



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



Machine Id  
**4579M**  
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>GFL0117621</b>	GFL0108699	GFL0105808
Sample Date		Client Info		<b>22 Apr 2024</b>	27 Jan 2024	23 Dec 2023
Machine Age	hrs	Client Info		<b>8269</b>	7684	7382
Oil Age	hrs	Client Info		<b>7684</b>	7382	0
Filter Age	hrs	Client Info		<b>7684</b>	7382	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>12</b>	8	28
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	8
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	2
Copper	ppm	ASTM D5185m	>330	<b>4</b>	<1	1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	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.

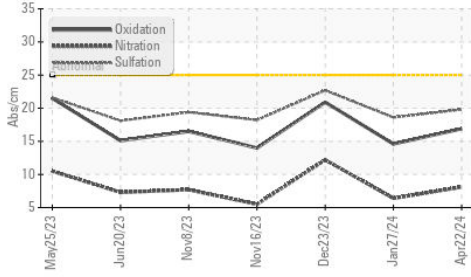
Silicon	ppm	ASTM D5185m	>25	<b>3</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	3	18
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>0.2</b>	0.1	1.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.1</b>	6.4	12.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.8</b>	18.6	22.7
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**

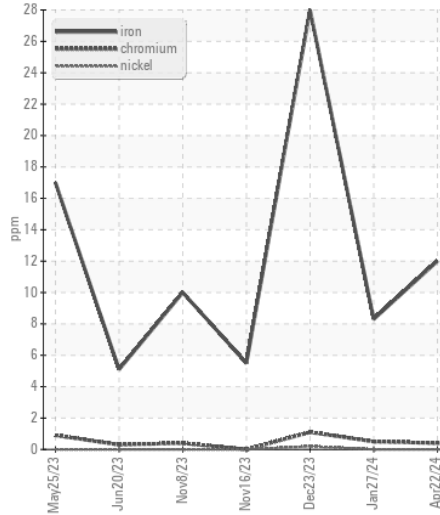
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>8</b>	6	59
Boron	ppm	ASTM D5185m	0	<b>5</b>	4	<1
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>62</b>	54	61
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	1010	<b>1001</b>	968	914
Calcium	ppm	ASTM D5185m	1070	<b>1138</b>	1071	1061
Phosphorus	ppm	ASTM D5185m	1150	<b>1097</b>	1033	972
Zinc	ppm	ASTM D5185m	1270	<b>1320</b>	1209	1209
Sulfur	ppm	ASTM D5185m	2060	<b>3471</b>	3073	3087
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.9</b>	14.6	20.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>9.2</b>	8.8	8.0
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.3</b>	14.3	13.8

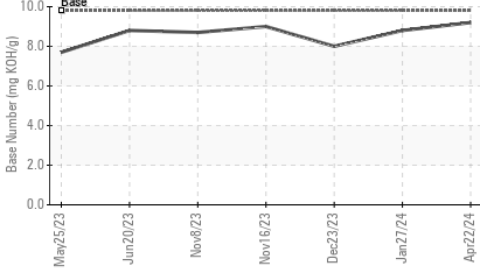
**FT-IR (Direct Trend)**



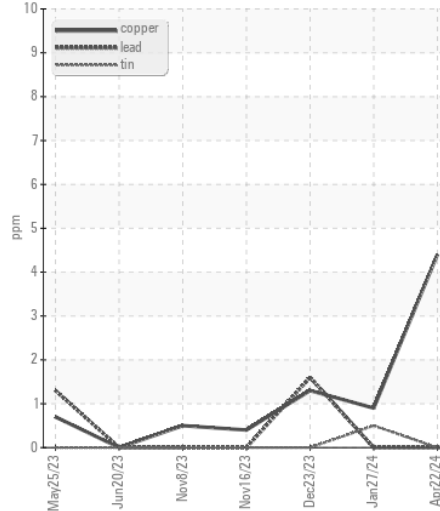
**Ferrous Alloys**



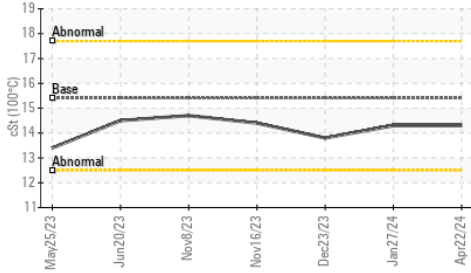
**Base Number**



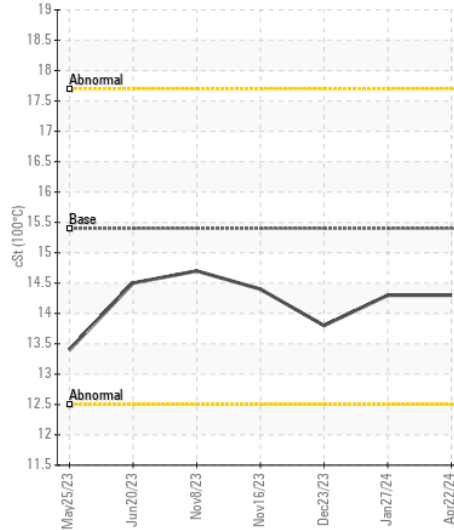
**Non-ferrous Metals**



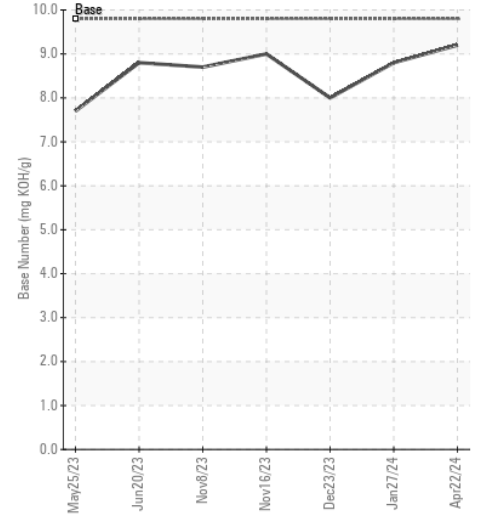
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0117621  
**Lab Number** : 06158805  
**Unique Number** : 10994228  
**Test Package** : FLEET

**Received** : 24 Apr 2024  
**Tested** : 25 Apr 2024  
**Diagnosed** : 25 Apr 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)