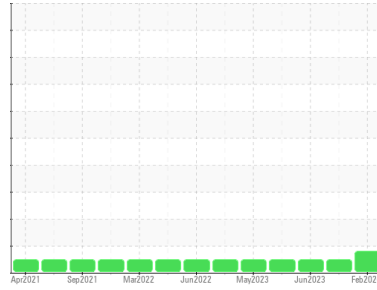




# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id  
**604M**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

**Recommendation**  
 Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

**Wear**  
 Valve wear is indicated. All other 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>GFL0107709</b>	GFL0091498	GFL0082776
Sample Date	Client Info		<b>05 Feb 2024</b>	12 Sep 2023	01 Jun 2023
Machine Age	hrs	Client Info	<b>13784</b>	13663	5747
Oil Age	hrs	Client Info	<b>600</b>	600	600
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</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>22</b>	21	5
Chromium	ppm	ASTM D5185m >20	<b>2</b>	<1	0
Nickel	ppm	ASTM D5185m >5	<b>▲ 9</b>	1	0
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	1	1
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m >330	<b>3</b>	<1	<1
Tin	ppm	ASTM D5185m >15	<b>1</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>1</b>	3	3
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>68</b>	60	56
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>1061</b>	1026	905
Calcium	ppm	ASTM D5185m 1070	<b>1194</b>	1166	1055
Phosphorus	ppm	ASTM D5185m 1150	<b>1032</b>	1047	931
Zinc	ppm	ASTM D5185m 1270	<b>1357</b>	1319	1197
Sulfur	ppm	ASTM D5185m 2060	<b>2866</b>	3789	3390

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>6</b>	4	4
Sodium	ppm	ASTM D5185m	<b>&lt;1</b>	3	2
Potassium	ppm	ASTM D5185m >20	<b>2</b>	2	<1

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.8</b>	0.3	0.4
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.5</b>	5.7	6.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>20.9</b>	18.0	19.0

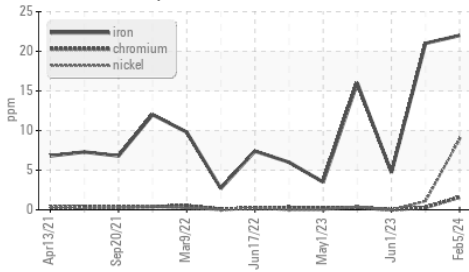
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>16.4</b>	13.8	13.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>5.9</b>	8.4	8.5

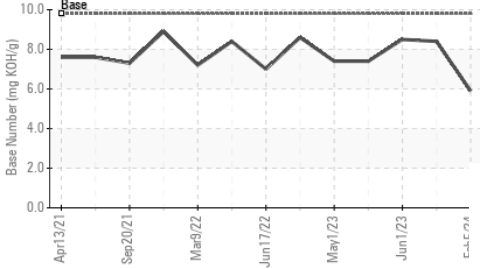


# OIL ANALYSIS REPORT

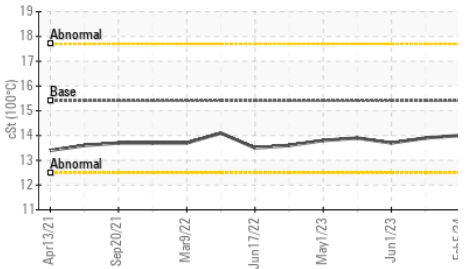
### ▲ Ferrous Alloys



### Base Number



### Viscosity @ 100°C

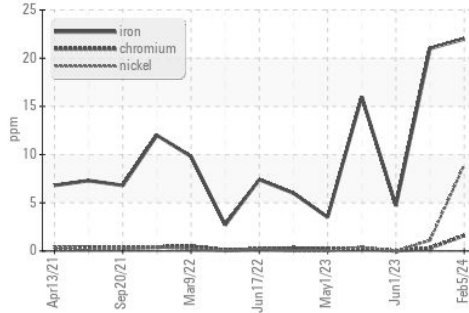


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

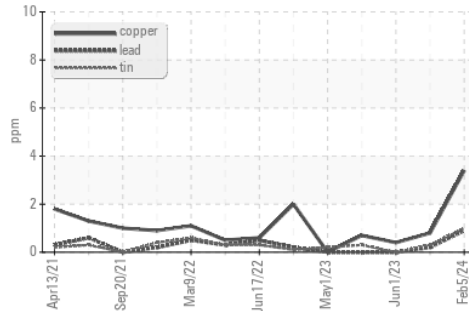
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	13.9

### GRAPHS

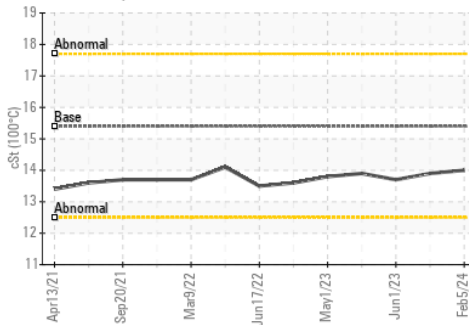
#### ▲ Ferrous Alloys



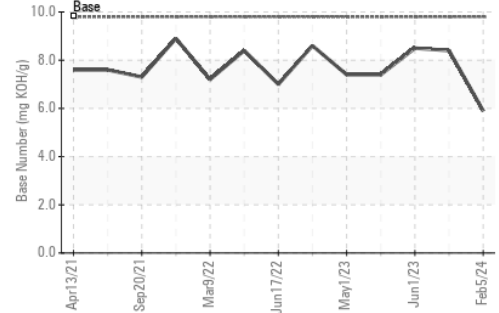
#### Non-ferrous Metals



#### Viscosity @ 100°C



#### Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0107709  
**Lab Number** : 06085266  
**Unique Number** : 10872711  
**Test Package** : FLEET  
**Received** : 09 Feb 2024  
**Tested** : 12 Feb 2024  
**Diagnosed** : 12 Feb 2024 - Don Baldrige

**GFL Environmental - 465 - Pontiac**  
 888 Baldwin  
 Pontiac, MI  
 US 48340

Contact: Ricky Matthews  
 rickymathews@gflenv.com  
 T: (586)825-9514

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)