



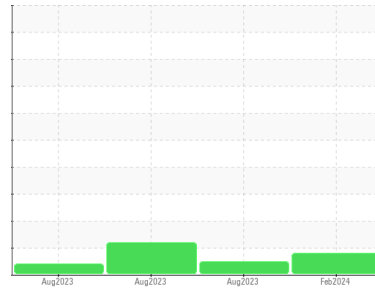
# OIL ANALYSIS REPORT

Sample Rating Trend

**WEAR**



Machine Id  
**801071**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON HP 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

### Wear

Iron ppm levels are marginal. A sharp increase in the iron level is noted. All other component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0099561</b>	GFL0084356	GFL0084361
Sample Date	Client Info		<b>05 Feb 2024</b>	28 Aug 2023	23 Aug 2023
Machine Age	hrs	Client Info	<b>14441</b>	13947	312958
Oil Age	hrs	Client Info	<b>560</b>	365	0
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>MARGINAL</b>	NORMAL	ABNORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	▲ 2.4
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	
PQ	ASTM D8184*	>65	<b>0</b>	---	---	
Iron	ppm	ASTM D5185(m)	>80	▲ <b>63</b>	2	5
Chromium	ppm	ASTM D5185(m)	>5	<b>2</b>	0	0
Nickel	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>30	<b>8</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>30	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185(m)	>150	<b>4</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>5	<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>5</b>	5	4
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>72</b>	54	54
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185(m)	1010	<b>1188</b>	903	921
Calcium	ppm	ASTM D5185(m)	1070	<b>1387</b>	997	1003
Phosphorus	ppm	ASTM D5185(m)	1150	<b>1200</b>	987	1018
Zinc	ppm	ASTM D5185(m)	1270	<b>1459</b>	1097	1108
Sulfur	ppm	ASTM D5185(m)	2060	<b>2585</b>	2460	2483
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	<b>11</b>	4	4
Sodium	ppm	ASTM D5185(m)		<b>3</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>1</b>	<1	<1

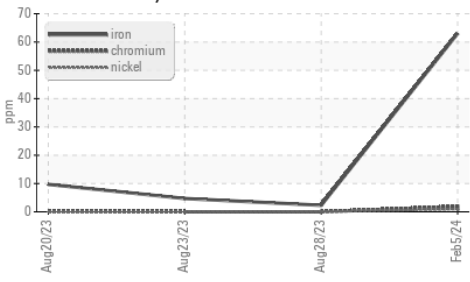
## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	<b>0.6</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>14.1</b>	5.4	6.0
Sulfation	Abs.1mm	ASTM D7415*	>30	<b>27.3</b>	19.6	20.0



