



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
228020-1142
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)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0101656	GFL0094856	GFL0088272
Sample Date		Client Info		13 Mar 2024	06 Nov 2023	11 Sep 2023
Machine Age	hrs	Client Info		3897	3718	3650
Oil Age	hrs	Client Info		193	233	165
Filter Age	hrs	Client Info		193	233	165
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

The aluminum level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	53	22	17
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ 26	11	9
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	7	5	4
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

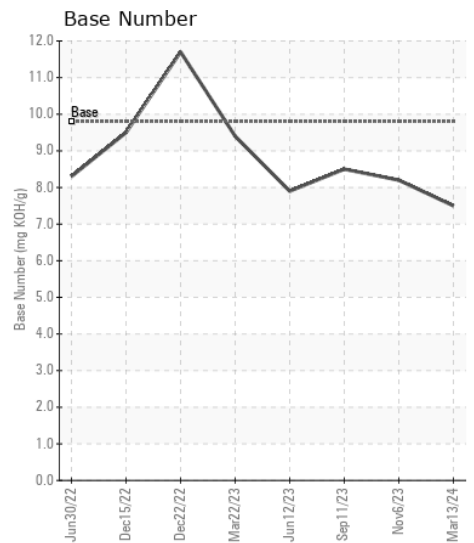
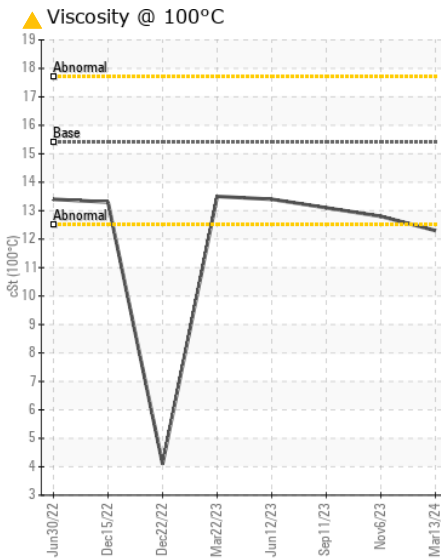
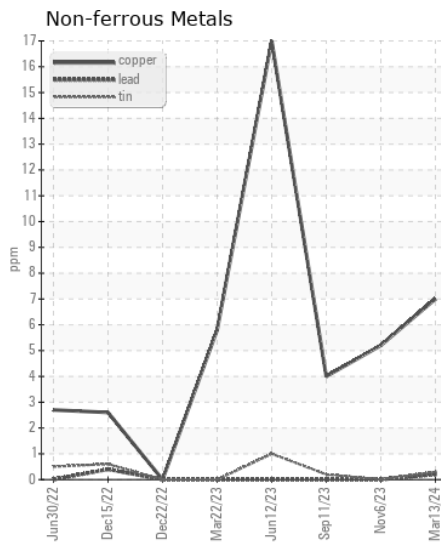
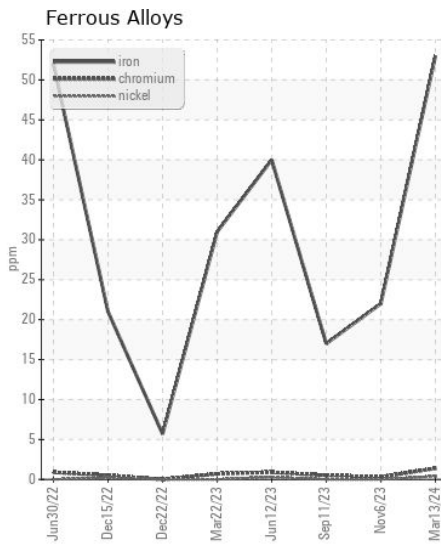
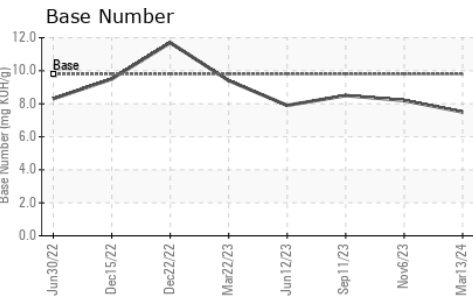
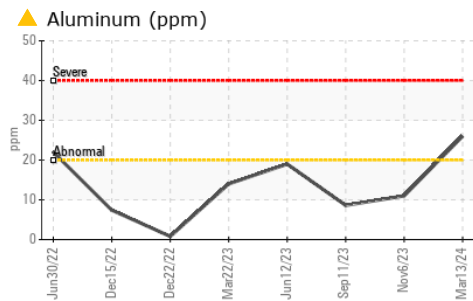
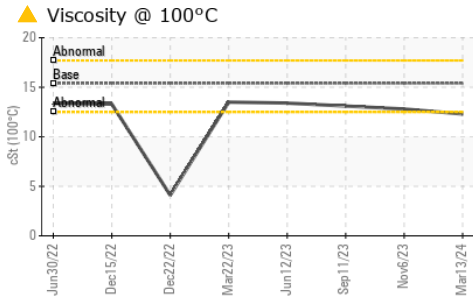
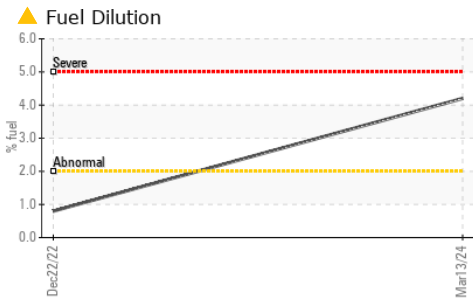
There is a moderate amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>25	7	5	5
Potassium	ppm	ASTM D5185m	>20	18	12	8
Fuel	%	ASTM D3524	>2.0	▲ 4.2	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.2	0.6	0.4
Nitration	Abs/cm	*ASTM D7624	>20	11.4	8.2	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.1	18.7	17.7
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		2	0	2
Boron	ppm	ASTM D5185m	0	4	2	6
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	63	60	62
Manganese	ppm	ASTM D5185m	0	<1	0	<1
Magnesium	ppm	ASTM D5185m	1010	924	872	930
Calcium	ppm	ASTM D5185m	1070	1099	1023	1097
Phosphorus	ppm	ASTM D5185m	1150	1034	869	1019
Zinc	ppm	ASTM D5185m	1270	1214	1170	1218
Sulfur	ppm	ASTM D5185m	2060	3120	2887	3594
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.8	14.2	13.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.5	8.2	8.5
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.3	12.8	13.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0101656
Lab Number : 06121504
Unique Number : 10930337
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 625 - Harrison Hauling
 4102 Industrial Pkwy
 Harrison, MI
 US 48625
 Contact: Glenda Standen
 gstanden@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)

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F: