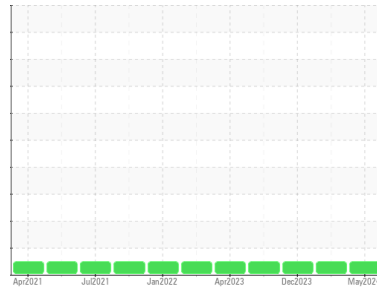




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**640M**  
 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>GFL0117628</b>	GFL0108929	GFL0105778
Sample Date	Client Info		<b>07 May 2024</b>	30 Jan 2024	18 Dec 2023
Machine Age	hrs	Client Info	<b>10337</b>	9561	9158
Oil Age	hrs	Client Info	<b>9561</b>	9158	8312
Oil Changed	Client Info		<b>Not Changed</b>	Changed	Not 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>	25	2
Chromium	ppm	ASTM D5185m >20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>1</b>	3	2
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	3	0
Copper	ppm	ASTM D5185m >330	<b>0</b>	2	11
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>0</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>1</b>	2	12
Barium	ppm	ASTM D5185m 0	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m 60	<b>57</b>	59	58
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m 1010	<b>910</b>	905	877
Calcium	ppm	ASTM D5185m 1070	<b>1057</b>	1025	972
Phosphorus	ppm	ASTM D5185m 1150	<b>1023</b>	922	836
Zinc	ppm	ASTM D5185m 1270	<b>1208</b>	1216	1117
Sulfur	ppm	ASTM D5185m 2060	<b>3262</b>	2172	2820

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>3</b>	3	8
Sodium	ppm	ASTM D5185m	<b>3</b>	4	0
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	1

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.5</b>	1.9	0.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>6.8</b>	9.9	4.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.2</b>	23.7	17.6

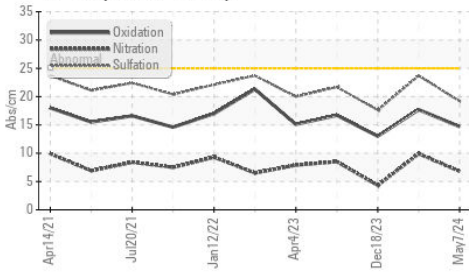
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.7</b>	17.7	13.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.9</b>	4.2	9.2

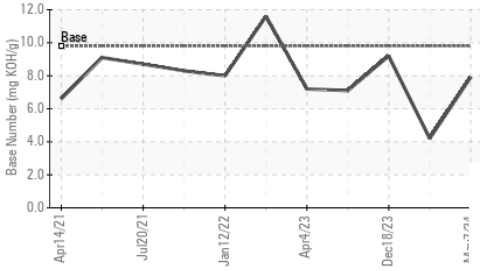


# OIL ANALYSIS REPORT

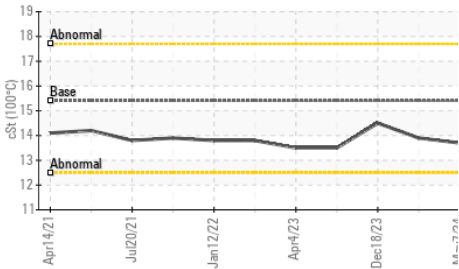
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

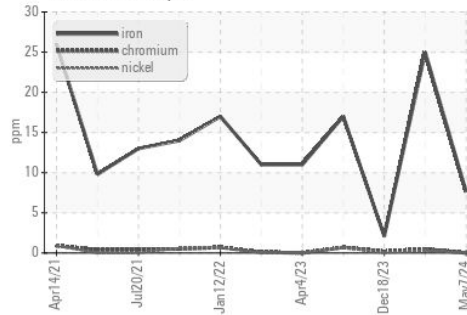


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

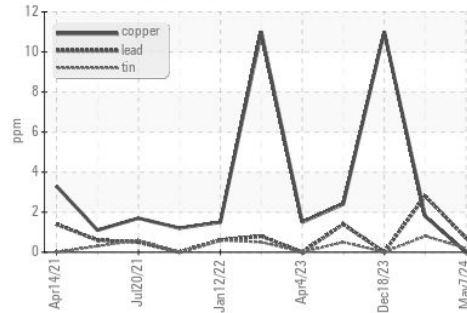
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.7	13.9

## GRAPHS

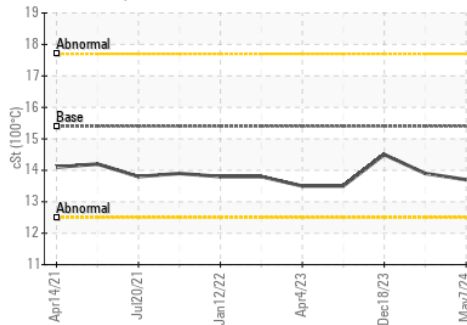
Ferrous Alloys



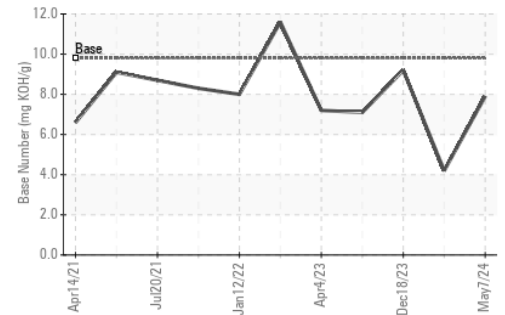
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0117628  
 Lab Number : 06175198  
 Unique Number : 11021251  
 Test Package : FLEET

Received : 10 May 2024  
 Tested : 11 May 2024  
 Diagnosed : 11 May 2024 - Wes Davis

GFL Environmental - 415 - Michigan East  
 6200 Elmridge  
 Sterling Heights, MI  
 US 48313  
 Contact: Frank Wolak  
 fwolak@gflenv.com  
 T: (586)825-9514  
 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)