



WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
420023-402284
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0118246	GFL0118238	GFL0118174
Sample Date		Client Info		22 May 2024	26 Apr 2024	08 Apr 2024
Machine Age	hrs	Client Info		25311	25175	25026
Oil Age	hrs	Client Info		600	700	300
Filter Age	hrs	Client Info		0	700	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				SEVERE	NORMAL	ABNORMAL

WEAR

A sharp increase in the aluminum level is noted. Piston, ring and cylinder wear is indicated.

Iron	ppm	ASTM D5185m	>110	72	26	43
Chromium	ppm	ASTM D5185m	>4	2	<1	1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	102	5	56
Lead	ppm	ASTM D5185m	>45	<1	0	0
Copper	ppm	ASTM D5185m	>85	2	2	2
Tin	ppm	ASTM D5185m	>4	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

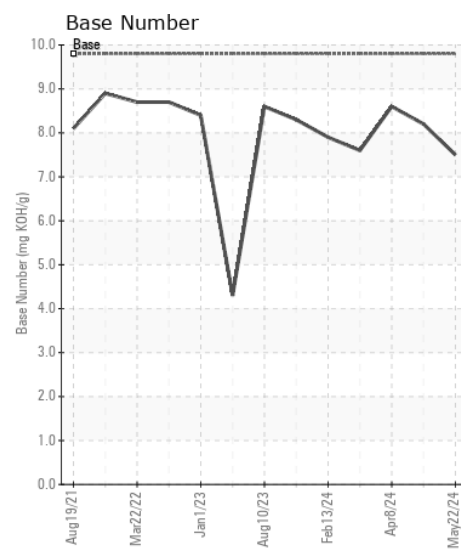
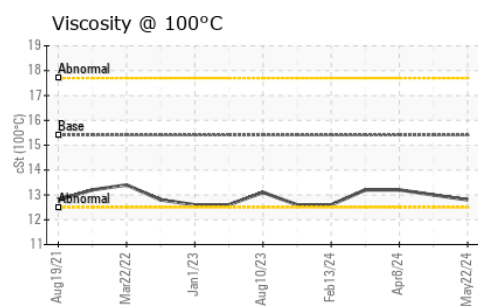
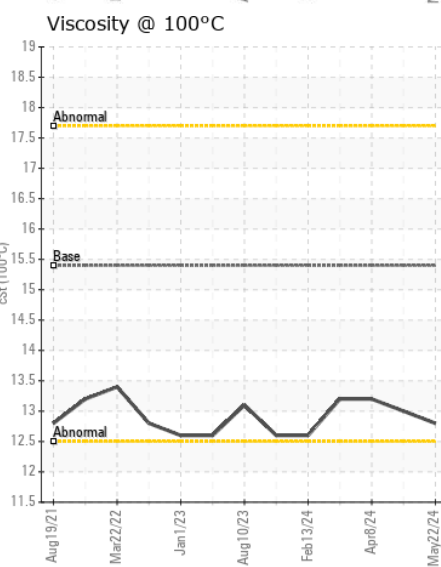
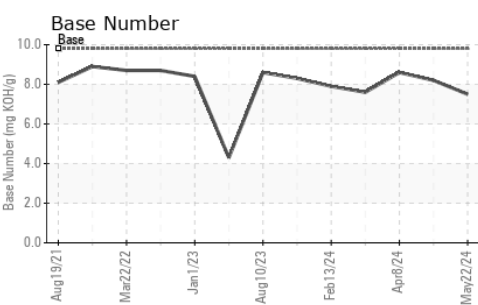
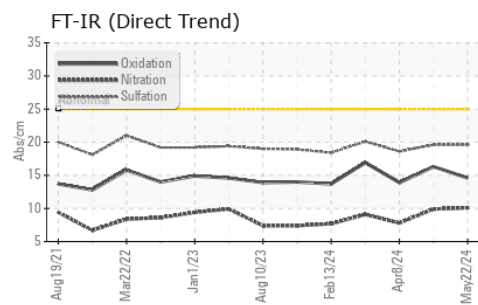
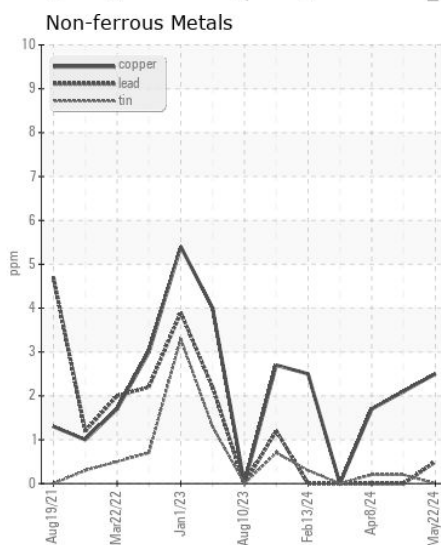
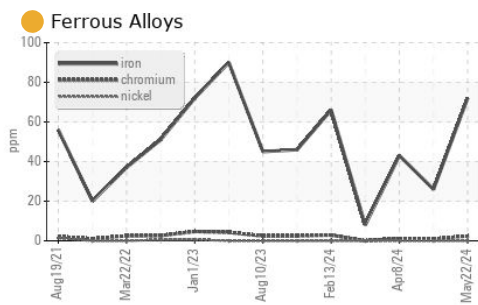
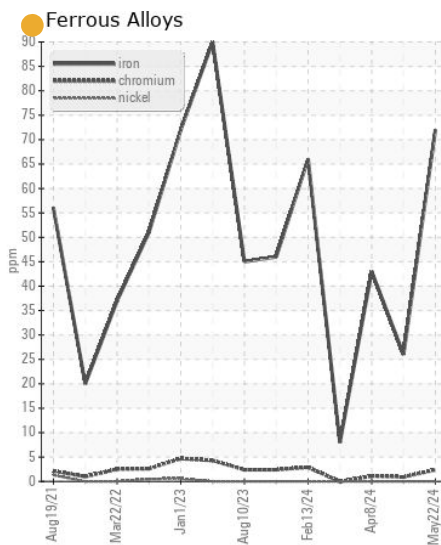
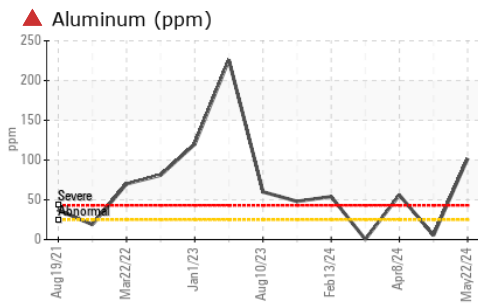
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>30	10	3	10
Potassium	ppm	ASTM D5185m	>20	<1	10	0
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	1.5	1	0.9
Nitration	Abs/cm	*ASTM D7624	>20	10.1	9.9	7.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.6	19.6	18.6
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 BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		3	15	1
Boron	ppm	ASTM D5185m	0	0	1	0
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	58	57	58
Manganese	ppm	ASTM D5185m	0	2	<1	2
Magnesium	ppm	ASTM D5185m	1010	943	885	929
Calcium	ppm	ASTM D5185m	1070	1120	1014	1052
Phosphorus	ppm	ASTM D5185m	1150	1038	1050	1042
Zinc	ppm	ASTM D5185m	1270	1255	1190	1218
Sulfur	ppm	ASTM D5185m	2060	3559	3285	3304
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.6	16.3	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.5	8.2	8.6
Visc @ 100°C	cSt	ASTM D445	15.4	12.8	13.0	13.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0118246
Lab Number : 06193513
Unique Number : 11050265
Test Package : FLEET

Received : 29 May 2024
Tested : 30 May 2024
Diagnosed : 31 May 2024 - Don Baldrige

GFL Environmental - 822 - Springfield Hauling
 2120 West Bennett Street
 Springfield, MO
 US 65807

Contact: Dennis Moore
 dennis.moore@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: (417)403-3641

F: