



Machine Id
814018
 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		GFL0119376	GFL0119405	GFL0115384
Sample Date		Client Info		08 May 2024	24 Apr 2024	21 Mar 2024
Machine Age	hrs	Client Info		618	538	358
Oil Age	hrs	Client Info		80	180	174
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	ABNORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	34	30	24
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	8	6	7
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	6	6	5
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	258	248	57
Tin	ppm	ASTM D5185m	>15	4	3	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

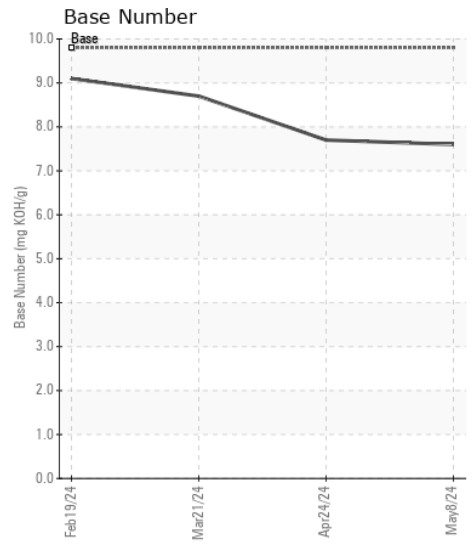
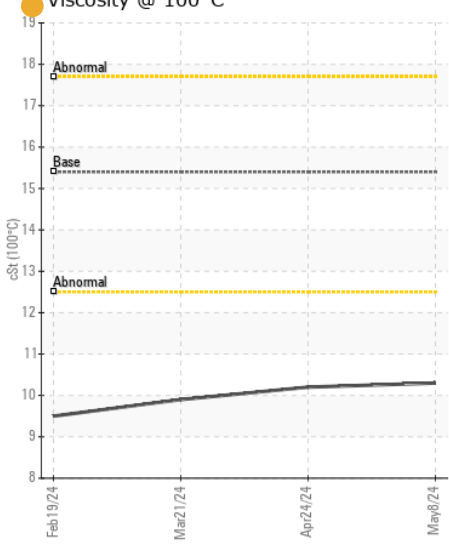
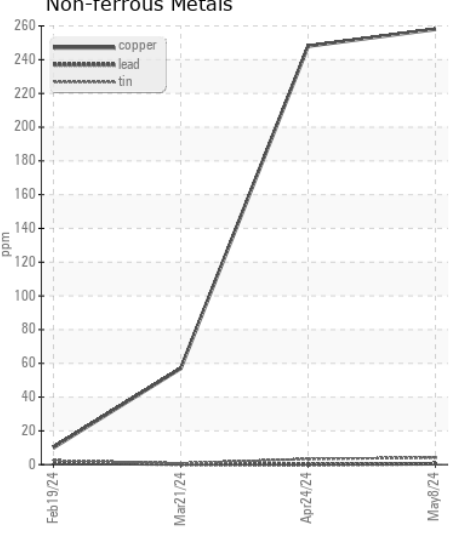
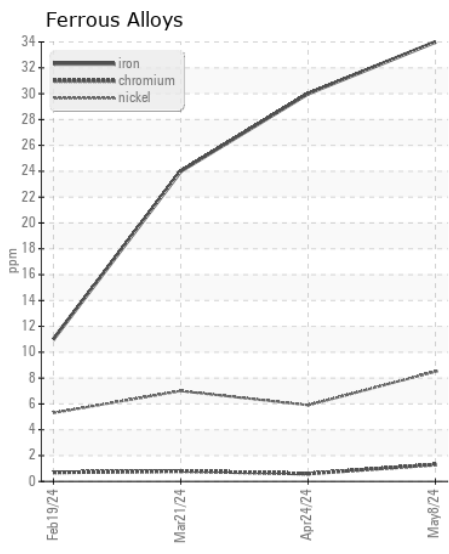
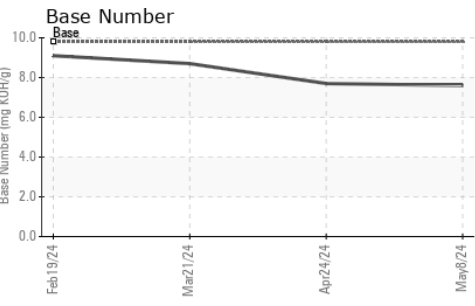
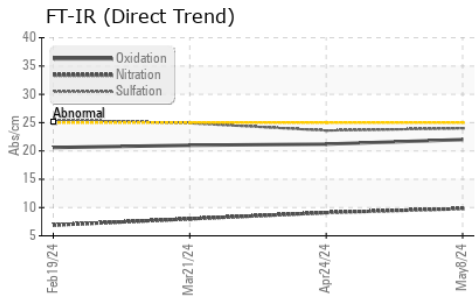
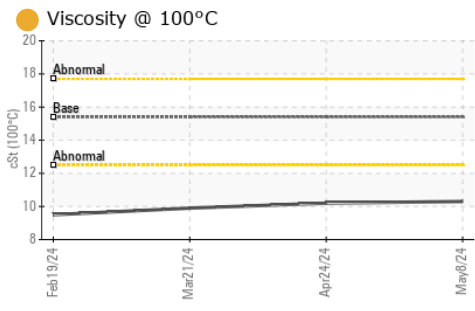
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	60	59	▲ 61
Potassium	ppm	ASTM D5185m	>20	8	3	6
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	9.8	9.1	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.0	23.6	24.9
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	2	4
Boron	ppm	ASTM D5185m	0	204	235	272
Barium	ppm	ASTM D5185m	0	<1	1	<1
Molybdenum	ppm	ASTM D5185m	60	118	121	118
Manganese	ppm	ASTM D5185m	0	4	4	4
Magnesium	ppm	ASTM D5185m	1010	696	752	766
Calcium	ppm	ASTM D5185m	1070	1368	1424	1545
Phosphorus	ppm	ASTM D5185m	1150	733	732	793
Zinc	ppm	ASTM D5185m	1270	873	868	947
Sulfur	ppm	ASTM D5185m	2060	2681	2619	3109
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.0	21.2	21.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.6	7.7	8.7
Visc @ 100°C	cSt	ASTM D445	15.4	● 10.3	● 10.2	● 9.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0119376 **Received** : 13 May 2024
Lab Number : 06178173 **Tested** : 14 May 2024
Unique Number : 11029499 **Diagnosed** : 15 May 2024 - 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)