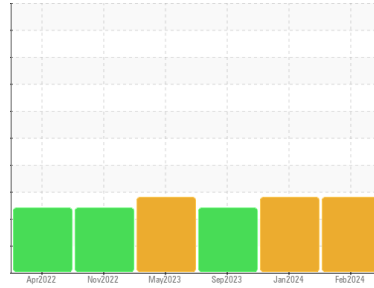




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
211009

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (13 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

Light fuel dilution occurring.

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 condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0096511	GFL0090906	GFL0090922
Sample Date	Client Info	21 Feb 2024	08 Jan 2024	18 Sep 2023
Machine Age	mls Client Info	15350	14551	12771
Oil Age	mls Client Info	1000	1824	2176
Oil Changed	Client Info	Not Chngd	Changed	Not Chngd
Sample Status		ABNORMAL	SEVERE	SEVERE

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	4	18	9
Chromium	ppm ASTM D5185m >20	<1	2	1
Nickel	ppm ASTM D5185m >2	0	<1	0
Titanium	ppm ASTM D5185m >2	0	<1	0
Silver	ppm ASTM D5185m >2	0	0	<1
Aluminum	ppm ASTM D5185m >25	1	2	2
Lead	ppm ASTM D5185m >40	0	0	0
Copper	ppm ASTM D5185m >330	<1	3	1
Tin	ppm ASTM D5185m >15	0	<1	<1
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	121	14	18
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	63	60	59
Manganese	ppm ASTM D5185m 0	<1	1	1
Magnesium	ppm ASTM D5185m 1010	548	838	909
Calcium	ppm ASTM D5185m 1070	819	1006	1070
Phosphorus	ppm ASTM D5185m 1150	607	1021	1031
Zinc	ppm ASTM D5185m 1270	685	1156	1222
Sulfur	ppm ASTM D5185m 2060	2328	2855	3634

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	7	6
Sodium	ppm ASTM D5185m	1	3	2
Potassium	ppm ASTM D5185m >20	<1	0	0
Fuel	% ASTM D3524 >5	4.6	8.6	8.3

INFRA-RED

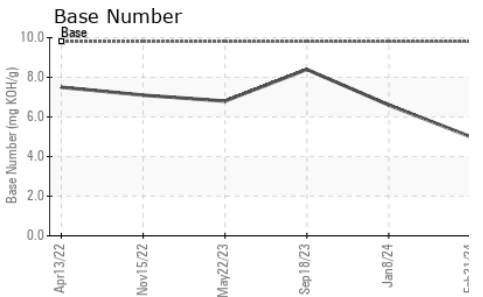
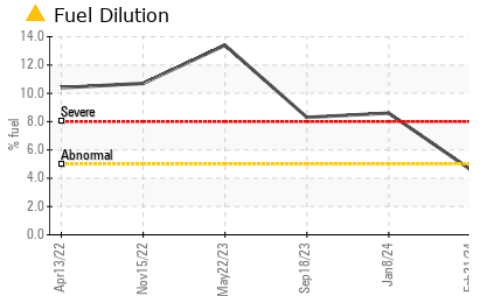
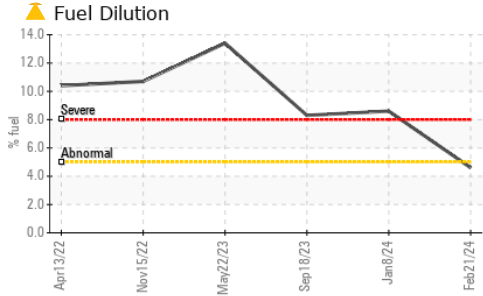
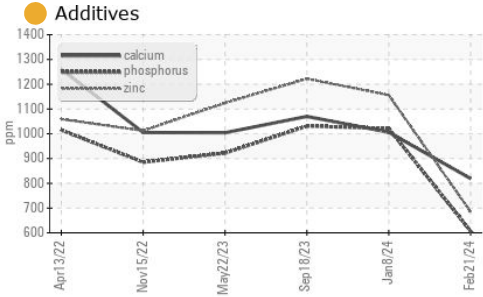
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.1	0.2	0
Nitration	Abs/cm *ASTM D7624 >20	5.5	10.6	9.1
Sulfation	Abs/.1mm *ASTM D7415 >30	14.4	20.1	22.1

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	8.5	19.5	18.3
Base Number (BN)	mg KOH/g ASTM D2896 9.8	5.0	6.6	8.4



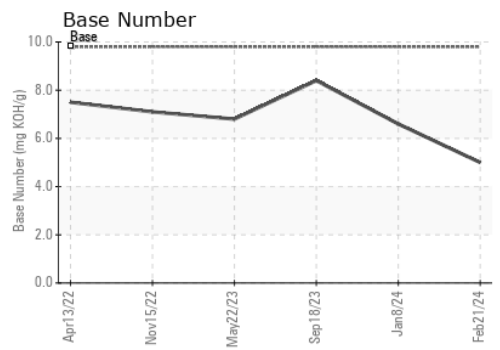
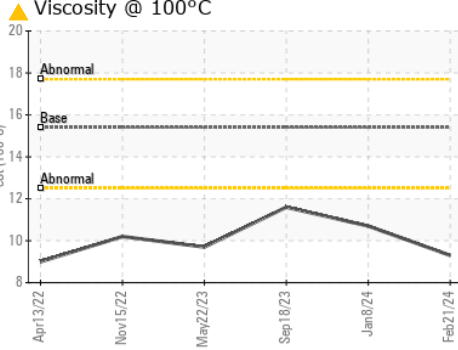
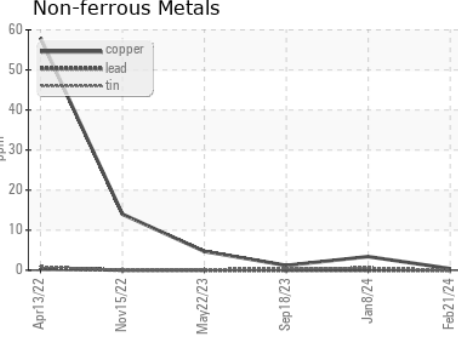
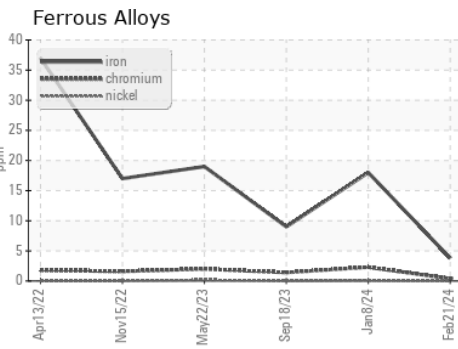
OIL ANALYSIS REPORT



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	15.4	▲ 9.3	▲ 10.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0096511 **Received** : 28 Feb 2024
Lab Number : 06103632 **Tested** : 04 Mar 2024
Unique Number : 10901862 **Diagnosed** : 04 Mar 2024 - Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 656 - Culpeper Hauling
 15490 Montanus Drive
 Culpeper, VA
 US 22701
 Contact: Matt Hanna
 mhanna@gflenv.com
 T: (540)727-0887
 F:

Certificate L2367
 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)