

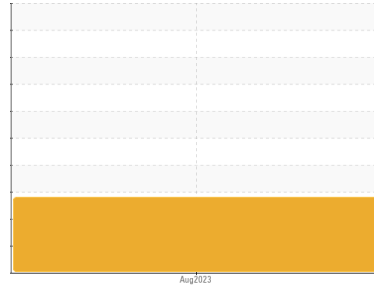


PROBLEM SUMMARY

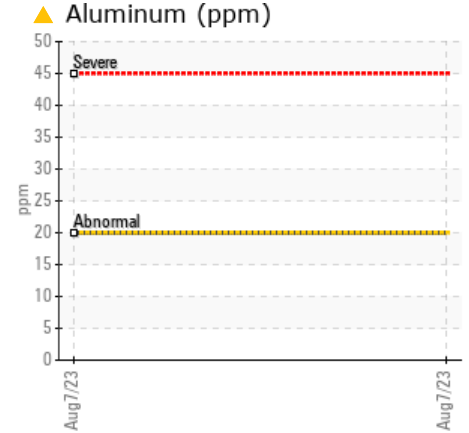
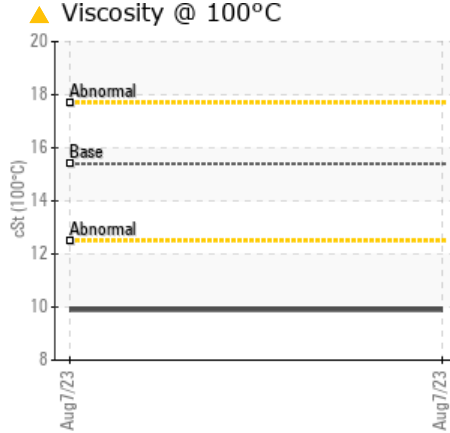
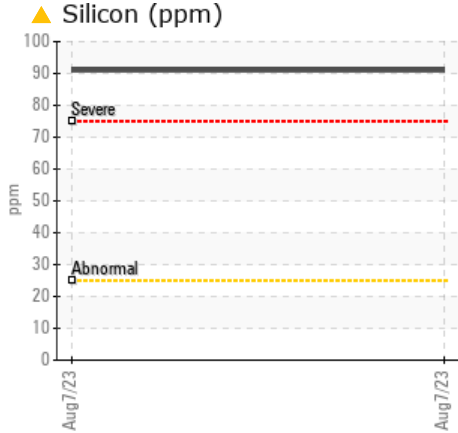


Area
(H917017)
 Machine Id
MACK 413016
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (11 GAL)

Sample Rating Trend



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	---	---
Aluminum	ppm	ASTM D5185m	>20	▲ 20	---	---
Silicon	ppm	ASTM D5185m	>25	▲ 91	---	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 9.9	---	---

Customer Id: GFL097
 Sample No.: GFL0073301
 Lab Number: 05919645
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Don Baldrige +1
don.b505@comcast.net

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.

HISTORICAL DIAGNOSIS



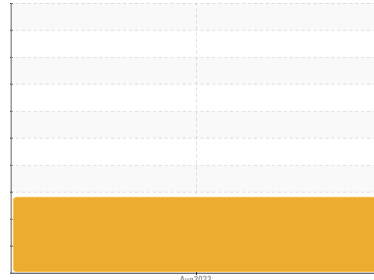
OIL ANALYSIS REPORT

Sample Rating Trend

DIRT



Area
(H917017)
Machine Id
MACK 413016
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (11 GAL)



DIAGNOSIS

▲ Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

▲ Wear

All component wear rates are normal.

▲ Contamination

Fuel content negligible. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

▲ 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	GFL0073301	---	---
Sample Date	Client Info	07 Aug 2023	---	---
Machine Age	hrs	600	---	---
Oil Age	hrs	600	---	---
Oil Changed	Client Info	Changed	---	---
Sample Status		ABNORMAL	---	---

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >120	56	---	---
Chromium	ppm	ASTM D5185m >20	2	---	---
Nickel	ppm	ASTM D5185m >5	5	---	---
Titanium	ppm	ASTM D5185m >2	<1	---	---
Silver	ppm	ASTM D5185m >2	<1	---	---
Aluminum	ppm	ASTM D5185m >20	▲ 20	---	---
Lead	ppm	ASTM D5185m >40	0	---	---
Copper	ppm	ASTM D5185m >330	113	---	---
Tin	ppm	ASTM D5185m >15	3	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	157	---	---
Barium	ppm	ASTM D5185m 0	<1	---	---
Molybdenum	ppm	ASTM D5185m 60	117	---	---
Manganese	ppm	ASTM D5185m 0	4	---	---
Magnesium	ppm	ASTM D5185m 1010	687	---	---
Calcium	ppm	ASTM D5185m 1070	1423	---	---
Phosphorus	ppm	ASTM D5185m 1150	680	---	---
Zinc	ppm	ASTM D5185m 1270	828	---	---
Sulfur	ppm	ASTM D5185m 2060	2647	---	---

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	▲ 91	---	---
Sodium	ppm	ASTM D5185m	4	---	---
Potassium	ppm	ASTM D5185m >20	53	---	---
Fuel	%	ASTM D3524 >3.0	0.4	---	---

