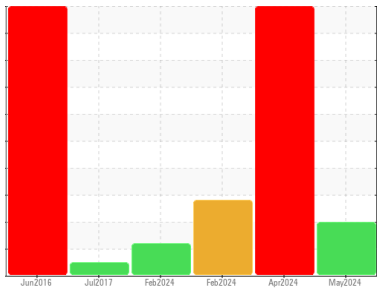
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
RECYCLED NH3 OIL
Component
Refrigeration Compressor
Fluid
USPI 1009-68 SC (--- GAL)

DIAGNOSIS

Recommendation
This is a baseline read-out on the submitted sample. No corrective action is recommended at this time. Barrel 1

Wear
The iron level is abnormal.

Contamination
There is a moderate 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 acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USP0011767**	USP0006370	USP0006937
Sample Date		Client Info		**11 May 2024**	21 Apr 2024	18 Feb 2024
Machine Age	mls	Client Info		**0**	0	0
Oil Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	SEVERE	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	▲ **23**	▲ 134	▲ 34
Chromium	ppm	ASTM D5185m	>2	**0**	<1	0
Nickel	ppm	ASTM D5185m		**0**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>3	**0**	2	<1
Lead	ppm	ASTM D5185m	>2	**0**	<1	<1
Copper	ppm	ASTM D5185m	>8	**<1**	1	0
Tin	ppm	ASTM D5185m	>4	**0**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

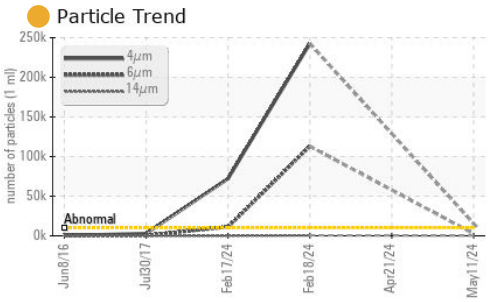
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	0
Barium	ppm	ASTM D5185m		**0**	<1	0
Molybdenum	ppm	ASTM D5185m		**0**	<1	0
Manganese	ppm	ASTM D5185m		**0**	1	<1
Magnesium	ppm	ASTM D5185m		**0**	<1	1
Calcium	ppm	ASTM D5185m		**0**	1	1
Phosphorus	ppm	ASTM D5185m		**0**	2	0
Zinc	ppm	ASTM D5185m		**0**	7	0
Sulfur	ppm	ASTM D5185m	50	**0**	0	3

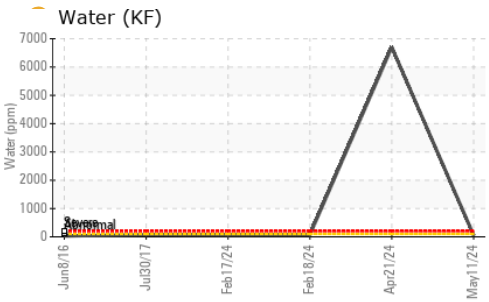
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**4**	5	4
Sodium	ppm	ASTM D5185m		**1**	<1	<1
Potassium	ppm	ASTM D5185m	>20	**0**	1	2
Water	%	ASTM D6304	>0.01	**0.005**	▲ 0.669	0.007
ppm Water	ppm	ASTM D6304	>100	**59**	▲ 6699	75

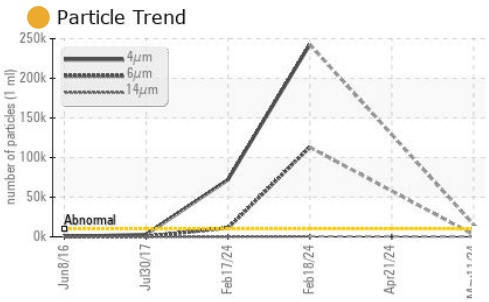
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	● **15440**	---	▲ 242591
Particles >6µm		ASTM D7647	>2500	● **2612**	---	▲ 112937
Particles >14µm		ASTM D7647	>320	**55**	---	▲ 556
Particles >21µm		ASTM D7647	>80	**6**	---	10
Particles >38µm		ASTM D7647	>20	**0**	---	0
Particles >71µm		ASTM D7647	>4	**0**	---	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	● **21/19/13**	---	▲ 25/24/16

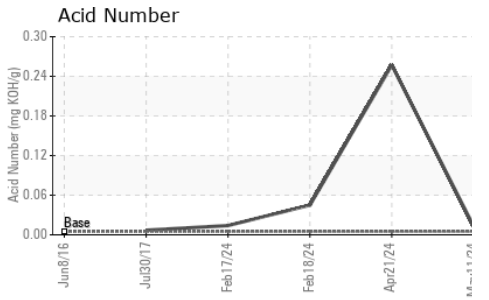
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	0.005	**0.013**	▲ 0.257	0.045

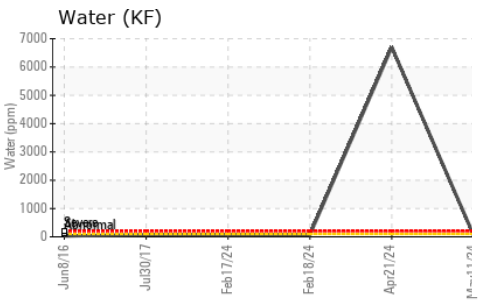
OIL ANALYSIS REPORT







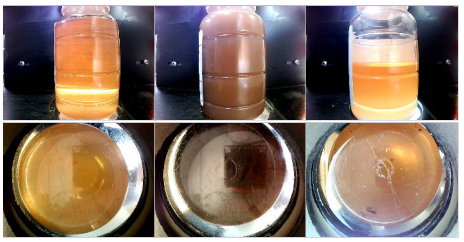




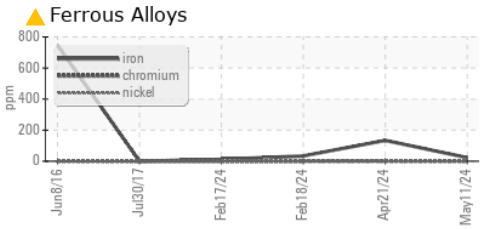
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	▲ MODER	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	LIGHT
Sand/Dirt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

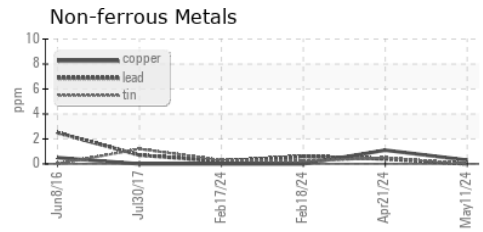
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	67	**63.2**	65.8	● 52.8

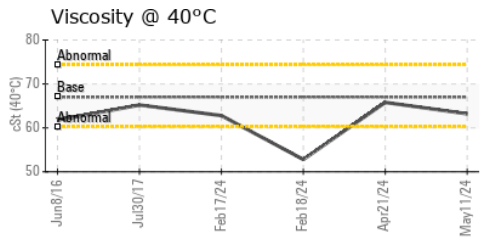
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

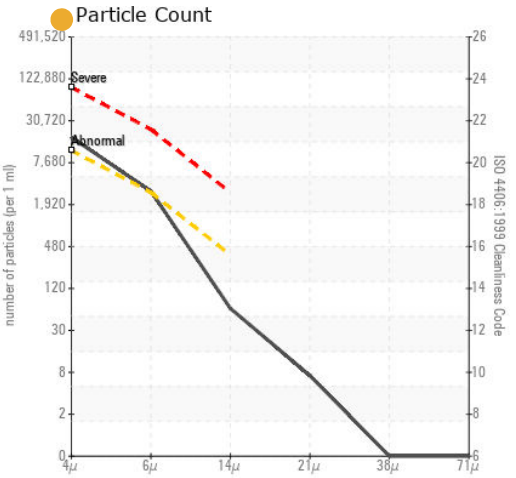


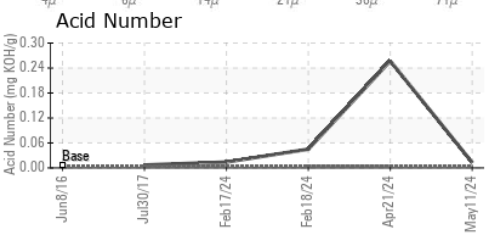
GRAPHS











Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0011767
Lab Number : 06182888
Unique Number : 11034214
Test Package : IND 2

Received : 17 May 2024
Tested : 20 May 2024
Diagnosed : 21 May 2024 - Jonathan Hester

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)

JBS-OTTUMWA
600 SOUTH IOWA AVENUE
OTTUMWA, IA
US 52501
Contact: LISA PIERCE
lisa_pierce@cargill.com
T: (641)683-4741
F: (641)683-4731