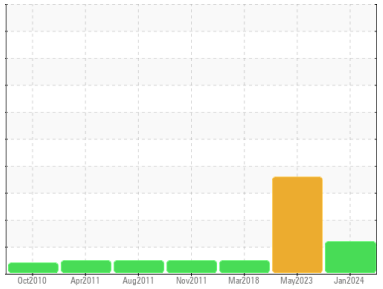
OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Area
TM 5
Machine Id
TM 5 SUNDAY DRIVE GRBX
Component
Gearbox
Fluid
{not provided} (--- GAL)

DIAGNOSIS

▲ Recommendation
The oil is near the end of it`s useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

▲ Fluid Condition
The AN level is at the top-end of the recommended limit.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP0038115**	RP0023600	RP190849
Sample Date		Client Info		**29 Jan 2024**	24 May 2023	19 Mar 2018
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	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
PQ		ASTM D8184		**15**	21	---
Iron	ppm	ASTM D5185m	>200	**108**	48	0
Chromium	ppm	ASTM D5185m	>15	**<1**	0	0
Nickel	ppm	ASTM D5185m	>15	**1**	<1	<1
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**2**	1	0
Lead	ppm	ASTM D5185m	>100	**1**	6	<1
Copper	ppm	ASTM D5185m	>200	**36**	▲ 187	3
Tin	ppm	ASTM D5185m	>25	**1**	1	0
Antimony	ppm	ASTM D5185m	>5	**---**	---	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**25**	31	<1
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**<1**	0	<1
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m		**0**	0	6
Calcium	ppm	ASTM D5185m		**0**	<1	38
Phosphorus	ppm	ASTM D5185m		**381**	463	234
Zinc	ppm	ASTM D5185m		**197**	245	308

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**10**	10	<1
Sodium	ppm	ASTM D5185m		**0**	0	1
Potassium	ppm	ASTM D5185m	>20	**2**	<1	0
Water	%	ASTM D6304	>0.2	**0.019**	0.118	0.004
ppm Water	ppm	ASTM D6304	>2000	**195**	1180	40

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**7334**	---	210
Particles >6µm		ASTM D7647	>5000	**839**	---	73
Particles >14µm		ASTM D7647	>640	**50**	---	11
Particles >21µm		ASTM D7647	>160	**13**	---	3
Particles >38µm		ASTM D7647	>40	**1**	---	0
Particles >71µm		ASTM D7647	>10	**0**	---	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**20/17/13**	---	15/13/11

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		▲ **2.32**	1.30	0.319

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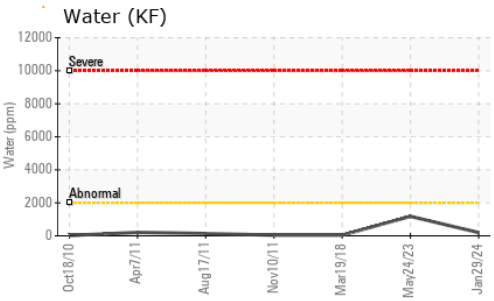
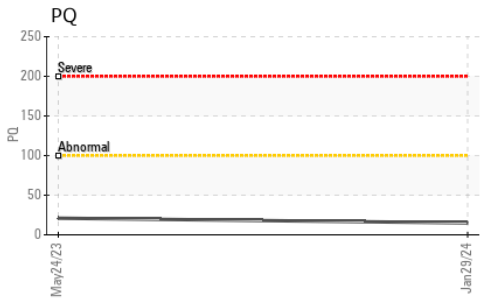
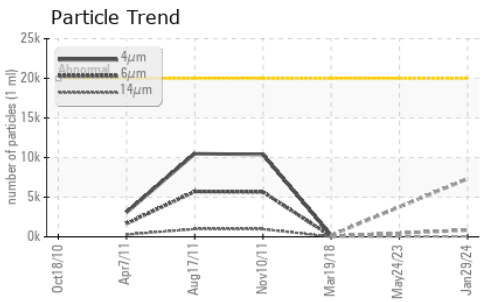
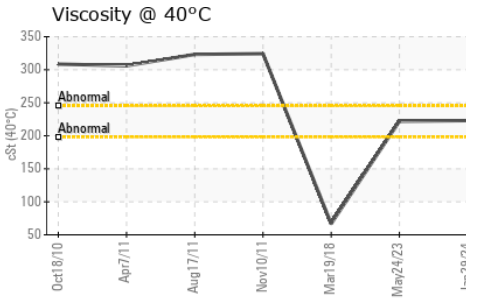
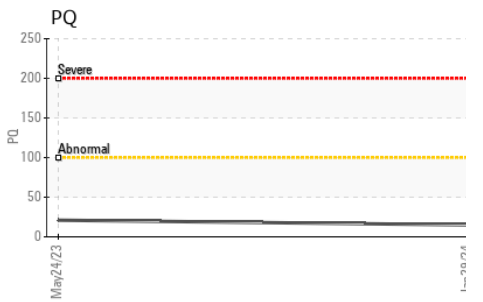




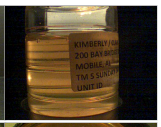
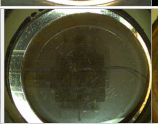




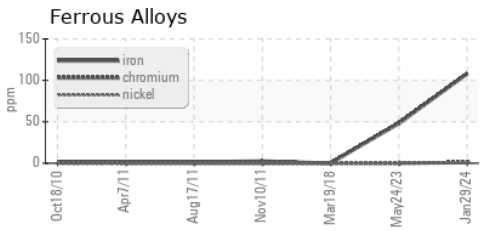


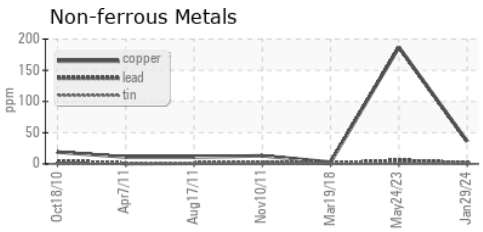
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	MODER	NONE
Debris	scalar	*Visual	NONE	**NONE**	▲ MODER	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	▲ HAZY	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	0.2%	NEG
Free Water	scalar	*Visual		**NEG**	▲ 1.0	NEG

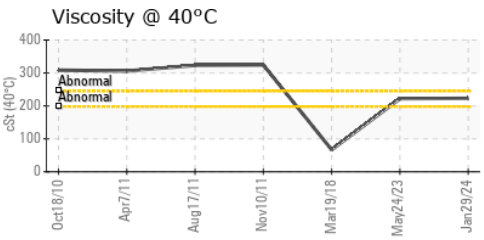
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**223**	222	66.94

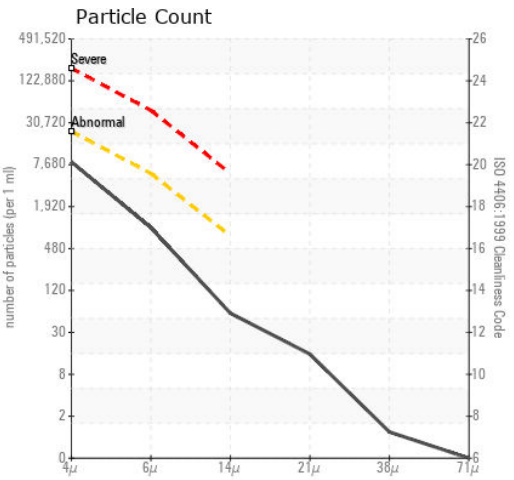
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

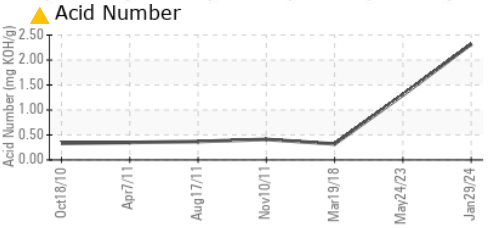
GRAPHS











Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0038115
Lab Number : 06074715
Unique Number : 10856806
Test Package : IND 2 (Additional Tests: PQ, PrtCount)

Received : 30 Jan 2024
Tested : 31 Jan 2024
Diagnosed : 01 Feb 2024 - Jonathan Hester

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)

Kimberly-Clark - Mobile - TM 5
200 BAYBRIDGE RD
MOBILE, AL
US 36610
Contact: WAYNE PERRY
wayne.perry@kcc.com
T: (251)330-2386
F: (251)452-6335