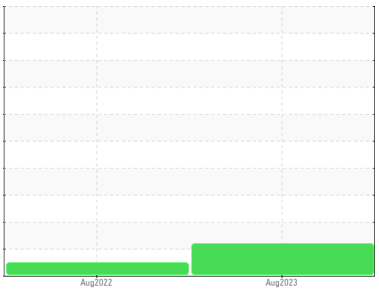
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
OR859
Component
Hydraulic System
Fluid
PETRO CANADA PRODURO TO-4 SAE 10W (--- GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

Fluid Condition
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		**GFL0077004**	GFL0054674	---
Sample Date		Client Info		**25 Aug 2023**	25 Aug 2022	---
Machine Age	hrs	Client Info		**0**	10896	---
Oil Age	hrs	Client Info		**0**	826	---
Oil Changed		Client Info		**Not Changd**	Not Changd	---
Sample Status				**ABNORMAL**	NORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	**8**	13	---
Chromium	ppm	ASTM D5185(m)	>10	**<1**	1	---
Nickel	ppm	ASTM D5185(m)	>10	**0**	<1	---
Titanium	ppm	ASTM D5185(m)		**0**	<1	---
Silver	ppm	ASTM D5185(m)		**<1**	0	---
Aluminum	ppm	ASTM D5185(m)	>10	**1**	2	---
Lead	ppm	ASTM D5185(m)	>10	**3**	3	---
Copper	ppm	ASTM D5185(m)	>75	**11**	4	---
Tin	ppm	ASTM D5185(m)	>10	**<1**	0	---
Antimony	ppm	ASTM D5185(m)		**0**	<1	---
Vanadium	ppm	ASTM D5185(m)		**0**	0	---
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**<1**	0	---

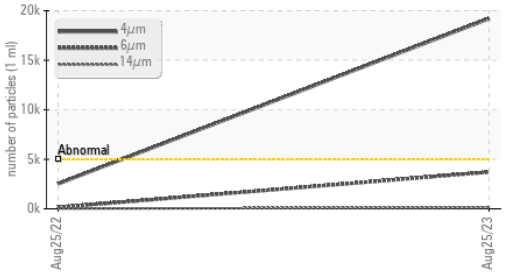
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	1	**2**	7	---
Barium	ppm	ASTM D5185(m)	0	**0**	0	---
Molybdenum	ppm	ASTM D5185(m)	1	**2**	2	---
Manganese	ppm	ASTM D5185(m)	1	**<1**	<1	---
Magnesium	ppm	ASTM D5185(m)	1	**10**	13	---
Calcium	ppm	ASTM D5185(m)	2864	**3039**	2946	---
Phosphorus	ppm	ASTM D5185(m)	987	**956**	865	---
Zinc	ppm	ASTM D5185(m)	1162	**1116**	1023	---
Sulfur	ppm	ASTM D5185(m)	3713	**3658**	3170	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**7**	6	---
Sodium	ppm	ASTM D5185(m)		**4**	3	---
Potassium	ppm	ASTM D5185(m)	>20	**<1**	2	---
Water	%	ASTM D6304*	>0.1	**0.067**	---	---
ppm Water	ppm	ASTM D6304*	>1000	**676.6**	---	---

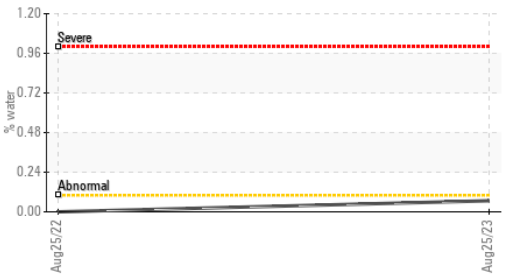
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **19191**	2513	---
Particles >6µm		ASTM D7647	>1300	▲ **3714**	147	---
Particles >14µm		ASTM D7647	>160	**119**	13	---
Particles >21µm		ASTM D7647	>40	**28**	3	---
Particles >38µm		ASTM D7647	>10	**2**	0	---
Particles >71µm		ASTM D7647	>3	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/19/14**	19/14/11	---

OIL ANALYSIS REPORT

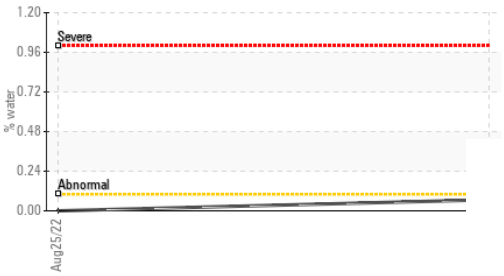
Particle Trend



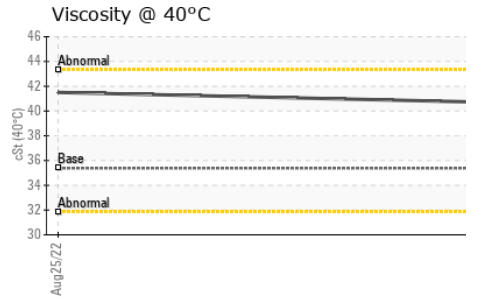
Water



Water

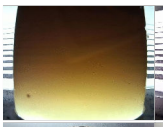
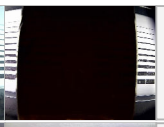


Viscosity @ 40°C



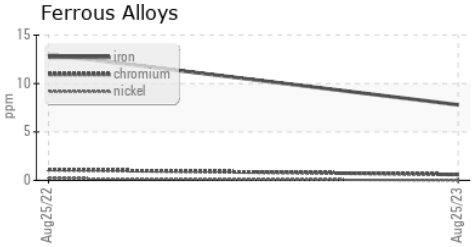
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	---
Silt	scalar	Visual*	NONE	**VLITE**	NONE	---
Debris	scalar	Visual*	NONE	**NONE**	NONE	---
Sand/Dirt	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	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	35.38	**40.7**	41.5	---

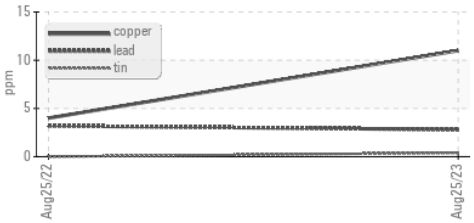
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

GRAPHS

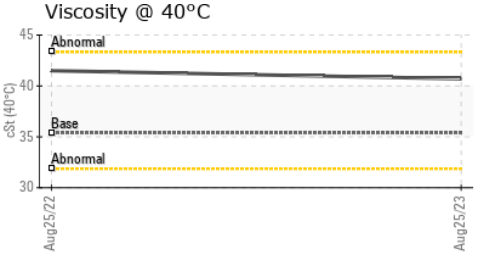
Ferrous Alloys



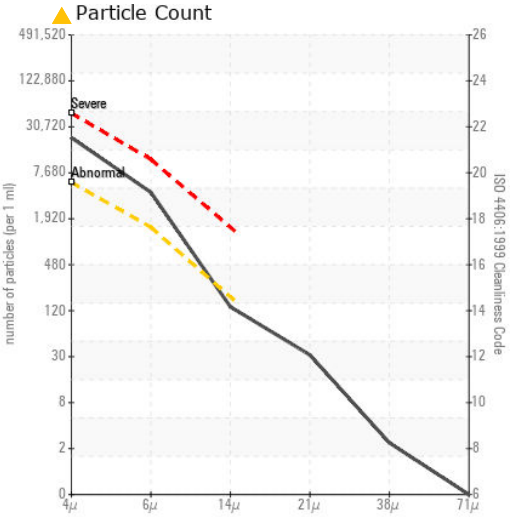
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 575 - Squamish Hauling**
Sample No. : GFL0077004 **Received** : 30 Aug 2023 38950 Queens Way,
Lab Number : 02579384 **Diagnosed** : 01 Sep 2023 Squamish, BC
Unique Number : 5632444 **Diagnostician** : Kevin Marson CA V8B 0K8
Test Package : MOB 1 (Additional Tests: KF, PrtCount) Contact: Dean Imbeau
dimbeau@gflenv.com
T: (604)892-5604
F: (604)892-5238

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.