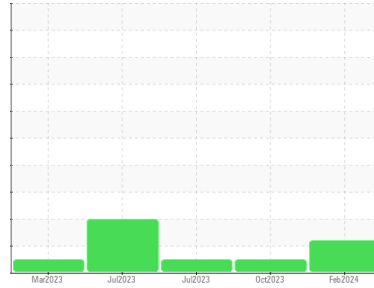




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
724025
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (10 GAL)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0098404	GFL0098410	GFL0085647
Sample Date	Client Info	13 Feb 2024	21 Oct 2023	25 Jul 2023
Machine Age	hrs	36770	36228	35631
Oil Age	hrs	36770	36228	35631
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ABNORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	15	14	4
Chromium	ppm ASTM D5185m >20	<1	<1	0
Nickel	ppm ASTM D5185m >5	0	0	<1
Titanium	ppm ASTM D5185m >2	0	<1	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	2	4	3
Lead	ppm ASTM D5185m >40	<1	16	<1
Copper	ppm ASTM D5185m >330	2	5	1
Tin	ppm ASTM D5185m >15	<1	<1	0
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	71	210	337
Barium	ppm ASTM D5185m	0	0	1
Molybdenum	ppm ASTM D5185m	66	113	113
Manganese	ppm ASTM D5185m	<1	<1	0
Magnesium	ppm ASTM D5185m	754	635	581
Calcium	ppm ASTM D5185m	999	1419	1423
Phosphorus	ppm ASTM D5185m	850	675	641
Zinc	ppm ASTM D5185m	997	801	768
Sulfur	ppm ASTM D5185m	2582	2265	2207

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	6	6
Sodium	ppm ASTM D5185m	2	1	0
Potassium	ppm ASTM D5185m >20	33	<1	1
Fuel	% ASTM D3524 >3.0	▲ 4.4	<1.0	<1.0
Glycol	% *ASTM D2982	0.0	NEG	NEG

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	2.3	2	0.5
Nitration	Abs/cm *ASTM D7624 >20	9.1	9.3	5.4
Sulfation	Abs/.1mm *ASTM D7415 >30	22.7	25.1	22.4

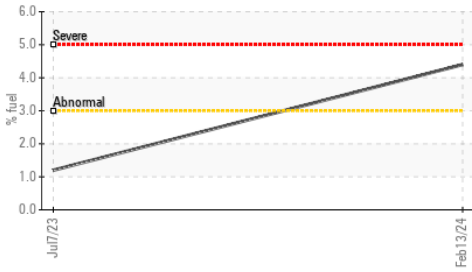
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.8	16.6	14.8
Base Number (BN)	mg KOH/g ASTM D2896	8.4	7.3	8.9

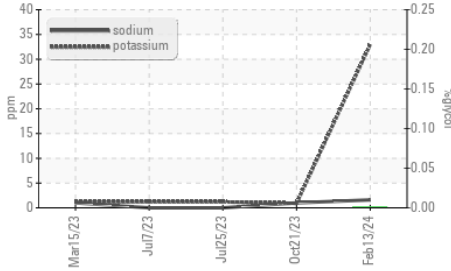


OIL ANALYSIS REPORT

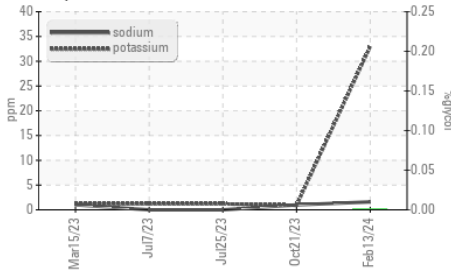
Fuel Dilution



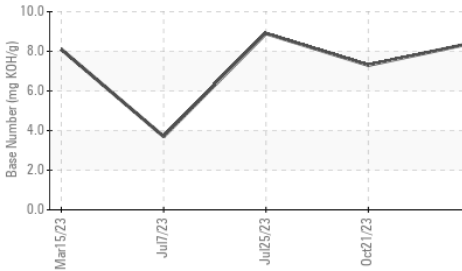
Glycol Contamination



Glycol Contamination



Base Number



VISUAL

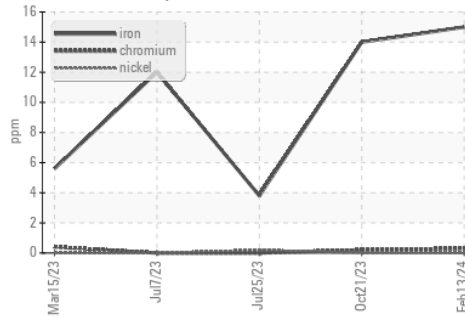
method	limit/base	current	history1	history2
White Metal	scalar *Visual	NONE	NONE	NONE
Yellow Metal	scalar *Visual	NONE	NONE	NONE
Precipitate	scalar *Visual	NONE	NONE	NONE
Silt	scalar *Visual	NONE	NONE	NONE
Debris	scalar *Visual	NONE	NONE	NONE
Sand/Dirt	scalar *Visual	NONE	NONE	NONE
Appearance	scalar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

FLUID PROPERTIES

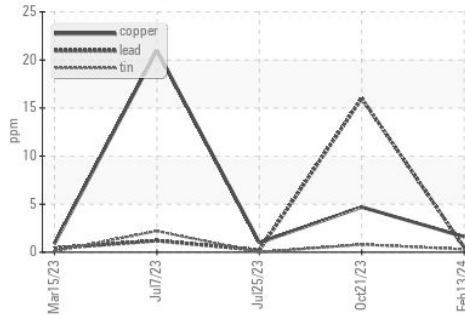
method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445	▲ 12.4	13.3	13.2

GRAPHS

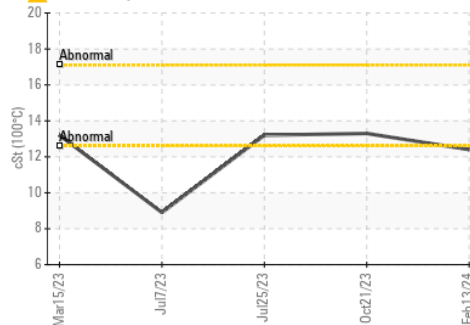
Ferrous Alloys



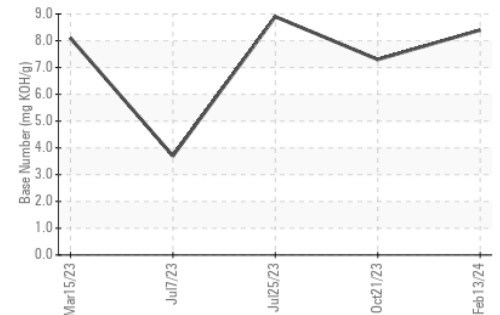
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0098404 Received : 21 Feb 2024
 Lab Number : 06096147 Tested : 25 Feb 2024
 Unique Number : 10889000 Diagnosed : 25 Feb 2024 - Wes Davis
 Test Package : FLEET (Additional Tests: FuelDilution, Glycol, PercentFuel)

GFL Environmental - 409 - Wood Island LF
 E10081 State Hwy M28
 Wetmore, MI
 US 49895
 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)

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