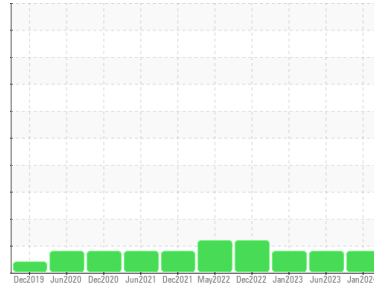




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
Fermentation
 Machine Id
Lightnin FFG11CB01 Mixing Tank, Agitator
 Component
Gearbox
 Fluid
JAX FGG-AW ISO 220 (4 GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 6 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		WC0857611	WC0793868	WC0765180
Sample Date	Client Info		11 Jan 2024	07 Jun 2023	13 Jan 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	ATTENTION

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	10	9	8
Chromium	ppm	ASTM D5185m >15	<1	0	0
Nickel	ppm	ASTM D5185m >15	0	0	0
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	2	1	2
Lead	ppm	ASTM D5185m >100	0	0	0
Copper	ppm	ASTM D5185m >200	<1	<1	0
Tin	ppm	ASTM D5185m >25	<1	0	<1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	2	1
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	<1	0	0
Manganese	ppm	ASTM D5185m	0	<1	0
Magnesium	ppm	ASTM D5185m	0	0	0
Calcium	ppm	ASTM D5185m	147	122	72
Phosphorus	ppm	ASTM D5185m	528	518	550
Zinc	ppm	ASTM D5185m	0	7	8
Sulfur	ppm	ASTM D5185m	876	1014	907

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	2	2	2
Sodium	ppm	ASTM D5185m	0	<1	1
Potassium	ppm	ASTM D5185m >20	1	0	0
Water	%	ASTM D6304 >0.2	0.005	0.004	0.005
ppm Water	ppm	ASTM D6304 >2000	54	46.5	56.9

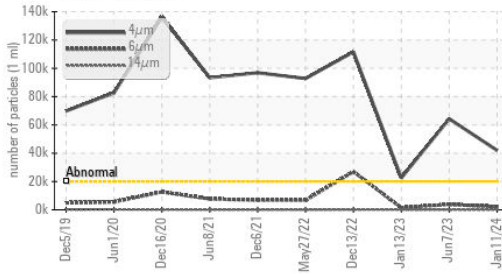
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	▲ 42028	▲ 64262	▲ 22583
Particles >6µm	ASTM D7647	>5000	2193	3808	1481
Particles >14µm	ASTM D7647	>640	45	48	46
Particles >21µm	ASTM D7647	>160	12	6	6
Particles >38µm	ASTM D7647	>40	1	1	1
Particles >71µm	ASTM D7647	>10	1	0	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 23/18/13	▲ 23/19/13	▲ 22/18/13

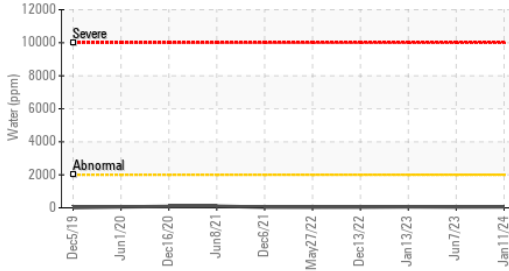
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.40	0.48	0.53

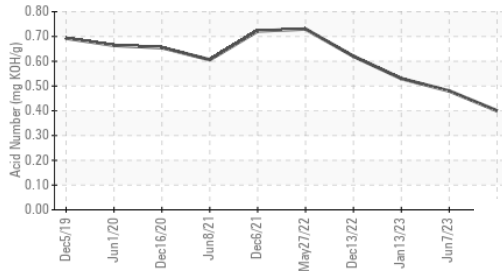
Particle Trend



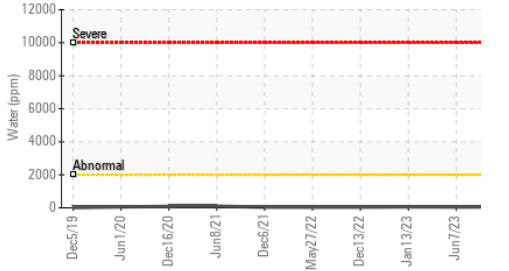
Water (KF)



