



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>ABNORMAL</b>
FLUID CONDITION	<b>ABNORMAL</b>



Machine Id  
**4566M**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0108810</b>	GFL0105680	GFL0105785
Sample Date		Client Info		<b>08 Jan 2024</b>	26 Dec 2023	22 Dec 2023
Machine Age	hrs	Client Info		<b>19215</b>	19342	19213
Oil Age	hrs	Client Info		<b>19342</b>	17455	17455
Filter Age	hrs	Client Info		<b>12075</b>	12075	17455
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>63</b>	6	1
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<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>4</b>	6	2
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>21</b>	<1	0
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

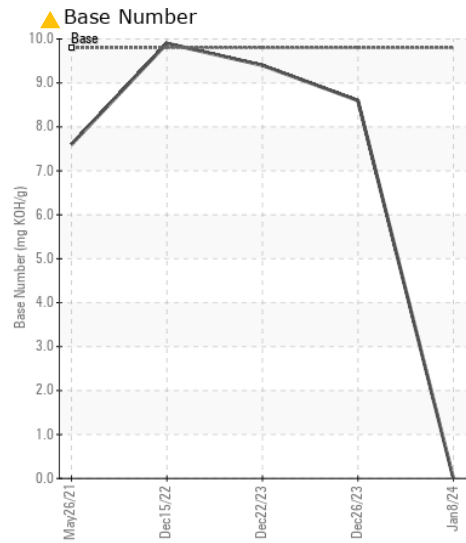
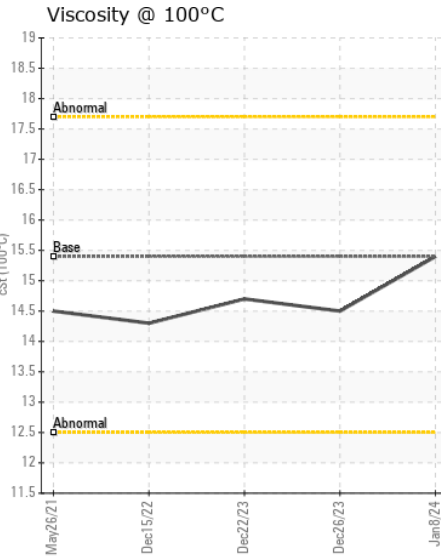
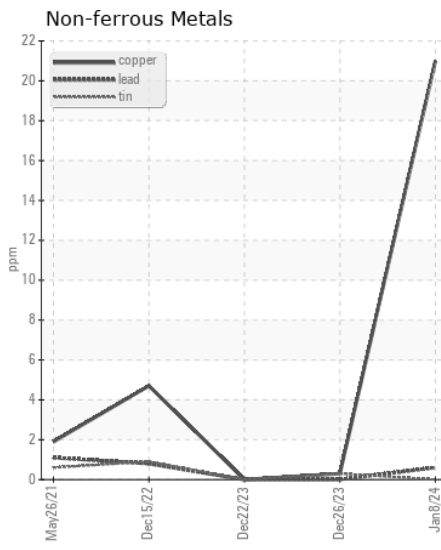
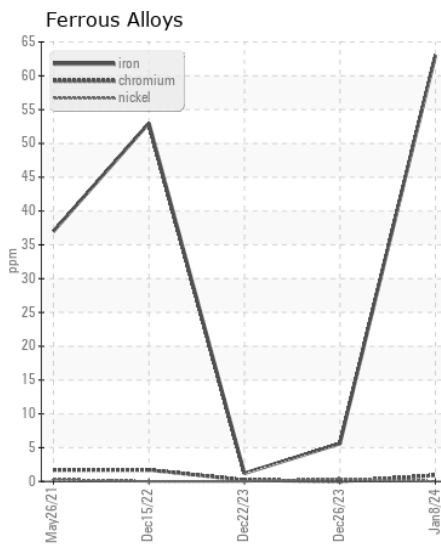
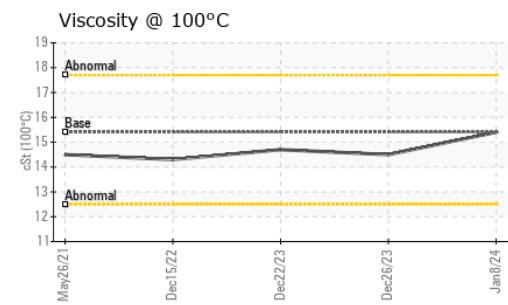
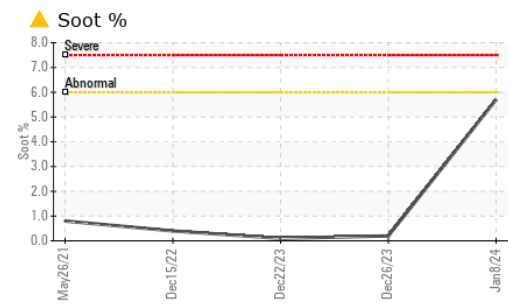
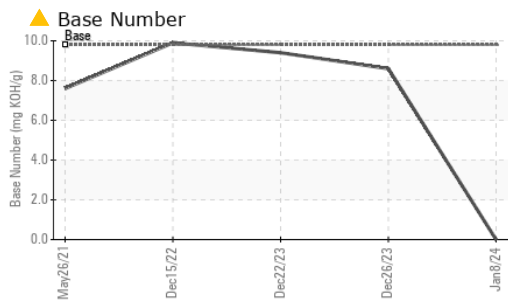
There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>6</b>	3	5
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	2
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
Soot %	%	*ASTM D7844	>6	<b>▲ 5.7</b>	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>17.3</b>	5.2	4.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>32.2</b>	18.1	17.5
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The BN level is low.

Sodium	ppm	ASTM D5185m		<b>8</b>	<1	22
Boron	ppm	ASTM D5185m	0	<b>&lt;1</b>	1	2
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>53</b>	57	57
Manganese	ppm	ASTM D5185m	0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m	1010	<b>870</b>	979	887
Calcium	ppm	ASTM D5185m	1070	<b>978</b>	1094	989
Phosphorus	ppm	ASTM D5185m	1150	<b>866</b>	1042	956
Zinc	ppm	ASTM D5185m	1270	<b>1207</b>	1233	1149
Sulfur	ppm	ASTM D5185m	2060	<b>2293</b>	3132	3265
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>22.5</b>	13.8	12.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>▲ 0.0</b>	8.6	9.4
Visc @ 100°C	cSt	ASTM D445	15.4	<b>15.4</b>	14.5	14.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0108810 **Received** : 11 Jan 2024  
**Lab Number** : 06057703 **Diagnosed** : 12 Jan 2024  
**Unique Number** : 10823652 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 415 - Michigan East**  
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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)