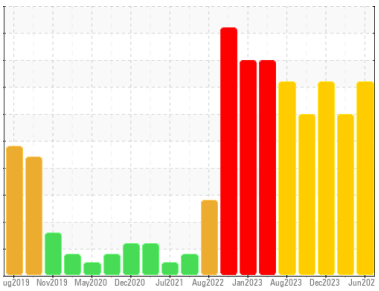
PROBLEM SUMMARY

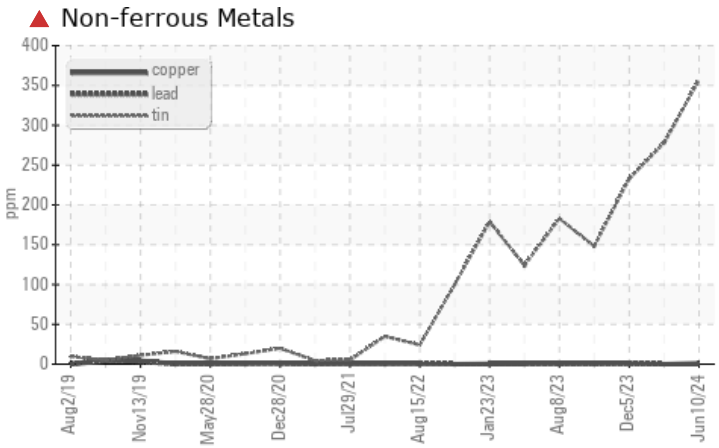
Area
Milliken
Machine Id
INGERSOLL RAND EE4347U19082 - MILLIKEN
Component
Compressor
Fluid
INGERSOLL-RAND SSR ULTRA COOLANT (--- GAL)

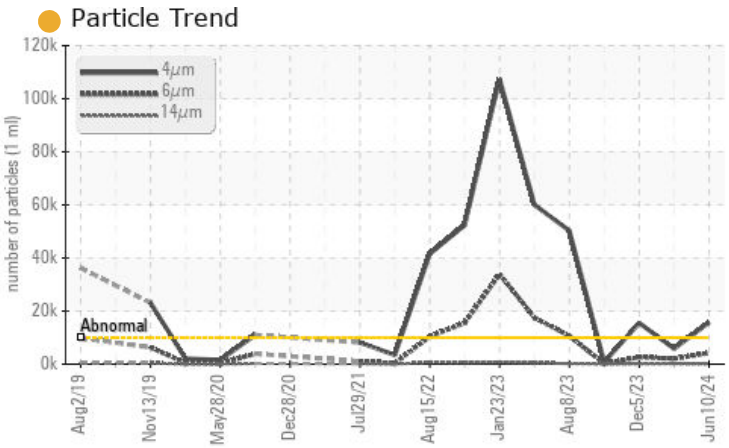
Sample Rating Trend



WEAR

COMPONENT CONDITION SUMMARY





RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Tin	ppm	ASTM D5185m	>15	▲ **357**	▲ 278	▲ 233

Customer Id: AIRALLPA
Sample No.: APCI2320830
Lab Number: 06212477
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	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

WEAR

05 Mar 2024 Diag: Don Baldridge
The oil is near the end of it`s useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition.The tin level is severe. All other component wear rates are normal. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid.

view report

WEAR

05 Dec 2023 Diag: Jonathan Hester
The oil is near the end of it`s useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition.The tin level is severe. All other component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid.

view report

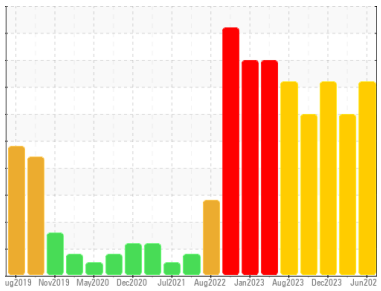
WEAR

18 Sep 2023 Diag: Don Baldridge
The oil is near the end of it`s useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition.The tin level is severe. All other component wear rates are normal. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
Milliken
Machine Id
INGERSOLL RAND EE4347U19082 - MILLIKEN
Component
Compressor
Fluid
INGERSOLL-RAND SSR ULTRA COOLANT (--- GAL)

DIAGNOSIS

▲ Recommendation
Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

▲ Wear
The tin level is severe.

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

Fluid Condition
The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**APCI2320830**	APCI2320834	APCI2320833
Sample Date		Client Info		**10 Jun 2024**	05 Mar 2024	05 Dec 2023
Machine Age	hrs	Client Info		**0**	37456	33169
Oil Age	hrs	Client Info		**2000**	2000	4000
Oil Changed		Client Info		**Changed**	N/A	Not Changd
Sample Status				**SEVERE**	SEVERE	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**1**	0	2
Chromium	ppm	ASTM D5185m	>10	**0**	0	<1
Nickel	ppm	ASTM D5185m		**0**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	0	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**<1**	0	2
Lead	ppm	ASTM D5185m	>25	**0**	0	<1
Copper	ppm	ASTM D5185m	>50	**1**	0	<1
Tin	ppm	ASTM D5185m	>15	▲ **357**	▲ 278	▲ 233
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	0
Barium	ppm	ASTM D5185m	500	**430**	536	590
Molybdenum	ppm	ASTM D5185m	0	**0**	0	<1
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	0	**4**	1	<1
Calcium	ppm	ASTM D5185m	0	**8**	4	4
Phosphorus	ppm	ASTM D5185m	20	**3**	0	23
Zinc	ppm	ASTM D5185m	0	**10**	0	0
Sulfur	ppm	ASTM D5185m	200	**391**	324	217

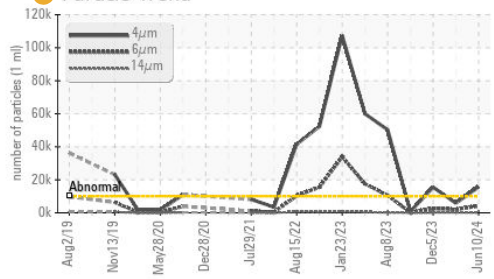
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**1**	<1	2
Sodium	ppm	ASTM D5185m		**53**	51	52
Potassium	ppm	ASTM D5185m	>20	**8**	6	7
Water	%	ASTM D6304	>0.1	**0.309**	0.283	0.222
ppm Water	ppm	ASTM D6304	>1000	**3098**	2839	2227

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	● **15701**	5835	● 15505
Particles >6µm		ASTM D7647	>2500	● **4204**	2045	● 2628
Particles >14µm		ASTM D7647	>320	**95**	154	146
Particles >21µm		ASTM D7647	>80	**15**	36	46
Particles >38µm		ASTM D7647	>20	**1**	1	4
Particles >71µm		ASTM D7647	>4	**0**	0	1
Oil Cleanliness		ISO 4406 (c)	>20/18/15	● **21/19/14**	20/18/14	● 21/19/14

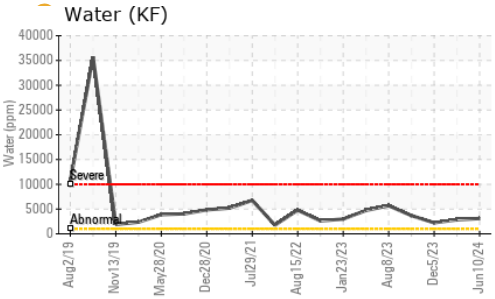
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.17**	0.787	0.51

OIL ANALYSIS REPORT

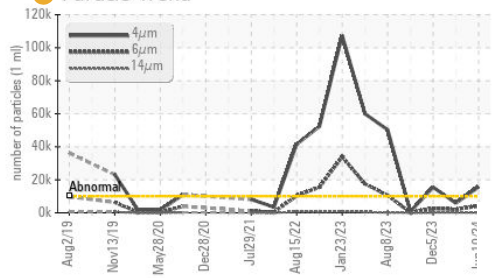
Particle Trend



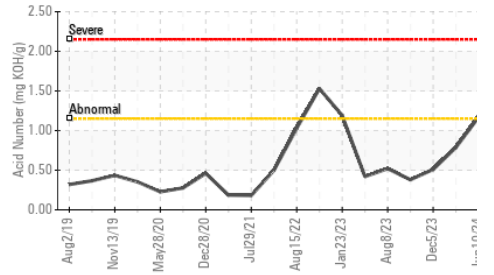
Water (KF)



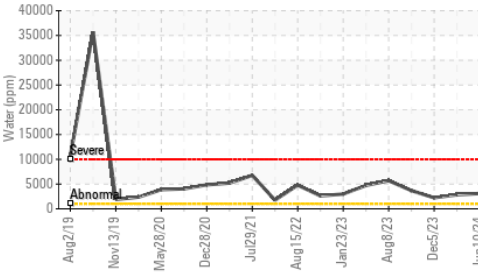
Particle Trend



Acid Number



Water (KF)



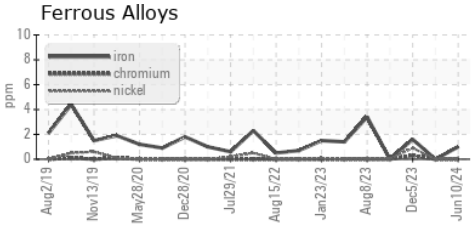
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	49.4	**56.4**	54.6	54.2

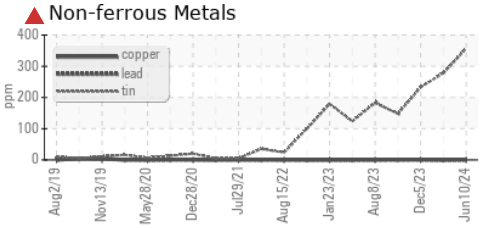
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

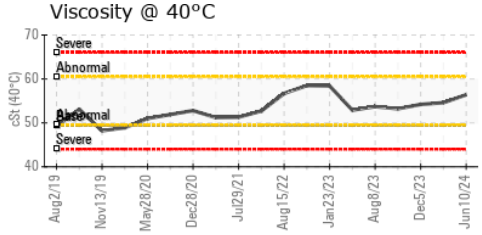
Ferrous Alloys



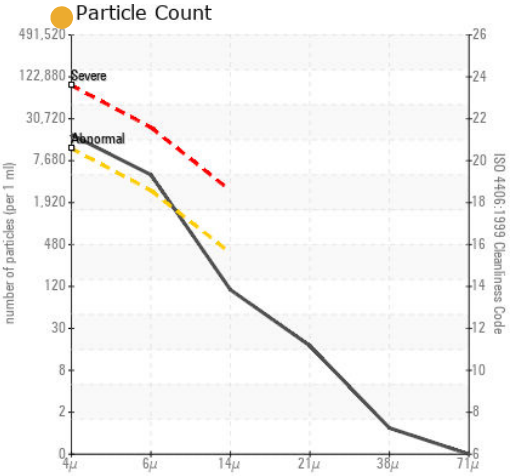
Non-ferrous Metals



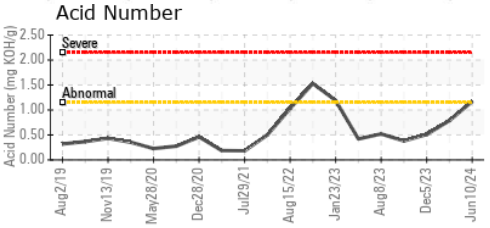
Viscosity @ 40°C



Particle Count



Acid Number



ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : APCI2320830
Lab Number : 06212477
Unique Number : 11085341
Test Package : IND 2 (Additional Tests: KF, PrtCount)

Received : 17 Jun 2024
Tested : 20 Jun 2024
Diagnosed : 20 Jun 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)

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