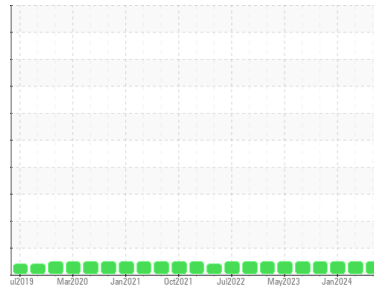




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Fermentation

Machine Id

Lightnin FFG30MB01 Main Fermentor, Agitator

Component

Gearbox

Fluid

JAX FGG-AW ISO 220 (28 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the component. The amount and size of particulates present in the system is acceptable.

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			WC0901916	WC0883711	WC0857619
Sample Date	Client Info			12 Jul 2024	09 May 2024	18 Jan 2024
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				NORMAL	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	7	5	2
Chromium	ppm	ASTM D5185m	>15	0	0	<1
Nickel	ppm	ASTM D5185m	>15	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	<1	0
Aluminum	ppm	ASTM D5185m	>25	0	<1	2
Lead	ppm	ASTM D5185m	>100	0	0	<1
Copper	ppm	ASTM D5185m	>200	0	<1	<1
Tin	ppm	ASTM D5185m	>25	0	0	1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	<1
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		0	0	1
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m		<1	0	0
Calcium	ppm	ASTM D5185m		3	6	3
Phosphorus	ppm	ASTM D5185m		679	593	584
Zinc	ppm	ASTM D5185m		0	9	0
Sulfur	ppm	ASTM D5185m		758	706	527

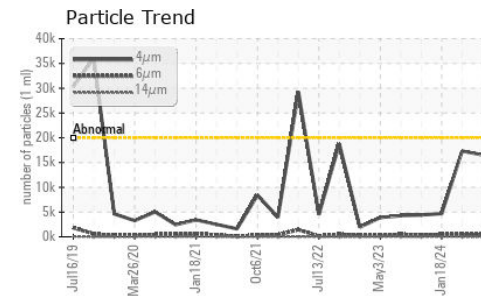
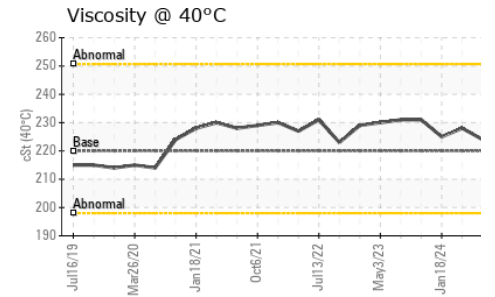
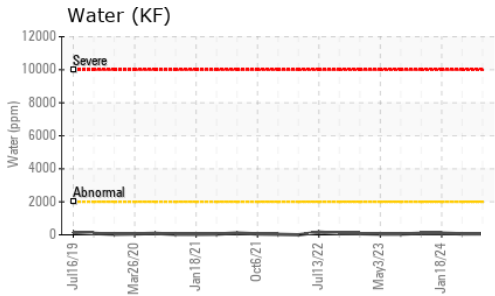
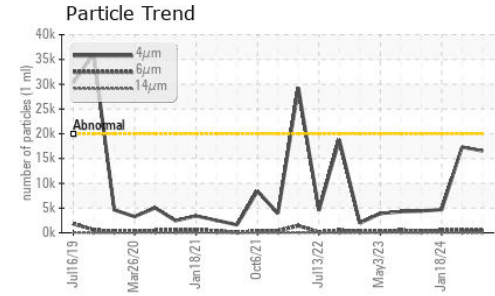
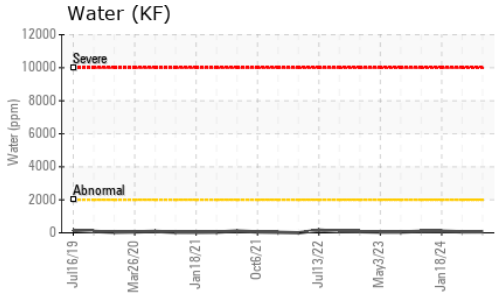
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	6	6	2
Sodium	ppm	ASTM D5185m		0	1	0
Potassium	ppm	ASTM D5185m	>20	0	0	1
Water	%	ASTM D6304	>0.2	0.006	0.005	0.010
ppm Water	ppm	ASTM D6304	>2000	62	59	101

