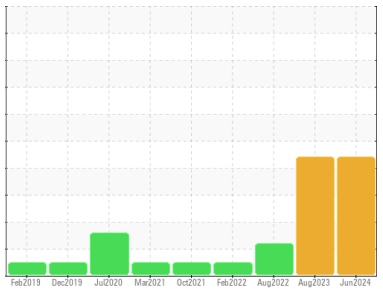
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Area
METRO
Machine Id
METRO 20008
Component
Rear 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 high amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal.

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		**WC0934584**	WC0843190	WC0728395
Sample Date		Client Info		**11 Jun 2024**	15 Aug 2023	25 Aug 2022
Machine Age	mls	Client Info		**492605**	436338	335179
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	▲ **565**	▲ 515	278
Chromium	ppm	ASTM D5185m	>10	**4**	3	2
Nickel	ppm	ASTM D5185m	>10	**5**	4	2
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	● **17**	● 18	11
Lead	ppm	ASTM D5185m	>25	**0**	0	<1
Copper	ppm	ASTM D5185m	>100	**3**	3	2
Tin	ppm	ASTM D5185m	>10	**0**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**61**	74	81
Barium	ppm	ASTM D5185m		**6**	31	0
Molybdenum	ppm	ASTM D5185m		**<1**	<1	<1
Manganese	ppm	ASTM D5185m		**5**	5	3
Magnesium	ppm	ASTM D5185m		**145**	157	144
Calcium	ppm	ASTM D5185m		**0**	3	1
Phosphorus	ppm	ASTM D5185m		**1476**	1570	1539
Zinc	ppm	ASTM D5185m		**14**	38	2
Sulfur	ppm	ASTM D5185m		**19954**	24380	22102

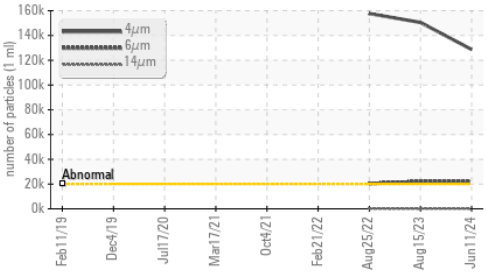
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>75	▲ **90**	▲ 82	59
Sodium	ppm	ASTM D5185m		**11**	12	7
Potassium	ppm	ASTM D5185m	>20	**10**	8	5
Water	%	ASTM D6304	>.2	**0.034**	0.033	0.003
ppm Water	ppm	ASTM D6304	>2000	**348**	330.6	29.1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **128675**	▲ 150518	▲ 157710
Particles >6µm		ASTM D7647	>5000	▲ **21858**	▲ 22087	▲ 20326
Particles >14µm		ASTM D7647	>640	**68**	91	85
Particles >21µm		ASTM D7647	>160	**12**	21	9
Particles >38µm		ASTM D7647	>40	**1**	1	0
Particles >71µm		ASTM D7647	>10	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **24/22/13**	▲ 24/22/14	▲ 24/22/14

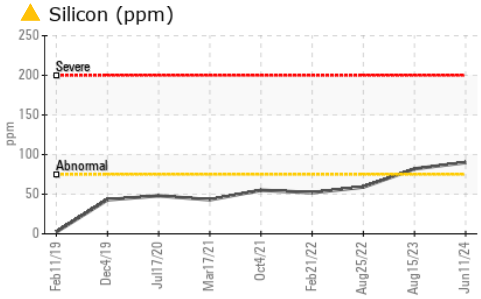
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.01**	0.83	0.59

OIL ANALYSIS REPORT

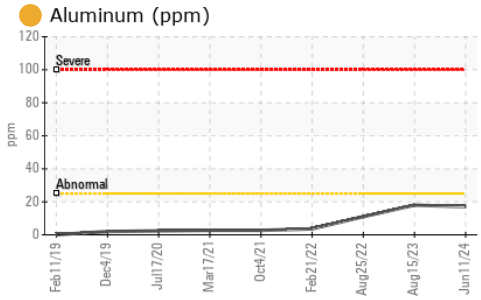
Particle Trend



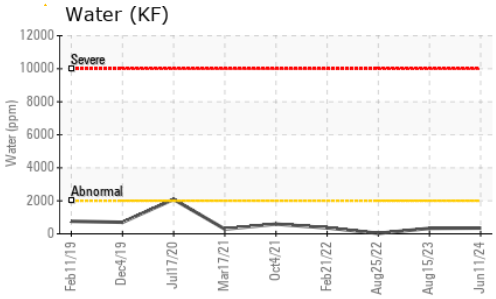
Silicon (ppm)



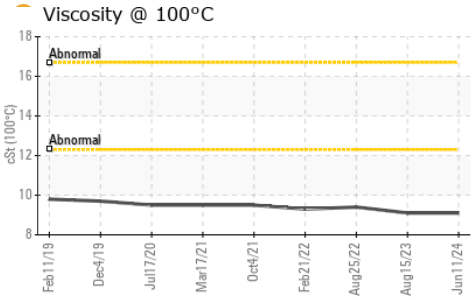
Aluminum (ppm)



Water (KF)

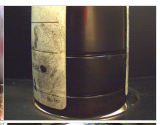
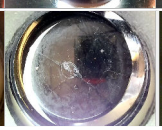
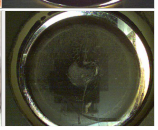


Viscosity @ 100°C



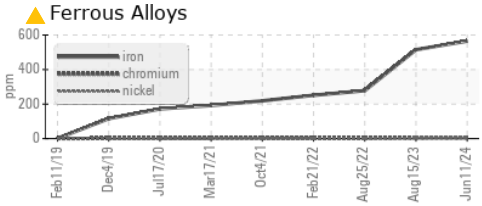
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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		**49.5**	49.5	49.0
Visc @ 100°C	cSt	ASTM D445		**9.1**	9.1	9.4
Viscosity Index (VI)	Scale	ASTM D2270		**167**	167	178

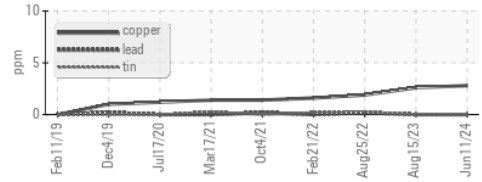
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

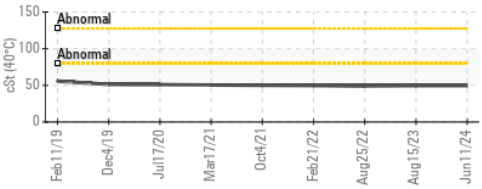
Ferrous Alloys



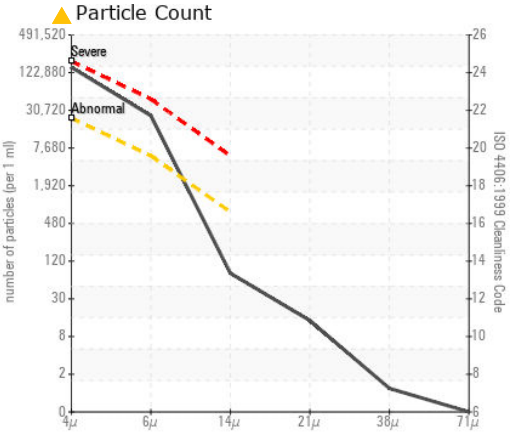
Non-ferrous Metals



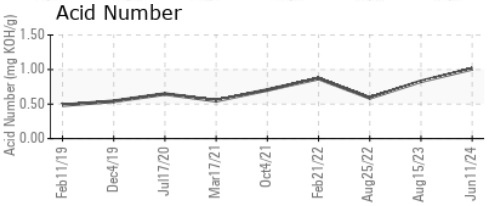
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0934584 **Received** : 19 Jun 2024
Lab Number : 06214692 **Tested** : 20 Jun 2024
Unique Number : 11087556 **Diagnosed** : 24 Jun 2024 - Doug Bogart
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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