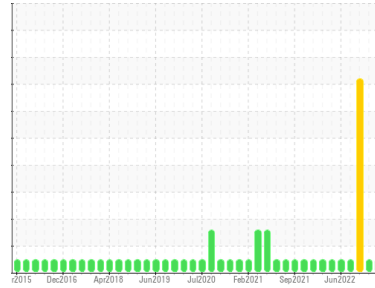




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
2528

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (38 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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 no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		GFL0071544	GFL0053181	GFL0061640
Sample Date	Client Info		21 Jun 2023	14 Feb 2023	14 Dec 2022
Machine Age	hrs	Client Info	96121	96121	96121
Oil Age	hrs	Client Info	600	600	600
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	SEVERE

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	WC Method	>5	<1.0	<1.0	<1.0

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >110	25	40	▲ 133
Chromium	ppm	ASTM D5185m >4	3	2	▲ 9
Nickel	ppm	ASTM D5185m >2	1	0	0
Titanium	ppm	ASTM D5185m	2	<1	2
Silver	ppm	ASTM D5185m >2	1	<1	0
Aluminum	ppm	ASTM D5185m >25	6	6	▲ 28
Lead	ppm	ASTM D5185m >45	15	6	5
Copper	ppm	ASTM D5185m >85	3	<1	2
Tin	ppm	ASTM D5185m >4	2	<1	<1
Vanadium	ppm	ASTM D5185m	1	<1	0
Cadmium	ppm	ASTM D5185m	2	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 0	2	8	0
Barium	ppm	ASTM D5185m 0	18	0	1
Molybdenum	ppm	ASTM D5185m 60	51	69	67
Manganese	ppm	ASTM D5185m 0	2	<1	2
Magnesium	ppm	ASTM D5185m 1010	728	920	916
Calcium	ppm	ASTM D5185m 1070	849	1241	1188
Phosphorus	ppm	ASTM D5185m 1150	783	1060	1027
Zinc	ppm	ASTM D5185m 1270	959	1344	1287
Sulfur	ppm	ASTM D5185m 2060	2651	3687	3562

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >30	12	18	● 68
Sodium	ppm	ASTM D5185m	30	24	24
Potassium	ppm	ASTM D5185m >20	46	3	3
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

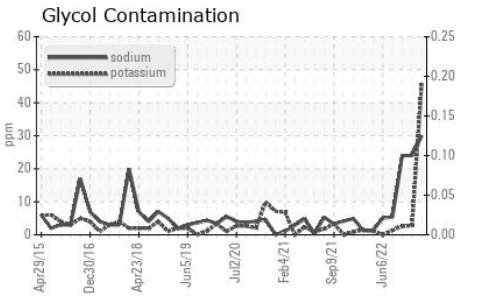
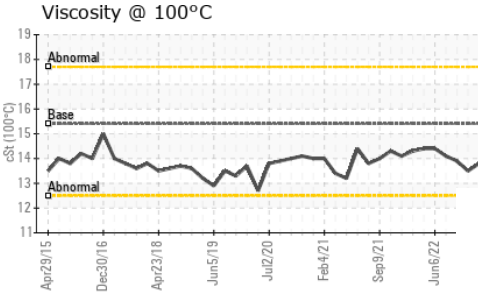
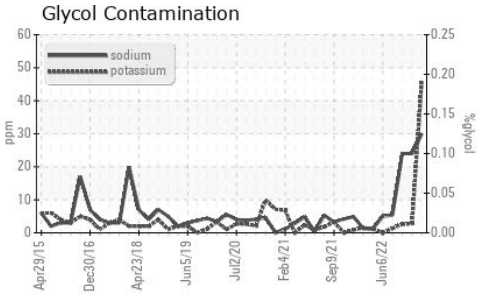
	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >3	1.3	0.5	1.1
Nitration	Abs/cm	*ASTM D7624 >20	13.6	8.6	12.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	26.5	20.2	24.0

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414 >25	22.3	15.6	19.6
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.8	8.1	8.4



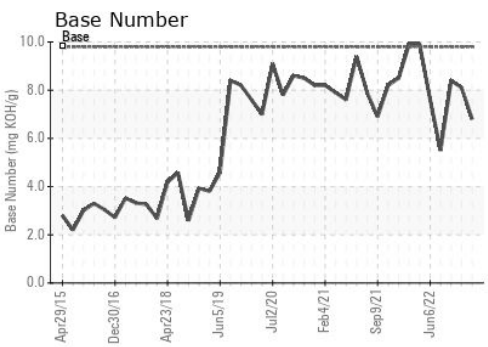
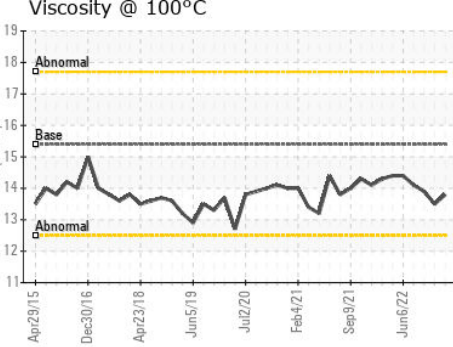
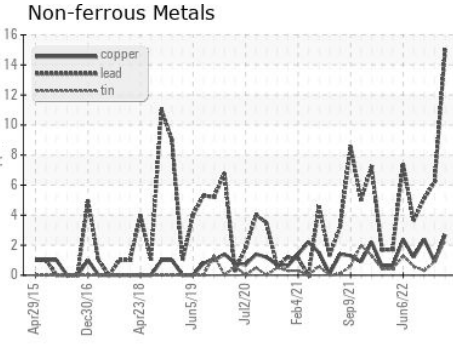
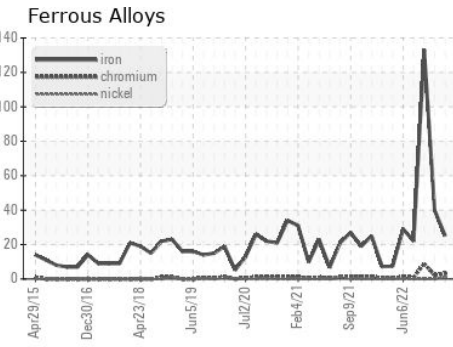
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history 1	history 2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.5	13.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0071544 **Received** : 03 Jul 2023
Lab Number : **05888809** **Diagnosed** : 06 Jul 2023
Unique Number : 10539292 **Diagnostician** : Angela Borella
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 035 - Greensboro
 1236 Elon Place
 High Point, NC
 US 27263
 Contact: JORGE COSTA
 jorge.costa@gflenv.com
 T: (336)668-3712
 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)