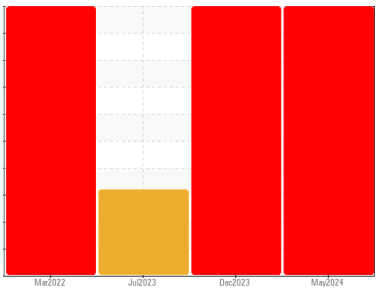
KIMBRO FLUID SOLUTIONS

PROBLEM SUMMARY

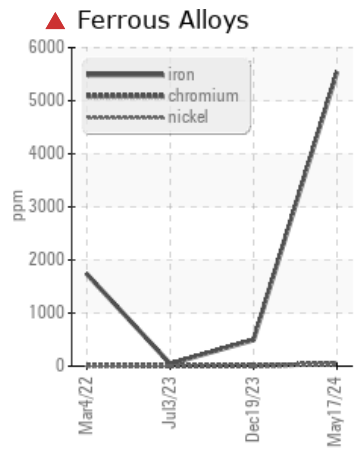
Area
CAST HOUSE/CRANES
Machine Id
88 EAST BRIDGE GEARBOX 1015-U88-1000
Component
Gearbox
Fluid
CITGO COMPOUND EP 320 (25 GAL)

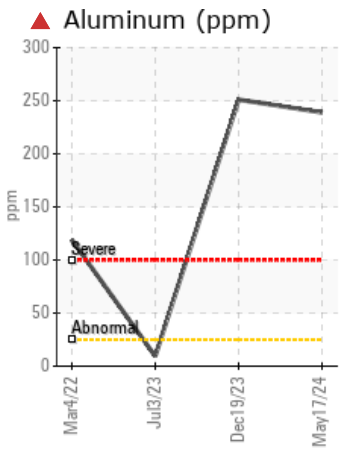
Sample Rating Trend

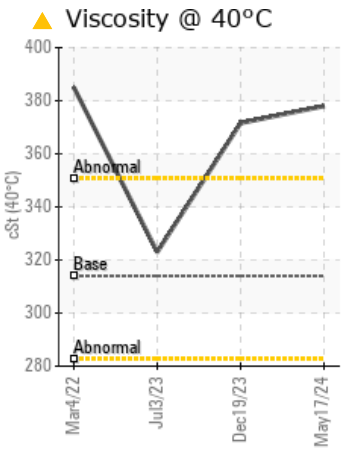


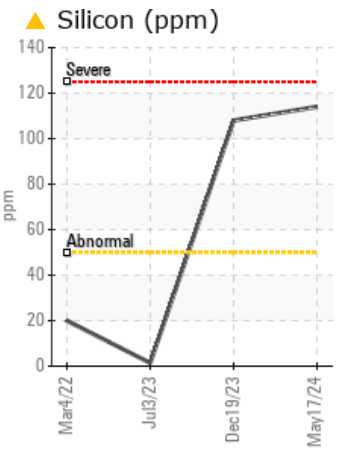
WEAR

COMPONENT CONDITION SUMMARY









RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to metal particles present in this sample.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185m	>200	▲ **5540**	▲ 494	43
Chromium	ppm	ASTM D5185m	>15	▲ **52**	3	0
Nickel	ppm	ASTM D5185m	>15	▲ **27**	<1	0
Aluminum	ppm	ASTM D5185m	>25	▲ **239**	▲ 251	9
Silicon	ppm	ASTM D5185m	>50	▲ **114**	▲ 108	1
White Metal	scalar	*Visual	NONE	▲ **MODER**	▲ MODER	▲ HEAVY
Visc @ 40°C	cSt	ASTM D445	314	▲ **378**	▲ 371.6	323

Customer Id: CONMUSAL
Sample No.: KFS0004649
Lab Number: 06214640
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Change Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Alert	---	---	?	We were unable to perform a particle count due to metal particles present in this sample.
Check Dirt Access	---	---	?	We advise that you check all areas where dirt can enter the system.

