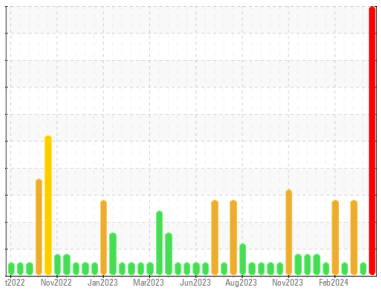
PROBLEM SUMMARY

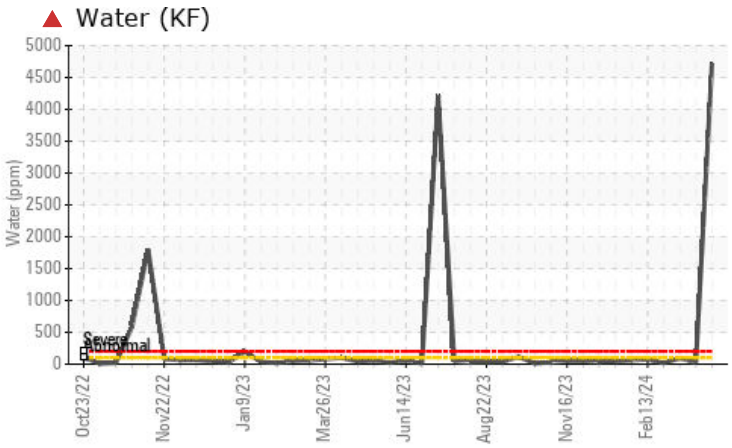
Area
PHS AND PLS SYSTEM
Machine Id
RECYCLED NH3 SYSTEM 1
Component
Refrigeration Compressor
Fluid
USPI ALT-68 SC (--- GAL)

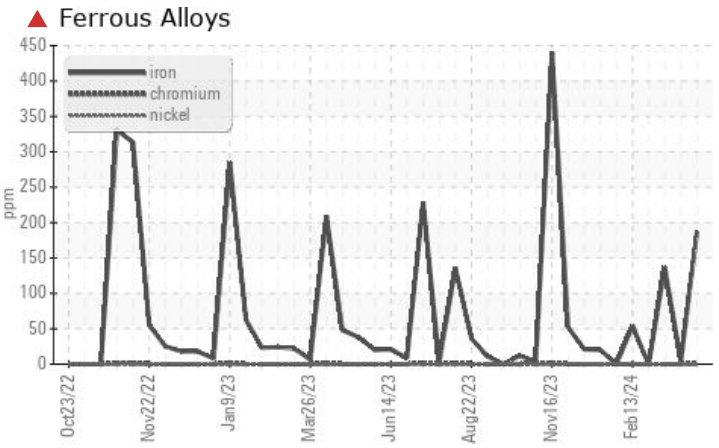
Sample Rating Trend



WEAR

COMPONENT CONDITION SUMMARY





RECOMMENDATION

This is a baseline read-out on the submitted sample. We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We were unable to perform a particle count due to a high concentration of particles present in this sample. System 1 Before

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>8	▲ **187**	4	▲ 137
Water	%	ASTM D6304	>0.01	▲ **0.472**	0.003	0.009
ppm Water	ppm	ASTM D6304	>100	▲ **4720**	27	93
Silt	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Debris	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Emulsified Water	scalar	*Visual	>0.01	▲ **0.2%**	NEG	NEG
Free Water	scalar	*Visual		▲ **>10%**	NEG	NEG

Customer Id: SMITAR
Sample No.: USP0012557
Lab Number: 06200228
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Water Drain-off	---	---	?	We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid.
Alert	---	---	?	We were unable to perform a particle count due to a high concentration of particles present in this sample.

HISTORICAL DIAGNOSIS

NORMAL

30 Apr 2024 Diag: Doug Bogart
This is a baseline read-out on the submitted sample. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

WEAR

15 Apr 2024 Diag: Doug Bogart
This is a baseline read-out on the submitted sample.The iron level is abnormal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

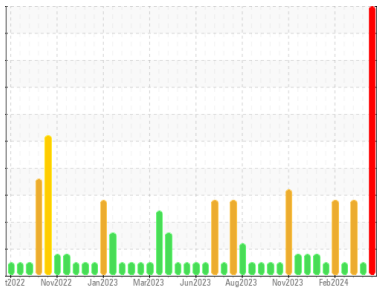
NORMAL

14 Mar 2024 Diag: Doug Bogart
This is a baseline read-out on the submitted sample. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
PHS AND PLS SYSTEM
Machine Id
RECYCLED NH3 SYSTEM 1
Component
Refrigeration Compressor
Fluid
USPI ALT-68 SC (--- GAL)

DIAGNOSIS

Recommendation
This is a baseline read-out on the submitted sample. We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We were unable to perform a particle count due to a high concentration of particles present in this sample. System 1 Before

Wear
The iron level is severe.

Contamination
Excessive free water present. There is a high concentration of water present in the oil. Moderate concentration of visible dirt/debris present in the oil.

