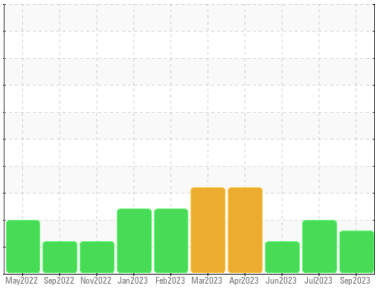
KIMBRO FLUID SOLUTIONS

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
HOTLINE/130 REVERSING MILL
Machine Id
130 SCREWDOWN LUBE RESV 1414-041-1010
Component
Gearbox
Fluid
CITGO COMPOUND EP 320 (2500 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.

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 water content is negligible. 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 condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KFS0004891**	KFS0003840	KFS0002183
Sample Date		Client Info		**29 Sep 2023**	19 Jul 2023	23 Jun 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	>200	**13**	7	8
Chromium	ppm	ASTM D5185m	>15	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>15	**0**	0	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**0**	0	<1
Lead	ppm	ASTM D5185m	>100	**0**	0	0
Copper	ppm	ASTM D5185m	>200	**2**	1	1
Tin	ppm	ASTM D5185m	>25	**0**	2	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	0
Barium	ppm	ASTM D5185m		**0**	2	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	0	<1
Magnesium	ppm	ASTM D5185m		**<1**	<1	0
Calcium	ppm	ASTM D5185m		**1**	2	0
Phosphorus	ppm	ASTM D5185m		**110**	102	117
Zinc	ppm	ASTM D5185m		**2**	5	0
Sulfur	ppm	ASTM D5185m		**4625**	4401	6500

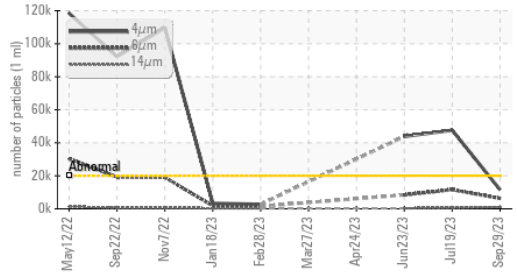
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**<1**	<1	<1
Sodium	ppm	ASTM D5185m		**3**	3	0
Potassium	ppm	ASTM D5185m	>20	**2**	0	2
Water	%	ASTM D6304	>0.2	**0.120**	0.073	---
ppm Water	ppm	ASTM D6304	>2000	**1200**	737.6	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**11553**	▲ 47621	▲ 43798
Particles >6µm		ASTM D7647	>5000	▲ **6294**	▲ 11596	▲ 8416
Particles >14µm		ASTM D7647	>640	▲ **1071**	526	299
Particles >21µm		ASTM D7647	>160	▲ **361**	103	59
Particles >38µm		ASTM D7647	>40	**56**	2	1
Particles >71µm		ASTM D7647	>10	**6**	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **21/20/17**	▲ 23/21/16	▲ 23/20/15

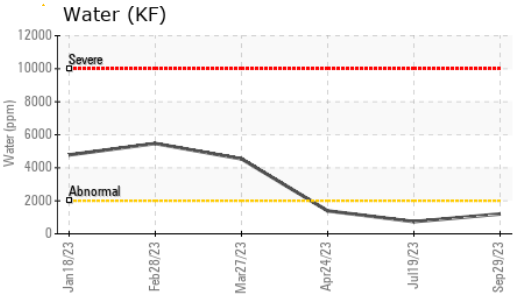
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.40**	0.43	0.41

OIL ANALYSIS REPORT

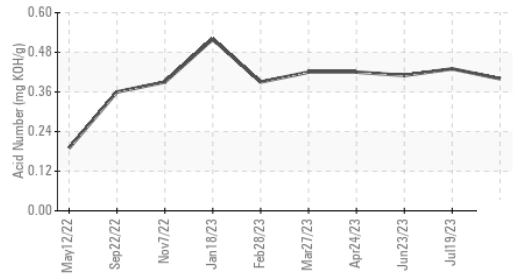
Particle Trend



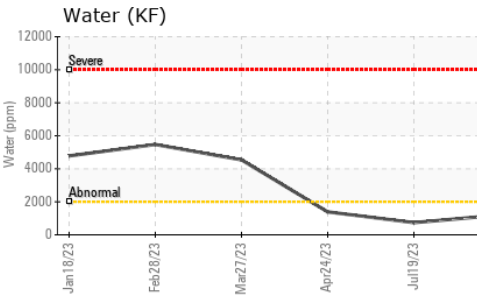
Water (KF)



