



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
636M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0122379	GFL0108903	GFL0105788
Sample Date		Client Info		17 May 2024	08 Mar 2024	22 Dec 2023
Machine Age	hrs	Client Info		10247	9895	9448
Oil Age	hrs	Client Info		9895	9448	9307
Filter Age	hrs	Client Info		0	9448	9307
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

Valve wear is indicated. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	21	86	22
Chromium	ppm	ASTM D5185m	>20	2	2	<1
Nickel	ppm	ASTM D5185m	>5	8	8	4
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	2
Lead	ppm	ASTM D5185m	>40	1	<1	0
Copper	ppm	ASTM D5185m	>330	2	2	1
Tin	ppm	ASTM D5185m	>15	1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

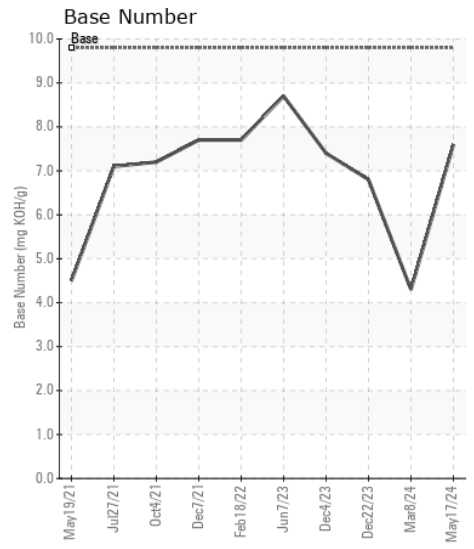
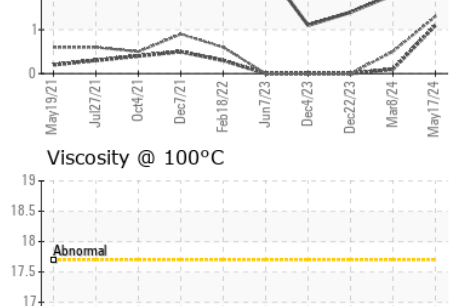
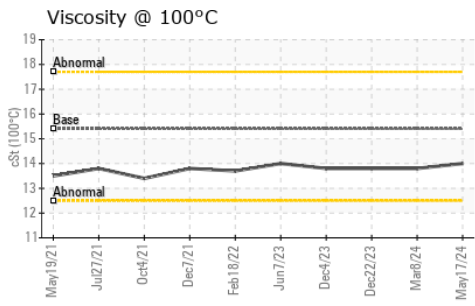
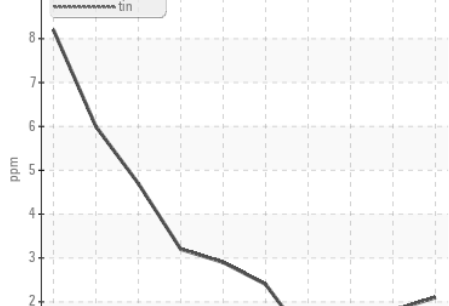
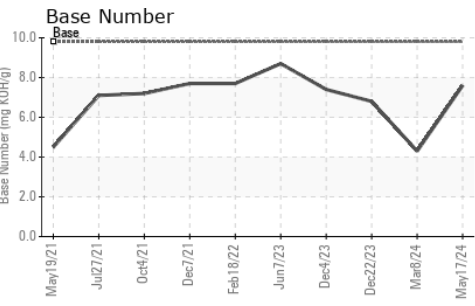
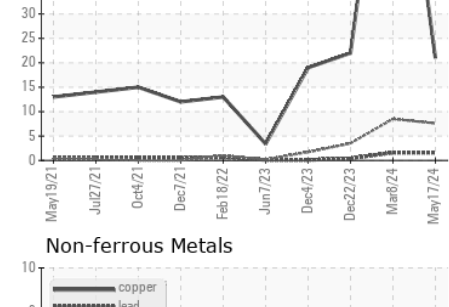
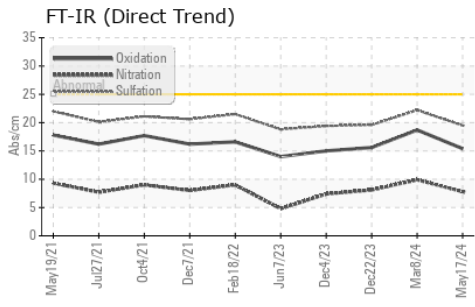
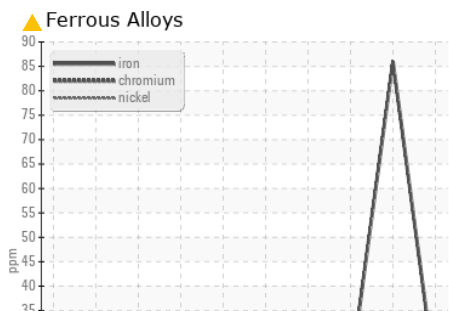
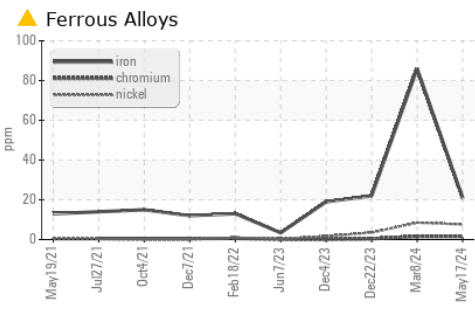
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	6	4
Potassium	ppm	ASTM D5185m	>20	2	0	2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.5	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	7.8	9.9	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.5	22.2	19.6
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. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		4	3	1
Boron	ppm	ASTM D5185m	0	<1	0	4
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	60	62	57
Manganese	ppm	ASTM D5185m	0	1	2	0
Magnesium	ppm	ASTM D5185m	1010	960	940	894
Calcium	ppm	ASTM D5185m	1070	1094	1087	1077
Phosphorus	ppm	ASTM D5185m	1150	1055	980	912
Zinc	ppm	ASTM D5185m	1270	1227	1241	1185
Sulfur	ppm	ASTM D5185m	2060	3322	2601	2877
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.4	18.7	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.6	4.3	6.8
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	13.8	13.8



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0122379
Lab Number : **06187372**
Unique Number : 11044124
Test Package : FLEET
Received : 22 May 2024
Tested : 23 May 2024
Diagnosed : 24 May 2024 - Don Baldrige

GFL Environmental - 415 - Michigan East
 6200 Elmridge
 Sterling Heights, MI
 US 48313
 Contact: Frank Wolak
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Certificate L2367
 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)