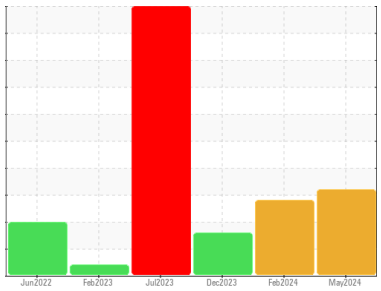
KIMBRO FLUID SOLUTIONS

OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
86 CRANE - TROLLEY 86 CRANE - TROLLEY
Component
Gearbox
Fluid
CITGO COMPOUND EP 320 (--- GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a high amount of particulates present in the oil.

Fluid Condition
The oil viscosity is higher than normal. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KFS0004620**	KFS0004605	KFS0004882
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				**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	**66**	70	62
Chromium	ppm	ASTM D5185m	>15	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>15	**0**	<1	0
Titanium	ppm	ASTM D5185m		**2**	<1	<1
Silver	ppm	ASTM D5185m		**<1**	0	0
Aluminum	ppm	ASTM D5185m	>25	**11**	11	2
Lead	ppm	ASTM D5185m	>100	**32**	17	<1
Copper	ppm	ASTM D5185m	>200	**7**	10	43
Tin	ppm	ASTM D5185m	>25	**<1**	<1	0
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		**10**	9	4
Barium	ppm	ASTM D5185m		**28**	16	0
Molybdenum	ppm	ASTM D5185m		**3**	0	2
Manganese	ppm	ASTM D5185m		**2**	0	<1
Magnesium	ppm	ASTM D5185m		**2**	6	2
Calcium	ppm	ASTM D5185m		**292**	235	28
Phosphorus	ppm	ASTM D5185m		**369**	223	347
Zinc	ppm	ASTM D5185m		**259**	173	212
Sulfur	ppm	ASTM D5185m		**9290**	6014	8083

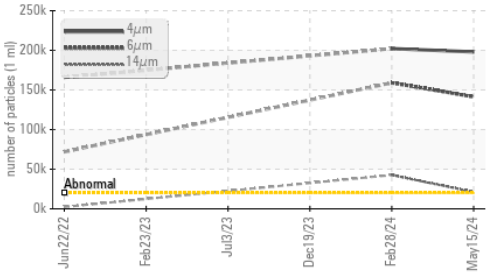
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**18**	13	6
Sodium	ppm	ASTM D5185m		**14**	5	6
Potassium	ppm	ASTM D5185m	>20	**1**	2	2

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **198013**	▲ 202171	---
Particles >6µm		ASTM D7647	>5000	▲ **141334**	▲ 158998	---
Particles >14µm		ASTM D7647	>640	▲ **21174**	▲ 42611	---
Particles >21µm		ASTM D7647	>160	▲ **5085**	▲ 13419	---
Particles >38µm		ASTM D7647	>40	▲ **225**	▲ 505	---
Particles >71µm		ASTM D7647	>10	▲ **22**	▲ 26	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **25/24/22**	▲ 25/24/23	---

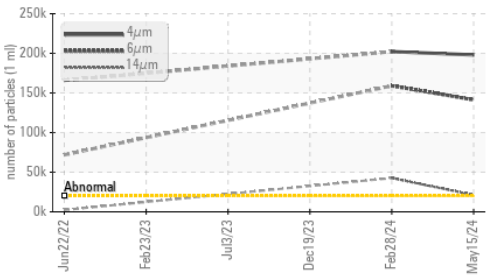
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.78**	0.63	1.05

OIL ANALYSIS REPORT

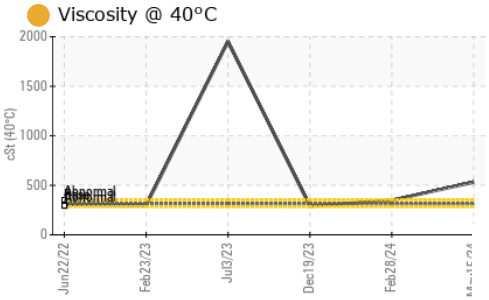
Particle Trend



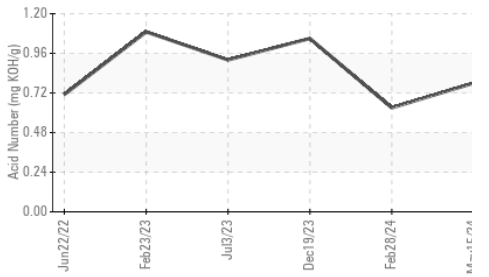
Particle Trend



Viscosity @ 40°C

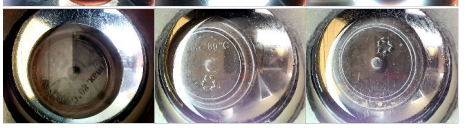


Acid Number



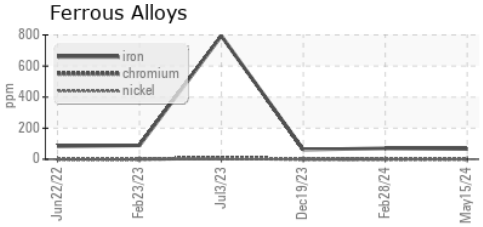
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	LIGHT	▲ HEAVY
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	▲ MODER
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	314	● **531**	349	289

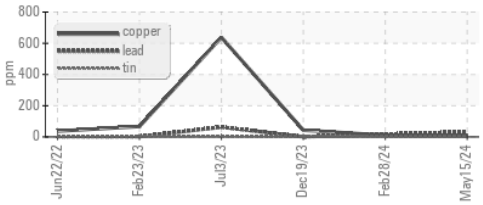
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

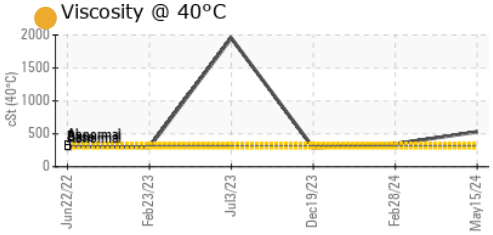
Ferrous Alloys



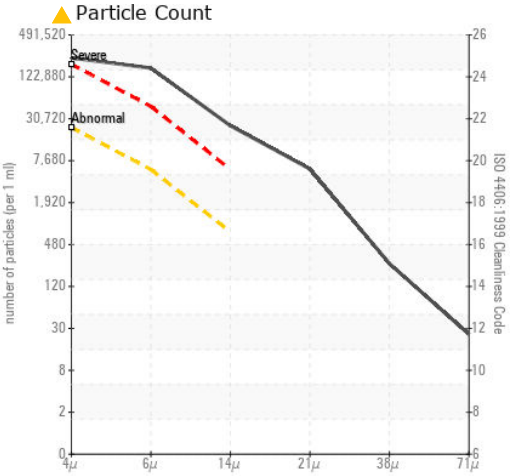
Non-ferrous Metals



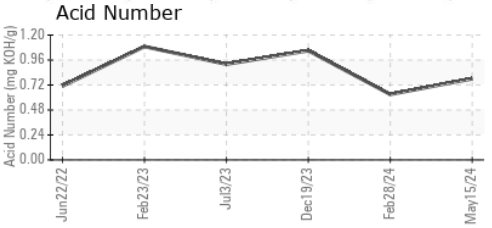
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0004620 **Received** : 17 May 2024
Lab Number : 06182793 **Tested** : 22 May 2024
Unique Number : 11034119 **Diagnosed** : 22 May 2024 - Don Baldridge
Test Package : IND 2 (Additional Tests: PrtCount)

Certificate L2367

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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