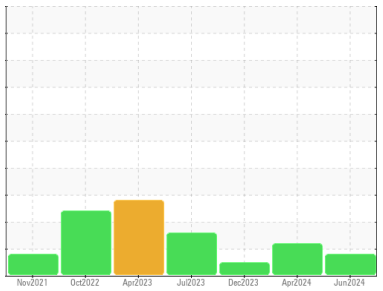
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
PROD
Machine Id
KETTLE 7 TUBLINE
Component
Refrigeration Compressor
Fluid
PETRO CANADA PURITY FG EP GEAR OIL 220 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of silt (particulates < 6 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		**USP0013336**	USP0006694	USP0004461
Sample Date		Client Info		**13 Jun 2024**	25 Apr 2024	17 Dec 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				**ATTENTION**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	**2**	3	<1
Chromium	ppm	ASTM D5185m	>2	**0**	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	**1**	<1	0
Lead	ppm	ASTM D5185m	>2	**0**	0	0
Copper	ppm	ASTM D5185m	>8	**2**	0	0
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		**<1**	0	0
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**<1**	0	0
Manganese	ppm	ASTM D5185m		**<1**	0	0
Magnesium	ppm	ASTM D5185m		**0**	0	0
Calcium	ppm	ASTM D5185m		**0**	0	0
Phosphorus	ppm	ASTM D5185m		**531**	505	521
Zinc	ppm	ASTM D5185m		**0**	0	0
Sulfur	ppm	ASTM D5185m		**440**	413	386

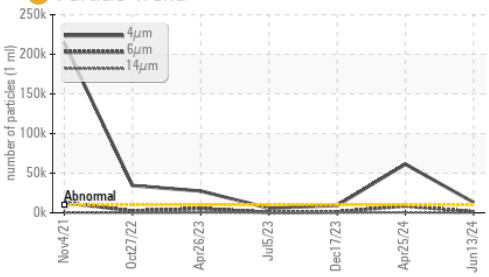
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**8**	6	13
Sodium	ppm	ASTM D5185m		**<1**	<1	<1
Potassium	ppm	ASTM D5185m	>20	**3**	0	0
Water	%	ASTM D6304	>0.01	**0.002**	0.001	0.007
ppm Water	ppm	ASTM D6304	>100	**20**	14	80

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**13098**	61351	9369
Particles >6µm		ASTM D7647	>2500	**1273**	8543	1155
Particles >14µm		ASTM D7647	>640	**22**	343	48
Particles >21µm		ASTM D7647	>160	**2**	83	11
Particles >38µm		ASTM D7647	>40	**0**	3	2
Particles >71µm		ASTM D7647	>10	**0**	0	1
Oil Cleanliness		ISO 4406 (c)	>20/18/16	**21/17/12**	23/20/16	20/17/13

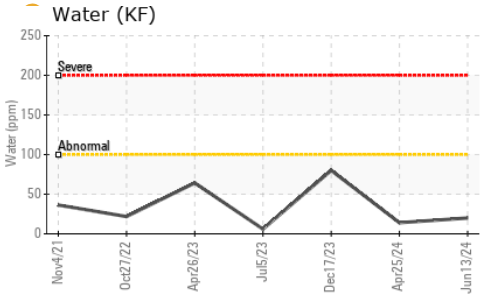
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	0.51	**0.67**	---	0.56

OIL ANALYSIS REPORT

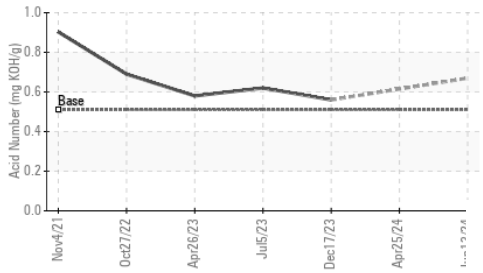
Particle Trend



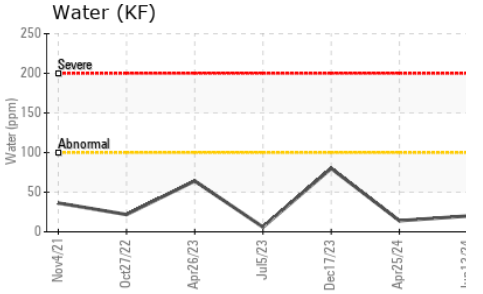
Water (KF)



