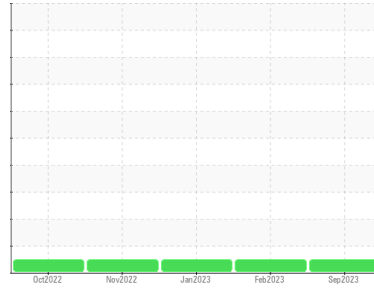




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**831050**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON GEO LD 15W40 (--- LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	<b>GFL0091631</b>	GFL0070733	GFL0063709	
Sample Date	Client Info	<b>25 Sep 2023</b>	27 Feb 2023	11 Jan 2023	
Machine Age	hrs	Client Info	<b>2618</b>	1547	1304
Oil Age	hrs	Client Info	<b>1072</b>	561	350
Oil Changed	Client Info	<b>Changed</b>	Changed	Not 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
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185(m)	>120	<b>17</b>	25	19
Chromium	ppm	ASTM D5185(m)	>20	<b>2</b>	2	1
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>3</b>	2	2
Lead	ppm	ASTM D5185(m)	>40	<b>2</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>330	<b>2</b>	5	4
Tin	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	<1
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)	50	<b>6</b>	8	15
Barium	ppm	ASTM D5185(m)	5	<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)	50	<b>56</b>	54	52
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	2	2
Magnesium	ppm	ASTM D5185(m)	560	<b>585</b>	570	574
Calcium	ppm	ASTM D5185(m)	1510	<b>1658</b>	1637	1562
Phosphorus	ppm	ASTM D5185(m)	780	<b>734</b>	720	762
Zinc	ppm	ASTM D5185(m)	870	<b>963</b>	905	881
Sulfur	ppm	ASTM D5185(m)	2040	<b>1974</b>	2053	2059
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

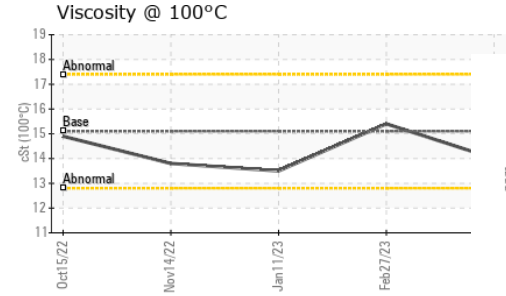
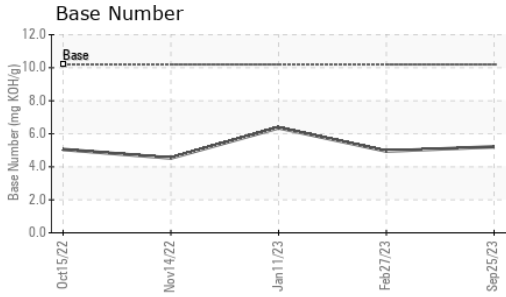
method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185(m)	>25	<b>5</b>	9	9
Sodium	ppm	ASTM D5185(m)		<b>10</b>	9	7
Potassium	ppm	ASTM D5185(m)	>20	<b>8</b>	1	<1

## INFRA-RED

method	limit/base	current	history1	history2		
Soot %	%	ASTM D7844*	>4	<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>11.6</b>	9.8	10.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>26.2</b>	22.1	20.5



