



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



Machine Id  
**724040**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0123202</b>	GFL0104900	GFL0088230
Sample Date		Client Info		<b>25 Jun 2024</b>	19 Mar 2024	06 Dec 2023
Machine Age	mls	Client Info		<b>251388</b>	241978	0
Oil Age	mls	Client Info		<b>0</b>	238114	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Chngd</b>	N/A	N/A
Filter Changed		Client Info		<b>Not Chngd</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>12</b>	4	25
Chromium	ppm	ASTM D5185m	>5	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>2</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>4</b>	2	7
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>150	<b>2</b>	0	<1
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

Elemental level of silicon (Si) above normal.

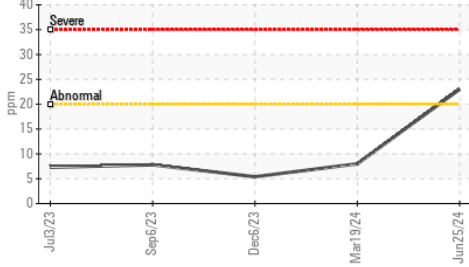
Silicon	ppm	ASTM D5185m	>20	<b>▲ 23</b>	8	5
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	<1	3
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>4.8</b>	4.3	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.9</b>	17.4	21.7
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**

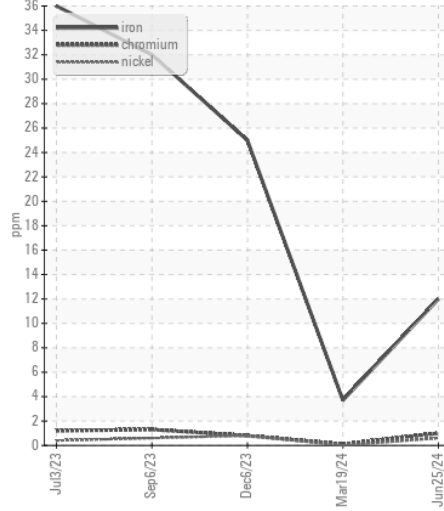
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>6</b>	2	37
Boron	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	0
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>57</b>	57	63
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m	1010	<b>915</b>	938	965
Calcium	ppm	ASTM D5185m	1070	<b>1047</b>	1038	1059
Phosphorus	ppm	ASTM D5185m	1150	<b>947</b>	977	925
Zinc	ppm	ASTM D5185m	1270	<b>1179</b>	1176	1250
Sulfur	ppm	ASTM D5185m	2060	<b>3103</b>	2901	3107
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.2</b>	12.7	20.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>10.4</b>	9.0	8.0
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.4</b>	14.4	14.8

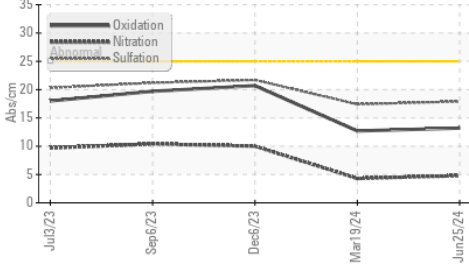
▲ Silicon (ppm)



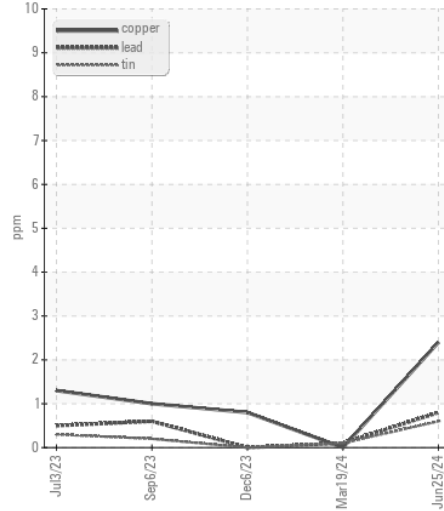
Ferrous Alloys



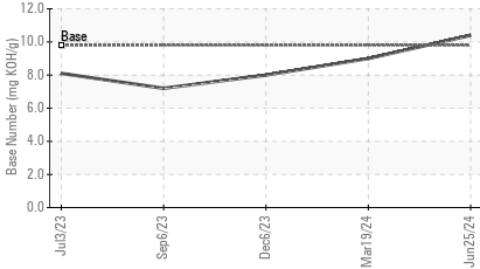
FT-IR (Direct Trend)



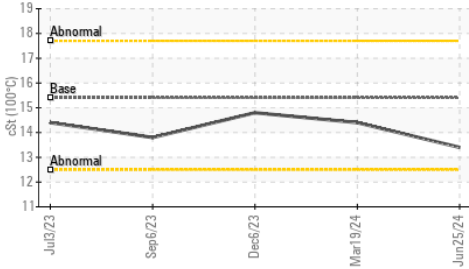
Non-ferrous Metals



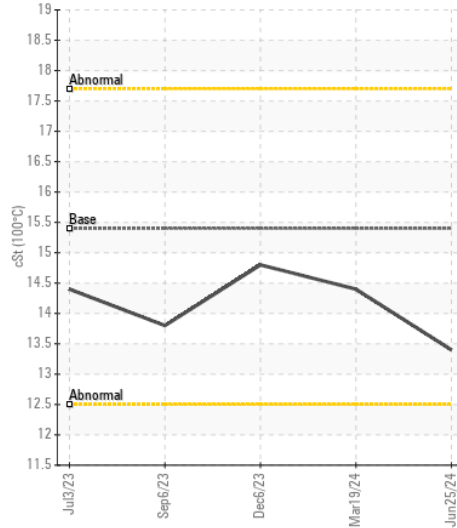
Base Number



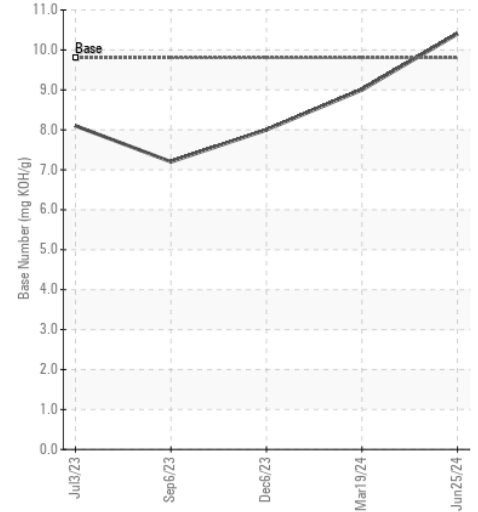
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0123202 **Received** : 10 Jul 2024  
**Lab Number** : 06232122 **Tested** : 11 Jul 2024  
**Unique Number** : 11115615 **Diagnosed** : 11 Jul 2024 - Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 820 - Joplin Hauling**  
 3700 West 7th Street  
 Joplin, MO  
 US 64801  
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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)