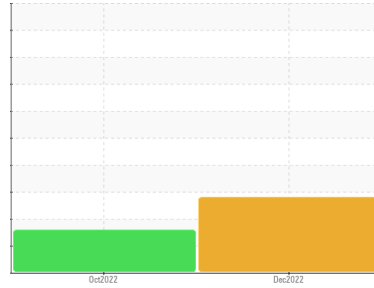




PROBLEM SUMMARY

Sample Rating Trend



WEAR

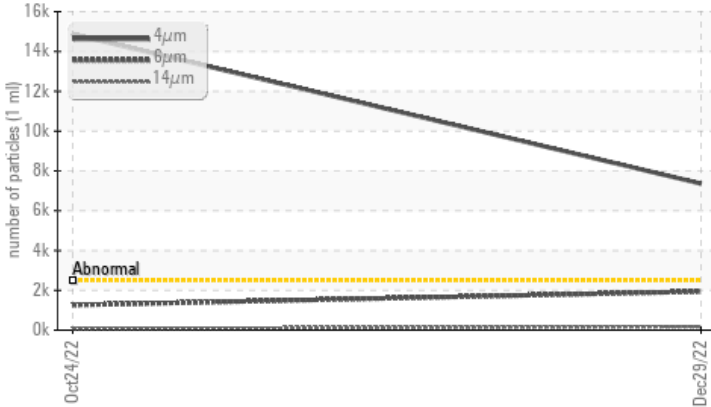


Area
Steering Gears
 Machine Id
Steering Gear Port

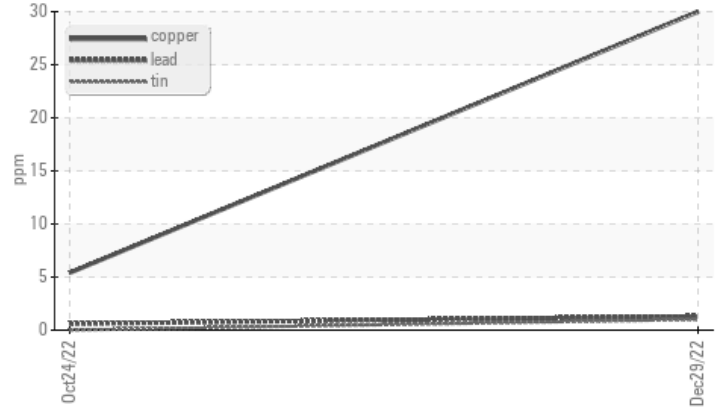
Component
Rear Left Steering
 Fluid
PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Particle Trend



▲ Non-ferrous Metals



RECOMMENDATION

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: Top Up Amount: 30)

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ABNORMAL	---
Copper	ppm	ASTM D5185(m)	>50	▲ 30	5	---
Particles >4µm		ASTM D7647	>2500	▲ 7359	▲ 14873	---
Particles >6µm		ASTM D7647	>640	▲ 1939	▲ 1260	---
Particles >14µm		ASTM D7647	>80	▲ 168	▲ 87	---
Particles >21µm		ASTM D7647	>20	▲ 40	21	---
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ 20/18/15	▲ 21/17/14	---

Customer Id: VMASSEY
 Sample No.: WC0763489
 Lab Number: 02532824
 Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample	MISSED	Apr 24 2023	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

24 Oct 2022 Diag: Wes Davis

ISO



The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >4µm are abnormally high. Particles >6µm are notably high. Particles >14µm are notably high. The AN level is acceptable for this fluid. The fluid is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

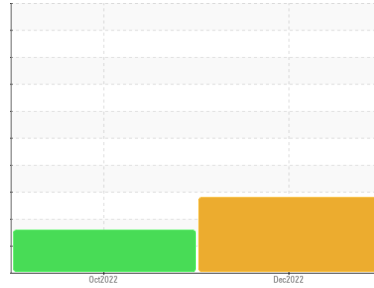
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area
Steering Gears
 Machine Id
Steering Gear Port

Component
Rear Left Steering

Fluid
PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL (--- GAL)

DIAGNOSIS

Recommendation

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: Top Up Amount: 30)

Wear

Copper ppm levels are noted. All other component wear rates are normal.

Contamination

Oil Cleanliness are abnormally high. Particles >14µm are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. Particles >21µm are notably high.

Fluid Condition

The AN level is acceptable for this fluid. The fluid is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0763489	WC0707622	---
Sample Date	Client Info		29 Dec 2022	24 Oct 2022	---
Machine Age	hrs	Client Info	0	0	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		Oil Added	N/A	---
Sample Status			ABNORMAL	ABNORMAL	---

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>50	2	<1	---
Chromium	ppm	ASTM D5185(m)	>15	0	0	---
Nickel	ppm	ASTM D5185(m)	>5	<1	0	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>5	0	0	---
Lead	ppm	ASTM D5185(m)	>10	1	<1	---
Copper	ppm	ASTM D5185(m)	>50	▲ 30	5	---
Tin	ppm	ASTM D5185(m)	>5	1	0	---
Antimony	ppm	ASTM D5185(m)		<1	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
Beryllium	ppm	ASTM D5185(m)		0	0	---
Cadmium	ppm	ASTM D5185(m)		0	0	---

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	0	0	---
Barium	ppm	ASTM D5185(m)	0	0	0	---
Molybdenum	ppm	ASTM D5185(m)	0	0	0	---
Manganese	ppm	ASTM D5185(m)	1	0	0	---
Magnesium	ppm	ASTM D5185(m)	0	<1	<1	---
Calcium	ppm	ASTM D5185(m)	100	101	107	---
Phosphorus	ppm	ASTM D5185(m)	670	703	708	---
Zinc	ppm	ASTM D5185(m)	850	845	848	---
Sulfur	ppm	ASTM D5185(m)	1600	1593	1669	---
Lithium	ppm	ASTM D5185(m)		<1	<1	---

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	<1	1	---
Sodium	ppm	ASTM D5185(m)		<1	0	---
Potassium	ppm	ASTM D5185(m)	>20	<1	0	---

FLUID CLEANLINESS

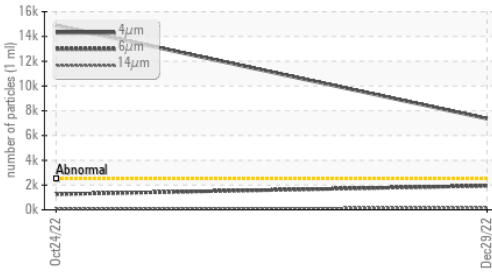
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 7359	▲ 14873	---
Particles >6µm	ASTM D7647	>640	▲ 1939	▲ 1260	---
Particles >14µm	ASTM D7647	>80	▲ 168	▲ 87	---
Particles >21µm	ASTM D7647	>20	▲ 40	21	---
Particles >38µm	ASTM D7647	>4	2	0	---
Particles >71µm	ASTM D7647	>3	0	0	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 20/18/15	▲ 21/17/14	---

FLUID DEGRADATION

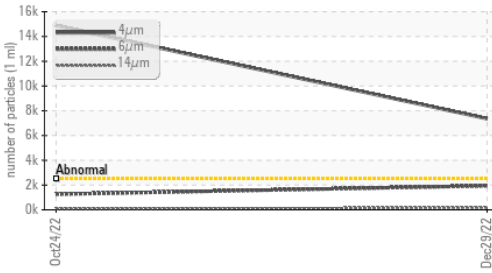
	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	0.86	0.92	---

OIL ANALYSIS REPORT

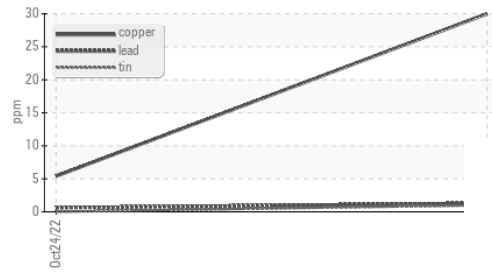
▲ Particle Trend



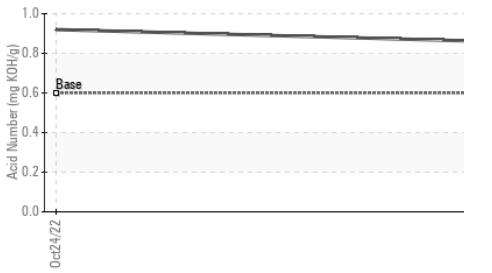
▲ Particle Trend



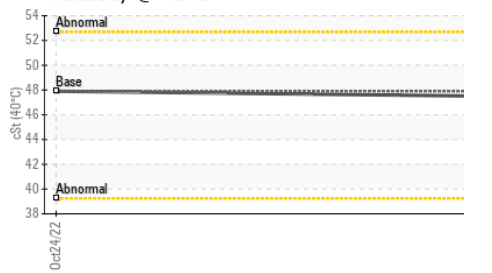
▲ Non-ferrous Metals



Acid Number



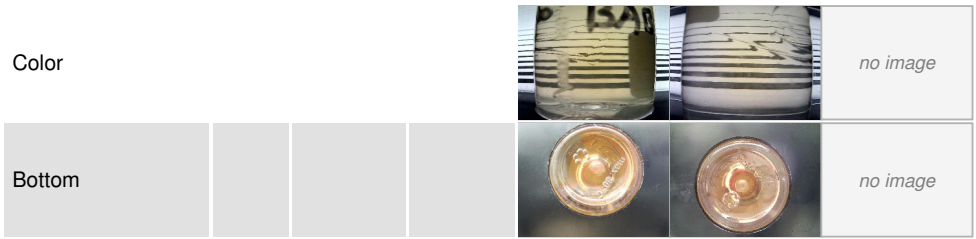
Viscosity @ 40°C



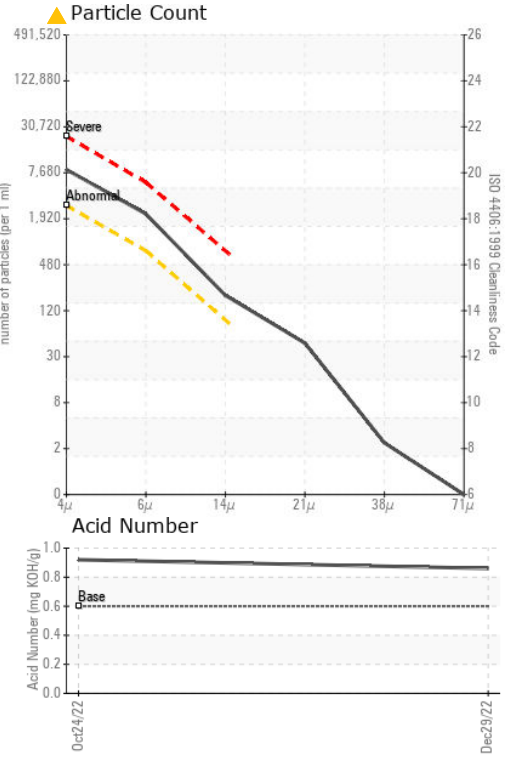
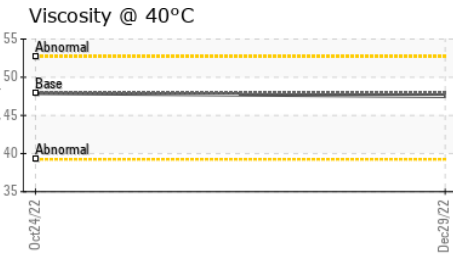
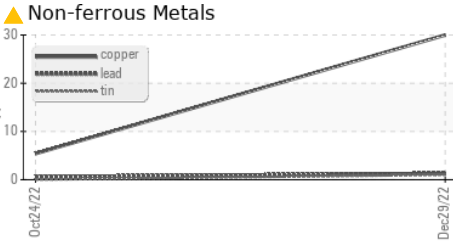
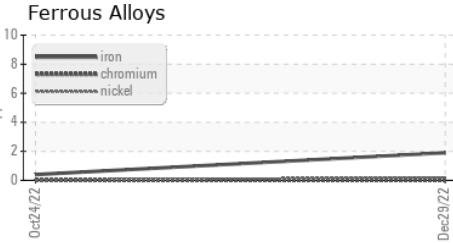
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	47.5	47.9

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0763489 **Received** : 12 Jan 2023
Lab Number : 02532824 **Diagnosed** : 13 Jan 2023
Unique Number : 5513823 **Diagnostician** : Kevin Marson
Test Package : MAR 2 (Additional Tests: PrtCount, TAN Man)

Canadian Coast Guard
 CCGS Vincent Massey, 101 Boul. Champlain
 Quebec, QC
 CA G1K 7Y7
 Contact: Vincent Massey
 vincentmasseyse@ccgs-ngcc.gc.ca
 T: (418)573-7423
 F:

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.