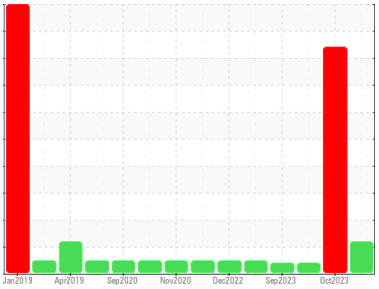
PROBLEM SUMMARY

Machine Id
428052-402362
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

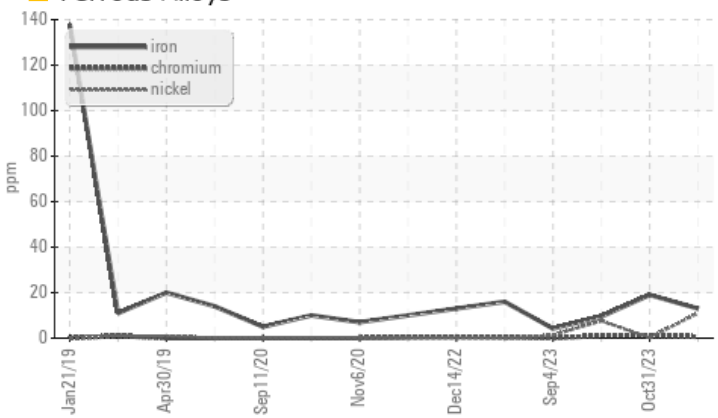
Sample Rating Trend



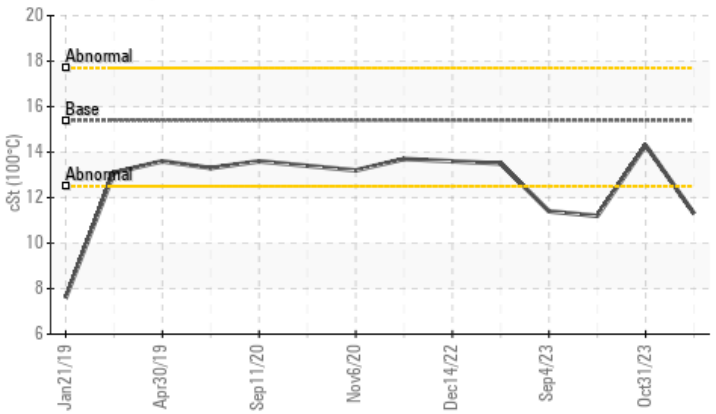
WEAR

COMPONENT CONDITION SUMMARY

▲ Ferrous Alloys



▲ Viscosity @ 100°C



RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	SEVERE	ATTENTION
Nickel	ppm	ASTM D5185m	>5	▲ **11**	<1	8
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.3**	14.3	▲ 11.2

Customer Id: GFL821
Sample No.: GFL0090295
Lab Number: 06005152
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

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

31 Oct 2023 Diag: Don Baldridge

GLYCOL

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is positive. 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

13 Oct 2023 Diag: Don Baldridge

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

04 Sep 2023 Diag: Jonathan Hester

VISCOSITY

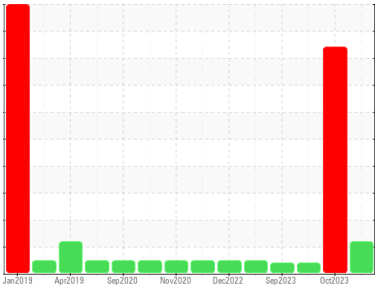
No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

OIL ANALYSIS REPORT

Machine Id
428052-402362
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



WEAR

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
Valve wear is indicated.

Contamination
Fuel content negligible. No evidence of coolant present in the oil. There is no indication of any contamination in the oil.

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		**GFL0090295**	GFL0090278	GFL0090190
Sample Date		Client Info		**06 Nov 2023**	31 Oct 2023	13 Oct 2023
Machine Age	hrs	Client Info		**13113**	13603	12968
Oil Age	hrs	Client Info		**150**	150	150
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	SEVERE	ATTENTION

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	**13**	19	10
Chromium	ppm	ASTM D5185m	>20	**<1**	1	1
Nickel	ppm	ASTM D5185m	>5	▲ **11**	<1	8
Titanium	ppm	ASTM D5185m	>2	**<1**	0	<1
Silver	ppm	ASTM D5185m	>2	**1**	<1	<1
Aluminum	ppm	ASTM D5185m	>20	**2**	1	3
Lead	ppm	ASTM D5185m	>40	**1**	4	<1
Copper	ppm	ASTM D5185m	>330	**3**	10	2
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**3**	6	5
Barium	ppm	ASTM D5185m	0	**<1**	5	0
Molybdenum	ppm	ASTM D5185m	60	**64**	117	57
Manganese	ppm	ASTM D5185m	0	**<1**	<1	0
Magnesium	ppm	ASTM D5185m	1010	**959**	794	833
Calcium	ppm	ASTM D5185m	1070	**1100**	925	956
Phosphorus	ppm	ASTM D5185m	1150	**1043**	890	993
Zinc	ppm	ASTM D5185m	1270	**1246**	1110	1070
Sulfur	ppm	ASTM D5185m	2060	**2593**	3063	2521

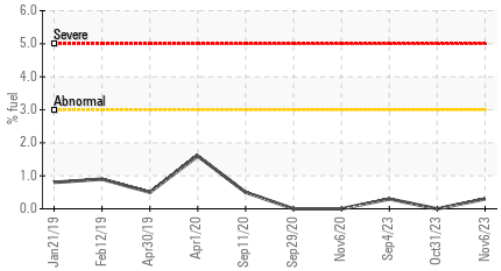
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**10**	5	8
Sodium	ppm	ASTM D5185m		**<1**	▲ 462	<1
Potassium	ppm	ASTM D5185m	>20	**3**	▲ 301	2
Fuel	%	ASTM D3524	>3.0	**0.3**	<1.0	<1.0
Glycol	%	*ASTM D2982		**NEG**	⬢ 0.10	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.3**	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**7.8**	5.0	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.4**	17.6	18.3

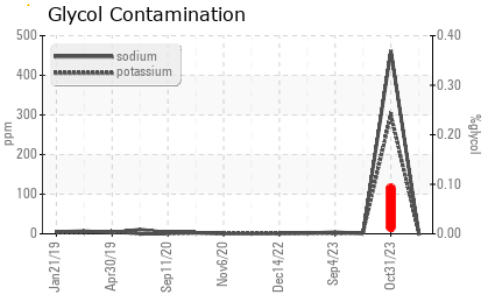
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.3**	13.2	14.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.8**	9.0	7.8

OIL ANALYSIS REPORT

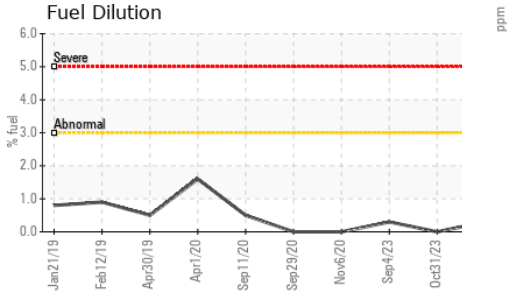
Fuel Dilution



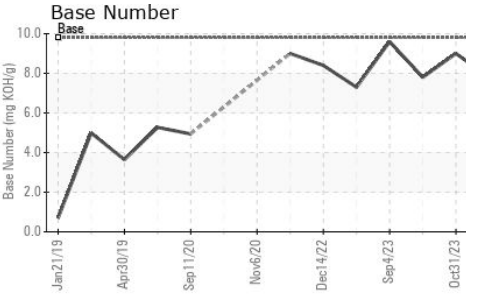
Glycol Contamination



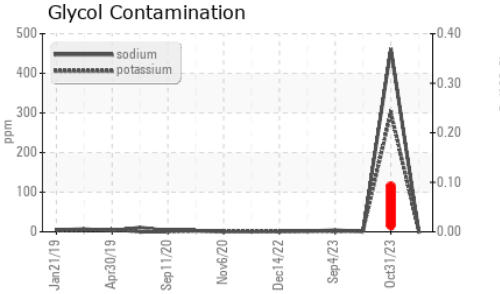
Fuel Dilution



Base Number



Glycol Contamination

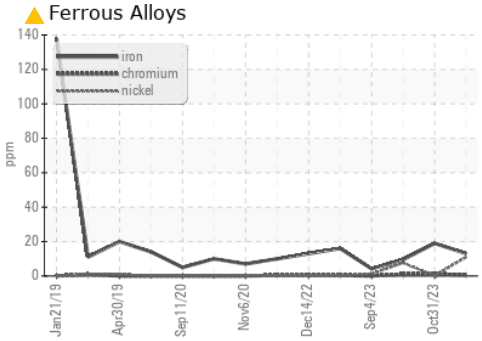


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

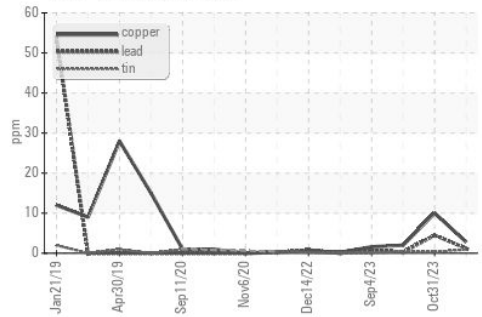
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.3**	14.3	▲ 11.2

GRAPHS

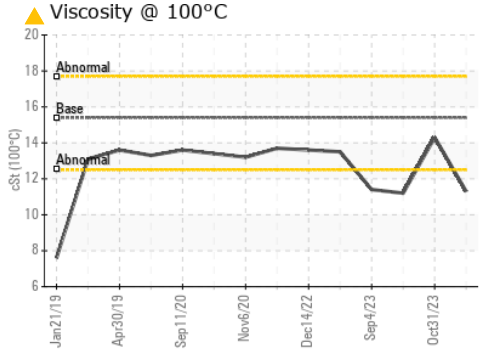
▲ Ferrous Alloys



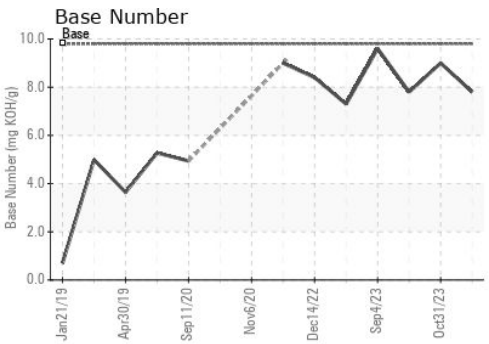
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0090295 **Received** : 13 Nov 2023
Lab Number : 06005152 **Diagnosed** : 15 Nov 2023
Unique Number : 10738914 **Diagnostician** : Jonathan Hester
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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