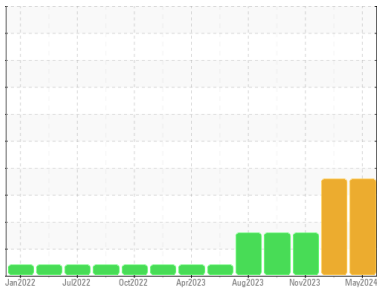
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Area
TUMBLE ROOM [98938358]
Machine Id
KR-GR-003067 - TUMBLER 2 (S/N TUMBLE ROOM - 11513090)
Component
Hydraulic System
Fluid
AW HYDRAULIC OIL ISO 46 (10 GAL)

DIAGNOSIS

Recommendation
We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Wear
All component wear rates are normal.

Contamination
Appearance is milky. There is a moderate amount of visible silt present in the sample. There is a light concentration of water present in the oil.

Fluid Condition
Viscosity of sample indicates oil is within ISO 68 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0122296**	PCA0115885	PCA0113109
Sample Date		Client Info		**24 May 2024**	11 Mar 2024	30 Nov 2023
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	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**2**	1	2
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>20	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**2**	3	<1
Lead	ppm	ASTM D5185m	>20	**<1**	<1	0
Copper	ppm	ASTM D5185m	>20	**2**	3	1
Tin	ppm	ASTM D5185m	>20	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	**0**	0	0
Barium	ppm	ASTM D5185m	5	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	5	**<1**	0	0
Manganese	ppm	ASTM D5185m		**0**	0	<1
Magnesium	ppm	ASTM D5185m	25	**<1**	<1	0
Calcium	ppm	ASTM D5185m	200	**<1**	5	9
Phosphorus	ppm	ASTM D5185m	300	**397**	472	423
Zinc	ppm	ASTM D5185m	370	**3**	13	64
Sulfur	ppm	ASTM D5185m	2500	**583**	709	1106

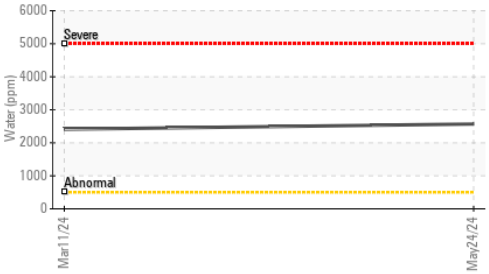
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**3**	4	4
Sodium	ppm	ASTM D5185m		**0**	0	0
Potassium	ppm	ASTM D5185m	>20	**1**	<1	0
Water	%	ASTM D6304	>0.05	▲ **0.257**	▲ 0.241	---
ppm Water	ppm	ASTM D6304	>500	▲ **2570**	▲ 2410	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**---**	---	▲ 102985
Particles >6µm		ASTM D7647	>2500	**---**	---	▲ 17522
Particles >14µm		ASTM D7647	>640	**---**	---	258
Particles >21µm		ASTM D7647	>160	**---**	---	50
Particles >38µm		ASTM D7647	>40	**---**	---	1
Particles >71µm		ASTM D7647	>10	**---**	---	0
Oil Cleanliness		ISO 4406 (c)	>20/18/16	**---**	---	▲ 24/21/15

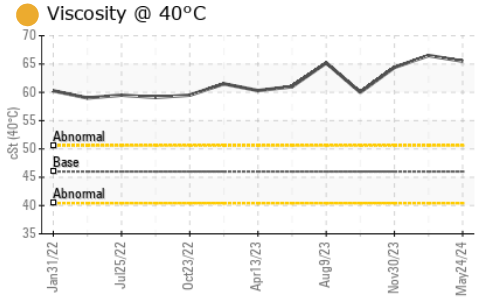
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	**0.27**	0.25	0.21

OIL ANALYSIS REPORT

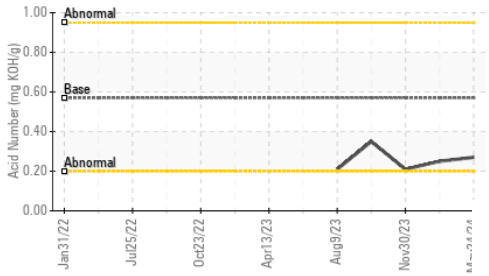
Water (KF)



Viscosity @ 40°C



Acid Number



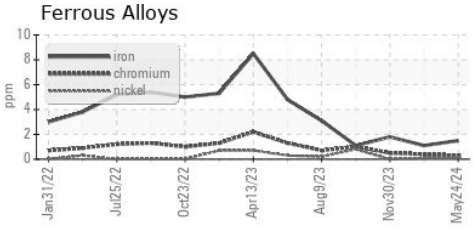
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	● **MILKY**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	**0.2%**	▲ 0.2%	NEG
Free Water	scalar	*Visual		**NEG**	▲ 2.0	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	● **65.5**	● 66.5	● 64.4

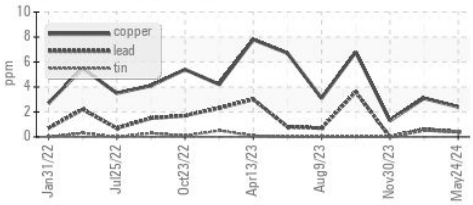
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

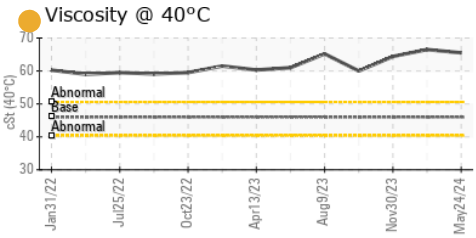
Ferrous Alloys



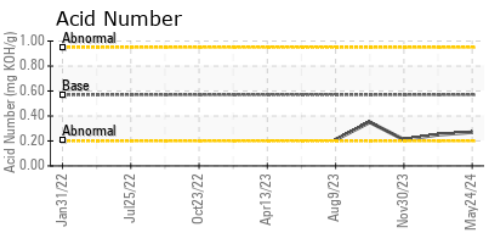
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0122296
Lab Number : 06195375
Unique Number : 11057498
Test Package : IND 2 (Additional Tests: KF)

Received : 30 May 2024
Tested : 03 Jun 2024
Diagnosed : 03 Jun 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)

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Report Id: KRAKIR [WUSCAR] 06195375 (Generated: 06/04/2024 08:05:28) Rev: 1

Submitted By: Wilberto Pacheco Garcia