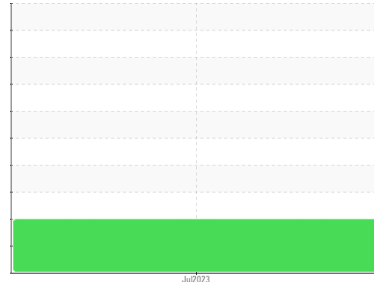




OIL ANALYSIS REPORT

Sample Rating Trend

DIRT



Area
222
 Machine Id
413137

Component
1 Diesel Engine
 Fluid

PETRO CANADA DURON SHP 15W40 (36 LTR)

DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal. We have assumed that this component is not breaking in (age of component not reported).

Contamination

Fuel content negligible. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is a moderate concentration of dirt present in the oil.

Fluid Condition

Viscosity of sample indicates oil is within SAE 20 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0086794	---	---
Sample Date	Client Info	25 Jul 2023	---	---
Machine Age	hrs Client Info	0	---	---
Oil Age	hrs Client Info	0	---	---
Oil Changed	Client Info	N/A	---	---
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 D5185(m) >100	19	---	---
Chromium	ppm ASTM D5185(m) >20	0	---	---
Nickel	ppm ASTM D5185(m) >4	1	---	---
Titanium	ppm ASTM D5185(m)	0	---	---
Silver	ppm ASTM D5185(m) >3	1	---	---
Aluminum	ppm ASTM D5185(m) >20	6	---	---
Lead	ppm ASTM D5185(m) >40	3	---	---
Copper	ppm ASTM D5185(m) >330	108	---	---
Tin	ppm ASTM D5185(m) >15	3	---	---
Antimony	ppm ASTM D5185(m)	0	---	---
Vanadium	ppm ASTM D5185(m)	0	---	---
Beryllium	ppm ASTM D5185(m)	0	---	---
Cadmium	ppm ASTM D5185(m)	0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 0	354	---	---
Barium	ppm ASTM D5185(m) 0	<1	---	---
Molybdenum	ppm ASTM D5185(m) 60	125	---	---
Manganese	ppm ASTM D5185(m) 0	4	---	---
Magnesium	ppm ASTM D5185(m) 1010	671	---	---
Calcium	ppm ASTM D5185(m) 1070	1480	---	---
Phosphorus	ppm ASTM D5185(m) 1150	733	---	---
Zinc	ppm ASTM D5185(m) 1270	793	---	---
Sulfur	ppm ASTM D5185(m) 2060	2082	---	---
Lithium	ppm ASTM D5185(m)	<1	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >25	▲ 37	---	---
Sodium	ppm ASTM D5185(m)	3	---	---
Potassium	ppm ASTM D5185(m) >20	11	---	---
Fuel	% ASTM D7593* >5	0.6	---	---

INFRA-RED

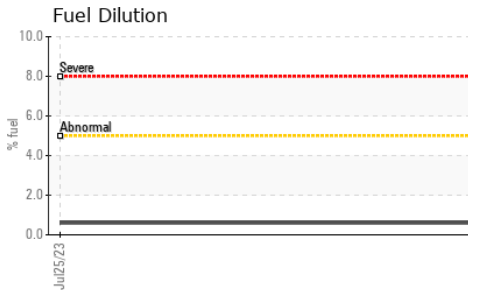
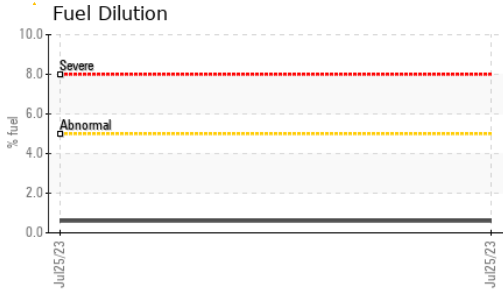
method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >3	0	---	---
Nitration	Abs/cm ASTM D7624* >20	7.6	---	---
Sulfation	Abs/.1mm ASTM D7415* >30	26.7	---	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm ASTM D7414* >25	21.5	---	---



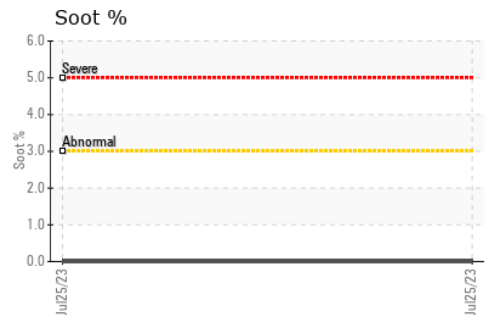
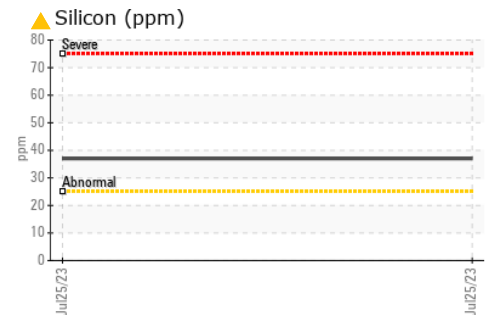
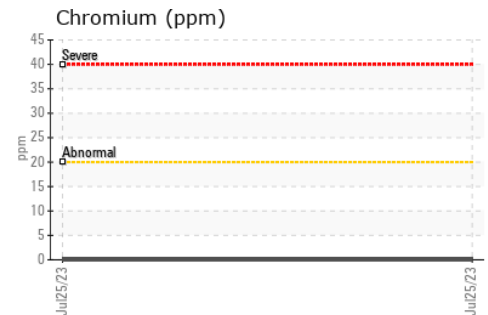
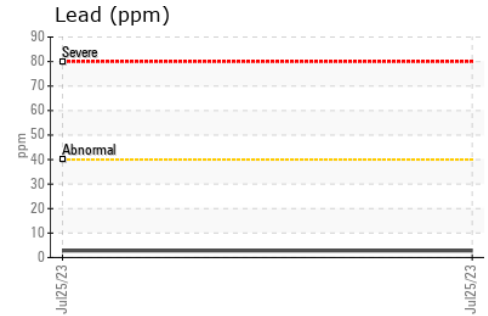
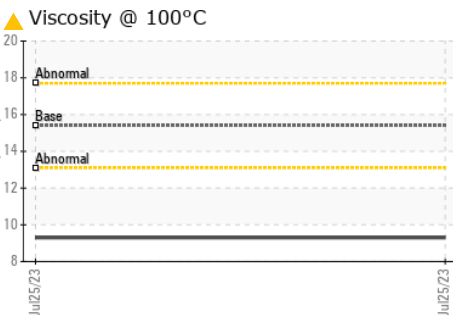
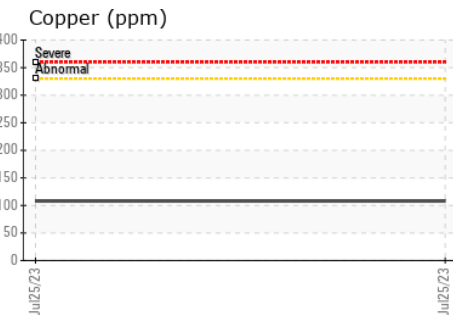
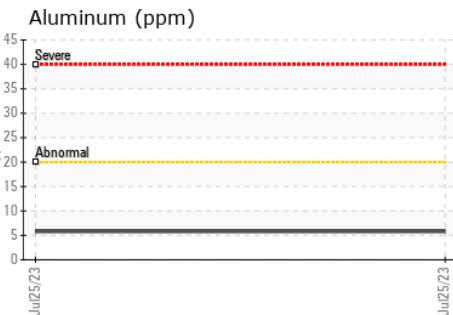
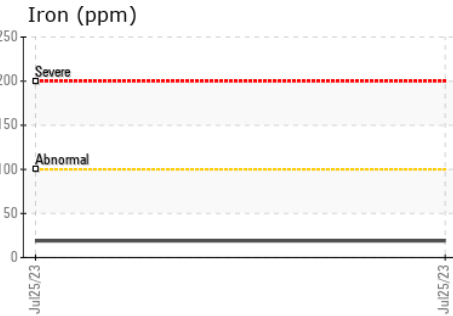
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
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 D7279(m)	15.4	▲ 9.3	---

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0086794 **Received** : 26 Jul 2023
Lab Number : 02572143 **Diagnosed** : 27 Jul 2023
Unique Number : 5617194 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)
 To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

GFL Environmental - 222 - Sandhill
 SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCE ROAD
 ORANGEVILLE, ON
 CA L9W 3X5
 Contact: GLENN COOK
 gcook@gflenv.com
 T: (519)940-4167
 F: