



OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id

714029

Component

Diesel Engine

Fluid

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

DIAGNOSIS

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.

Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Contamination

Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0116891	---	---
Sample Date	Client Info	18 Apr 2024	---	---
Machine Age	hrs	Client Info	229	---
Oil Age	hrs	Client Info	600	---
Oil Changed	Client Info	Changed	---	---
Sample Status		ABNORMAL	---	---

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	---
Glycol	WC Method		NEG	---

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>110	43	---
Chromium	ppm	ASTM D5185m	>4	1	---
Nickel	ppm	ASTM D5185m	>2	<1	---
Titanium	ppm	ASTM D5185m		0	---
Silver	ppm	ASTM D5185m	>2	0	---
Aluminum	ppm	ASTM D5185m	>25	5	---
Lead	ppm	ASTM D5185m	>45	<1	---
Copper	ppm	ASTM D5185m	>85	158	---
Tin	ppm	ASTM D5185m	>4	2	---
Vanadium	ppm	ASTM D5185m		<1	---
Cadmium	ppm	ASTM D5185m		0	---

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	114	---
Barium	ppm	ASTM D5185m	0	<1	---
Molybdenum	ppm	ASTM D5185m	60	105	---
Manganese	ppm	ASTM D5185m	0	4	---
Magnesium	ppm	ASTM D5185m	1010	742	---
Calcium	ppm	ASTM D5185m	1070	1318	---
Phosphorus	ppm	ASTM D5185m	1150	782	---
Zinc	ppm	ASTM D5185m	1270	975	---
Sulfur	ppm	ASTM D5185m	2060	2605	---

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>30	56	---
Sodium	ppm	ASTM D5185m		3	---
Potassium	ppm	ASTM D5185m	>20	8	---
Fuel	%	ASTM D3524	>5	0.4	---

INFRA-RED

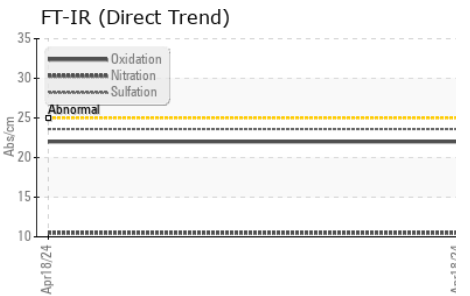
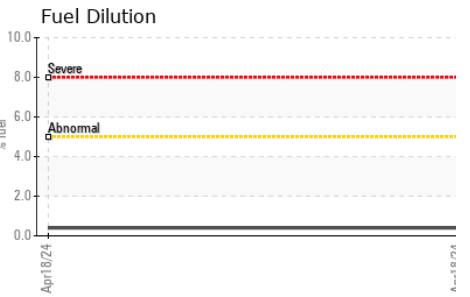
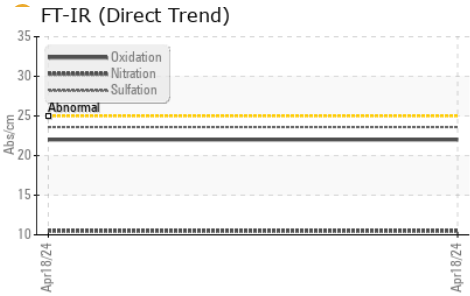
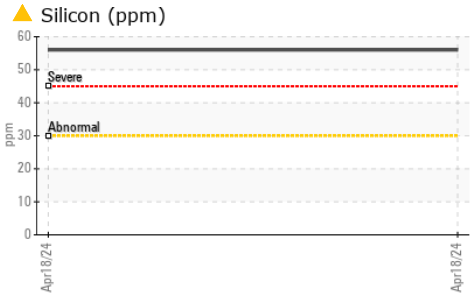
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.5	---
Nitration	Abs/cm	*ASTM D7624	>20	10.5	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.6	---

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.0	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	6.5	---



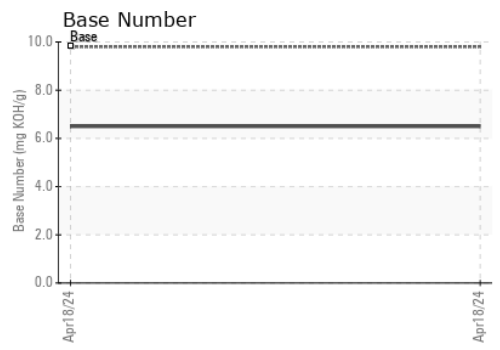
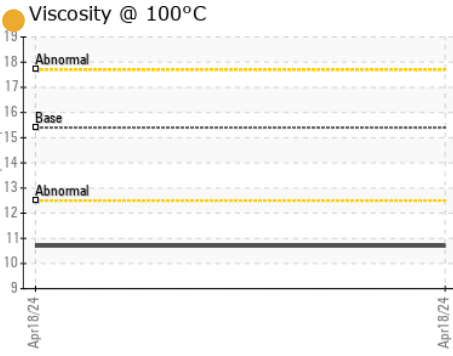
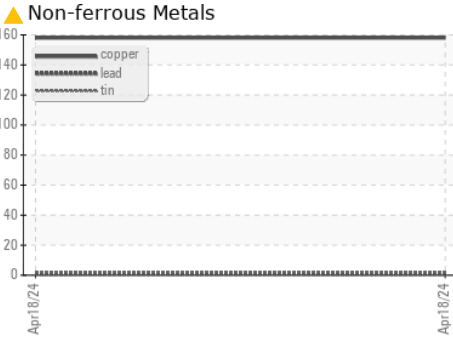
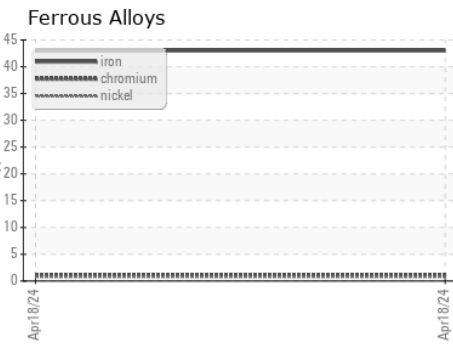
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Precipitate	scalar	*Visual	NONE	NONE	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---
Free Water	scalar	*Visual		NEG	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	● 10.7	---	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0116891 **Received** : 23 Apr 2024
Lab Number : 06157503 **Tested** : 26 Apr 2024
Unique Number : 10992926 **Diagnosed** : 26 Apr 2024 - Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 465 - Pontiac
 888 Baldwin
 Pontiac, MI
 US 48340

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: Ricky Matthews
rickymathews@gflenv.com

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

T: (586)825-9514

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: