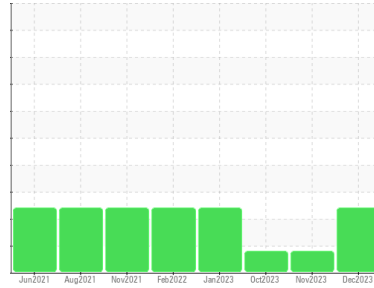




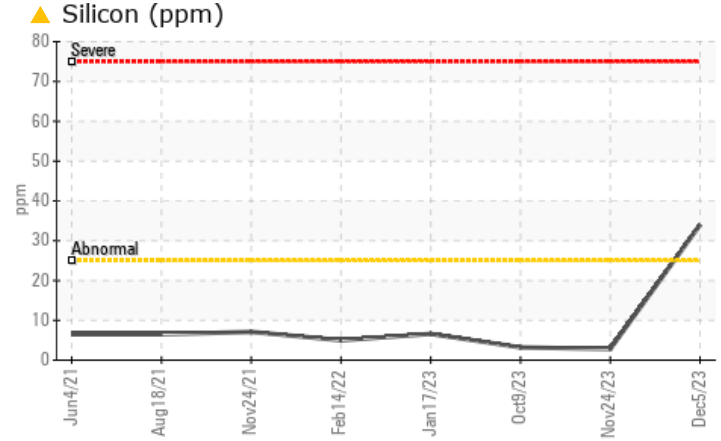
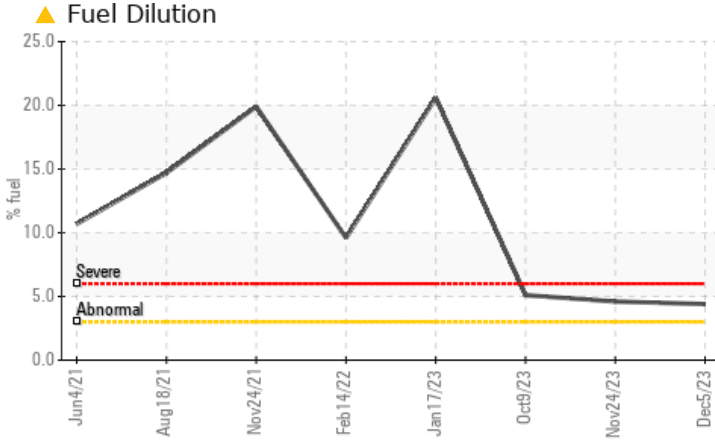
PROBLEM SUMMARY

Sample Rating Trend



Machine Id
4555M
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the fuel injection system.
 Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Silicon	ppm	ASTM D5185m	>25	▲ 34	3	3
Fuel	%	ASTM D3524	>3.0	▲ 4.4	▲ 4.6	▲ 5.1

Customer Id: GFL415
 Sample No.: GFL0101416
 Lab Number: 06027398
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

24 Nov 2023 Diag: Wes Davis

FUEL



The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

[view report](#)



09 Oct 2023 Diag: Wes Davis

FUEL



The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

[view report](#)



17 Jan 2023 Diag: Don Baldrige

FUEL



We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a very high amount of fuel present 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.

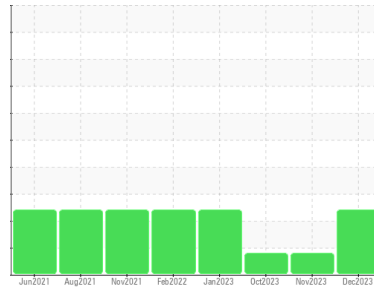
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
4555M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0101416	GFL0089164	GFL0093219
Sample Date	Client Info		05 Dec 2023	24 Nov 2023	09 Oct 2023
Machine Age	hrs	Client Info	20109	20026	19678
Oil Age	hrs	Client Info	20026	2600	17840
Oil Changed	Client Info		N/A	Changed	Changed
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

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	6	18	18
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	1	2	1
Lead	ppm	ASTM D5185m	>40	0	2	5
Copper	ppm	ASTM D5185m	>330	1	1	5
Tin	ppm	ASTM D5185m	>15	0	<1	<1
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	0	<1	3	4
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	54	50	53
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	898	833	863
Calcium	ppm	ASTM D5185m	1070	1007	979	938
Phosphorus	ppm	ASTM D5185m	1150	983	1046	958
Zinc	ppm	ASTM D5185m	1270	1180	1166	1133
Sulfur	ppm	ASTM D5185m	2060	2848	2922	2733

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	▲ 34	3	3
Sodium	ppm	ASTM D5185m		4	4	6
Potassium	ppm	ASTM D5185m	>20	0	2	0
Fuel	%	ASTM D3524	>3.0	▲ 4.4	▲ 4.6	▲ 5.1

