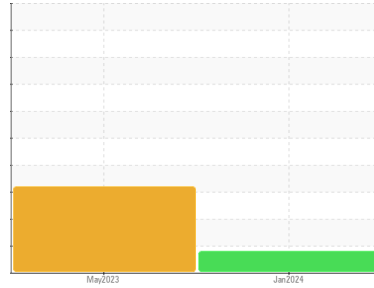




# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id  
**4515M**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

Exhaust valve wear is indicated.

### 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>GFL0097681</b>	GFL0069871	---
Sample Date	Client Info		<b>09 Jan 2024</b>	19 May 2023	---
Machine Age	hrs	Client Info	<b>26200</b>	24870	---
Oil Age	hrs	Client Info	<b>615</b>	600	---
Oil Changed	Client Info		<b>Changed</b>	Changed	---
Sample Status			<b>ABNORMAL</b>	ABNORMAL	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	1.1	---
Water	WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol	WC Method		<b>NEG</b>	NEG	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >80	<b>35</b>	47	---
Chromium	ppm	ASTM D5185m >5	<b>1</b>	3	---
Nickel	ppm	ASTM D5185m >2	<b>▲ 7</b>	<1	---
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	---
Silver	ppm	ASTM D5185m >3	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m >30	<b>1</b>	6	---
Lead	ppm	ASTM D5185m >30	<b>0</b>	<1	---
Copper	ppm	ASTM D5185m >150	<b>36</b>	3	---
Tin	ppm	ASTM D5185m >5	<b>2</b>	<1	---
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>3</b>	15	---
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m 60	<b>65</b>	96	---
Manganese	ppm	ASTM D5185m 0	<b>1</b>	<1	---
Magnesium	ppm	ASTM D5185m 1010	<b>1023</b>	▲ 520	---
Calcium	ppm	ASTM D5185m 1070	<b>1136</b>	▲ 660	---
Phosphorus	ppm	ASTM D5185m 1150	<b>984</b>	▲ 670	---
Zinc	ppm	ASTM D5185m 1270	<b>1336</b>	▲ 849	---
Sulfur	ppm	ASTM D5185m 2060	<b>2485</b>	2737	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	<b>7</b>	12	---
Sodium	ppm	ASTM D5185m	<b>5</b>	▲ 751	---
Potassium	ppm	ASTM D5185m >20	<b>1</b>	13	---

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.8</b>	0.7	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.4</b>	8.6	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.5</b>	23.0	---

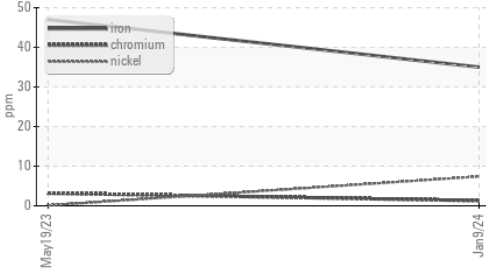
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>17.6</b>	18.7	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>6.4</b>	5.9	---

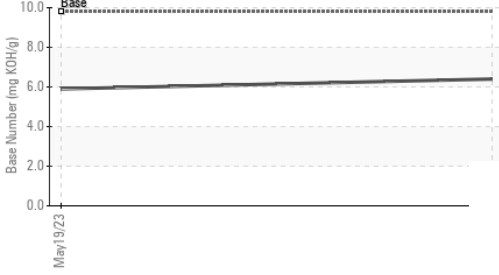


# OIL ANALYSIS REPORT

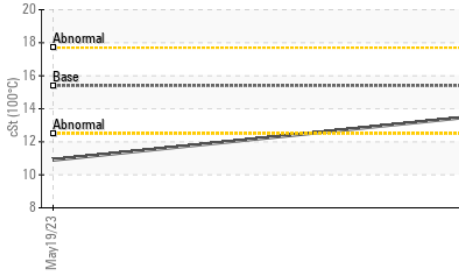
### ▲ Ferrous Alloys



### Base Number



### Viscosity @ 100°C

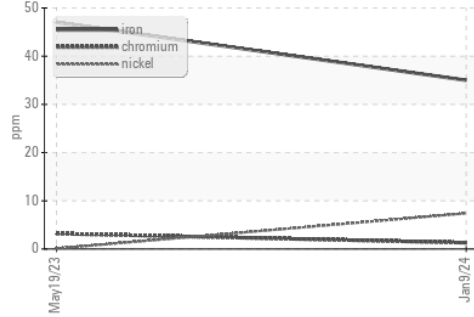


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar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

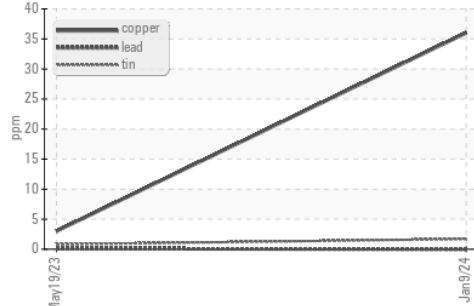
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	▲ 10.9

### GRAPHS

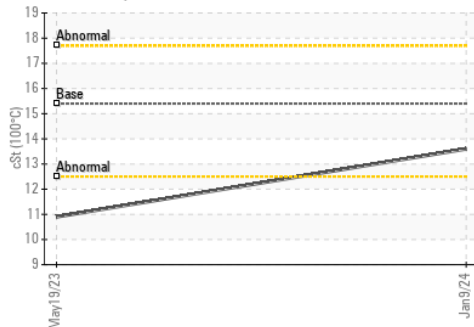
#### ▲ Ferrous Alloys



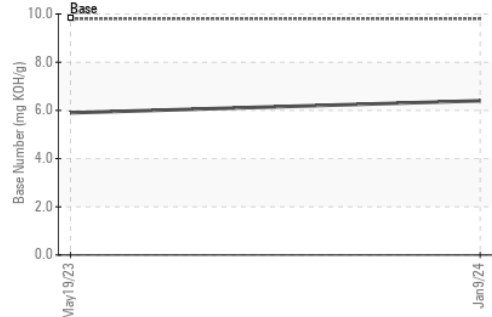
#### Non-ferrous Metals



#### Viscosity @ 100°C



#### Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0097681 **Received** : 19 Jan 2024  
**Lab Number** : 06065380 **Diagnosed** : 22 Jan 2024  
**Unique Number** : 10836762 **Diagnostician** : Sean Felton  
**Test Package** : FLEET

**GFL Environmental - 405 - Arbor Hills**  
 7400 Napier Rd  
 NORTHVILLE, MI  
 US 48168  
 Contact: Anthony Hopkins  
 ahopkins@gflenv.com  
 T:  
 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)