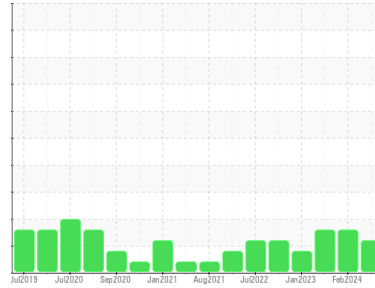




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

Fermentation

Machine Id

Lightnin FFG30SB01 Seed Fermentor, Agitator

Component

Gearbox

Fluid

JAX FGG-AW ISO 220 (11 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 < 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		WC0901914	WC0883690	WC0782820
Sample Date	Client Info		09 Jul 2024	06 Feb 2024	06 Jul 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

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>200	6	30	32
Chromium	ppm	ASTM D5185m	>15	0	0	<1
Nickel	ppm	ASTM D5185m	>15	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	7	10
Lead	ppm	ASTM D5185m	>100	0	0	0
Copper	ppm	ASTM D5185m	>200	0	<1	<1
Tin	ppm	ASTM D5185m	>25	0	0	0
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		0	3	2
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		2	6	5
Calcium	ppm	ASTM D5185m		204	1093	1115
Phosphorus	ppm	ASTM D5185m		699	552	567
Zinc	ppm	ASTM D5185m		0	28	21
Sulfur	ppm	ASTM D5185m		815	1216	1559

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>50	2	8	6
Sodium	ppm	ASTM D5185m		<1	<1	<1
Potassium	ppm	ASTM D5185m	>20	0	0	<1
Water	%	ASTM D6304	>0.2	0.005	0.024	0.006
ppm Water	ppm	ASTM D6304	>2000	50	241	61.7

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	▲ 52495	▲ 155684	▲ 207795
Particles >6µm	ASTM D7647	>5000	▲ 14175	▲ 59120	▲ 71423
Particles >14µm	ASTM D7647	>640	126	▲ 1000	▲ 930
Particles >21µm	ASTM D7647	>160	13	141	115
Particles >38µm	ASTM D7647	>40	1	3	5
Particles >71µm	ASTM D7647	>10	0	0	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 23/21/14	▲ 24/23/17	▲ 25/23/17

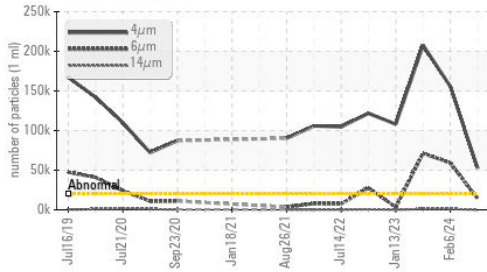
FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045		0.63	0.52	0.55

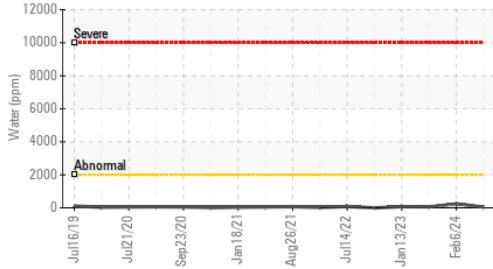


OIL ANALYSIS REPORT

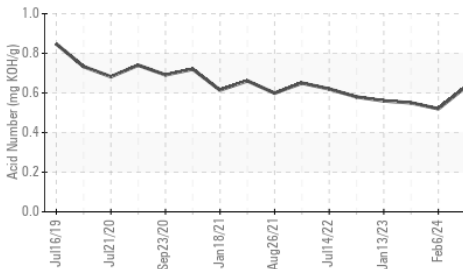
Particle Trend



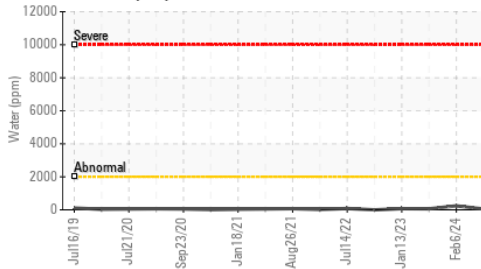
Water (KF)



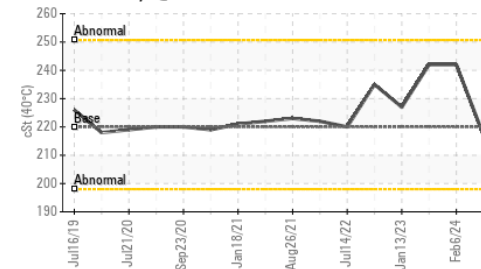
Acid Number



Water (KF)



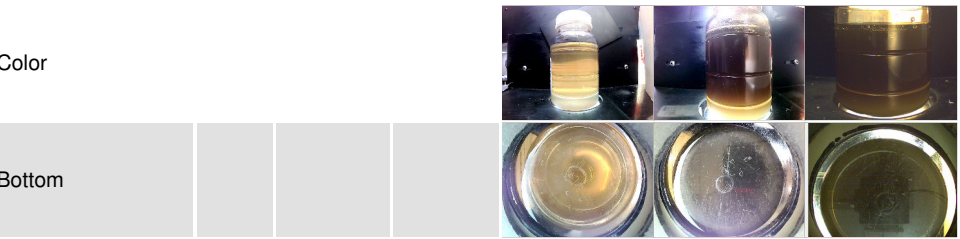
Viscosity @ 40°C



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

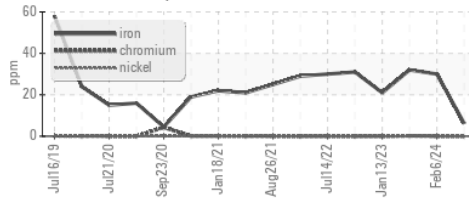
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 220	217	242	242

SAMPLE IMAGES

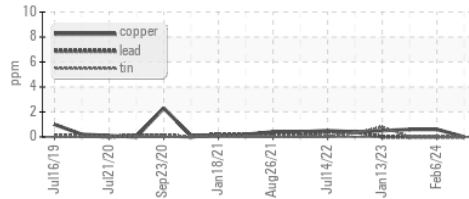


GRAPHS

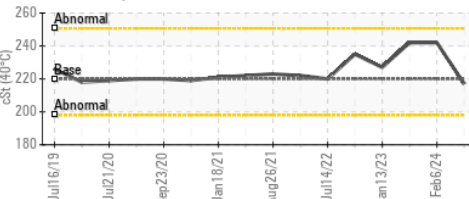
Ferrous Alloys



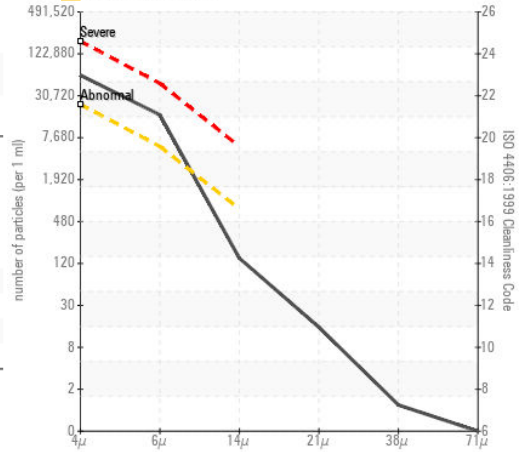
Non-ferrous Metals



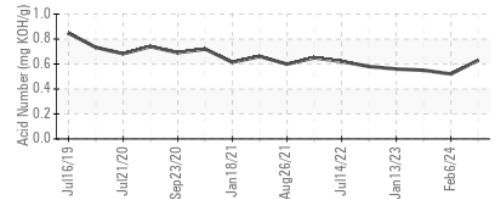
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0901914

Lab Number : 06237800

Unique Number : 11126634

Test Package : IND 2 (Additional Tests: KF, PrtCount)

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)

Received : 16 Jul 2024

Tested : 17 Jul 2024

Diagnosed : 18 Jul 2024 - Doug Bogart

NOVOZYMES

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