



Machine Id
926031-152524

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

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		GFL0106117	GFL0078654	GFL0082088
Sample Date		Client Info		14 Mar 2024	20 Sep 2023	20 Jul 2023
Machine Age	hrs	Client Info		0	11464	11062
Oil Age	hrs	Client Info		600	500	600
Filter Age	hrs	Client Info		600	500	600
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	ATTENTION	ATTENTION

WEAR

The copper level is marginal.

Iron	ppm	ASTM D5185m	>110	77	14	34
Chromium	ppm	ASTM D5185m	>4	2	1	1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	4	2	<1
Lead	ppm	ASTM D5185m	>45	<1	0	0
Copper	ppm	ASTM D5185m	>85	▲ 80	2	6
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

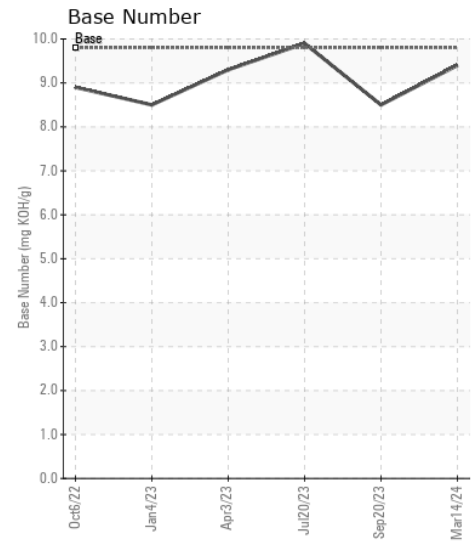
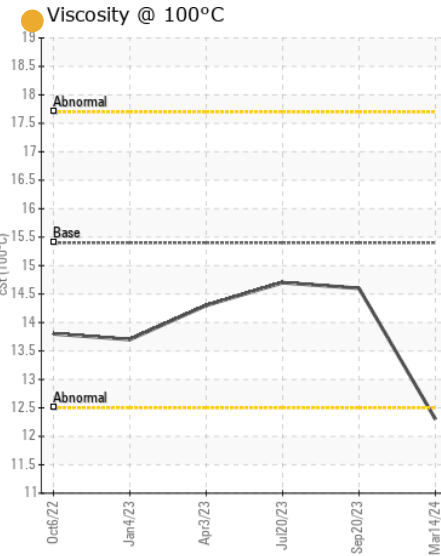
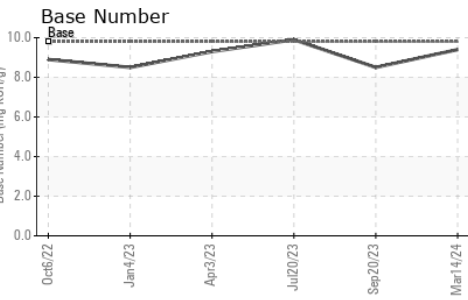
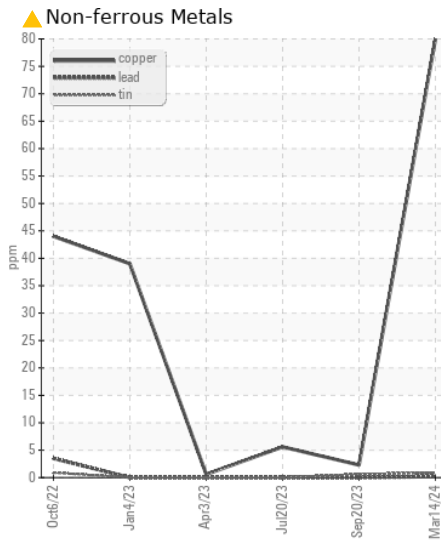
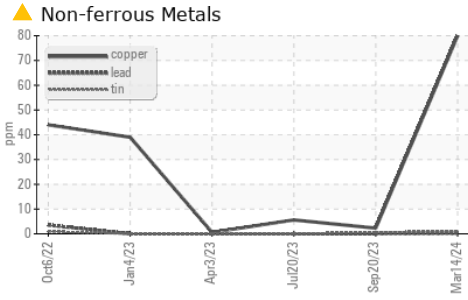
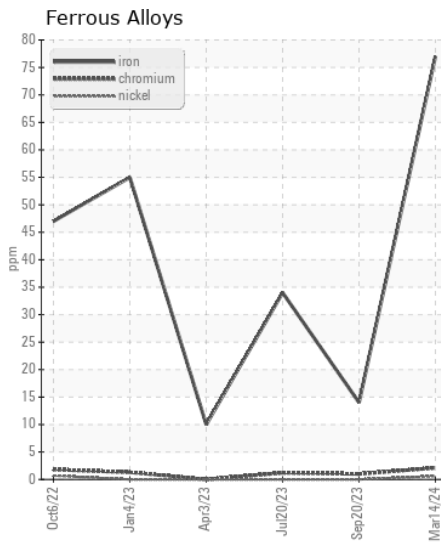
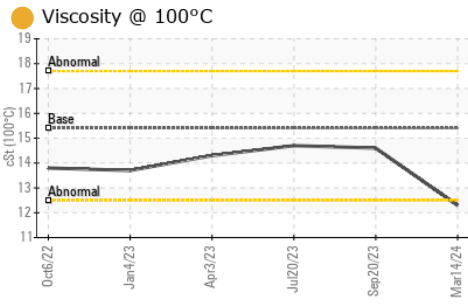
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>30	18	5	4
Potassium	ppm	ASTM D5185m	>20	3	3	0
Fuel	%	ASTM D3524	>5	0.9	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1	0.5	0.9
Nitration	Abs/cm	*ASTM D7624	>20	10.2	7.7	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.2	19.3	19.8
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		27	● 70	● 120
Boron	ppm	ASTM D5185m	0	17	12	9
Barium	ppm	ASTM D5185m	0	4	0	0
Molybdenum	ppm	ASTM D5185m	60	59	69	70
Manganese	ppm	ASTM D5185m	0	4	<1	<1
Magnesium	ppm	ASTM D5185m	1010	716	1011	1011
Calcium	ppm	ASTM D5185m	1070	1540	1171	1163
Phosphorus	ppm	ASTM D5185m	1150	1167	1120	1069
Zinc	ppm	ASTM D5185m	1270	1392	1344	1268
Sulfur	ppm	ASTM D5185m	2060	3228	3958	3726
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.2	14.5	14.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	9.4	8.5	9.9
Visc @ 100°C	cSt	ASTM D445	15.4	● 12.3	14.6	14.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0106117 **Received** : 21 Mar 2024
Lab Number : 06125498 **Tested** : 26 Mar 2024
Unique Number : 10939649 **Diagnosed** : 26 Mar 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 152 - Jacksonville
 7580 PHILIPS HWY
 Jacksonville, FL
 US 32256
 Contact: GRANVILLE CARROLL
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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)