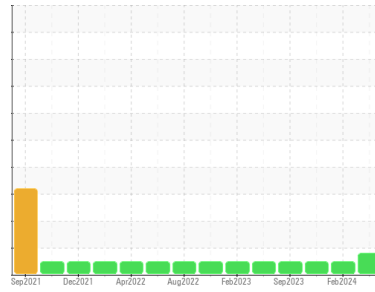




# OIL ANALYSIS REPORT

Sample Rating Trend



**SOOT**



Machine Id

**411031**

Component

**Diesel Engine**

Fluid

**PETRO CANADA DURON SHP 15W40 (9 GAL)**

## DIAGNOSIS

### Recommendation

The oil change at the time of sampling has been noted.

### Wear

All component wear rates are normal.

### Contamination

Light concentration of carbon/soot present in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0072153</b>	GFL0072066	GFL0072025
Sample Date	Client Info	<b>02 Apr 2024</b>	07 Feb 2024	29 Nov 2023
Machine Age	hrs	<b>8356</b>	7759	7168
Oil Age	hrs	<b>597</b>	600	600
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>ABNORMAL</b>	NORMAL	NORMAL

## 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>34</b>	19	16
Chromium	ppm ASTM D5185m >20	<b>1</b>	<1	<1
Nickel	ppm ASTM D5185m >4	<b>0</b>	0	0
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	0	<1
Silver	ppm ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>6</b>	3	4
Lead	ppm ASTM D5185m >40	<b>0</b>	0	<1
Copper	ppm ASTM D5185m >330	<b>&lt;1</b>	<1	<1
Tin	ppm ASTM D5185m >15	<b>0</b>	0	0
Vanadium	ppm ASTM D5185m	<b>&lt;1</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>&lt;1</b>	9	2
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>60</b>	61	51
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 1010	<b>968</b>	959	877
Calcium	ppm ASTM D5185m 1070	<b>1068</b>	1077	787
Phosphorus	ppm ASTM D5185m 1150	<b>1015</b>	1031	794
Zinc	ppm ASTM D5185m 1270	<b>1254</b>	1314	960
Sulfur	ppm ASTM D5185m 2060	<b>3291</b>	3076	2403

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>3</b>	2	3
Sodium	ppm ASTM D5185m	<b>5</b>	3	2
Potassium	ppm ASTM D5185m >20	<b>11</b>	7	11
Fuel	% ASTM D3524 >5	<b>&lt;1.0</b>	<1.0	<1.0

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>▲ 3</b>	1.8	2.1
Nitration	Abs/cm *ASTM D7624 >20	<b>12.7</b>	9.4	10.0
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>26.8</b>	21.8	22.4

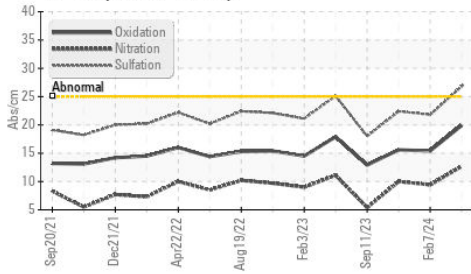
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>19.9</b>	15.4	15.6
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>5.4</b>	8.4	8.1

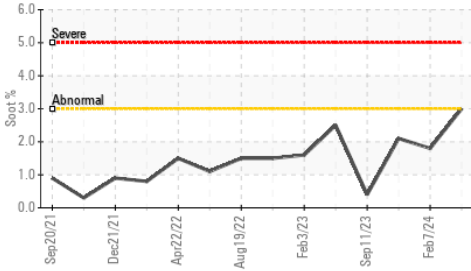


# OIL ANALYSIS REPORT

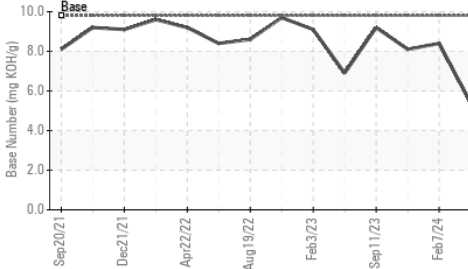
▲ FT-IR (Direct Trend)



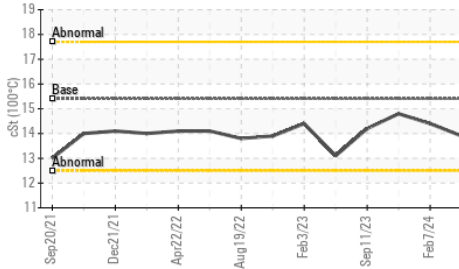
▲ Soot %



Base Number



Viscosity @ 100°C

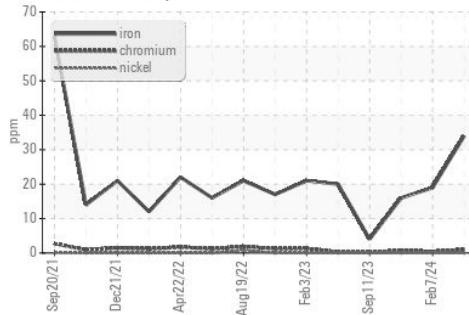


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

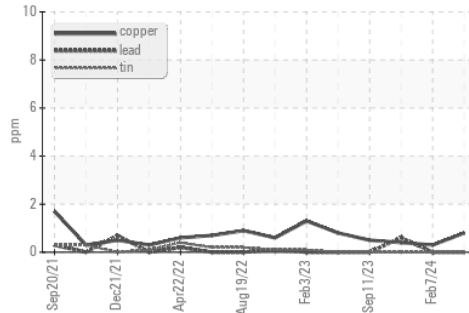
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.9</b>	14.4	14.8

## GRAPHS

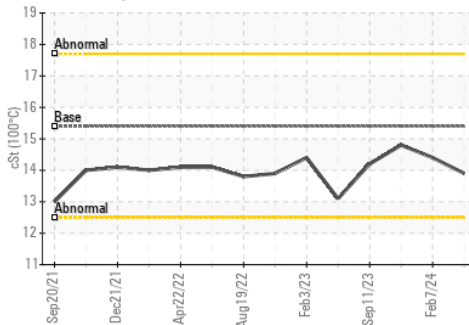
Ferrous Alloys



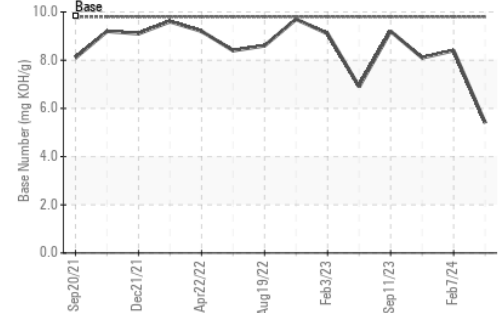
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0072153  
**Lab Number** : 06138339  
**Unique Number** : 10963147  
**Test Package** : FLEET ( Additional Tests : FuelDilution )

**Received** : 04 Apr 2024  
**Tested** : 05 Apr 2024  
**Diagnosed** : 05 Apr 2024 - Wes Davis

**GFL Environmental - 094 - Cedartown**  
 2097 Buchanan Highway  
 Cedartown, GA  
 US 30125

Contact: WILLIAM FOSTER  
 william.foster@gflenv.com  
 T: (800)207-6618

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)

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