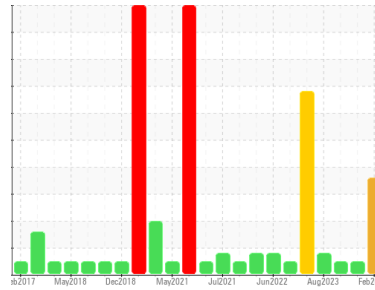




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**9132**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check the fuel injection system. Check for low coolant level. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

Metal levels are typical for a new component breaking in.

### Contamination

There is a high amount of fuel present in the oil. Water treatment chemicals present, indicating slow coolant leak. Tests confirm the presence of fuel in the oil. Test for glycol is negative.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants. The condition of the oil is acceptable for the time in service (see recommendation).

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0112406</b>	GFL0099591	GFL0091613
Sample Date	Client Info		<b>08 Feb 2024</b>	04 Dec 2023	12 Sep 2023
Machine Age	kms	Client Info	<b>12515</b>	489174	11454
Oil Age	kms	Client Info	<b>0</b>	0	300
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>SEVERE</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>75	<b>65</b>	57	30
Chromium	ppm	ASTM D5185(m)	>5	<b>2</b>	2	1
Nickel	ppm	ASTM D5185(m)	>4	<b>1</b>	1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	<b>13</b>	9	6
Lead	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>100	<b>1</b>	2	1
Tin	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	0	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
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)	0	<b>2</b>	2	2
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>104</b>	59	55
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	<b>776</b>	869	884
Calcium	ppm	ASTM D5185(m)	1070	<b>922</b>	966	1034
Phosphorus	ppm	ASTM D5185(m)	1150	<b>812</b>	882	1003
Zinc	ppm	ASTM D5185(m)	1270	<b>997</b>	1090	1106
Sulfur	ppm	ASTM D5185(m)	2060	<b>2394</b>	2231	2366
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

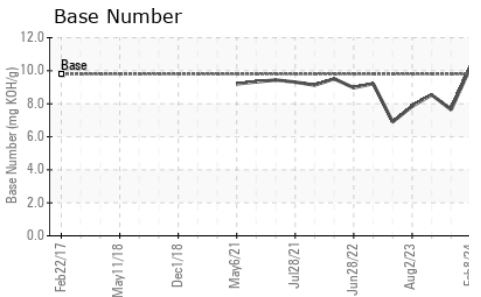
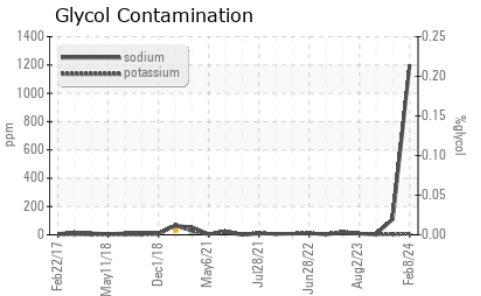
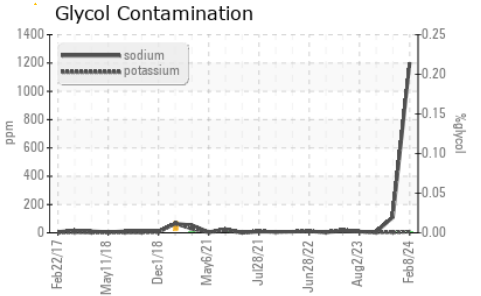
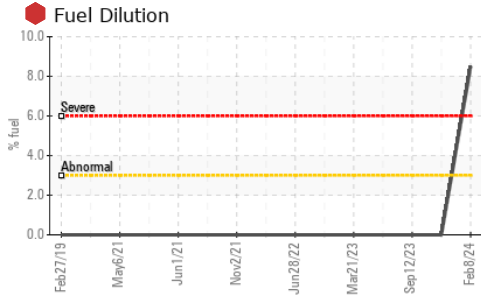
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	<b>7</b>	8	12
Sodium	ppm	ASTM D5185(m)		<b>▲ 1201</b>	111	5
Potassium	ppm	ASTM D5185(m)	>20	<b>8</b>	3	3
Fuel	%	ASTM D7593*	>3.0	<b>◆ 8.5</b>	<1.0	<1.0
Glycol	%	ASTM D7922*		<b>0.0</b>	0.0	NEG

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>6	<b>1</b>	2.1	0.9
Nitration	Abs/cm	ASTM D7624*	>20	<b>14.5</b>	13.9	8.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.5</b>	26.6	21.1



# OIL ANALYSIS REPORT

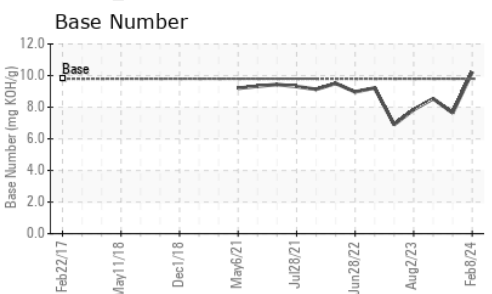
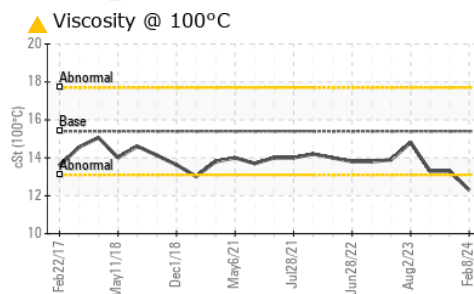
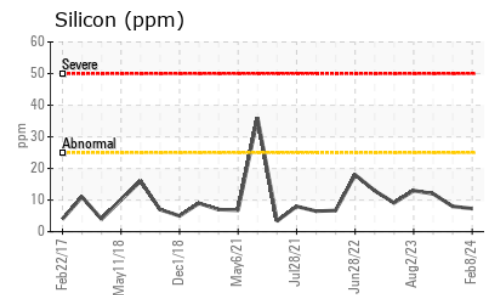
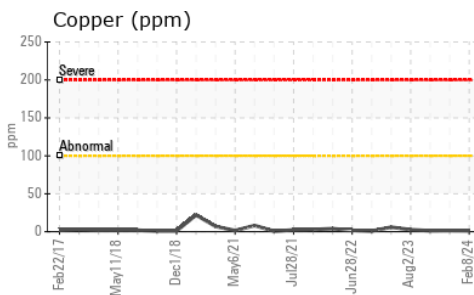
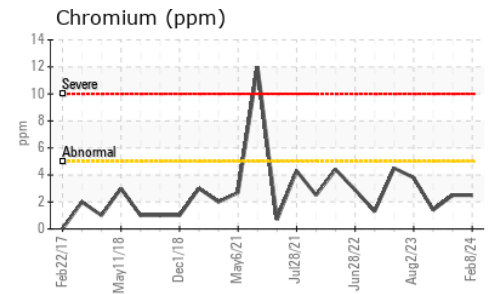
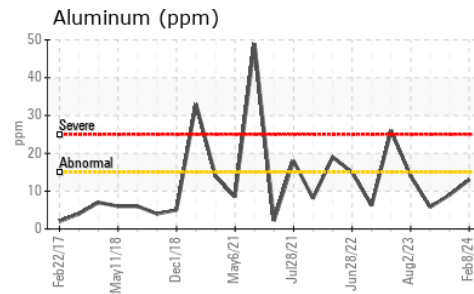
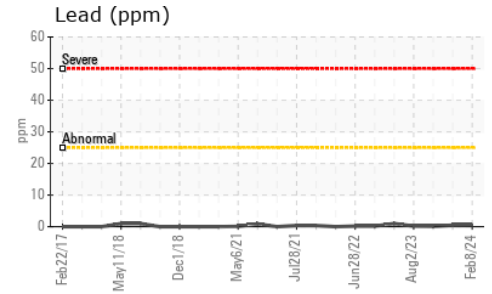
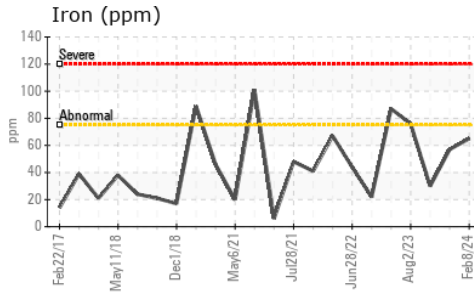


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>19.9</b>	25.3	17.3
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	<b>10.23</b>	7.64	8.54

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)	15.4	<b>▲ 12.3</b>	13.3	13.3

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0112406  
**Lab Number** : 02616968  
**Unique Number** : 5734078  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, Glycol, PercentFuel )

**GFL Environmental - 550 - Rocky View County**  
 220 Carmek Blvd  
 Rocky View County, AB  
 CA T1X 1X1  
 Contact: GFL Calgary  
 calgarymaintenance@gflenv.com

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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