# OIL ANALYSIS REPORT

### ▲ Ferrous Alloys

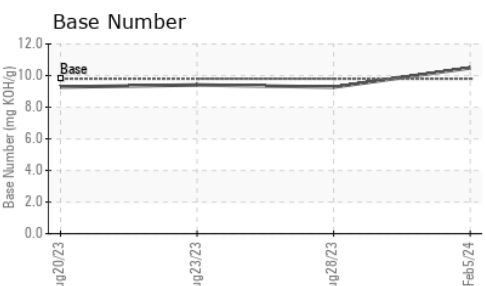
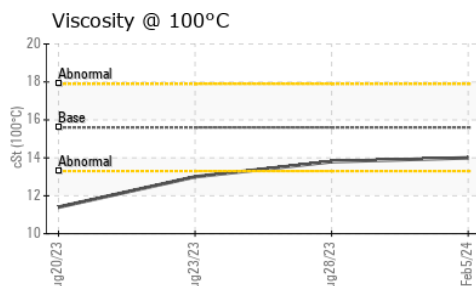
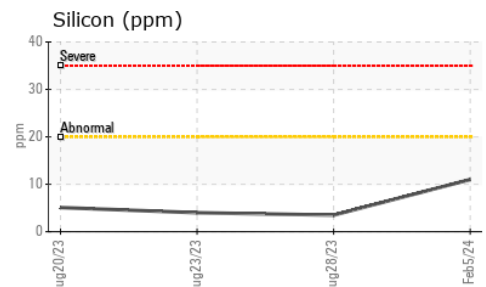
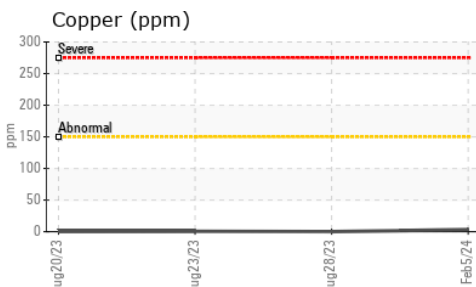
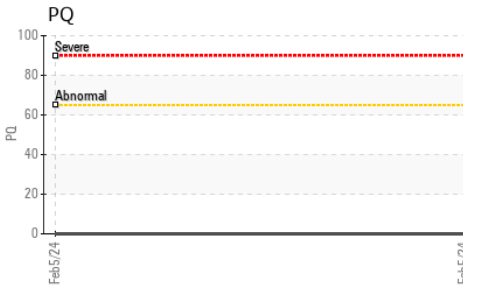
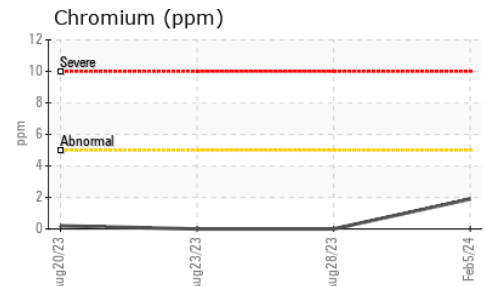
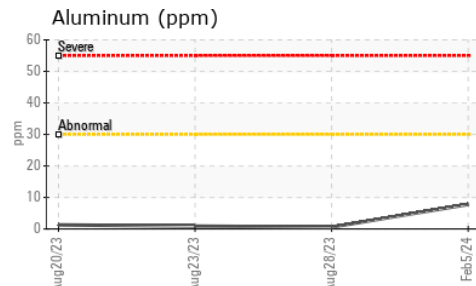
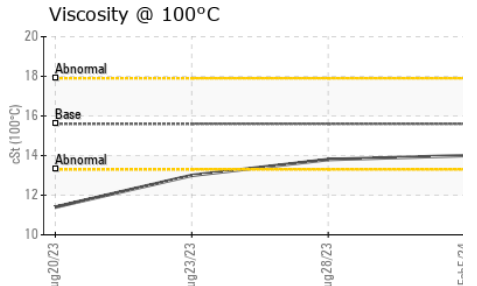
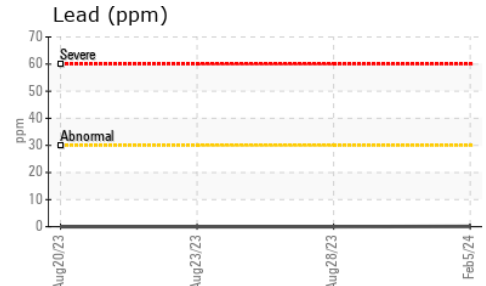
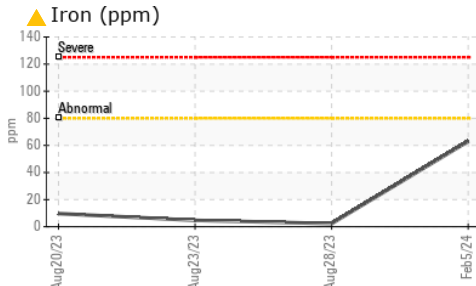
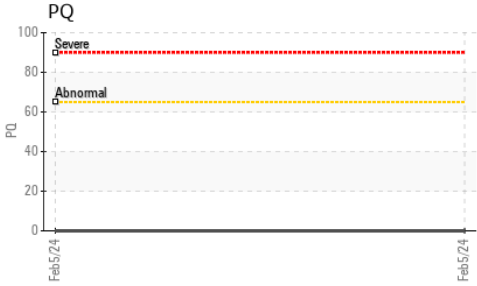


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>27.8</b>	14.2	15.0
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	<b>10.49</b>	9.27	9.41

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)	15.6	<b>14.0</b>	13.8	▲ 13.0

### GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0099561 **Received** : 13 Feb 2024  
**Lab Number** : **02615268** **Tested** : 14 Feb 2024  
**Unique Number** : 5724363 **Diagnosed** : 14 Feb 2024 - Kevin Marson  
**Test Package** : MOB 2 ( Additional Tests: PQ )

**GFL Environmental - 550 - Rocky View County**  
 220 Carmek Blvd  
 Rocky View County, AB  
 CA T1X 1X1  
 Contact: GFL Calgary  
 calgarymaintenance@gflenv.com  
 T:  
 F: (403)369-6163

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.