



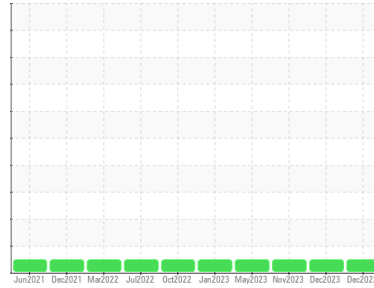
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**578M**  
 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>GFL0105764</b>	GFL0105670	GFL0089113
Sample Date	Client Info		<b>21 Dec 2023</b>	11 Dec 2023	22 Nov 2023
Machine Age	hrs	Client Info	<b>13991</b>	13924	13835
Oil Age	hrs	Client Info	<b>13924</b>	13835	13076
Oil Changed	Client Info		<b>Not Changed</b>	Changed	Not 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
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>4</b>	3	52
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	5
Nickel	ppm	ASTM D5185m >2	<b>&lt;1</b>	0	1
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>1</b>	<1	7
Lead	ppm	ASTM D5185m >40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	3	2
Tin	ppm	ASTM D5185m >15	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>3</b>	2	0
Barium	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>58</b>	52	60
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m 1010	<b>901</b>	962	1050
Calcium	ppm	ASTM D5185m 1070	<b>1029</b>	1019	1151
Phosphorus	ppm	ASTM D5185m 1150	<b>1094</b>	1040	1010
Zinc	ppm	ASTM D5185m 1270	<b>1264</b>	1208	1385
Sulfur	ppm	ASTM D5185m 2060	<b>3052</b>	3072	3237

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>6</b>	4	20
Sodium	ppm	ASTM D5185m	<b>11</b>	15	6
Potassium	ppm	ASTM D5185m >20	<b>0</b>	<1	1

## INFRA-RED

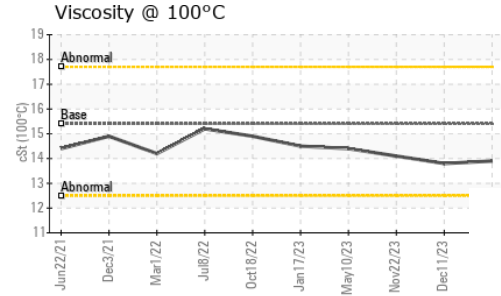
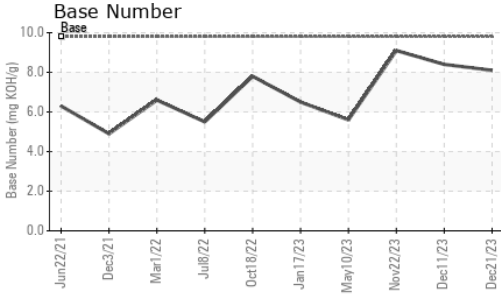
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	<b>0.3</b>	0.2	0.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.0</b>	5.5	6.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>18.8</b>	18.1	18.6

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.6</b>	13.7	14.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.1</b>	8.4	9.1



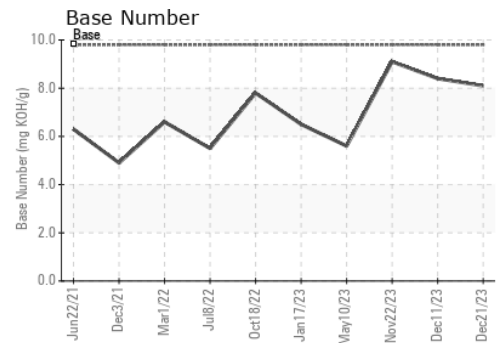
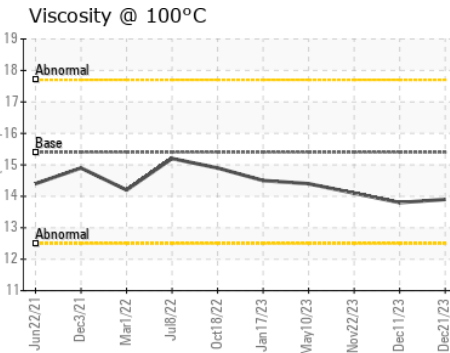
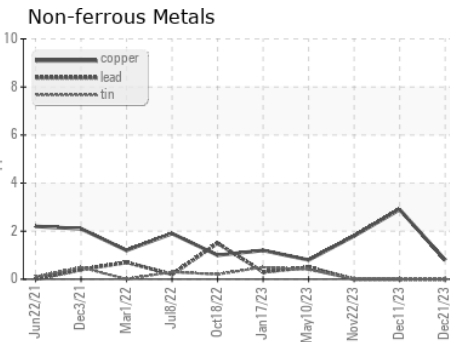
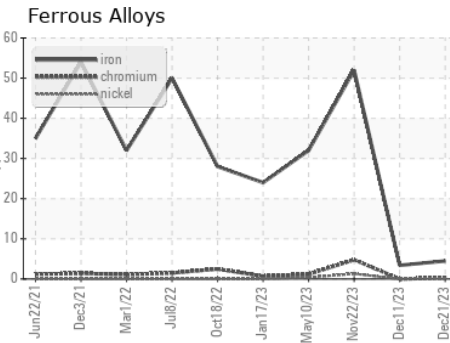
# OIL ANALYSIS REPORT



PARAMETER	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	13.9	13.8

## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0105764      Recieved : 22 Dec 2023  
 Lab Number : 06043875      Diagnosed : 26 Dec 2023  
 Unique Number : 10804483      Diagnostician : Wes Davis  
 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)