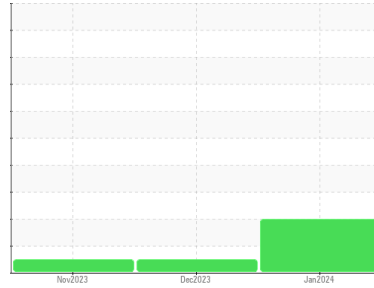




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
714022

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

▲ Contamination

Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of seal material.

▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0108811	GFL0105591	GFL0089099
Sample Date	Client Info	10 Jan 2024	11 Dec 2023	21 Nov 2023
Machine Age	hrs	589	340	179
Oil Age	hrs	340	0	179
Oil Changed	Client Info	Changed	Not Changd	Changed
Sample Status		ABNORMAL	NORMAL	NORMAL

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	34	5	30
Chromium	ppm ASTM D5185m >20	<1	0	4
Nickel	ppm ASTM D5185m >4	<1	0	0
Titanium	ppm ASTM D5185m	0	0	<1
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	6	1	6
Lead	ppm ASTM D5185m >40	2	<1	0
Copper	ppm ASTM D5185m >330	280	23	7
Tin	ppm ASTM D5185m >15	1	0	<1
Vanadium	ppm ASTM D5185m	0	0	<1
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	218	52	0
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	115	63	58
Manganese	ppm ASTM D5185m 0	4	<1	<1
Magnesium	ppm ASTM D5185m 1010	763	947	982
Calcium	ppm ASTM D5185m 1070	1477	1096	1083
Phosphorus	ppm ASTM D5185m 1150	772	1003	917
Zinc	ppm ASTM D5185m 1270	944	1183	1333
Sulfur	ppm ASTM D5185m 2060	2542	3075	2803

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ 69	16	12
Sodium	ppm ASTM D5185m	2	0	2
Potassium	ppm ASTM D5185m >20	9	2	<1
Fuel	% ASTM D3524 >5	0.3	<1.0	<1.0

INFRA-RED

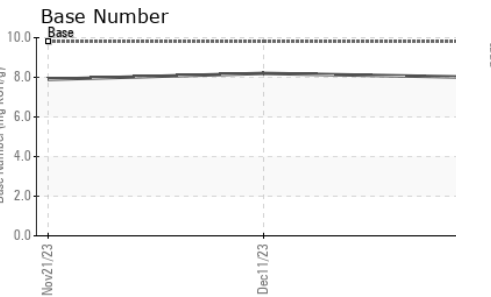
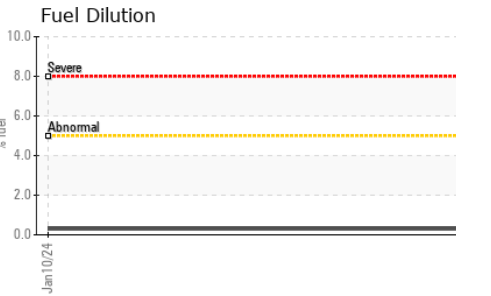
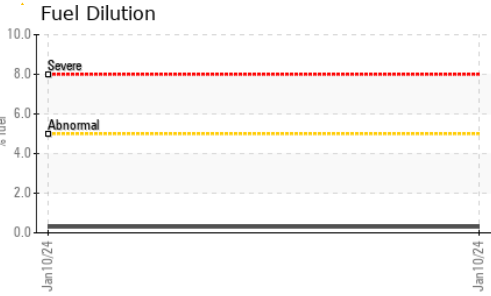
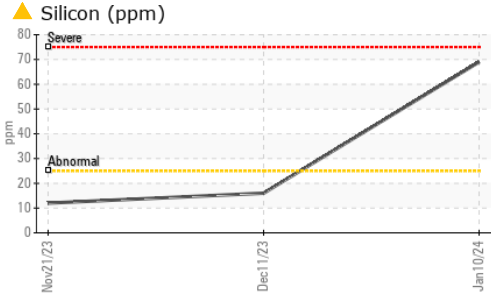
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.3	0.1	0.4
Nitration	Abs/cm *ASTM D7624 >20	9.1	5.2	7.6
Sulfation	Abs/.1mm *ASTM D7415 >30	24.0	18.7	19.7

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	21.9	14.5	16.0
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.0	8.2	7.9



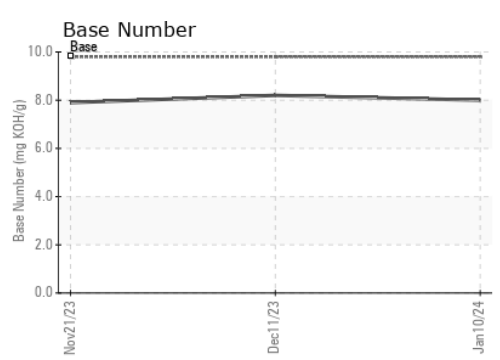
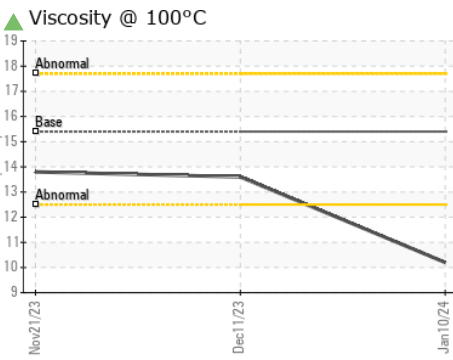
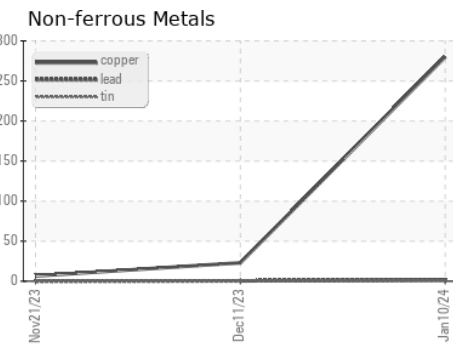
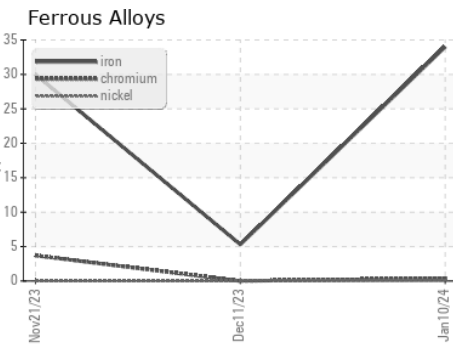
OIL ANALYSIS REPORT



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	▲ 10.2	13.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0108811 **Received** : 12 Jan 2024
Lab Number : 06059028 **Diagnosed** : 16 Jan 2024
Unique Number : 10830410 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 415 - Michigan East
 6200 Elmridge
 Sterling Heights, MI
 US 48313
 Contact: Frank Wolak
 fwolak@gflenv.com
 T: (586)825-9514
 F:

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)