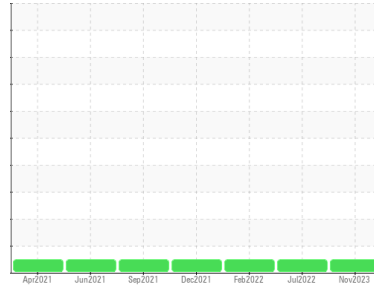




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**4509M**  
 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 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>GFL0089091</b>	GFL0055121	GFL0042380
Sample Date	Client Info		<b>22 Nov 2023</b>	12 Jul 2022	14 Feb 2022
Machine Age	hrs	Client Info	<b>10645</b>	8873	7738
Oil Age	hrs	Client Info	<b>0</b>	7738	7141
Oil Changed	Client Info		<b>Not Chngd</b>	Changed	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	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >90	<b>9</b>	46	47
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	2	2
Nickel	ppm	ASTM D5185m >2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m >20	<b>3</b>	8	4
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m >330	<b>2</b>	3	2
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185m	<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>8</b>	4	3
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>50</b>	68	59
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>840</b>	1035	975
Calcium	ppm	ASTM D5185m 1070	<b>1076</b>	1223	1143
Phosphorus	ppm	ASTM D5185m 1150	<b>1087</b>	1049	1027
Zinc	ppm	ASTM D5185m 1270	<b>1223</b>	1382	1213
Sulfur	ppm	ASTM D5185m 2060	<b>3156</b>	3539	2477

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>4</b>	10	8
Sodium	ppm	ASTM D5185m	<b>7</b>	8	7
Potassium	ppm	ASTM D5185m >20	<b>2</b>	2	0

## INFRA-RED

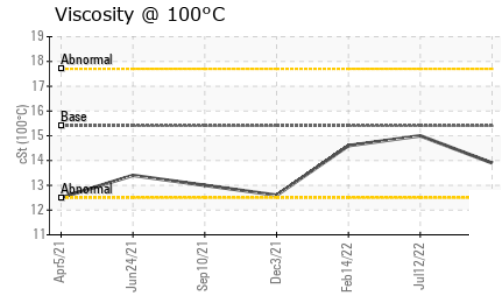
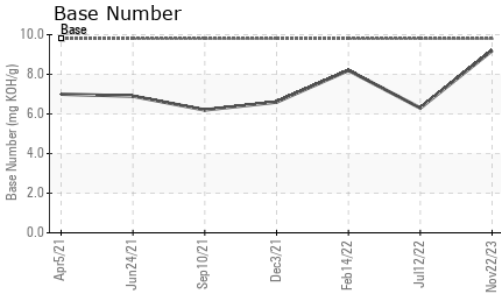
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	<b>0.3</b>	0.8	1
Nitration	Abs/cm	*ASTM D7624 >20	<b>6.0</b>	13.5	11.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>18.3</b>	26.9	24.0

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>13.7</b>	27.6	21.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>9.2</b>	6.3	8.2



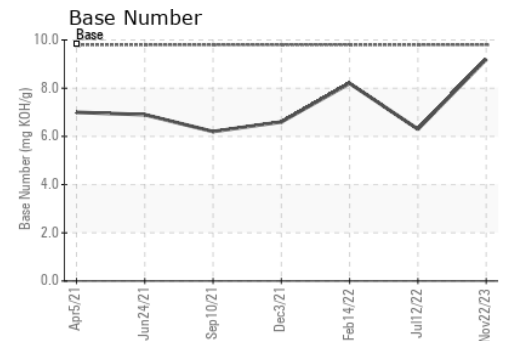
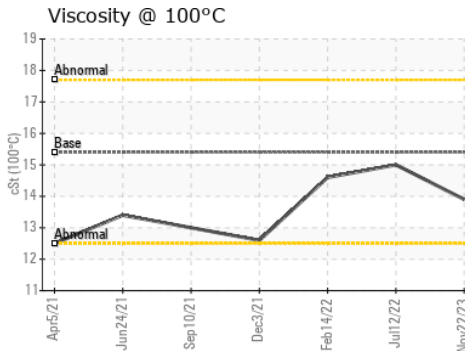
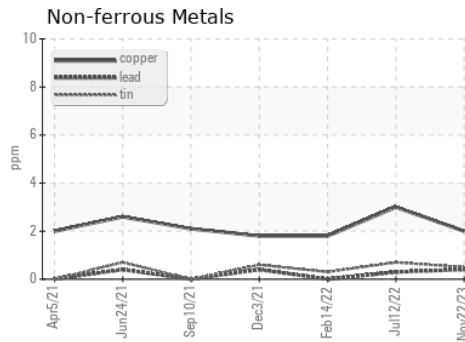
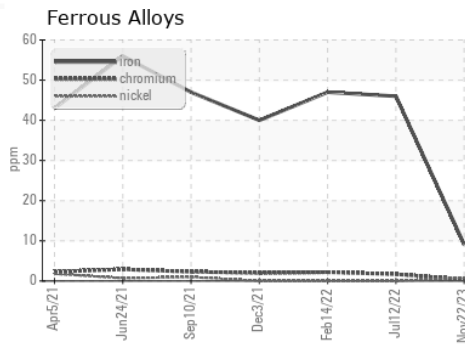
# OIL ANALYSIS REPORT



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
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 D445	15.4	13.9	15.0

## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0089091 Received : 27 Nov 2023  
 Lab Number : 06017727 Diagnosed : 28 Nov 2023  
 Unique Number : 10756871 Diagnostician : Wes Davis  
 Test Package : FLEET

GFL Environmental - 415 - Michigan East  
 6200 Elmridge  
 Sterling Heights, MI  
 US 48313  
 Contact: Frank Wolak  
 fwolak@gflenv.com  
 T: (586)825-9514  
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)