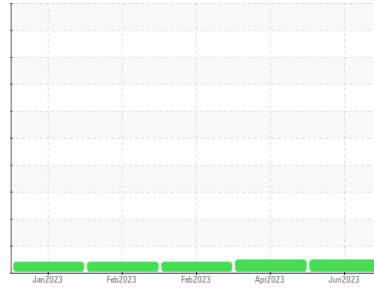




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id  
**913145**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

### DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. 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>GFL0083705</b>	GFL0075001	GFL0069464
Sample Date	Client Info			<b>27 Jun 2023</b>	28 Apr 2023	26 Feb 2023
Machine Age	hrs	Client Info		<b>1278</b>	895	509
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>Not Changed</b>	Not Changed	Not Changed
Sample Status				<b>NORMAL</b>	NORMAL	ATTENTION

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<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 D5185m	>110	<b>73</b>	24	64
Chromium	ppm	ASTM D5185m	>4	<b>2</b>	<1	2
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185m	>25	<b>53</b>	24	50
Lead	ppm	ASTM D5185m	>45	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>85	<b>15</b>	1	18
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<b>16</b>	0	35
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m	60	<b>21</b>	63	4
Manganese	ppm	ASTM D5185m	0	<b>3</b>	<1	3
Magnesium	ppm	ASTM D5185m	1010	<b>894</b>	975	717
Calcium	ppm	ASTM D5185m	1070	<b>1436</b>	1087	1416
Phosphorus	ppm	ASTM D5185m	1150	<b>863</b>	1069	713
Zinc	ppm	ASTM D5185m	1270	<b>1071</b>	1284	877
Sulfur	ppm	ASTM D5185m	2060	<b>3742</b>	2947	3045

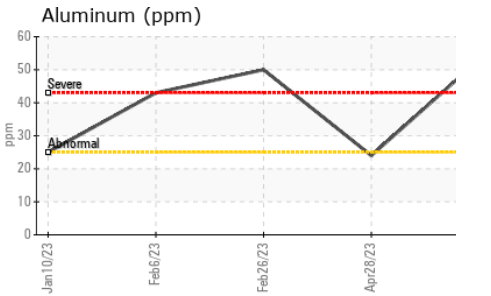
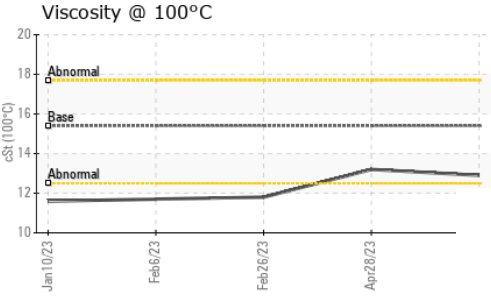
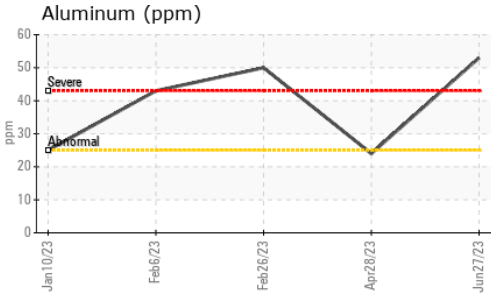
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	<b>18</b>	3	13
Sodium	ppm	ASTM D5185m		<b>4</b>	5	2
Potassium	ppm	ASTM D5185m	>20	<b>101</b>	39	104

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.3</b>	10.1	11.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.5</b>	21.0	23.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>22.0</b>	18.2	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>6.3</b>	7.4	6.3



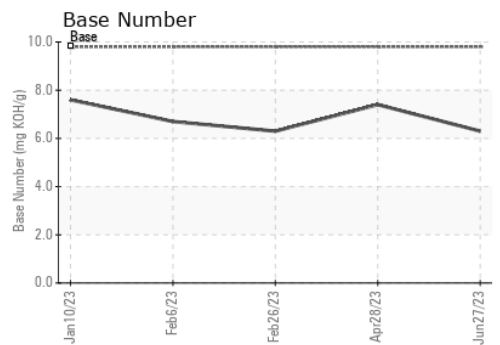
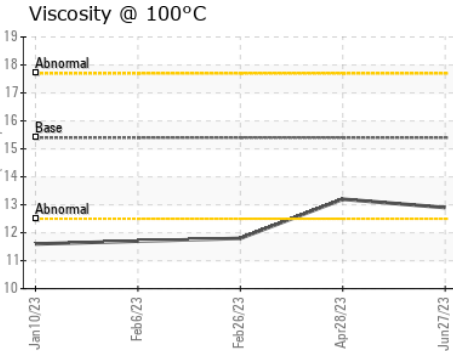
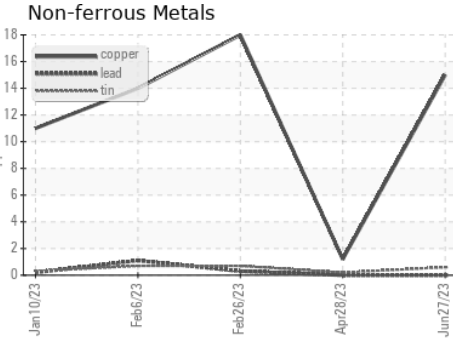
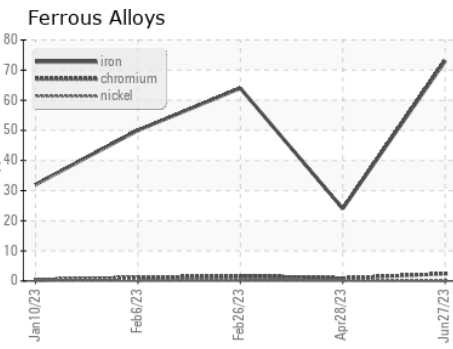
# OIL ANALYSIS REPORT



VISUAL	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	<b>12.9</b>	13.2 ▲ 11.8

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0083705 **Received** : 20 Jul 2023  
**Lab Number** : **05903599** **Diagnosed** : 24 Jul 2023  
**Unique Number** : 10564955 **Diagnostician** : Sean Felton  
**Test Package** : FLEET

**GFL Environmental - 844 - Princeton Hauling**  
 10129 Highway 62 West  
 Princeton, KY  
 US 42445  
 Contact: Kenneth Bigers  
 kbigers@gflenv.com  
 T: (270)970-0371  
 F:

Certificate L2367  
 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)