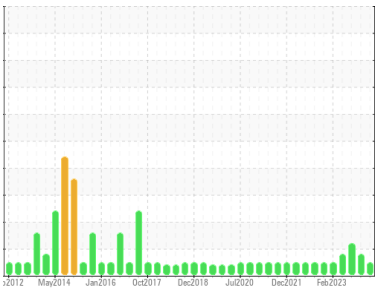
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
NH3 Compressor
Machine Id
CARCAL-5 FES 385X HISTAGE (S/N 1089)
Component
Refrigeration Compressor
Fluid
USPI 1009-68 SC (--- 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 oil. The amount and size of particulates present in the system are 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		**USP0008003**	USP0005070	USP0003170
Sample Date		Client Info		**04 Apr 2024**	15 Jan 2024	19 Oct 2023
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				**NORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	**0**	0	0
Chromium	ppm	ASTM D5185m	>2	**0**	0	0
Nickel	ppm	ASTM D5185m		**0**	0	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>3	**<1**	1	0
Lead	ppm	ASTM D5185m	>2	**0**	0	0
Copper	ppm	ASTM D5185m	>8	**0**	0	<1
Tin	ppm	ASTM D5185m	>4	**<1**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
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		**0**	0	0
Magnesium	ppm	ASTM D5185m		**0**	0	0
Calcium	ppm	ASTM D5185m		**0**	1	0
Phosphorus	ppm	ASTM D5185m		**0**	0	0
Zinc	ppm	ASTM D5185m		**0**	0	0
Sulfur	ppm	ASTM D5185m	50	**68**	475	380

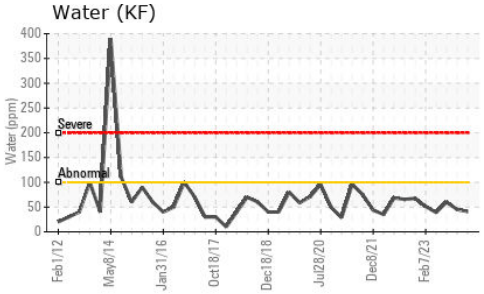
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**0**	<1	0
Sodium	ppm	ASTM D5185m		**0**	0	<1
Potassium	ppm	ASTM D5185m	>20	**<1**	<1	2
Water	%	ASTM D6304	>0.01	**0.004**	0.004	0.006
ppm Water	ppm	ASTM D6304	>100	**41**	45	60.3

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**6282**	30645	36991
Particles >6µm		ASTM D7647	>2500	**1263**	▲ 6916	▲ 8985
Particles >14µm		ASTM D7647	>320	**44**	183	▲ 348
Particles >21µm		ASTM D7647	>80	**7**	27	59
Particles >38µm		ASTM D7647	>20	**0**	2	1
Particles >71µm		ASTM D7647	>4	**0**	1	0
Oil Cleanliness		ISO 4406 (c)	>--/18/15	**20/17/13**	▲ 22/20/15	▲ 22/20/16

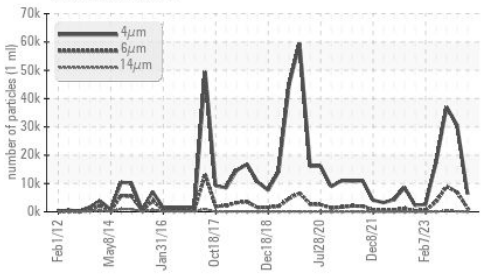
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	0.005	**0.027**	0.014	0.014

OIL ANALYSIS REPORT

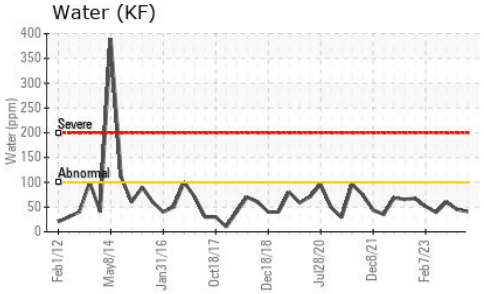
Water (KF)