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	16527	17318	4698
Particles >6µm		ASTM D7647	>5000	477	500	482
Particles >14µm		ASTM D7647	>640	15	9	19
Particles >21µm		ASTM D7647	>160	3	1	6
Particles >38µm		ASTM D7647	>40	1	0	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	21/16/11	21/16/10	19/16/11

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.69	0.73	0.68



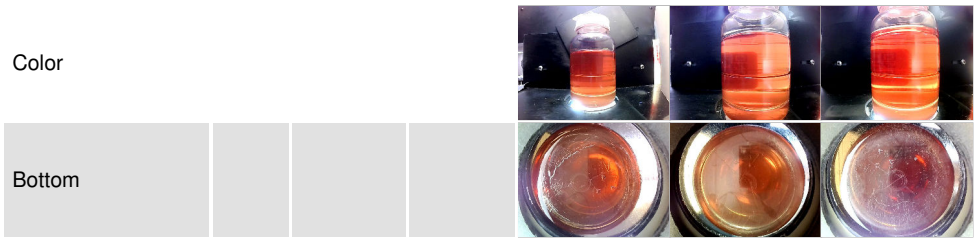
OIL ANALYSIS REPORT



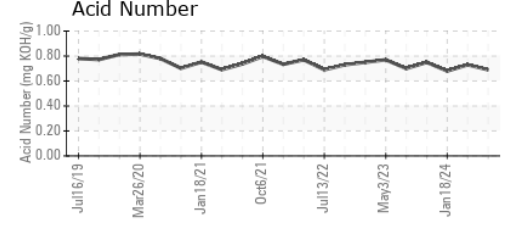
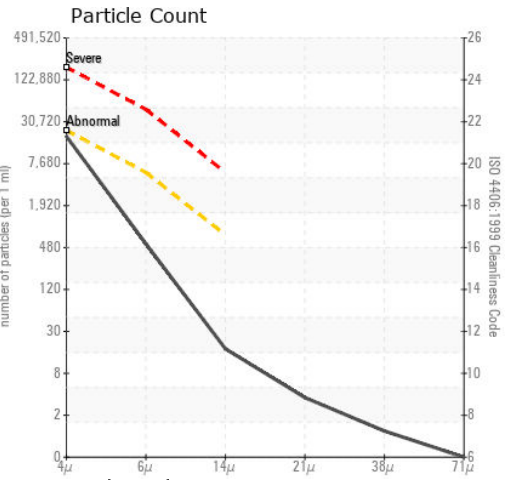
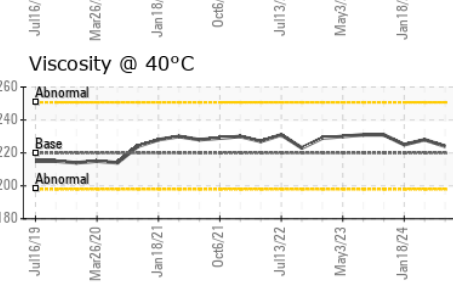
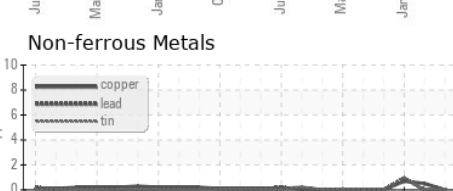
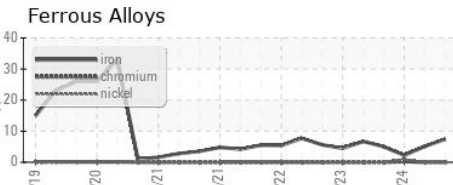
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	224	228	225

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0901916 **Received** : 16 Jul 2024
Lab Number : **06237804** **Tested** : 17 Jul 2024
Unique Number : 11126638 **Diagnosed** : 18 Jul 2024 - Doug Bogart
Test Package : IND 2 (Additional Tests: KF, PrtCount)

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 FRANKLINTON, NC
 US 27525
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 brct@novozymes.com
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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)