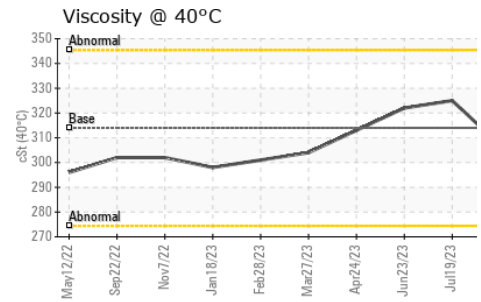
Acid Number



Water (KF)

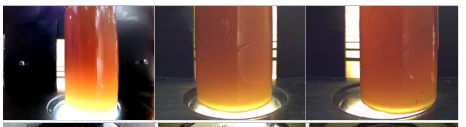


Viscosity @ 40°C



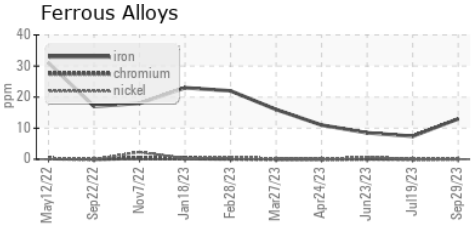
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	314	**307**	325	322

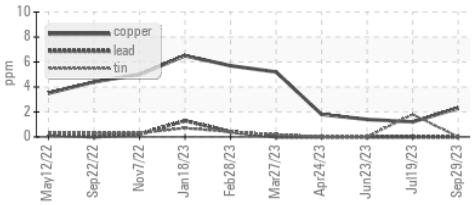
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

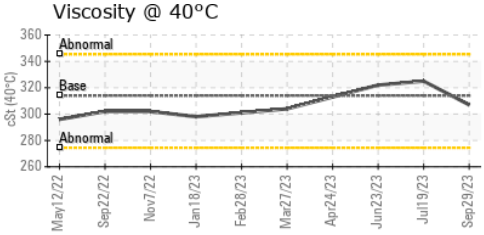
Ferrous Alloys



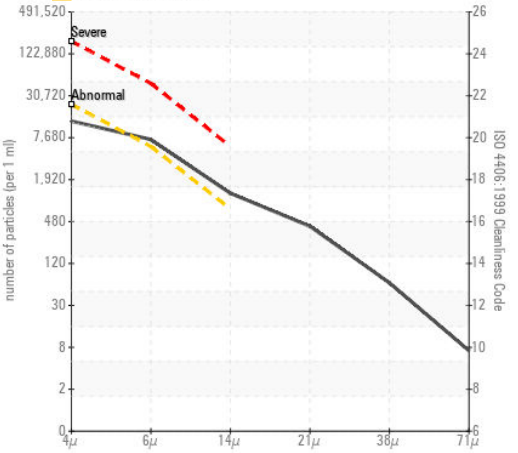
Non-ferrous Metals



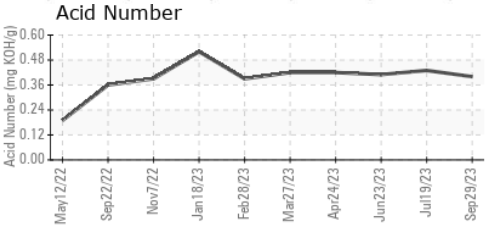
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0004891 **Recieved** : 03 Oct 2023
Lab Number : 05967764 **Diagnosed** : 09 Oct 2023
Unique Number : 10674315 **Diagnostician** : Wes Davis
Test Package : IND 2 (Additional Tests: KF, 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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