



Area

(83J3TW)

Machine Id

229035-632119

Component

Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0122890	GFL0122814	GFL0118807
Sample Date		Client Info		11 Jun 2024	17 May 2024	17 Apr 2024
Machine Age	hrs	Client Info		11107	10966	10802
Oil Age	hrs	Client Info		11693	164	10401
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	Changed
Filter Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	26	15	55
Chromium	ppm	ASTM D5185m	>20	1	<1	2
Nickel	ppm	ASTM D5185m	>4	<1	0	1
Titanium	ppm	ASTM D5185m		<1	0	1
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	3	3	5
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	15	14	79
Tin	ppm	ASTM D5185m	>15	<1	<1	2
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

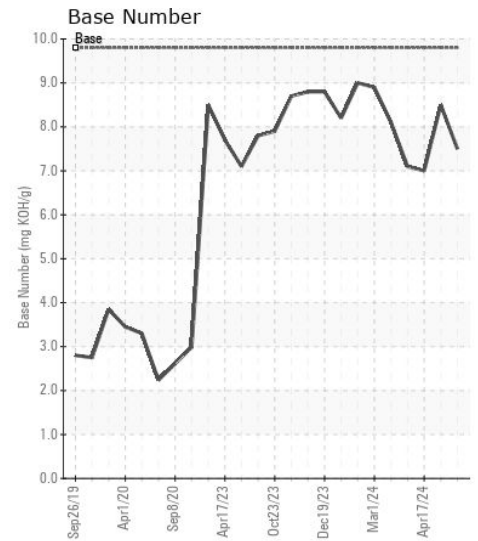
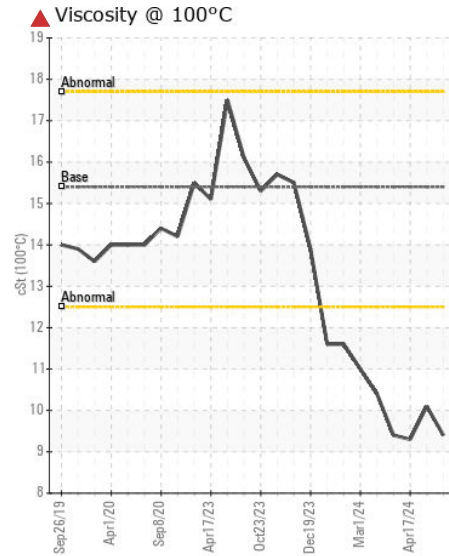
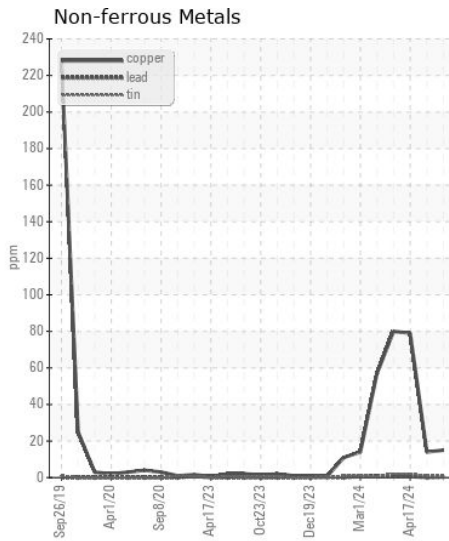
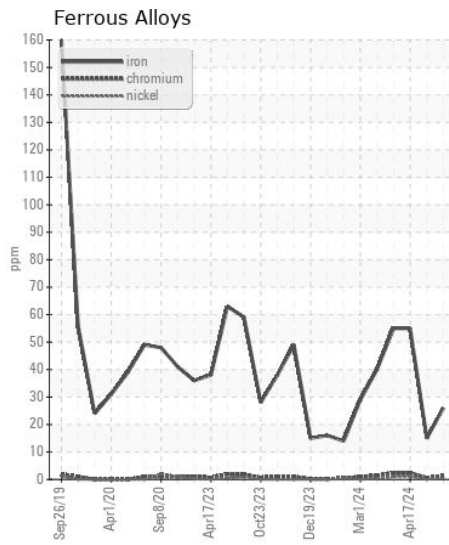
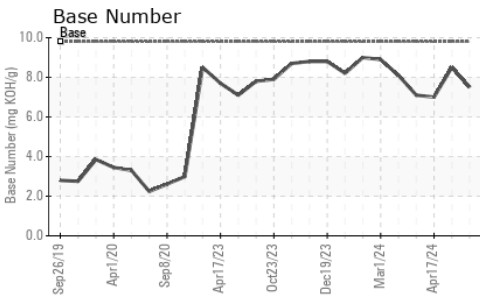
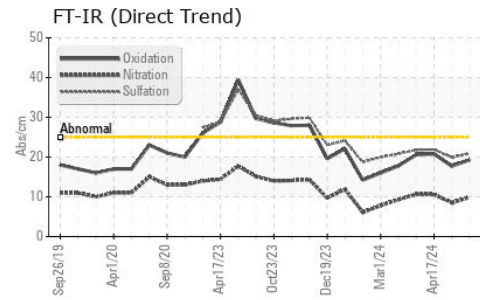
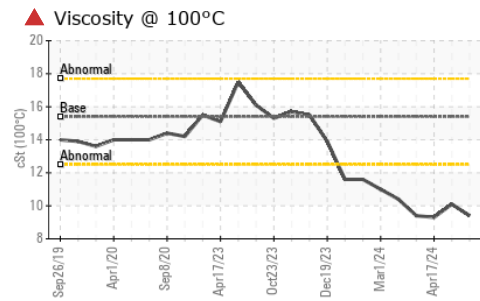
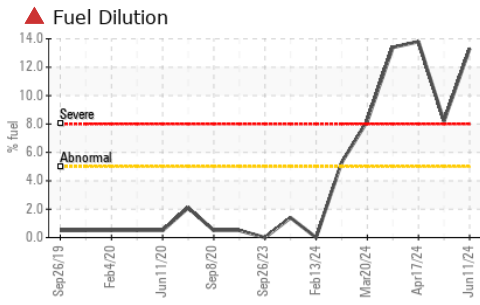
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	8	8	▲ 36
Potassium	ppm	ASTM D5185m	>20	3	3	8
Fuel	%	ASTM D3524	>5	▲ 13.3	▲ 8.2	▲ 13.8
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.3	0.7
Nitration	Abs/cm	*ASTM D7624	>20	9.9	8.5	10.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9	19.9	21.9
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 BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		4	4	2
Boron	ppm	ASTM D5185m	0	27	42	8
Barium	ppm	ASTM D5185m	0	1	0	13
Molybdenum	ppm	ASTM D5185m	60	48	50	46
Manganese	ppm	ASTM D5185m	0	1	1	5
Magnesium	ppm	ASTM D5185m	1010	916	971	645
Calcium	ppm	ASTM D5185m	1070	749	789	1162
Phosphorus	ppm	ASTM D5185m	1150	957	963	900
Zinc	ppm	ASTM D5185m	1270	1076	1141	1050
Sulfur	ppm	ASTM D5185m	2060	2938	3438	2681
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.3	17.7	20.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.5	8.5	7.0
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 9.4	▲ 10.1	▲ 9.3



Certificate L2367

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

Sample No. : GFL0122890

Lab Number : 06212972

Unique Number : 11085836

Test Package : FLEET (Additional Tests: PercentFuel)

Received : 17 Jun 2024

Tested : 20 Jun 2024

Diagnosed : 20 Jun 2024 - Wes Davis

GFL Environmental - 837 - Harrison TS

22820 S State Route 291

Harrisonville, MO

US 64701

Contact: SARA PATRICK

spatrack@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)