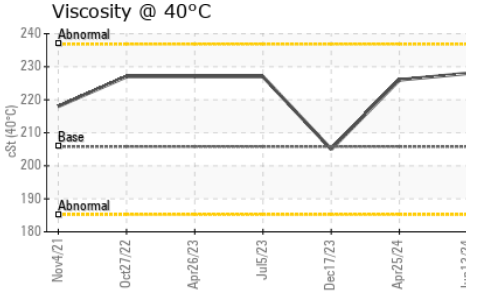
Acid Number



Water (KF)



Viscosity @ 40°C



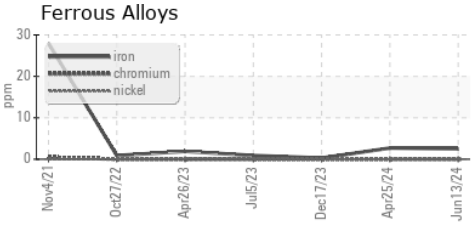
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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	205.8	**228**	226	205

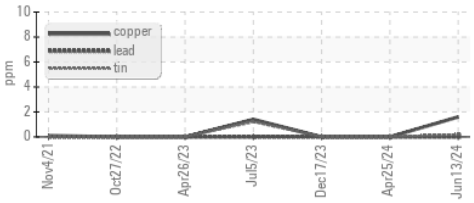
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

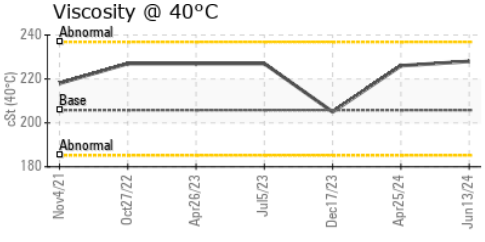
Ferrous Alloys



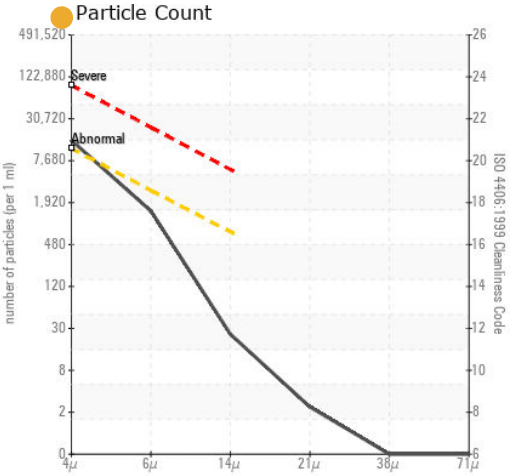
Non-ferrous Metals



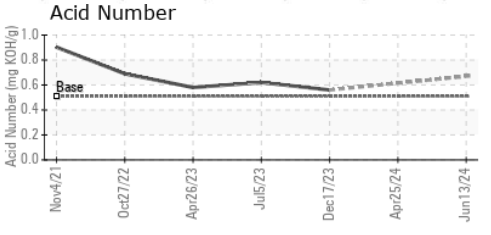
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0013336
Lab Number : 06210170
Unique Number : 11083034
Test Package : IND 2

Received : 14 Jun 2024
Tested : 18 Jun 2024
Diagnosed : 19 Jun 2024 - Doug Bogart

KraftHeinz - Cedar Rapids - Plant 8370
4601 C ST SW
CEDAR RAPIDS, IA
US 52404
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: