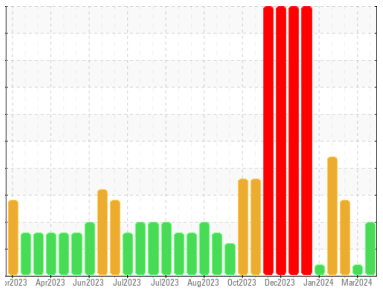
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
RIG 879
Machine Id
R879-MP-01
Component
Gearbox
Fluid
BRENNTAG COASTAL CHEMICAL HBC GEAR OIL 320 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KL0014301**	KL0013733	KL0013943
Sample Date		Client Info		**03 Apr 2024**	05 Mar 2024	06 Feb 2024
Machine Age	days	Client Info		**0**	0	0
Oil Age	days	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**17**	44	150
Chromium	ppm	ASTM D5185m	>10	**0**	0	1
Nickel	ppm	ASTM D5185m	>10	**0**	0	<1
Titanium	ppm	ASTM D5185m		**0**	0	3
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**3**	11	55
Lead	ppm	ASTM D5185m	>50	**0**	0	0
Copper	ppm	ASTM D5185m	>200	**6**	11	20
Tin	ppm	ASTM D5185m	>10	**0**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**<1**	1	2
Barium	ppm	ASTM D5185m		**6**	46	287
Molybdenum	ppm	ASTM D5185m		**0**	<1	2
Manganese	ppm	ASTM D5185m		**<1**	<1	2
Magnesium	ppm	ASTM D5185m		**<1**	0	12
Calcium	ppm	ASTM D5185m		**32**	35	207
Phosphorus	ppm	ASTM D5185m		**113**	84	138
Zinc	ppm	ASTM D5185m		**39**	30	51
Sulfur	ppm	ASTM D5185m		**10044**	8579	8527

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**15**	44	205
Sodium	ppm	ASTM D5185m		**5**	17	44
Potassium	ppm	ASTM D5185m	>20	**<1**	2	21

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**134132**	---	---
Particles >6µm		ASTM D7647	>5000	**38915**	---	---
Particles >14µm		ASTM D7647	>640	**1252**	---	---
Particles >21µm		ASTM D7647	>160	**337**	---	---
Particles >38µm		ASTM D7647	>40	**33**	---	---
Particles >71µm		ASTM D7647	>10	**4**	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**24/22/17**	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.41**	0.36	0.28

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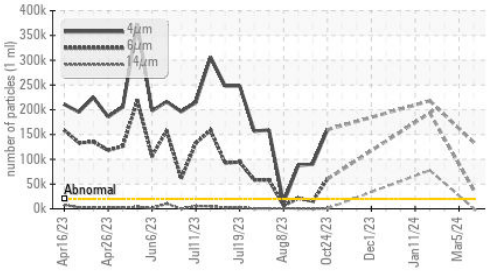
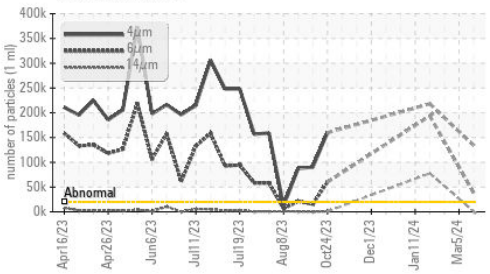
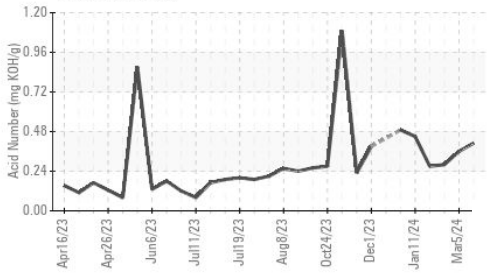
Particle Trend



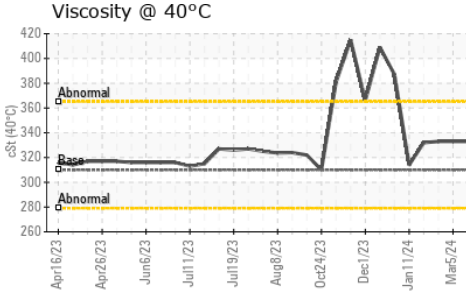
Particle Trend



Acid Number



Viscosity @ 40°C



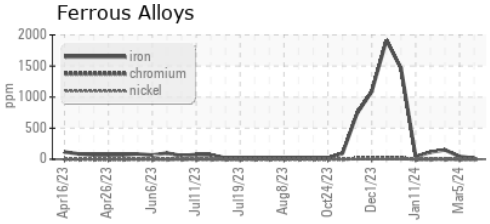
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	▲ MODER	▲ MODER
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	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	310	**333**	333	333

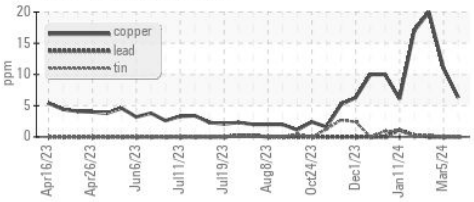
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

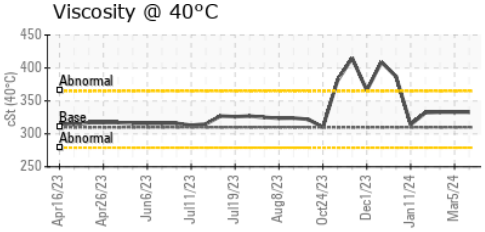
Ferrous Alloys



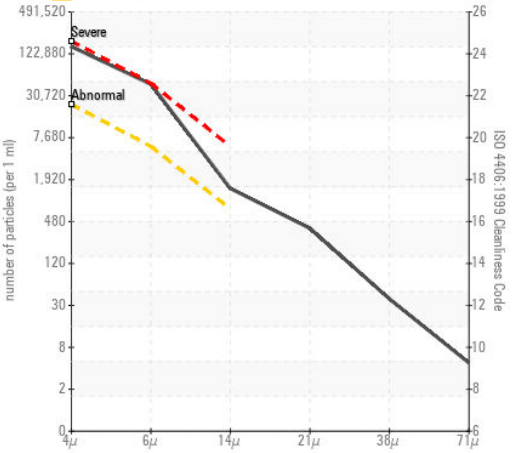
Non-ferrous Metals



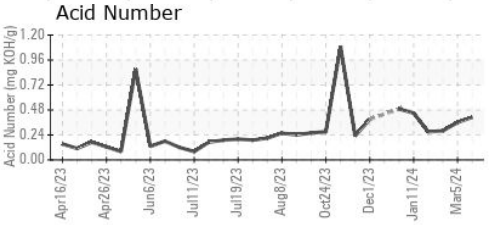
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014301 **Received** : 11 Apr 2024
Lab Number : 06145838 **Tested** : 12 Apr 2024
Unique Number : 10975916 **Diagnosed** : 12 Apr 2024 - Wes Davis
Test Package : MOB 2 (Additional Tests: PrtCount)

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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