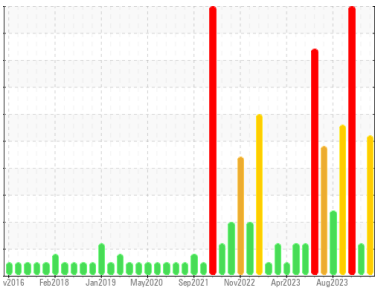
PROBLEM SUMMARY

Sample Rating Trend

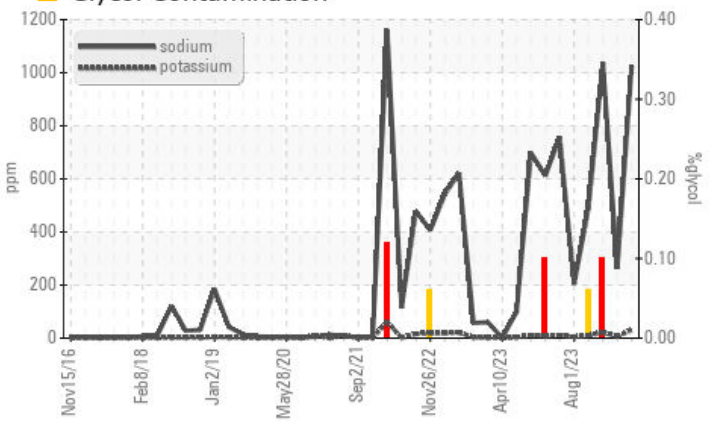


DIRT

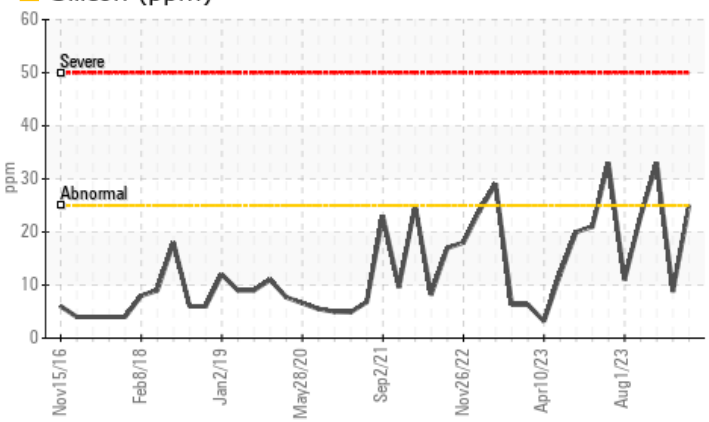
Machine Id
10630
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)

COMPONENT CONDITION SUMMARY

▲ Glycol Contamination



▲ Silicon (ppm)



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. The oil is near the end of it`s useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ATTENTION	SEVERE
Silicon	ppm	ASTM D5185m	>25	▲ **25**	9	▲ 33
Sodium	ppm	ASTM D5185m		▲ **1024**	▲ 263	▲ 1036
Potassium	ppm	ASTM D5185m	>20	▲ **30**	6	▲ 22
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **3.4**	8.4	8.6

Customer Id: GFL010
Sample No.: GFL0097925
Lab Number: 06011897
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
Service/change Fluid	---	---	?	The oil is near the end of it's useful service life, recommend schedule an oil change.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

14 Sep 2023 Diag: Jonathan Hester

GLYCOL

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. Sodium and/or potassium levels remain high. Test for glycol is negative. 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

07 Sep 2023 Diag: Jonathan Hester

GLYCOL

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The oil is near the end of it`s useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Light fuel dilution occurring. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

28 Aug 2023 Diag: Wes Davis

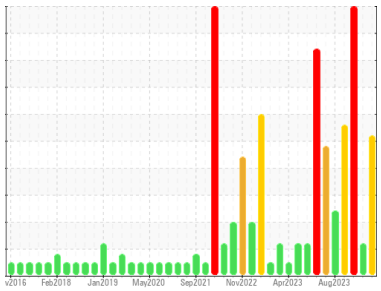
GLYCOL

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition.All component wear rates are normal. Test for glycol is positive. There is a moderate amount of fuel present in the oil. There is a moderate concentration of glycol present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
10630
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. Check for low coolant level. The oil is near the end of it`s useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
Sodium and/or potassium levels are high. Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition
The BN level is low.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0097925**	GFL0091363	GFL0094357
Sample Date		Client Info		**13 Nov 2023**	14 Sep 2023	07 Sep 2023
Machine Age	hrs	Client Info		**6244**	5999	5927
Oil Age	hrs	Client Info		**317**	466	394
Oil Changed		Client Info		**Not Changd**	Not Changd	Changed
Sample Status				**ABNORMAL**	ATTENTION	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	▲ 2.4
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	**31**	10	46
Chromium	ppm	ASTM D5185m	>5	**2**	<1	3
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>15	**5**	2	▲ 9
Lead	ppm	ASTM D5185m	>25	**1**	<1	4
Copper	ppm	ASTM D5185m	>100	**2**	<1	2
Tin	ppm	ASTM D5185m	>4	**<1**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**33**	17	21
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**100**	70	97
Manganese	ppm	ASTM D5185m	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**878**	932	778
Calcium	ppm	ASTM D5185m	1070	**1097**	1194	1094
Phosphorus	ppm	ASTM D5185m	1150	**1008**	1013	870
Zinc	ppm	ASTM D5185m	1270	**1220**	1247	1123
Sulfur	ppm	ASTM D5185m	2060	**3038**	3828	3357