INFRA-RED

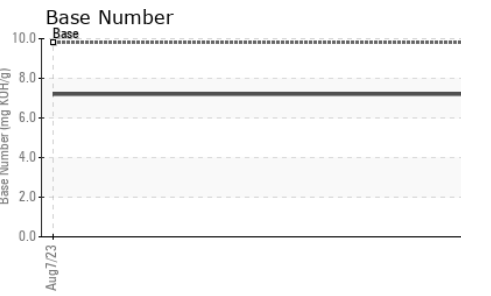
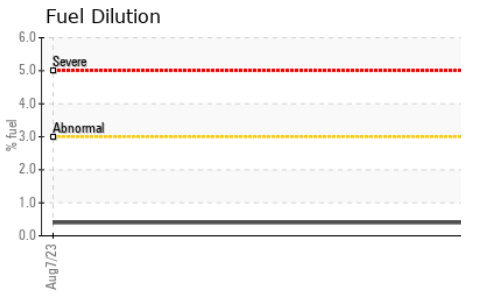
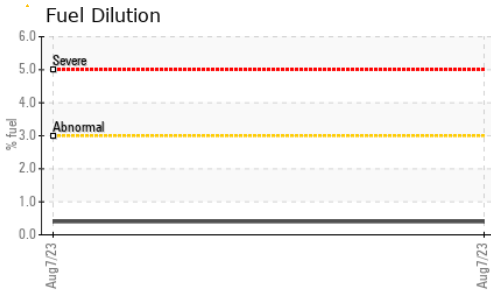
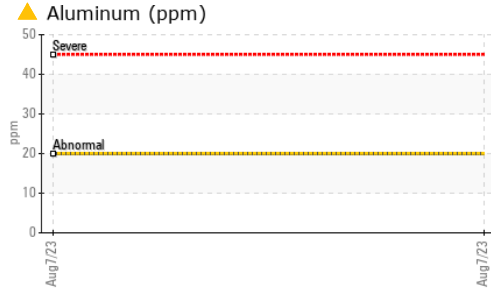
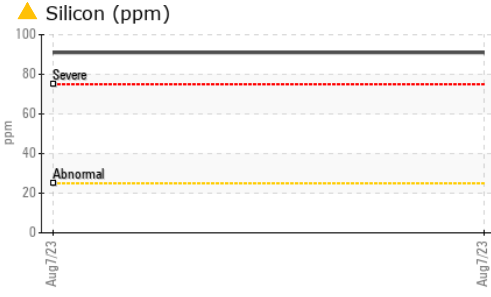
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >4	0.3	---	---
Nitration	Abs/cm	*ASTM D7624 >20	9.9	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.4	---	---

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	22.2	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.2	---	---



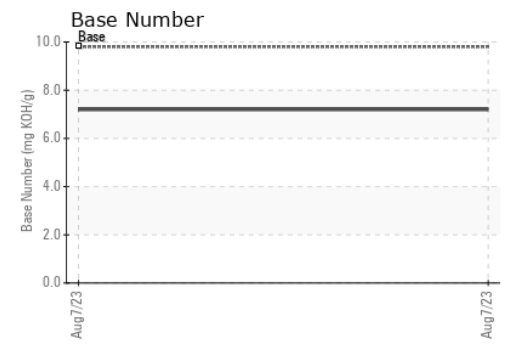
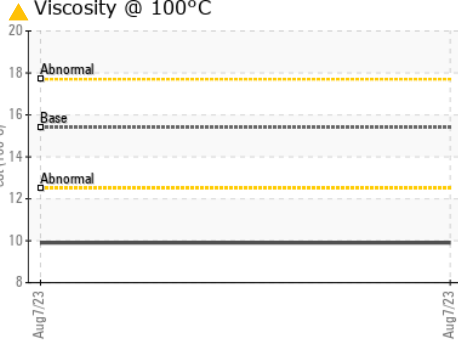
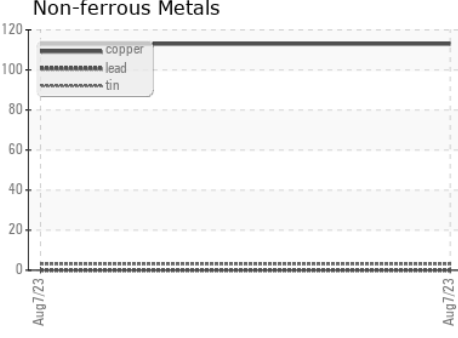
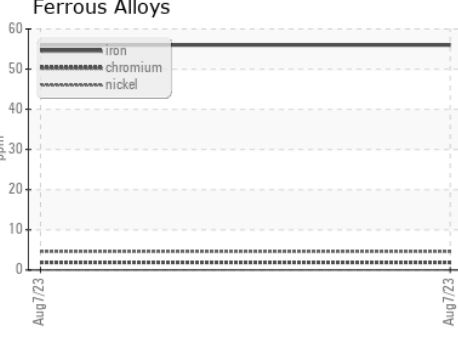
OIL ANALYSIS REPORT



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 ▲ 9.9	---	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0073301 **Received** : 09 Aug 2023
Lab Number : 05919645 **Diagnosed** : 10 Aug 2023
Unique Number : 10591559 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 097 - Knoxville Hauling
 200 Peirce Rd
 Jacksboro, TN
 US 37757
 Contact: Doug Weeden
 dweeden@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)