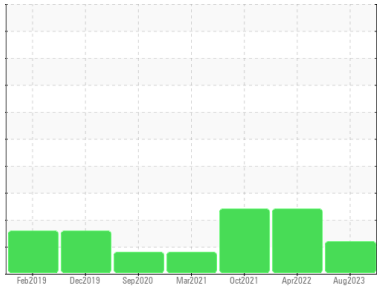
OIL ANALYSIS REPORT

Area
METRO
Machine Id
METRO 20012
Component
Front Differential
Fluid
NOT GIVEN (--- GAL)

Sample Rating Trend



ISO

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	history1	history2
Sample Number		Client Info		**WC0843181**	WC0692945	WC0631721
Sample Date		Client Info		**09 Aug 2023**	14 Apr 2022	18 Oct 2021
Machine Age	mls	Client Info		**410262**	329913	277084
Oil Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	**98**	▲ 819	▲ 689
Chromium	ppm	ASTM D5185m	>10	**<1**	5	5
Nickel	ppm	ASTM D5185m	>10	**<1**	0	3
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m		**0**	<1	0
Aluminum	ppm	ASTM D5185m	>25	**<1**	5	2
Lead	ppm	ASTM D5185m	>25	**0**	<1	<1
Copper	ppm	ASTM D5185m	>100	**<1**	3	3
Tin	ppm	ASTM D5185m	>10	**0**	0	0
Antimony	ppm	ASTM D5185m	>5	**---**	---	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**316**	369	354
Barium	ppm	ASTM D5185m		**0**	0	3
Molybdenum	ppm	ASTM D5185m		**1**	1	0
Manganese	ppm	ASTM D5185m		**2**	20	17
Magnesium	ppm	ASTM D5185m		**<1**	2	<1
Calcium	ppm	ASTM D5185m		**3**	19	20
Phosphorus	ppm	ASTM D5185m		**1436**	2092	2219
Zinc	ppm	ASTM D5185m		**3**	9	14
Sulfur	ppm	ASTM D5185m		**26294**	19587	36100

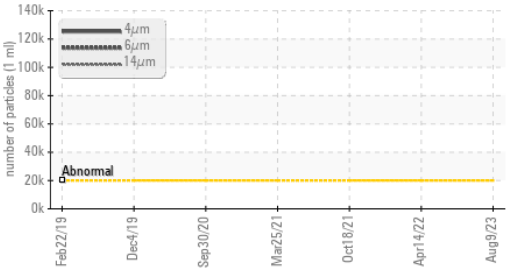
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>75	**16**	▲ 100	▲ 103
Sodium	ppm	ASTM D5185m		**0**	8	11
Potassium	ppm	ASTM D5185m	>20	**1**	5	6
Water	%	ASTM D6304	>.2	**0.034**	0.079	0.076
ppm Water	ppm	ASTM D6304	>2000	**348.2**	798.1	765.5

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **130378**	---	---
Particles >6µm		ASTM D7647	>5000	▲ **26851**	---	---
Particles >14µm		ASTM D7647	>640	**71**	---	---
Particles >21µm		ASTM D7647	>160	**14**	---	---
Particles >38µm		ASTM D7647	>40	**0**	---	---
Particles >71µm		ASTM D7647	>10	**0**	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **24/22/13**	---	---

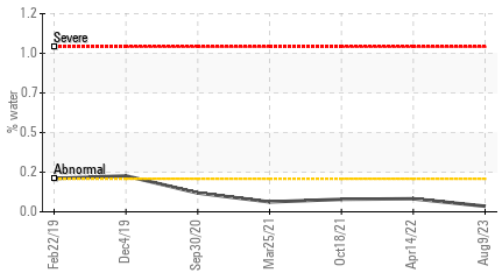
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**2.46**	3.88	3.524

OIL ANALYSIS REPORT

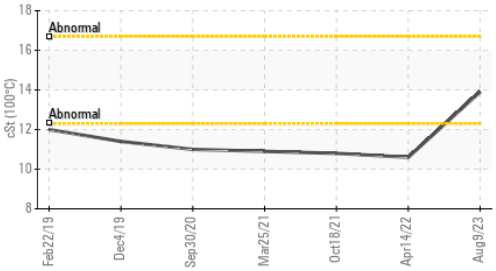
Particle Trend



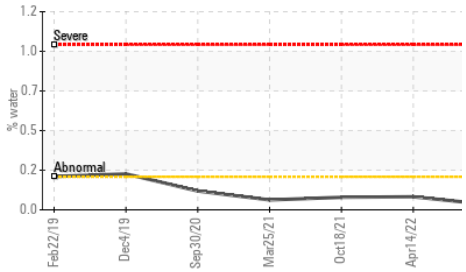
Water



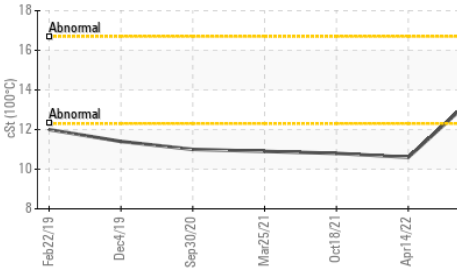
Viscosity @ 100°C



Water

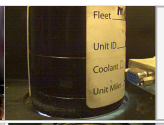
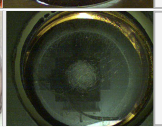


Viscosity @ 100°C



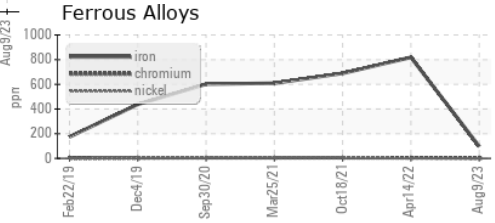
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	VLITE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**93.0**	63.1	63.9
Visc @ 100°C	cSt	ASTM D445		**13.9**	10.6	10.8
Viscosity Index (VI)	Scale	ASTM D2270		**152**	158	160

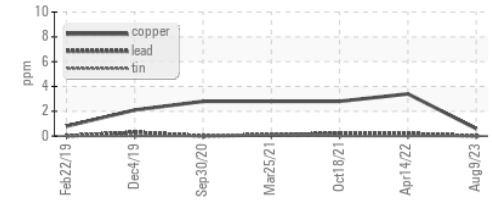
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						*no image*
Bottom						*no image*

GRAPHS

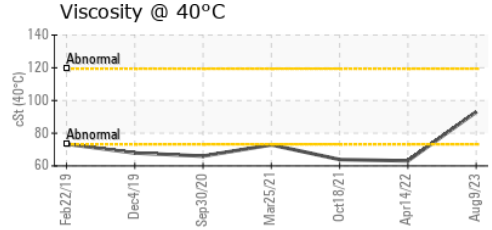
Ferrous Alloys



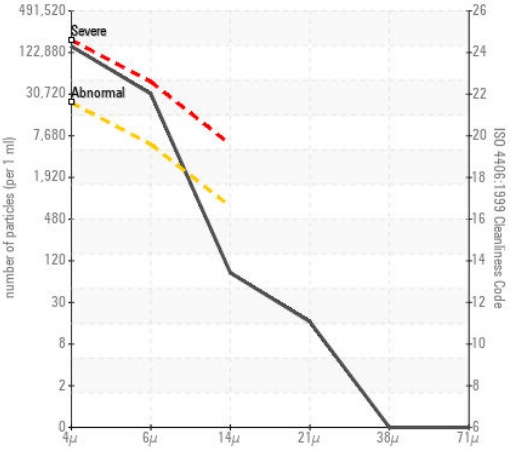
Non-ferrous Metals



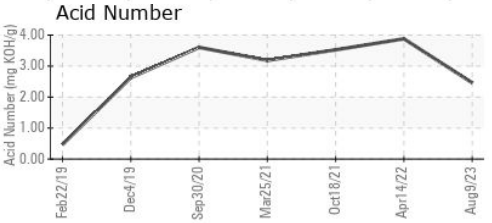
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0843181 **Received** : 24 Aug 2023
Lab Number : 05934321 **Diagnosed** : 28 Aug 2023
Unique Number : 10619592 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: KF, KV100, PrtCount, VI)

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)

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