



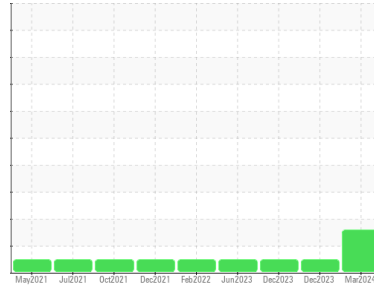
# OIL ANALYSIS REPORT

Sample Rating Trend

**WEAR**



Machine Id  
**636M**  
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

An increase in the iron level is noted. 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>GFL0108903</b>	GFL0105788	GFL0101442
Sample Date	Client Info		<b>08 Mar 2024</b>	22 Dec 2023	04 Dec 2023
Machine Age	hrs	Client Info	<b>9895</b>	9448	9307
Oil Age	hrs	Client Info	<b>9448</b>	9307	8209
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
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>86</b>	22	19
Chromium	ppm	ASTM D5185m >20	<b>2</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>8</b>	4	2
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>3</b>	2	1
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >330	<b>2</b>	1	1
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	0	0
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>0</b>	4	<1
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m 60	<b>62</b>	57	58
Manganese	ppm	ASTM D5185m 0	<b>2</b>	0	0
Magnesium	ppm	ASTM D5185m 1010	<b>940</b>	894	886
Calcium	ppm	ASTM D5185m 1070	<b>1087</b>	1077	1046
Phosphorus	ppm	ASTM D5185m 1150	<b>980</b>	912	892
Zinc	ppm	ASTM D5185m 1270	<b>1241</b>	1185	1139
Sulfur	ppm	ASTM D5185m 2060	<b>2601</b>	2877	2771

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>6</b>	4	3
Sodium	ppm	ASTM D5185m	<b>3</b>	1	1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	2	2

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.7</b>	0.5	0.5
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.9</b>	8.1	7.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>22.2</b>	19.6	19.4

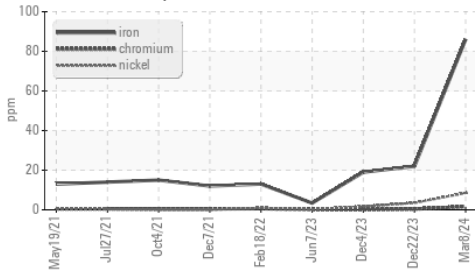
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>18.7</b>	15.6	15.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>4.3</b>	6.8	7.4

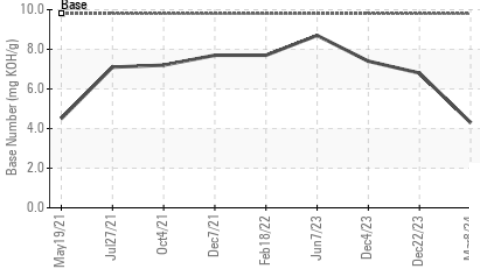


# OIL ANALYSIS REPORT

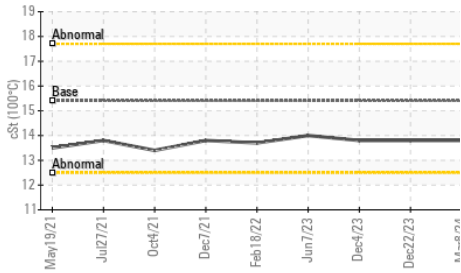
## ▲ Ferrous Alloys



## Base Number



## Viscosity @ 100°C



## VISUAL

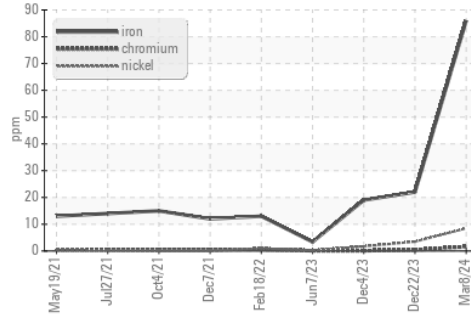
Item	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar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

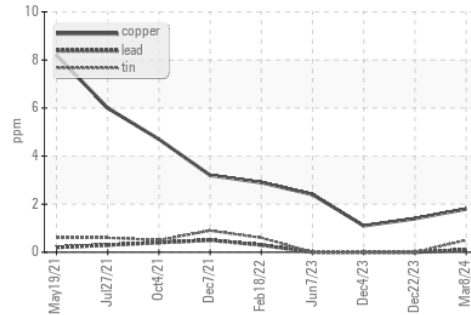
Property	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.8

## GRAPHS

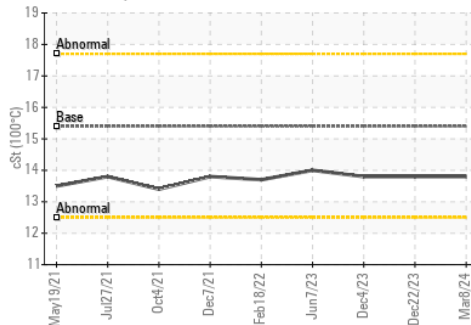
### ▲ Ferrous Alloys



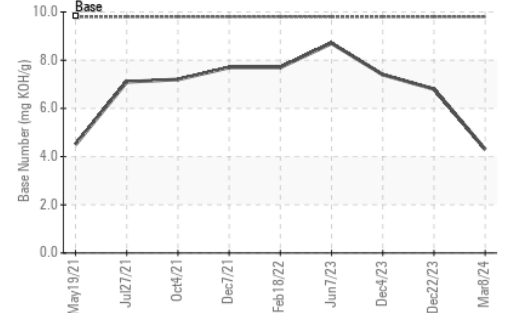
### Non-ferrous Metals



### Viscosity @ 100°C



### Base Number



Certificate L2367

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

Sample No. : GFL0108903

Lab Number : 06116806

Unique Number : 10925639

Test Package : FLEET

Received : 13 Mar 2024

Tested : 14 Mar 2024

Diagnosed : 14 Mar 2024 - Don Baldrige

GFL Environmental - 415 - Michigan East

6200 Elmridge

Sterling Heights, MI

US 48313

Contact: Frank Wolak

fwolak@gflenv.com

T: (586)825-9514

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)