HISTORICAL DIAGNOSIS

WEAR

19 Dec 2023 Diag: Jonathan Hester

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to metal particles present in this sample.Moderate concentration of visible metal present. Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The AN level is above the recommended limit. The oil viscosity is higher than normal. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

VISUAL METAL

03 Jul 2023 Diag: Jonathan Hester

We recommend you service the filters on this component if applicable. We advise that you inspect for possible wear. We recommend an early resample to monitor this condition.High concentration of visible metal present. All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid.

view report

VISUAL METAL

04 Mar 2022 Diag: Doug Bogart

We recommend you service the filters on this component if applicable. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample. We were unable to perform a particle count due to metal particles present in this sample.Gear wear is indicated. High concentration of visible metal present. No other contaminants were detected in the oil. The AN level is acceptable for this fluid.

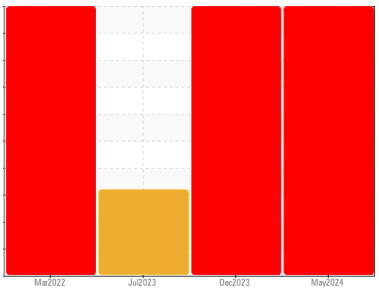
view report

KIMBRO FLUID SOLUTIONS

OIL ANALYSIS REPORT

Area
CAST HOUSE/CRANES
Machine Id
88 EAST BRIDGE GEARBOX 1015-U88-1000
Component
Gearbox
Fluid
CITGO COMPOUND EP 320 (25 GAL)

Sample Rating Trend



WEAR

DIAGNOSIS

Recommendation
We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to metal particles present in this sample.

Wear
Moderate concentration of visible metal present. Gear wear is indicated.

Contamination
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The oil viscosity is higher than normal. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KFS0004649**	KFS0005169	KFS0003097
Sample Date		Client Info		**17 May 2024**	19 Dec 2023	03 Jul 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				**SEVERE**	SEVERE	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	▲ **5540**	▲ 494	43
Chromium	ppm	ASTM D5185m	>15	▲ **52**	3	0
Nickel	ppm	ASTM D5185m	>15	▲ **27**	<1	0
Titanium	ppm	ASTM D5185m		**1**	<1	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	▲ **239**	▲ 251	9
Lead	ppm	ASTM D5185m	>100	**1**	0	0
Copper	ppm	ASTM D5185m	>200	**25**	5	<1
Tin	ppm	ASTM D5185m	>25	**0**	0	0
Antimony	ppm	ASTM D5185m	>5	**---**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

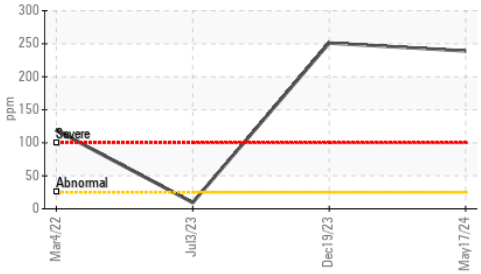
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**40**	33	3
Barium	ppm	ASTM D5185m		**2**	0	0
Molybdenum	ppm	ASTM D5185m		**12**	10	<1
Manganese	ppm	ASTM D5185m		**64**	6	1
Magnesium	ppm	ASTM D5185m		**20**	10	7
Calcium	ppm	ASTM D5185m		**614**	395	5
Phosphorus	ppm	ASTM D5185m		**385**	321	363
Zinc	ppm	ASTM D5185m		**192**	88	69
Sulfur	ppm	ASTM D5185m		**5819**	7031	15314

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	▲ **114**	▲ 108	1
Sodium	ppm	ASTM D5185m		**4**	0	0
Potassium	ppm	ASTM D5185m	>20	**4**	1	0

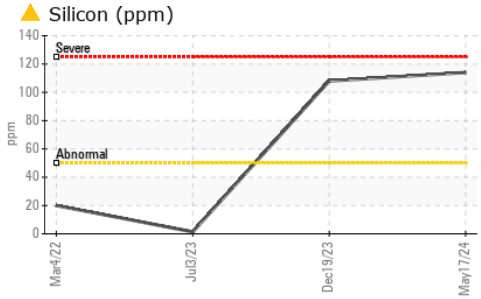
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**---**	---	▲ 223931
Particles >6µm		ASTM D7647	>5000	**---**	---	▲ 71767
Particles >14µm		ASTM D7647	>640	**---**	---	▲ 1463
Particles >21µm		ASTM D7647	>160	**---**	---	▲ 281
Particles >38µm		ASTM D7647	>40	**---**	---	3
Particles >71µm		ASTM D7647	>10	**---**	---	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**---**	---	▲ 25/23/18

OIL ANALYSIS REPORT

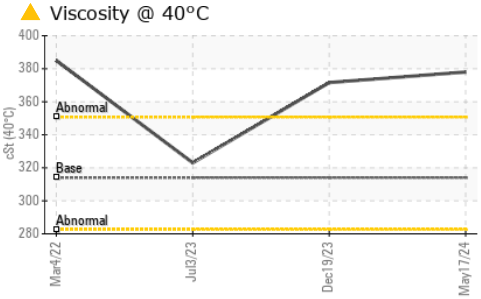
Aluminum (ppm)



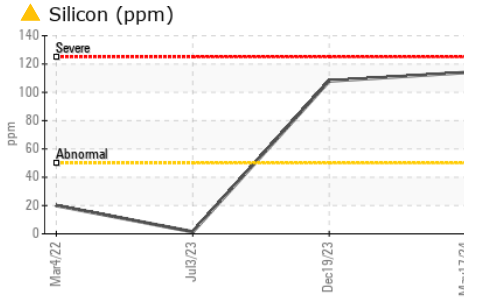
Silicon (ppm)



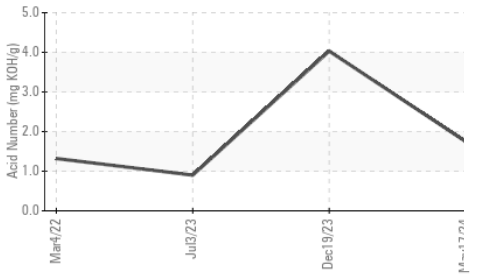
Viscosity @ 40°C



Silicon (ppm)



Acid Number



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.75**	▲ 4.03	0.90

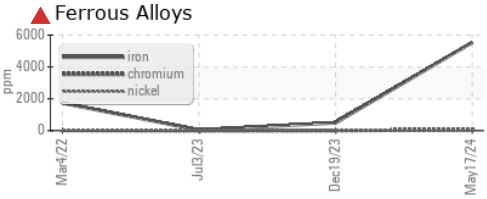
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ **MODER**	▲ MODER	▲ HEAVY
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	LIGHT
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
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	314	▲ **378**	▲ 371.6	323

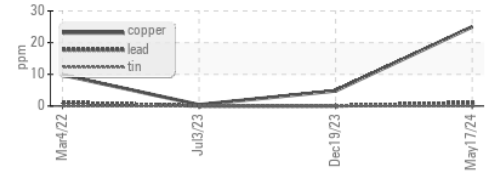
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

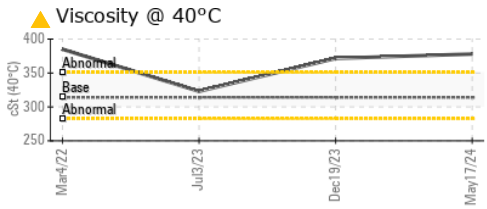
Ferrous Alloys



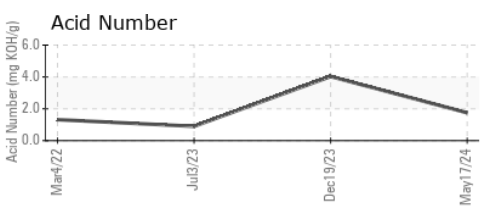
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0004649 **Received** : 19 Jun 2024
Lab Number : 06214640 **Tested** : 21 Jun 2024
Unique Number : 11087504 **Diagnosed** : 21 Jun 2024 - Don Baldridge
Test Package : IND 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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