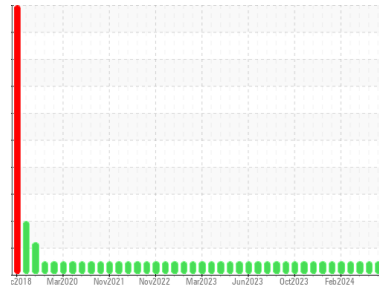




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**2729**

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>GFL0098917</b>	GFL0098897	GFL0098890
Sample Date	Client Info		<b>31 May 2024</b>	07 May 2024	16 Apr 2024
Machine Age	mls	Client Info	<b>330924</b>	328555	326005
Oil Age	mls	Client Info	<b>328555</b>	328555	326005
Oil Changed	Client Info		<b>N/A</b>	Changed	N/A
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 >165	<b>22</b>	18	15
Chromium	ppm	ASTM D5185m >5	<b>&lt;1</b>	0	1
Nickel	ppm	ASTM D5185m >4	<b>0</b>	0	1
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >20	<b>4</b>	<1	2
Lead	ppm	ASTM D5185m >150	<b>2</b>	<1	2
Copper	ppm	ASTM D5185m >90	<b>1</b>	0	5
Tin	ppm	ASTM D5185m >5	<b>&lt;1</b>	0	1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>3</b>	0	6
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m 60	<b>58</b>	59	63
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	1
Magnesium	ppm	ASTM D5185m 1010	<b>924</b>	928	878
Calcium	ppm	ASTM D5185m 1070	<b>1250</b>	1332	1227
Phosphorus	ppm	ASTM D5185m 1150	<b>1097</b>	1066	1000
Zinc	ppm	ASTM D5185m 1270	<b>1296</b>	1300	1233
Sulfur	ppm	ASTM D5185m 2060	<b>3483</b>	3373	3328

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >35	<b>8</b>	4	6
Sodium	ppm	ASTM D5185m	<b>6</b>	5	3
Potassium	ppm	ASTM D5185m >20	<b>5</b>	<1	4

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >7.5	<b>0.4</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624 >20	<b>10.4</b>	10.0	8.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.9</b>	20.8	19.8

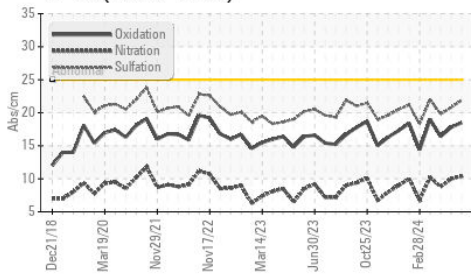
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>18.5</b>	17.8	16.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.0</b>	6.8	7.3

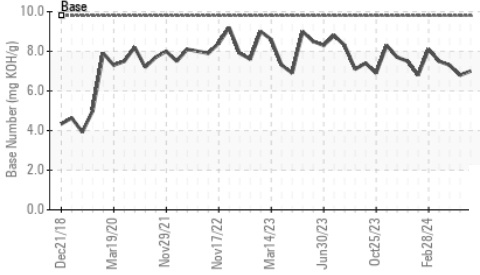


# OIL ANALYSIS REPORT

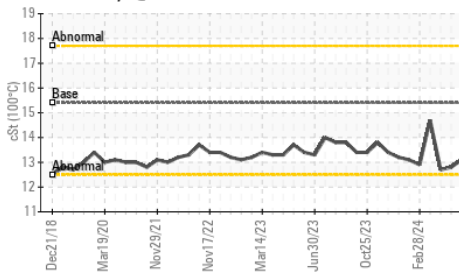
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C



## VISUAL

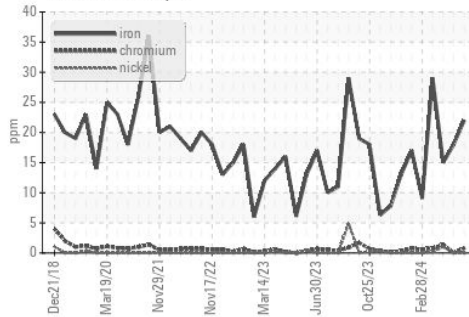
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar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

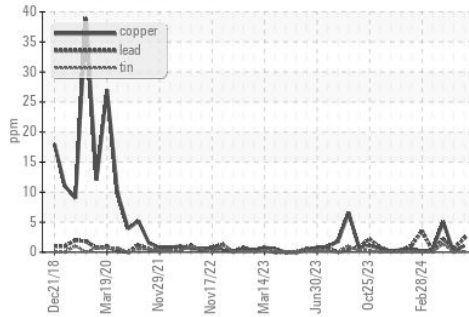
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.1	12.8

## GRAPHS

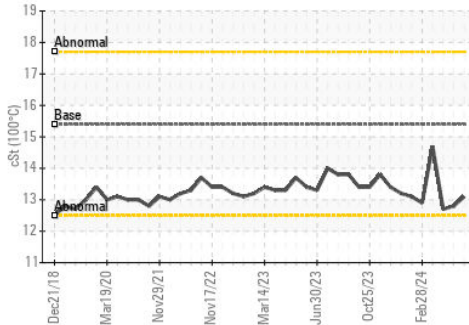
Ferrous Alloys



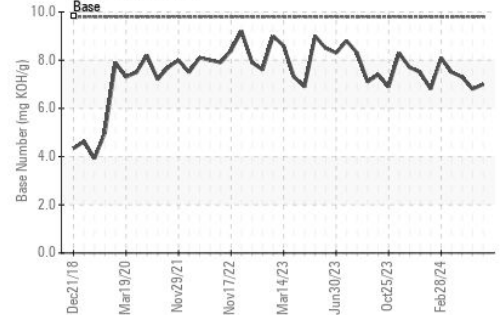
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0098917  
 Lab Number : 06212758  
 Unique Number : 11085622  
 Test Package : FLEET

Received : 17 Jun 2024  
 Tested : 19 Jun 2024  
 Diagnosed : 19 Jun 2024 - Wes Davis

GFL Environmental - 084 - Clarksville  
 699 Jack Miller Boulevard  
 Clarksville, TN  
 US 37042

Contact: ROBERT THIBAUT  
 robert.thibault@gflenv.com

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F: (931)572-9674

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)