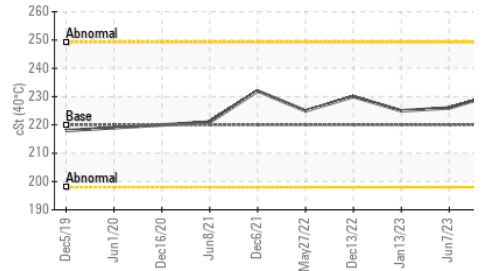
Acid Number



Water (KF)



Viscosity @ 40°C



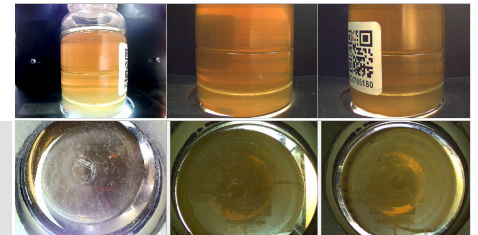
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	220	231	226

SAMPLE IMAGES	method	limit/base	current	history1	history2
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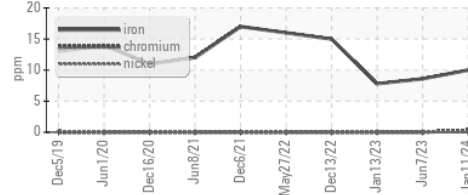
Color

Bottom

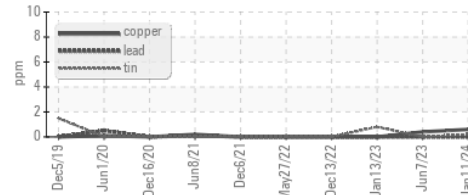


GRAPHS

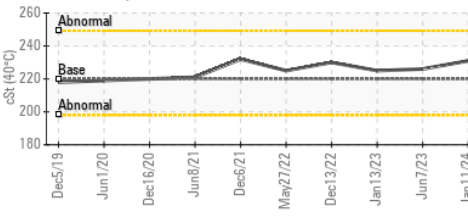
Ferrous Alloys



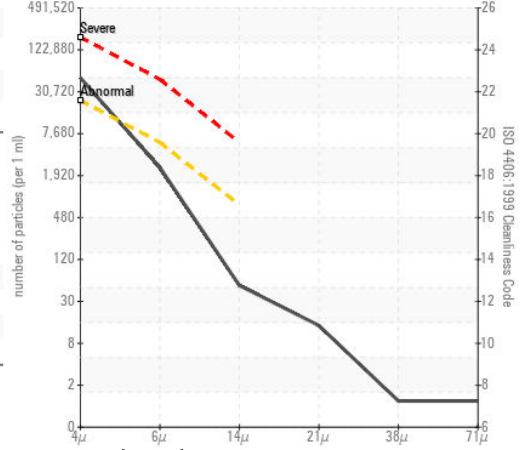
Non-ferrous Metals



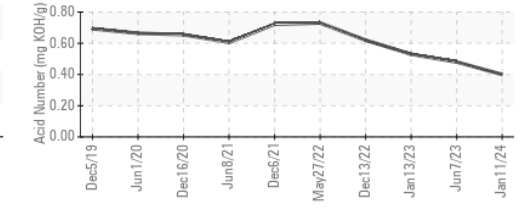
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0857611 **Received** : 16 Jan 2024
Lab Number : 06061940 **Diagnosed** : 18 Jan 2024
Unique Number : 10833322 **Diagnostician** : Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PrtCount)

NOVOZYMES
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FRANKLINTON, NC
US 27525
Contact: BRUCE THOMAS
brct@novozymes.com
T: (919)494-3146
F: (919)494-3456

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)