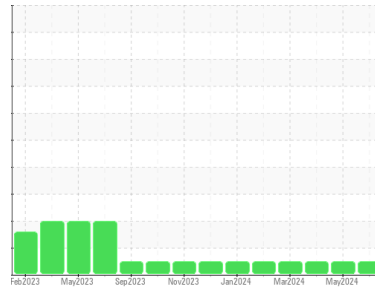




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**413027**

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>GFL0123011</b>	GFL0123032	GFL0115395
Sample Date	Client Info		<b>07 Jun 2024</b>	28 May 2024	04 Apr 2024
Machine Age	hrs	Client Info	<b>1712</b>	1641	1468
Oil Age	hrs	Client Info	<b>244</b>	173	183
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<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 >100	<b>19</b>	18	12
Chromium	ppm	ASTM D5185m >20	<b>1</b>	1	<1
Nickel	ppm	ASTM D5185m >4	<b>7</b>	7	6
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >3	<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185m >20	<b>6</b>	6	5
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m >330	<b>70</b>	80	70
Tin	ppm	ASTM D5185m >15	<b>2</b>	2	1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>4</b>	4	4
Barium	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	0
Molybdenum	ppm	ASTM D5185m 60	<b>60</b>	60	57
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>907</b>	915	905
Calcium	ppm	ASTM D5185m 1070	<b>1075</b>	1085	1074
Phosphorus	ppm	ASTM D5185m 1150	<b>1033</b>	1046	978
Zinc	ppm	ASTM D5185m 1270	<b>1193</b>	1202	1208
Sulfur	ppm	ASTM D5185m 2060	<b>2463</b>	2494	3159

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>9</b>	7	5
Sodium	ppm	ASTM D5185m	<b>4</b>	4	4
Potassium	ppm	ASTM D5185m >20	<b>18</b>	17	13

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.4</b>	0.3	0.3
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.1</b>	9.2	8.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>20.3</b>	20.2	19.7

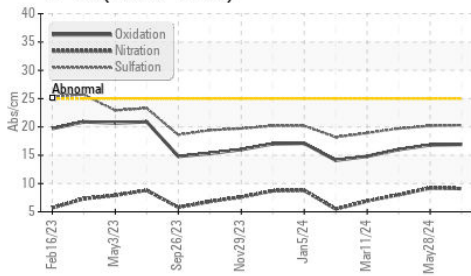
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>16.9</b>	16.8	16.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>6.4</b>	6.7	6.9

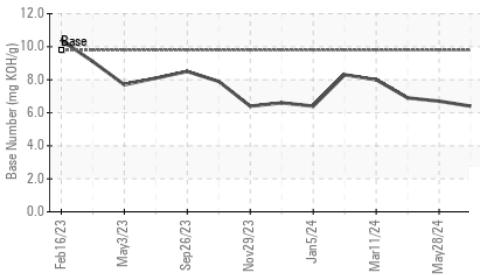


# OIL ANALYSIS REPORT

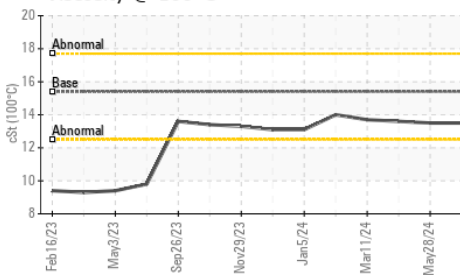
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

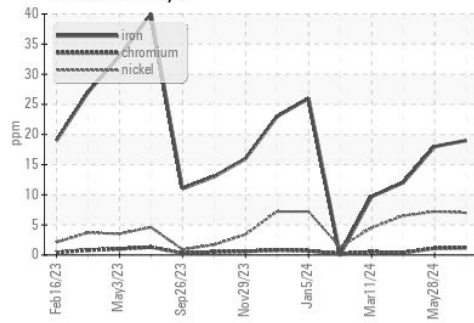


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

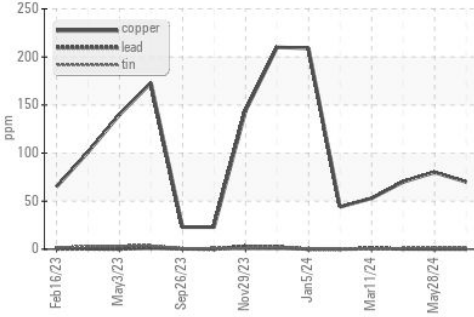
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.6

## GRAPHS

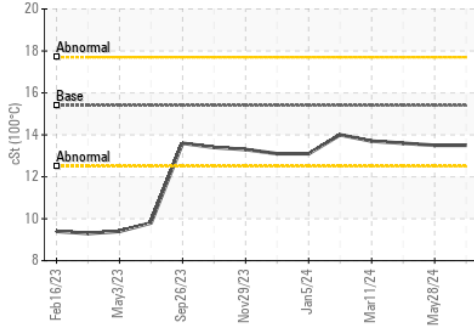
Ferrous Alloys



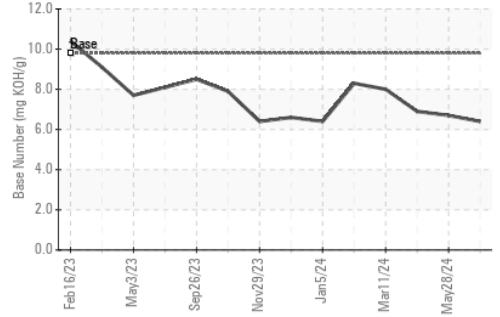
Non-ferrous Metals



Viscosity @ 100°C



Base Number



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0123011      **Received** : 17 Jun 2024  
**Lab Number** : 06212935      **Tested** : 19 Jun 2024  
**Unique Number** : 11085799      **Diagnosed** : 19 Jun 2024 - Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 814 - Little Rock Hauling**  
 4005 Hwy 161 N.  
 Little Rock, AR  
 US 72117  
 Contact: Brad Koenig  
 bkoenig@gflenv.com

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)