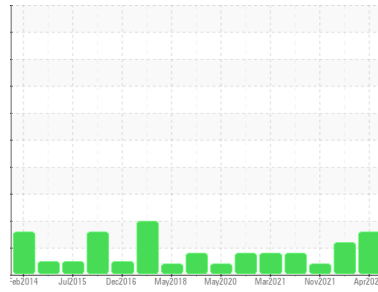




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

**ENGINE ROOM**

Machine Id

**2 HOWDEN HS-4 (S/N MK6A/WHVI255165/1529)**

Component

**Refrigeration Compressor**

Fluid

**SUMMIT RAB 68 (--- GAL)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of particulates 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		<b>USP0006351</b>	USP0003414	USP238602
Sample Date	Client Info		<b>06 Apr 2024</b>	26 Oct 2023	24 Nov 2021
Machine Age	hrs	Client Info	<b>0</b>	0	33448
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	Not Changd
Sample Status			<b>ABNORMAL</b>	ATTENTION	ATTENTION

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >8	<b>10</b>	6	0
Chromium	ppm	ASTM D5185m >2	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >3	<b>&lt;1</b>	0	0
Lead	ppm	ASTM D5185m >2	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >8	<b>2</b>	<1	0
Tin	ppm	ASTM D5185m >4	<b>&lt;1</b>	0	0
Antimony	ppm	ASTM D5185m	<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	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>1</b>	0	0
Magnesium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Calcium	ppm	ASTM D5185m	<b>1</b>	<1	0
Phosphorus	ppm	ASTM D5185m	<b>0</b>	0	0
Zinc	ppm	ASTM D5185m	<b>0</b>	0	0
Sulfur	ppm	ASTM D5185m	<b>29</b>	0	0

## CONTAMINANTS

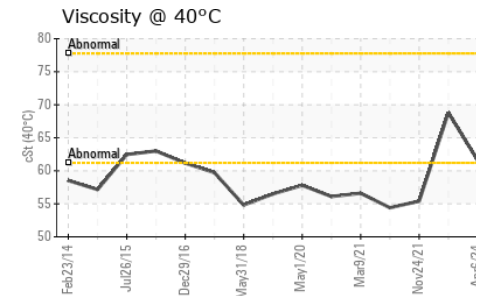
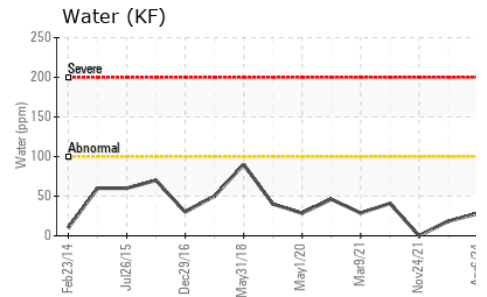
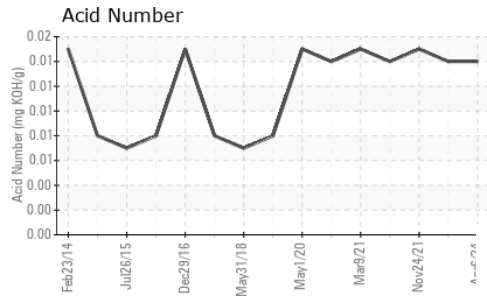
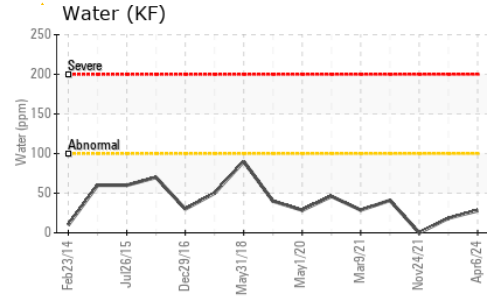
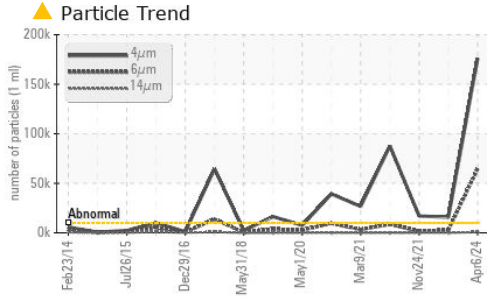
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	<b>&lt;1</b>	0	0
Sodium	ppm	ASTM D5185m	<b>4</b>	0	0
Potassium	ppm	ASTM D5185m >20	<b>2</b>	0	0
Water	%	ASTM D6304 >0.01	<b>0.003</b>	0.002	0.001
ppm Water	ppm	ASTM D6304 >100	<b>28</b>	18.5	0.00

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	<b>▲ 175851</b>	● 15799	● 16949
Particles >6µm	ASTM D7647	>2500	<b>▲ 64365</b>	● 2873	● 1550
Particles >14µm	ASTM D7647	>320	<b>▲ 738</b>	● 49	● 24
Particles >21µm	ASTM D7647	>80	<b>45</b>	● 5	● 2
Particles >38µm	ASTM D7647	>20	<b>0</b>	● 0	● 0
Particles >71µm	ASTM D7647	>4	<b>0</b>	● 0	● 0
Oil Cleanliness	ISO 4406 (c)	>20/18/15	<b>▲ 25/23/17</b>	● 21/19/13	● 21/18/12

## FLUID DEGRADATION

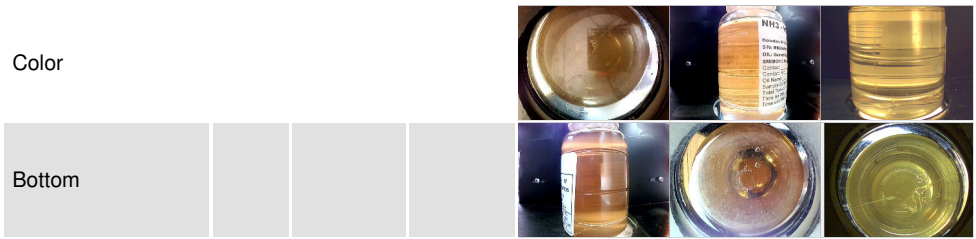
	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	<b>0.014</b>	0.014	0.015



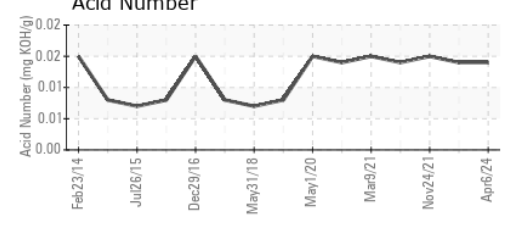
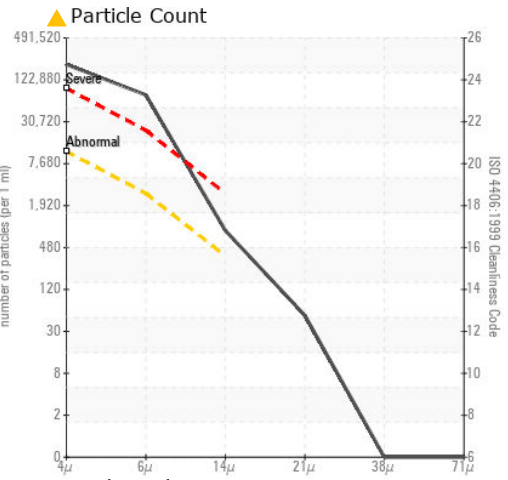
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.01	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	61.6	68.8	55.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : USP0006351  
**Lab Number** : 06150471  
**Unique Number** : 10980549  
**Test Package** : IND 2  
**Received** : 16 Apr 2024  
**Tested** : 17 Apr 2024  
**Diagnosed** : 17 Apr 2024 - Doug Bogart

**FARMLAND FOODS INC - SMITHFIELD**  
 MONMOUTH, IL  
 US  
 Contact:

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)