# OIL ANALYSIS REPORT

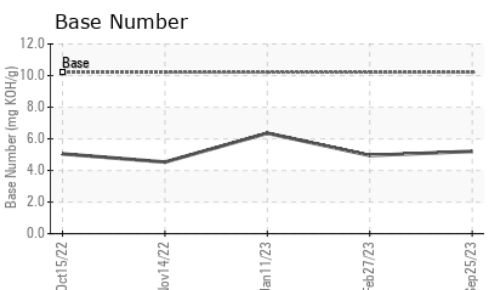
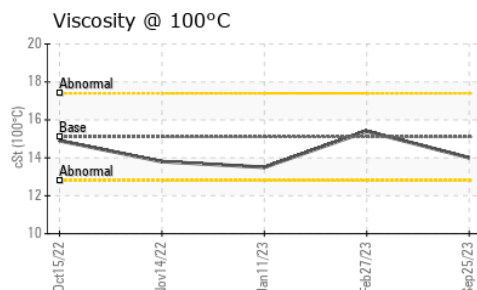
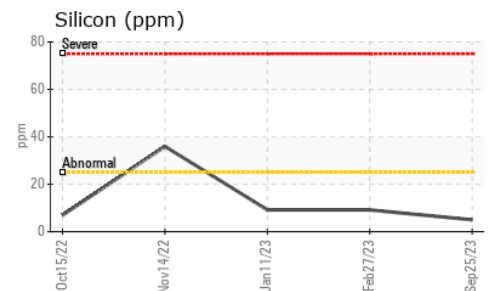
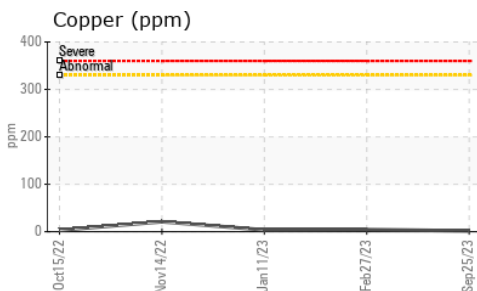
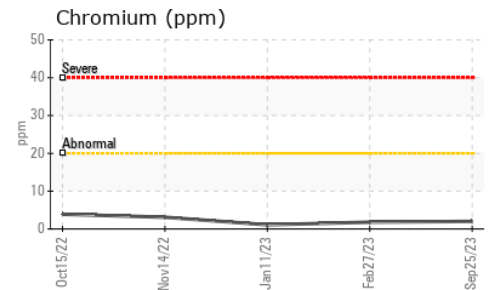
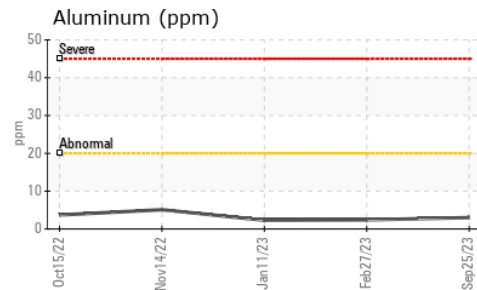
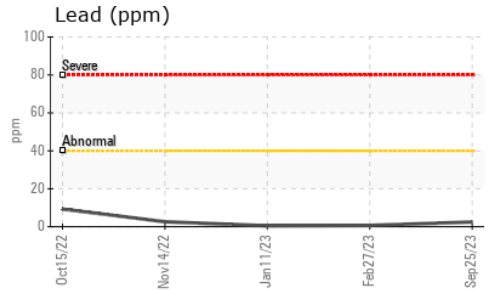
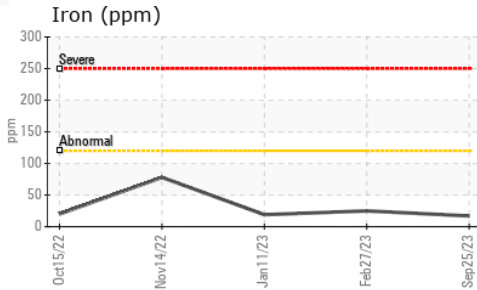


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>21.2</b>	15.5	17.2
Base Number (BN)	mg KOH/g	ASTM D2896*	10.2	<b>5.21</b>	4.95	6.36

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)	15.1	<b>14.0</b>	15.4	13.5

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County  
**Sample No.** : GFL0091631 **Received** : 05 Oct 2023 220 Carmek Blvd  
**Lab Number** : 02586976 **Diagnosed** : 06 Oct 2023 Rocky View County, AB  
**Unique Number** : 5656042 **Diagnostician** : Wes Davis CA T1X 1X1  
**Test Package** : MOB 2 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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