



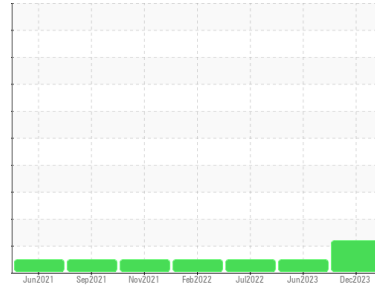
# PROBLEM SUMMARY

Sample Rating Trend

FUEL

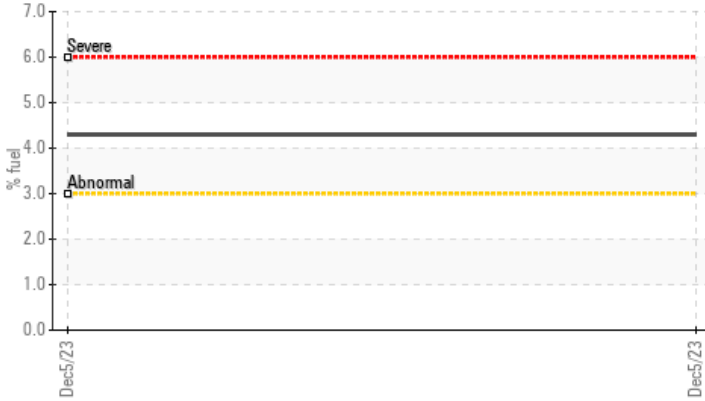


Machine Id  
**4601M**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

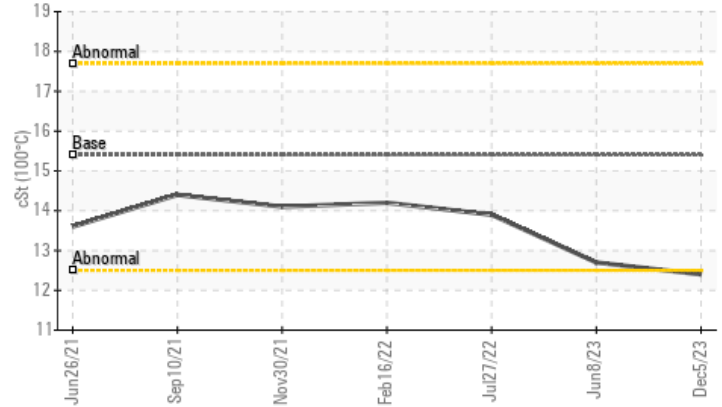


## COMPONENT CONDITION SUMMARY

### Fuel Dilution



### Viscosity @ 100°C



## RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	NORMAL
Fuel	%	ASTM D3524	>3.0	▲ 4.3	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.4	12.7	13.9

Customer Id: GFL415  
Sample No.: GFL0101441  
Lab Number: 06027389  
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Wes Davis +1 905-569-8600 x223  
[wesd@wearcheck.ca](mailto:wesd@wearcheck.ca)

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
Resample	---	---	?	We recommend an early resample to monitor this condition.

## HISTORICAL DIAGNOSIS

08 Jun 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



27 Jul 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.

view report



16 Feb 2022 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





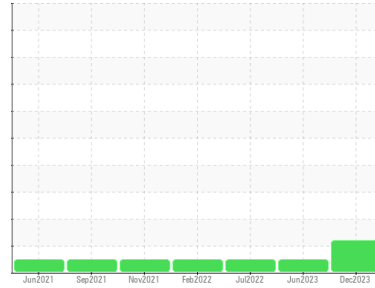
# OIL ANALYSIS REPORT

Sample Rating Trend

FUEL



Machine Id  
**4601M**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## DIAGNOSIS

### ▲ Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### ▲ Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

### ▲ Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0101441</b>	GFL0081414	GFL0055115
Sample Date	Client Info		<b>05 Dec 2023</b>	08 Jun 2023	27 Jul 2022
Machine Age	hrs	Client Info	<b>18968</b>	18129	16353
Oil Age	hrs	Client Info	<b>18129</b>	16353	15187
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	NORMAL	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 >90	<b>3</b>	41	37
Chromium	ppm	ASTM D5185m >20	<b>0</b>	2	2
Nickel	ppm	ASTM D5185m >2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m >2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >20	<b>&lt;1</b>	1	5
Lead	ppm	ASTM D5185m >40	<b>0</b>	1	2
Copper	ppm	ASTM D5185m >330	<b>2</b>	28	1
Tin	ppm	ASTM D5185m >15	<b>0</b>	<1	1
Antimony	ppm	ASTM D5185m	<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>0</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>15</b>	9	3
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>59</b>	50	58
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	5	<1
Magnesium	ppm	ASTM D5185m 1010	<b>833</b>	636	887
Calcium	ppm	ASTM D5185m 1070	<b>1243</b>	1262	1078
Phosphorus	ppm	ASTM D5185m 1150	<b>997</b>	893	926
Zinc	ppm	ASTM D5185m 1270	<b>1192</b>	1113	1182
Sulfur	ppm	ASTM D5185m 2060	<b>3044</b>	2771	3173

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>4</b>	22	4
Sodium	ppm	ASTM D5185m	<b>3</b>	45	7
Potassium	ppm	ASTM D5185m >20	<b>0</b>	9	0
Fuel	%	ASTM D3524 >3.0	<b>▲ 4.3</b>	<1.0	<1.0

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	<b>0.9</b>	0.7	1.7
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.1</b>	8.7	11.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.7</b>	22.4	23.6

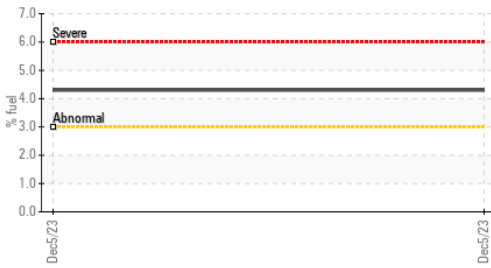
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>17.6</b>	19.1	18.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>6.1</b>	9.0	8.8

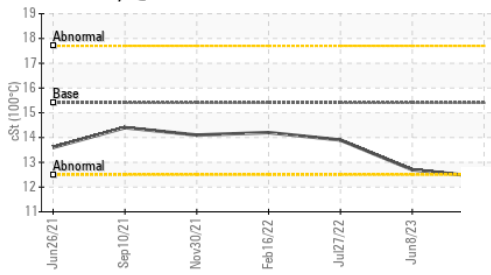


# OIL ANALYSIS REPORT

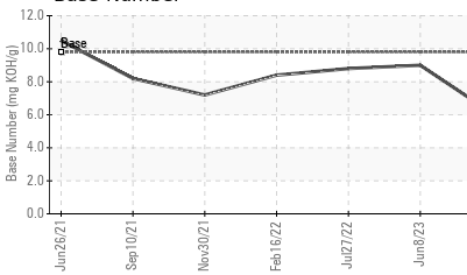
### ▲ Fuel Dilution



### ▲ Viscosity @ 100°C



### Base Number

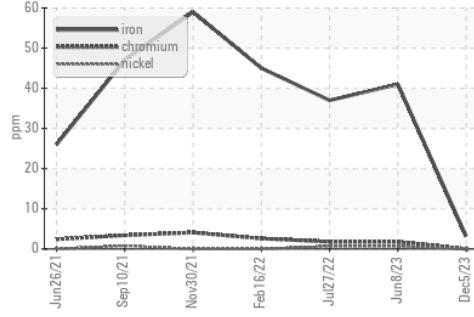


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

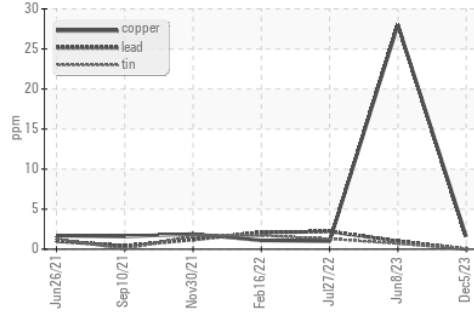
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4 ▲ 12.4	12.7	13.9

### GRAPHS

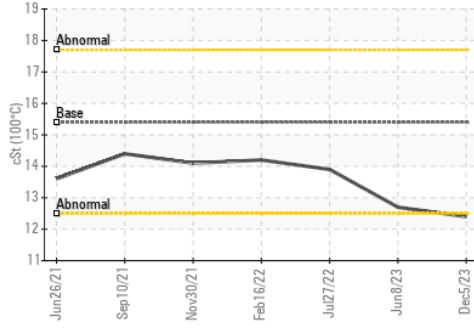
#### Ferrous Alloys



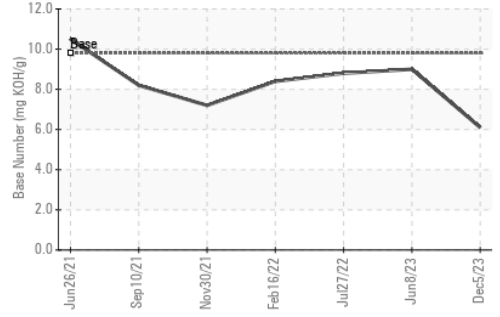
#### Non-ferrous Metals



### ▲ Viscosity @ 100°C



### Base Number



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0101441 **Received** : 07 Dec 2023  
**Lab Number** : 06027389 **Diagnosed** : 14 Dec 2023  
**Unique Number** : 10777180 **Diagnostician** : Wes Davis  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**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)