

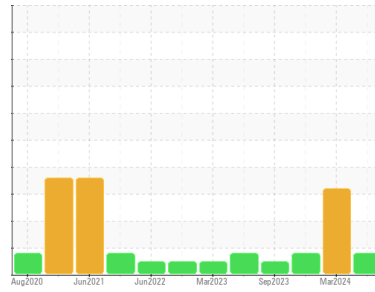


# OIL ANALYSIS REPORT



Machine Id  
**426024-4677**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- LTR)**

Sample Rating Trend



**SOOT**



## DIAGNOSIS

### Recommendation

The oil change at the time of sampling has been noted. No other corrective action is recommended at this time.

### Wear

All component wear rates are normal.

### Contamination

Light fuel dilution occurring. Light concentration of carbon/soot present in the oil. No other contaminants were detected 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>GFL0077736</b>	GFL0077792	GFL0077780
Sample Date	Client Info		<b>21 May 2024</b>	19 Mar 2024	21 Nov 2023
Machine Age	mls	Client Info	<b>746535</b>	738123	724317
Oil Age	mls	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Changed</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 >120	<b>21</b>	25	28
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	1	<1
Lead	ppm	ASTM D5185m >40	<b>2</b>	1	3
Copper	ppm	ASTM D5185m >330	<b>1</b>	2	4
Tin	ppm	ASTM D5185m >15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>2</b>	12	3
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m 60	<b>57</b>	53	56
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>968</b>	903	895
Calcium	ppm	ASTM D5185m 1070	<b>1052</b>	1053	1013
Phosphorus	ppm	ASTM D5185m 1150	<b>1019</b>	863	921
Zinc	ppm	ASTM D5185m 1270	<b>1214</b>	1121	1117
Sulfur	ppm	ASTM D5185m 2060	<b>3332</b>	3139	3017

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>3</b>	2	4
Sodium	ppm	ASTM D5185m	<b>0</b>	<1	0
Potassium	ppm	ASTM D5185m >20	<b>1</b>	0	2
Fuel	%	ASTM D3524 >3.0	<b>2.4</b>	▲ 3.4	<1.0

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	▲ <b>4.8</b>	▲ 5.5	▲ 4.8
Nitration	Abs/cm	*ASTM D7624 >20	<b>10.3</b>	12.9	10.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>26.4</b>	28.3	26.3

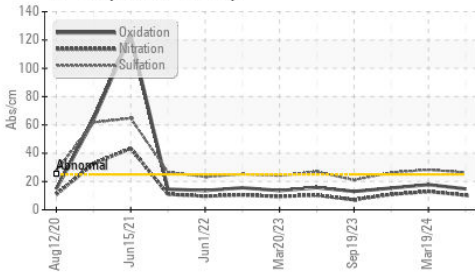
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.8</b>	17.8	15.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>4.5</b>	▲ 0.0	5.1

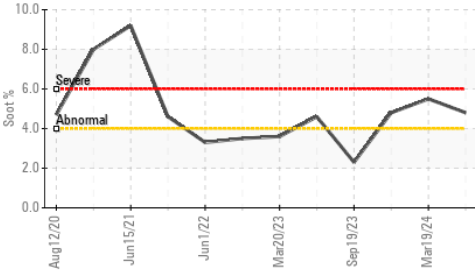


# OIL ANALYSIS REPORT

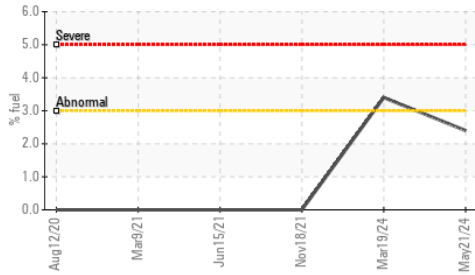
▲ FT-IR (Direct Trend)



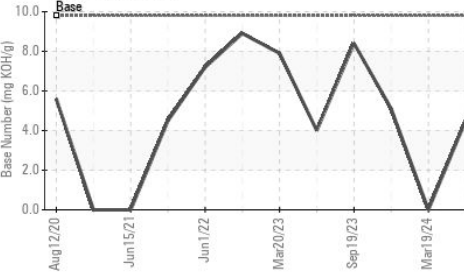
▲ Soot %



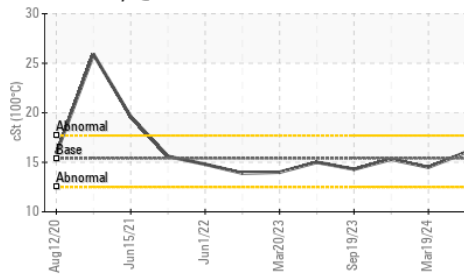
Fuel Dilution



Base Number



Viscosity @ 100°C

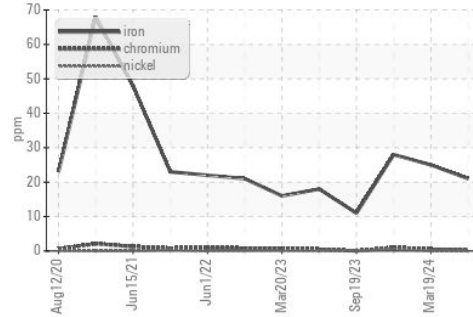


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

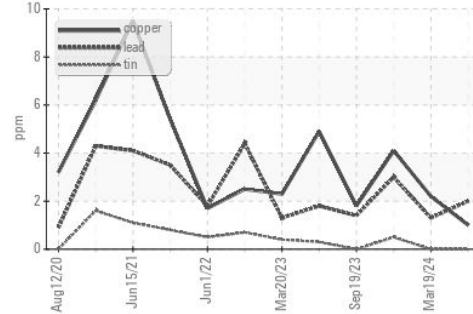
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	16.0	▲ 14.5

## GRAPHS

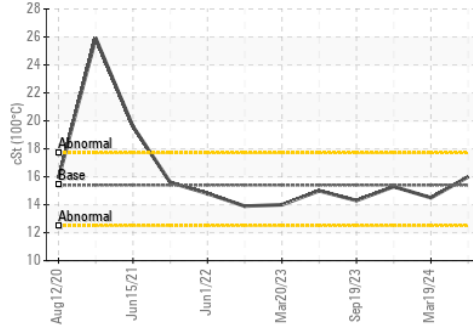
Ferrous Alloys



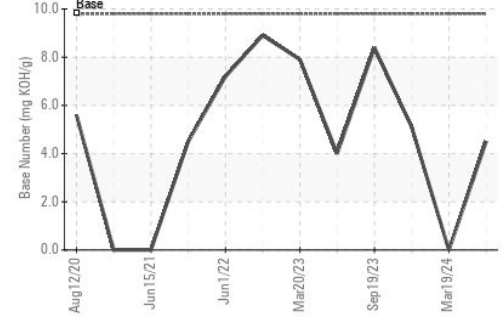
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0077736

Lab Number : 06191706

Unique Number : 11048458

Test Package : FLEET ( Additional Tests: PercentFuel )

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)

Received : 24 May 2024

Tested : 30 May 2024

Diagnosed : 30 May 2024 - Wes Davis

GFL Environmental - 650 - West Point Hauling

7825 Parham Landing Road

West Point, VA

US 23181

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