



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



Machine Id  
**429031-402477**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0074664</b>	GFL0074652	GFL0074679
Sample Date		Client Info		<b>05 Apr 2023</b>	16 Mar 2023	16 Feb 2023
Machine Age	hrs	Client Info		<b>10152</b>	10012	9853
Oil Age	hrs	Client Info		<b>0</b>	159	158
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	Changed
Sample Status				<b>ATTENTION</b>	ATTENTION	ATTENTION

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>18</b>	15	11
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	1	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	1
Aluminum	ppm	ASTM D5185m	>20	<b>9</b>	8	7
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>26</b>	25	26
Tin	ppm	ASTM D5185m	>15	<b>0</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.

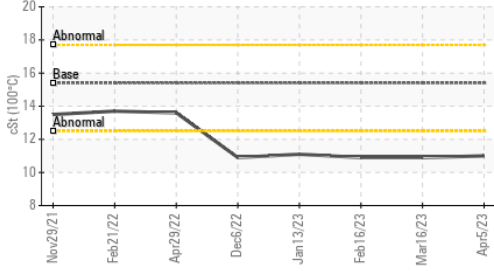
Silicon	ppm	ASTM D5185m	>25	<b>9</b>	8	7
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	8	5
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>4	<b>0.4</b>	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.6</b>	8.4	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.9</b>	21.6	20.6
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**

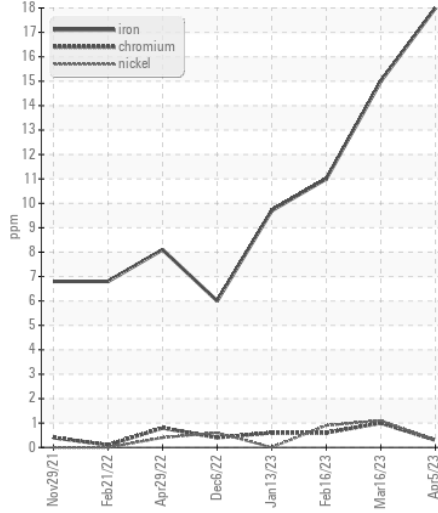
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>3</b>	2	1
Boron	ppm	ASTM D5185m	0	<b>73</b>	109	169
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>50</b>	49	55
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>373</b>	359	381
Calcium	ppm	ASTM D5185m	1070	<b>1591</b>	1554	1668
Phosphorus	ppm	ASTM D5185m	1150	<b>938</b>	947	974
Zinc	ppm	ASTM D5185m	1270	<b>1165</b>	1122	1144
Sulfur	ppm	ASTM D5185m	2060	<b>3166</b>	2979	3825
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.9</b>	16.0	15.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>6.0</b>	6.7	7.7
Visc @ 100°C	cSt	ASTM D445	15.4	<b>▲ 11.0</b>	▲ 10.9	▲ 10.9

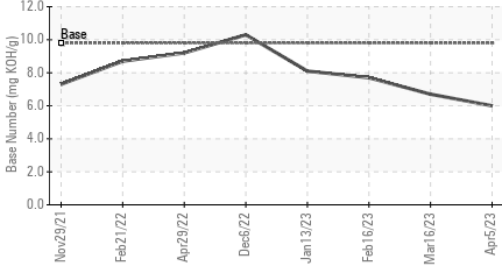
▲ Viscosity @ 100°C



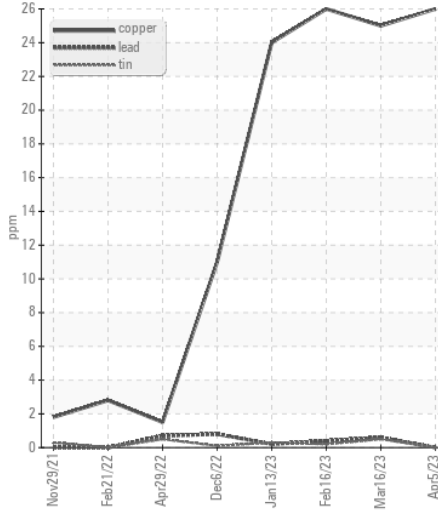
Ferrous Alloys



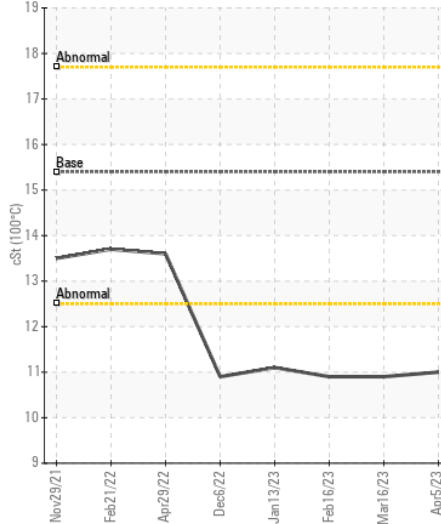
Base Number



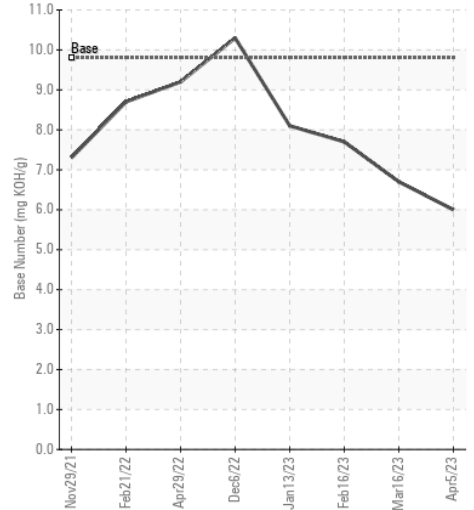
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0074664      Recieved : 10 Apr 2023  
 Lab Number : 05816014      Diagnosed : 13 Apr 2023  
 Unique Number : 10418806      Diagnostician : Jonathan Hester  
 Test Package : FLEET

GFL Environmental - 814 - Little Rock Hauling  
 4005 Hwy 161 N.  
 Little Rock, AR  
 US 72117  
 Contact: Brad Koenig  
 bkoenig@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)

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F: