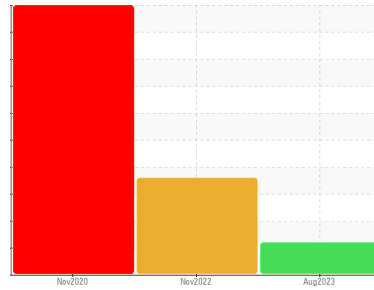




PROBLEM SUMMARY

Sample Rating Trend



WEAR



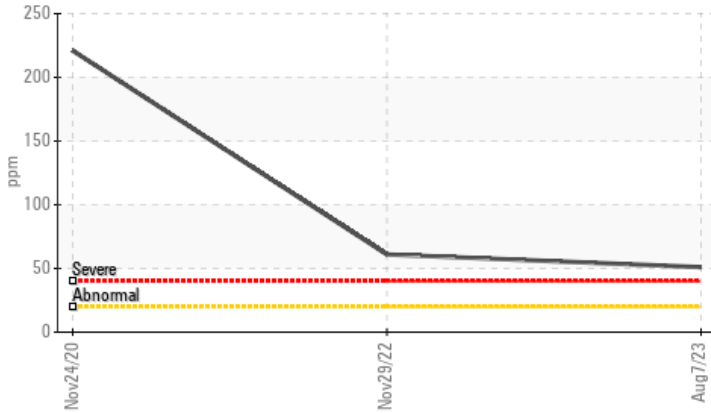
Machine Id
723030-310078

Component
Diesel Engine

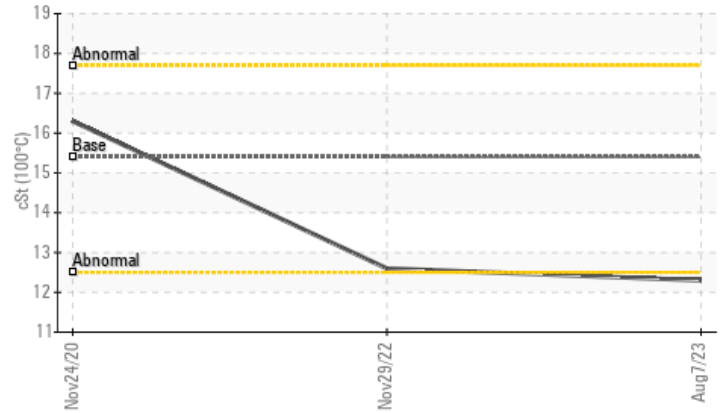
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Aluminum (ppm)



▲ Viscosity @ 100°C



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.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ABNORMAL	SEVERE
Aluminum	ppm	ASTM D5185m	>20	▲ 51	▲ 61	● 221
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.3	12.6	16.3

Customer Id: GFL844
Sample No.: GFL0087059
Lab Number: 05925786
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldrige +1
don.b505@comcast.net

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.

HISTORICAL DIAGNOSIS

29 Nov 2022 Diag: Jonathan Hester

WEAR



We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Piston and cylinder wear is indicated. There is an abnormal amount of solids and carbon present in the oil. Light fuel dilution occurring. The BN result indicates that there is suitable alkalinity remaining in the oil.

[view report](#)



24 Nov 2020 Diag: Wes Davis

GLYCOL



We advise that you check for faulty combustion and a possible overheat condition. We advise that you check the engine tuning and timing. Check for low coolant level. We advise that you monitor for an abnormal oil pressure drop and noise. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Aluminum and lead ppm levels are severe. Chromium and iron ppm levels are marginal. Piston wear is indicated. Bearing wear is indicated. There is an abnormal level of nitration indicated. Water treatment chemicals present, indicating slow coolant leak. Light concentration of carbon/soot present in the oil. Test for glycol is negative. A small degree of oil oxidation was indicated. The oil is no longer serviceable as a result of the abnormal and/or severe wear. The condition of the oil is acceptable for the time in service (see recommendation).

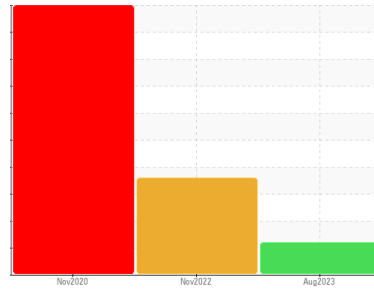
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
723030-310078

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

The aluminum level has decreased, but is still abnormal. All other 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	GFL0087059	GFL0064538	GFL12040096
Sample Date	Client Info	07 Aug 2023	29 Nov 2022	24 Nov 2020
Machine Age	hrs	14582	0	157237
Oil Age	hrs	0	0	450
Oil Changed	Client Info	Changed	Not Chngd	?N/A
Sample Status		ABNORMAL	ABNORMAL	SEVERE

CONTAMINATION

method	limit/base	current	history1	history2
Glycol	WC Method	NEG	NEG	0

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >100	97	▲ 205	▲ 417
Chromium	ppm	ASTM D5185m >20	5	6	▲ 19
Nickel	ppm	ASTM D5185m >4	<1	0	4
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	▲ 51	▲ 61	● 221
Lead	ppm	ASTM D5185m >40	8	15	● 186
Copper	ppm	ASTM D5185m >330	9	29	29
Tin	ppm	ASTM D5185m >15	1	3	---
Antimony	ppm	ASTM D5185m	---	---	0
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	0	14	---
Barium	ppm	ASTM D5185m 0	0	0	---
Molybdenum	ppm	ASTM D5185m 60	57	42	175
Manganese	ppm	ASTM D5185m 0	1	4	---
Magnesium	ppm	ASTM D5185m 1010	896	522	---
Calcium	ppm	ASTM D5185m 1070	1144	1677	1444
Phosphorus	ppm	ASTM D5185m 1150	968	950	679
Zinc	ppm	ASTM D5185m 1270	1225	1193	---
Sulfur	ppm	ASTM D5185m 2060	3252	3635	---

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	7	15	---
Sodium	ppm	ASTM D5185m	10	13	● 2524
Potassium	ppm	ASTM D5185m >20	5	17	● 1070
Fuel	%	ASTM D3524 >2.0	0.3	▲ 2.0	<1.0

INFRA-RED

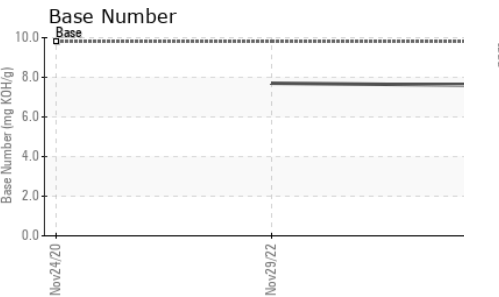
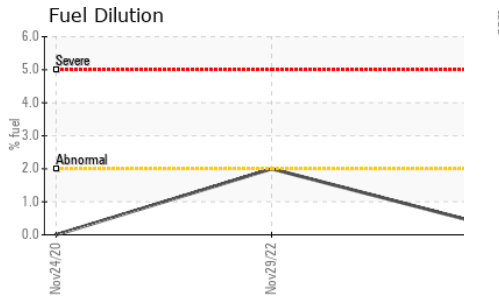
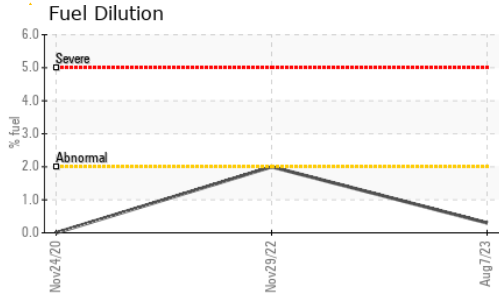
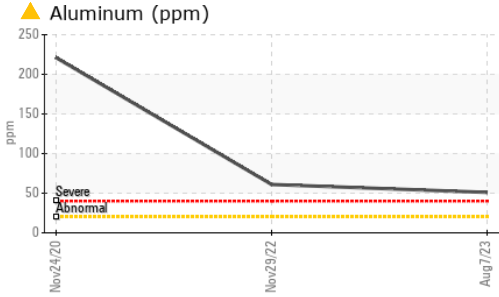
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	2.2	▲ 3.7	▲ 3
Nitration	Abs/cm	*ASTM D7624 >20	11.8	15.9	● 44
Sulfation	Abs/.1mm	*ASTM D7415 >30	24.5	▲ 32.8	---

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	17.8	23.0	● 100
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.6	7.7	---



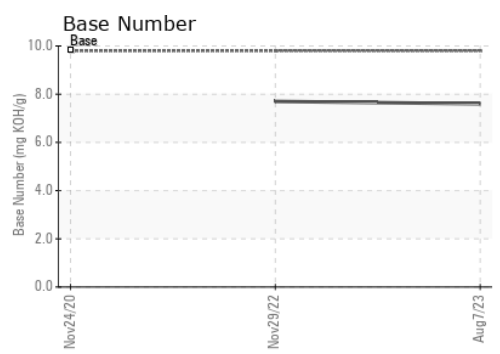
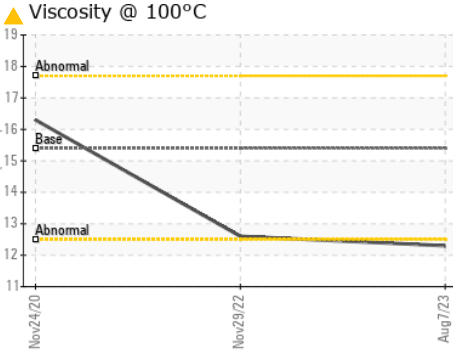
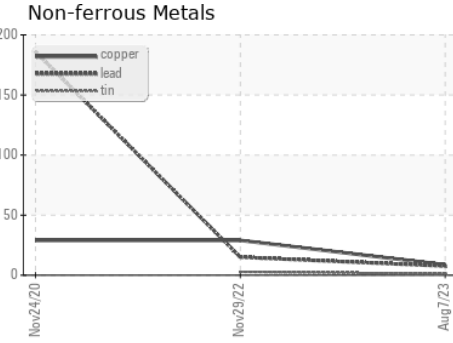
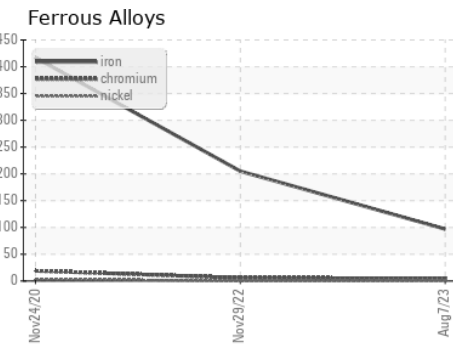
OIL ANALYSIS REPORT



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	15.4	▲ 12.3	12.6	16.3

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0087059 **Received** : 16 Aug 2023
Lab Number : 05925786 **Diagnosed** : 17 Aug 2023
Unique Number : 10605733 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 844 - Princeton Hauling
 10129 Highway 62 West
 Princeton, KY
 US 42445
 Contact: Kenneth Bigers
 kbigers@gflenv.com
 T: (270)970-0371
 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)