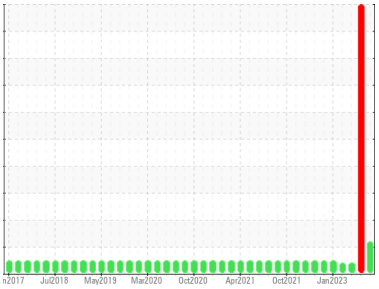
PROBLEM SUMMARY

Sample Rating Trend

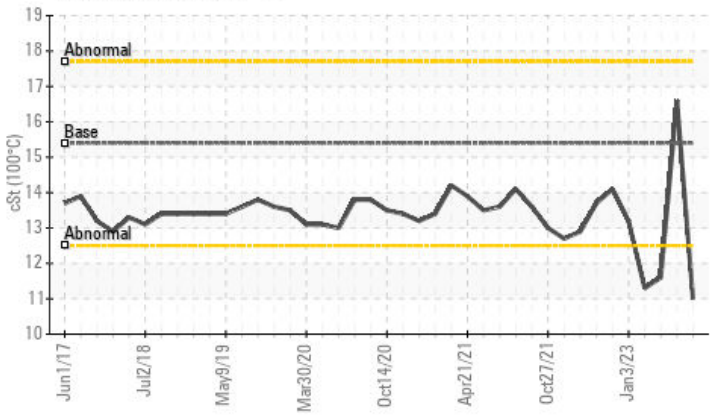


FUEL

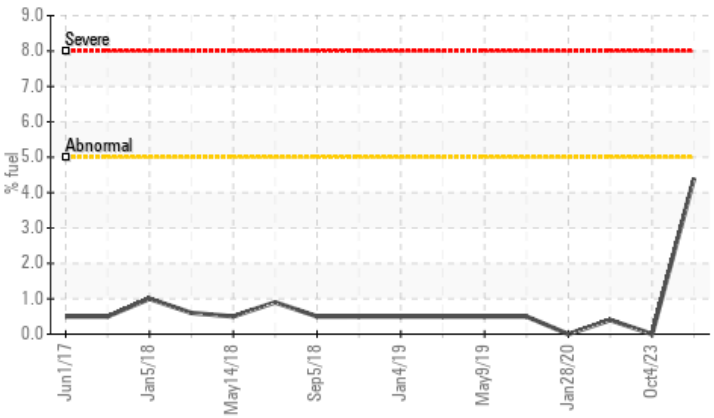
Machine Id
2589
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (10 GAL)

COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



▲ Fuel Dilution



RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	SEVERE	ATTENTION
Fuel	%	ASTM D3524	>5	▲ **4.4**	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.0**	▲ 16.6	▲ 11.6

Customer Id: GFL102
Sample No.: GFL0073289
Lab Number: 06007440
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

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

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

04 Oct 2023 Diag: Doug Bogart

GLYCOL

We advise that you check for the source of the coolant leak. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is positive. There is an abnormal amount of solids and carbon present in the oil. The oil viscosity is higher than normal.

view report

12 Jun 2023 Diag: Sean Felton

VISCOSITY

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. 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

25 Apr 2023 Diag: Don Baldridge

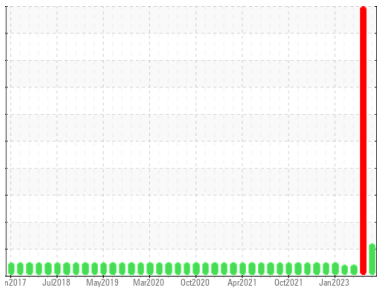
VISCOSITY

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. 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

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
2589
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (10 GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
Metal levels are typical for a new component breaking in.

Contamination
Light fuel dilution occurring. Test for glycol is negative.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0073289**	GFL0073283	GFL05871734
Sample Date		Client Info		**08 Nov 2023**	04 Oct 2023	12 Jun 2023
Machine Age	mls	Client Info		**600**	600	0
Oil Age	mls	Client Info		**600**	600	0
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**ABNORMAL**	SEVERE	ATTENTION

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	**21**	89	19
Chromium	ppm	ASTM D5185m	>4	**<1**	4	<1
Nickel	ppm	ASTM D5185m	>2	**5**	0	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**4**	8	0
Lead	ppm	ASTM D5185m	>45	**1**	▲ 131	2
Copper	ppm	ASTM D5185m	>85	**6**	9	1
Tin	ppm	ASTM D5185m	>4	**2**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**7**	19	20
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**77**	141	102
Manganese	ppm	ASTM D5185m	0	**<1**	1	<1
Magnesium	ppm	ASTM D5185m	1010	**846**	899	704
Calcium	ppm	ASTM D5185m	1070	**1034**	1308	1284
Phosphorus	ppm	ASTM D5185m	1150	**881**	944	944
Zinc	ppm	ASTM D5185m	1270	**1118**	1332	1128
Sulfur	ppm	ASTM D5185m	2060	**2620**	3203	3132

