

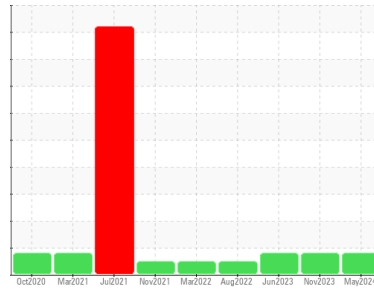


# OIL ANALYSIS REPORT



Machine Id  
**9122**  
 Component  
**Natural Gas Engine**  
 Fluid  
**PETRO CANADA DURON GEO LD 15W40 (24 LTR)**

Sample Rating Trend



## DIAGNOSIS

**Recommendation**  
 The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

**Wear**  
 Chromium ppm levels are abnormal. Ring wear is indicated.

**Contamination**  
 There is no indication of any contamination in the oil.

**Fluid Condition**  
 The oil is no longer serviceable as a result of the abnormal and/or severe wear.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0118899</b>	GFL0094381	GFL0086757
Sample Date	Client Info	<b>21 May 2024</b>	30 Nov 2023	15 Jun 2023
Machine Age	hrs	<b>20637</b>	19418	18253
Oil Age	hrs	<b>20637</b>	600	18253
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>ABNORMAL</b>	ABNORMAL	MARGINAL

## 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 D5185(m) >50	<b>29</b>	28	30
Chromium	ppm ASTM D5185(m) >4	<b>▲ 6</b>	▲ 5	▲ 4
Nickel	ppm ASTM D5185(m) >2	<b>1</b>	<1	1
Titanium	ppm ASTM D5185(m)	<b>0</b>	0	<1
Silver	ppm ASTM D5185(m) >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185(m) >9	<b>3</b>	3	3
Lead	ppm ASTM D5185(m) >30	<b>6</b>	4	6
Copper	ppm ASTM D5185(m) >35	<b>2</b>	2	2
Tin	ppm ASTM D5185(m) >4	<b>&lt;1</b>	<1	<1
Antimony	ppm ASTM D5185(m)	<b>0</b>	0	<1
Vanadium	ppm ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm ASTM D5185(m)	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 50	<b>6</b>	8	6
Barium	ppm ASTM D5185(m) 5	<b>0</b>	<1	0
Molybdenum	ppm ASTM D5185(m) 50	<b>61</b>	59	61
Manganese	ppm ASTM D5185(m) 0	<b>&lt;1</b>	<1	1
Magnesium	ppm ASTM D5185(m) 560	<b>629</b>	592	617
Calcium	ppm ASTM D5185(m) 1510	<b>1764</b>	1702	1737
Phosphorus	ppm ASTM D5185(m) 780	<b>823</b>	808	872
Zinc	ppm ASTM D5185(m) 870	<b>1030</b>	998	983
Sulfur	ppm ASTM D5185(m) 2040	<b>2180</b>	2125	2189
Lithium	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >+100	<b>4</b>	9	14
Sodium	ppm ASTM D5185(m)	<b>6</b>	6	8
Potassium	ppm ASTM D5185(m) >20	<b>1</b>	<1	1

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844*	<b>0</b>	0	0
Nitration	Abs/cm ASTM D7624*	<b>12.9</b>	13.2	12.8
Sulfation	Abs/.1mm ASTM D7415*	<b>29.0</b>	26.7	29.5

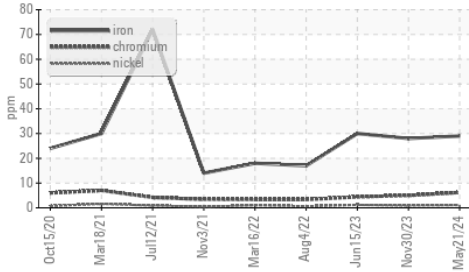
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm ASTM D7414*	<b>23.2</b>	22.1	24.0

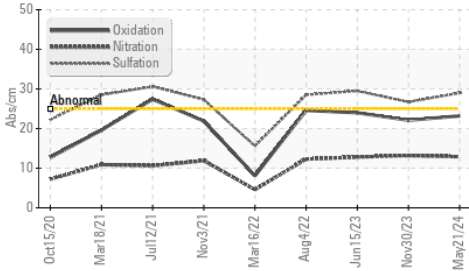


# OIL ANALYSIS REPORT

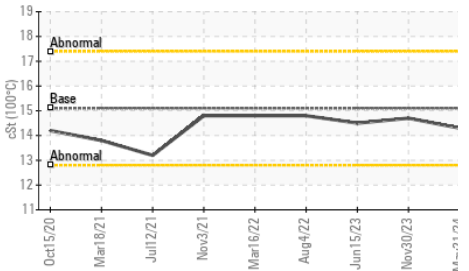
## ▲ Ferrous Alloys



## FT-IR (Direct Trend)



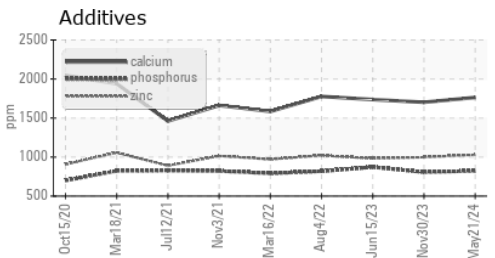
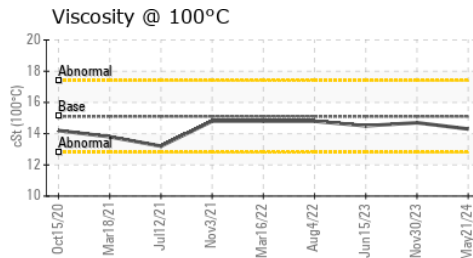
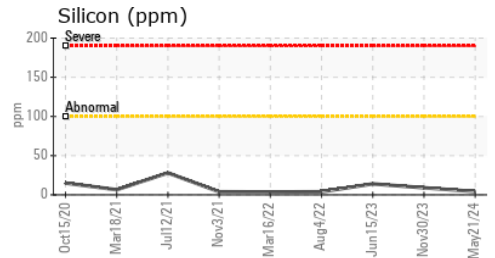
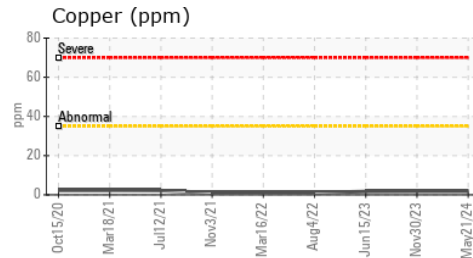
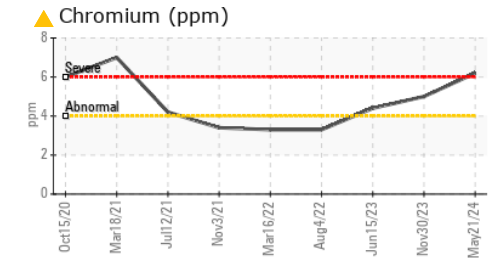
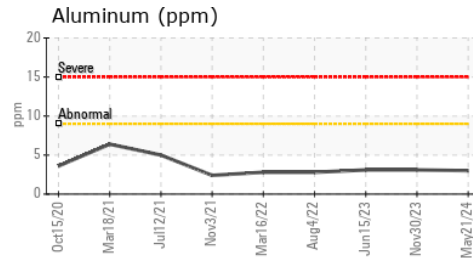
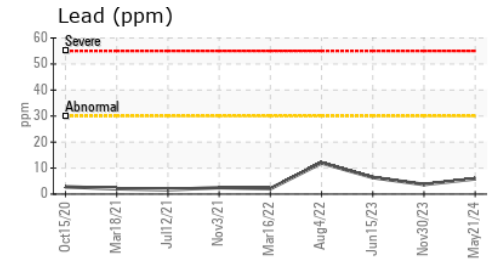
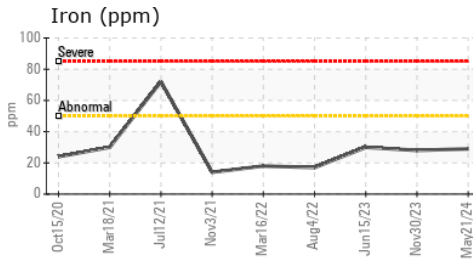
## Viscosity @ 100°C



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	---	---
Precipitate	scalar	Visual*	NONE	---	---
Silt	scalar	Visual*	NONE	---	---
Debris	scalar	Visual*	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	---	---
Appearance	scalar	Visual*	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 D7279(m)	15.1	14.3	14.7

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0118899  
**Lab Number** : 02636923  
**Unique Number** : 5786085  
**Test Package** : MOB 1 ( Additional Tests: Visual )

**GFL Environmental - 222 - Sandhill**  
 SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCE ROAD  
 ORANGEVILLE, ON  
 CA L9W 3X5  
 Contact: GLENN COOK  
 gcook@gflenv.com  
 T: (519)940-4167  
 F:

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.