



# PROBLEM SUMMARY

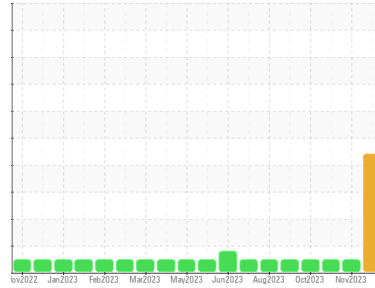
Sample Rating Trend

DEGRADATION

Machine Id  
**933021**

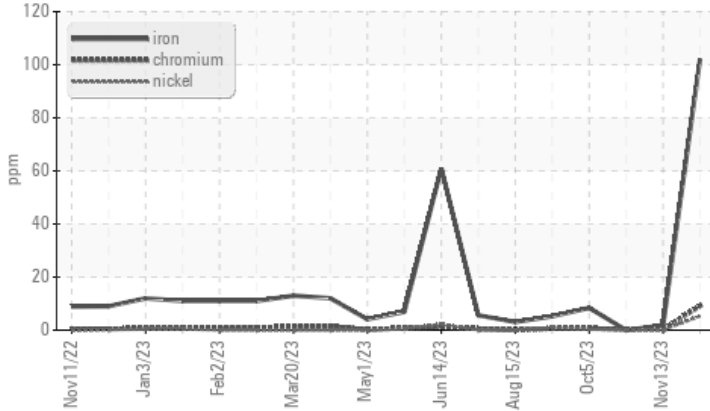
Component  
**Natural Gas Engine**

Fluid  
**PETRO CANADA DURON GEO LD 15W40 (--- GAL)**

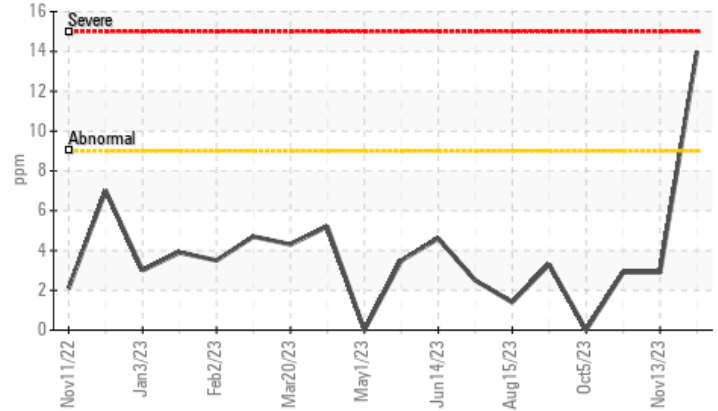


## COMPONENT CONDITION SUMMARY

### ▲ Ferrous Alloys



### ▲ Aluminum (ppm)



## RECOMMENDATION

The oil is near the end of its useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>50	▲ 102	2	0
Chromium	ppm	ASTM D5185m	>4	▲ 9	<1	<1
Nickel	ppm	ASTM D5185m	>2	▲ 5	0	0
Aluminum	ppm	ASTM D5185m	>9	▲ 14	3	3
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	▲ 2.2	4.8	5.1

Customer Id: GFL836  
Sample No.: GFL0099914  
Lab Number: 06029131  
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](mailto:jhester@wearcheckusa.com)

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
Service/change Fluid	---	---	?	The oil is near the end of it's useful service life, recommend schedule an oil change.

## HISTORICAL DIAGNOSIS

13 Nov 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



17 Oct 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



05 Oct 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





# OIL ANALYSIS REPORT

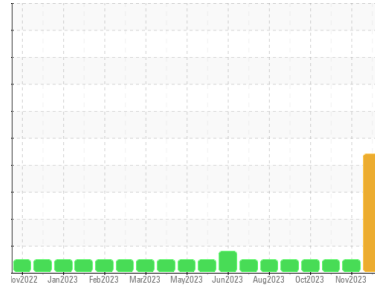
Sample Rating Trend

DEGRADATION

Machine Id  
**933021**

Component  
**Natural Gas Engine**

Fluid  
**PETRO CANADA DURON GEO LD 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

The oil is near the end of its useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.

### Wear

Piston, ring and cylinder wear is indicated. Valve wear is indicated.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The BN level is low. The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0099914</b>	GFL0099971	GFL0095127
Sample Date	Client Info	<b>06 Dec 2023</b>	13 Nov 2023	17 Oct 2023
Machine Age	hrs	<b>3251</b>	3107	2941
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>Not Changed</b>	Not Changed	Not Changed
Sample Status		<b>ABNORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.1	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >50	<b>▲ 102</b>	2	0
Chromium	ppm ASTM D5185m >4	<b>▲ 9</b>	<1	<1
Nickel	ppm ASTM D5185m >2	<b>▲ 5</b>	0	0
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >9	<b>▲ 14</b>	3	3
Lead	ppm ASTM D5185m >30	<b>10</b>	<1	<1
Copper	ppm ASTM D5185m >35	<b>3</b>	2	1
Tin	ppm ASTM D5185m >4	<b>2</b>	<1	0
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 50	<b>8</b>	10	5
Barium	ppm ASTM D5185m 5	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 50	<b>75</b>	45	48
Manganese	ppm ASTM D5185m 0	<b>4</b>	<1	<1
Magnesium	ppm ASTM D5185m 560	<b>647</b>	495	539
Calcium	ppm ASTM D5185m 1510	<b>1854</b>	1461	1523
Phosphorus	ppm ASTM D5185m 780	<b>832</b>	654	707
Zinc	ppm ASTM D5185m 870	<b>1063</b>	859	930
Sulfur	ppm ASTM D5185m 2040	<b>2484</b>	2212	2390

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >+100	<b>55</b>	7	7
Sodium	ppm ASTM D5185m	<b>14</b>	4	2
Potassium	ppm ASTM D5185m >20	<b>5</b>	<1	2

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	<b>0.1</b>	0	0
Nitration	Abs/cm *ASTM D7624 >20	<b>13.1</b>	10.4	10.3
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>28.4</b>	21.1	20.3

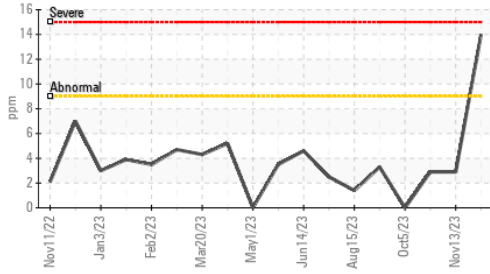
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>25.1</b>	17.9	17.5
Base Number (BN)	mg KOH/g ASTM D2896 10.2	<b>▲ 2.2</b>	4.8	5.1

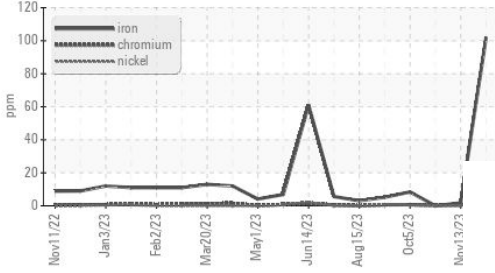


# OIL ANALYSIS REPORT

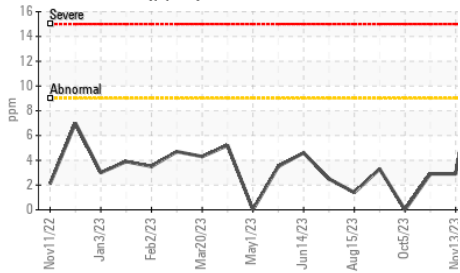
▲ Aluminum (ppm)



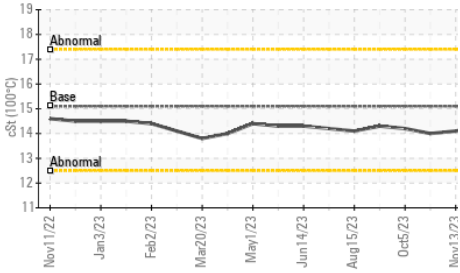
▲ Ferrous Alloys



▲ Aluminum (ppm)



Viscosity @ 100°C



## VISUAL

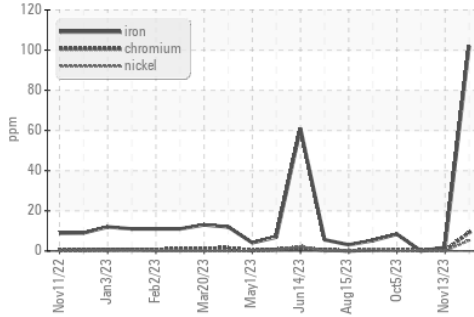
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

## FLUID PROPERTIES

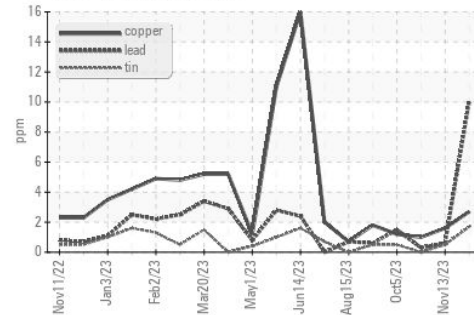
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.3	14.1

## GRAPHS

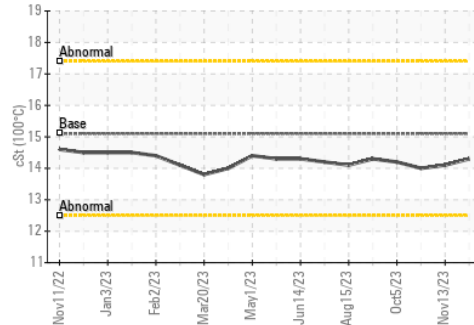
▲ Ferrous Alloys



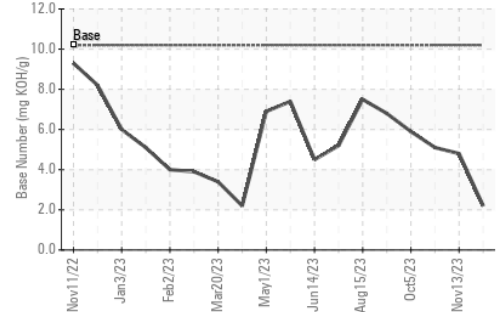
Non-ferrous Metals



Viscosity @ 100°C



▲ Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0099914  
 Lab Number : 06029131  
 Unique Number : 10778922  
 Test Package : FLEET

GFL Environmental - 836 - Kansas City Hauling  
 7801 East Truman Road  
 Kansas City, MO  
 US 64126  
 Contact: Robert Hart  
 rhart@gflenv.com  
 T: (580)461-1509  
 F:

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)