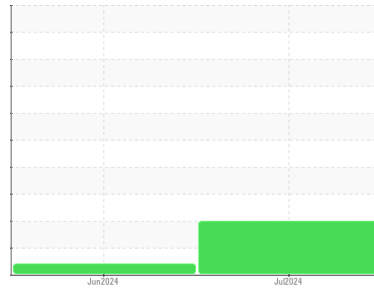




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id

915019

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

Metal levels are typical for a new component breaking in.

▲ 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	GFL0093496	GFL0093472	---
Sample Date	Client Info	10 Jul 2024	21 Jun 2024	---
Machine Age	hrs	253	122	---
Oil Age	hrs	253	122	---
Oil Changed	Client Info	Not Chngd	Not Chngd	---
Sample Status		ABNORMAL	ATTENTION	---

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	0.2	---
Water	WC Method >0.2	NEG	NEG	---
Glycol	WC Method	NEG	NEG	---

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	19	14	---
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	8	6	---
Lead	ppm ASTM D5185m >40	0	<1	---
Copper	ppm ASTM D5185m >330	66	35	---
Tin	ppm ASTM D5185m >15	2	2	---
Vanadium	ppm ASTM D5185m	<1	<1	---
Cadmium	ppm ASTM D5185m	0	0	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	312	354	---
Barium	ppm ASTM D5185m 0	0	<1	---
Molybdenum	ppm ASTM D5185m 60	124	121	---
Manganese	ppm ASTM D5185m 0	3	4	---
Magnesium	ppm ASTM D5185m 1010	654	694	---
Calcium	ppm ASTM D5185m 1070	1518	1557	---
Phosphorus	ppm ASTM D5185m 1150	738	736	---
Zinc	ppm ASTM D5185m 1270	845	870	---
Sulfur	ppm ASTM D5185m 2060	2391	2940	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ 52	60	---
Sodium	ppm ASTM D5185m	3	3	---
Potassium	ppm ASTM D5185m >20	15	12	---

INFRA-RED

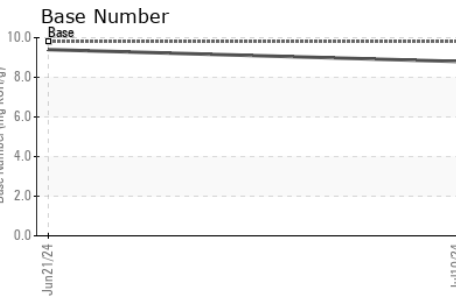
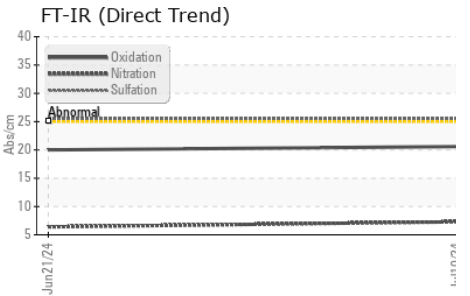
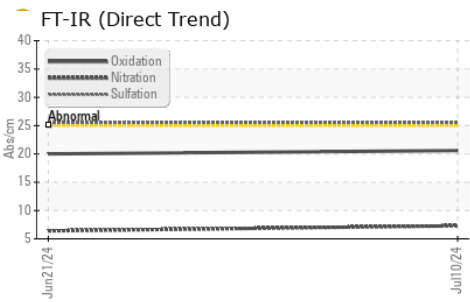
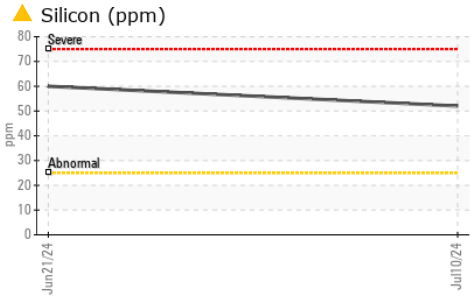
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.2	0.1	---
Nitration	Abs/cm *ASTM D7624 >20	7.3	6.4	---
Sulfation	Abs/.1mm *ASTM D7415 >30	25.5	25.5	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	20.6	20.0	---
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.8	9.4	---



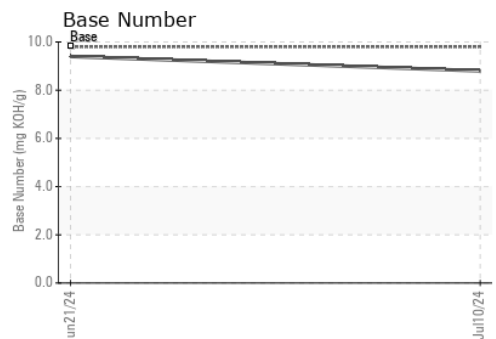
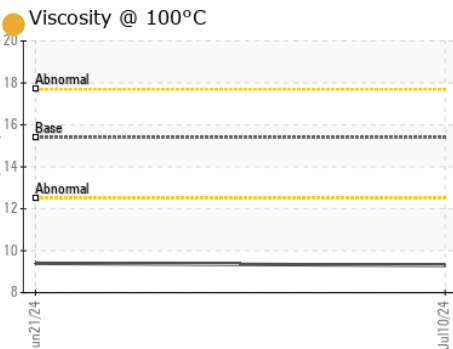
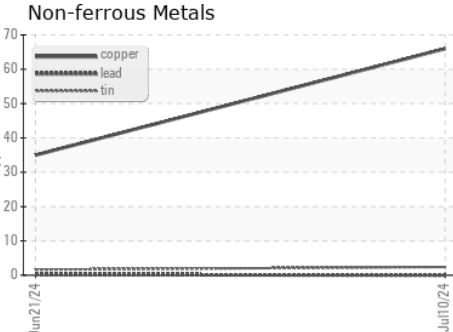
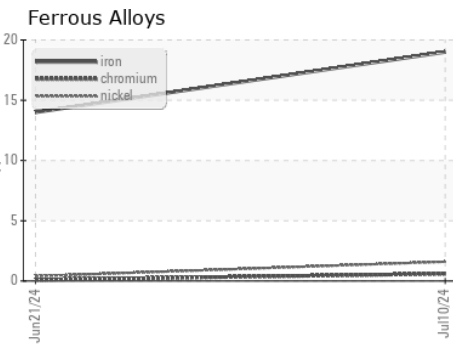
OIL ANALYSIS REPORT



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	● 9.3	● 9.4

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0093496 **Received** : 12 Jul 2024
Lab Number : 06234662 **Tested** : 15 Jul 2024
Unique Number : 11123496 **Diagnosed** : 15 Jul 2024 - Don Baldrige
Test Package : FLEET

GFL Environmental - 891 - Oklahoma City Hauling
 1001 South Rockwell
 Oklahoma City, OK
 US 73128
 Contact: Andy Smith
 andrew.smith@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)