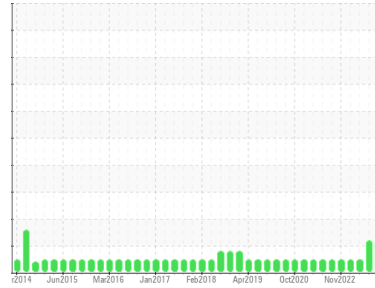




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**4479**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (40 LTR)**

## DIAGNOSIS

### Recommendation

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 moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

### Fluid Condition

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>GFL0097541</b>	GFL0088934	GFL0074262
Sample Date	Client Info		<b>05 Dec 2023</b>	20 Aug 2023	16 Mar 2023
Machine Age	hrs	Client Info	<b>43775</b>	0	42291
Oil Age	hrs	Client Info	<b>724</b>	0	1411
Oil Changed	Client Info		<b>Changed</b>	N/A	Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	NORMAL

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>120	<b>18</b>	18	9
Chromium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>40	<b>2</b>	2	<1
Copper	ppm	ASTM D5185(m)	>330	<b>2</b>	3	2
Tin	ppm	ASTM D5185(m)	>15	<b>0</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>6</b>	4	5
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>57</b>	58	56
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	<b>901</b>	930	915
Calcium	ppm	ASTM D5185(m)	1070	<b>1001</b>	998	1017
Phosphorus	ppm	ASTM D5185(m)	1150	<b>926</b>	1015	1038
Zinc	ppm	ASTM D5185(m)	1270	<b>1115</b>	1123	1100
Sulfur	ppm	ASTM D5185(m)	2060	<b>2380</b>	2465	2538
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>2</b>	5	3
Sodium	ppm	ASTM D5185(m)		<b>2</b>	1	1
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	<1
Fuel	%	ASTM D7593*	>3.0	<b>▲ 4.3</b>	▲ 4.9	<1.0

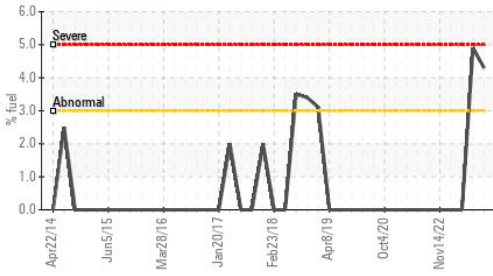
## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>4	<b>1.1</b>	1	0.6
Nitration	Abs/cm	ASTM D7624*	>20	<b>7.1</b>	6.9	6.5
Sulfation	Abs./1mm	ASTM D7415*	>30	<b>19.9</b>	20.0	21.6

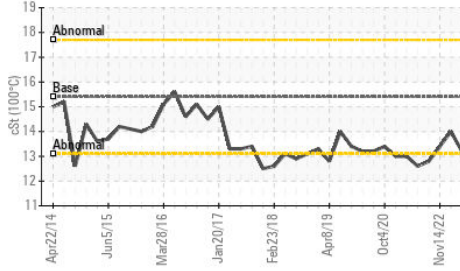


# OIL ANALYSIS REPORT

## Fuel Dilution



## Viscosity @ 100°C



## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs./1mm ASTM D7414*	>25	13.8	12.8	13.6

## VISUAL

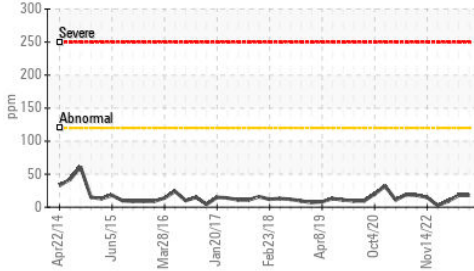
method	limit/base	current	history1	history2	
Emulsified Water	scalar Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar Visual*	NEG	NEG	NEG	NEG

## FLUID PROPERTIES

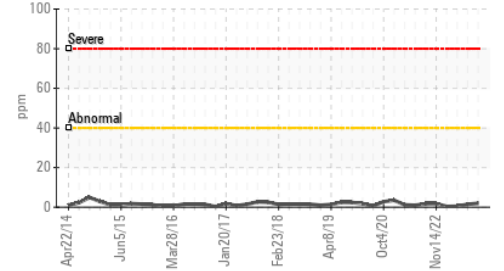
method	limit/base	current	history1	history2	
Visc @ 100°C	cSt ASTM D7279(m)	15.4	▲ 12.6	▲ 12.7	13.2

## GRAPHS

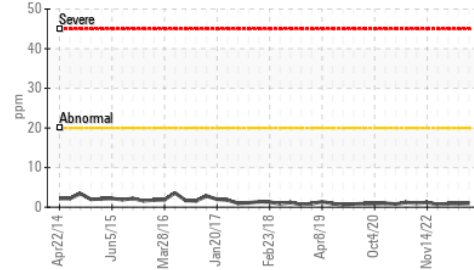
### Iron (ppm)



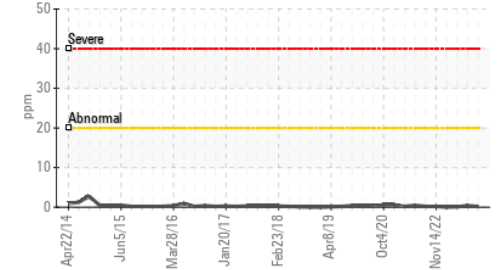
### Lead (ppm)



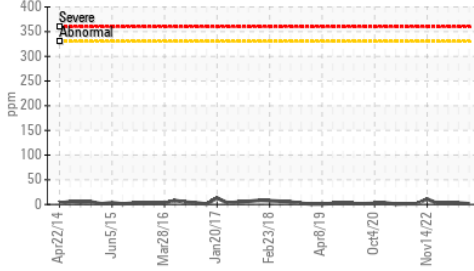
### Aluminum (ppm)



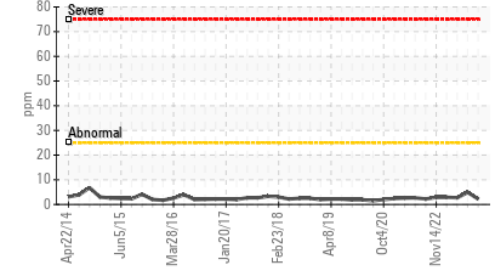
### Chromium (ppm)



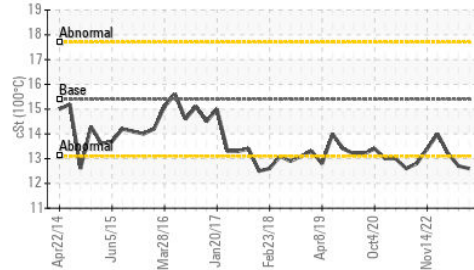
### Copper (ppm)



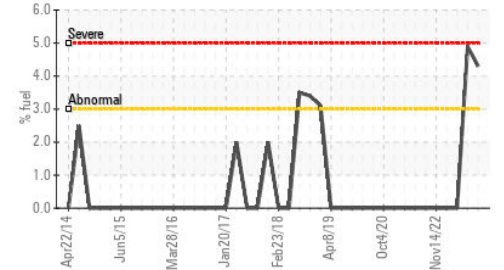
### Silicon (ppm)



## Viscosity @ 100°C



## Fuel Dilution



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0097541 **Received** : 07 Dec 2023  
**Lab Number** : 02601447 **Diagnosed** : 08 Dec 2023  
**Unique Number** : 5694532 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: PercentFuel )

**GFL Environmental - 216**  
 15 Bermondsey Road  
 Toronto, ON  
 CA M4B 1Y9  
 Contact: Tom Hatzioannidis  
 thatzioannidis@gflenv.com  
 T: (416)678-9340  
 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.