



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



Machine Id  
**921019**  
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>GFL0113992</b>	GFL0098088	GFL0086751
Sample Date		Client Info		<b>10 Jun 2024</b>	28 Feb 2024	04 Jan 2024
Machine Age	hrs	Client Info		<b>32330</b>	31795	31554
Oil Age	hrs	Client Info		<b>535</b>	241	31554
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>10</b>	4	8
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>5</b>	2	9
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
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.

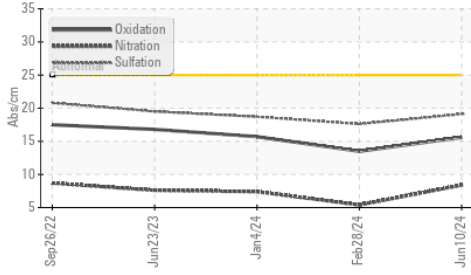
Silicon	ppm	ASTM D5185m	>25	<b>4</b>	3	6
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	2	7
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>4	<b>0.5</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.4</b>	5.4	7.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.1</b>	17.6	18.7
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**

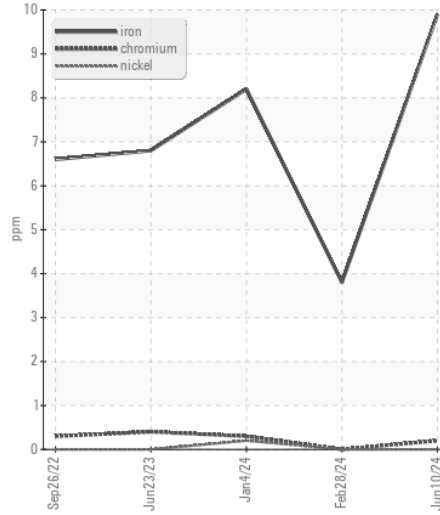
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>32</b>	31	66
Boron	ppm	ASTM D5185m	0	<b>2</b>	3	2
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>61</b>	60	64
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	1010	<b>914</b>	1042	1022
Calcium	ppm	ASTM D5185m	1070	<b>997</b>	1097	1092
Phosphorus	ppm	ASTM D5185m	1150	<b>980</b>	1129	1104
Zinc	ppm	ASTM D5185m	1270	<b>1293</b>	1282	1302
Sulfur	ppm	ASTM D5185m	2060	<b>3342</b>	3390	3332
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.6</b>	13.5	15.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>8.3</b>	9.3	8.8
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.1</b>	14.3	14.0

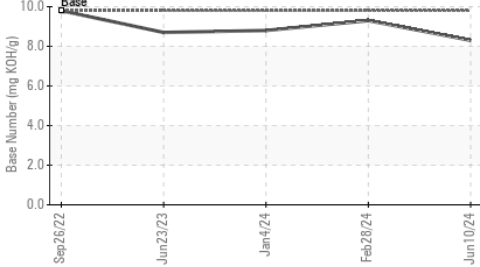
**FT-IR (Direct Trend)**



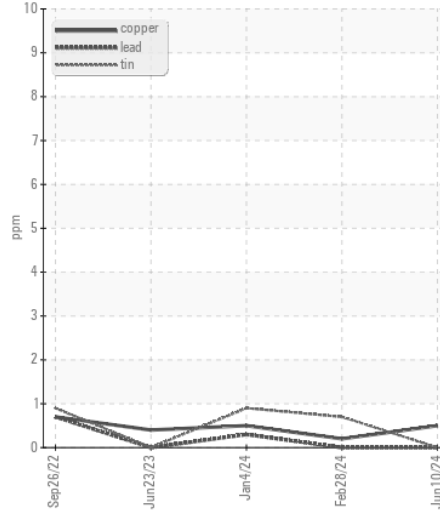
**Ferrous Alloys**



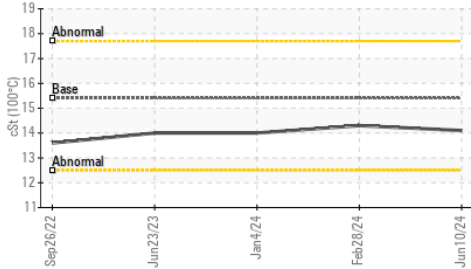
**Base Number**



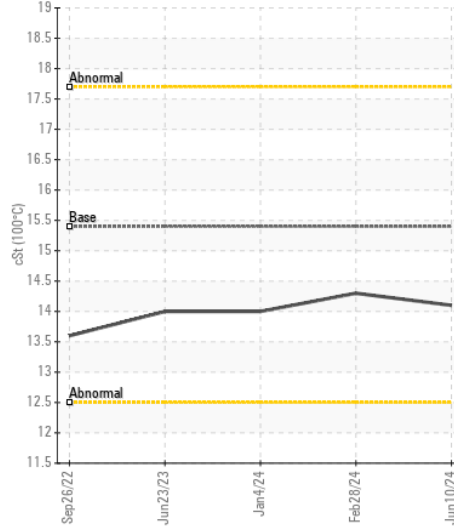
**Non-ferrous Metals**



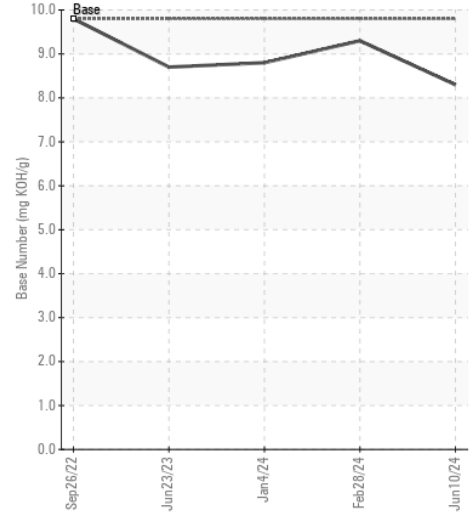
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0113992  
**Lab Number** : 06211032  
**Unique Number** : 11083896  
**Test Package** : FLEET

**Received** : 14 Jun 2024  
**Tested** : 18 Jun 2024  
**Diagnosed** : 18 Jun 2024 - Wes Davis

**GFL Environmental - 932 - Muskego HC**  
 W144 S6400 College Ct.  
 Muskego, WI  
 US 53150

Contact: Brian Schlomann  
 brian.schlomann@gflenv.com

T: (262)510-4586

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)