



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

Machine Id  
**223030-1**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0110593</b>	GFL0110559	GFL0100273
Sample Date		Client Info		<b>27 Feb 2024</b>	15 Feb 2024	24 Jan 2024
Machine Age	mls	Client Info		<b>478529</b>	475877	475877
Oil Age	mls	Client Info		<b>0</b>	465379	600
Filter Age	mls	Client Info		<b>0</b>	0	600
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>42</b>	35	22
Chromium	ppm	ASTM D5185m	>5	<b>2</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>2</b>	<1	2
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>150	<b>1</b>	<1	0
Tin	ppm	ASTM D5185m	>5	<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**

Elemental level of silicon (Si) above normal.

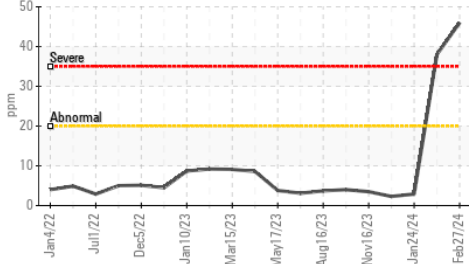
Silicon	ppm	ASTM D5185m	>20	<b>▲ 46</b>	▲ 38	3
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	0
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>2.4</b>	2.2	1.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.6</b>	8.8	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.5</b>	22.6	21.0
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**

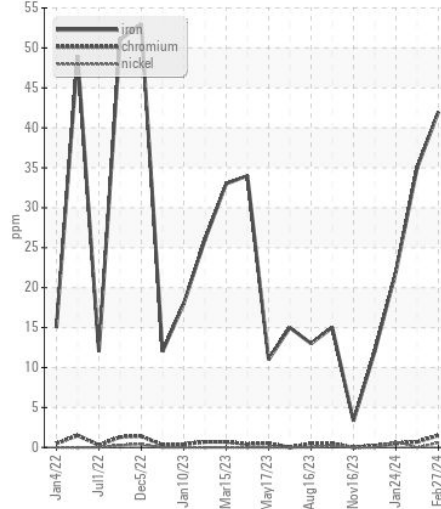
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>1</b>	2	1
Boron	ppm	ASTM D5185m	0	<b>4</b>	3	5
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>67</b>	64	60
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>945</b>	910	931
Calcium	ppm	ASTM D5185m	1070	<b>1040</b>	1024	1019
Phosphorus	ppm	ASTM D5185m	1150	<b>1048</b>	992	984
Zinc	ppm	ASTM D5185m	1270	<b>1228</b>	1146	1239
Sulfur	ppm	ASTM D5185m	2060	<b>3029</b>	2866	2961
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.2</b>	15.0	14.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>9.0</b>	9.7	9.9
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.6</b>	13.6	13.6

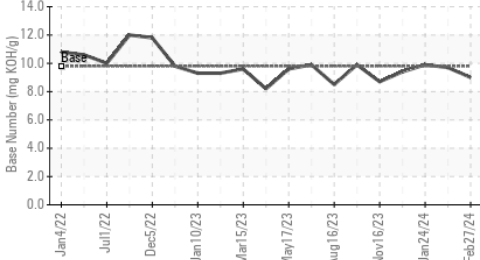
▲ Silicon (ppm)



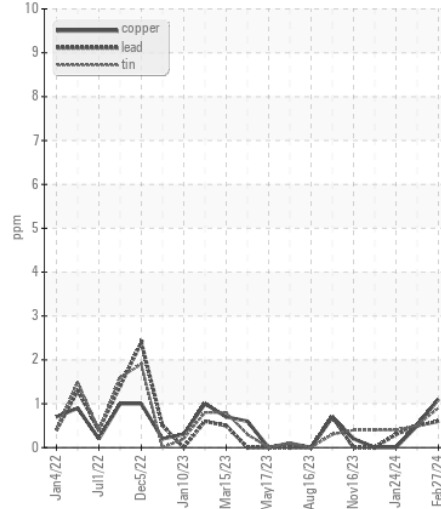
Ferrous Alloys



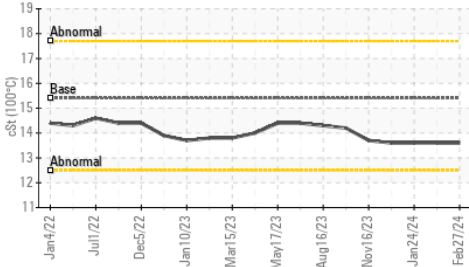
Base Number



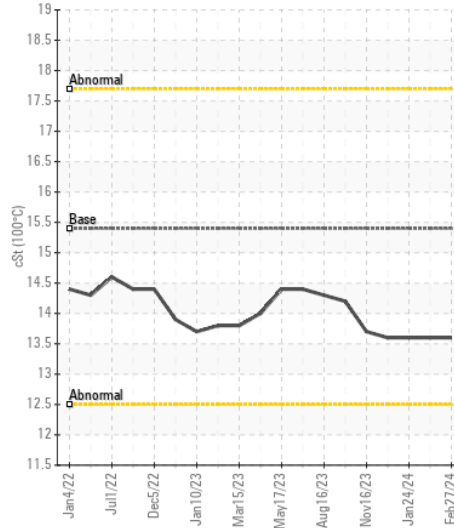
Non-ferrous Metals



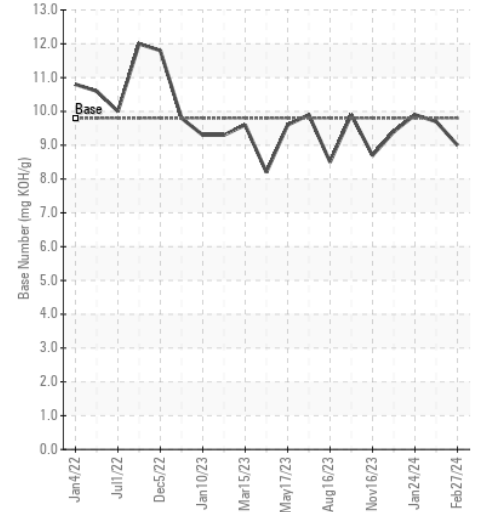
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0110593  
 Lab Number : 06105749  
 Unique Number : 10903979  
 Test Package : FLEET

Received : 01 Mar 2024  
 Tested : 01 Mar 2024  
 Diagnosed : 04 Mar 2024 - Sean Felton

GFL Environmental - 166 - Phenix City  
 18 Old Brickyard Rd  
 Phenix City, AL  
 US 36869  
 Contact: DEAN PEACE JR  
 dean.peace@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: