



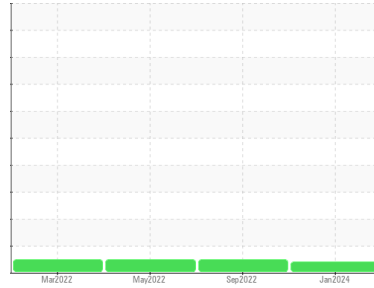
OIL ANALYSIS REPORT

Sample Rating Trend

VISCOSITY



Machine Id
724017-870022
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Engine oil sample)

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

▲ 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		GFL0100559	GFL0054414	GFL0045014
Sample Date	Client Info		17 Jan 2024	26 Sep 2022	27 May 2022
Machine Age	hrs	Client Info	16978	195029	183741
Oil Age	hrs	Client Info	16978	195029	7044
Oil Changed		Client Info	Not Chngd	Changed	Changed
Sample Status			ATTENTION	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 >90	10	20	35
Chromium	ppm	ASTM D5185m >20	<1	<1	2
Nickel	ppm	ASTM D5185m >2	0	0	1
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	0	0	2
Aluminum	ppm	ASTM D5185m >20	2	4	7
Lead	ppm	ASTM D5185m >40	0	3	3
Copper	ppm	ASTM D5185m >330	11	2	2
Tin	ppm	ASTM D5185m >15	0	<1	<1
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	68	<1	4
Barium	ppm	ASTM D5185m 0	13	0	0
Molybdenum	ppm	ASTM D5185m 60	42	66	72
Manganese	ppm	ASTM D5185m 0	2	<1	<1
Magnesium	ppm	ASTM D5185m 1010	530	1005	1156
Calcium	ppm	ASTM D5185m 1070	1664	1215	1258
Phosphorus	ppm	ASTM D5185m 1150	795	1098	1228
Zinc	ppm	ASTM D5185m 1270	967	1315	1539
Sulfur	ppm	ASTM D5185m 2060	2652	3410	3166

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	18	4	5
Sodium	ppm	ASTM D5185m	3	0	8
Potassium	ppm	ASTM D5185m >20	3	1	1
Fuel	%	ASTM D3524 >3.0	0.7	<1.0	<1.0

INFRA-RED

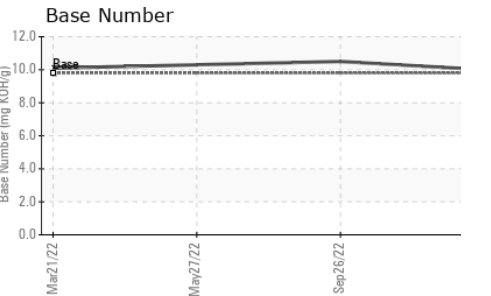
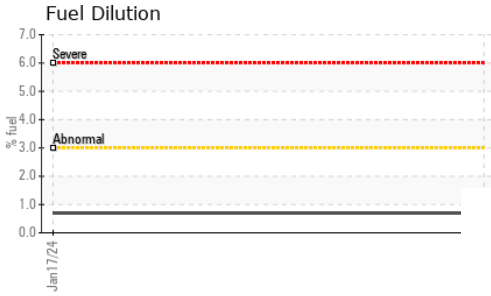
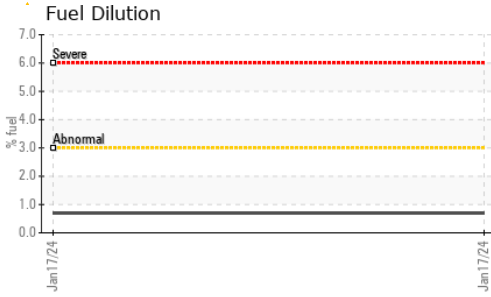
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	0.1	0.2	0.4
Nitration	Abs/cm	*ASTM D7624 >20	5.0	8.4	10.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.0	21.8	23.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.4	18.1	20.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	10.0	10.5	10.3



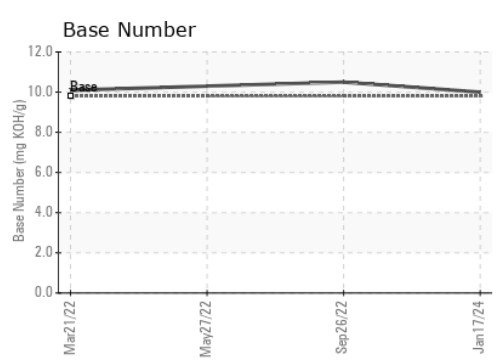
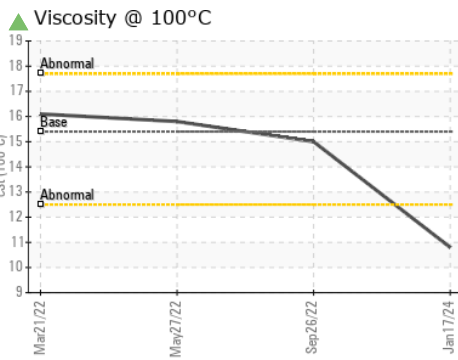
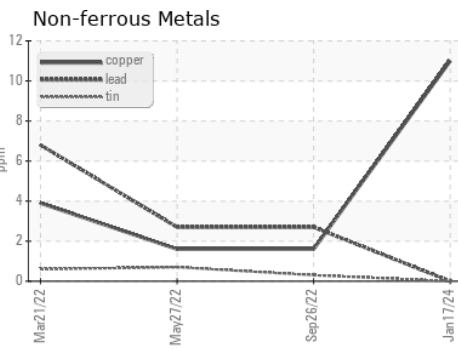
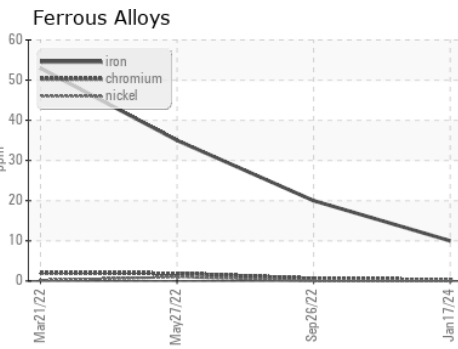
OIL ANALYSIS REPORT



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 ▲ 10.8	15.0	15.8

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0100559 **Received** : 23 Jan 2024
Lab Number : 06068920 **Diagnosed** : 25 Jan 2024
Unique Number : 10845597 **Diagnostician** : Sean Felton
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 865 - East Mount Hauling
 7213 East Mount Houston Road
 Houston, TX
 US 77050
 Contact: Saul Castillo
 saul.castillo@gflenv.com
 T:
 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)