INFRA-RED

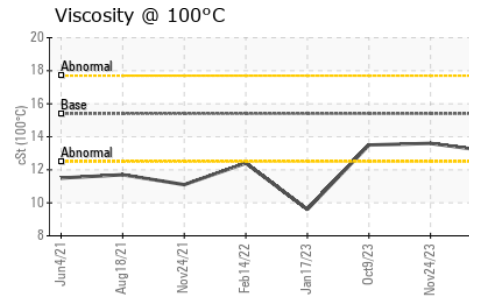
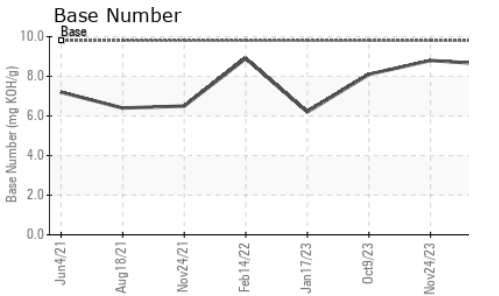
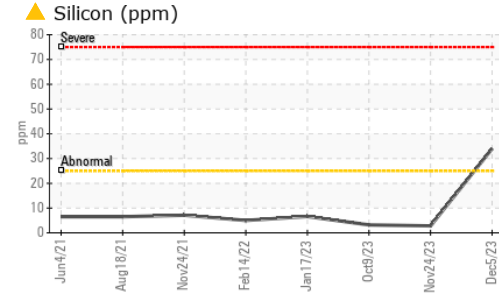
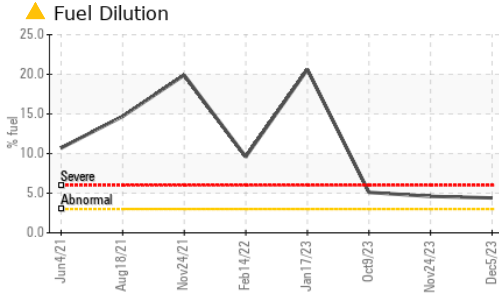
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>6	2.2	1.8	1.3
Nitration	Abs/cm	*ASTM D7624	>20	9.6	8.6	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.8	21.7	20.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.4	15.4	15.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.6	8.8	8.1



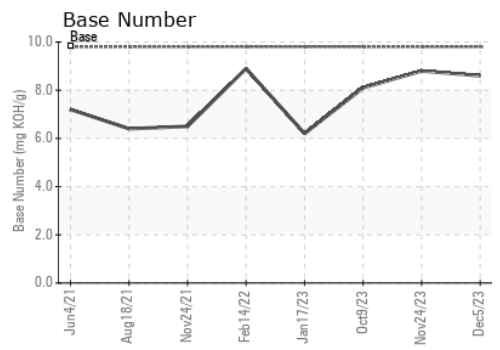
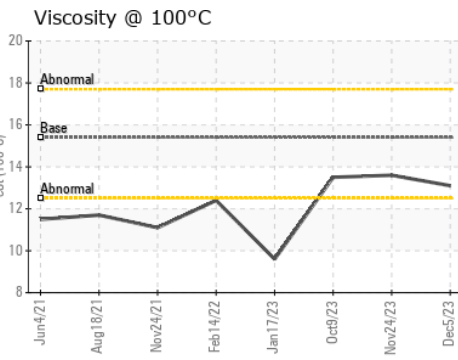
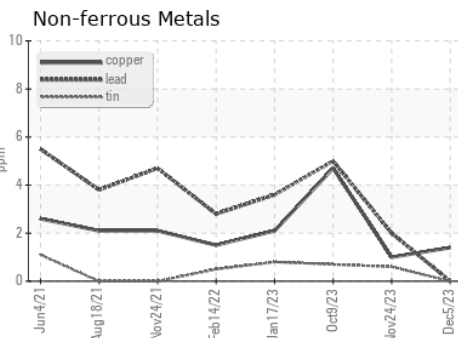
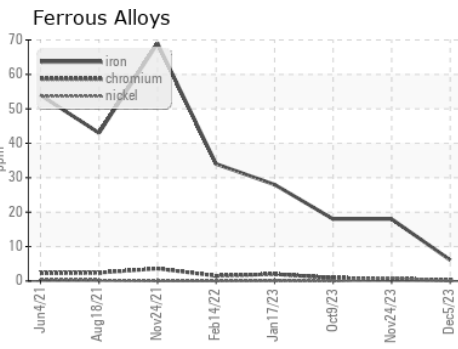
OIL ANALYSIS REPORT



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	13.1	13.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0101416 **Received** : 07 Dec 2023
Lab Number : **06027398** **Diagnosed** : 14 Dec 2023
Unique Number : 10777189 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: PercentFuel)

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