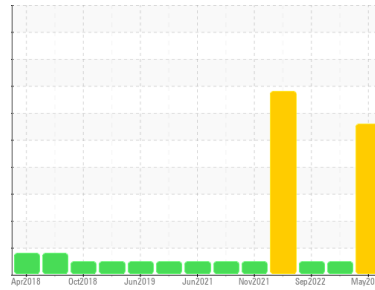




# OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id  
**9950**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON XL SYN BLEND 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

Aluminum ppm levels are noted. All other component wear rates are normal.

### Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

### 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>GFL0070691</b>	GFL0070681	GFL0057850
Sample Date	Client Info		<b>31 May 2023</b>	16 Mar 2023	21 Sep 2022
Machine Age	kms	Client Info	<b>509877</b>	24278	23939
Oil Age	kms	Client Info	<b>0</b>	341	466
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>SEVERE</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	2.4

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>120	<b>46</b>	13	17
Chromium	ppm	ASTM D5185(m)	>20	<b>4</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	<b>1</b>	2	2
Titanium	ppm	ASTM D5185(m)	>2	<b>3</b>	<1	<1
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>▲ 20</b>	11	8
Lead	ppm	ASTM D5185(m)	>40	<b>2</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>330	<b>4</b>	2	2
Tin	ppm	ASTM D5185(m)	>15	<b>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)	1	<b>2</b>	3	2
Barium	ppm	ASTM D5185(m)	1	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>57</b>	57	56
Manganese	ppm	ASTM D5185(m)	1	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	<b>918</b>	913	899
Calcium	ppm	ASTM D5185(m)	1070	<b>1066</b>	1086	1021
Phosphorus	ppm	ASTM D5185(m)	1150	<b>992</b>	1053	1015
Zinc	ppm	ASTM D5185(m)	1270	<b>1127</b>	1147	1136
Sulfur	ppm	ASTM D5185(m)	2060	<b>2437</b>	2647	2518
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

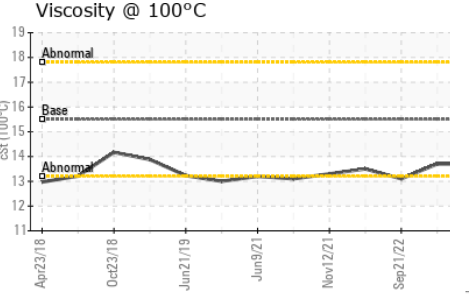
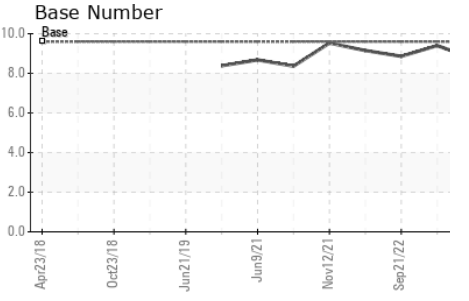
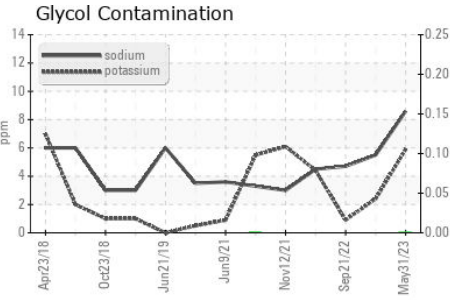
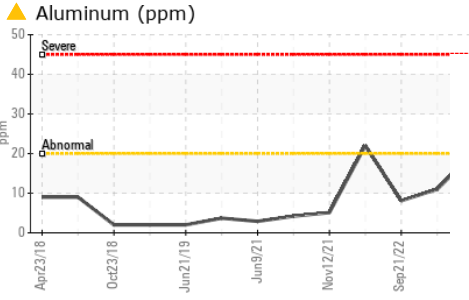
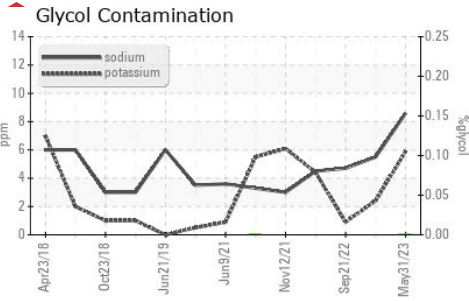
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	<b>◆ 83</b>	6	6
Sodium	ppm	ASTM D5185(m)		<b>9</b>	6	5
Potassium	ppm	ASTM D5185(m)	>20	<b>6</b>	2	<1
Glycol	%	ASTM D7922*		<b>0.0</b>	NEG	NEG

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>4	<b>1.8</b>	1	0.8
Nitration	Abs/cm	ASTM D7624*	>20	<b>9.1</b>	8.2	8.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.2</b>	22.2	20.2



# OIL ANALYSIS REPORT

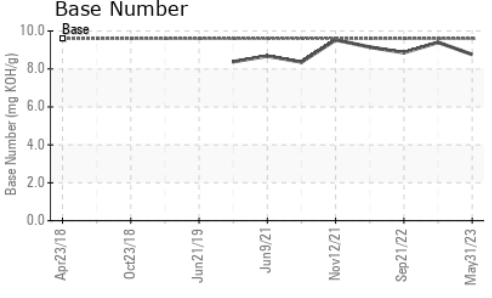
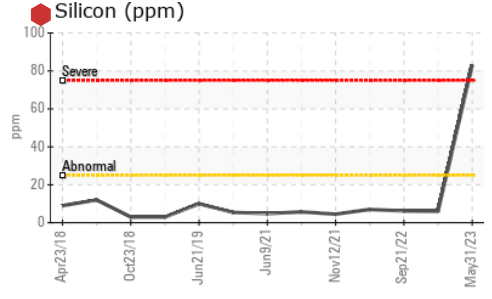
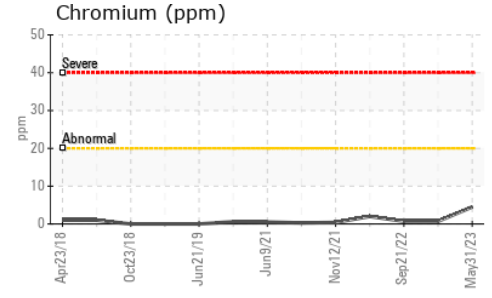
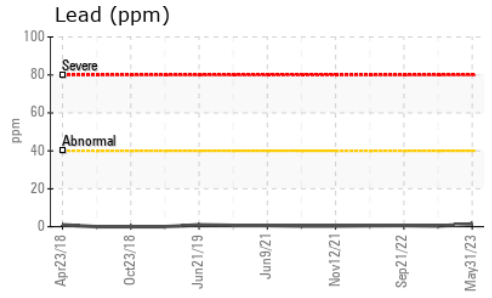
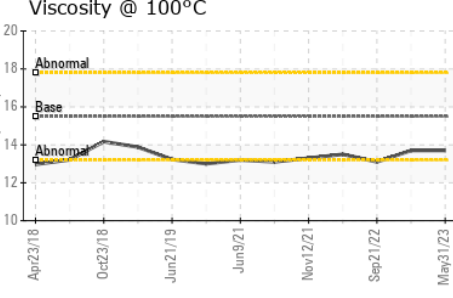
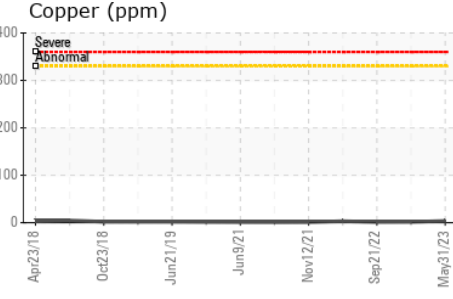
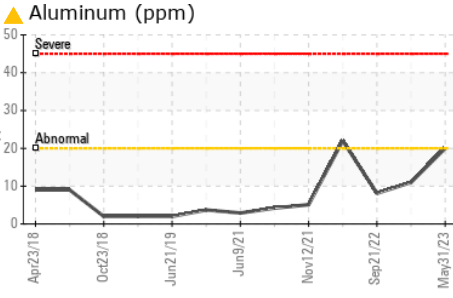
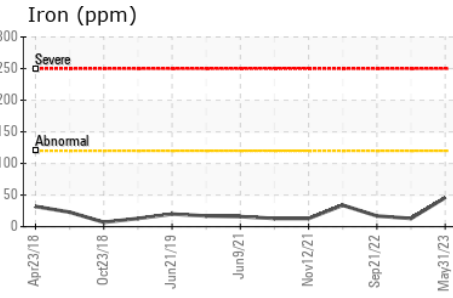


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>15.4</b>	14.7	15.6
Base Number (BN)	mg KOH/g	ASTM D2896*	9.6	<b>8.76</b>	9.40	8.86

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.5	<b>13.7</b>	13.7	13.1

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County  
**Sample No.** : GFL0070691 **Received** : 27 Jun 2023  
**Lab Number** : 02566554 **Diagnosed** : 28 Jun 2023  
**Unique Number** : 5603600 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 2 ( Additional Tests: Glycol )

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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