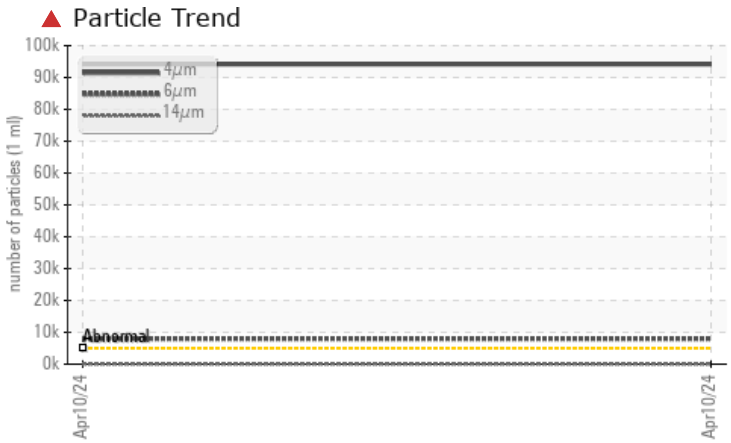
PROBLEM SUMMARY

Sample Rating Trend

ISO

Machine Id
1300-5
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 46 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	---	---
Particles >4µm		ASTM D7647	>5000	▲ **94162**	---	---
Particles >6µm		ASTM D7647	>1300	▲ **7981**	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **24/20/13**	---	---

Customer Id: MARPUL
Sample No.: KFS0004973
Lab Number: 06146568
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

KIMBRO FLUID SOLUTIONS

OIL ANALYSIS REPORT

Sample Rating Trend

ISO

Machine Id
1300-5
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 46 (--- GAL)

DIAGNOSIS

▲ Recommendation
Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear
All component wear rates are normal.

▲ Contamination
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

Fluid Condition
The AN level is acceptable for this fluid. The oil 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		**KFS0004973**	---	---
Sample Date		Client Info		**10 Apr 2024**	---	---
Machine Age	hrs	Client Info		**0**	---	---
Oil Age	hrs	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**SEVERE**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.05	**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**3**	---	---
Chromium	ppm	ASTM D5185m	>20	**<1**	---	---
Nickel	ppm	ASTM D5185m	>20	**<1**	---	---
Titanium	ppm	ASTM D5185m		**<1**	---	---
Silver	ppm	ASTM D5185m		**0**	---	---
Aluminum	ppm	ASTM D5185m	>20	**1**	---	---
Lead	ppm	ASTM D5185m	>20	**1**	---	---
Copper	ppm	ASTM D5185m	>20	**3**	---	---
Tin	ppm	ASTM D5185m	>20	**1**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	---	---
Cadmium	ppm	ASTM D5185m		**<1**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	---	---
Barium	ppm	ASTM D5185m	0	**0**	---	---
Molybdenum	ppm	ASTM D5185m	0	**<1**	---	---
Manganese	ppm	ASTM D5185m	0	**<1**	---	---
Magnesium	ppm	ASTM D5185m	0	**12**	---	---
Calcium	ppm	ASTM D5185m	50	**53**	---	---
Phosphorus	ppm	ASTM D5185m	330	**340**	---	---
Zinc	ppm	ASTM D5185m	430	**408**	---	---
Sulfur	ppm	ASTM D5185m	760	**1109**	---	---

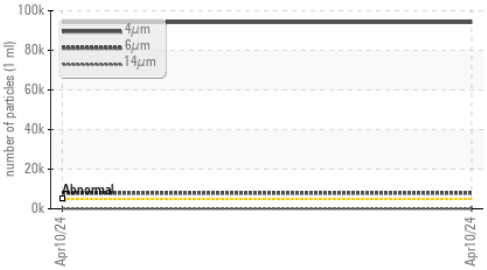
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**<1**	---	---
Sodium	ppm	ASTM D5185m		**0**	---	---
Potassium	ppm	ASTM D5185m	>20	**1**	---	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **94162**	---	---
Particles >6µm		ASTM D7647	>1300	▲ **7981**	---	---
Particles >14µm		ASTM D7647	>160	**65**	---	---
Particles >21µm		ASTM D7647	>40	**8**	---	---
Particles >38µm		ASTM D7647	>10	**0**	---	---
Particles >71µm		ASTM D7647	>3	**0**	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **24/20/13**	---	---

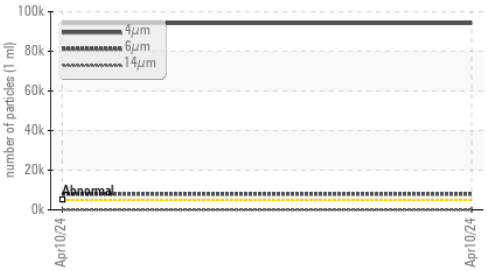
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.70	**0.34**	---	---

OIL ANALYSIS REPORT

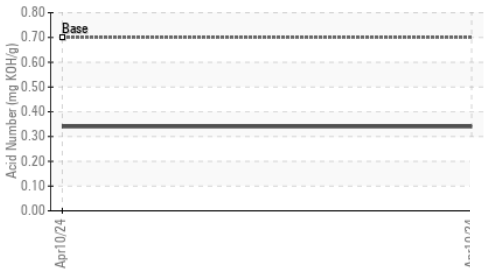
Particle Trend



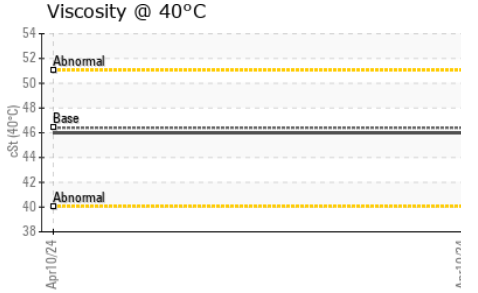
Particle Trend



Acid Number



Viscosity @ 40°C



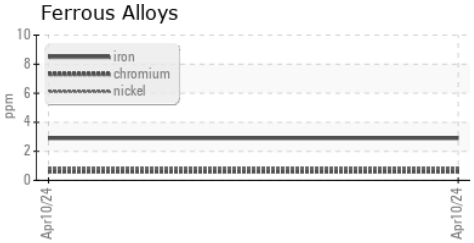
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	---	---
Appearance	scalar	*Visual	NORML	**NORML**	---	---
Odor	scalar	*Visual	NORML	**NORML**	---	---
Emulsified Water	scalar	*Visual	>0.05	**NEG**	---	---
Free Water	scalar	*Visual		**NEG**	---	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46.4	**46.0**	---	---

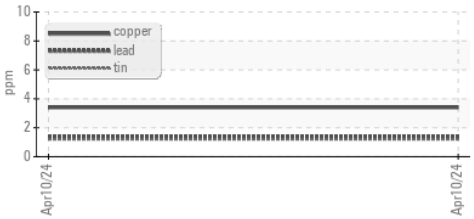
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

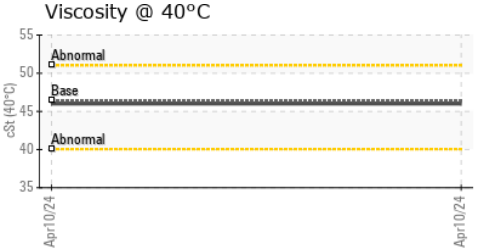
Ferrous Alloys



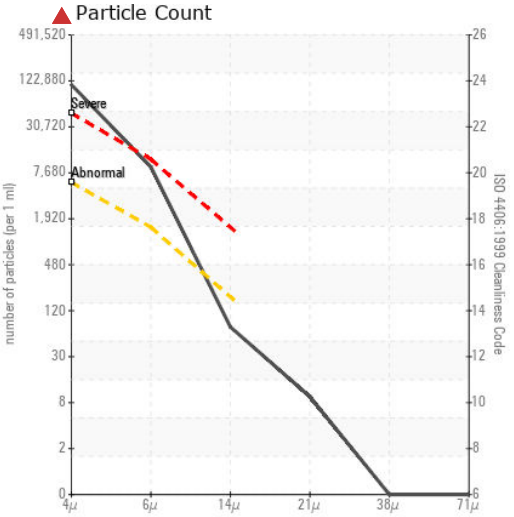
Non-ferrous Metals



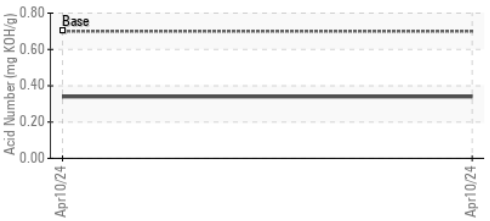
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0004973
Lab Number : 06146568
Unique Number : 10976646
Test Package : IND 2

Received : 11 Apr 2024
Tested : 12 Apr 2024
Diagnosed : 12 Apr 2024 - Wes Davis

Certificate L2367

MARELLI
181 BENNETT DR
PULASKI, TN
US 38478
Contact: Service Manager
T:
F:

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)