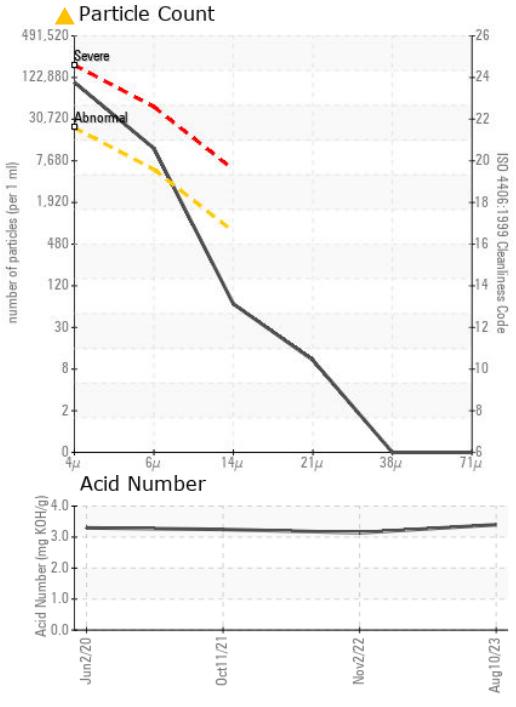
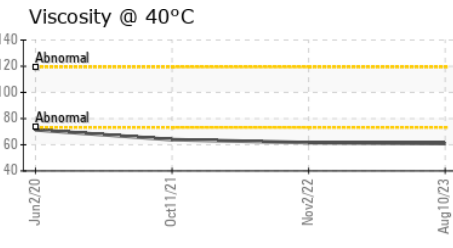
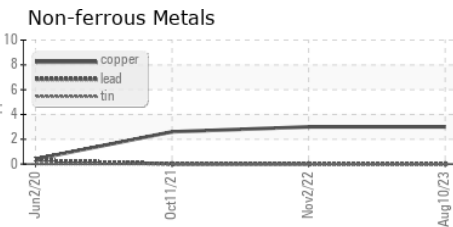
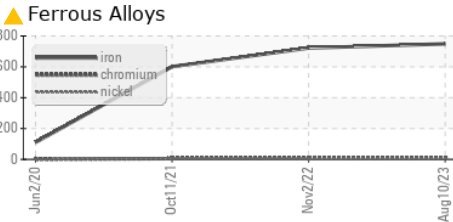
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	60.9	61.6	63.9
Visc @ 100°C	cSt	ASTM D445	10.2	10.3	10.6
Viscosity Index (VI)	Scale	ASTM D2270	155	155	155

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0843177 **Received** : 24 Aug 2023  
**Lab Number** : 05934325 **Diagnosed** : 28 Aug 2023  
**Unique Number** : 10619596 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 2 ( Additional Tests: KF, KV100, PrtCount, VI )

**BASF - GIANNA CREDAROLI**  
 500 WHITE PLAINS RD  
 TARRYTOWN, NY  
 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)