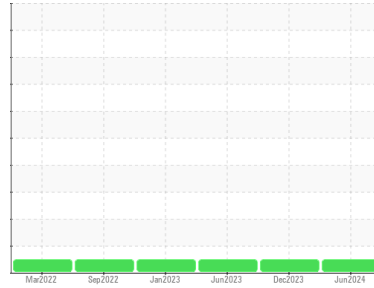




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id

**930022**

Component

**Natural Gas Engine**

Fluid

**PETRO CANADA DURON GEO LD 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 BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0117258</b>	GFL0099525	GFL0077584
Sample Date	Client Info		<b>12 Jun 2024</b>	13 Dec 2023	28 Jun 2023
Machine Age	hrs	Client Info	<b>6623</b>	0	4473
Oil Age	hrs	Client Info	<b>0</b>	113061	1071
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>50	<b>22</b>	16	15
Chromium	ppm	ASTM D5185(m)	>4	<b>2</b>	1	1
Nickel	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	1	<1
Titanium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>9	<b>3</b>	5	4
Lead	ppm	ASTM D5185(m)	>30	<b>&lt;1</b>	4	2
Copper	ppm	ASTM D5185(m)	>35	<b>1</b>	<1	1
Tin	ppm	ASTM D5185(m)	>4	<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>8</b>	8	6
Barium	ppm	ASTM D5185(m)	5	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	50	<b>55</b>	56	58
Manganese	ppm	ASTM D5185(m)	0	<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	560	<b>565</b>	598	614
Calcium	ppm	ASTM D5185(m)	1510	<b>1680</b>	1671	1705
Phosphorus	ppm	ASTM D5185(m)	780	<b>700</b>	756	790
Zinc	ppm	ASTM D5185(m)	870	<b>941</b>	939	964
Sulfur	ppm	ASTM D5185(m)	2040	<b>1989</b>	2105	2070
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>+100	<b>6</b>	6	8
Sodium	ppm	ASTM D5185(m)		<b>10</b>	9	10
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1

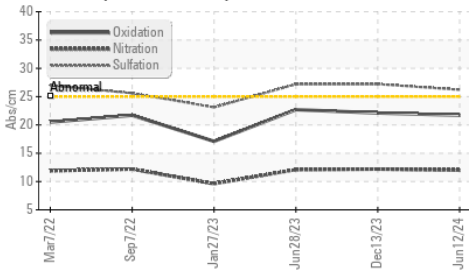
## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*		<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>12.0</b>	12.2	12.1
Sulfation	Abs./1mm	ASTM D7415*	>30	<b>26.2</b>	27.2	27.2

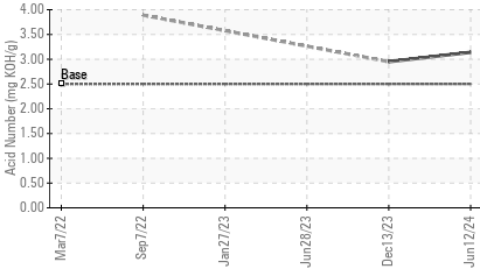


# OIL ANALYSIS REPORT

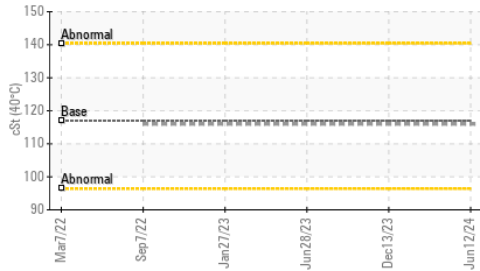
FT-IR (Direct Trend)



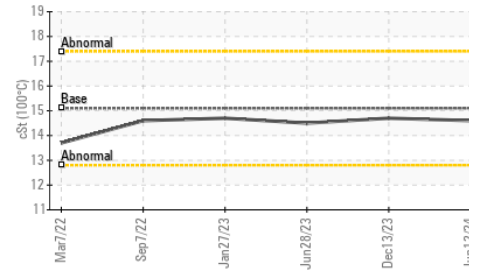
Acid Number



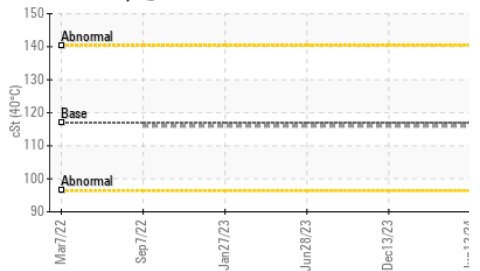
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C

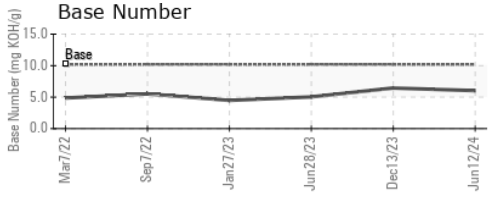
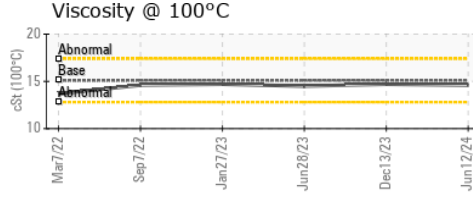
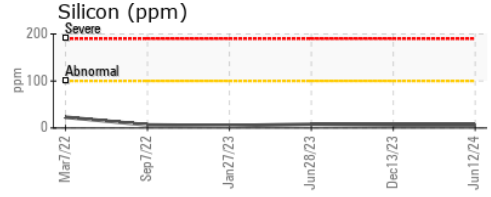
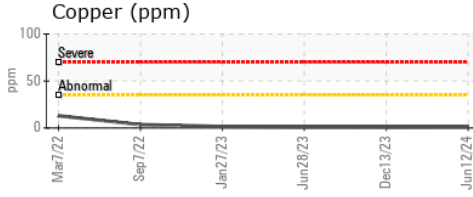
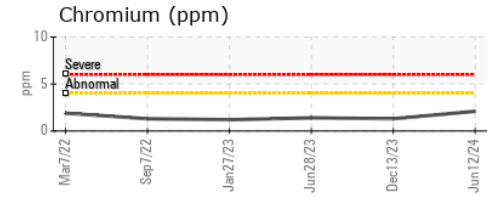
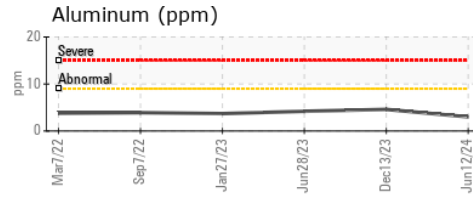
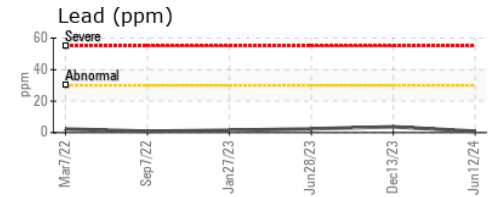
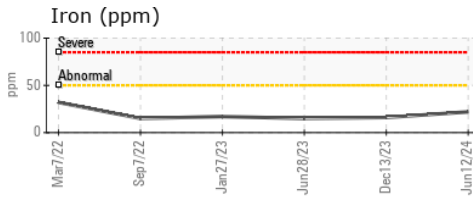


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>21.7</b>	22.1	22.7
Acid Number (AN)	mg KOH/g	ASTM D974*	2.5	<b>3.14</b>	2.95	---
Base Number (BN)	mg KOH/g	ASTM D2896*	10.2	<b>6.03</b>	6.45	5.04
i-pH	Scale 0-14	ASTM D7946*	<4.5	<b>4.94</b>	4.66	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>VLITE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	---	---
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	117.0	<b>116</b>	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	<b>14.6</b>	14.7	14.5
Viscosity Index (VI)	Scale	ASTM D2270*	134	<b>128</b>	---	---

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 550 - Rocky View County**  
**Sample No.** : GFL0117258 **Received** : 17 Jun 2024 **220 Carmek Blvd**  
**Lab Number** : **02642293** **Tested** : 18 Jun 2024 **Rocky View County, AB**  
**Unique Number** : 5799832 **Diagnosed** : 18 Jun 2024 - Wes Davis **CA T1X 1X1**  
**Test Package** : MOB 2 ( Additional Tests: i-pH, KV40, TAN Auto, TAN Man, VI, Visual ) **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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