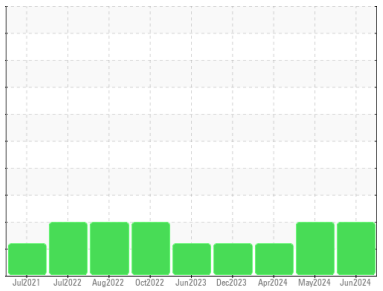
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
Louisville
Machine Id
[Louisville] Hydraulic - Steering
Component
Hydraulic System
Fluid
AW HYDRAULIC OIL ISO 46 (35 GAL)

DIAGNOSIS

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

Wear
The iron level is abnormal. All other component wear rates are normal.

Contamination
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

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		**WC0898530**	WC0898529	WC0874757
Sample Date		Client Info		**29 Jun 2024**	29 May 2024	28 Apr 2024
Machine Age	hrs	Client Info		**12696**	13589	985
Oil Age	hrs	Client Info		**14000**	13589	13000
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	>20	▲ **22**	▲ 24	18
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	0
Nickel	ppm	ASTM D5185m	>20	**<1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m		**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**2**	2	0
Lead	ppm	ASTM D5185m	>20	**<1**	<1	0
Copper	ppm	ASTM D5185m	>20	**2**	2	3
Tin	ppm	ASTM D5185m	>20	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	**0**	0	0
Barium	ppm	ASTM D5185m	5	**0**	<1	2
Molybdenum	ppm	ASTM D5185m	5	**<1**	<1	0
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m	25	**28**	28	23
Calcium	ppm	ASTM D5185m	200	**60**	72	67
Phosphorus	ppm	ASTM D5185m	300	**252**	257	255
Zinc	ppm	ASTM D5185m	370	**330**	327	306
Sulfur	ppm	ASTM D5185m	2500	**1000**	1065	1184

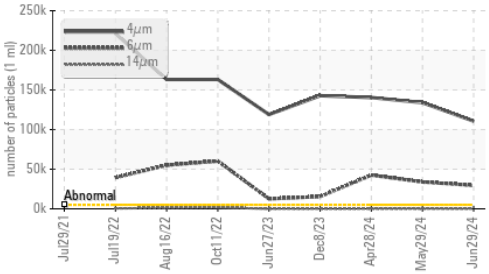
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**<1**	1	<1
Sodium	ppm	ASTM D5185m		**0**	0	3
Potassium	ppm	ASTM D5185m	>20	**1**	1	<1
Water	%	ASTM D6304	>0.05	**0.007**	0.002	0.013
ppm Water	ppm	ASTM D6304	>500	**71**	17	139

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **110670**	▲ 133992	▲ 140434
Particles >6µm		ASTM D7647	>1300	▲ **29507**	▲ 33912	▲ 42558
Particles >14µm		ASTM D7647	>160	**103**	160	145
Particles >21µm		ASTM D7647	>40	**14**	19	16
Particles >38µm		ASTM D7647	>10	**0**	1	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **24/22/14**	▲ 24/22/14	▲ 24/23/14

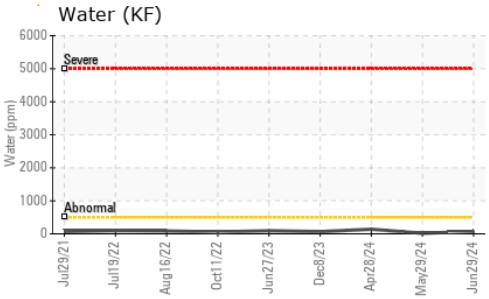
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	**0.30**	0.28	0.29

OIL ANALYSIS REPORT

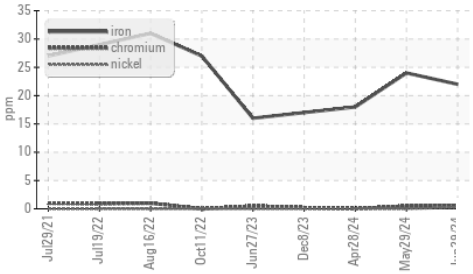
Particle Trend



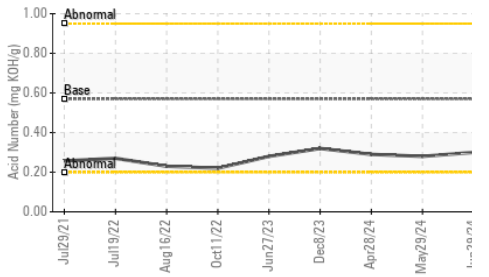
Water (KF)



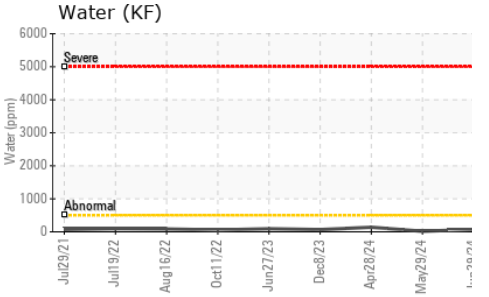
Ferrous Alloys



Acid Number



Water (KF)



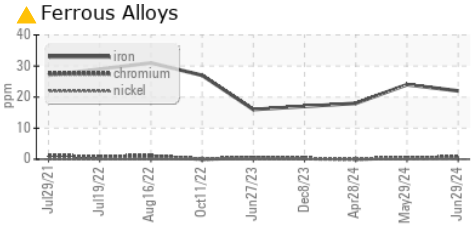
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	**50.7**	51.3	51.0

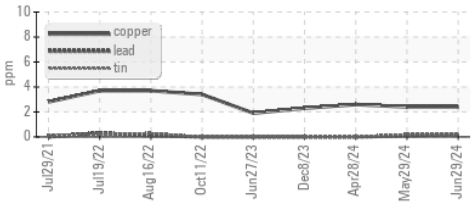
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

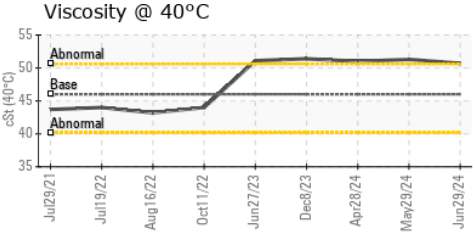
Ferrous Alloys



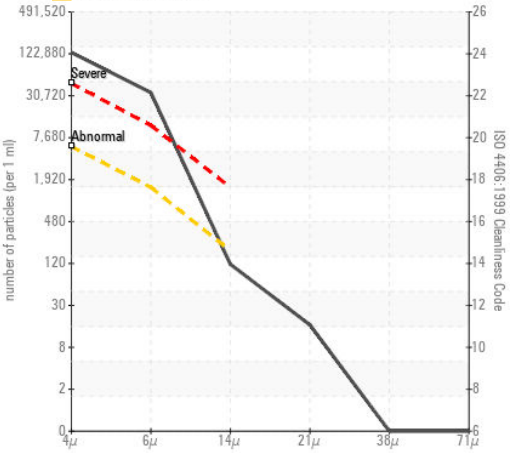
Non-ferrous Metals



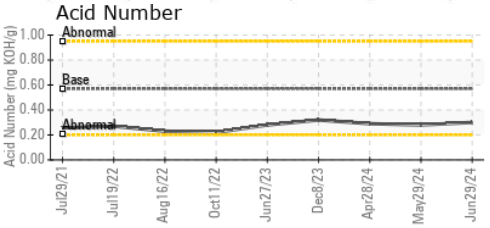
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0898530
Lab Number : 06235928
Unique Number : 11124762
Test Package : IND 2 (Additional Tests: KF)

Received : 15 Jul 2024
Tested : 16 Jul 2024
Diagnosed : 16 Jul 2024 - Don Baldridge

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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Report Id: MARCAT [WUSCAR] 06235928 (Generated: 07/16/2024 15:38:26) Rev: 1

Submitted By: M/V LOUISVILLE