



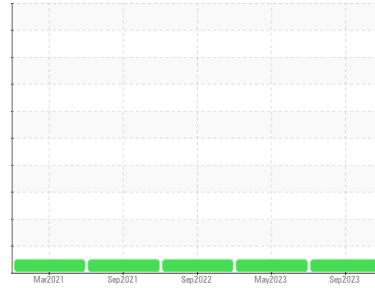
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**452M**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### 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	history1	history2
Sample Number	Client Info		<b>GFL0091543</b>	GFL0081226	GFL0057030
Sample Date	Client Info		<b>18 Sep 2023</b>	10 May 2023	07 Sep 2022
Machine Age	hrs	Client Info	<b>31441</b>	31426	31139
Oil Age	hrs	Client Info	<b>600</b>	600	600
Oil Changed	Client Info		<b>Not Chngd</b>	Not Chngd	Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	<b>4</b>	2	6
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m >5	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >20	<b>0</b>	<1	1
Lead	ppm	ASTM D5185m >40	<b>0</b>	0	3
Copper	ppm	ASTM D5185m >330	<b>2</b>	<1	6
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	0	<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>16</b>	9	6
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>56</b>	55	54
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m 1010	<b>870</b>	893	867
Calcium	ppm	ASTM D5185m 1070	<b>980</b>	1008	1020
Phosphorus	ppm	ASTM D5185m 1150	<b>992</b>	968	899
Zinc	ppm	ASTM D5185m 1270	<b>1166</b>	1182	1134
Sulfur	ppm	ASTM D5185m 2060	<b>3745</b>	3431	2668

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>10</b>	6	2
Sodium	ppm	ASTM D5185m	<b>55</b>	2	4
Potassium	ppm	ASTM D5185m >20	<b>2</b>	1	0

## INFRA-RED

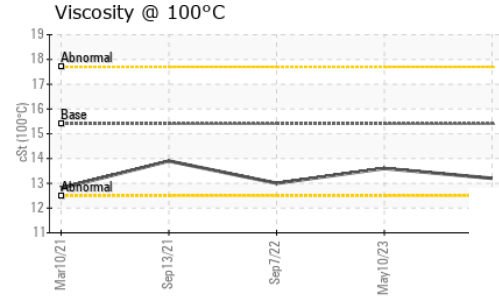
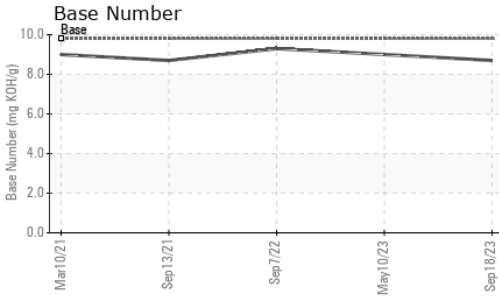
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.1</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>4.6</b>	4.6	7.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>17.7</b>	18.1	20.0

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.5</b>	14.5	15.5
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.7</b>	9.0	9.3



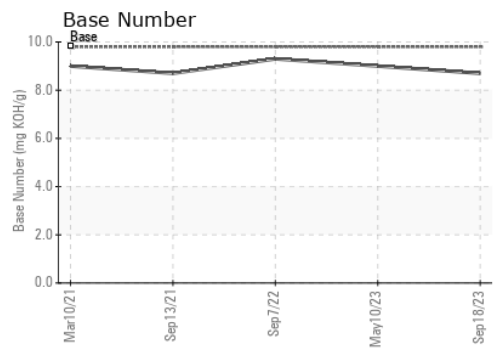
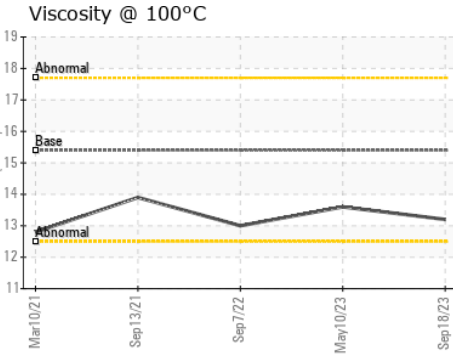
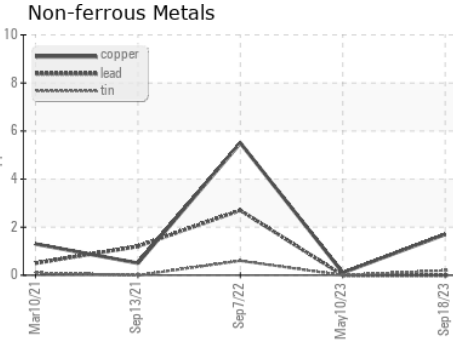
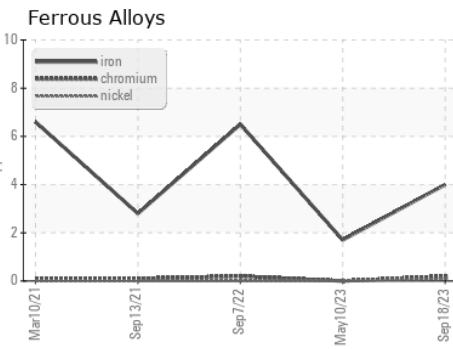
# OIL ANALYSIS REPORT



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	<b>13.2</b>	13.6	13.0

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0091543 **Received** : 20 Sep 2023  
**Lab Number** : 05956969 **Diagnosed** : 21 Sep 2023  
**Unique Number** : 10658182 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 465 - Pontiac**  
 888 Baldwin  
 Pontiac, MI  
 US 48340  
 Contact: Ricky Matthews  
 rickymathews@gflenv.com  
 T: (586)825-9514  
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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)