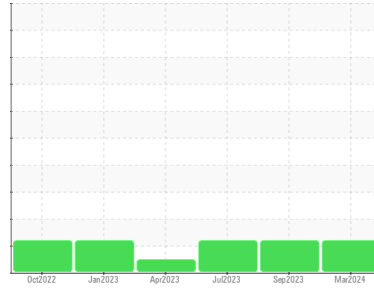




# OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id  
**926031-152524**

Component  
**Diesel Engine**

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

## DIAGNOSIS

### ● Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

### ▲ Wear

The copper level is marginal.

### Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

### ● Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	<b>GFL0106117</b>	GFL0078654	GFL0082088	
Sample Date	Client Info	<b>14 Mar 2024</b>	20 Sep 2023	20 Jul 2023	
Machine Age	hrs	Client Info	<b>0</b>	11464	11062
Oil Age	hrs	Client Info	<b>600</b>	500	600
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed	
Sample Status		<b>ATTENTION</b>	ATTENTION	ATTENTION	

## CONTAMINATION

method	limit/base	current	history1	history2	
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	>110	<b>77</b>	14	34
Chromium	ppm	ASTM D5185m	>4	<b>2</b>	1	1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>4</b>	2	<1
Lead	ppm	ASTM D5185m	>45	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>85	<b>80</b>	2	6
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</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>17</b>	12	9
Barium	ppm	ASTM D5185m	0	<b>4</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>59</b>	69	70
Manganese	ppm	ASTM D5185m	0	<b>4</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>716</b>	1011	1011
Calcium	ppm	ASTM D5185m	1070	<b>1540</b>	1171	1163
Phosphorus	ppm	ASTM D5185m	1150	<b>1167</b>	1120	1069
Zinc	ppm	ASTM D5185m	1270	<b>1392</b>	1344	1268
Sulfur	ppm	ASTM D5185m	2060	<b>3228</b>	3958	3726

## CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>30	<b>18</b>	5	4
Sodium	ppm	ASTM D5185m		<b>27</b>	70	120
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	0
Fuel	%	ASTM D3524	>5	<b>0.9</b>	<1.0	<1.0

## INFRA-RED

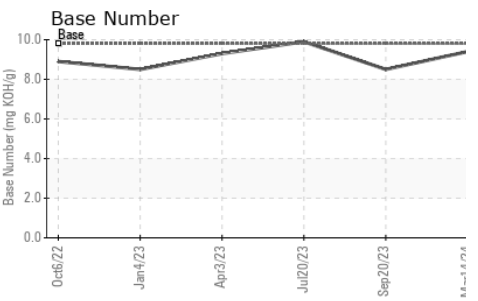
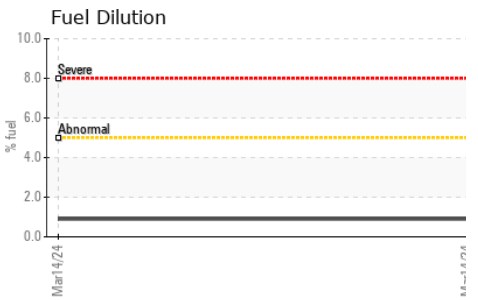
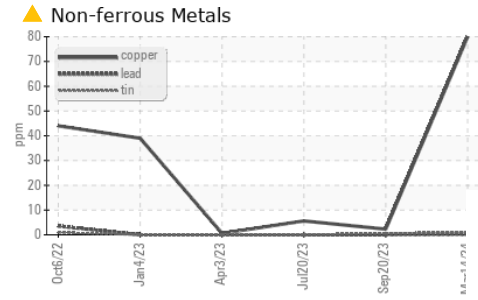
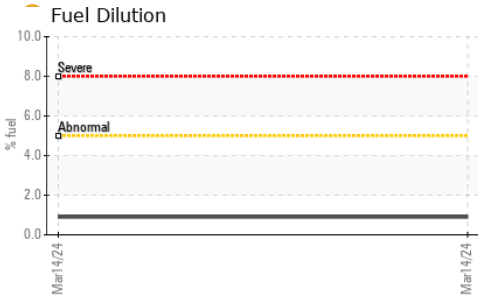
method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>3	<b>1</b>	0.5	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.2</b>	7.7	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.2</b>	19.3	19.8

## FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.2</b>	14.5	14.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>9.4</b>	8.5	9.9



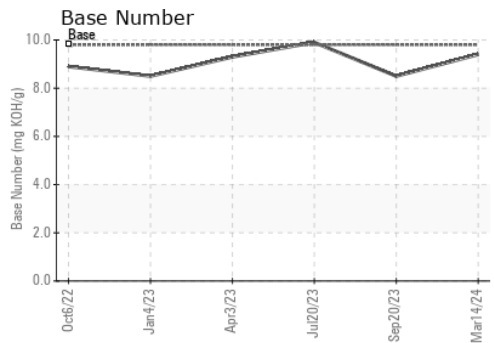
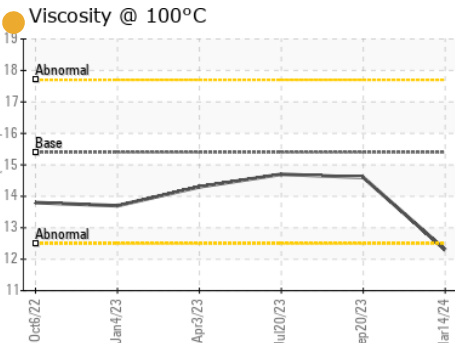
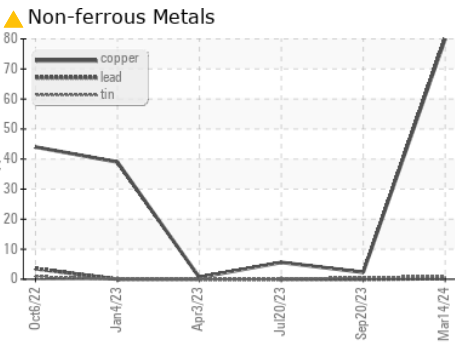
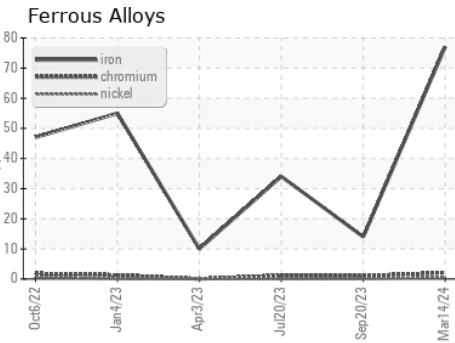
# OIL ANALYSIS REPORT



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	● 12.3	14.6	14.7

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0106117 **Received** : 21 Mar 2024  
**Lab Number** : 06125498 **Tested** : 26 Mar 2024  
**Unique Number** : 10939649 **Diagnosed** : 26 Mar 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 152 - Jacksonville**  
 7580 PHILIPS HWY  
 Jacksonville, FL  
 US 32256  
 Contact: GRANVILLE CARROLL  
 gcarroll@gflenv.com  
 T: 1(904)252-6815  
 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)