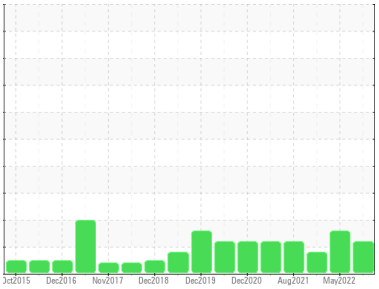
PROBLEM SUMMARY

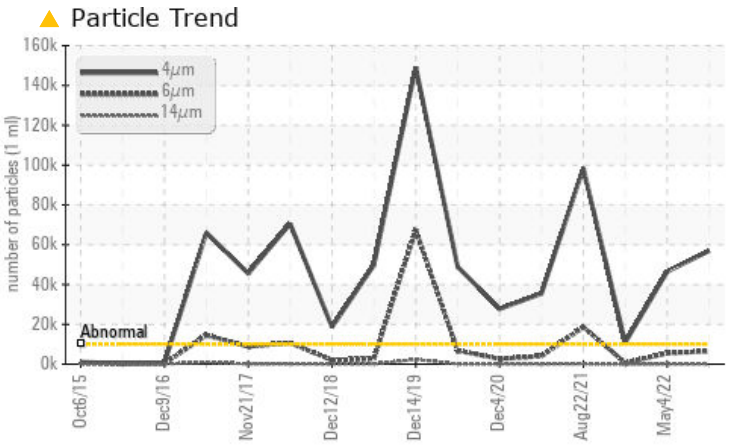
Sample Rating Trend



ISO

Machine Id
SMISMI 23 ER4 (S/N S0017EFMCLHBA3)
Component
Refrigeration Compressor
Fluid
USPI 1009-68 SC (250 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Particles >4µm		ASTM D7647	>10000	▲ **56894**	▲ 46475	▲ 10838
Particles >6µm		ASTM D7647	>2500	▲ **6399**	▲ 5547	653
Oil Cleanliness		ISO 4406 (c)	>20/18/15	▲ **23/20/12**	▲ 23/20/13	▲ 21/17/10

Customer Id: SMISMINP
Sample No.: USP0003536
Lab Number: 06015171
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

04 May 2022 Diag: Doug Bogart

VISCOSITY

We recommend that you drain the oil and perform a filter service on this component if not already done. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The oil viscosity is higher than normal. Confirmed. The AN level is acceptable for this fluid. The oil is no longer serviceable.

view report

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08 Jan 2022 Diag: Doug Bogart

VISCOSITY

We recommend that you drain the oil and perform a filter service on this component if not already done. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate amount of silt (particulates < 6 microns in size) present in the oil. The oil viscosity is higher than normal. Confirmed. The AN level is acceptable for this fluid. The oil is no longer serviceable.

view report

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22 Aug 2021 Diag: Jonathan Hester

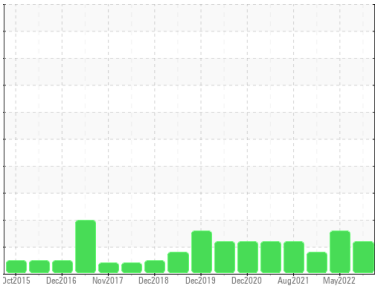
VISCOSITY

We recommend that you drain the oil and perform a filter service on this component if not already done. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The oil viscosity is higher than normal. Confirmed. The AN level is acceptable for this fluid. The oil is no longer serviceable.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
SMISMI 23 ER4 (S/N S0017EFMCLHBA3)
Component
Refrigeration Compressor
Fluid
USPI 1009-68 SC (250 GAL)

DIAGNOSIS

Recommendation
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. Elements confirmed.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USP0003536**	USP221617	USP236214
Sample Date		Client Info		**14 Nov 2023**	04 May 2022	08 Jan 2022
Machine Age	hrs	Client Info		**18433**	114770	113017
Oil Age	hrs	Client Info		**16**	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	>8	**15**	21	19
Chromium	ppm	ASTM D5185m	>2	**0**	<1	<1
Nickel	ppm	ASTM D5185m		**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>3	**0**	<1	<1
Lead	ppm	ASTM D5185m	>2	**0**	0	0
Copper	ppm	ASTM D5185m	>8	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>4	**0**	0	0
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	<1	<1
Barium	ppm	ASTM D5185m		**<1**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	<1	<1
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m		**0**	<1	<1
Calcium	ppm	ASTM D5185m		**13**	27	26
Phosphorus	ppm	ASTM D5185m		**6**	17	20
Zinc	ppm	ASTM D5185m		**10**	11	9
Sulfur	ppm	ASTM D5185m	50	**116**	248	197

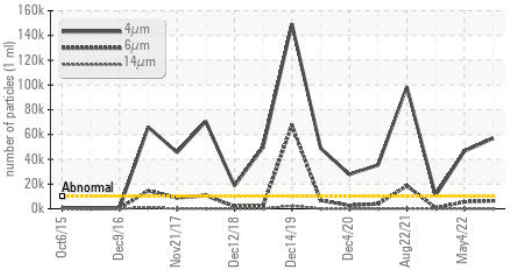
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**0**	<1	<1
Sodium	ppm	ASTM D5185m		**3**	2	1
Potassium	ppm	ASTM D5185m	>20	**0**	0	0
Water	%	ASTM D6304	>0.01	**0.006**	0.004	0.003
ppm Water	ppm	ASTM D6304	>100	**69**	46.9	26.5

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	▲ **56894**	▲ 46475	▲ 10838
Particles >6µm		ASTM D7647	>2500	▲ **6399**	▲ 5547	653
Particles >14µm		ASTM D7647	>320	**33**	54	10
Particles >21µm		ASTM D7647	>80	**4**	4	2
Particles >38µm		ASTM D7647	>20	**0**	0	0
Particles >71µm		ASTM D7647	>4	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	▲ **23/20/12**	▲ 23/20/13	▲ 21/17/10

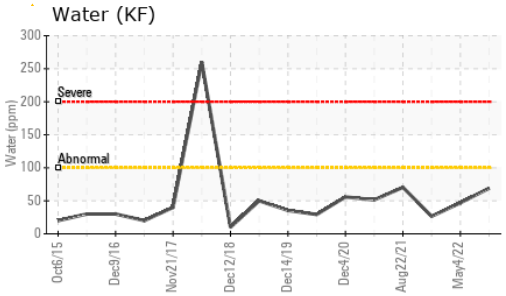
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	0.005	**0.04**	0.027	0.027

OIL ANALYSIS REPORT

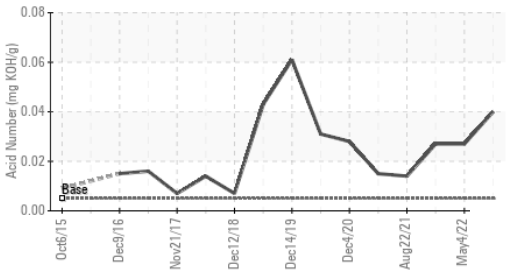
Particle Trend



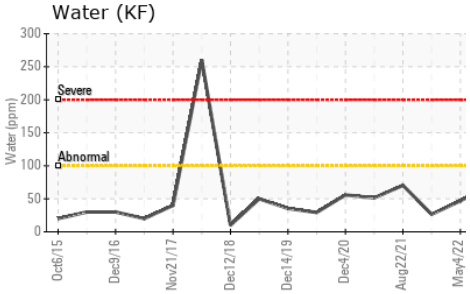
Water (KF)



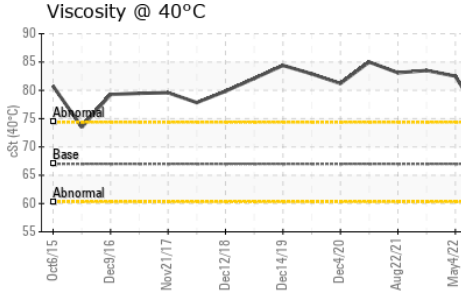
Acid Number



Water (KF)

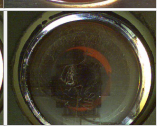


Viscosity @ 40°C



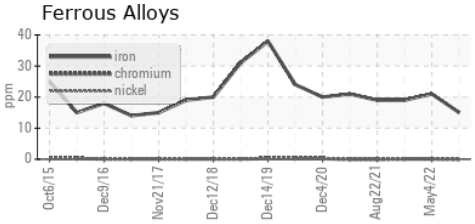
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	VLITE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	VLITE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	67	**74.3**	▲ 82.5	▲ 83.5

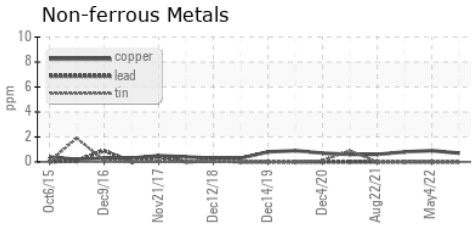
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

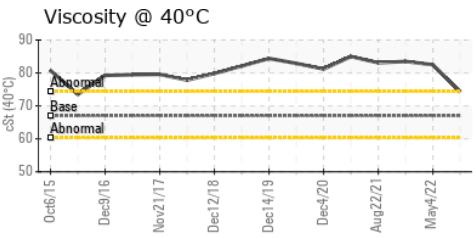
Ferrous Alloys



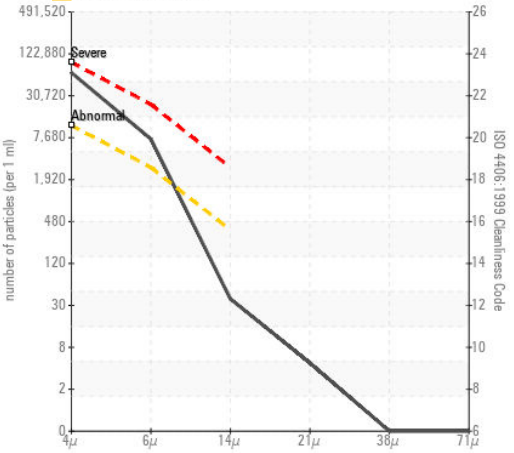
Non-ferrous Metals



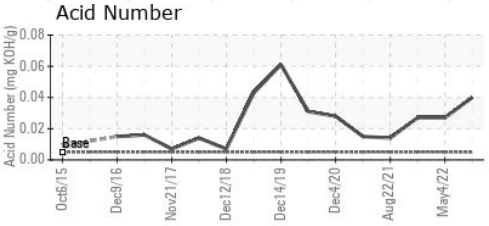
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0003536
Lab Number : 06015171
Unique Number : 10754315
Test Package : IND 2

Received : 22 Nov 2023
Diagnosed : 28 Nov 2023
Diagnostician : Doug Bogart

SMITHFIELD FOODS - NORTH PLANT
601 N CHURCH ST
SMITHFIELD, VA
US 23430
Contact:
T:
F:

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)