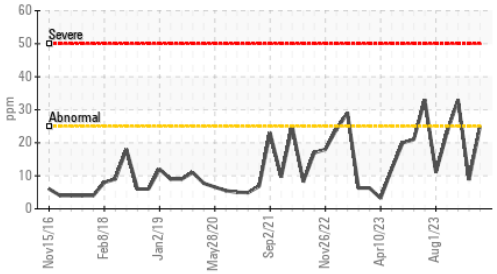
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **25**	9	▲ 33
Sodium	ppm	ASTM D5185m		▲ **1024**	▲ 263	▲ 1036
Potassium	ppm	ASTM D5185m	>20	▲ **30**	6	▲ 22
Glycol	%	*ASTM D2982		**NEG**	NEG	⬢ 0.10

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.5**	0.4	2.3
Nitration	Abs/cm	*ASTM D7624	>20	**12.1**	6.6	12.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.1**	15.9	23.3

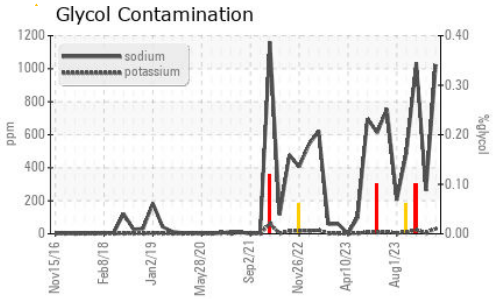
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**24.8**	10.0	14.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **3.4**	8.4	8.6

OIL ANALYSIS REPORT

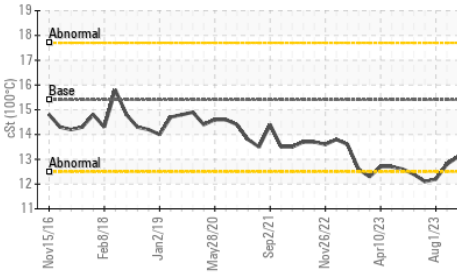
Silicon (ppm)



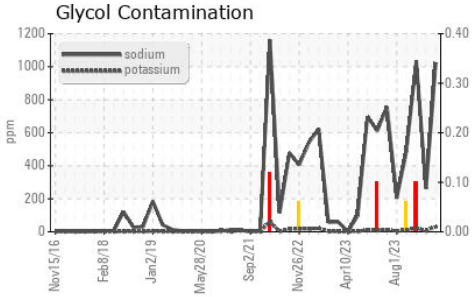
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

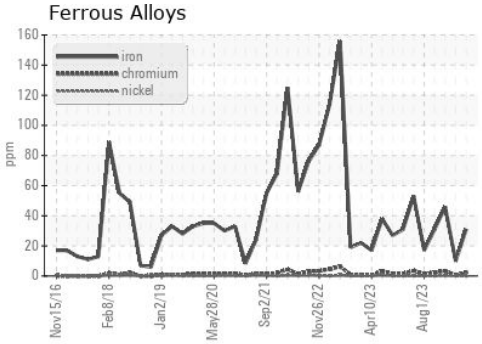


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

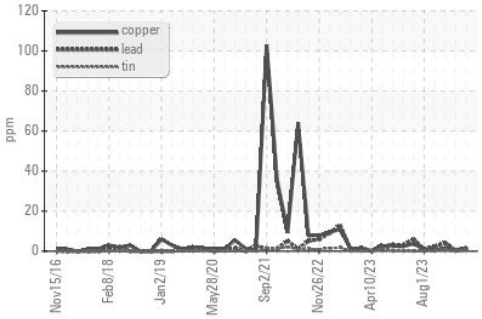
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.8**	13.3	13.1

GRAPHS

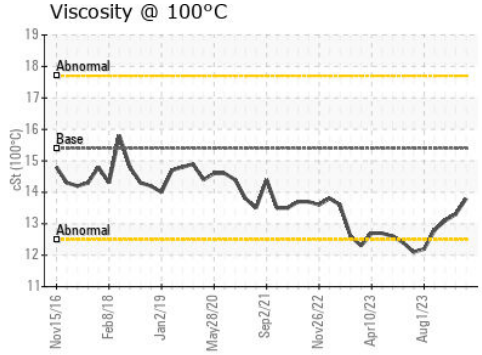
Ferrous Alloys



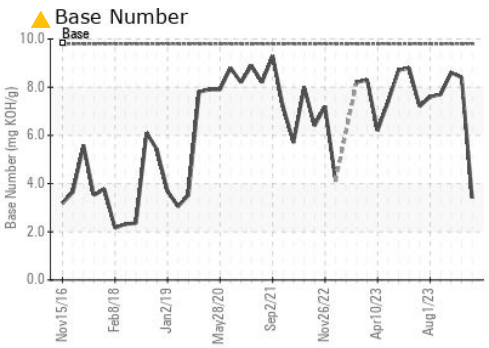
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0097925 **Received** : 20 Nov 2023
Lab Number : 06011897 **Diagnosed** : 22 Nov 2023
Unique Number : 10751041 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

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)

GFL Environmental - 010 - Stockbridge
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Stockbridge, GA
US 30281
Contact: JOSHUA TINKER
joshuatinker@gflenv.com
T:
F:

Report Id: GFL010 [WUSCAR] 06011897 (Generated: 11/22/2023 15:05:27) Rev: 1

Submitted By: JOSHUA TINKER