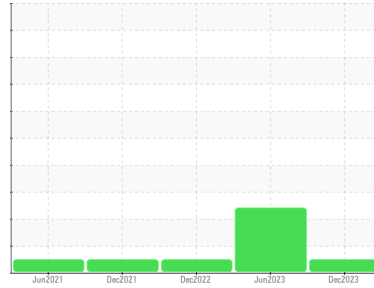




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**528M**  
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

Tests indicate that there is no fuel present in the oil. 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>GFL0105729</b>	GFL0081415	GFL0064054	
Sample Date	Client Info	<b>18 Dec 2023</b>	08 Jun 2023	14 Dec 2022	
Machine Age	hrs	Client Info	<b>10557</b>	10127	9587
Oil Age	hrs	Client Info	<b>10127</b>	9587	7916
Oil Changed	Client Info	<b>Not Chngd</b>	Changed	Changed	
Sample Status		<b>NORMAL</b>	ABNORMAL	NORMAL	

## CONTAMINATION

method	limit/base	current	history1	history2	
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	>90	<b>4</b>	51	33
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	3	2
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	2	2
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	2
Lead	ppm	ASTM D5185m	>40	<b>0</b>	2	<1
Copper	ppm	ASTM D5185m	>330	<b>12</b>	1	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
Antimony	ppm	ASTM D5185m		<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	0	<b>18</b>	2	12
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>60</b>	59	56
Manganese	ppm	ASTM D5185m	0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>870</b>	789	860
Calcium	ppm	ASTM D5185m	1070	<b>975</b>	942	1050
Phosphorus	ppm	ASTM D5185m	1150	<b>821</b>	901	958
Zinc	ppm	ASTM D5185m	1270	<b>1102</b>	1087	1197
Sulfur	ppm	ASTM D5185m	2060	<b>2879</b>	2789	3349

## CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>25	<b>9</b>	15	13
Sodium	ppm	ASTM D5185m		<b>0</b>	▲ 107	10
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	0
Fuel	%	ASTM D3524	>3.0	<b>0.0</b>	▲ 7.6	<1.0

## INFRA-RED

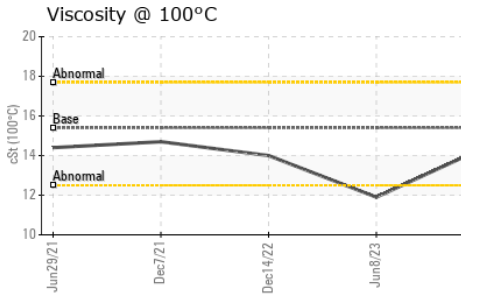
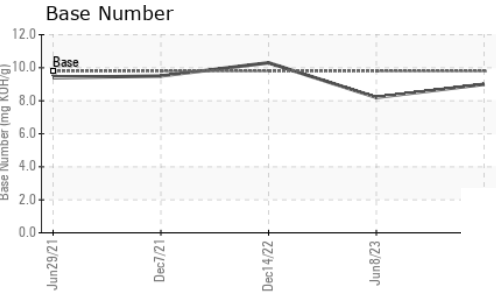
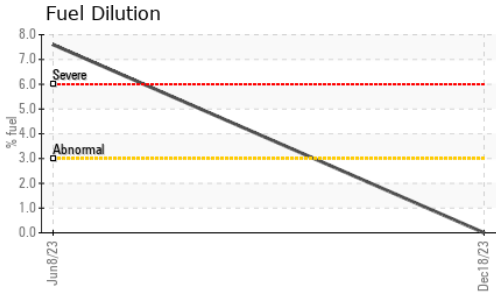
method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>6	<b>0.1</b>	0.9	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>4.5</b>	10.4	7.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.8</b>	21.0	19.4

## FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.3</b>	17.8	14.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>9.0</b>	8.2	10.3



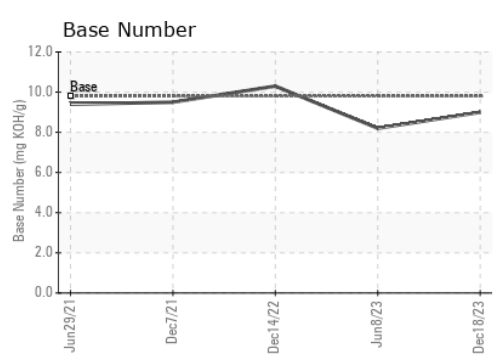
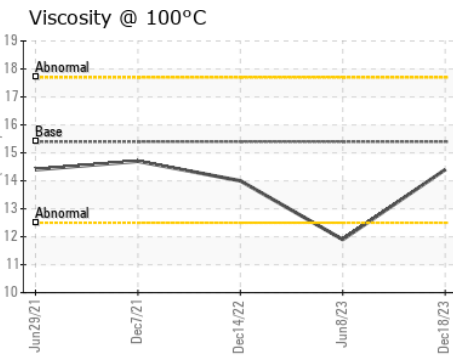
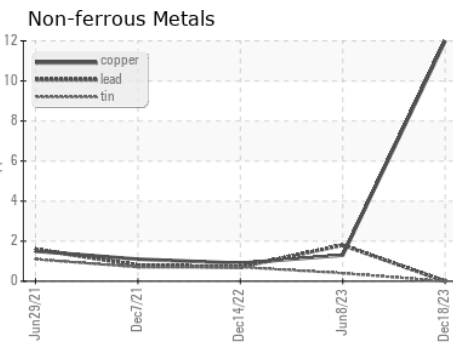
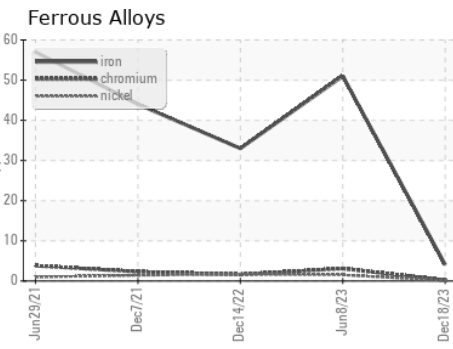
# OIL ANALYSIS REPORT



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	<b>14.4</b>	▲ 11.9	14.0

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0105729 **Received** : 20 Dec 2023  
**Lab Number** : **06040238** **Diagnosed** : 22 Dec 2023  
**Unique Number** : 10795467 **Diagnostician** : Wes Davis  
**Test Package** : FLEET ( Additional Tests: PercentFuel )

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

Certificate L2367  
 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)