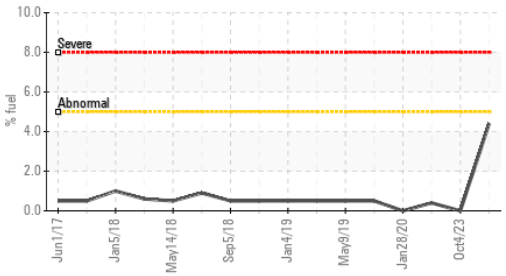
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**11**	25	7
Sodium	ppm	ASTM D5185m		**4**	▲ 1289	1
Potassium	ppm	ASTM D5185m	>20	**<1**	▲ 349	2
Fuel	%	ASTM D3524	>5	▲ **4.4**	<1.0	<1.0
Glycol	%	*ASTM D2982		**0.0**	⬢ 0.12	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.7**	⬢ 5.1	0.5
Nitration	Abs/cm	*ASTM D7624	>20	**9.9**	27.4	10.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.9**	45.9	20.4

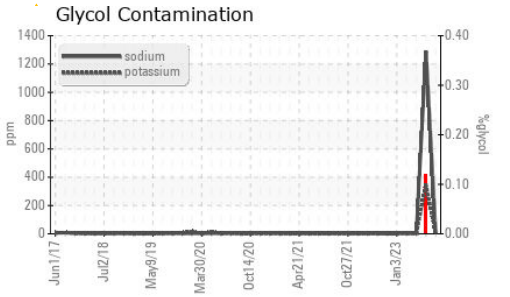
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.1**	44.4	15.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**4.4**	▲ 0.0	6.7

OIL ANALYSIS REPORT

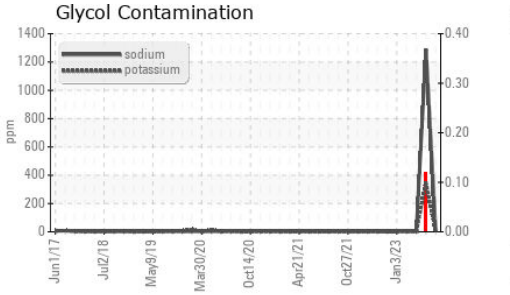
Fuel Dilution



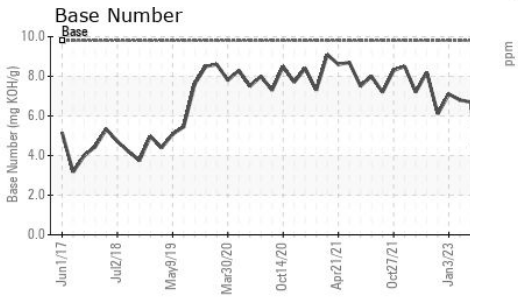
Glycol Contamination



Glycol Contamination



Base Number

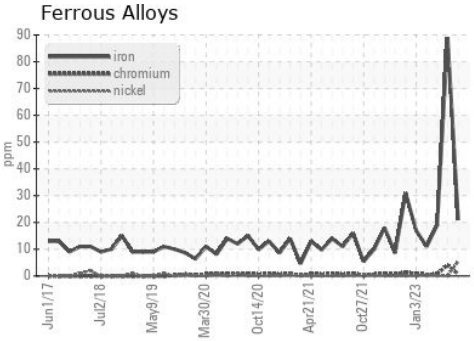


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

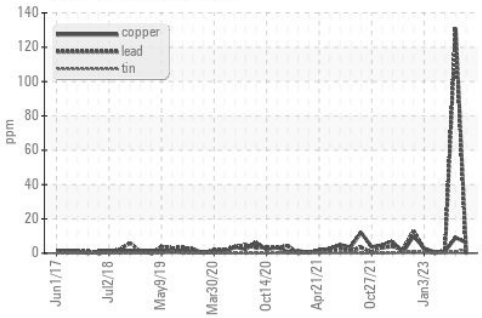
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.0**	▲ 16.6	▲ 11.6

GRAPHS

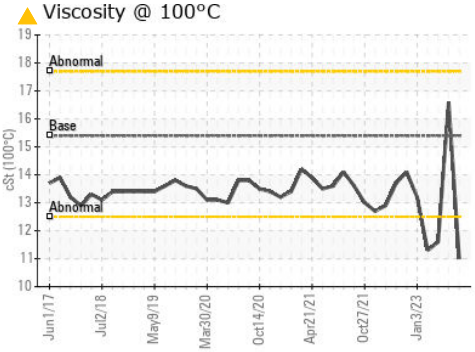
Ferrous Alloys



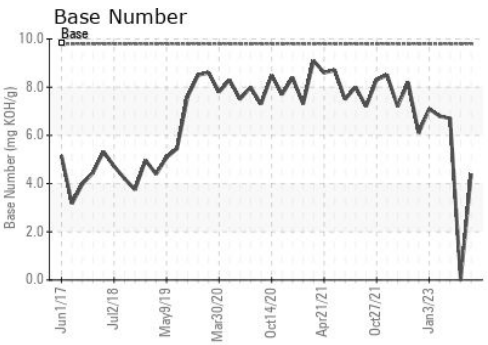
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0073289 **Received** : 14 Nov 2023
Lab Number : 06007440 **Diagnosed** : 22 Nov 2023
Unique Number : 10741202 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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)

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