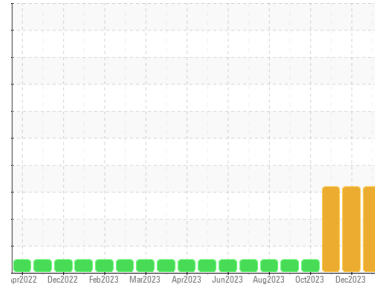




# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id  
**731116**

Component  
**Natural Gas Engine**

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

## DIAGNOSIS

### ▲ Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

### ▲ Wear

Piston, ring and cylinder wear is indicated. 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 acceptable for the time in service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0103302</b>	GFL0099913	GFL0099965
Sample Date	Client Info		<b>16 Jan 2024</b>	06 Dec 2023	10 Nov 2023
Machine Age	hrs	Client Info	<b>6307</b>	6168	6011
Oil Age	hrs	Client Info	<b>1200</b>	0	0
Oil Changed	Client Info		<b>Changed</b>	Not Changd	Not Changd
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## 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>▲ 235</b>	▲ 101	▲ 141
Chromium	ppm	ASTM D5185m >4	<b>▲ 13</b>	▲ 9	▲ 9
Nickel	ppm	ASTM D5185m >2	<b>▲ 8</b>	▲ 5	▲ 5
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m >3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >9	<b>▲ 17</b>	▲ 13	▲ 10
Lead	ppm	ASTM D5185m >30	<b>14</b>	11	10
Copper	ppm	ASTM D5185m >35	<b>4</b>	2	3
Tin	ppm	ASTM D5185m >4	<b>2</b>	<1	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 50	<b>6</b>	5	7
Barium	ppm	ASTM D5185m 5	<b>4</b>	0	7
Molybdenum	ppm	ASTM D5185m 50	<b>89</b>	75	75
Manganese	ppm	ASTM D5185m 0	<b>5</b>	3	4
Magnesium	ppm	ASTM D5185m 560	<b>708</b>	626	593
Calcium	ppm	ASTM D5185m 1510	<b>1877</b>	1800	1671
Phosphorus	ppm	ASTM D5185m 780	<b>851</b>	773	818
Zinc	ppm	ASTM D5185m 870	<b>1136</b>	1007	981
Sulfur	ppm	ASTM D5185m 2040	<b>2719</b>	2474	2383

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >+100	<b>80</b>	54	51
Sodium	ppm	ASTM D5185m	<b>13</b>	14	6
Potassium	ppm	ASTM D5185m >20	<b>8</b>	2	6

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>15.3</b>	13.2	12.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>28.7</b>	28.4	27.0

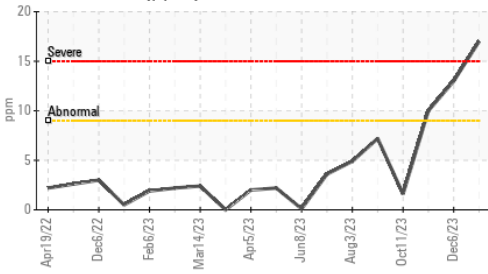
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>26.3</b>	25.1	23.0
Base Number (BN)	mg KOH/g	ASTM D2896 10.2	<b>4.3</b>	2.5	3.5

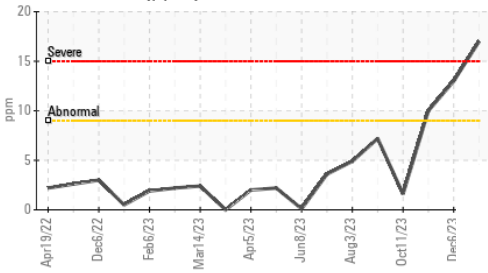


# OIL ANALYSIS REPORT

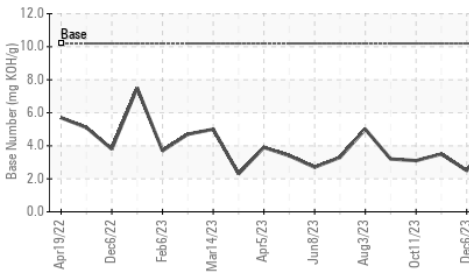
▲ Aluminum (ppm)



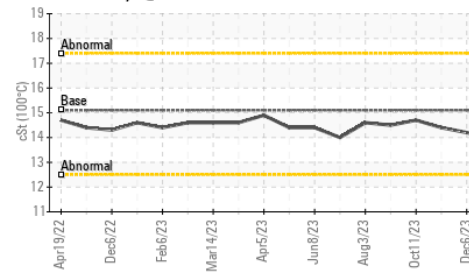
▲ Aluminum (ppm)



Base Number



Viscosity @ 100°C

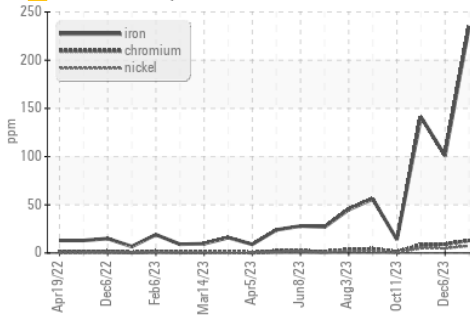


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

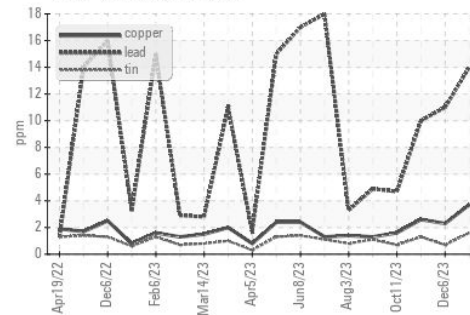
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.0	14.2

## GRAPHS

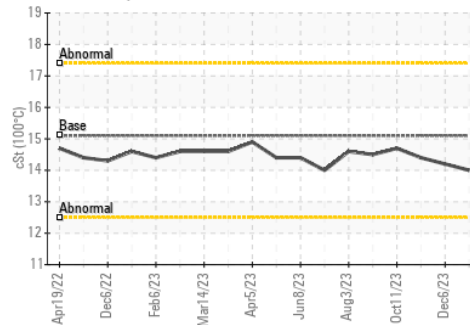
▲ Ferrous Alloys



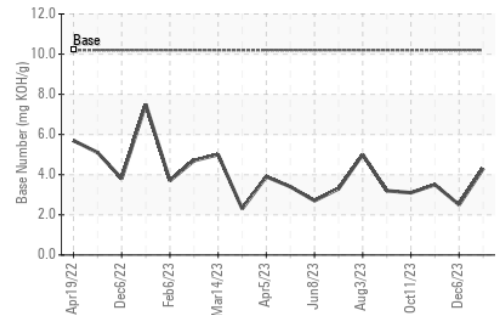
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0103302 **Received** : 18 Jan 2024  
**Lab Number** : 06064141 **Diagnosed** : 20 Jan 2024  
**Unique Number** : 10835523 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 836 - Kansas City Hauling**  
 7801 East Truman Road  
 Kansas City, MO  
 US 64126  
 Contact: Robert Hart  
 rhart@gflenv.com  
 T: (580)461-1509  
 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)