



Machine Id
722021-310026
 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 and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0124086	GFL0120142	GFL0117161
Sample Date		Client Info		05 Jul 2024	24 May 2024	23 Apr 2024
Machine Age	hrs	Client Info		20811	20649	20507
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				SEVERE	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>110	60	35	22
Chromium	ppm	ASTM D5185m	>4	4	4	2
Nickel	ppm	ASTM D5185m	>2	<1	1	1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	1	<1
Aluminum	ppm	ASTM D5185m	>25	4	6	3
Lead	ppm	ASTM D5185m	>45	10	1	2
Copper	ppm	ASTM D5185m	>85	4	2	4
Tin	ppm	ASTM D5185m	>4	1	1	1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

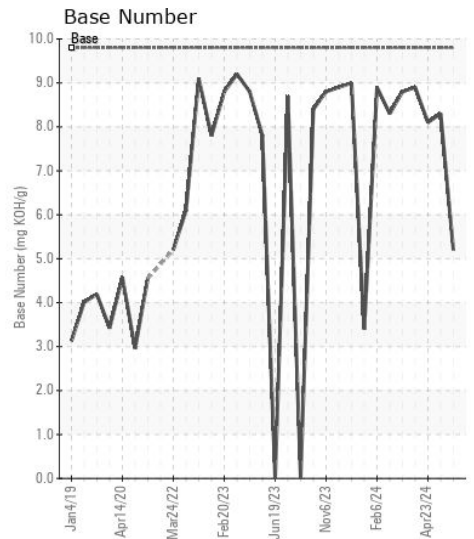
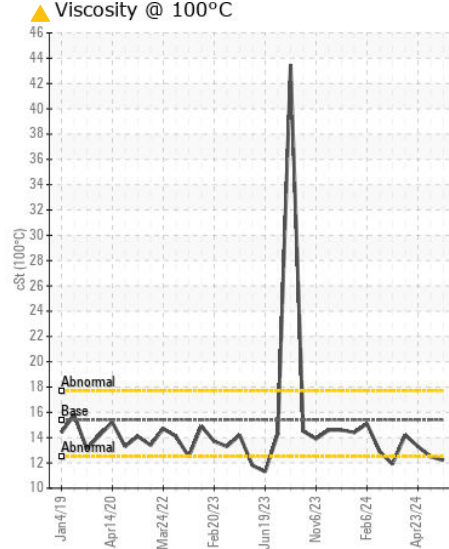
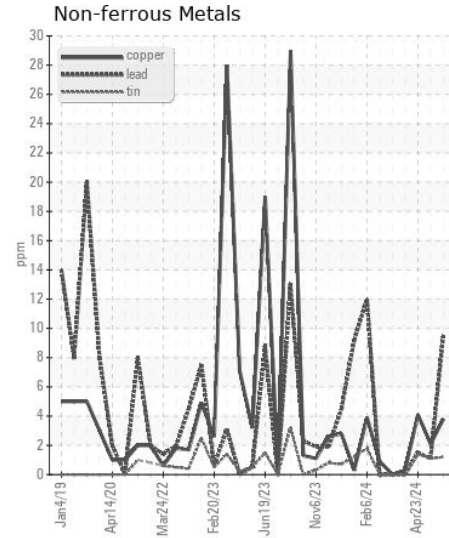
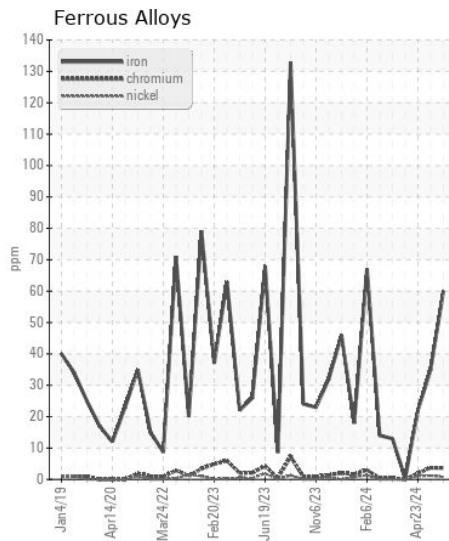
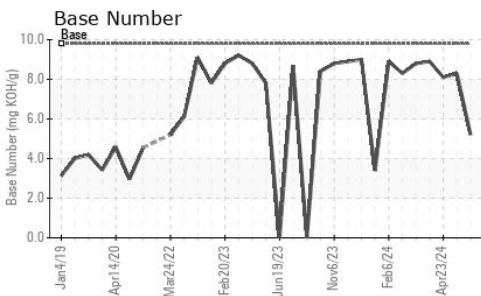
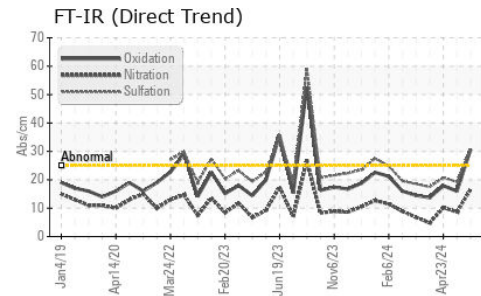
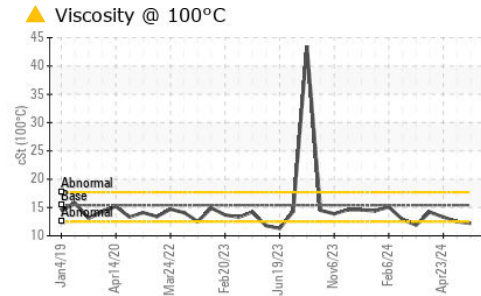
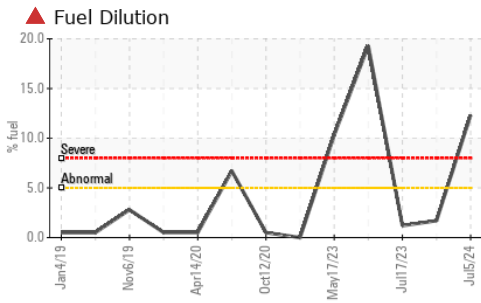
There is a high amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>30	8	17	8
Potassium	ppm	ASTM D5185m	>20	2	9	4
Fuel	%	ASTM D3524	>5	▲ 12.3	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.8	0.5	0.9
Nitration	Abs/cm	*ASTM D7624	>20	16.6	8.7	10.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.0	19.2	20.8
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 oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		7	5	5
Boron	ppm	ASTM D5185m	0	4	3	4
Barium	ppm	ASTM D5185m	0	0	0	<1
Molybdenum	ppm	ASTM D5185m	60	60	57	60
Manganese	ppm	ASTM D5185m	0	<1	1	1
Magnesium	ppm	ASTM D5185m	1010	877	850	867
Calcium	ppm	ASTM D5185m	1070	1099	1078	1072
Phosphorus	ppm	ASTM D5185m	1150	937	938	926
Zinc	ppm	ASTM D5185m	1270	1143	1119	1154
Sulfur	ppm	ASTM D5185m	2060	2445	3108	3057
Oxidation	Abs/.1mm	*ASTM D7414	>25	30.7	16.0	17.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.2	8.3	8.1
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.2	12.5	13.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0124086 **Received** : 10 Jul 2024
Lab Number : 06231997 **Tested** : 12 Jul 2024
Unique Number : 11115490 **Diagnosed** : 12 Jul 2024 - Sean Felton
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Loyce Stewart
 loyce.stewart@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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