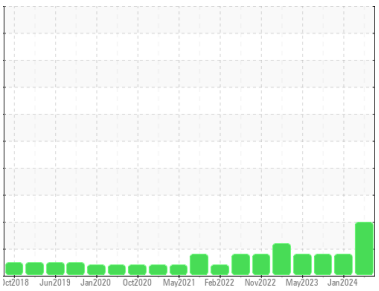
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
North Plant-Fermentation
Machine Id
AG1760F
Component
Gearbox
Fluid
HIGH PERFORMANCE LUBRICANTS TURBINE LIFE 320 (20 GAL)

DIAGNOSIS

Recommendation
We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample at the next service interval to monitor.

Wear
The tin level is abnormal. Bearing and/or bushing wear is indicated.

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		**WC0941389**	WC0850042	WC0850034
Sample Date		Client Info		**24 May 2024**	24 Jan 2024	16 Oct 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**	ATTENTION	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**57**	4	1
Chromium	ppm	ASTM D5185m	>10	**<1**	<1	0
Nickel	ppm	ASTM D5185m	>10	**<1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**6**	2	0
Lead	ppm	ASTM D5185m	>50	**<1**	0	<1
Copper	ppm	ASTM D5185m	>200	**53**	162	93
Tin	ppm	ASTM D5185m	>10	▲ **12**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	0
Barium	ppm	ASTM D5185m		**<1**	0	0
Molybdenum	ppm	ASTM D5185m		**<1**	0	0
Manganese	ppm	ASTM D5185m		**<1**	0	0
Magnesium	ppm	ASTM D5185m		**2**	<1	0
Calcium	ppm	ASTM D5185m	200	**2**	3	0
Phosphorus	ppm	ASTM D5185m		**75**	50	40
Zinc	ppm	ASTM D5185m		**5**	0	0
Sulfur	ppm	ASTM D5185m	19000	**7762**	33134	22065

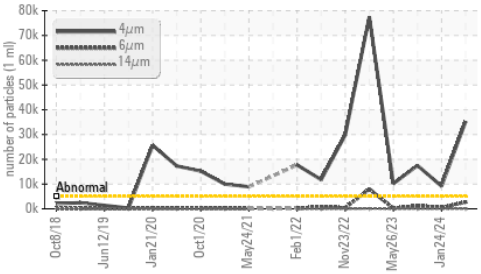
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**14**	4	4
Sodium	ppm	ASTM D5185m		**15**	<1	0
Potassium	ppm	ASTM D5185m	>20	**4**	<1	0
Water	%	ASTM D6304	>0.2	**0.003**	0.007	0.009
ppm Water	ppm	ASTM D6304	>2000	**35**	74	97.4

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **35199**	● 9151	▲ 17499
Particles >6µm		ASTM D7647	>1300	▲ **2721**	532	1268
Particles >14µm		ASTM D7647	>160	**37**	26	55
Particles >21µm		ASTM D7647	>40	**9**	6	10
Particles >38µm		ASTM D7647	>10	**0**	0	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **22/19/12**	● 20/16/12	▲ 21/17/13

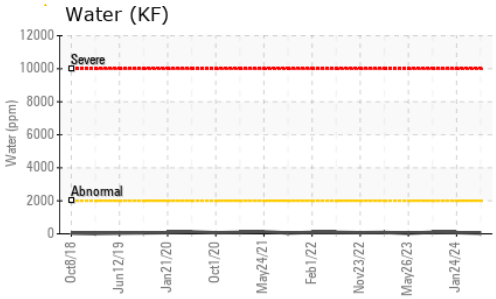
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.19	**0.43**	0.43	0.43

OIL ANALYSIS REPORT

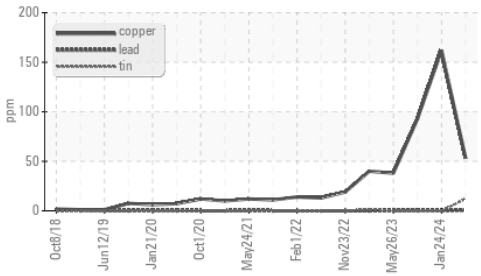
Particle Trend



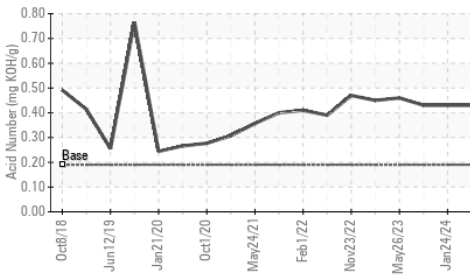
Water (KF)



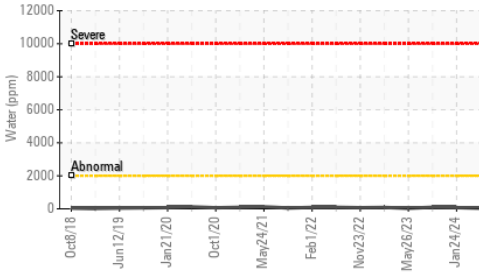
Non-ferrous Metals



Acid Number

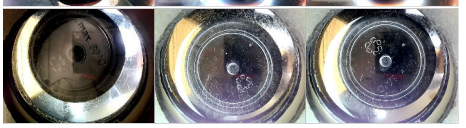


Water (KF)



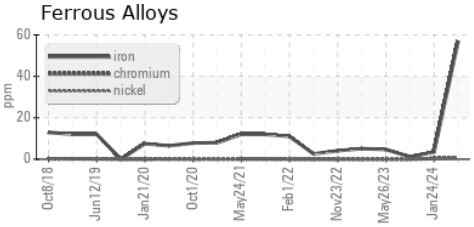
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	**304**	305	297

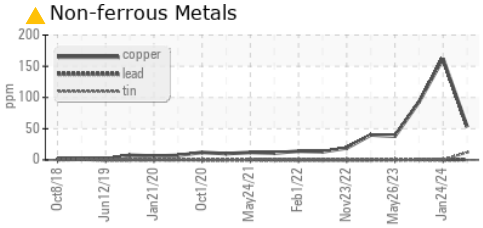
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

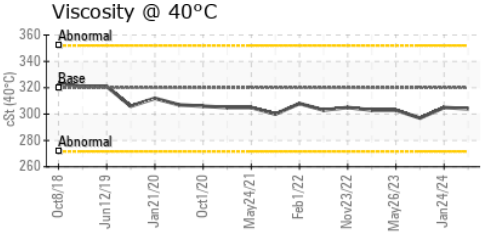
Ferrous Alloys



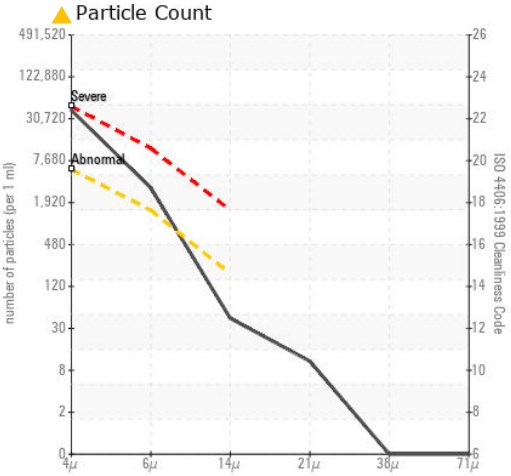
Non-ferrous Metals



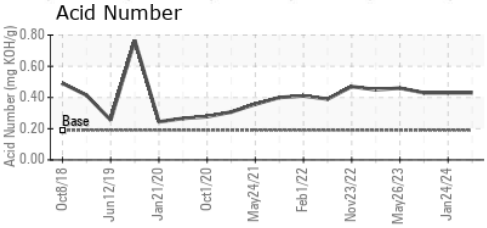
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0941389
Lab Number : 06195450
Unique Number : 11057573
Test Package : PLANT

Received : 30 May 2024
Tested : 31 May 2024
Diagnosed : 31 May 2024 - Angela Borella

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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