



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

Machine Id  
**528010-1137**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (46 QTS)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0120908</b>	GFL0110313	GFL0110291
Sample Date		Client Info		<b>11 Jul 2024</b>	23 Apr 2024	04 Mar 2024
Machine Age	hrs	Client Info		<b>15610</b>	15063	14837
Oil Age	hrs	Client Info		<b>580</b>	612	686
Filter Age	hrs	Client Info		<b>580</b>	612	686
Oil Changed		Client Info		<b>Changed</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>44</b>	69	48
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	3	2
Nickel	ppm	ASTM D5185m	>4	<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	>20	<b>5</b>	6	4
Lead	ppm	ASTM D5185m	>40	<b>4</b>	8	2
Copper	ppm	ASTM D5185m	>330	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
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.

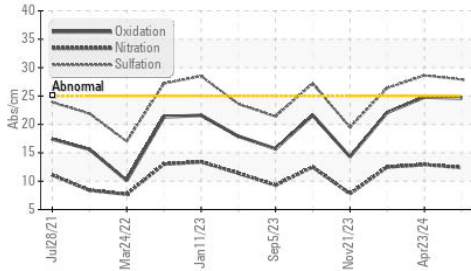
Silicon	ppm	ASTM D5185m	>25	<b>8</b>	12	10
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	2	0
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1.6</b>	1.9	1.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.4</b>	12.9	12.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>27.9</b>	28.6	26.4
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**

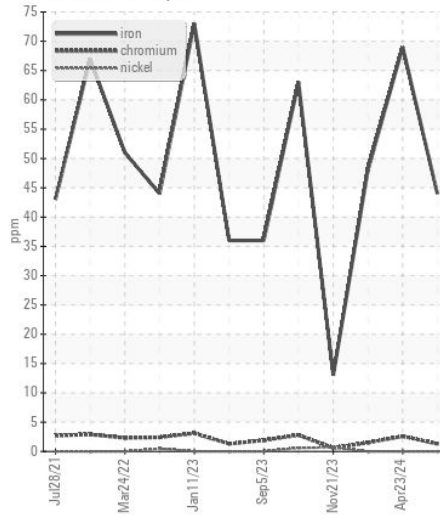
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>9</b>	6	2
Boron	ppm	ASTM D5185m	0	<b>0</b>	2	0
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>63</b>	70	67
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185m	1010	<b>963</b>	1023	924
Calcium	ppm	ASTM D5185m	1070	<b>1134</b>	1266	1135
Phosphorus	ppm	ASTM D5185m	1150	<b>1121</b>	1097	1010
Zinc	ppm	ASTM D5185m	1270	<b>1340</b>	1387	1244
Sulfur	ppm	ASTM D5185m	2060	<b>3269</b>	3160	2431
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>24.6</b>	24.8	22.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>5.9</b>	4.4	4.8
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.3</b>	13.6	13.3

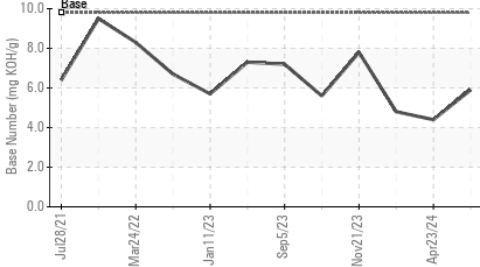
**FT-IR (Direct Trend)**



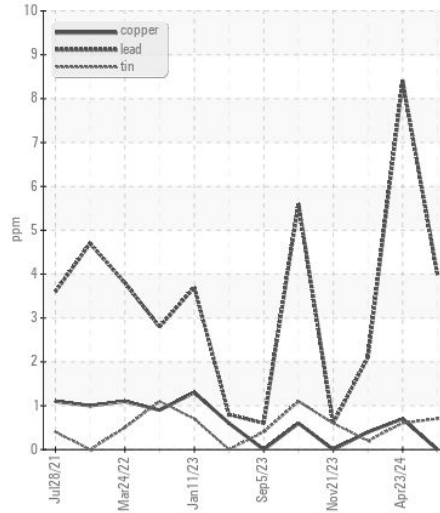
**Ferrous Alloys**



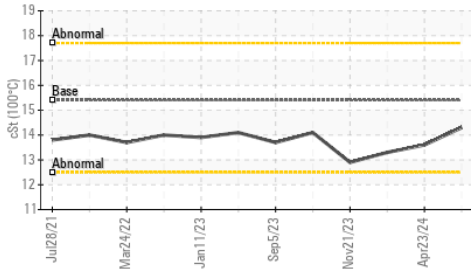
**Base Number**



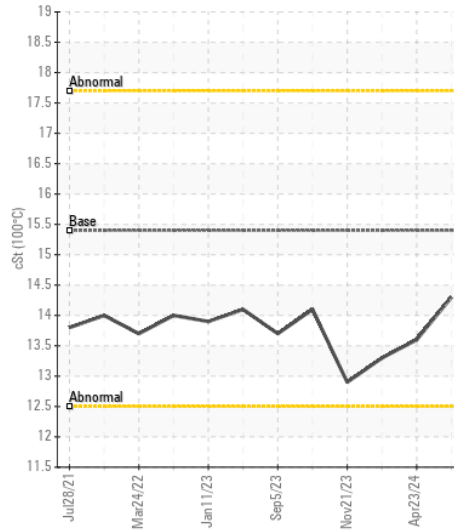
**Non-ferrous Metals**



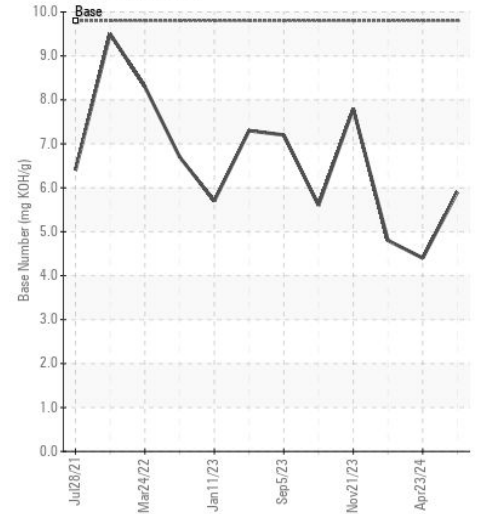
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0120908  
**Lab Number** : 06237319  
**Unique Number** : 11126153  
**Test Package** : FLEET

**Received** : 15 Jul 2024  
**Tested** : 17 Jul 2024  
**Diagnosed** : 17 Jul 2024 - Wes Davis

**GFL Environmental - 622 - Traverse City Hauling**  
 160 Hughes Dr  
 Traverse City, MI  
 US 49686  
 Contact: GARY BREWER

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)

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F: