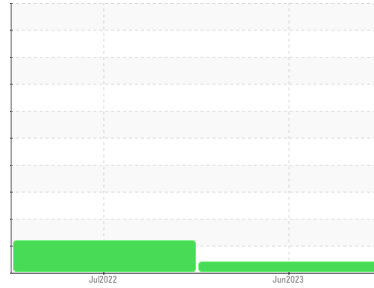




# OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id  
**352034**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### ▲ Recommendation

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

There is no indication of any contamination in the oil.

### ▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

## SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		<b>GFL0015796</b>	GFL0055915	---
Sample Date	Client Info		<b>28 Jun 2023</b>	18 Jul 2022	---
Machine Age	mls	Client Info	<b>83345</b>	83345	---
Oil Age	mls	Client Info	<b>83345</b>	0	---
Oil Changed	Client Info		<b>N/A</b>	Changed	---
Sample Status			<b>ATTENTION</b>	ABNORMAL	---

## CONTAMINATION

	method	limit/base	current	history 1	history 2
Glycol	WC Method		<b>NEG</b>	NEG	---

## WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >100	<b>15</b>	31	---
Chromium	ppm	ASTM D5185m >20	<b>3</b>	1	---
Nickel	ppm	ASTM D5185m >4	<b>2</b>	0	---
Titanium	ppm	ASTM D5185m	<b>2</b>	0	---
Silver	ppm	ASTM D5185m >3	<b>2</b>	0	---
Aluminum	ppm	ASTM D5185m >20	<b>4</b>	5	---
Lead	ppm	ASTM D5185m >40	<b>33</b>	▲ 75	---
Copper	ppm	ASTM D5185m >330	<b>4</b>	4	---
Tin	ppm	ASTM D5185m >15	<b>3</b>	4	---
Vanadium	ppm	ASTM D5185m	<b>1</b>	0	---
Cadmium	ppm	ASTM D5185m	<b>2</b>	0	---

## ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 0	<b>12</b>	37	---
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m 60	<b>67</b>	88	---
Manganese	ppm	ASTM D5185m 0	<b>2</b>	<1	---
Magnesium	ppm	ASTM D5185m 1010	<b>492</b>	535	---
Calcium	ppm	ASTM D5185m 1070	<b>1144</b>	1231	---
Phosphorus	ppm	ASTM D5185m 1150	<b>631</b>	701	---
Zinc	ppm	ASTM D5185m 1270	<b>778</b>	871	---
Sulfur	ppm	ASTM D5185m 2060	<b>2460</b>	2668	---

## CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >25	<b>10</b>	8	---
Sodium	ppm	ASTM D5185m	<b>5</b>	2	---
Potassium	ppm	ASTM D5185m >20	<b>5</b>	2	---
Fuel	%	ASTM D3524 >5	<b>&lt;1.0</b>	1.5	---

## INFRA-RED

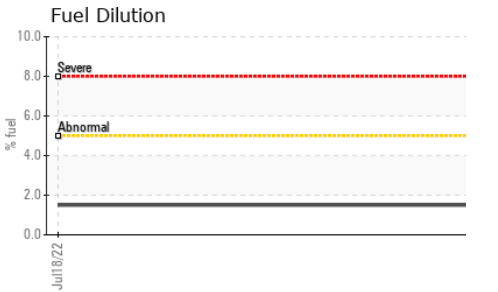
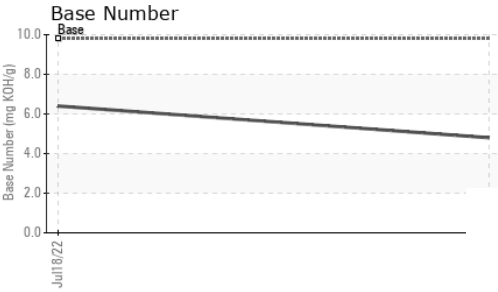
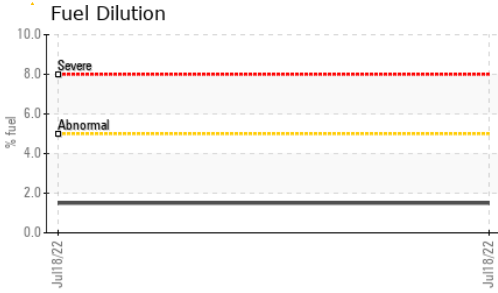
	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >3	<b>0.1</b>	0.1	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>10.8</b>	14.4	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>20.9</b>	26.2	---

## FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.4</b>	19.7	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>4.8</b>	6.4	---



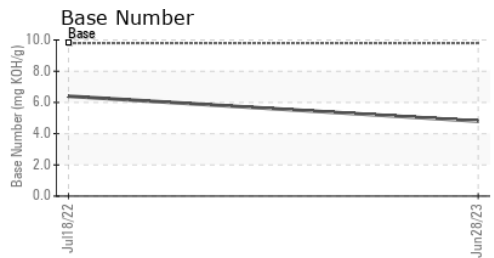
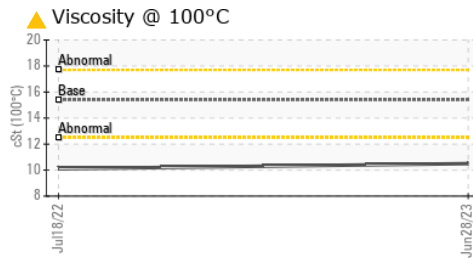
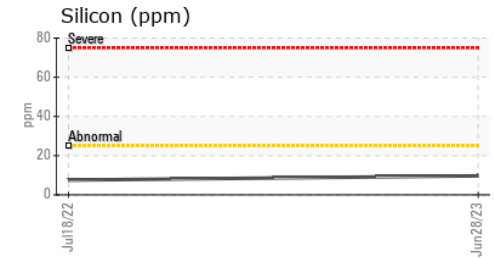
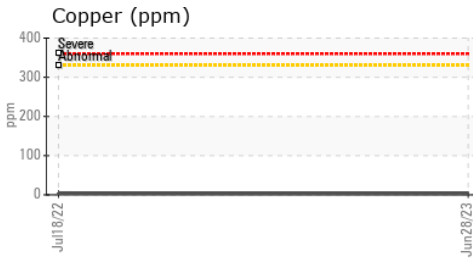
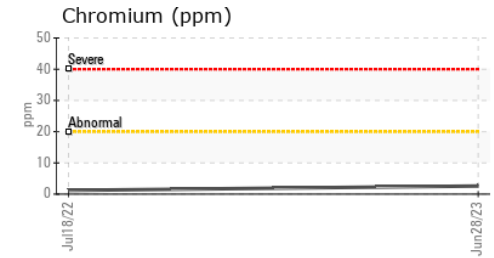
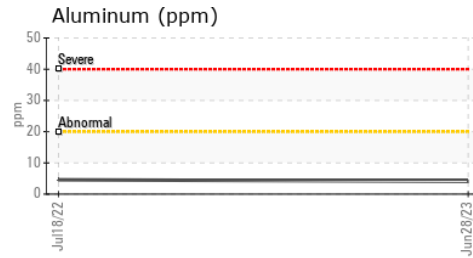
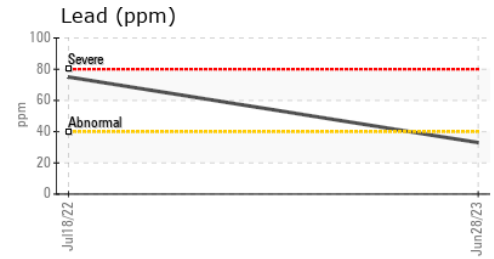
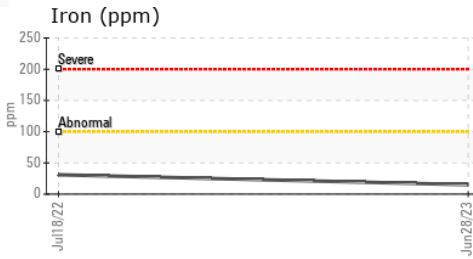
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 10.5	▲ 10.1

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0015796 **Received** : 03 Jul 2023  
**Lab Number** : 05888898 **Diagnosed** : 05 Jul 2023  
**Unique Number** : 10539381 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution )

**GFL Environmental - 641 - Alpena**  
 1241 KING SETTLEMENT RD  
 ALPENA, MI  
 US 49707  
 Contact: DYLAN TOLAN  
 dylan.tolan@gflenv.com  
 T: (989)854-7203  
 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)