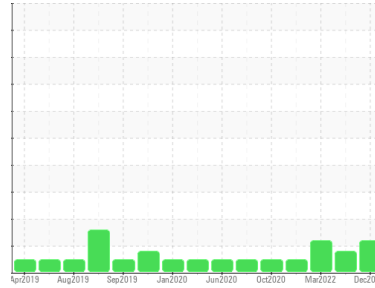




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**927071-223253**

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

Light fuel dilution occurring.

### 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 condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL06049707</b>	GFL0062971	GFL0039562
Sample Date	Client Info		<b>19 Dec 2023</b>	20 Mar 2023	07 Mar 2022
Machine Age	mls	Client Info	<b>0</b>	245923	15288
Oil Age	mls	Client Info	<b>0</b>	0	452
Oil Changed	Client Info		<b>N/A</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## 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 >100	<b>12</b>	12	19
Chromium	ppm	ASTM D5185m >20	<b>1</b>	<1	1
Nickel	ppm	ASTM D5185m >4	<b>2</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >3	<b>&lt;1</b>	1	<1
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	2	3
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m >330	<b>12</b>	<1	1
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>14</b>	<1	3
Barium	ppm	ASTM D5185m 0	<b>18</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>56</b>	56	59
Manganese	ppm	ASTM D5185m 0	<b>5</b>	1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>850</b>	895	934
Calcium	ppm	ASTM D5185m 1070	<b>1038</b>	1069	1045
Phosphorus	ppm	ASTM D5185m 1150	<b>1046</b>	948	1045
Zinc	ppm	ASTM D5185m 1270	<b>1219</b>	1179	1240
Sulfur	ppm	ASTM D5185m 2060	<b>3135</b>	3110	2382
Lithium	ppm	ASTM D5185m	<b>---</b>	---	---

## CONTAMINANTS

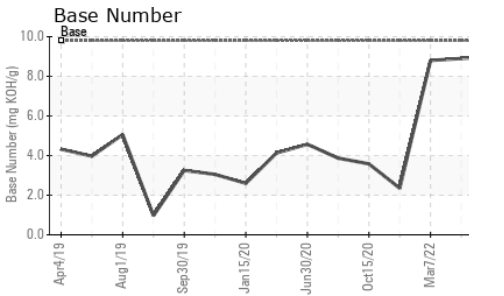
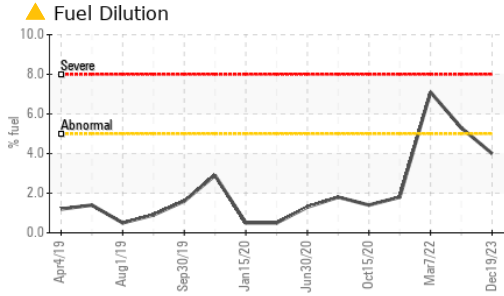
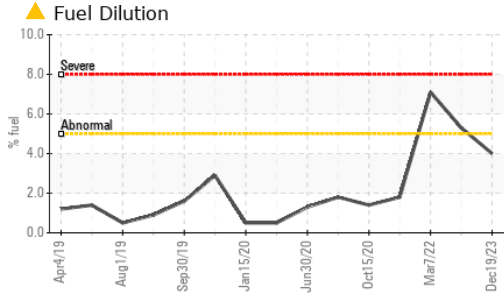
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>12</b>	5	6
Sodium	ppm	ASTM D5185m	<b>6</b>	40	27
Potassium	ppm	ASTM D5185m >20	<b>3</b>	1	2
Fuel	%	ASTM D3524 >5	<b>▲ 4.0</b>	▲ 5.3	▲ 7.1

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.2</b>	0.5	0.7
Nitration	Abs/cm	*ASTM D7624 >20	<b>6.2</b>	8.4	10.2
Sulfation	Abs./1mm	*ASTM D7415 >30	<b>18.5</b>	19.8	21.7



# OIL ANALYSIS REPORT

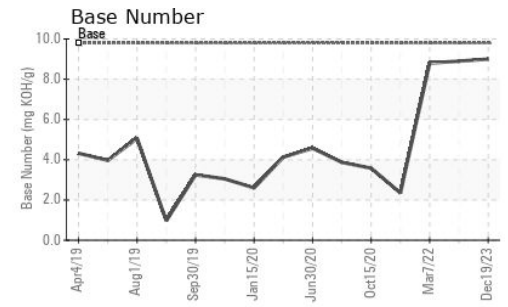
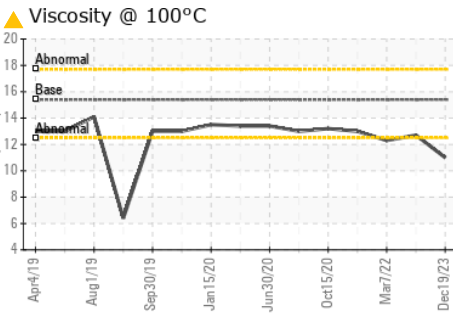
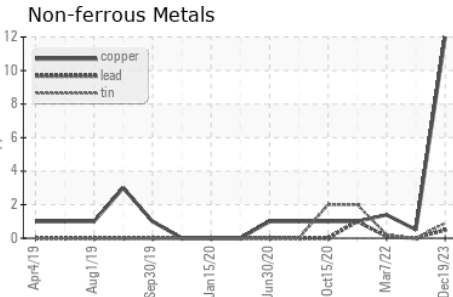
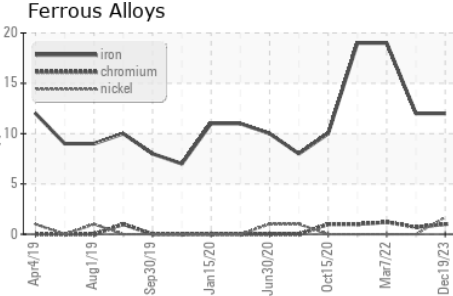


FLUID DEGRADATION						
	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	*ASTM D7414	>25	<b>14.2</b>	15.5	18.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>9.0</b>	8.9	8.8

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

FLUID PROPERTIES						
	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	<b>▲ 11.0</b>	12.7	<b>▲ 12.3</b>

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL06049707 **Received** : 03 Jan 2024  
**Lab Number** : **06049707** **Diagnosed** : 05 Jan 2024  
**Unique Number** : 10810315 **Diagnostician** : Wes Davis  
**Test Package** : FLEET ( Additional Tests: PercentFuel )

**GFL Environmental - 823 - Central Missouri Hauling**  
 24461 Oak Grove Lane  
 Sedalia, MO  
 US 65301  
 Contact: Terry Randolph  
 trandolph@gflenv.com  
 T: (660)631-2116  
 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)