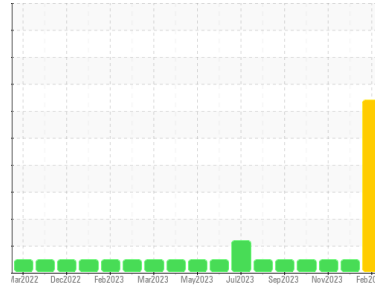




# OIL ANALYSIS REPORT

Sample Rating Trend



COOL CHEMICALS



Machine Id  
**731123**

Component  
**Natural Gas Engine**

Fluid  
**PETRO CANADA DURON GEO LD 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

### Wear

Piston, ring and cylinder wear is indicated. Bearing and/or bushing wear is indicated.

### Contamination

Sodium and/or potassium levels are high.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0109813</b>	GFL0103364	GFL0099943
Sample Date	Client Info	<b>01 Feb 2024</b>	20 Dec 2023	20 Nov 2023
Machine Age	hrs	<b>6027</b>	5874	5723
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>Not Changed</b>	Not Changed	Not Changed
Sample Status		<b>ABNORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.1	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >50	<b>▲ 81</b>	7	6
Chromium	ppm ASTM D5185m >4	<b>▲ 9</b>	<1	<1
Nickel	ppm ASTM D5185m >2	<b>3</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 >9	<b>▲ 7</b>	2	2
Lead	ppm ASTM D5185m >30	<b>▲ 15</b>	2	<1
Copper	ppm ASTM D5185m >35	<b>▲ 99</b>	3	<1
Tin	ppm ASTM D5185m >4	<b>&lt;1</b>	<1	0
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	<1	<1
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 50	<b>6</b>	19	40
Barium	ppm ASTM D5185m 5	<b>&lt;1</b>	0	0
Molybdenum	ppm ASTM D5185m 50	<b>99</b>	51	53
Manganese	ppm ASTM D5185m 0	<b>2</b>	<1	<1
Magnesium	ppm ASTM D5185m 560	<b>528</b>	584	574
Calcium	ppm ASTM D5185m 1510	<b>1641</b>	1399	1564
Phosphorus	ppm ASTM D5185m 780	<b>746</b>	771	750
Zinc	ppm ASTM D5185m 870	<b>1001</b>	947	1031
Sulfur	ppm ASTM D5185m 2040	<b>2494</b>	2422	2616

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >+100	<b>18</b>	16	3
Sodium	ppm ASTM D5185m	<b>▲ 613</b>	3	1
Potassium	ppm ASTM D5185m >20	<b>▲ 209</b>	0	2

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	<b>0.1</b>	0	0
Nitration	Abs/cm *ASTM D7624 >20	<b>13.9</b>	9.9	8.0
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>26.6</b>	20.7	19.8

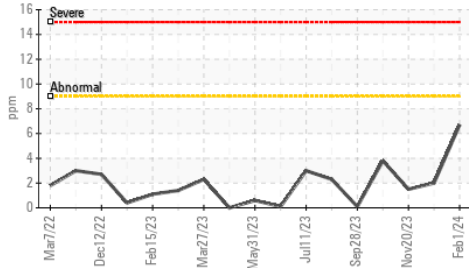
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>21.6</b>	17.9	16.4
Base Number (BN)	mg KOH/g ASTM D2896 10.2	<b>4.0</b>	5.6	7.4

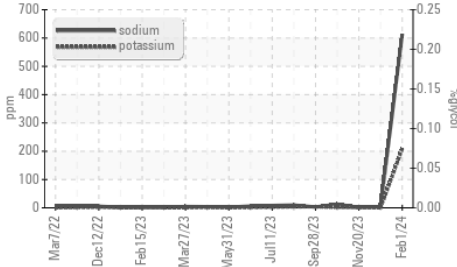


# OIL ANALYSIS REPORT

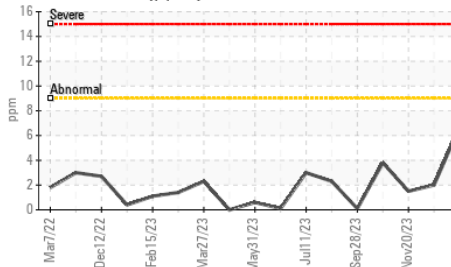
## ▲ Aluminum (ppm)



