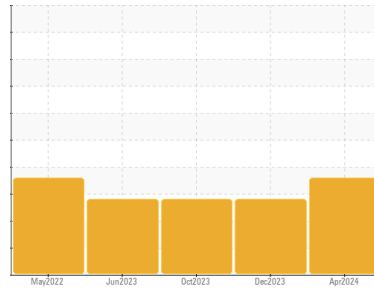




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Area

BAGLINE

Machine Id

KETTLE 7 - BAG

Component

Bottom Refrigeration Compressor

Fluid

PETRO CANADA PURITY FG SYNTH EP GEAR 220 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil. Elemental level of silicon (Si) above normal.

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	USP0006495	USP0004480	USP0001365
Sample Date	Client Info	21 Apr 2024	17 Dec 2023	10 Oct 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	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	27	30	27
Chromium	ppm	ASTM D5185m >2	<1	<1	<1
Nickel	ppm	ASTM D5185m	<1	0	0
Titanium	ppm	ASTM D5185m	1	2	2
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >3	2	4	3
Lead	ppm	ASTM D5185m >2	0	0	0
Copper	ppm	ASTM D5185m >8	<1	0	0
Tin	ppm	ASTM D5185m >4	<1	0	0
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	0	0
Barium	ppm	ASTM D5185m	<1	0	0
Molybdenum	ppm	ASTM D5185m	<1	0	0
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	<1	0	2
Calcium	ppm	ASTM D5185m	8	10	16
Phosphorus	ppm	ASTM D5185m	573	609	610
Zinc	ppm	ASTM D5185m	5	0	0
Sulfur	ppm	ASTM D5185m	406	493	671

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >15	▲ 43	▲ 188	▲ 167
Sodium	ppm	ASTM D5185m	2	3	2
Potassium	ppm	ASTM D5185m >20	<1	0	0
Water	%	ASTM D6304 >0.01	0.002	0.009	0.001
ppm Water	ppm	ASTM D6304 >100	18	95	15.0

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >10000	▲ 170041	▲ 144610	▲ 122481
Particles >6µm	ASTM D7647 >2500	▲ 71791	▲ 7730	▲ 13757
Particles >14µm	ASTM D7647 >640	▲ 2719	22	140
Particles >21µm	ASTM D7647 >160	▲ 458	4	25
Particles >38µm	ASTM D7647 >40	9	1	1
Particles >71µm	ASTM D7647 >10	1	0	0
Oil Cleanliness	ISO 4406 (c) >20/18/16	▲ 25/23/19	▲ 24/20/12	▲ 24/21/14

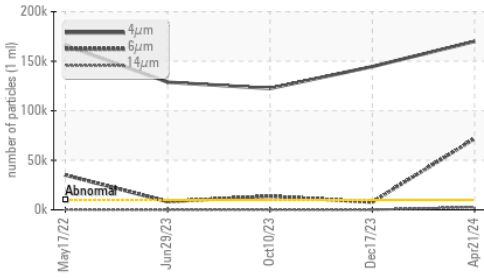
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974 0.59	0.68	0.56	0.57

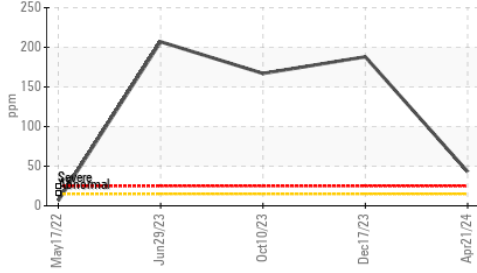


OIL ANALYSIS REPORT

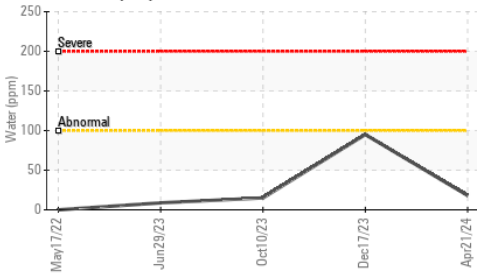
Particle Trend



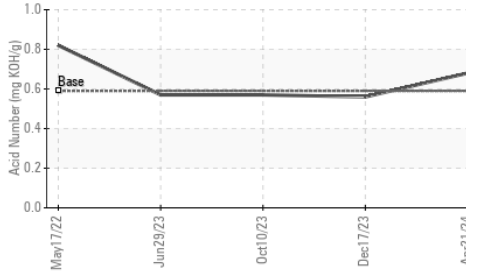
Silicon (ppm)



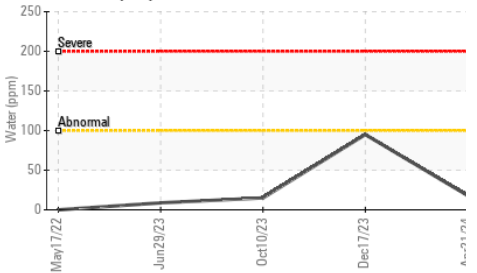
Water (KF)



Acid Number



Water (KF)



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	221	223	209

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

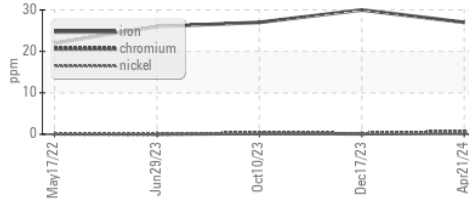


Bottom

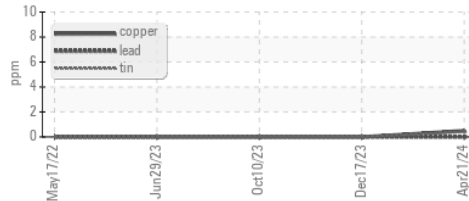


GRAPHS

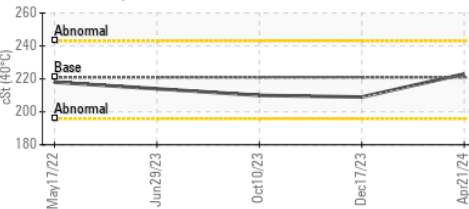
Ferrous Alloys



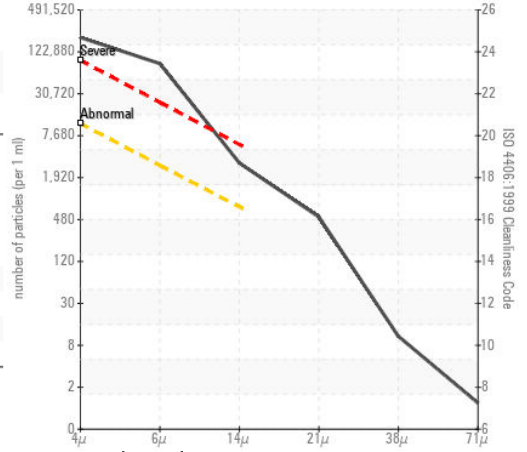
Non-ferrous Metals



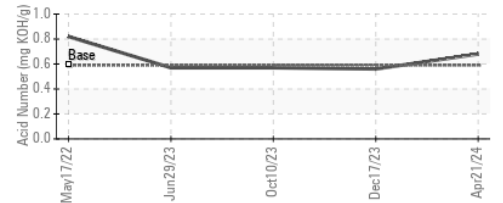
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : USP006495
 Lab Number : 06156014
 Unique Number : 10991437
 Test Package : IND 2

Received : 22 Apr 2024
 Tested : 23 Apr 2024
 Diagnosed : 23 Apr 2024 - Jonathan Hester

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)