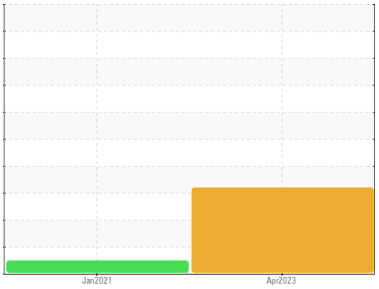
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
2379 (S/N 12895)
Component
Hydraulic System
Fluid
SHELL TELLUS 32 (350 GAL)

DIAGNOSIS

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

Wear
The copper level is abnormal. All other component wear rates are normal.

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

Fluid Condition
The oil viscosity is higher than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0778463**	WC0437884	---
Sample Date		Client Info		**13 Apr 2023**	18 Jan 2021	---
Machine Age	yrs	Client Info		**0**	4	---
Oil Age	yrs	Client Info		**0**	0	---
Oil Changed		Client Info		**N/A**	Changed	---
Sample Status				**ABNORMAL**	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.05	**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**1**	<1	---
Chromium	ppm	ASTM D5185m	>20	**0**	<1	---
Nickel	ppm	ASTM D5185m	>20	**0**	0	---
Titanium	ppm	ASTM D5185m		**0**	0	---
Silver	ppm	ASTM D5185m		**0**	<1	---
Aluminum	ppm	ASTM D5185m	>20	**0**	<1	---
Lead	ppm	ASTM D5185m	>20	**0**	0	---
Copper	ppm	ASTM D5185m	>20	▲ **72**	27	---
Tin	ppm	ASTM D5185m	>20	**0**	0	---
Antimony	ppm	ASTM D5185m		**---**	0	---
Vanadium	ppm	ASTM D5185m		**0**	0	---
Cadmium	ppm	ASTM D5185m		**0**	0	---

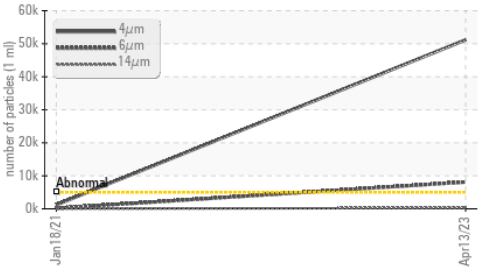
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	<1	---
Barium	ppm	ASTM D5185m		**0**	0	---
Molybdenum	ppm	ASTM D5185m		**0**	<1	---
Manganese	ppm	ASTM D5185m		**<1**	0	---
Magnesium	ppm	ASTM D5185m	11	**1**	<1	---
Calcium	ppm	ASTM D5185m	35	**110**	11	---
Phosphorus	ppm	ASTM D5185m	259	**637**	254	---
Zinc	ppm	ASTM D5185m	277	**827**	224	---
Sulfur	ppm	ASTM D5185m	1865	**2281**	487	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**0**	<1	---
Sodium	ppm	ASTM D5185m		**<1**	<1	---
Potassium	ppm	ASTM D5185m	>20	**0**	0	---

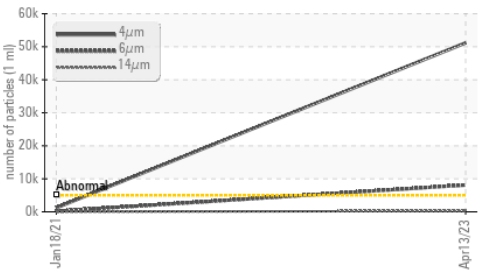
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **51171**	1211	---
Particles >6µm		ASTM D7647	>1300	▲ **8115**	170	---
Particles >14µm		ASTM D7647	>160	▲ **248**	20	---
Particles >21µm		ASTM D7647	>40	▲ **48**	7	---
Particles >38µm		ASTM D7647	>10	**3**	1	---
Particles >71µm		ASTM D7647	>3	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **23/20/15**	17/15/11	---

OIL ANALYSIS REPORT

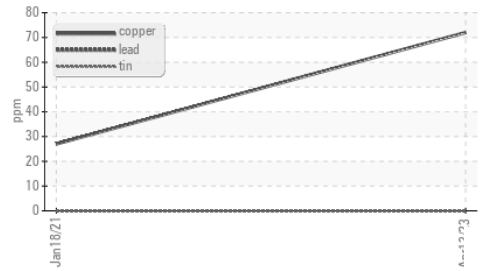
Particle Trend



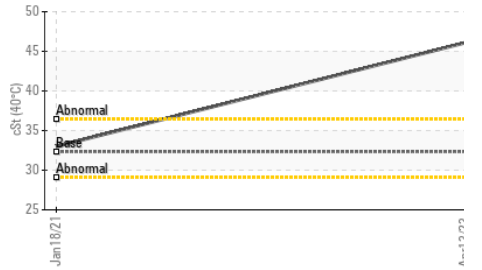
Particle Trend



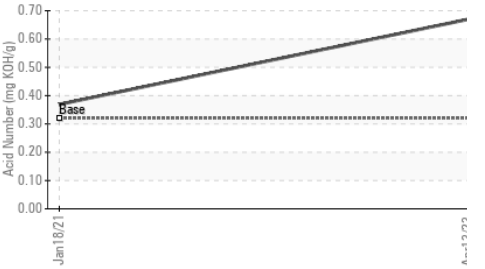
Non-ferrous Metals



Viscosity @ 40°C



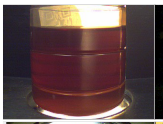
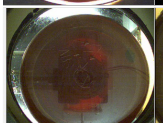
Acid Number



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.32	**0.67**	0.369	---

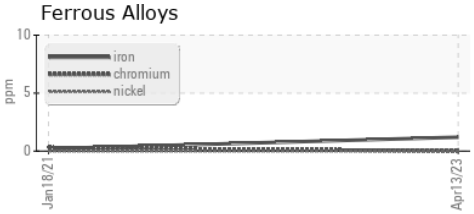
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>0.05	**NEG**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32.32	▲ **46.1**	33.0	---

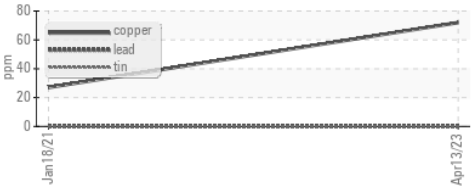
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

GRAPHS

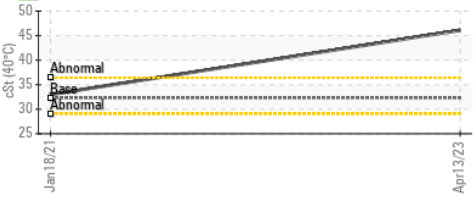
Ferrous Alloys



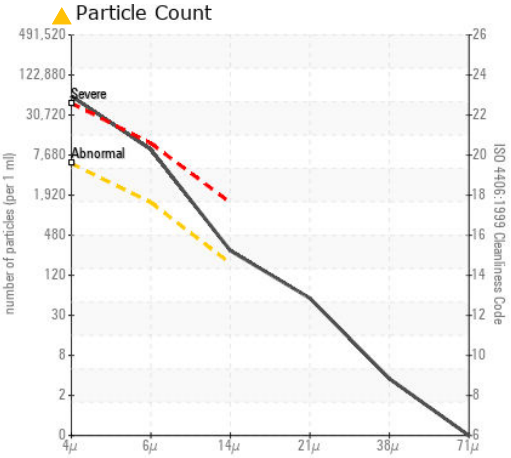
Non-ferrous Metals



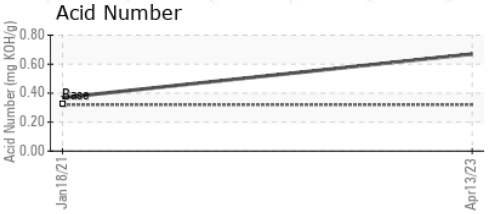
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0778463
Lab Number : 05824912
Unique Number : 10432995
Test Package : IND 2

Received : 20 Apr 2023
Tested : 24 Apr 2023
Diagnosed : 24 Apr 2023 - Doug Bogart

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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