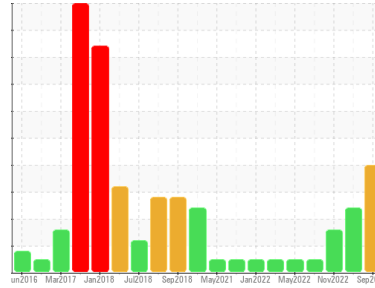




# OIL ANALYSIS REPORT

Sample Rating Trend



SOOT



Machine Id  
**1149**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON XL SYN BLEND 15W40 (22 LTR)**

## DIAGNOSIS

### Recommendation

We advise that you check the fuel injection system. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of fuel present in the oil. There is an abnormal amount of solids and carbon present in the oil. Tests confirm the presence of fuel in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	<b>GFL0091621</b>	GFL0077578	GFL0060264	
Sample Date	Client Info	<b>20 Sep 2023</b>	28 Apr 2023	03 Nov 2022	
Machine Age	hrs	Client Info	<b>345414</b>	20642	20181
Oil Age	hrs	Client Info	<b>10761</b>	466	488
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed	
Sample Status		<b>SEVERE</b>	SEVERE	ABNORMAL	

## CONTAMINATION

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

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >127	<b>123</b>	87	65
Chromium	ppm	ASTM D5185(m) >3	<b>3</b>	3	2
Nickel	ppm	ASTM D5185(m) >30	<b>&lt;1</b>	1	<1
Titanium	ppm	ASTM D5185(m) >2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185(m) >2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m) >59	<b>14</b>	41	13
Lead	ppm	ASTM D5185(m) >29	<b>9</b>	8	5
Copper	ppm	ASTM D5185(m) >135	<b>1</b>	1	<1
Tin	ppm	ASTM D5185(m) >2	<b>&lt;1</b>	1	<1
Antimony	ppm	ASTM D5185(m)	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	<1	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) 1	<b>3</b>	3	3
Barium	ppm	ASTM D5185(m) 1	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m) 60	<b>51</b>	52	55
Manganese	ppm	ASTM D5185(m) 1	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	<b>770</b>	795	875
Calcium	ppm	ASTM D5185(m) 1070	<b>887</b>	916	984
Phosphorus	ppm	ASTM D5185(m) 1150	<b>827</b>	928	966
Zinc	ppm	ASTM D5185(m) 1270	<b>968</b>	987	1085
Sulfur	ppm	ASTM D5185(m) 2060	<b>2050</b>	2171	2337
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >18	<b>6</b>	6	4
Sodium	ppm	ASTM D5185(m)	<b>2</b>	2	2
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Fuel	%	ASTM D7593* >2.0	<b>8.5</b>	8.6	4.1

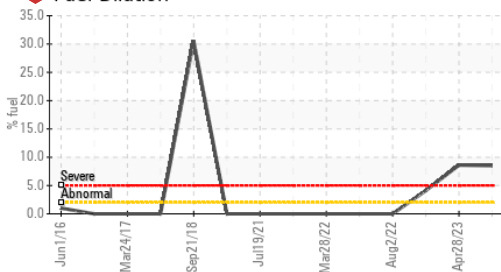
## INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >3	<b>5.1</b>	0.4	3.9
Nitration	Abs/cm	ASTM D7624* >20	<b>18.2</b>	2.2	14.9
Sulfation	Abs/.1mm	ASTM D7415* >30	<b>38.0</b>	6.0	31.4

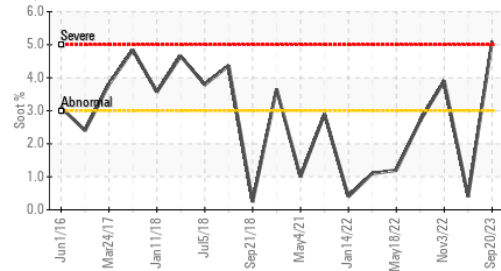


# OIL ANALYSIS REPORT

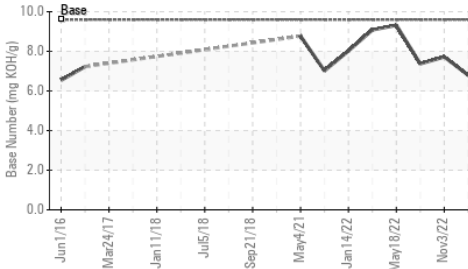
## Fuel Dilution



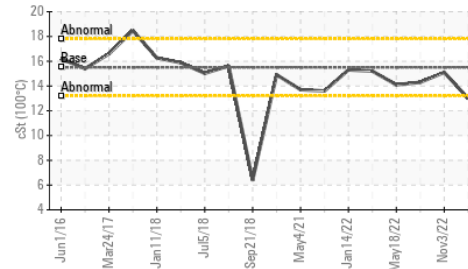
## Soot %



## Base Number



## Viscosity @ 100°C



## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs./1mm ASTM D7414*	>25	33.0	3.2	23.6
Base Number (BN)	mg KOH/g ASTM D2896*	9.6	6.36	6.80	7.72

## VISUAL

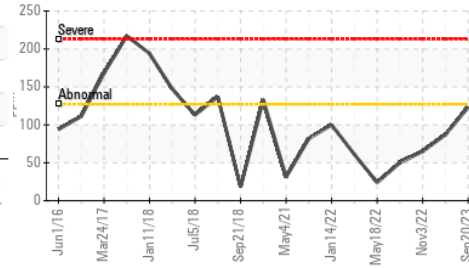
method	limit/base	current	history1	history2	
Emulsified Water	scalar Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar Visual*	NEG	NEG	NEG	NEG

## FLUID PROPERTIES

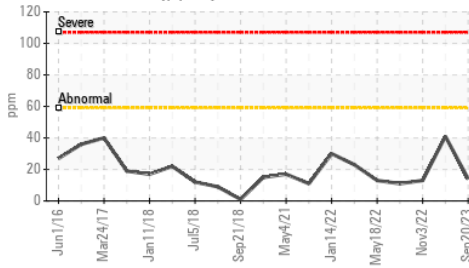
method	limit/base	current	history1	history2	
Visc @ 100°C	cSt ASTM D7279(m)	15.5	14.2	▲ 13.0	15.1

## GRAPHS

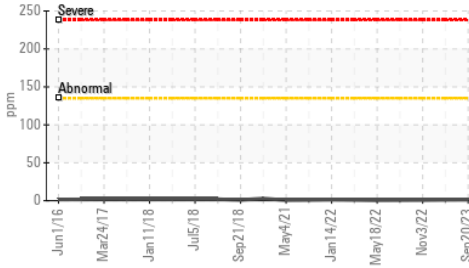
### Iron (ppm)



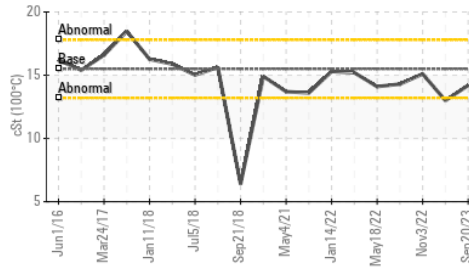
### Aluminum (ppm)



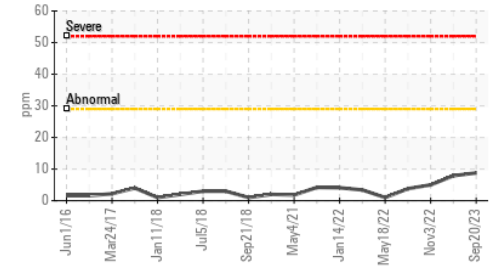
### Copper (ppm)



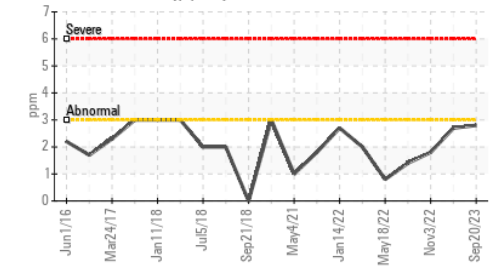
### Viscosity @ 100°C



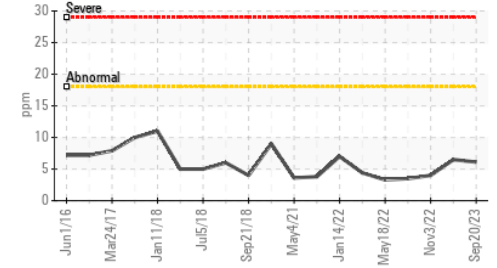
### Lead (ppm)



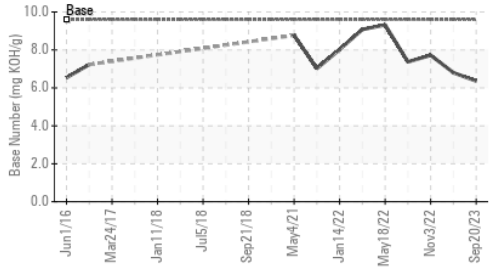
### Chromium (ppm)



### Silicon (ppm)



### Base Number



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County  
**Sample No.** : GFL0091621 **Received** : 27 Sep 2023  
**Lab Number** : 02585429 **Diagnosed** : 28 Sep 2023  
**Unique Number** : 5646494 **Diagnostician** : Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: PercentFuel )

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.

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