



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



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		GFL0074679	GFL0064660	GFL0046848
Sample Date		Client Info		16 Feb 2023	13 Jan 2023	06 Dec 2022
Machine Age	hrs	Client Info		9853	9695	9537
Oil Age	hrs	Client Info		158	158	636
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	ATTENTION	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	11	10	6
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	7	5	5
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	26	24	11
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

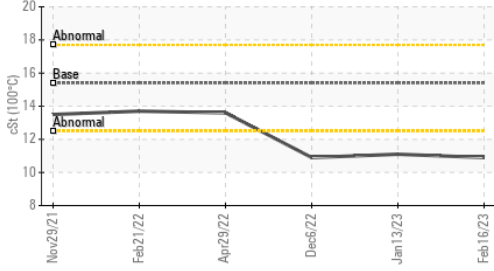
Silicon	ppm	ASTM D5185m	>25	7	9	6
Potassium	ppm	ASTM D5185m	>20	5	6	0
Fuel		WC Method	>5	<1.0	<1.0	0.6
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.3	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.0	6.7	6.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	19.7	20.8
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

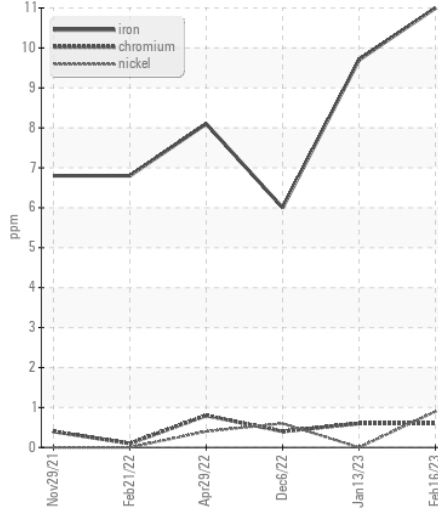
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		1	0	0
Boron	ppm	ASTM D5185m	0	169	194	250
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	55	50	50
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	381	340	347
Calcium	ppm	ASTM D5185m	1070	1668	1556	1739
Phosphorus	ppm	ASTM D5185m	1150	974	956	997
Zinc	ppm	ASTM D5185m	1270	1144	1088	1234
Sulfur	ppm	ASTM D5185m	2060	3825	3151	4080
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2	14.4	15.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.7	8.1	10.3
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 10.9	▲ 11.1	▲ 10.9

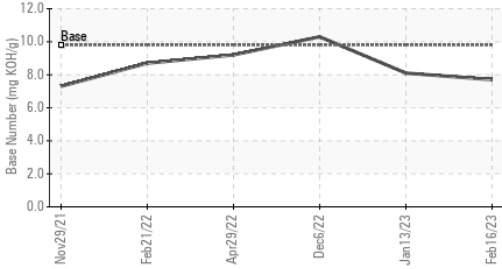
▲ Viscosity @ 100°C



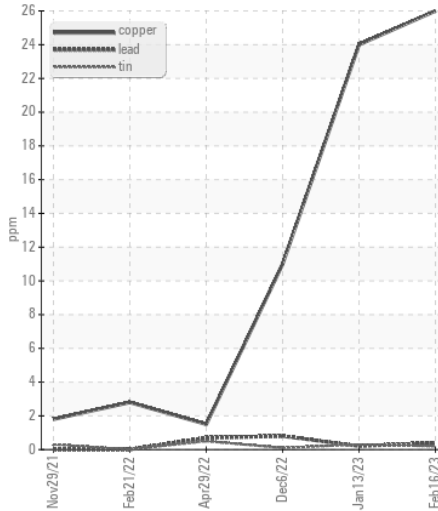
Ferrous Alloys



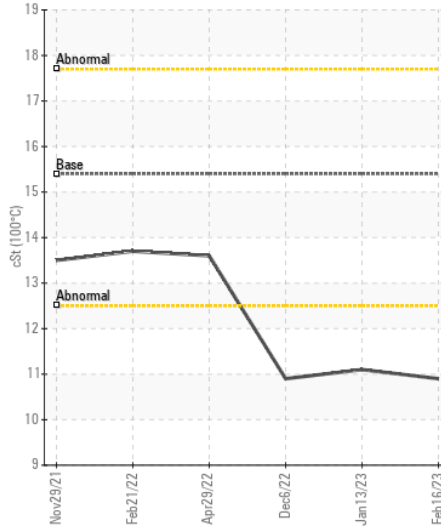
Base Number



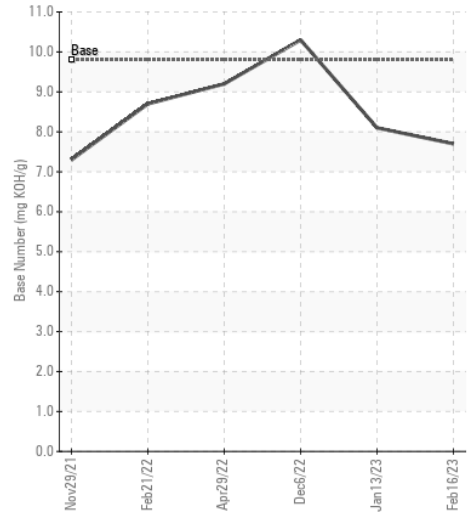
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0074679 **Received** : 21 Feb 2023
Lab Number : 05773351 **Diagnosed** : 22 Feb 2023
Unique Number : 10347968 **Diagnostician** : Sean Felton
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: