



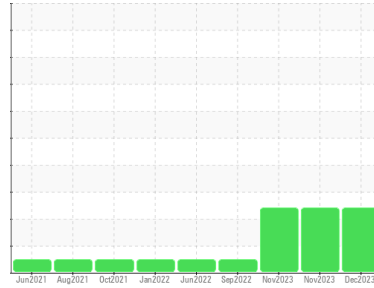
# PROBLEM SUMMARY

Sample Rating Trend

DIRT

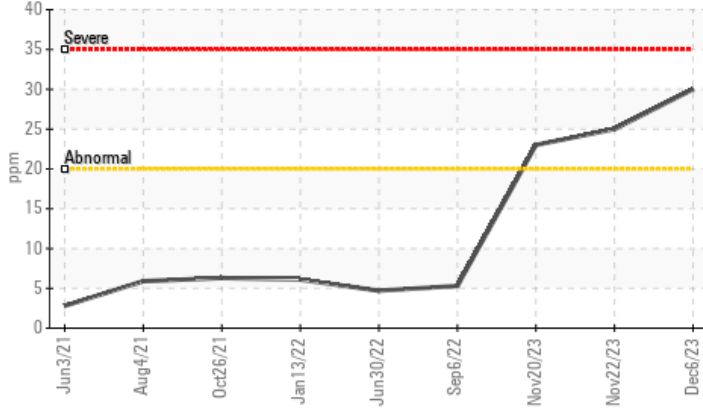


Machine Id  
**4685M**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

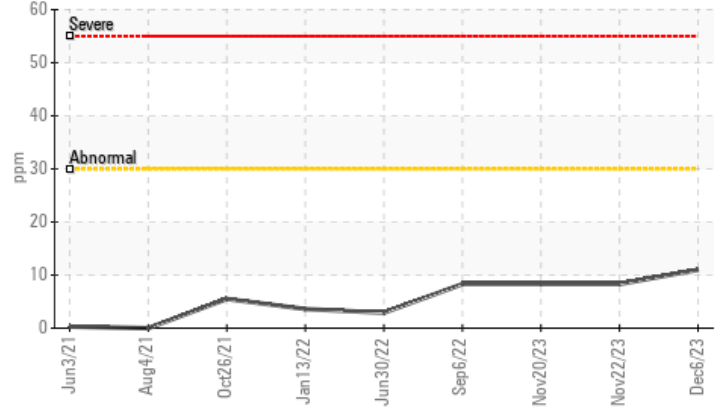


## COMPONENT CONDITION SUMMARY

### ▲ Silicon (ppm)



### ▲ Aluminum (ppm)



## RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL
Aluminum	ppm	ASTM D5185m	>30	▲ 11	▲ 8	▲ 8
Silicon	ppm	ASTM D5185m	>20	▲ 30	▲ 25	▲ 23

Customer Id: GFL415  
Sample No.: GFL0101466  
Lab Number: 06029227  
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.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.

## HISTORICAL DIAGNOSIS

### 22 Nov 2023 Diag: Jonathan Hester

#### DIRT



We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor. All component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. 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



### 20 Nov 2023 Diag: Don Baldrige

#### DIRT



We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

view report



### 06 Sep 2022 Diag: Wes Davis

#### NORMAL



Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. 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.

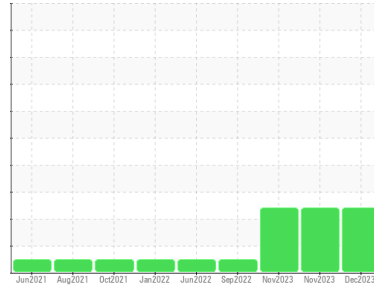
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# OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id  
**4685M**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. 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>GFL0101466</b>	GFL0089111	GFL0101573
Sample Date	Client Info		<b>06 Dec 2023</b>	22 Nov 2023	20 Nov 2023
Machine Age	hrs	Client Info	<b>15765</b>	15636	15628
Oil Age	hrs	Client Info	<b>15628</b>	12065	12065
Oil Changed	Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<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 >80	<b>75</b>	65	67
Chromium	ppm	ASTM D5185m >5	<b>7</b>	6	6
Nickel	ppm	ASTM D5185m >2	<b>3</b>	2	2
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >30	<b>▲ 11</b>	▲ 8	▲ 8
Lead	ppm	ASTM D5185m >30	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m >150	<b>3</b>	2	2
Tin	ppm	ASTM D5185m >5	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>2</b>	0	<1
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>58</b>	59	60
Manganese	ppm	ASTM D5185m 0	<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>954</b>	1038	1051
Calcium	ppm	ASTM D5185m 1070	<b>1113</b>	1149	1180
Phosphorus	ppm	ASTM D5185m 1150	<b>1004</b>	960	929
Zinc	ppm	ASTM D5185m 1270	<b>1273</b>	1371	1288
Sulfur	ppm	ASTM D5185m 2060	<b>2930</b>	3147	3103

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	<b>▲ 30</b>	▲ 25	▲ 23
Sodium	ppm	ASTM D5185m	<b>8</b>	6	6
Potassium	ppm	ASTM D5185m >20	<b>3</b>	2	2

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.2</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.3</b>	6.7	6.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>18.8</b>	18.7	18.8

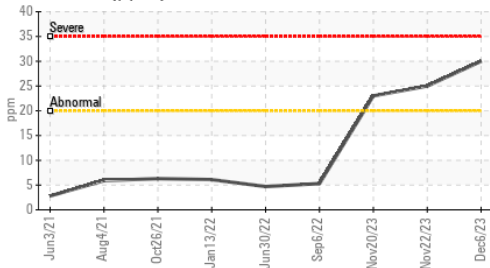
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.5</b>	14.8	15.1
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.5</b>	9.1	8.8

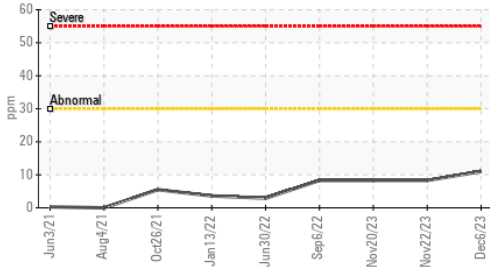


# OIL ANALYSIS REPORT

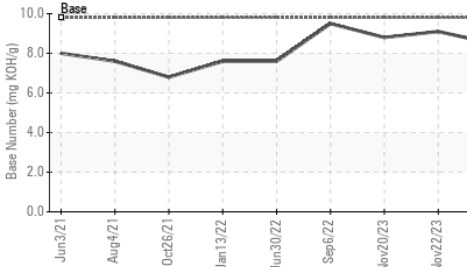
▲ Silicon (ppm)



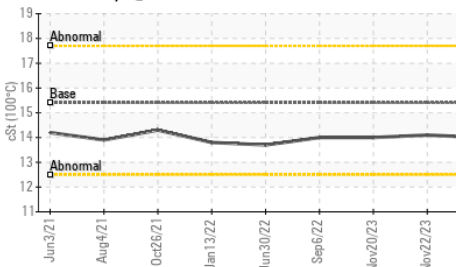
▲ Aluminum (ppm)



Base Number



Viscosity @ 100°C

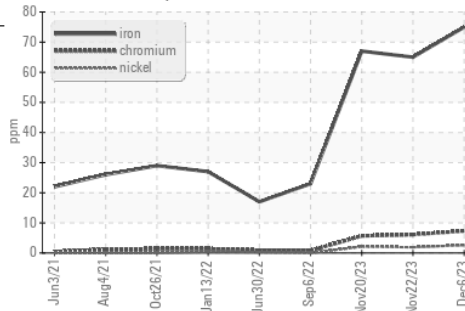


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

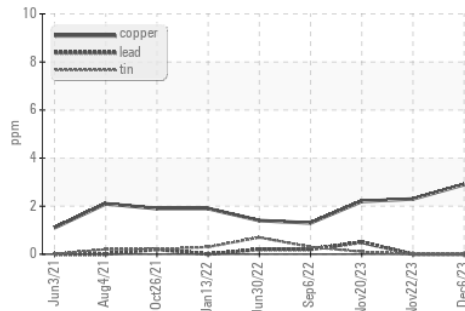
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.0</b>	14.1	14.0

## GRAPHS

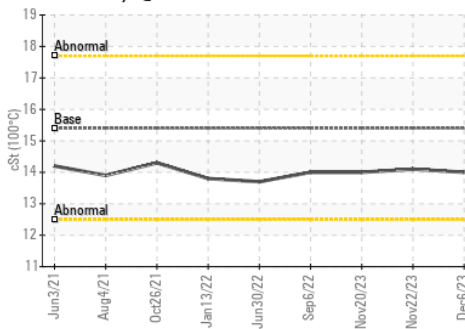
Ferrous Alloys



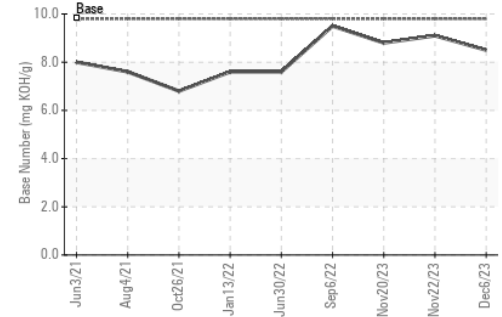
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0101466 **Received** : 08 Dec 2023  
**Lab Number** : **06029227** **Diagnosed** : 11 Dec 2023  
**Unique Number** : 10779018 **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:

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)