



PROBLEM SUMMARY

Sample Rating Trend

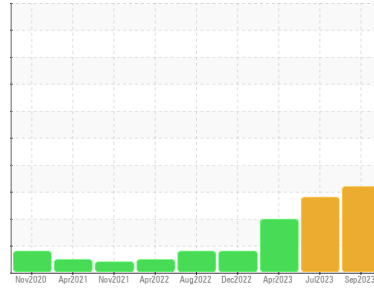
GLYCOL



Machine Id
222028-991

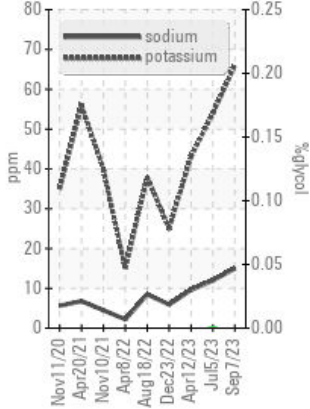
Component
Diesel Engine

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

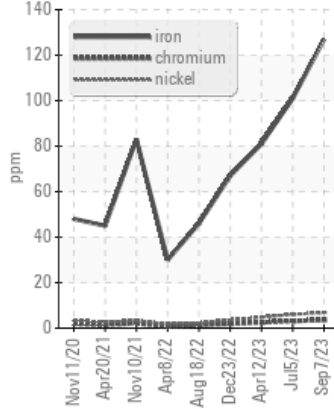


COMPONENT CONDITION SUMMARY

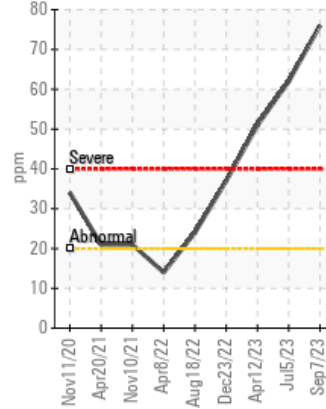
▲ Glycol Contamination



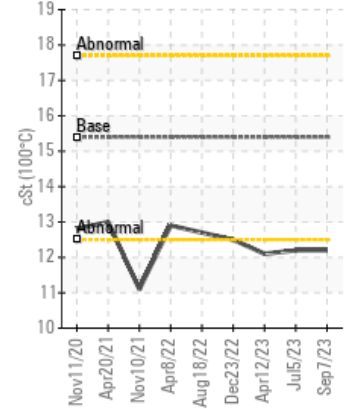
▲ Ferrous Alloys



▲ Aluminum (ppm)



▲ Viscosity @ 100°C



RECOMMENDATION

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	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>100	▲ 127	▲ 101	81
Aluminum	ppm	ASTM D5185m	>20	▲ 76	▲ 62	▲ 51
Potassium	ppm	ASTM D5185m	>20	▲ 66	54	43
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.2	▲ 12.2	▲ 12.1

Customer Id: GFL657
Sample No.: GFL0058034
Lab Number: 05945442
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

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.

HISTORICAL DIAGNOSIS

05 Jul 2023 Diag: Jonathan Hester

WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. Piston and cylinder wear is indicated. Light fuel dilution occurring. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

[view report](#)



12 Apr 2023 Diag: Jonathan Hester

WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. The aluminum level is abnormal. All other component wear rates are normal. Light fuel dilution occurring. 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](#)



23 Dec 2022 Diag: Jonathan Hester

WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. The aluminum level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

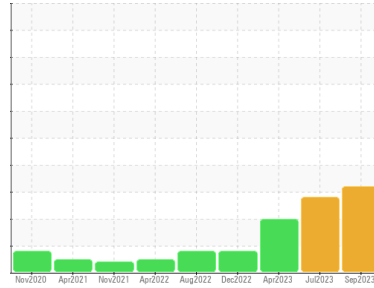
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
222028-991

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

Piston and cylinder wear is indicated.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

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	GFL0058034	GFL0082513	GFL0070890	
Sample Date	Client Info	07 Sep 2023	05 Jul 2023	12 Apr 2023	
Machine Age	hrs	Client Info	10027	9932	9790
Oil Age	hrs	Client Info	277	182	262
Oil Changed	Client Info	Changed	Not Changd	Not Changd	
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL	

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >2.0	<1.0	▲ 2.4	▲ 2.2

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >100	▲ 127	▲ 101	81
Chromium	ppm	ASTM D5185m >20	4	3	2
Nickel	ppm	ASTM D5185m >4	7	6	5
Titanium	ppm	ASTM D5185m	<1	<1	<1
Silver	ppm	ASTM D5185m >3	0	0	<1
Aluminum	ppm	ASTM D5185m >20	▲ 76	▲ 62	▲ 51
Lead	ppm	ASTM D5185m >40	1	<1	0
Copper	ppm	ASTM D5185m >330	6	4	3
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	4	4	7
Barium	ppm	ASTM D5185m 0	0	<1	0
Molybdenum	ppm	ASTM D5185m 60	72	68	67
Manganese	ppm	ASTM D5185m 0	1	1	2
Magnesium	ppm	ASTM D5185m 1010	986	959	917
Calcium	ppm	ASTM D5185m 1070	1176	1123	1063
Phosphorus	ppm	ASTM D5185m 1150	1051	1010	1045
Zinc	ppm	ASTM D5185m 1270	1280	1222	1214
Sulfur	ppm	ASTM D5185m 2060	3673	3660	3718

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	8	7	4
Sodium	ppm	ASTM D5185m	15	12	10
Potassium	ppm	ASTM D5185m >20	▲ 66	54	43
Glycol	%	*ASTM D2982	NEG	0.0	NEG

INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	1.3	1.1	0.7
Nitration	Abs/cm	*ASTM D7624 >20	10.5	9.5	7.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.8	20.6	17.2

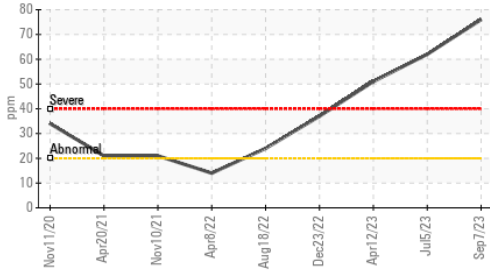
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.2	17.1	14.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.6	10.5	8.8

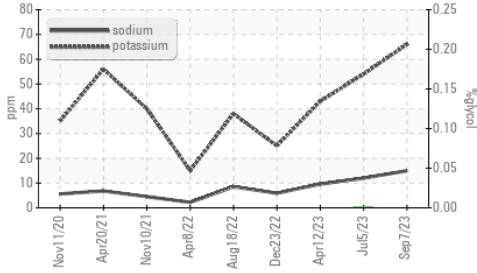


OIL ANALYSIS REPORT

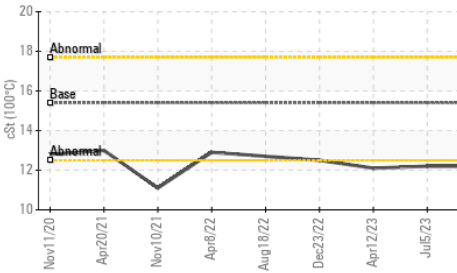
▲ Aluminum (ppm)



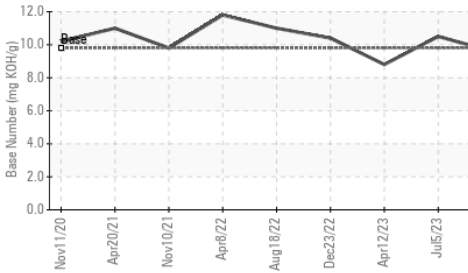
● Glycol Contamination



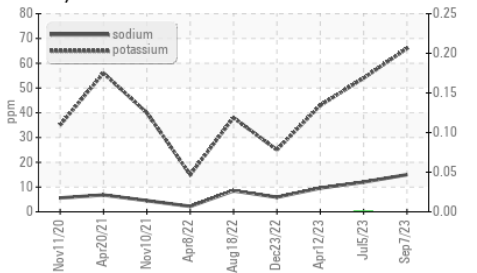
▲ Viscosity @ 100°C



Base Number



● Glycol Contamination

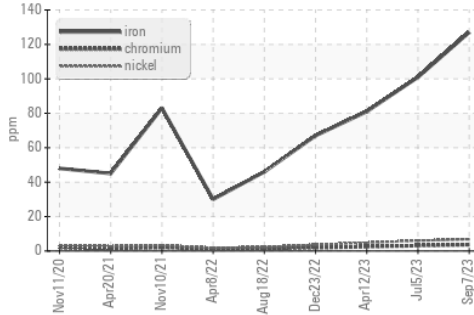


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

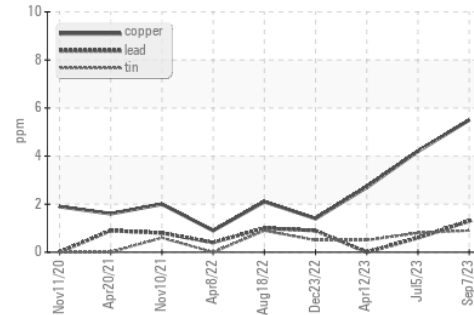
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4 ▲ 12.2	▲ 12.2	▲ 12.1

GRAPHS

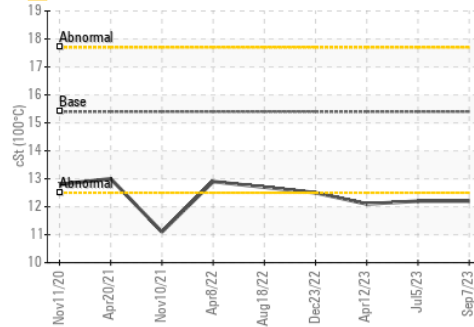
▲ Ferrous Alloys



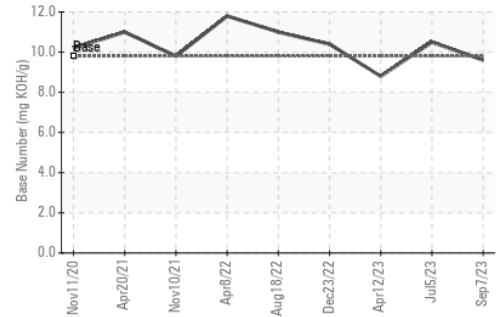
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0058034 **Received** : 08 Sep 2023
Lab Number : 05945442 **Diagnosed** : 13 Sep 2023
Unique Number : 10636054 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 657 - Charlottesville Hauling
 5498 Richmond Road
 Troy, VA
 US 22974
 Contact: Brian Ulickas
 bulickas@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)

T:
F: