



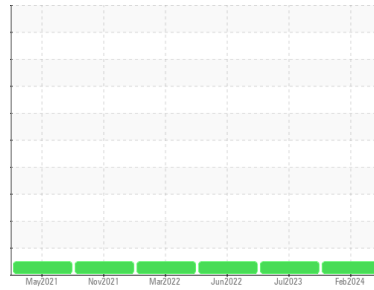
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**401157**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0100599</b>	GFL0077036	GFL0054638
Sample Date	Client Info		<b>12 Feb 2024</b>	05 Jul 2023	12 Jun 2022
Machine Age	hrs	Client Info	<b>12160</b>	10709	7924
Oil Age	hrs	Client Info	<b>7924</b>	0	600
Oil Changed	Client Info		<b>Changed</b>	N/A	Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	0.0

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>65	<b>16</b>	21	11
Chromium	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	1	<1
Nickel	ppm	ASTM D5185(m)	>3	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185(m)	>5	<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>35	<b>8</b>	6	6
Lead	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>180	<b>2</b>	4	4
Tin	ppm	ASTM D5185(m)	>8	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185(m)	>35	<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	3
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>59</b>	61	60
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	<b>961</b>	1005	981
Calcium	ppm	ASTM D5185(m)	1070	<b>1084</b>	1070	1092
Phosphorus	ppm	ASTM D5185(m)	1150	<b>1007</b>	1057	996
Zinc	ppm	ASTM D5185(m)	1270	<b>1175</b>	1217	1212
Sulfur	ppm	ASTM D5185(m)	2060	<b>2584</b>	2380	2410
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

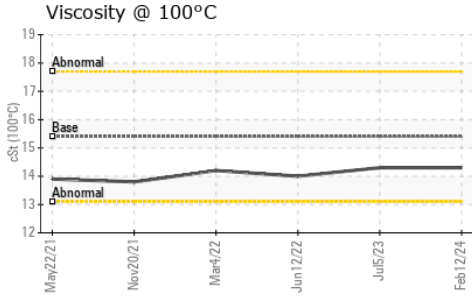
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	<b>4</b>	4	4
Sodium	ppm	ASTM D5185(m)		<b>1</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>3</b>	3	5

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	<b>0.8</b>	0.7	0.4
Nitration	Abs/cm	ASTM D7624*	>20	<b>9.0</b>	8.6	8.3
Sulfation	Abs./1mm	ASTM D7415*	>30	<b>19.9</b>	20.5	21.8



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### FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	15.2	15.9

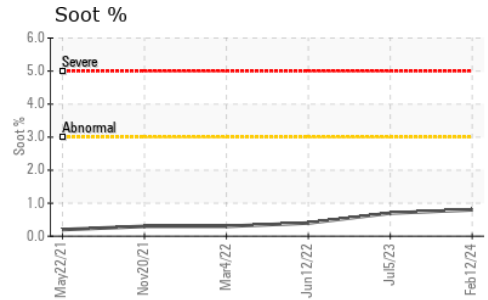
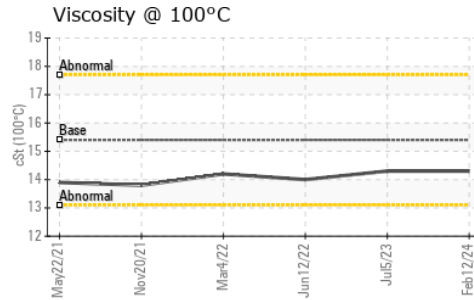
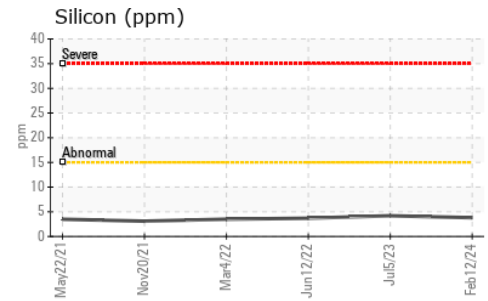
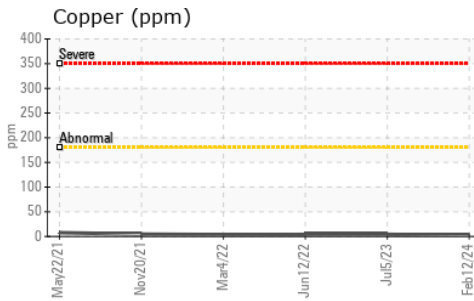
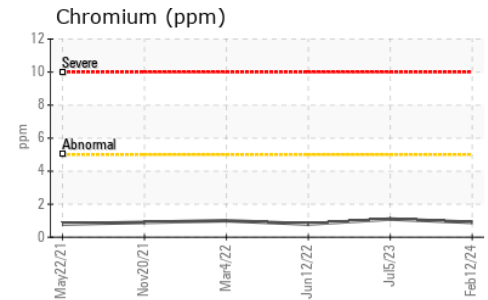
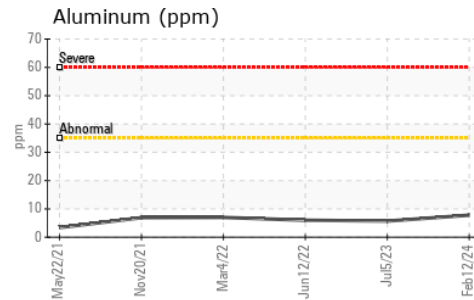
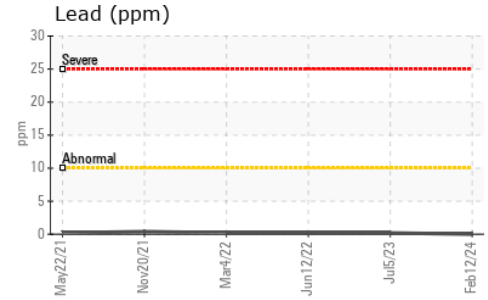
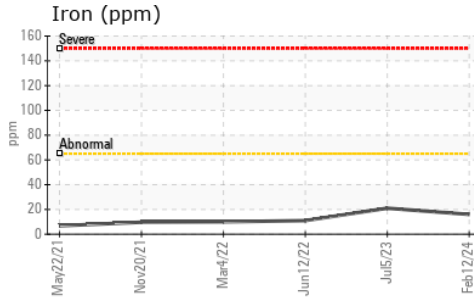
### VISUAL

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

### FLUID PROPERTIES

	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.3	14.0

### GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0100599  
**Lab Number** : 02616932  
**Unique Number** : 5734042  
**Test Package** : MOB 1  
**Received** : 21 Feb 2024  
**Tested** : 21 Feb 2024  
**Diagnosed** : 21 Feb 2024 - Wes Davis

**GFL Environmental - 575 - Squamish Hauling**  
 38950 Queens Way,  
 Squamish, BC  
 CA V8B 0K8  
 Contact: Dean Imbeau  
 dimbeau@gflenv.com  
 T: (604)892-5604  
 F: (604)892-5238

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.