



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



Machine Id  
**WL0098-492**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. ( Customer Sample Comment: PM4 service completed )

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0101622</b>	GFL0088294	GFL0077538
Sample Date		Client Info		<b>21 Feb 2024</b>	16 Oct 2023	03 Aug 2023
Machine Age	hrs	Client Info		<b>13259</b>	12796	12249
Oil Age	hrs	Client Info		<b>463</b>	547	387
Filter Age	hrs	Client Info		<b>0</b>	547	387
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**

The aluminum level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>37</b>	76	20
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>▲ 32</b>	7	6
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>1</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
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.

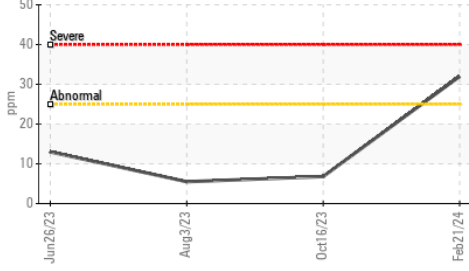
Silicon	ppm	ASTM D5185m	>25	<b>7</b>	5	3
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	0
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.1</b>	7.2	6.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.2</b>	16.8	16.7
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**

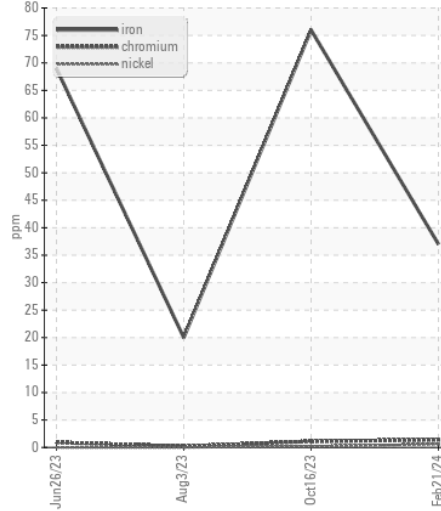
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	3	2
Boron	ppm	ASTM D5185m	0	<b>3</b>	<1	3
Barium	ppm	ASTM D5185m	0	<b>&lt;1</b>	3	0
Molybdenum	ppm	ASTM D5185m	60	<b>60</b>	57	61
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	1010	<b>851</b>	840	971
Calcium	ppm	ASTM D5185m	1070	<b>996</b>	992	1155
Phosphorus	ppm	ASTM D5185m	1150	<b>1003</b>	922	1035
Zinc	ppm	ASTM D5185m	1270	<b>1163</b>	1093	1239
Sulfur	ppm	ASTM D5185m	2060	<b>3061</b>	2681	3640
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.3</b>	13.7	13.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>6.2</b>	7.8	8.1
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.4</b>	13.6	13.4

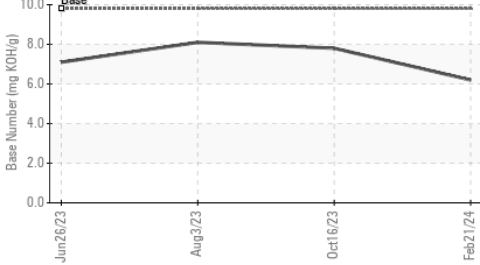
▲ Aluminum (ppm)



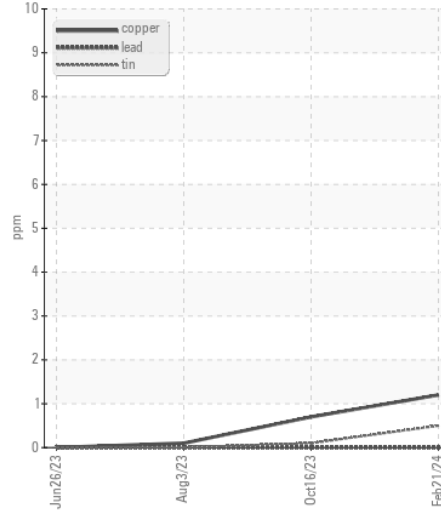
Ferrous Alloys



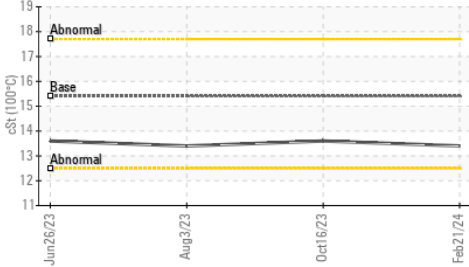
Base Number



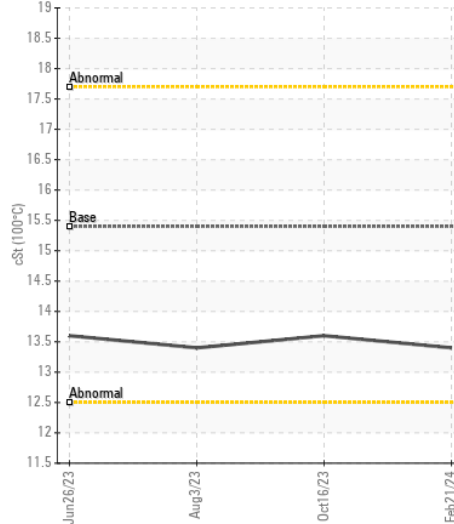
Non-ferrous Metals



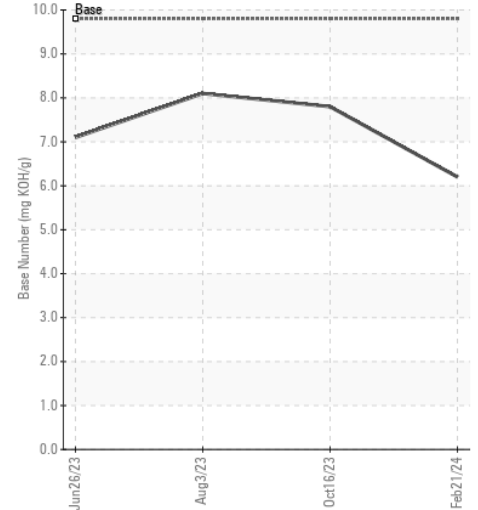
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0101622  
**Lab Number** : 06102309  
**Unique Number** : 10900539  
**Test Package** : FLEET

**Received** : 27 Feb 2024  
**Tested** : 28 Feb 2024  
**Diagnosed** : 29 Feb 2024 - Sean Felton

**GFL Environmental - 625 - Harrison Hauling**  
 4102 Industrial Pkwy  
 Harrison, MI  
 US 48625  
 Contact: Glenda Standen  
 gstanden@gflenv.com

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)

T:  
F: