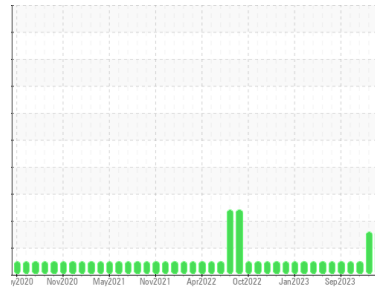




# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Area  
**(YA133453) [B Service]**

Machine Id  
**3689C**

Component  
**Natural Gas Engine**

Fluid  
**PETRO CANADA DURON GEO LD 15W40 (38 QTS)**

## 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

The chromium level is abnormal. The aluminum level is abnormal.

### 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 acceptable for the time in service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0124484</b>	GFL0111058	GFL0098522
Sample Date	Client Info		<b>08 Jul 2024</b>	06 Mar 2024	10 Jan 2024
Machine Age	hrs	Client Info	<b>20929</b>	19762	19672
Oil Age	hrs	Client Info	<b>1167</b>	1145	808
Oil Changed	Client Info		<b>Changed</b>	Changed	Not Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	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>37</b>	45	22
Chromium	ppm	ASTM D5185m >4	<b>▲ 7</b>	▲ 8	4
Nickel	ppm	ASTM D5185m >2	<b>2</b>	2	<1
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>▲ 12</b>	▲ 16	9
Lead	ppm	ASTM D5185m >30	<b>2</b>	<1	<1
Copper	ppm	ASTM D5185m >35	<b>2</b>	<1	1
Tin	ppm	ASTM D5185m >4	<b>1</b>	1	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 50	<b>3</b>	5	4
Barium	ppm	ASTM D5185m 5	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 50	<b>60</b>	54	51
Manganese	ppm	ASTM D5185m 0	<b>1</b>	2	<1
Magnesium	ppm	ASTM D5185m 560	<b>600</b>	566	502
Calcium	ppm	ASTM D5185m 1510	<b>1760</b>	1556	1460
Phosphorus	ppm	ASTM D5185m 780	<b>777</b>	783	694
Zinc	ppm	ASTM D5185m 870	<b>1018</b>	967	883
Sulfur	ppm	ASTM D5185m 2040	<b>2533</b>	2348	2418

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >+100	<b>6</b>	8	6
Sodium	ppm	ASTM D5185m	<b>7</b>	8	4
Potassium	ppm	ASTM D5185m >20	<b>3</b>	3	3

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0</b>	0.1	0
Nitration	Abs/cm	*ASTM D7624 >20	<b>11.8</b>	12.1	10.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>27.6</b>	25.1	22.3

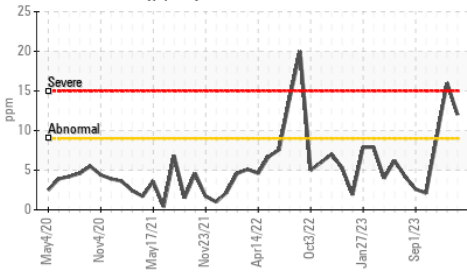
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>22.4</b>	20.2	18.2
Base Number (BN)	mg KOH/g	ASTM D2896 10.2	<b>3.1</b>	3.6	3.5

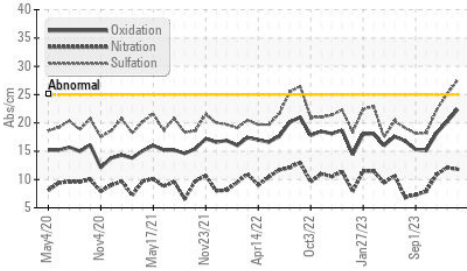


# OIL ANALYSIS REPORT

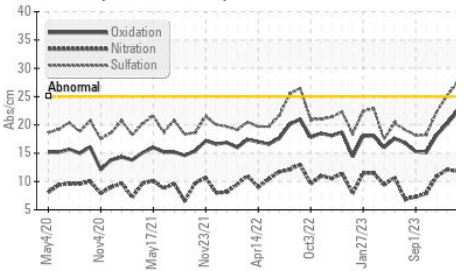
▲ Aluminum (ppm)



