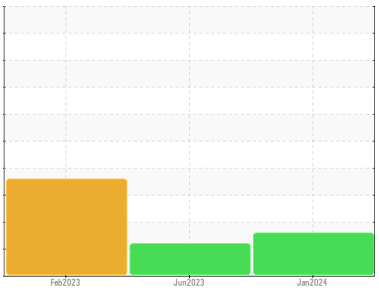
OIL ANALYSIS REPORT

Area
TSI
Machine Id
TSI 12854
Component
Front Differential
Fluid
{not provided} (--- GAL)

Sample Rating Trend



ISO

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a high amount of particulates present in the oil.

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		**WC0934507**	WC0771186	WC0771170
Sample Date		Client Info		**11 Jan 2024**	22 Jun 2023	05 Feb 2023
Machine Age	mls	Client Info		**160595**	59778	1086
Oil Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	**108**	59	15
Chromium	ppm	ASTM D5185m	>10	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**<1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**<1**	0	0
Aluminum	ppm	ASTM D5185m	>25	**2**	0	0
Lead	ppm	ASTM D5185m	>25	**<1**	0	0
Copper	ppm	ASTM D5185m	>100	**2**	0	<1
Tin	ppm	ASTM D5185m	>10	**<1**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**288**	277	298
Barium	ppm	ASTM D5185m		**0**	0	4
Molybdenum	ppm	ASTM D5185m		**<1**	0	0
Manganese	ppm	ASTM D5185m		**4**	2	4
Magnesium	ppm	ASTM D5185m		**1**	0	2
Calcium	ppm	ASTM D5185m		**3**	<1	11
Phosphorus	ppm	ASTM D5185m		**1713**	1569	1403
Zinc	ppm	ASTM D5185m		**3**	0	9
Sulfur	ppm	ASTM D5185m		**29105**	29887	23442

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>75	**13**	6	9
Sodium	ppm	ASTM D5185m		**3**	<1	6
Potassium	ppm	ASTM D5185m	>20	**2**	0	1
Water	%	ASTM D6304	>.2	**0.048**	0.069	0.033
ppm Water	ppm	ASTM D6304	>2000	**481**	698.8	330.9

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **145608**	▲ 105679	▲ 180858
Particles >6µm		ASTM D7647	>5000	▲ **66997**	● 9581	▲ 47497
Particles >14µm		ASTM D7647	>640	▲ **799**	16	378
Particles >21µm		ASTM D7647	>160	**74**	3	36
Particles >38µm		ASTM D7647	>40	**1**	1	1
Particles >71µm		ASTM D7647	>10	**1**	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **24/23/17**	▲ 24/20/11	▲ 25/23/16

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**2.21**	2.43	2.60

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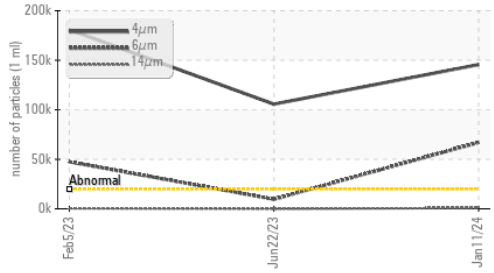
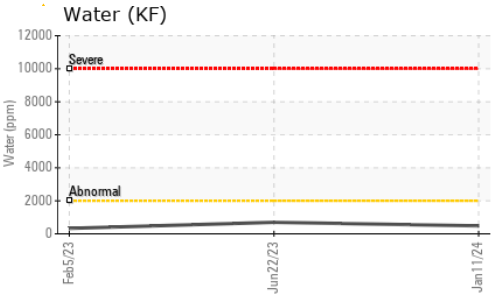
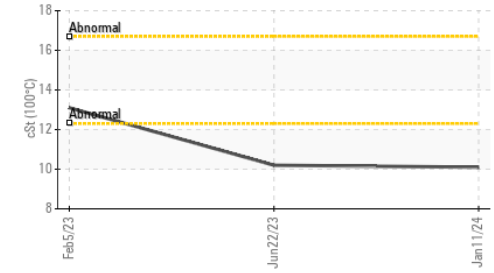
Particle Trend



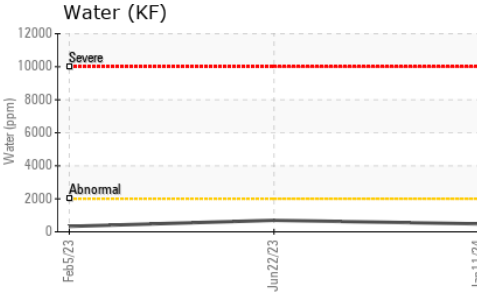
Water (KF)



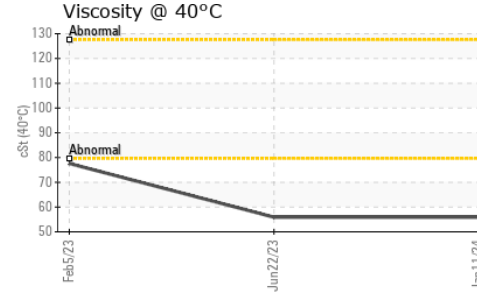
Viscosity @ 100°C



Water (KF)

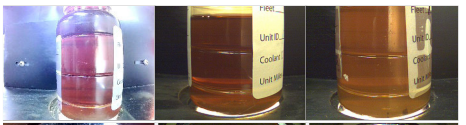
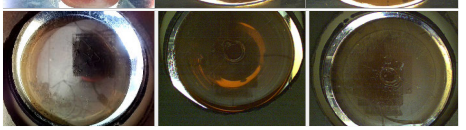


Viscosity @ 40°C



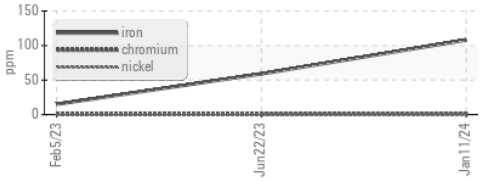
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	LIGHT
Sand/Dirt	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		**55.9**	55.9	77.6
Visc @ 100°C	cSt	ASTM D445		**10.1**	10.2	13.1
Viscosity Index (VI)	Scale	ASTM D2270		**170**	172	171

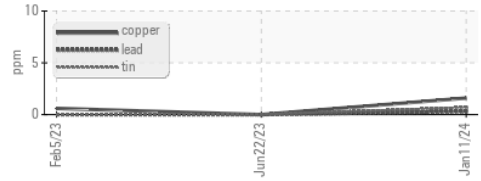
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						

GRAPHS

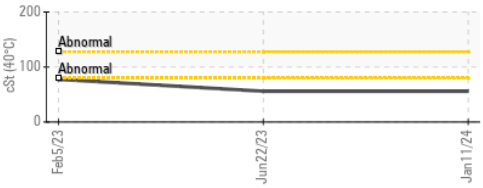
Ferrous Alloys



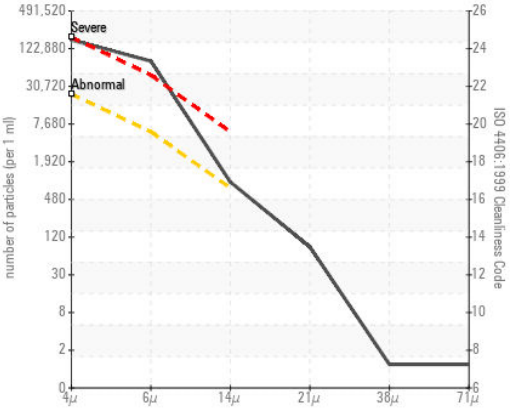
Non-ferrous Metals



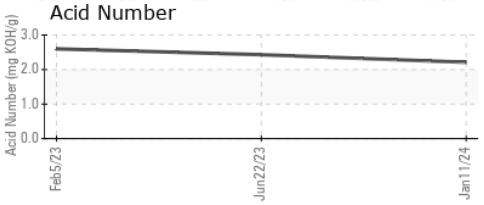
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0934507 **Received** : 15 May 2024
Lab Number : 06180651 **Tested** : 17 May 2024
Unique Number : 11031977 **Diagnosed** : 18 May 2024 - Jonathan Hester
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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