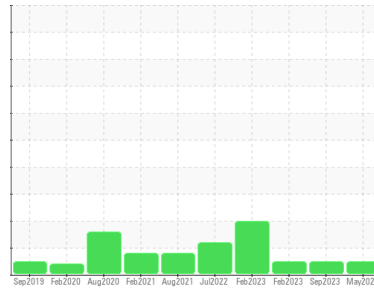




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**Fermentation**

Machine Id

**Lightnin FHG52BB01 Seed Fermentor, Agitator**

Component

**Gearbox**

Fluid

**JAX FGG-AW ISO 220 (11 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 oil. The amount and size of particulates present in the system are 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	<b>WC0888630</b>	WC0843013	WC0697842
Sample Date	Client Info	<b>24 May 2024</b>	27 Sep 2023	17 Feb 2023
Machine Age	hrs	Client Info	<b>0</b>	0
Oil Age	hrs	Client Info	<b>0</b>	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>200	<b>10</b>	10	3
Chromium	ppm	ASTM D5185m	>15	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>15	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>0</b>	0	0
Lead	ppm	ASTM D5185m	>100	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>200	<b>0</b>	0	0
Tin	ppm	ASTM D5185m	>25	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>0</b>	0	0
Calcium	ppm	ASTM D5185m		<b>21</b>	7	<1
Phosphorus	ppm	ASTM D5185m		<b>484</b>	463	453
Zinc	ppm	ASTM D5185m		<b>0</b>	2	0
Sulfur	ppm	ASTM D5185m		<b>753</b>	716	734

## CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>50	<b>0</b>	<1	<1
Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	0
Water	%	ASTM D6304	>0.2	<b>0.004</b>	0.001	0.010
ppm Water	ppm	ASTM D6304	>2000	<b>45</b>	5.9	103.3

## FLUID CLEANLINESS

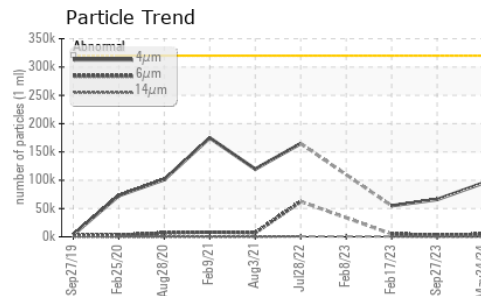
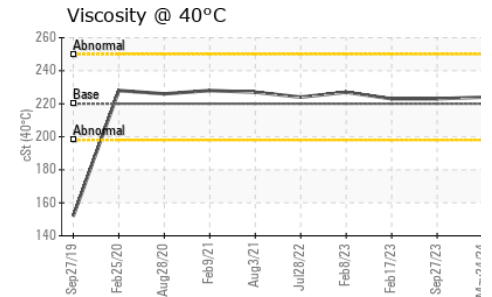
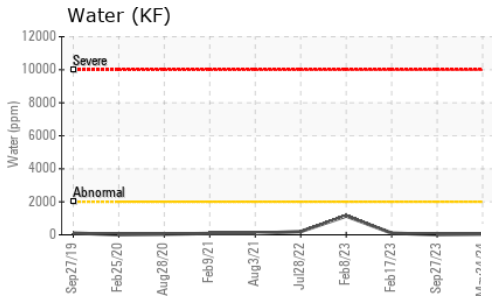
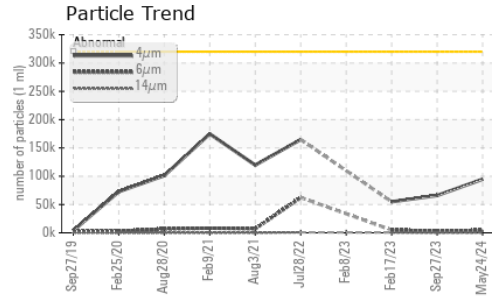
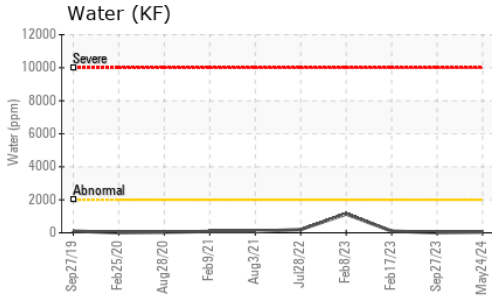
method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>320000	<b>94665</b>	65945	54833
Particles >6µm	ASTM D7647	>20000	<b>4516</b>	3054	5005
Particles >14µm	ASTM D7647	>640	<b>115</b>	79	410
Particles >21µm	ASTM D7647	>160	<b>22</b>	18	118
Particles >38µm	ASTM D7647	>40	<b>1</b>	1	4
Particles >71µm	ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>25/21/16	<b>24/19/14</b>	23/19/13	23/20/16

## FLUID DEGRADATION

method	limit/base	current	history1	history2		
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.41</b>	0.46	0.46



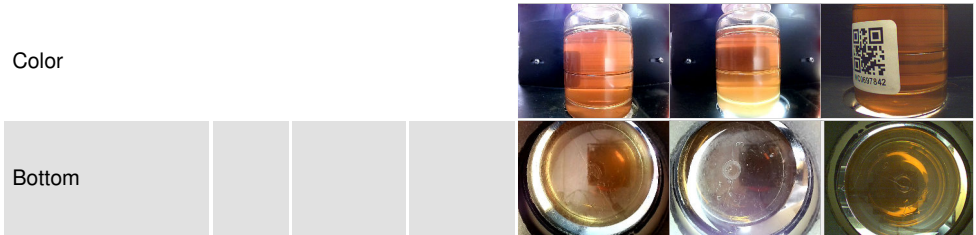
# OIL ANALYSIS REPORT



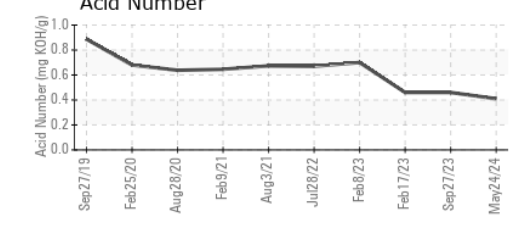
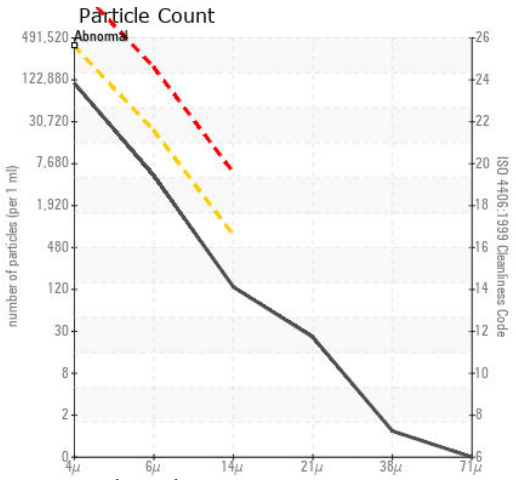
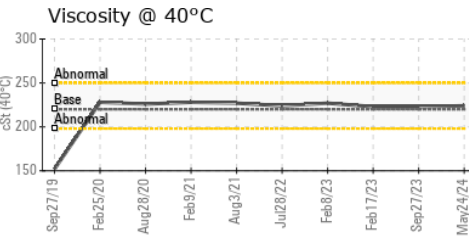
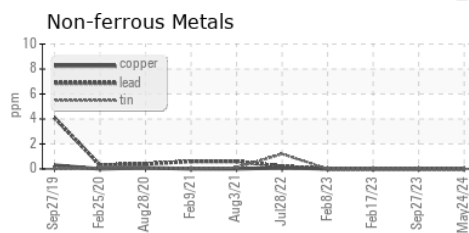
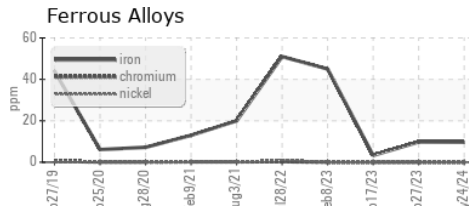
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	VLITE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	223

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0888630  
**Lab Number** : 06197623  
**Unique Number** : 11059746  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**Received** : 03 Jun 2024  
**Tested** : 04 Jun 2024  
**Diagnosed** : 04 Jun 2024 - Don Baldrige

**NOVOZYMES**  
 P.O. BOX 576, 77 PERRY CHAPEL CHURCH ROAD  
 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)