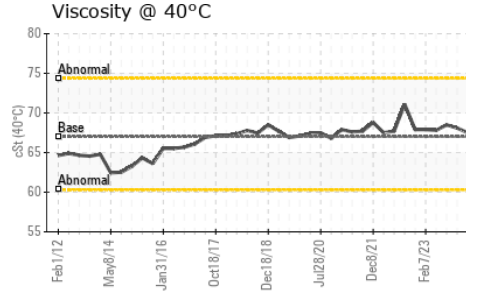
Particle Trend



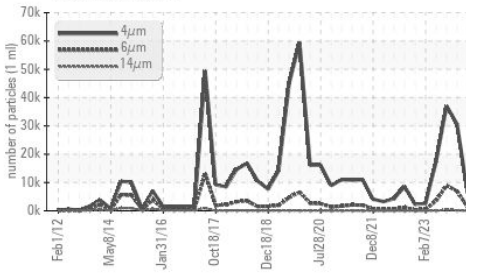
Water (KF)



Viscosity @ 40°C



Particle Trend



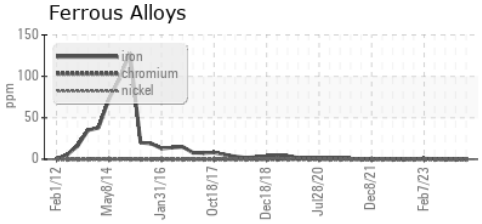
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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	**67.5**	68.1	68.5

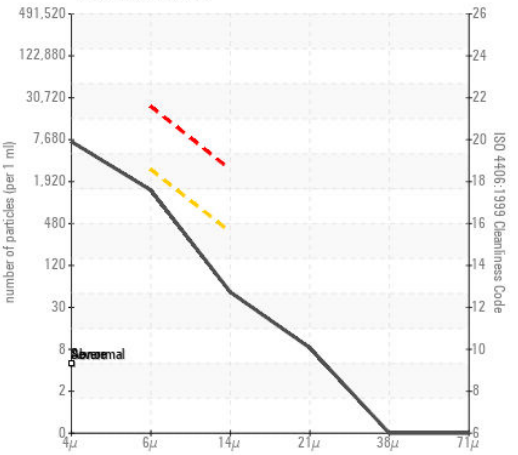
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

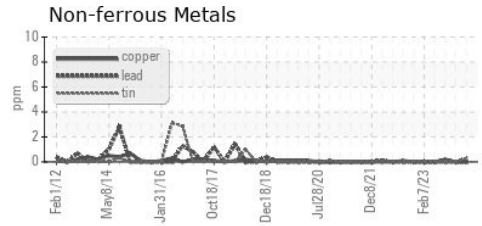
Ferrous Alloys



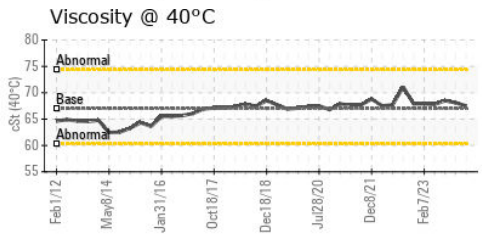
Particle Count



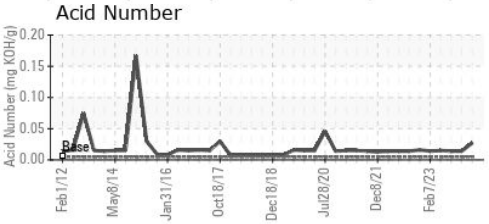
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0008003
Lab Number : 06139942
Unique Number : 10964750
Test Package : IND 2

Received : 05 Apr 2024
Tested : 08 Apr 2024
Diagnosed : 08 Apr 2024 - Doug Bogart

CARGILL-CALIFORNIA
1001 E. SMITH STREET
CALIFORNIA, MO
US 65018
Contact: REFRIGERATION DEPT.
T: (573)796-7154
F: (573)796-3661

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)