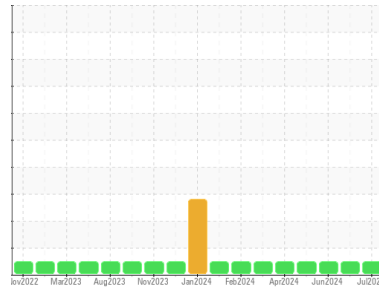




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**719005**

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>GFL0121449</b>	GFL0115799	GFL0115796
Sample Date	Client Info		<b>09 Jul 2024</b>	10 Jun 2024	10 Jun 2024
Machine Age	hrs	Client Info	<b>2477</b>	2352	2339
Oil Age	hrs	Client Info	<b>138</b>	13	1074
Oil Changed	Client Info		<b>N/A</b>	N/A	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>10</b>	39	37
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	1	<1
Nickel	ppm	ASTM D5185m >4	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >3	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m >20	<b>4</b>	6	6
Lead	ppm	ASTM D5185m >40	<b>0</b>	2	0
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	2	2
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	0
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>5</b>	6	8
Barium	ppm	ASTM D5185m 0	<b>0</b>	1	0
Molybdenum	ppm	ASTM D5185m 60	<b>63</b>	75	71
Manganese	ppm	ASTM D5185m 0	<b>0</b>	1	1
Magnesium	ppm	ASTM D5185m 1010	<b>869</b>	950	980
Calcium	ppm	ASTM D5185m 1070	<b>1076</b>	1186	1217
Phosphorus	ppm	ASTM D5185m 1150	<b>980</b>	1060	1116
Zinc	ppm	ASTM D5185m 1270	<b>1196</b>	1290	1363
Sulfur	ppm	ASTM D5185m 2060	<b>2823</b>	2909	3448

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>3</b>	7	7
Sodium	ppm	ASTM D5185m	<b>0</b>	<1	2
Potassium	ppm	ASTM D5185m >20	<b>2</b>	5	5

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.3</b>	1	1
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.1</b>	11.1	10.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.3</b>	22.3	22.3

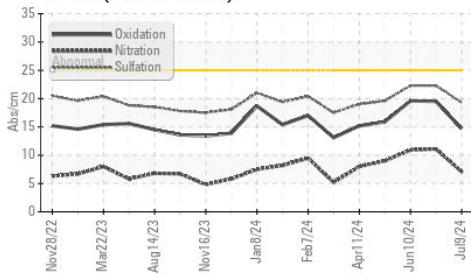
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.7</b>	19.5	19.6
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.9</b>	6.5	6.4

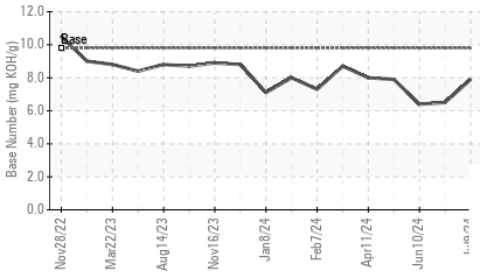


# OIL ANALYSIS REPORT

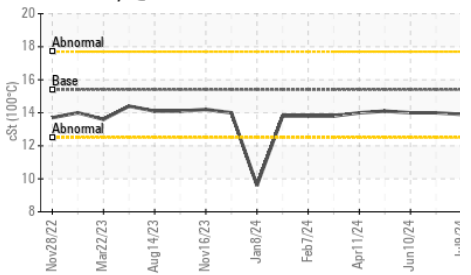
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

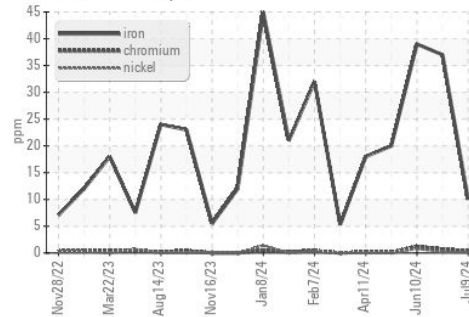


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

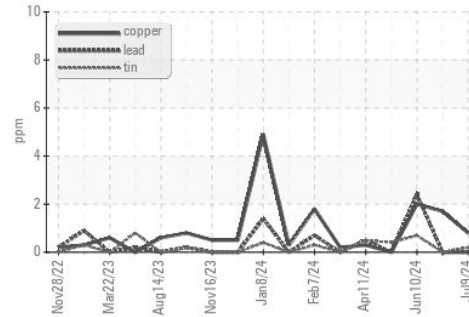
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.0

## GRAPHS

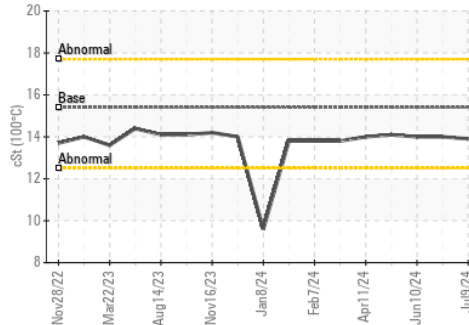
Ferrous Alloys



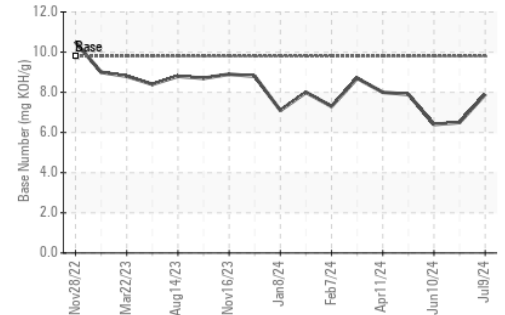
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0121449  
**Lab Number** : 06239851  
**Unique Number** : 11128685  
**Test Package** : FLEET

**Received** : 18 Jul 2024  
**Tested** : 18 Jul 2024  
**Diagnosed** : 18 Jul 2024 - Wes Davis

GFL Environmental - 868 - Childersburg Fines Hauling (Alpine)  
 13737 Plant Rd  
 Childersburg, AL  
 US 35044

Contact: JONATHAN WILLIAMS  
 jonathan.williams@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)

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F: