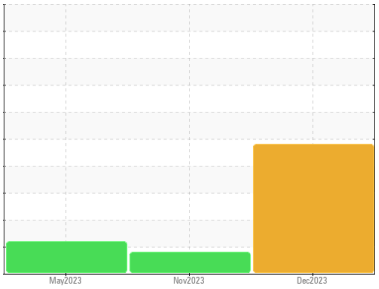
PROBLEM SUMMARY

Sample Rating Trend

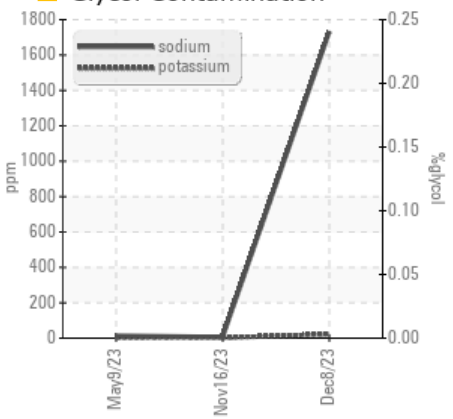


DIRT

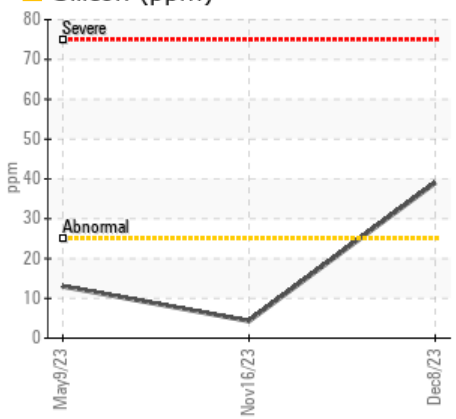
Machine Id
786M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

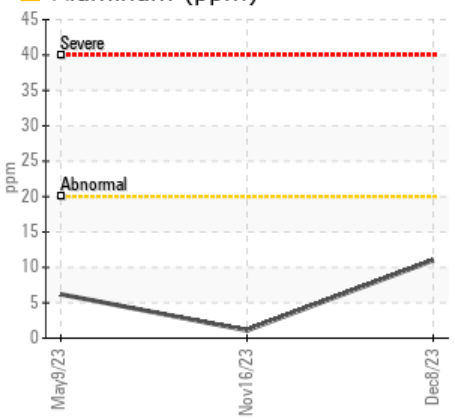
Glycol Contamination



Silicon (ppm)



Aluminum (ppm)



RECOMMENDATION

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. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	MARGINAL	ABNORMAL
Aluminum	ppm	ASTM D5185m	>20	▲ **11**	1	6
Silicon	ppm	ASTM D5185m	>25	▲ **39**	4	13
Sodium	ppm	ASTM D5185m		▲ **1730**	6	15
Potassium	ppm	ASTM D5185m	>20	▲ **22**	2	3

Customer Id: GFL415
Sample No.: GFL0105579
Lab Number: 06032249
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.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

16 Nov 2023 Diag: Wes Davis

FUEL

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.Metal levels are typical for a new component breaking in. Light fuel dilution occurring. No other contaminants were detected 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

09 May 2023 Diag: Wes Davis

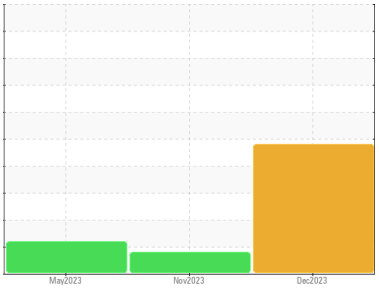
FUEL

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a moderate amount of fuel 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. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
786M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
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. Oil and filter change at the time of sampling has been noted. 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 levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0105579**	GFL0101574	GFL0069858
Sample Date		Client Info		**08 Dec 2023**	16 Nov 2023	09 May 2023
Machine Age	hrs	Client Info		**18724**	18593	186562
Oil Age	hrs	Client Info		**18724**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	MARGINAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	▲ 2.3	▲ 5.9
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**47**	11	34
Chromium	ppm	ASTM D5185m	>20	**2**	<1	2
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**0**	<1	0
Silver	ppm	ASTM D5185m	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	▲ **11**	1	6
Lead	ppm	ASTM D5185m	>40	**1**	0	0
Copper	ppm	ASTM D5185m	>330	**3**	1	<1
Tin	ppm	ASTM D5185m	>15	**0**	0	<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	**52**	0	10
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**120**	58	53
Manganese	ppm	ASTM D5185m	0	**1**	0	<1
Magnesium	ppm	ASTM D5185m	1010	**941**	874	840
Calcium	ppm	ASTM D5185m	1070	**1058**	1020	971
Phosphorus	ppm	ASTM D5185m	1150	**1065**	979	970
Zinc	ppm	ASTM D5185m	1270	**1317**	1149	1138
Sulfur	ppm	ASTM D5185m	2060	**3301**	2970	3948

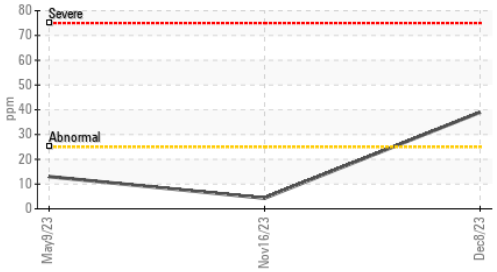
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **39**	4	13
Sodium	ppm	ASTM D5185m		▲ **1730**	6	15
Potassium	ppm	ASTM D5185m	>20	▲ **22**	2	3
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1**	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	**15.0**	8.2	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.5**	18.9	21.9

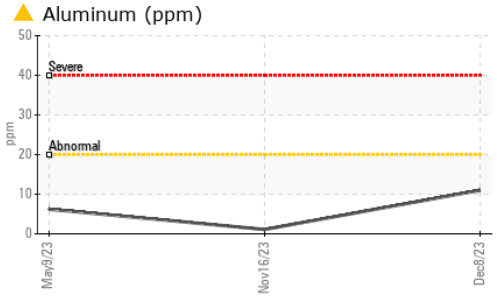
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.7**	15.2	18.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**12.5**	8.4	7.8

OIL ANALYSIS REPORT

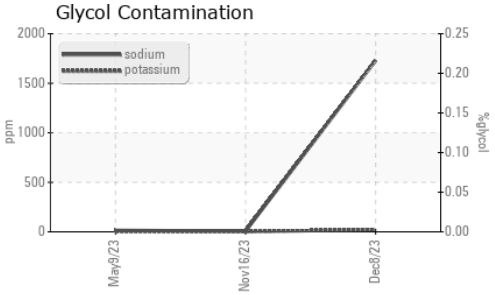
Silicon (ppm)



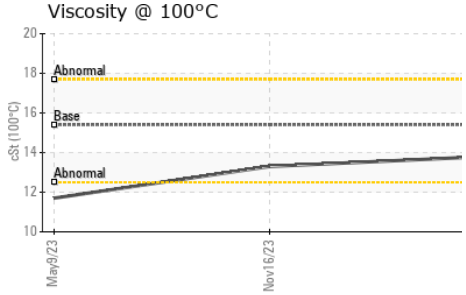
Aluminum (ppm)



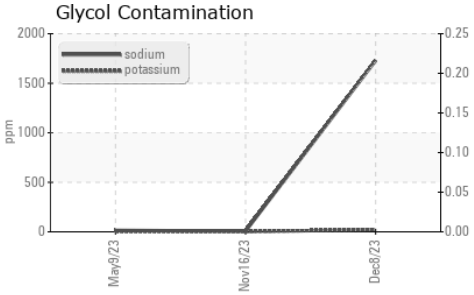
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

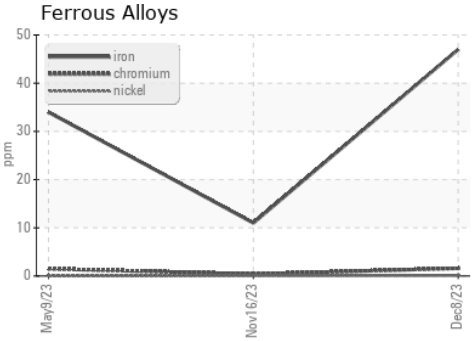


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

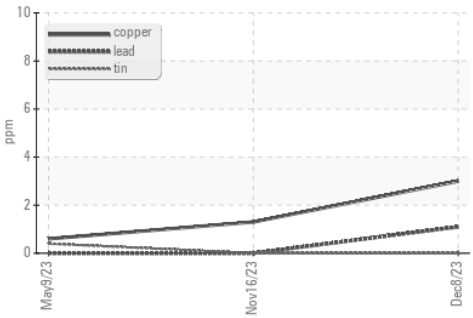
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.8**	13.3	▲ 11.7

GRAPHS

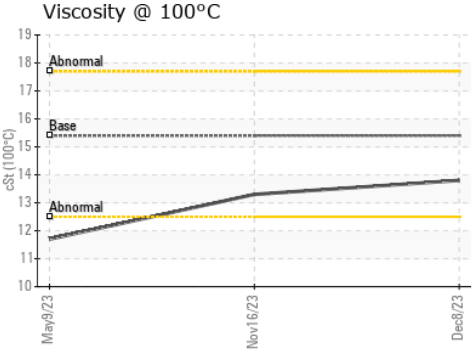
Ferrous Alloys



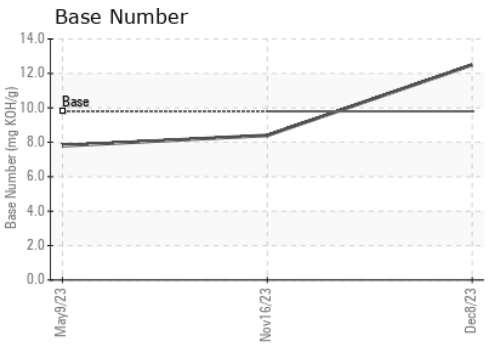
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0105579 **Recieved** : 12 Dec 2023
Lab Number : 06032249 **Diagnosed** : 15 Dec 2023
Unique Number : 10782040 **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)

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T: (586)825-9514
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