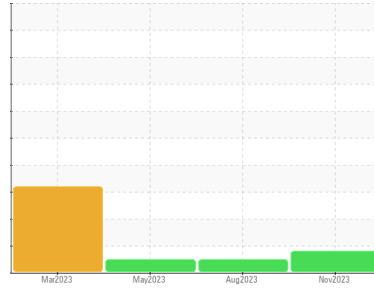




# PROBLEM SUMMARY

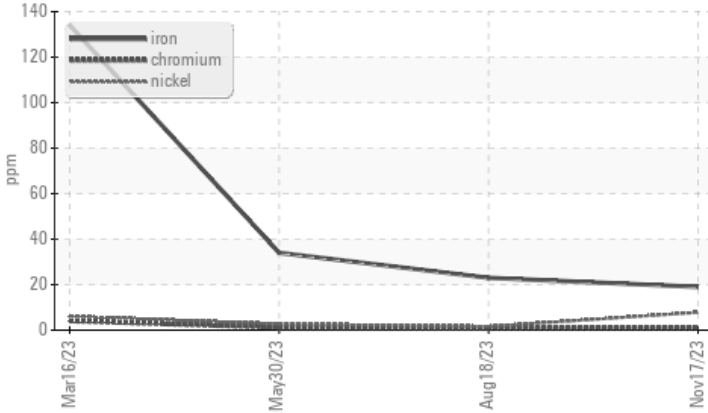
Sample Rating Trend



Machine Id  
**912023**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Ferrous Alloys



## 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	NORMAL	NORMAL
Nickel	ppm	ASTM D5185m	>5	▲ 8	2	3

Customer Id: GFL415  
 Sample No.: GFL0101598  
 Lab Number: 06013639  
 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](mailto:don.b505@comcast.net)

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

### 18 Aug 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



### 30 May 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



### 16 Mar 2023 Diag: Jonathan Hester

DEGRADATION



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Cylinder, crank, or cam shaft wear is indicated. Valve wear is indicated. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN level is low. Confirm oil type.

view report

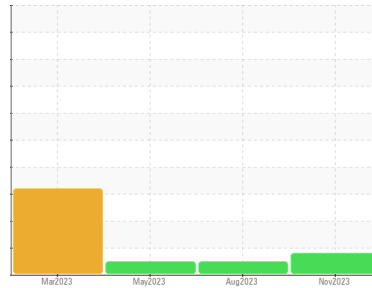




# OIL ANALYSIS REPORT

## Sample Rating Trend

**WEAR**



Machine Id  
**912023**  
 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

Valve wear is indicated. All other component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0101598</b>	GFL0086618	GFL0081401
Sample Date	Client Info		<b>17 Nov 2023</b>	18 Aug 2023	30 May 2023
Machine Age	hrs	Client Info	<b>5392</b>	4701	4050
Oil Age	hrs	Client Info	<b>4701</b>	4050	3449
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	<b>19</b>	23	34
Chromium	ppm	ASTM D5185m >20	<b>1</b>	<1	1
Nickel	ppm	ASTM D5185m >5	<b>▲ 8</b>	2	3
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	2	1
Lead	ppm	ASTM D5185m >40	<b>2</b>	2	0
Copper	ppm	ASTM D5185m >330	<b>4</b>	6	7
Tin	ppm	ASTM D5185m >15	<b>1</b>	2	2
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>0</b>	1	4
Barium	ppm	ASTM D5185m 0	<b>9</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>63</b>	79	59
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185m 1010	<b>929</b>	1215	944
Calcium	ppm	ASTM D5185m 1070	<b>1083</b>	1345	1062
Phosphorus	ppm	ASTM D5185m 1150	<b>944</b>	1263	960
Zinc	ppm	ASTM D5185m 1270	<b>1217</b>	1626	1225
Sulfur	ppm	ASTM D5185m 2060	<b>2538</b>	3726	3071

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>5</b>	2	6
Sodium	ppm	ASTM D5185m	<b>4</b>	6	4
Potassium	ppm	ASTM D5185m >20	<b>2</b>	2	<1

## INFRA-RED

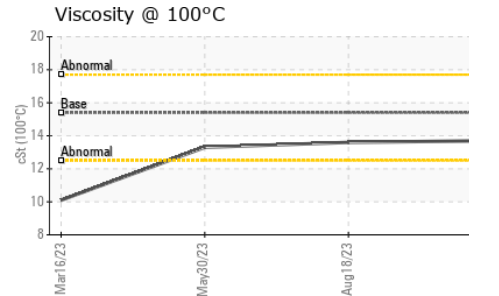
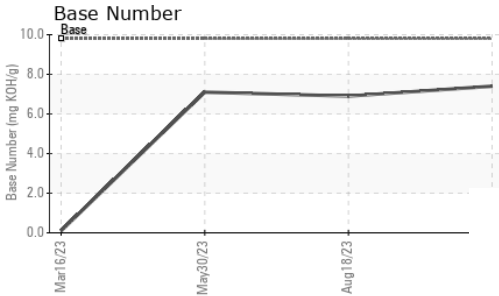
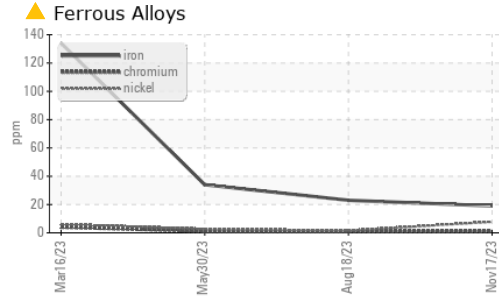
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>1</b>	0.8	0.8
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.9</b>	8.0	8.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.6</b>	20.4	20.9

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>17.7</b>	16.5	17.7
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.4</b>	6.9	7.1



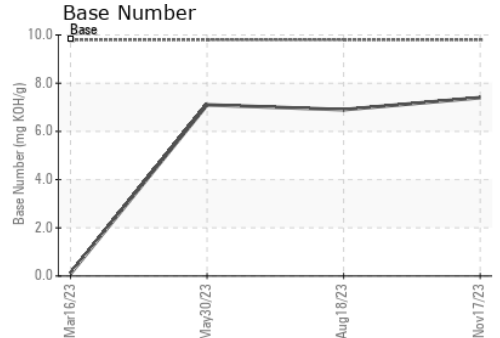
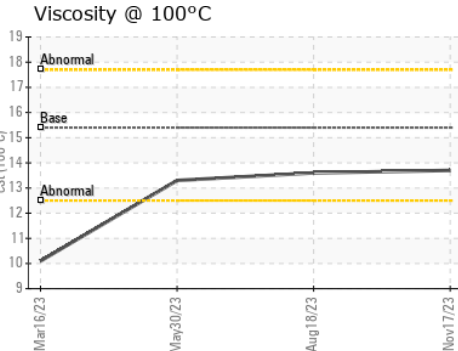
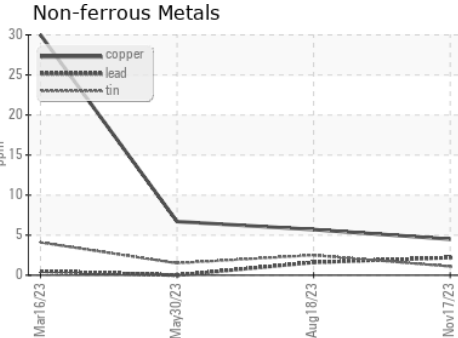
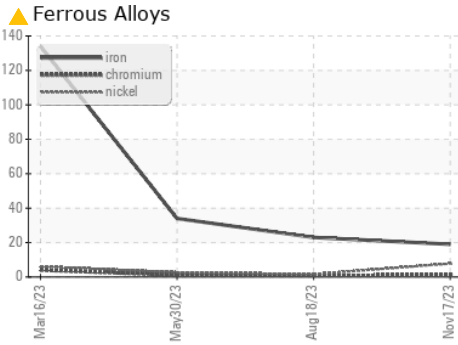
# OIL ANALYSIS REPORT



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	13.7	13.6

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0101598 **Received** : 21 Nov 2023  
**Lab Number** : 06013639 **Diagnosed** : 23 Nov 2023  
**Unique Number** : 10752783 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET

**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)