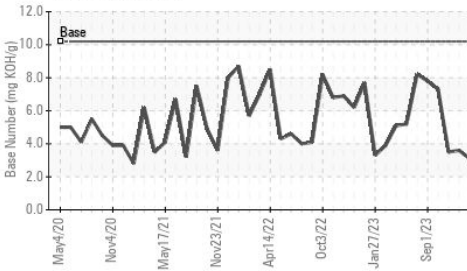
● FT-IR (Direct Trend)



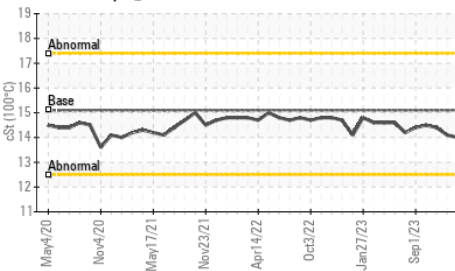
● FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C



## VISUAL

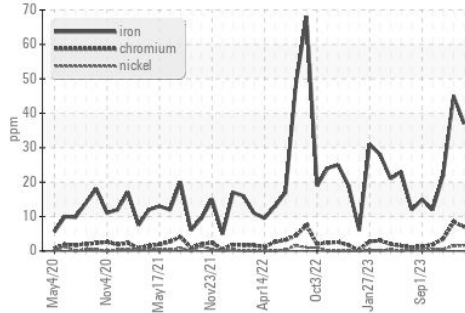
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar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

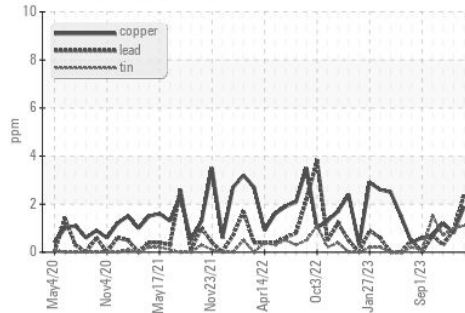
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.0	14.1

## GRAPHS

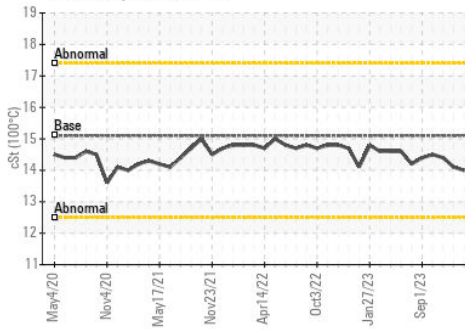
▲ Ferrous Alloys



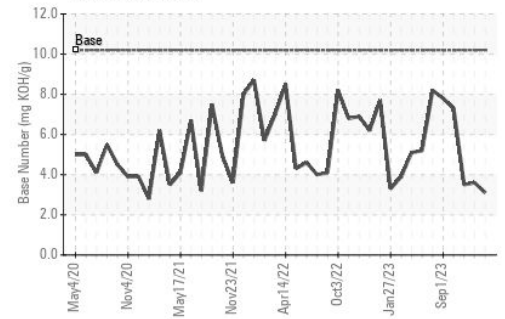
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : GFL0124484

Lab Number : 06232148

Unique Number : 11115641

Test Package : FLEET

Received : 10 Jul 2024

Tested : 11 Jul 2024

Diagnosed : 11 Jul 2024 - Don Baldrige

GFL Environmental - 006 - Wilmington

3618 US Highway 421 N

Wilmington, NC

US 28401

Contact: Eric Wood

eric.wood@gflenv.com

T: (717)723-1956

F: (910)762-6880

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)