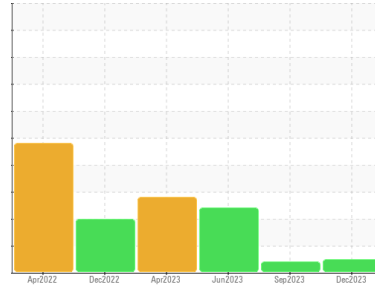




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**PELLET MILL 1 (S/N 309281)**

Component  
**Gearbox**  
Fluid  
**USPI FG GEAR 220 (15 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	<b>USPM31891</b>	USPM29632	USP219788
Sample Date	Client Info	<b>07 Dec 2023</b>	08 Sep 2023	04 Jun 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>	ABNORMAL	ABNORMAL

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >200	<b>12</b>	32	22
Chromium	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >15	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>&lt;1</b>	1	4
Lead	ppm	ASTM D5185m >100	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m >200	<b>1</b>	8	4
Tin	ppm	ASTM D5185m >25	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	<b>0</b>	2	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>	1	<1
Magnesium	ppm	ASTM D5185m	<b>2</b>	2	1
Calcium	ppm	ASTM D5185m	<b>7</b>	67	8
Phosphorus	ppm	ASTM D5185m	<b>557</b>	601	658
Zinc	ppm	ASTM D5185m	<b>0</b>	5	0
Sulfur	ppm	ASTM D5185m	<b>605</b>	2980	699

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >50	<b>6</b>	12	5
Sodium	ppm	ASTM D5185m	<b>1</b>	2	<1
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	4	1
Water	%	ASTM D6304 >0.2	<b>0.016</b>	0.005	0.031
ppm Water	ppm	ASTM D6304 >2000	<b>169</b>	53.5	311.7

## FLUID CLEANLINESS

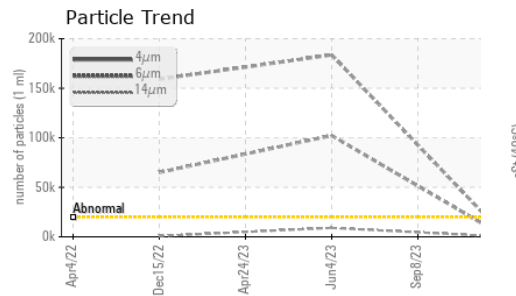
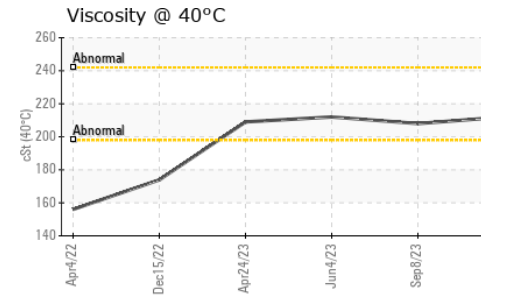
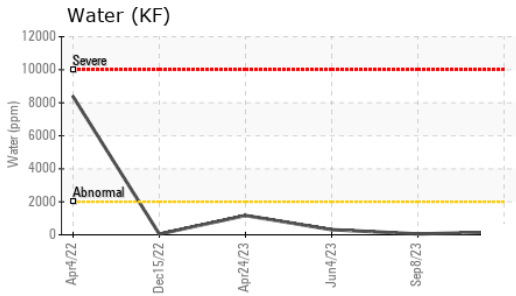
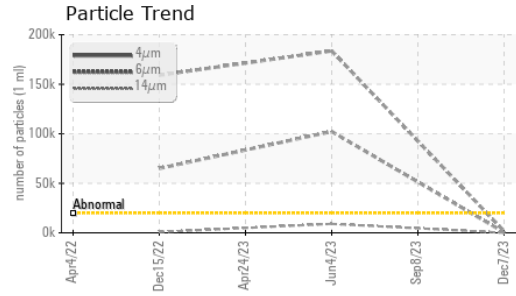
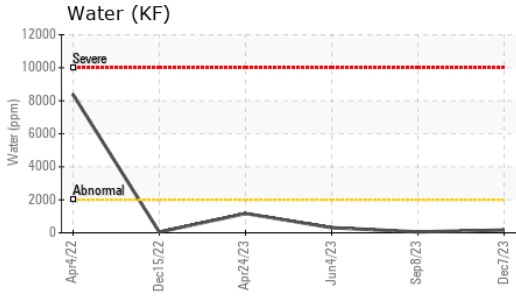
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >20000	<b>1630</b>	---	▲ 183646
Particles >6µm	ASTM D7647 >5000	<b>425</b>	---	▲ 102254
Particles >14µm	ASTM D7647 >640	<b>50</b>	---	▲ 9011
Particles >21µm	ASTM D7647 >160	<b>14</b>	---	▲ 1582
Particles >38µm	ASTM D7647 >40	<b>0</b>	---	▲ 151
Particles >71µm	ASTM D7647 >10	<b>0</b>	---	9
Oil Cleanliness	ISO 4406 (c) >21/19/16	<b>18/16/13</b>	---	▲ 25/24/20

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.46</b>	0.56	0.68



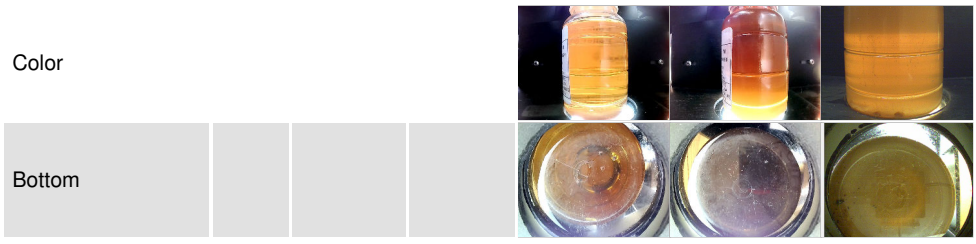
# OIL ANALYSIS REPORT



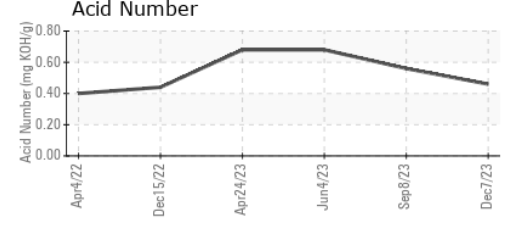
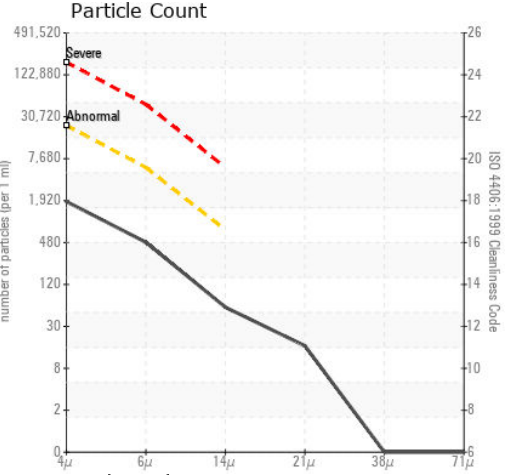
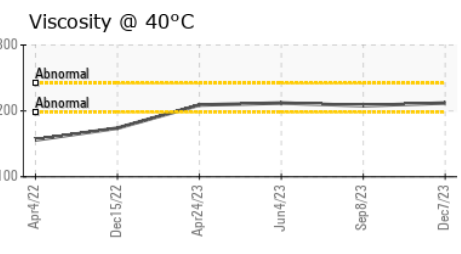
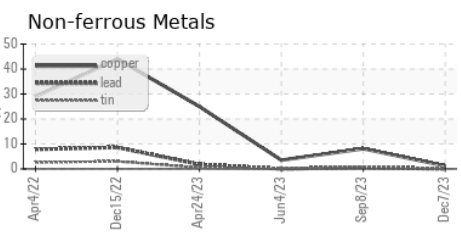
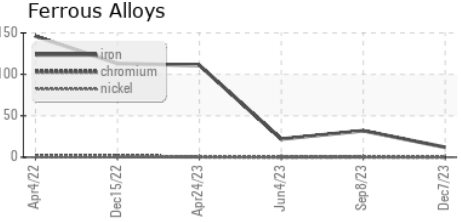
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	212	208	212

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : USPM31891  
**Lab Number** : 06029407  
**Unique Number** : 10779198  
**Test Package** : IND 2  
**Received** : 08 Dec 2023  
**Diagnosed** : 11 Dec 2023  
**Diagnostician** : Doug Bogart

**CARGILL FEED & NUTRITION - STERLING**  
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 STERLING, CO  
 US 80751  
 Contact: Matt Sadler  
 matthew\_sadler@cargill.com  
 T:  
 F:

Certificate L2367  
 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)