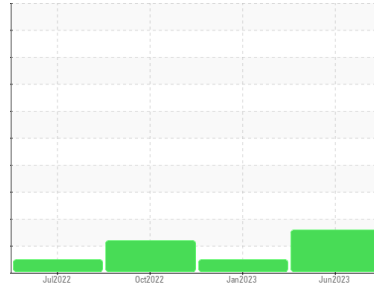




# PROBLEM SUMMARY

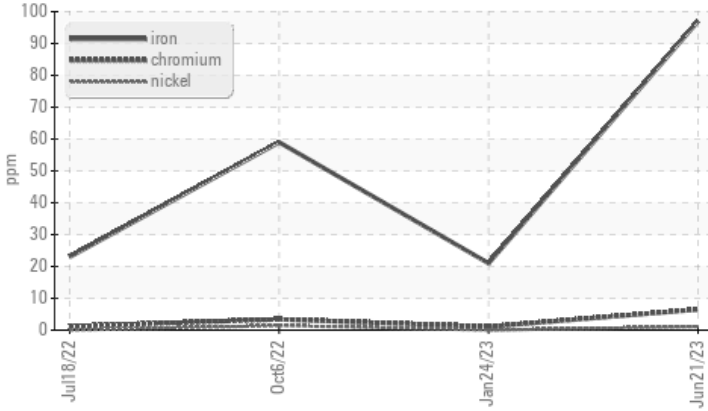
Sample Rating Trend



Machine Id  
**727122**  
 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	ABNORMAL
Iron	ppm	ASTM D5185m	>80	▲ 97	21	59
Chromium	ppm	ASTM D5185m	>5	▲ 6	1	3

Customer Id: GFL641  
 Sample No.: GFL0067554  
 Lab Number: 05885368  
 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

**24 Jan 2023 Diag: Jonathan Hester**

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. Fuel content negligible. 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



**06 Oct 2022 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. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report



**18 Jul 2022 Diag: Jonathan Hester**

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.

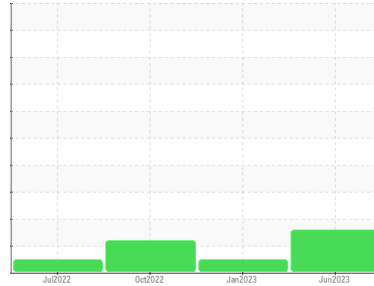
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id  
**727122**  
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

Cylinder, crank, or cam shaft wear is indicated.

### 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	history 1	history 2
Sample Number	Client Info	<b>GFL0067554</b>	GFL0067539	GFL0055906
Sample Date	Client Info	<b>21 Jun 2023</b>	24 Jan 2023	06 Oct 2022
Machine Age	hrs	<b>11040</b>	9863	9843
Oil Age	hrs	<b>599</b>	0	0
Oil Changed	Client Info	<b>Changed</b>	N/A	Changed
Sample Status		<b>ABNORMAL</b>	NORMAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history 1	history 2
Fuel	WC Method >5	<b>&lt;1.0</b>	0.6	▲ 7.3
Glycol	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history 1	history 2
Iron	ppm ASTM D5185m >80	▲ <b>97</b>	21	59
Chromium	ppm ASTM D5185m >5	▲ <b>6</b>	1	3
Nickel	ppm ASTM D5185m >2	<b>1</b>	0	1
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	0	1
Silver	ppm ASTM D5185m >3	<b>0</b>	0	1
Aluminum	ppm ASTM D5185m >30	<b>7</b>	2	4
Lead	ppm ASTM D5185m >30	<b>3</b>	0	0
Copper	ppm ASTM D5185m >150	<b>3</b>	1	2
Tin	ppm ASTM D5185m >5	<b>1</b>	<1	1
Vanadium	ppm ASTM D5185m	<b>0</b>	0	2
Cadmium	ppm ASTM D5185m	<b>&lt;1</b>	0	<1

## ADDITIVES

method	limit/base	current	history 1	history 2
Boron	ppm ASTM D5185m 0	<b>26</b>	45	23
Barium	ppm ASTM D5185m 0	<b>&lt;1</b>	0	<1
Molybdenum	ppm ASTM D5185m 60	<b>21</b>	8	6
Manganese	ppm ASTM D5185m 0	<b>1</b>	<1	2
Magnesium	ppm ASTM D5185m 1010	<b>834</b>	665	572
Calcium	ppm ASTM D5185m 1070	<b>1605</b>	1433	1177
Phosphorus	ppm ASTM D5185m 1150	<b>874</b>	695	875
Zinc	ppm ASTM D5185m 1270	<b>1069</b>	813	1043
Sulfur	ppm ASTM D5185m 2060	<b>3687</b>	3570	3369

## CONTAMINANTS

method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185m >20	<b>16</b>	6	16
Sodium	ppm ASTM D5185m	<b>13</b>	8	9
Potassium	ppm ASTM D5185m >20	<b>9</b>	2	3

## INFRA-RED

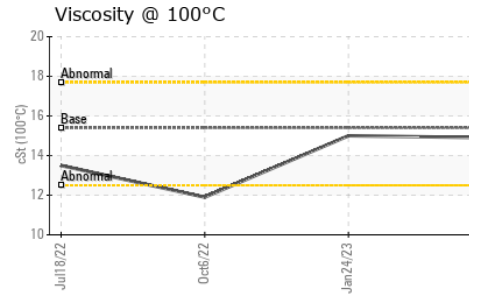
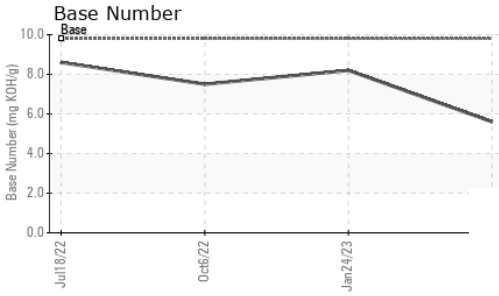
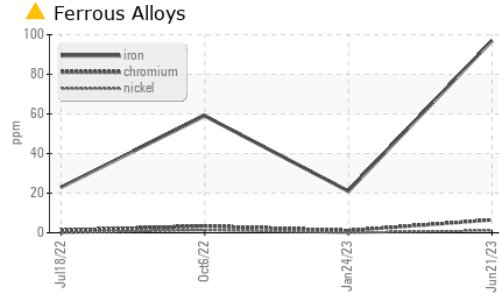
method	limit/base	current	history 1	history 2
Soot %	% *ASTM D7844 >3	<b>2</b>	0.6	1.3
Nitration	Abs/cm *ASTM D7624 >20	<b>18.6</b>	13.3	14.1
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>36.6</b>	23.7	27.7

## FLUID DEGRADATION

method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>39.1</b>	21.5	25.3
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>5.6</b>	8.2	7.5



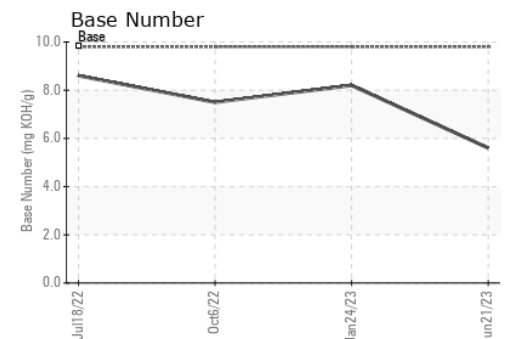
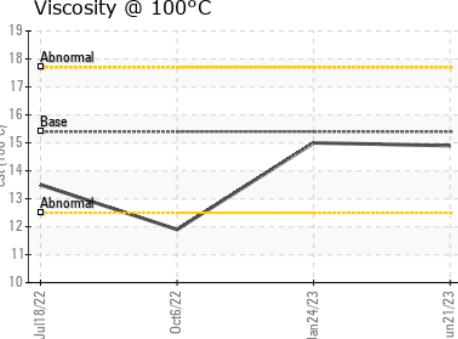
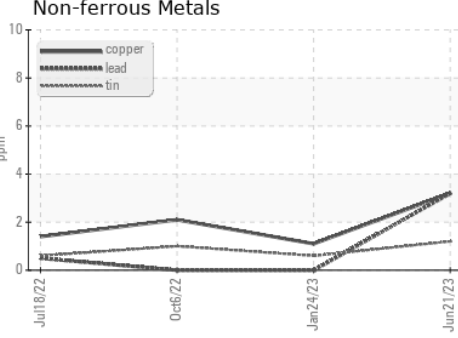
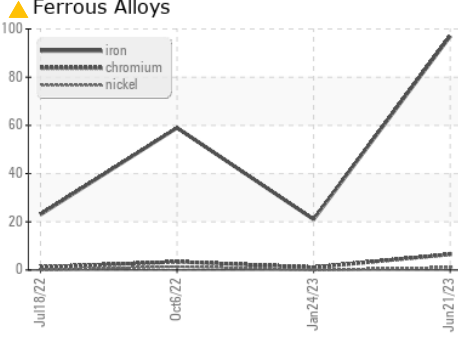
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
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	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	14.9	15.0 ▲ 11.9

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0067554 **Received** : 28 Jun 2023  
**Lab Number** : 05885368 **Diagnosed** : 30 Jun 2023  
**Unique Number** : 10535851 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 641 - Alpena**  
 1241 KING SETTLEMENT RD  
 ALPENA, MI  
 US 49707  
 Contact: DYLAN TOLAN  
 dylan.tolan@gflenv.com  
 T: (989)854-7203  
 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)