Fluid Condition
The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USP0012557**	USP0011126	USP0006454
Sample Date		Client Info		**03 Jun 2024**	30 Apr 2024	15 Apr 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				**SEVERE**	NORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	▲ **187**	4	▲ 137
Chromium	ppm	ASTM D5185m	>2	**<1**	0	0
Nickel	ppm	ASTM D5185m		**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>3	**0**	0	0
Lead	ppm	ASTM D5185m	>2	**0**	0	0
Copper	ppm	ASTM D5185m	>8	**0**	0	0
Tin	ppm	ASTM D5185m	>4	**0**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	0
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	0	<1
Magnesium	ppm	ASTM D5185m		**<1**	0	0
Calcium	ppm	ASTM D5185m		**0**	0	0
Phosphorus	ppm	ASTM D5185m		**<1**	0	<1
Zinc	ppm	ASTM D5185m		**6**	0	0
Sulfur	ppm	ASTM D5185m	50	**0**	10	0

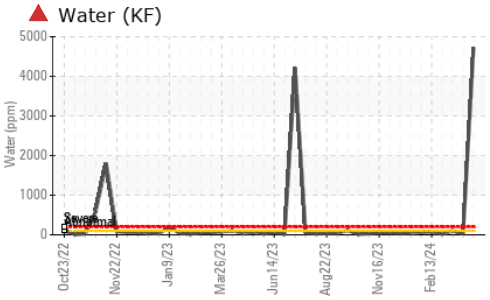
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**2**	2	2
Sodium	ppm	ASTM D5185m		**<1**	<1	<1
Potassium	ppm	ASTM D5185m	>20	**0**	0	0
Water	%	ASTM D6304	>0.01	▲ **0.472**	0.003	0.009
ppm Water	ppm	ASTM D6304	>100	▲ **4720**	27	93

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**---**	932	▲ 219532
Particles >6µm		ASTM D7647	>2500	**---**	87	▲ 153393
Particles >14µm		ASTM D7647	>320	**---**	7	▲ 7003
Particles >21µm		ASTM D7647	>80	**---**	2	▲ 237
Particles >38µm		ASTM D7647	>20	**---**	0	0
Particles >71µm		ASTM D7647	>4	**---**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	**---**	17/14/10	▲ 25/24/20

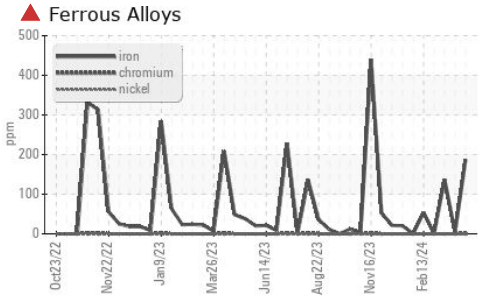
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	0.005	**0.066**	0.014	0.069

OIL ANALYSIS REPORT

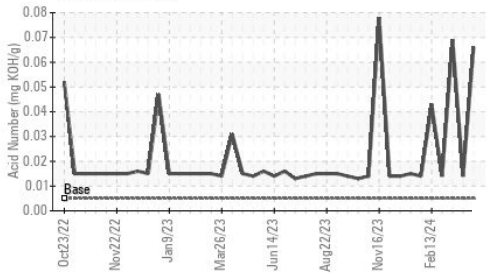
Water (KF)



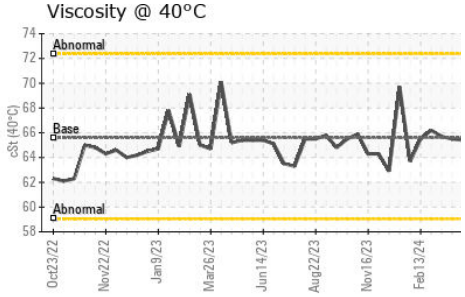
Ferrous Alloys



Acid Number



Viscosity @ 40°C



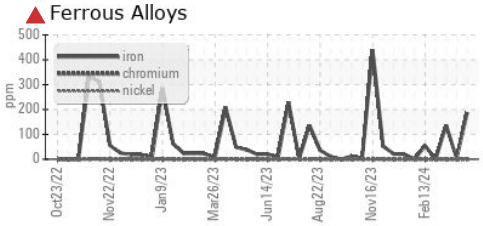
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Debris	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	HAZY
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.01	▲ **0.2%**	NEG	NEG
Free Water	scalar	*Visual		▲ **>10%**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	65.6	**65.4**	65.5	65.7

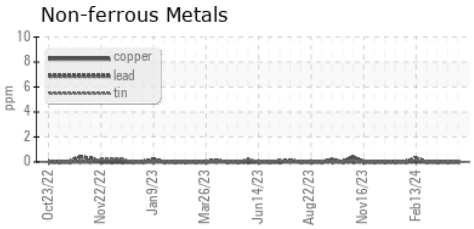
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

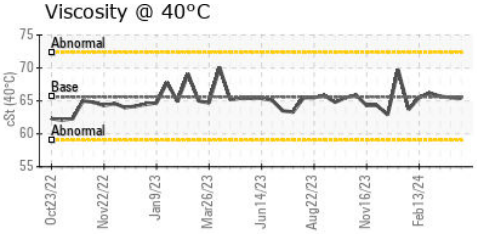
Ferrous Alloys



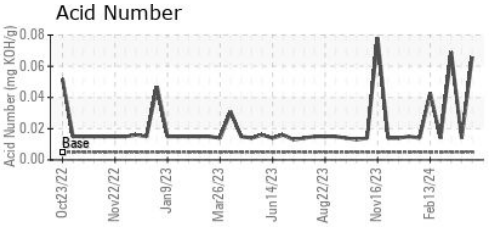
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0012557
Lab Number : 06200228
Unique Number : 11062351
Test Package : IND 2

Received : 05 Jun 2024
Tested : 10 Jun 2024
Diagnosed : 10 Jun 2024 - Jonathan Hester

SMITHFIELD FOOD - TARHEEL
15855 HWY. 87 WEST
TARHEEL, NC
US 28392
Contact: SERVICE MANAGER

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)

T:
F: