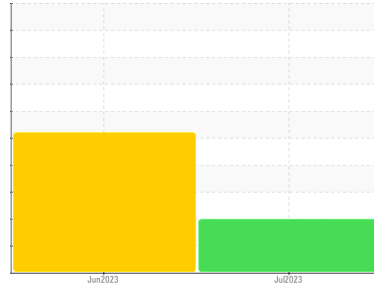




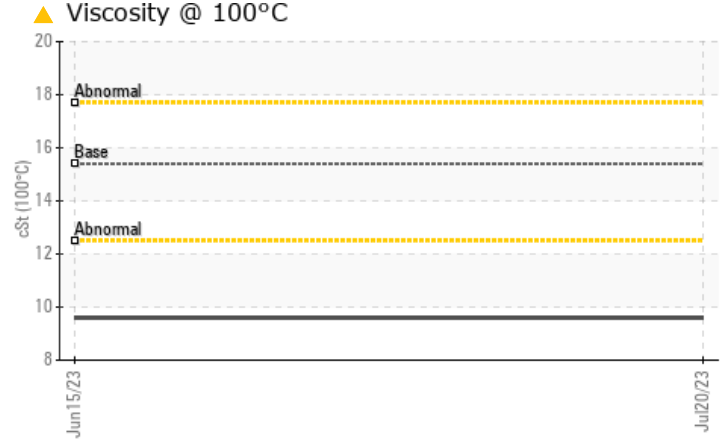
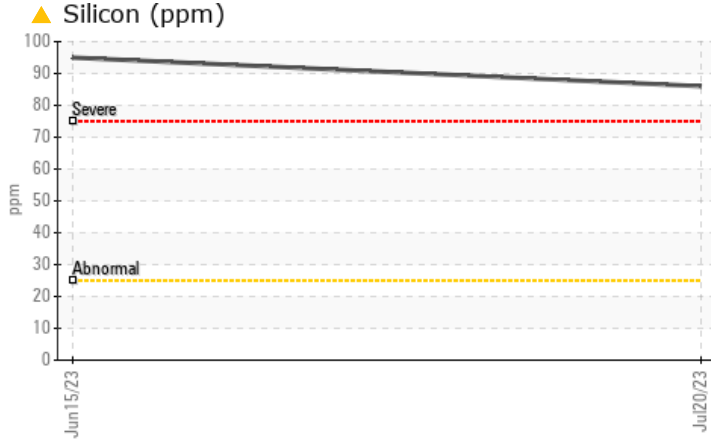
PROBLEM SUMMARY

Sample Rating Trend



Machine Id
413051
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time.
 Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	SEVERE	---
Silicon	ppm	ASTM D5185m	>25	▲ 86	95	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 9.6	▲ 9.6	---

Customer Id: GFL820
 Sample No.: GFL0088167
 Lab Number: 05918327
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

15 Jun 2023 Diag: Don Baldrige

DIRT



We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend you service the filters on this component. Resample at the next service interval to monitor. All component wear rates are normal. Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of dirt/seal material. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

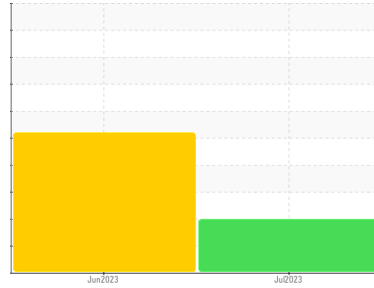
view report





OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
413051

Component
Diesel Engine

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

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

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	GFL0088167	GFL0067720	---
Sample Date	Client Info	20 Jul 2023	15 Jun 2023	---
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	---
Sample Status		ABNORMAL	SEVERE	---

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	0.5	---
Glycol	WC Method	NEG	NEG	---

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	29	19	---
Chromium	ppm ASTM D5185m >20	<1	<1	---
Nickel	ppm ASTM D5185m >4	2	<1	---
Titanium	ppm ASTM D5185m	<1	0	---
Silver	ppm ASTM D5185m >3	1	<1	---
Aluminum	ppm ASTM D5185m >20	3	4	---
Lead	ppm ASTM D5185m >40	<1	<1	---
Copper	ppm ASTM D5185m >330	58	16	---
Tin	ppm ASTM D5185m >15	3	2	---
Vanadium	ppm ASTM D5185m	<1	0	---
Cadmium	ppm ASTM D5185m	0	0	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	285	390	---
Barium	ppm ASTM D5185m 0	0	0	---
Molybdenum	ppm ASTM D5185m 60	122	119	---
Manganese	ppm ASTM D5185m 0	4	3	---
Magnesium	ppm ASTM D5185m 1010	674	693	---
Calcium	ppm ASTM D5185m 1070	1520	1486	---
Phosphorus	ppm ASTM D5185m 1150	672	724	---
Zinc	ppm ASTM D5185m 1270	824	838	---
Sulfur	ppm ASTM D5185m 2060	2686	2948	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ 86	95	---
Sodium	ppm ASTM D5185m	17	3	---
Potassium	ppm ASTM D5185m >20	7	5	---

INFRA-RED

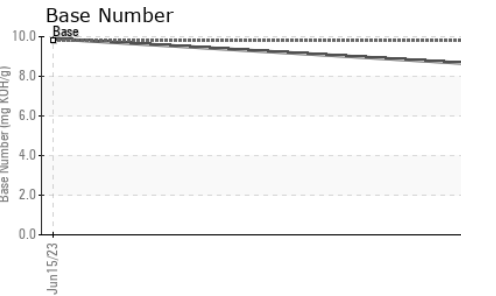
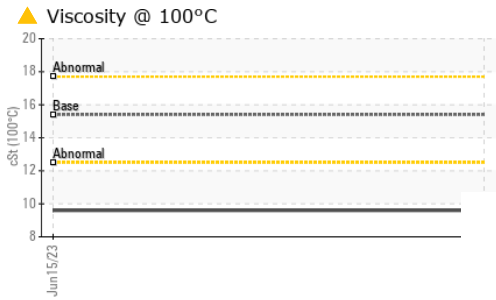
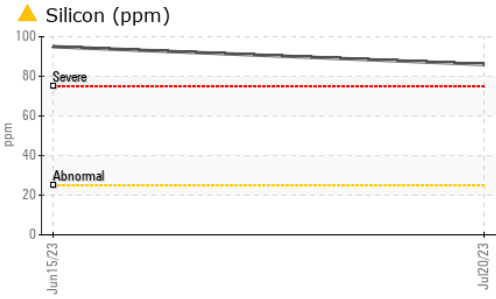
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.3	0.1	---
Nitration	Abs/cm *ASTM D7624 >20	8.8	6.8	---
Sulfation	Abs/.1mm *ASTM D7415 >30	23.7	26.4	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	20.9	21.3	---
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.6	9.9	---



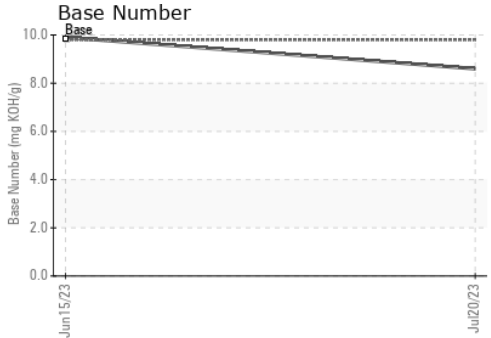
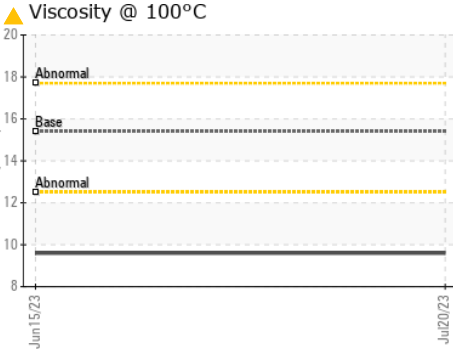
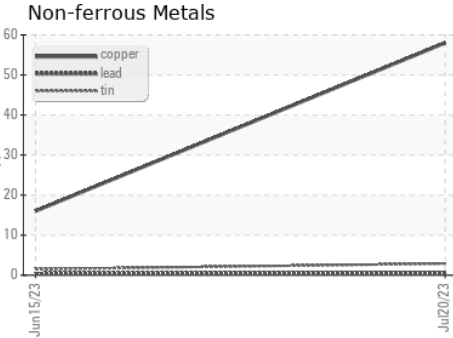
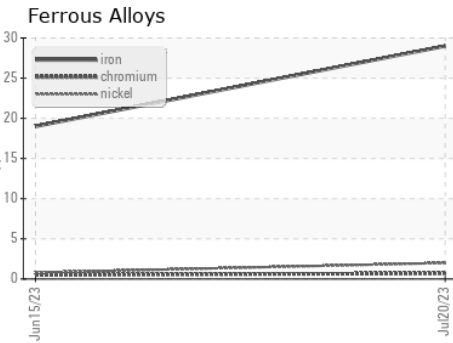
OIL ANALYSIS REPORT



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 ▲ 9.6	▲ 9.6	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0088167 **Received** : 08 Aug 2023
Lab Number : 05918327 **Diagnosed** : 09 Aug 2023
Unique Number : 10590241 **Diagnostician** : Jonathan Hester
Test Package : FLEET

GFL Environmental - 820 - Joplin Hauling
 3700 West 7th Street
 Joplin, MO
 US 64801
 Contact: James Jarrett
 jjarrett@gflenv.com
 T: (417)310-2802
 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)