



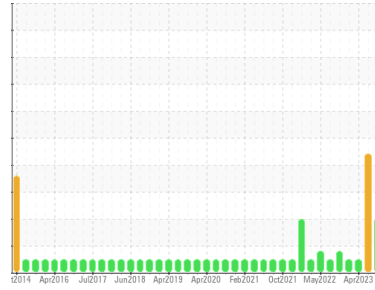
# OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION



Area  
**GFL035**  
Machine Id  
**2453**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (11 GAL)**



## DIAGNOSIS

### Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

### Wear

All component wear rates are normal.

### Contamination

There is an abnormal amount of solids and carbon present in the oil.

### Fluid Condition

The BN level is low.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0102362</b>	GFL0085155	GFL0071534
Sample Date	Client Info		<b>07 Feb 2024</b>	09 Nov 2023	26 Apr 2023
Machine Age	hrs	Client Info	<b>0</b>	387314	387314
Oil Age	hrs	Client Info	<b>600</b>	600	600
Oil Changed	Client Info		<b>Not Chngd</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	SEVERE	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
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>79</b>	▲ 134	44
Chromium	ppm	ASTM D5185m >20	<b>2</b>	4	1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	4	3
Lead	ppm	ASTM D5185m >40	<b>1</b>	4	0
Copper	ppm	ASTM D5185m >330	<b>8</b>	14	8
Tin	ppm	ASTM D5185m >15	<b>2</b>	3	1
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 0	<b>5</b>	2	8
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>60</b>	60	63
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	2	<1
Magnesium	ppm	ASTM D5185m 1010	<b>903</b>	899	1000
Calcium	ppm	ASTM D5185m 1070	<b>1121</b>	1066	1273
Phosphorus	ppm	ASTM D5185m 1150	<b>1004</b>	1029	1075
Zinc	ppm	ASTM D5185m 1270	<b>1243</b>	1225	1409
Sulfur	ppm	ASTM D5185m 2060	<b>2973</b>	2554	3626

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>4</b>	8	8
Sodium	ppm	ASTM D5185m	<b>1</b>	1	<1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	<1	0
Fuel	%	ASTM D3524 >3.0	<b>&lt;1.0</b>	<1.0	<1.0

## INFRA-RED

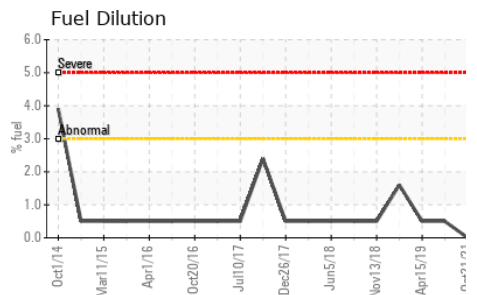
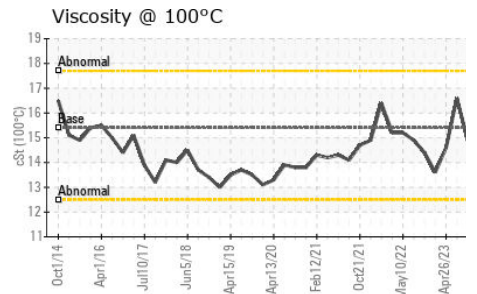
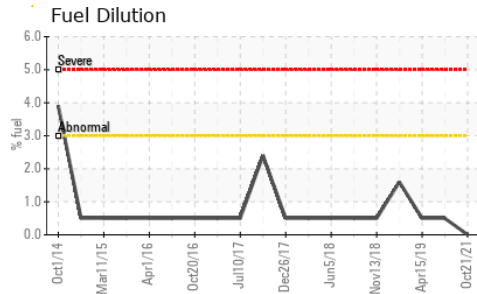
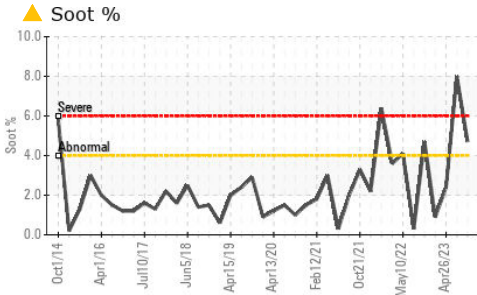
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	▲ <b>4.7</b>	● 8	2.4
Nitration	Abs/cm	*ASTM D7624 >20	<b>10.5</b>	49.0	7.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>27.5</b>	61.8	22.2

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.3</b>	114.8	14.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	▲ <b>0.0</b>	▲ 0.0	9.1



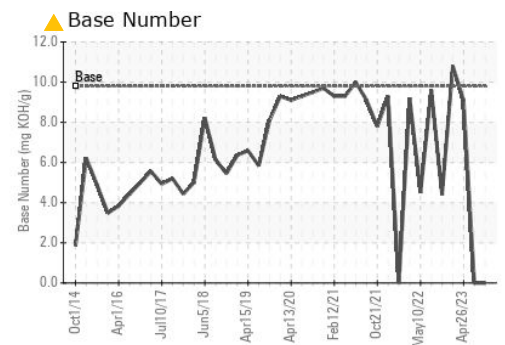
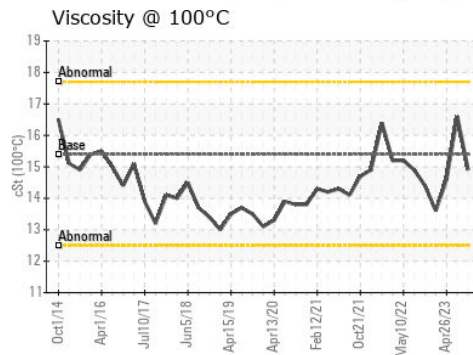
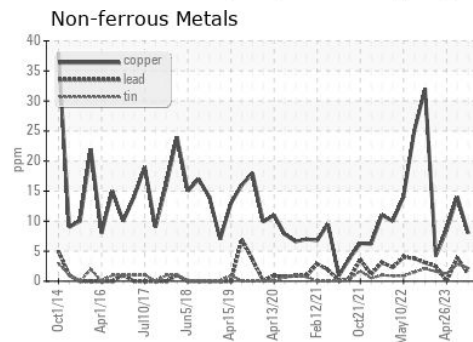
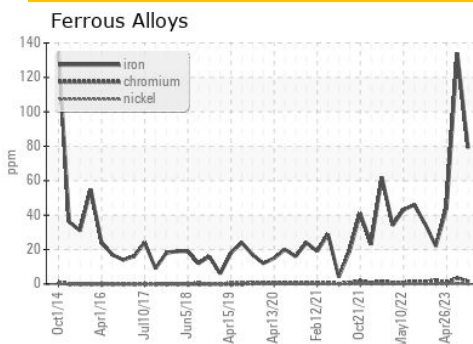
# OIL ANALYSIS REPORT



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	14.9	▲ 16.6

## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0102362 Received : 08 Feb 2024  
 Lab Number : 06084281 Tested : 12 Feb 2024  
 Unique Number : 10871726 Diagnosed : 12 Feb 2024 - Don Baldrige

GFL Environmental - 035 - Greensboro  
 1236 Elon Place  
 High Point, NC  
 US 27263  
 Contact: JORGE COSTA  
 jorge.costa@gflenv.com

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)

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F: