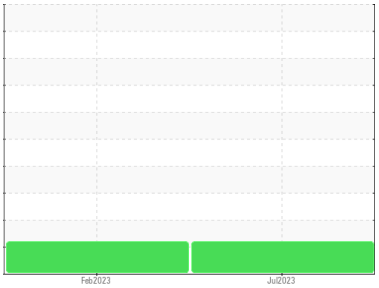
OIL ANALYSIS REPORT

Sample Rating Trend



VISUAL METAL

Area
TSI
Machine Id
TSI 12861
Component
Front Differential
Fluid
GEAR OIL SAE 75W90 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. We were unable to perform a particle count due to metal particles present in this sample. Please note that this is a corrected copy for laboratory data updates of elemental data.

Wear

Moderate concentration of visible metal present. All component wear rates are normal.

Contamination

There is no indication of any contamination 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		**WC0843153**	WC0771161	---
Sample Date		Client Info		**19 Jul 2023**	08 Feb 2023	---
Machine Age	mls	Client Info		**80506**	0	---
Oil Age	mls	Client Info		**0**	0	---
Oil Changed		Client Info		**N/A**	N/A	---
Sample Status				**ABNORMAL**	ABNORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	**235**	18	---
Chromium	ppm	ASTM D5185m	>10	**<1**	<1	---
Nickel	ppm	ASTM D5185m	>10	**0**	0	---
Titanium	ppm	ASTM D5185m		**<1**	0	---
Silver	ppm	ASTM D5185m		**0**	<1	---
Aluminum	ppm	ASTM D5185m	>25	**2**	<1	---
Lead	ppm	ASTM D5185m	>25	**0**	<1	---
Copper	ppm	ASTM D5185m	>100	**<1**	<1	---
Tin	ppm	ASTM D5185m	>10	**<1**	0	---
Vanadium	ppm	ASTM D5185m		**<1**	0	---
Cadmium	ppm	ASTM D5185m		**<1**	<1	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	400	**259**	281	---
Barium	ppm	ASTM D5185m	200	**0**	5	---
Molybdenum	ppm	ASTM D5185m	12	**0**	0	---
Manganese	ppm	ASTM D5185m		**6**	3	---
Magnesium	ppm	ASTM D5185m	12	**<1**	1	---
Calcium	ppm	ASTM D5185m	150	**0**	8	---
Phosphorus	ppm	ASTM D5185m	1650	**1577**	1378	---
Zinc	ppm	ASTM D5185m	125	**0**	10	---
Sulfur	ppm	ASTM D5185m	22500	**25056**	28146	---

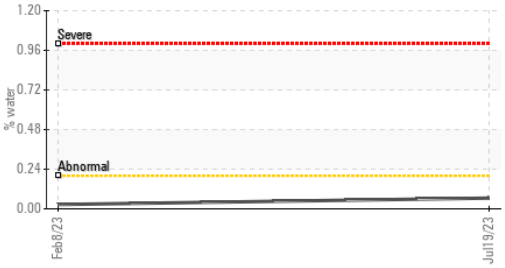
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>75	**12**	15	---
Sodium	ppm	ASTM D5185m		**4**	9	---
Potassium	ppm	ASTM D5185m	>20	**1**	1	---
Water	%	ASTM D6304	>.2	**0.065**	0.026	---
ppm Water	ppm	ASTM D6304	>2000	**658.7**	264.0	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**---**	▲ 110113	---
Particles >6µm		ASTM D7647	>5000	**---**	▲ 28181	---
Particles >14µm		ASTM D7647	>640	**---**	71	---
Particles >21µm		ASTM D7647	>160	**---**	5	---
Particles >38µm		ASTM D7647	>40	**---**	0	---
Particles >71µm		ASTM D7647	>10	**---**	0	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**---**	▲ 24/22/13	---

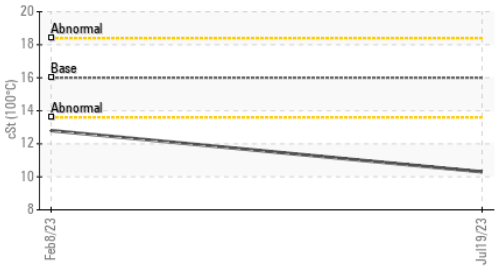
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	2.00	**2.23**	2.58	---

OIL ANALYSIS REPORT

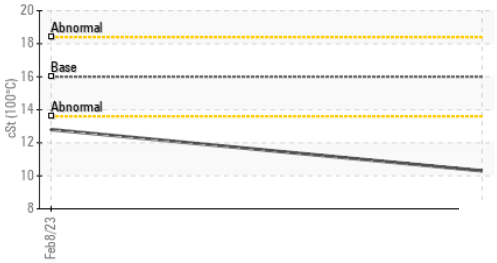
Water



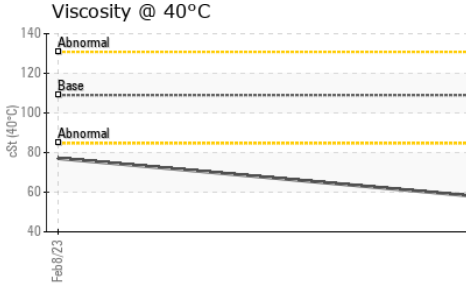
Viscosity @ 100°C



Viscosity @ 100°C

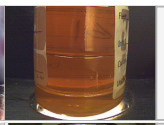
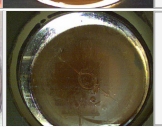


Viscosity @ 40°C



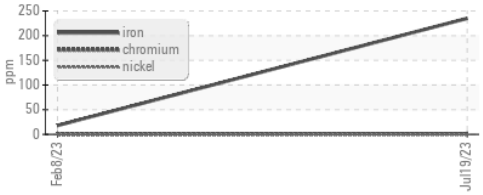
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ **MODER**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	---
Sand/Dirt	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	109	**57.3**	77.1	---
Visc @ 100°C	cSt	ASTM D445	16.0	**10.3**	12.8	---
Viscosity Index (VI)	Scale	ASTM D2270	157	**170**	166	---

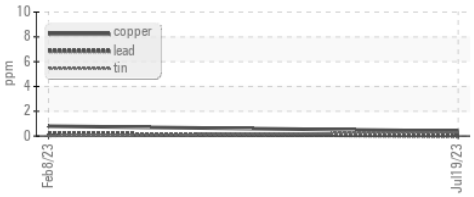
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

GRAPHS

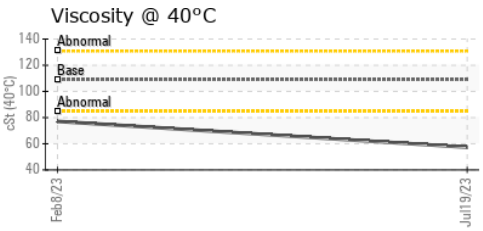
Ferrous Alloys



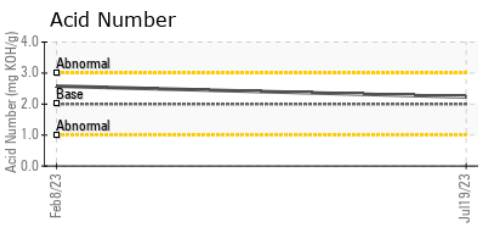
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0843153 **Received** : 21 Aug 2023
Lab Number : 05930341 **Diagnosed** : 24 Aug 2023
Unique Number : 10615612 **Diagnostician** : 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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