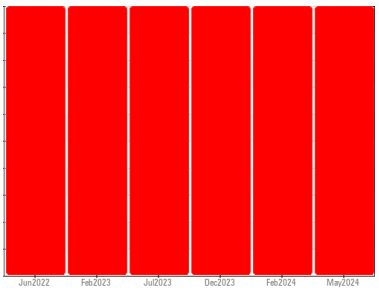
PROBLEM SUMMARY

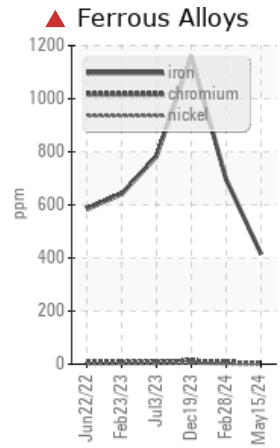
Sample Rating Trend

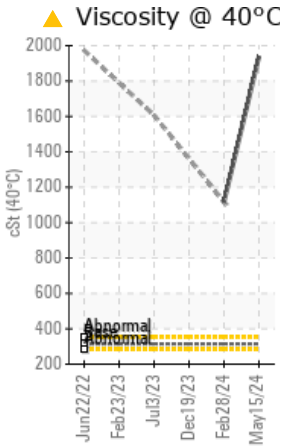


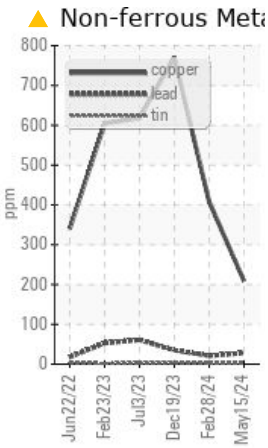
WEAR

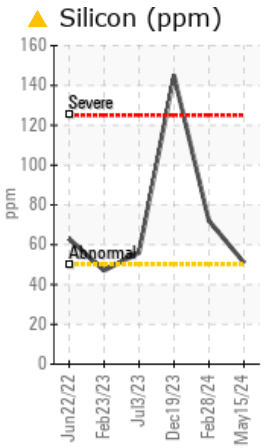
Area
HOTLINE/CRANES
Machine Id
86 CRANE - WEST BRIDGE 86 CRANE - WEST BRIDGE
Component
Gearbox
Fluid
CITGO COMPOUND EP 320 (--- GAL)

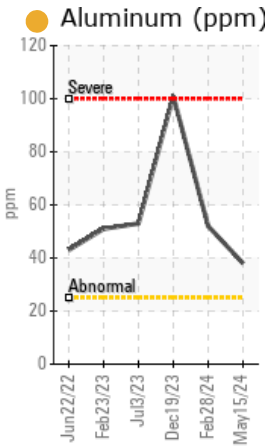
COMPONENT CONDITION SUMMARY











RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil and perform a filter service on this component if not already 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	SEVERE
Iron	ppm	ASTM D5185m	>200	▲ **415**	▲ 696	▲ 1161
Copper	ppm	ASTM D5185m	>200	▲ **209**	▲ 408	▲ 771
Silicon	ppm	ASTM D5185m	>50	▲ **51**	▲ 72	▲ 145
White Metal	scalar	*Visual	NONE	▲ **MODER**	NONE	▲ HEAVY
Visc @ 40°C	cSt	ASTM D445	314	▲ **1939**	▲ 1117	---

Customer Id: CONMUSAL
Sample No.: KFS0004619
Lab Number: 06182796
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

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 and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already 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

28 Feb 2024 Diag: Jonathan Hester

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil and perform a filter service on this component if not already 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.Bearing and/or gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil viscosity is higher than normal.

view report

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 and perform a filter service on this component if not already 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. Please note that there was too much contamination present in the oil to perform a viscosity test.High concentration of visible metal present. Bearing and/or gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

WEAR

03 Jul 2023 Diag: Jonathan Hester

We recommend that you drain the oil and perform a filter service on this component if not already 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.Bearing and/or gear wear is indicated. There is a moderate amount of visible silt present in the sample. 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. The oil is oxidized and beyond the limit of serviceability.

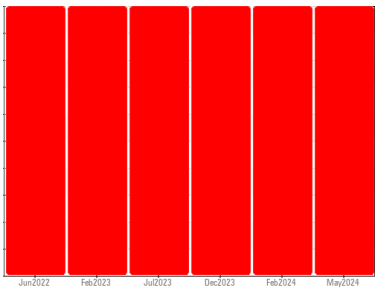
view report

KIMBRO FLUID SOLUTIONS

OIL ANALYSIS REPORT

Area
HOTLINE/CRANES
Machine Id
86 CRANE - WEST BRIDGE 86 CRANE - WEST BRIDGE
Component
Gearbox
Fluid
CITGO COMPOUND EP 320 (--- 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 and perform a filter service on this component if not already 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. Bearing and/or 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KFS0004619**	KFS0004608	KFS0004881
Sample Date		Client Info		**15 May 2024**	28 Feb 2024	19 Dec 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	SEVERE

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	▲ **415**	▲ 696	▲ 1161
Chromium	ppm	ASTM D5185m	>15	**5**	6	13
Nickel	ppm	ASTM D5185m	>15	**<1**	1	3
Titanium	ppm	ASTM D5185m		**4**	4	9
Silver	ppm	ASTM D5185m		**<1**	0	0
Aluminum	ppm	ASTM D5185m	>25	● **38**	● 52	● 101
Lead	ppm	ASTM D5185m	>100	**28**	21	35
Copper	ppm	ASTM D5185m	>200	▲ **209**	▲ 408	▲ 771
Tin	ppm	ASTM D5185m	>25	**2**	2	3
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**48**	79	153
Barium	ppm	ASTM D5185m		**28**	32	43
Molybdenum	ppm	ASTM D5185m		**9**	9	22
Manganese	ppm	ASTM D5185m		**5**	7	12
Magnesium	ppm	ASTM D5185m		**4**	11	15
Calcium	ppm	ASTM D5185m		**1061**	1517	2699
Phosphorus	ppm	ASTM D5185m		**344**	345	554
Zinc	ppm	ASTM D5185m		**624**	928	1689
Sulfur	ppm	ASTM D5185m		**7894**	6554	10435

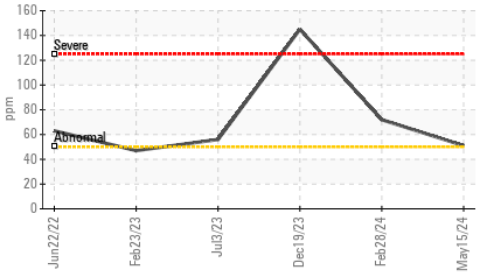
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	▲ **51**	▲ 72	▲ 145
Sodium	ppm	ASTM D5185m		**16**	18	31
Potassium	ppm	ASTM D5185m	>20	**1**	<1	7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.91**	0.72	2.158

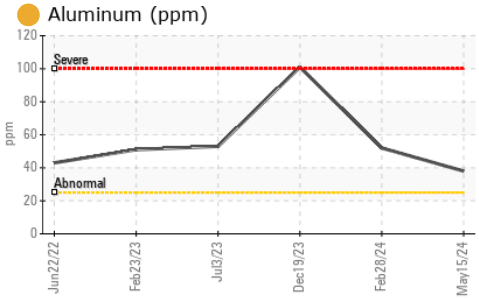
KIMBRO FLUID SOLUTIONS

OIL ANALYSIS REPORT

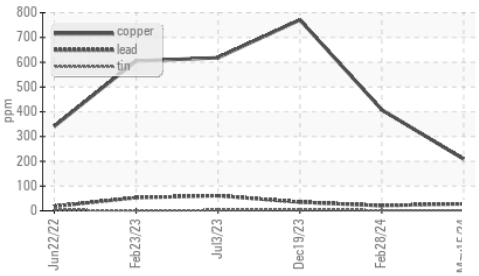
Silicon (ppm)



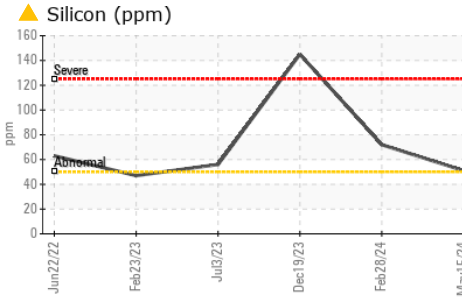
Aluminum (ppm)



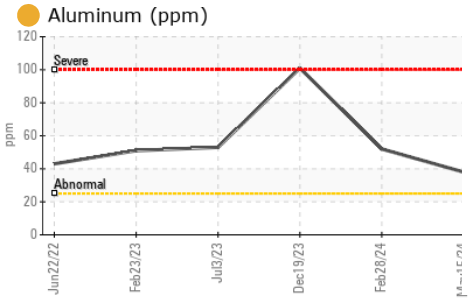
Non-ferrous Metals



Silicon (ppm)

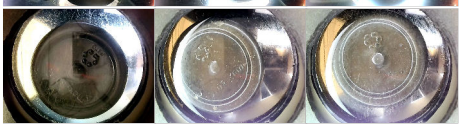


Aluminum (ppm)



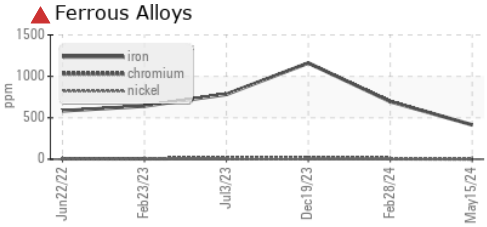
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ **MODER**	NONE	▲ HEAVY
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	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	▲ **1939**	▲ 1117	---

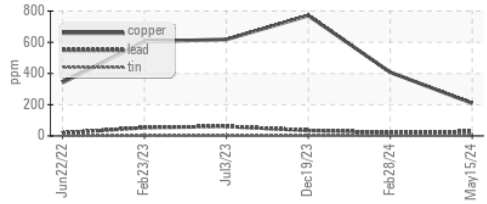
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

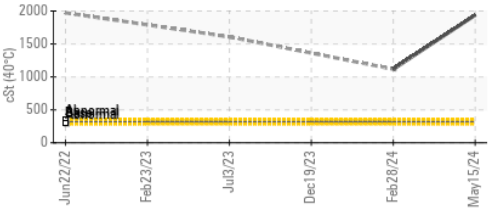
Ferrous Alloys



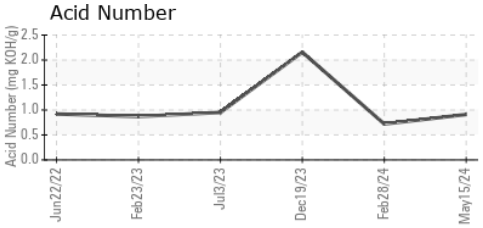
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0004619
Lab Number : 06182796
Unique Number : 11034122
Test Package : IND 2 (Additional Tests: PrtCount)

Received : 17 May 2024
Tested : 29 May 2024
Diagnosed : 29 May 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)

CONSTELLIUM
4805 SECOND STREET
MUSCLE SHOALS, AL
US 35661
Contact: Randy Nichols
randall.nichols@constellium.com
T: (256)386-6956
F:

Report Id: CONMUSAL [WUSCAR] 06182796 (Generated: 05/29/2024 17:08:18) Rev: 1

Submitted By: COLD MILL - Josh Edwards