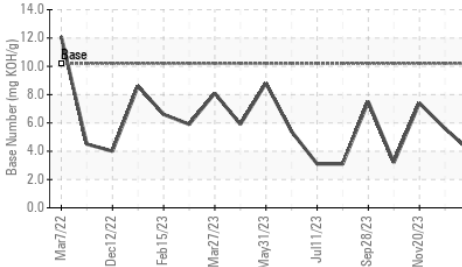
## ● Glycol Contamination



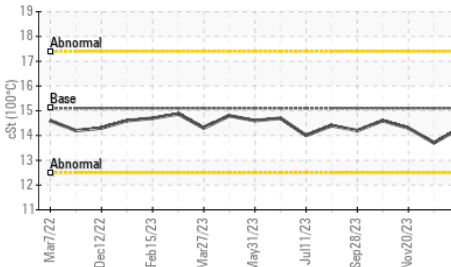
## ▲ Aluminum (ppm)



## Base Number



## Viscosity @ 100°C



## VISUAL

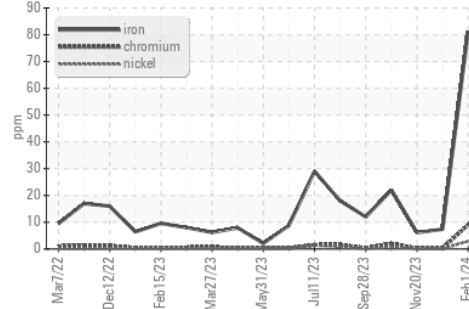
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

## FLUID PROPERTIES

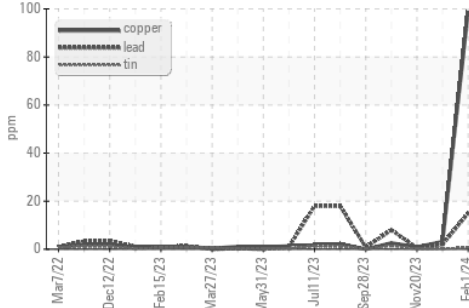
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.3	14.3

## GRAPHS

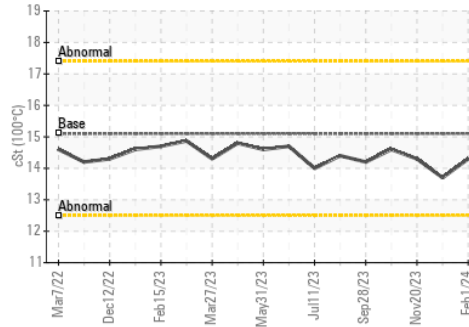
### ▲ Ferrous Alloys



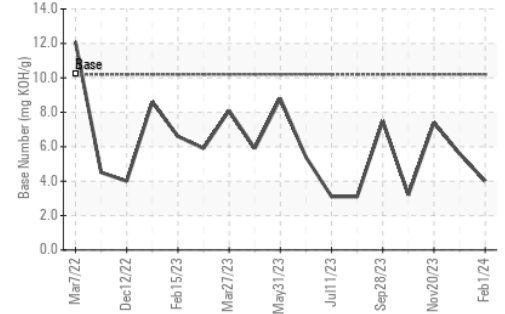
### ▲ Non-ferrous Metals



## Viscosity @ 100°C



## Base Number



Certificate L2367

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

Sample No. : GFL0109813

Lab Number : 06081083

Unique Number : 10863174

Test Package : FLEET ( Additional Tests: Glycol )

Received : 06 Feb 2024

Tested : 08 Feb 2024

Diagnosed : 08 Feb 2024 - Jonathan Hester

GFL Environmental - 836 - Kansas City Hauling

7801 East Truman Road

Kansas City, MO

US 64126

Contact: Loyce Stewart

loyce.stewart@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)