



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



Machine Id  
**729076**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0116051</b>	GFL0116035	GFL0097483
Sample Date		Client Info		<b>12 Jun 2024</b>	03 Apr 2024	05 Jan 2024
Machine Age	hrs	Client Info		<b>14014</b>	13684	13138
Oil Age	hrs	Client Info		<b>0</b>	129725	129725
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	MARGINAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>11</b>	16	13
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>2</b>	<1	1
Lead	ppm	ASTM D5185m	>30	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>150	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m	>5	<b>0</b>	0	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 no indication of any contamination in the oil.

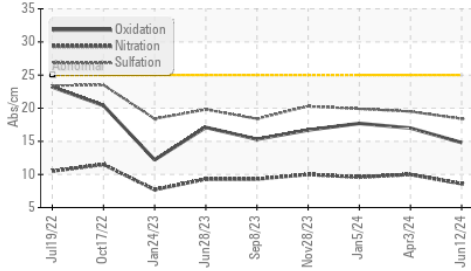
Silicon	ppm	ASTM D5185m	>20	<b>5</b>	6	3
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	<1	2
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	▲ 2.1
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.6</b>	10.0	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.4</b>	19.5	19.9
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**

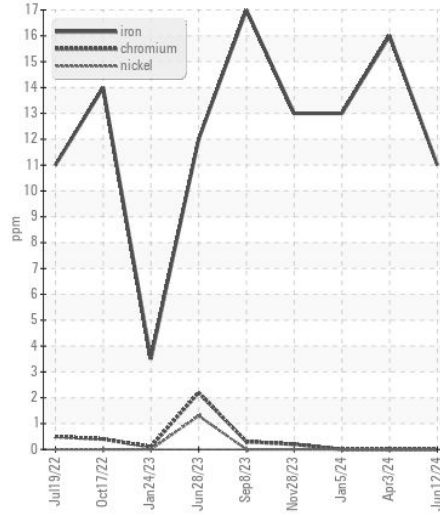
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>4</b>	5	6
Boron	ppm	ASTM D5185m	0	<b>4</b>	0	4
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>55</b>	63	55
Manganese	ppm	ASTM D5185m	0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m	1010	<b>915</b>	973	886
Calcium	ppm	ASTM D5185m	1070	<b>1044</b>	1184	1019
Phosphorus	ppm	ASTM D5185m	1150	<b>1043</b>	1076	878
Zinc	ppm	ASTM D5185m	1270	<b>1240</b>	1271	1229
Sulfur	ppm	ASTM D5185m	2060	<b>3451</b>	3486	2673
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.8</b>	17.0	17.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>8.2</b>	7.5	7.7
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.5</b>	13.2	13.1

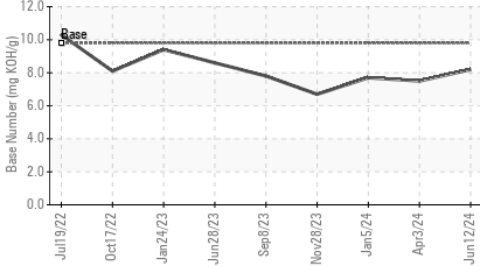
**FT-IR (Direct Trend)**



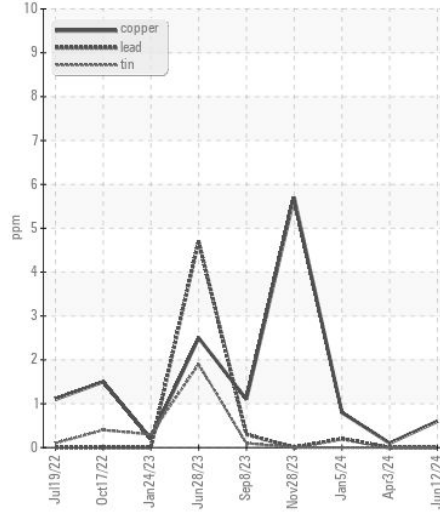
**Ferrous Alloys**



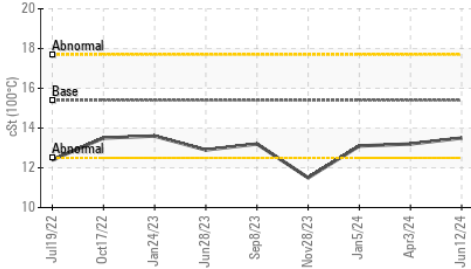
**Base Number**



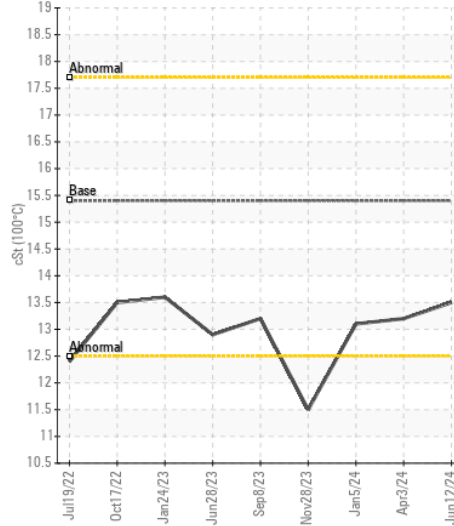
**Non-ferrous Metals**



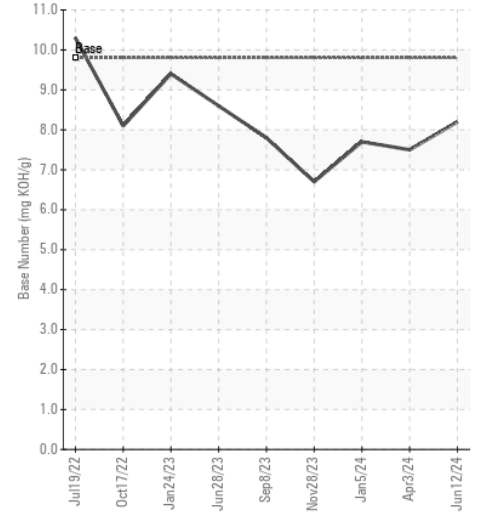
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0116051 **Received** : 17 Jun 2024  
**Lab Number** : 06211257 **Tested** : 18 Jun 2024  
**Unique Number** : 11084121 **Diagnosed** : 18 Jun 2024 - Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 641 - Alpena**  
 1241 KING SETTLEMENT RD  
 ALPENA, MI  
 US 49707  
 Contact: DYLAN TOLAN  
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 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)