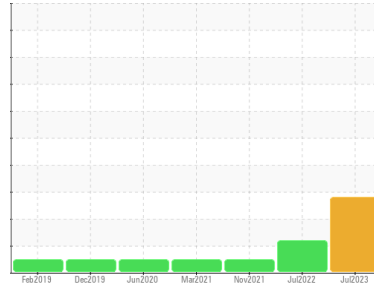




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Area
METRO
 Machine Id
METRO 20005
 Component
Rear Differential
 Fluid
NOT GIVEN (--- GAL)

DIAGNOSIS

Recommendation

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

Wear

All component wear rates are normal.

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		WC0843182	WC0728427	WC0642315
Sample Date	Client Info		13 Jul 2023	06 Jul 2022	04 Nov 2021
Machine Age	mls	Client Info	444251	338372	270437
Oil Age	mls	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	ABNORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >500	240	184	153
Chromium	ppm	ASTM D5185m >10	2	1	1
Nickel	ppm	ASTM D5185m >10	1	<1	<1
Titanium	ppm	ASTM D5185m	<1	0	<1
Silver	ppm	ASTM D5185m	<1	0	0
Aluminum	ppm	ASTM D5185m >25	3	2	2
Lead	ppm	ASTM D5185m >25	0	0	<1
Copper	ppm	ASTM D5185m >100	2	1	1
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	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	70	47	65
Barium	ppm	ASTM D5185m	1	0	0
Molybdenum	ppm	ASTM D5185m	<1	0	0
Manganese	ppm	ASTM D5185m	3	2	2
Magnesium	ppm	ASTM D5185m	139	153	147
Calcium	ppm	ASTM D5185m	6	2	3
Phosphorus	ppm	ASTM D5185m	1571	1551	1714
Zinc	ppm	ASTM D5185m	8	2	4
Sulfur	ppm	ASTM D5185m	24947	25056	32549

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >75	▲ 77	62	54
Sodium	ppm	ASTM D5185m	6	6	6
Potassium	ppm	ASTM D5185m >20	3	<1	5
Water	%	ASTM D6304 >.2	0.038	0.048	0.034
ppm Water	ppm	ASTM D6304 >2000	380.4	481.0	342.9

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	▲ 142910	▲ 97518	---
Particles >6µm	ASTM D7647	>5000	▲ 22300	▲ 7997	---
Particles >14µm	ASTM D7647	>640	127	154	---
Particles >21µm	ASTM D7647	>160	13	40	---
Particles >38µm	ASTM D7647	>40	0	4	---
Particles >71µm	ASTM D7647	>10	0	1	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 24/22/14	▲ 24/20/14	---

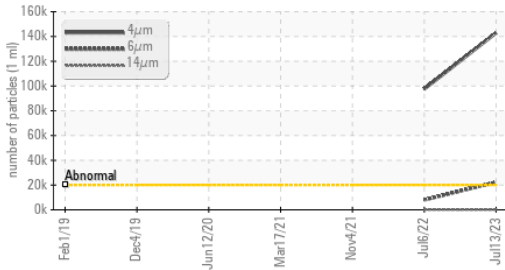
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.83	0.68	0.657

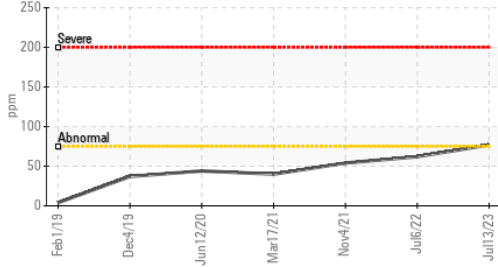


OIL ANALYSIS REPORT

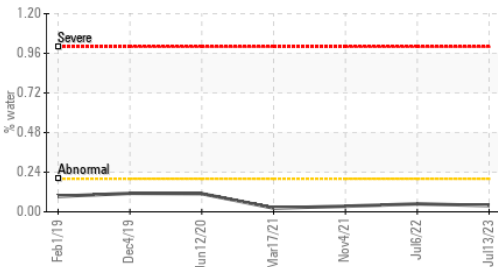
▲ Particle Trend



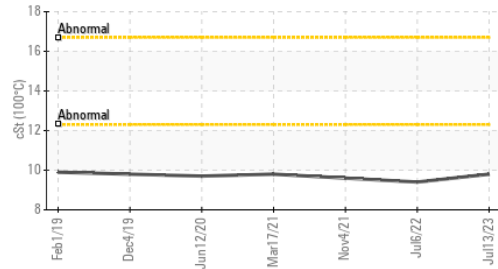
▲ Silicon (ppm)



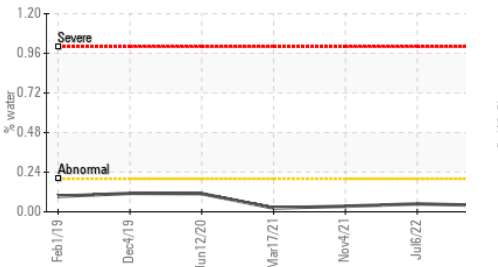
Water



Viscosity @ 100°C



Water

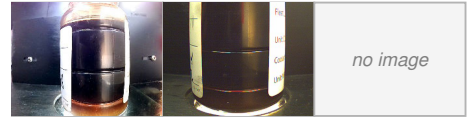


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	VLITE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

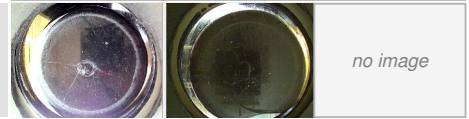
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	53.8	50.5	51.1
Visc @ 100°C	cSt	ASTM D445	9.8	9.4	9.6
Viscosity Index (VI)	Scale	ASTM D2270	170	172	175

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

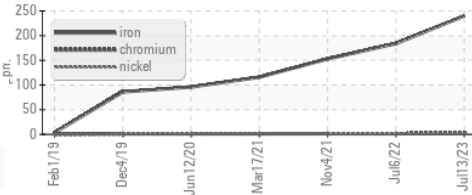


Bottom

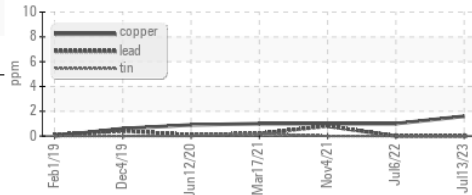


GRAPHS

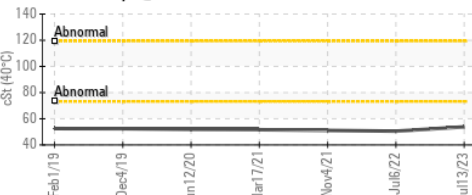
Ferrous Alloys



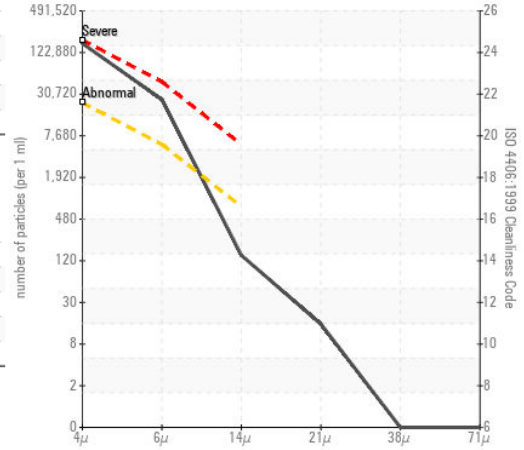
Non-ferrous Metals



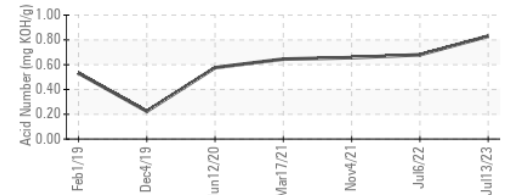
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0843182 **Received** : 24 Aug 2023
Lab Number : 05934315 **Diagnosed** : 28 Aug 2023
Unique Number : 10619586 **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)

T:
F: