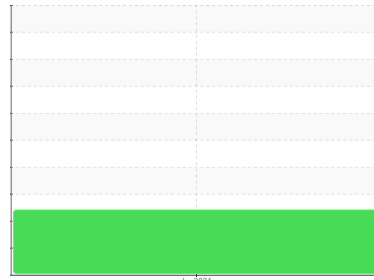




OIL ANALYSIS REPORT

Machine Id
920005
 Component
Diesel Engine
 Fluid
PETRO CANADA 15W40 (10 GAL)

Sample Rating Trend



WEAR



DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Wear

Piston, ring and cylinder wear is indicated. Valve wear is indicated.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0123498	---	---
Sample Date	Client Info		05 Jun 2024	---	---
Machine Age	hrs	Client Info	26185	---	---
Oil Age	hrs	Client Info	600	---	---
Oil Changed	Client Info		Changed	---	---
Sample Status			ABNORMAL	---	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	---	---
Water	WC Method	>0.2	NEG	---	---
Glycol	WC Method		NEG	---	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	▲ 121	---	---
Chromium	ppm	ASTM D5185m >20	8	---	---
Nickel	ppm	ASTM D5185m >5	▲ 8	---	---
Titanium	ppm	ASTM D5185m >2	<1	---	---
Silver	ppm	ASTM D5185m >2	0	---	---
Aluminum	ppm	ASTM D5185m >20	▲ 70	---	---
Lead	ppm	ASTM D5185m >40	<1	---	---
Copper	ppm	ASTM D5185m >330	10	---	---
Tin	ppm	ASTM D5185m >15	<1	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	9	---	---
Barium	ppm	ASTM D5185m	1	---	---
Molybdenum	ppm	ASTM D5185m	64	---	---
Manganese	ppm	ASTM D5185m	2	---	---
Magnesium	ppm	ASTM D5185m	838	---	---
Calcium	ppm	ASTM D5185m	1088	---	---
Phosphorus	ppm	ASTM D5185m	957	---	---
Zinc	ppm	ASTM D5185m	1196	---	---
Sulfur	ppm	ASTM D5185m	3267	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	14	---	---
Sodium	ppm	ASTM D5185m	17	---	---
Potassium	ppm	ASTM D5185m >20	9	---	---

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.8	---	---
Nitration	Abs/cm	*ASTM D7624 >20	11.6	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	16.5	---	---

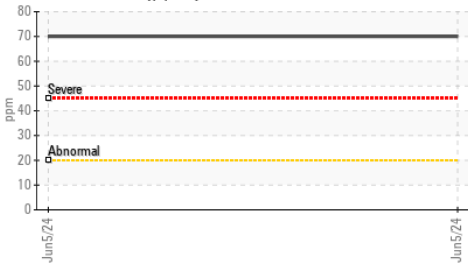
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.8	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	11.2	---	---

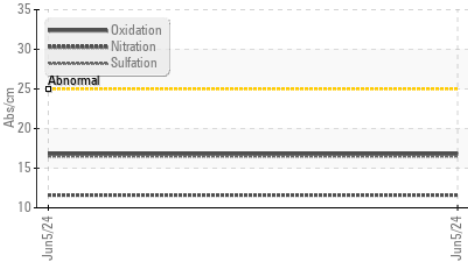


OIL ANALYSIS REPORT

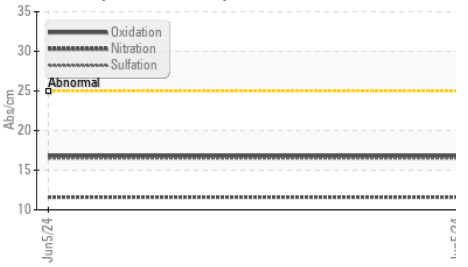
▲ Aluminum (ppm)



● FT-IR (Direct Trend)



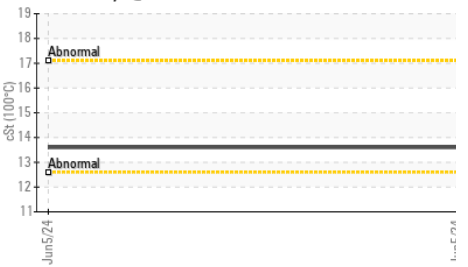
● FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

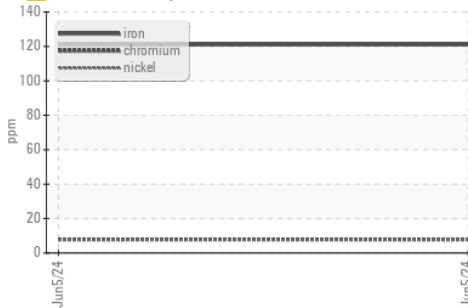


VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Precipitate	scalar	*Visual	NONE	NONE	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE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

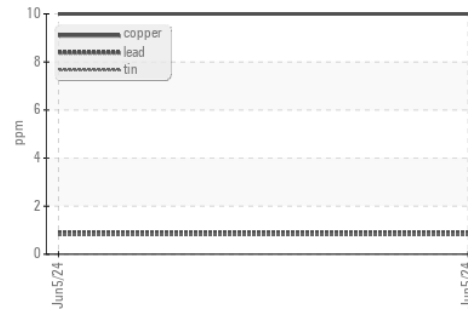
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.6	---	---

GRAPHS

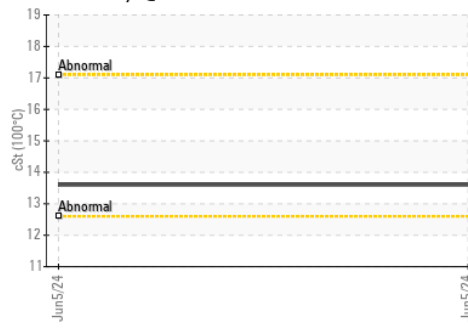
▲ Ferrous Alloys



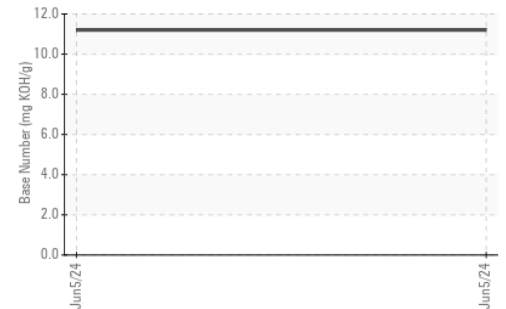
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0123498
Lab Number : **06201317**
Unique Number : 11063440
Test Package : FLEET

Received : 06 Jun 2024
Tested : 07 Jun 2024
Diagnosed : 09 Jun 2024 - Don Baldrige

GFL Environmental - 019 - Greenville/TriEast
 415 Staton Road
 Greenville, NC
 US 27834
 Contact: Gerald Fowler
 gfwler@gflenv.com

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)

T:
F: