



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
428013-1161
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. Resample at the next service interval to monitor. (Customer Sample Comment: Sample only, out of service)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0116210	GFL0116263	GFL0100041
Sample Date		Client Info		21 May 2024	14 Mar 2024	27 Nov 2023
Machine Age	hrs	Client Info		13704	13704	13647
Oil Age	hrs	Client Info		429	430	372
Filter Age	hrs	Client Info		429	430	372
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	26	27	18
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	1
Lead	ppm	ASTM D5185m	>40	3	3	3
Copper	ppm	ASTM D5185m	>330	<1	<1	0
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

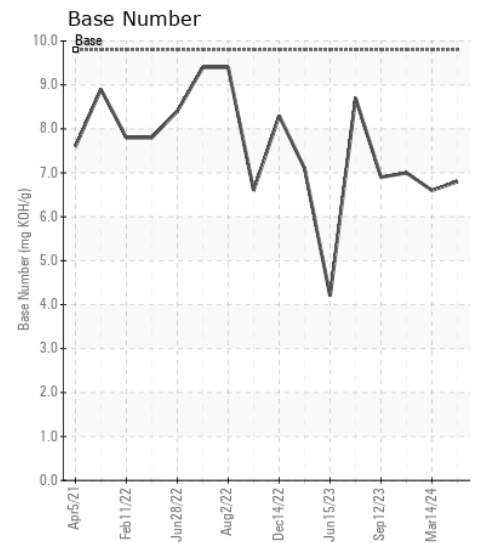
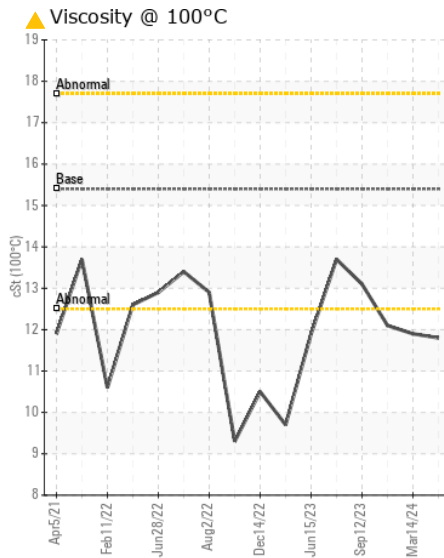
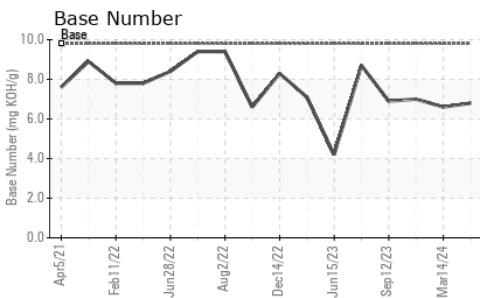
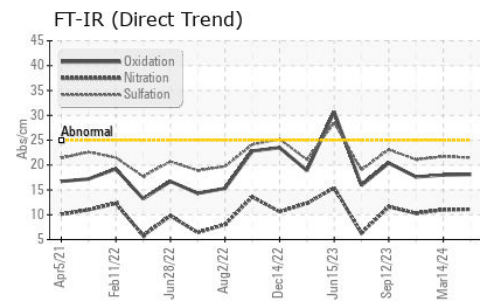
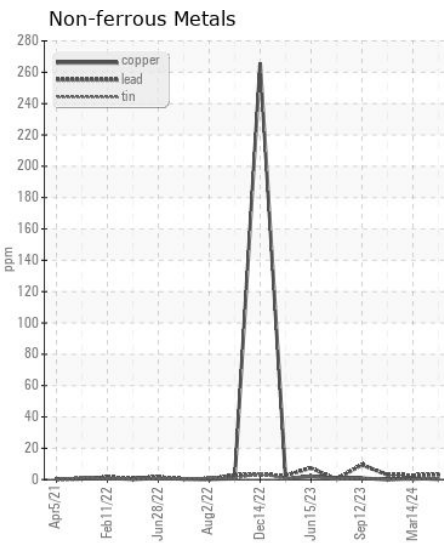
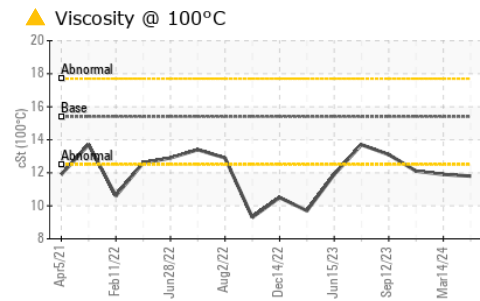
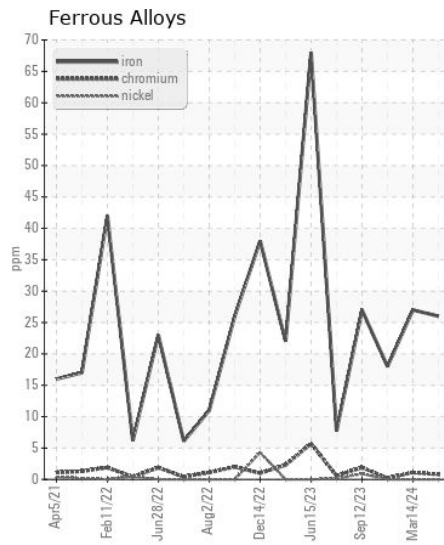
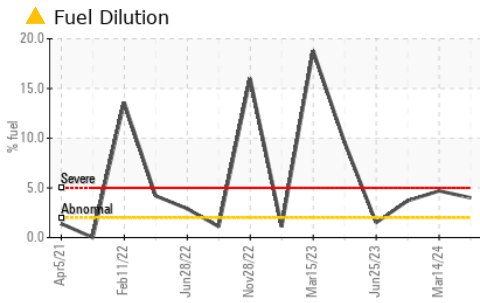
There is a moderate amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>25	4	4	3
Potassium	ppm	ASTM D5185m	>20	1	<1	<1
Fuel	%	ASTM D3524	>2.0	▲ 4.0	▲ 4.7	▲ 3.7
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	11.1	11.0	10.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.5	21.7	21.1
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

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		4	5	5
Boron	ppm	ASTM D5185m	0	13	10	16
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	70	67	72
Manganese	ppm	ASTM D5185m	0	<1	<1	0
Magnesium	ppm	ASTM D5185m	1010	891	896	1005
Calcium	ppm	ASTM D5185m	1070	1132	1135	1273
Phosphorus	ppm	ASTM D5185m	1150	1039	1000	1152
Zinc	ppm	ASTM D5185m	1270	1223	1200	1460
Sulfur	ppm	ASTM D5185m	2060	3145	3251	3347
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.1	18.0	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	6.8	6.6	7.0
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 11.8	▲ 11.9	▲ 12.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0116210

Lab Number : 06191745

Unique Number : 11048497

Test Package : FLEET (Additional Tests: PercentFuel)

Received : 24 May 2024

Tested : 30 May 2024

Diagnosed : 30 May 2024 - Sean Felton

GFL Environmental - 626 - Cadillac Hauling

1501 Ron Wilson St

Cadillac, MI

US 49601

Contact: GARY BREWER

gbrewerjr@gflenv.com

T:

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)