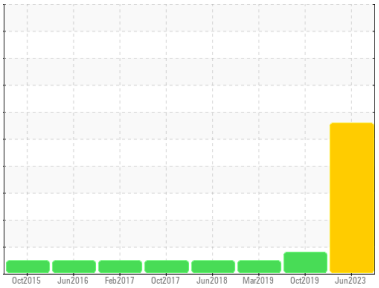
PROBLEM SUMMARY

Sample Rating Trend

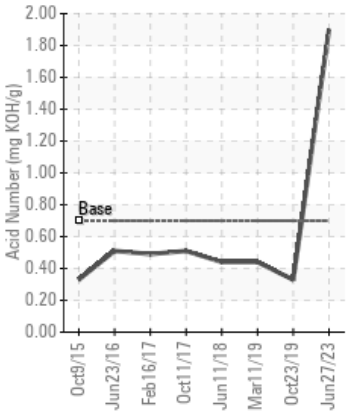


DEGRADATION

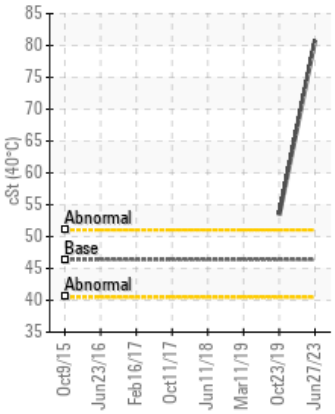
Machine Id
3537
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 46 (45 GAL)

COMPONENT CONDITION SUMMARY

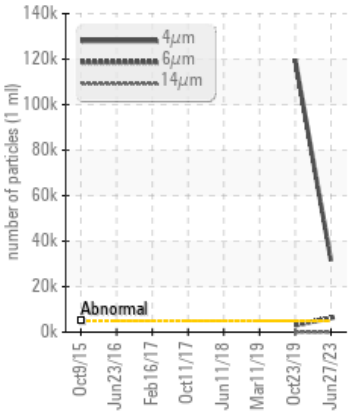
Acid Number



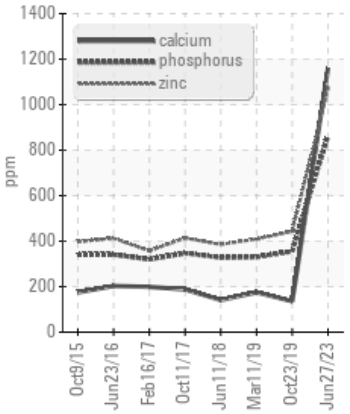
Viscosity @ 40°C



Particle Trend



Additives



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	NORMAL
Boron	ppm	ASTM D5185m	0	▲ **68**	12	10
Molybdenum	ppm	ASTM D5185m	0	▲ **100**	4	8
Magnesium	ppm	ASTM D5185m	0	▲ **735**	18	15
Calcium	ppm	ASTM D5185m	50	▲ **1159**	136	175
Phosphorus	ppm	ASTM D5185m	330	▲ **863**	355	330
Zinc	ppm	ASTM D5185m	430	▲ **1067**	443	409
Sulfur	ppm	ASTM D5185m	760	▲ **3445**	372	---
Particles >4µm		ASTM D7647	>5000	▲ **31479**	▲ 119724	---
Particles >6µm		ASTM D7647	>1300	▲ **6244**	▲ 2990	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **22/20/13**	▲ 24/19/12	---
Acid Number (AN)	mg KOH/g	ASTM D8045	0.70	▲ **1.90**	0.329	0.44
Visc @ 40°C	cSt	ASTM D445	46.4	▲ **80.8**	53.4	---

Customer Id: GFL102
Sample No.: GFL0073268
Lab Number: 05885564
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Angela Borella +1 800-237-1369
angela.borella@wearcheckusa.com

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 Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.

HISTORICAL DIAGNOSIS

23 Oct 2019 Diag: Jonathan Hester

ISO

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

11 Mar 2019 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is ISO 680 AW Hydraulic Oil. Please confirm the oil type and grade, and specify the brand of the oil on your next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report

11 Jun 2018 Diag: Wes Davis

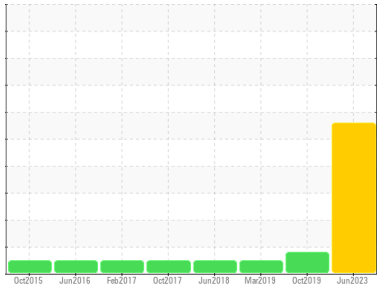
NORMAL

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is ISO 680 AW Hydraulic Oil. Please confirm the oil type and grade, and specify the brand of the oil on your next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Machine Id
3537
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 46 (45 GAL)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

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 oil viscosity is higher than normal. The AN level is above the recommended limit. Additive levels indicate the addition of a different brand, or type of oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history 1	history 2
Sample Number		Client Info		**GFL0073268**	GFL0001226	GFLI-414978
Sample Date		Client Info		**27 Jun 2023**	23 Oct 2019	11 Mar 2019
Machine Age	hrs	Client Info		**600**	14262	12731
Oil Age	hrs	Client Info		**600**	1200	4799
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>20	**<1**	17	12
Chromium	ppm	ASTM D5185m	>10	**<1**	2	1
Nickel	ppm	ASTM D5185m	>10	**<1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	**0**	2	1
Lead	ppm	ASTM D5185m	>10	**<1**	0	0
Copper	ppm	ASTM D5185m	>75	**<1**	3	1
Tin	ppm	ASTM D5185m	>10	**<1**	<1	0
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	0	▲ **68**	12	10
Barium	ppm	ASTM D5185m	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	0	▲ **100**	4	8
Manganese	ppm	ASTM D5185m	0	**<1**	<1	0
Magnesium	ppm	ASTM D5185m	0	▲ **735**	18	15
Calcium	ppm	ASTM D5185m	50	▲ **1159**	136	175
Phosphorus	ppm	ASTM D5185m	330	▲ **863**	355	330
Zinc	ppm	ASTM D5185m	430	▲ **1067**	443	409
Sulfur	ppm	ASTM D5185m	760	▲ **3445**	372	---
Lithium	ppm	ASTM D5185m		**---**	---	0

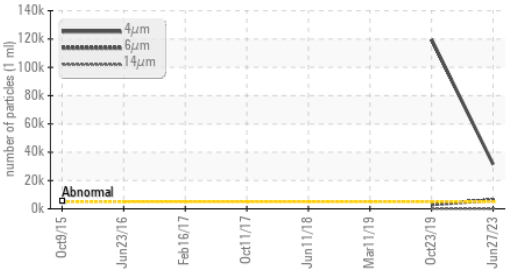
CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>20	**7**	3	2
Sodium	ppm	ASTM D5185m		**2**	5	6
Potassium	ppm	ASTM D5185m	>20	**3**	4	0

FLUID CLEANLINESS		method	limit/base	current	history 1	history 2
Particles >4µm		ASTM D7647	>5000	▲ **31479**	▲ 119724	---
Particles >6µm		ASTM D7647	>1300	▲ **6244**	▲ 2990	---
Particles >14µm		ASTM D7647	>160	**41**	34	---
Particles >21µm		ASTM D7647	>40	**6**	7	---
Particles >38µm		ASTM D7647	>10	**2**	0	---
Particles >71µm		ASTM D7647	>3	**2**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **22/20/13**	▲ 24/19/12	---

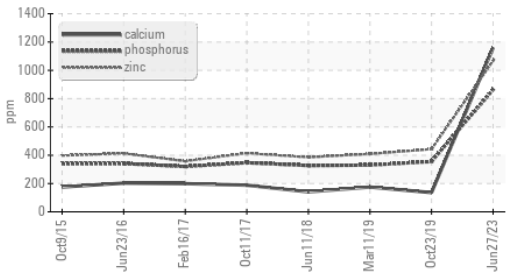
FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.70	▲ **1.90**	0.329	0.44

OIL ANALYSIS REPORT

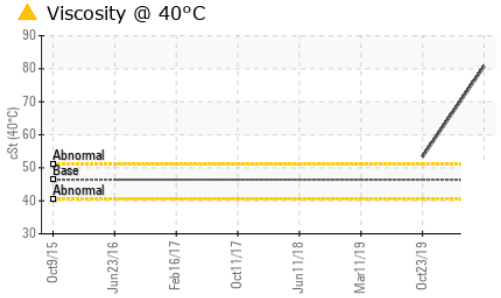
Particle Trend



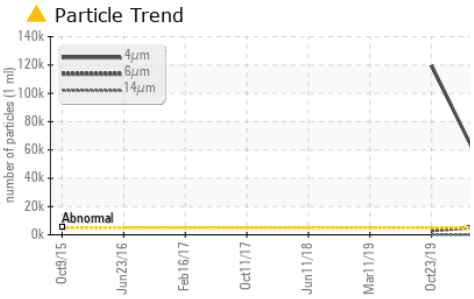
Additives



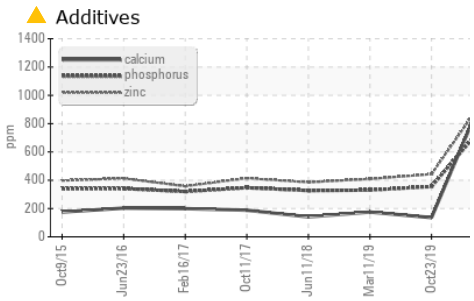
Viscosity @ 40°C



Particle Trend

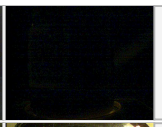
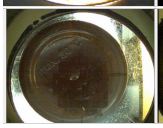
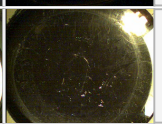


Additives



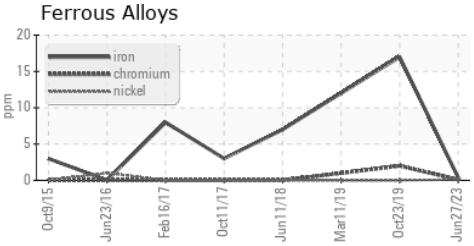
VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D445	46.4	▲ **80.8**	53.4	---

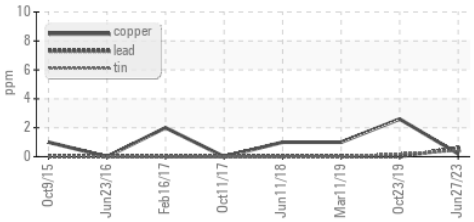
SAMPLE IMAGES	method	limit/base	current	history 1	history 2
Color					no image
Bottom					no image

GRAPHS

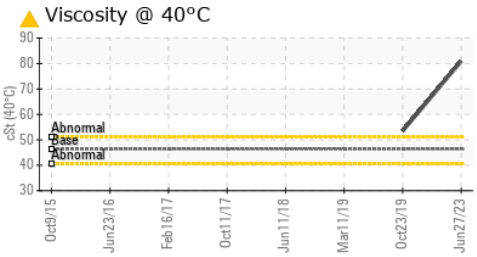
Ferrous Alloys



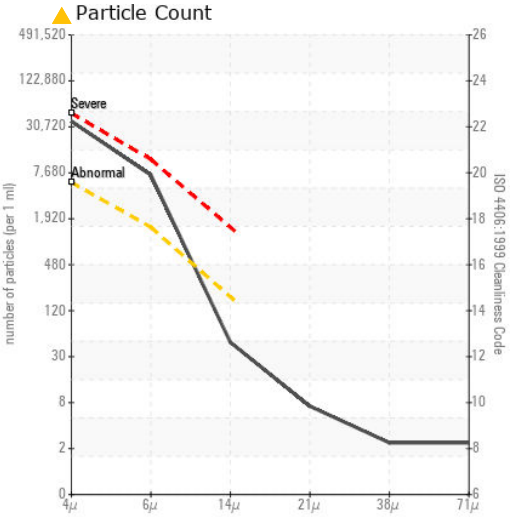
Non-ferrous Metals



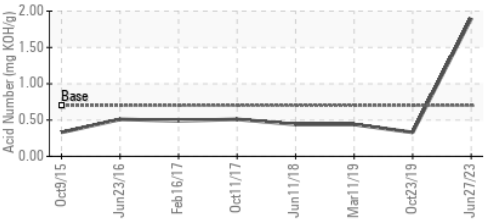
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0073268 **Received** : 28 Jun 2023
Lab Number : 05885564 **Diagnosed** : 30 Jun 2023
Unique Number : 10536047 **Diagnostician** : Angela Borella
Test Package : FLEET (Additional Tests: PrtCount)

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)

GFL Environmental - 102 - Morristown TN
415 Ryder Lane, PO Box 1894
Morristown, TN
US 37813
Contact: Ricky Dunlap
ricky.dunlap@gflenv.com
T: (800)207-6618
F:

Report Id: GFL102 [WUSCAR] 05885564 (Generated: 06/30/2023 18:09:50) Rev: 1

Submitted By: Ricky Dunlap