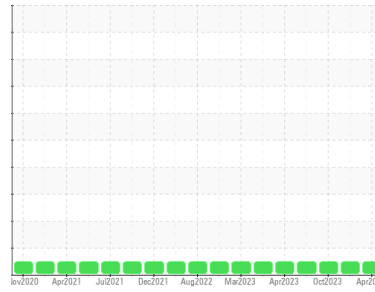




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id  
**825025-176**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (39 QTS)**

## 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>GFL0114607</b>	GFL0096507	GFL0090911
Sample Date	Client Info		<b>18 Apr 2024</b>	26 Feb 2024	19 Oct 2023
Machine Age	hrs	Client Info	<b>21113</b>	21078	20740
Oil Age	hrs	Client Info	<b>373</b>	338	491
Oil Changed	Client Info		<b>Changed</b>	Not Changd	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 >120	<b>8</b>	3	8
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m >2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>4</b>	2	3
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m >330	<b>4</b>	3	3
Tin	ppm	ASTM D5185m >15	<b>1</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>8</b>	9	9
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	3
Molybdenum	ppm	ASTM D5185m 60	<b>58</b>	55	63
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m 1010	<b>855</b>	855	897
Calcium	ppm	ASTM D5185m 1070	<b>1086</b>	1001	1068
Phosphorus	ppm	ASTM D5185m 1150	<b>1036</b>	1035	982
Zinc	ppm	ASTM D5185m 1270	<b>1167</b>	1195	1230
Sulfur	ppm	ASTM D5185m 2060	<b>3243</b>	3014	3286

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>6</b>	5	8
Sodium	ppm	ASTM D5185m	<b>2</b>	2	<1
Potassium	ppm	ASTM D5185m >20	<b>5</b>	2	10

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.5</b>	0.4	0.8
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.8</b>	7.9	9.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>18.5</b>	18.1	19.5

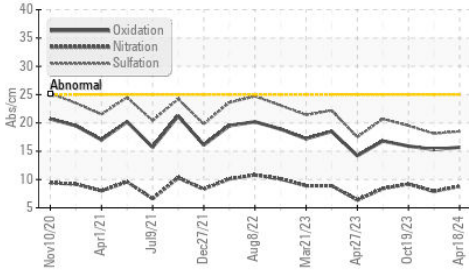
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.7</b>	15.3	15.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.0</b>	8.1	7.5

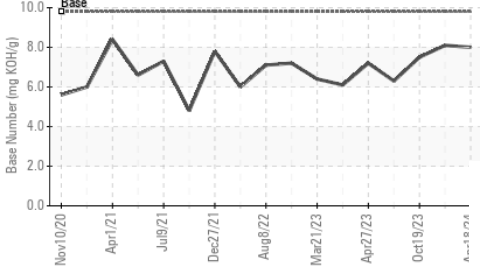


# OIL ANALYSIS REPORT

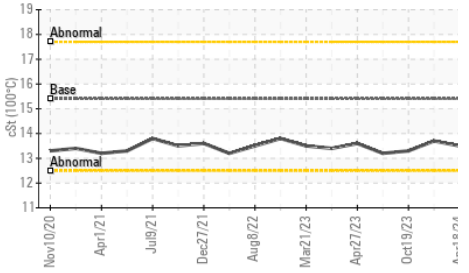
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

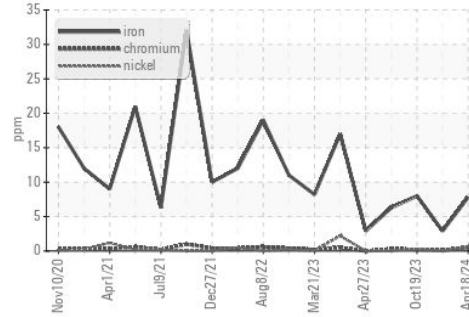


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

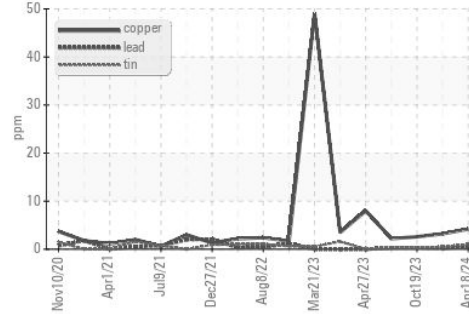
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.7

## GRAPHS

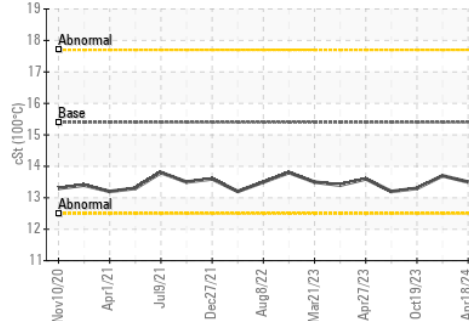
Ferrous Alloys



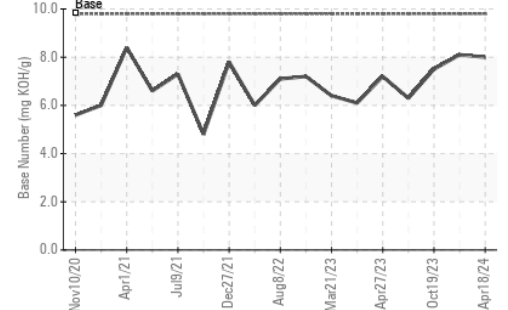
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0114607  
 Lab Number : 06156670  
 Unique Number : 10992093  
 Test Package : FLEET

Received : 22 Apr 2024  
 Tested : 23 Apr 2024  
 Diagnosed : 23 Apr 2024 - Wes Davis

GFL Environmental - 656 - Culpeper Hauling  
 15490 Montanus Drive  
 Culpeper, VA  
 US 22701  
 Contact: Matt Hanna  
 mhanna@gflenv.com  
 T: (540)727-0887  
 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)