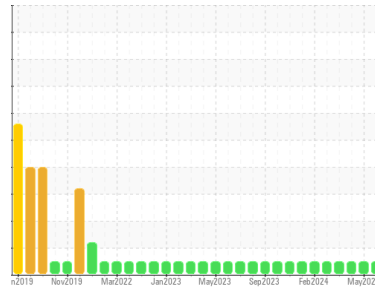




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**725047-310032**

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>GFL0124070</b>	GFL0120157	GFL0117251
Sample Date	Client Info		<b>24 Jun 2024</b>	28 May 2024	02 May 2024
Machine Age	hrs	Client Info	<b>19303</b>	19148	19008
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Not Changed</b>	Not Changed	Not 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 >110	<b>20</b>	4	5
Chromium	ppm	ASTM D5185m >4	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m >2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>2</b>	2	1
Lead	ppm	ASTM D5185m >45	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m >85	<b>&lt;1</b>	<1	0
Tin	ppm	ASTM D5185m >4	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>2</b>	2	2
Barium	ppm	ASTM D5185m 0	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m 60	<b>60</b>	62	60
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m 1010	<b>996</b>	960	959
Calcium	ppm	ASTM D5185m 1070	<b>1171</b>	1139	1087
Phosphorus	ppm	ASTM D5185m 1150	<b>1074</b>	1130	1051
Zinc	ppm	ASTM D5185m 1270	<b>1359</b>	1250	1262
Sulfur	ppm	ASTM D5185m 2060	<b>3600</b>	3410	3560

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	<b>4</b>	12	2
Sodium	ppm	ASTM D5185m	<b>21</b>	2	9
Potassium	ppm	ASTM D5185m >20	<b>3</b>	2	1

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.6</b>	0.3	0.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>10.4</b>	8.0	6.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.0</b>	18.9	18.4

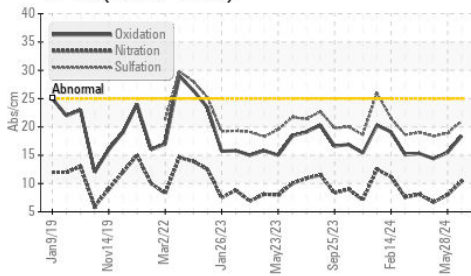
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>18.4</b>	15.5	14.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.0</b>	6.5	8.2

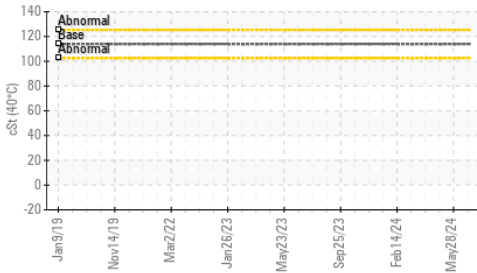


# OIL ANALYSIS REPORT

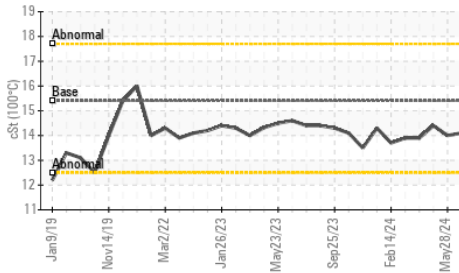
FT-IR (Direct Trend)



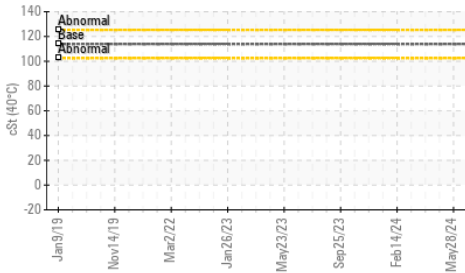
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C

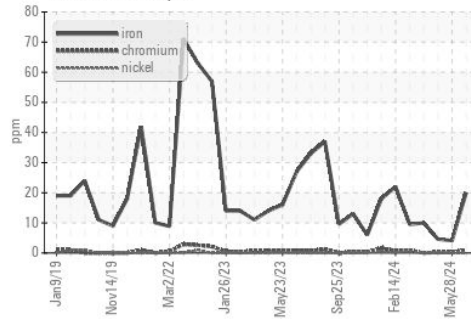


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

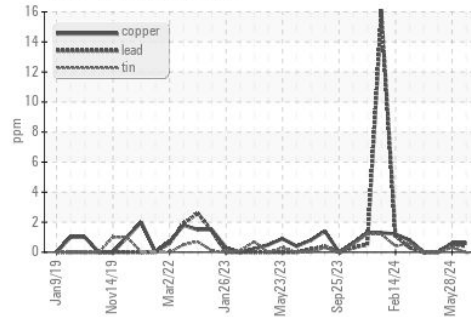
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	14.0

## GRAPHS

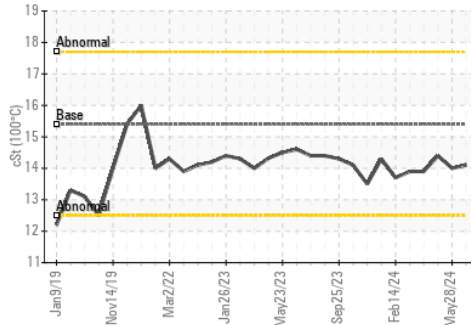
Ferrous Alloys



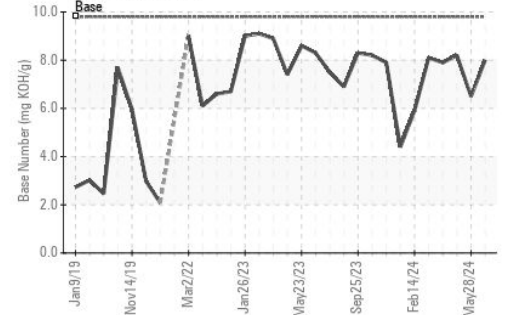
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0124070

Lab Number : 06223334

Unique Number : 11101531

Test Package : FLEET ( Additional Tests: KV40 )

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)

Received : 28 Jun 2024

Tested : 01 Jul 2024

Diagnosed : 01 Jul 2024 - Don Baldrige

GFL Environmental - 836 - Kansas City Hauling

7801 East Truman Road

Kansas City, MO

US 64126

Contact: Loyce Stewart

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T:

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