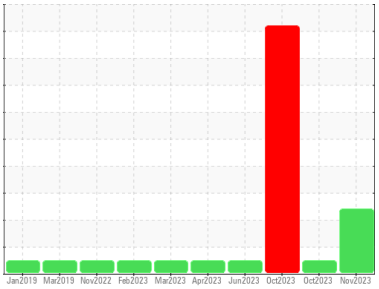
PROBLEM SUMMARY

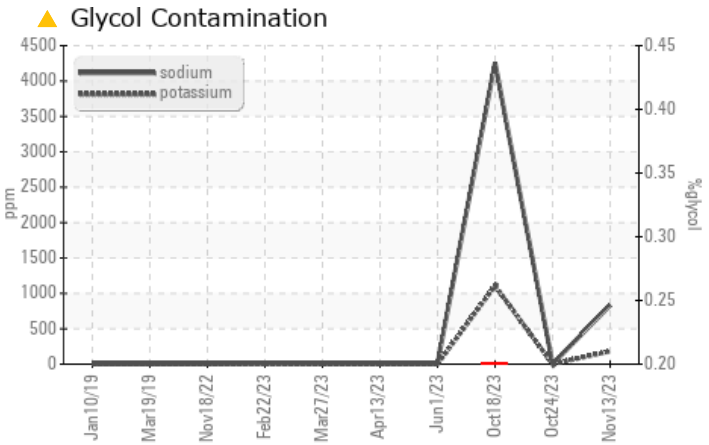
Sample Rating Trend



GLYCOL

Machine Id
928081-260347
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	SEVERE
Sodium	ppm	ASTM D5185m		▲ **832**	3	▲ 4259
Potassium	ppm	ASTM D5185m	>20	▲ **181**	1	▲ 1106

Customer Id: GFL820
Sample No.: GFL0088097
Lab Number: 06011947
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
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

24 Oct 2023 Diag: Jonathan Hester

NORMAL

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

18 Oct 2023 Diag: Don Baldridge

GLYCOL

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.Cylinder, crank, or cam shaft wear is indicated. Sodium and/or potassium levels are high. Test for glycol is positive. There is a high concentration of glycol present in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

01 Jun 2023 Diag: Wes Davis

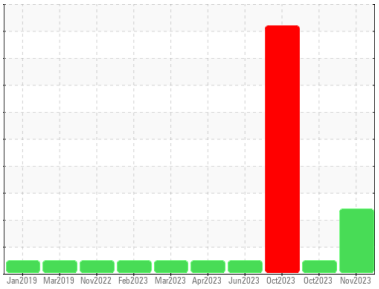
NORMAL

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 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
928081-260347
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 recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
Sodium and/or potassium levels are high.

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		**GFL0088097**	GFL0088078	GFL0088185
Sample Date		Client Info		**13 Nov 2023**	24 Oct 2023	18 Oct 2023
Machine Age	hrs	Client Info		**29314**	29215	123947
Oil Age	hrs	Client Info		**0**	29215	0
Oil Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**ABNORMAL**	NORMAL	SEVERE

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**18**	14	▲ 103
Chromium	ppm	ASTM D5185m	>20	**1**	<1	5
Nickel	ppm	ASTM D5185m	>4	**0**	<1	1
Titanium	ppm	ASTM D5185m		**<1**	0	2
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**3**	2	11
Lead	ppm	ASTM D5185m	>40	**<1**	<1	<1
Copper	ppm	ASTM D5185m	>330	**8**	1	38
Tin	ppm	ASTM D5185m	>15	**<1**	<1	2
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**1**	3	22
Barium	ppm	ASTM D5185m	0	**0**	0	2
Molybdenum	ppm	ASTM D5185m	60	**111**	58	427
Manganese	ppm	ASTM D5185m	0	**<1**	<1	3
Magnesium	ppm	ASTM D5185m	1010	**874**	965	651
Calcium	ppm	ASTM D5185m	1070	**954**	1041	918
Phosphorus	ppm	ASTM D5185m	1150	**968**	1042	767
Zinc	ppm	ASTM D5185m	1270	**1165**	1326	1018
Sulfur	ppm	ASTM D5185m	2060	**2872**	3110	2464

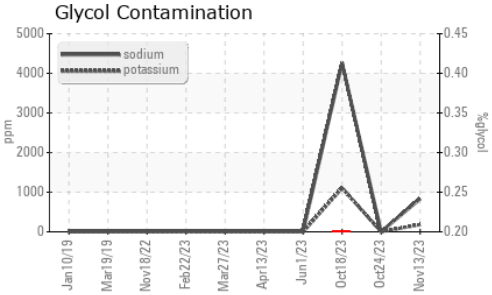
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	6	26
Sodium	ppm	ASTM D5185m		▲ **832**	3	▲ 4259
Potassium	ppm	ASTM D5185m	>20	▲ **181**	1	▲ 1106
Glycol	%	*ASTM D2982		**NEG**	NEG	⬢ 0.20

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	0.5	0.6
Nitration	Abs/cm	*ASTM D7624	>20	**8.9**	10.2	18.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.0**	22.4	25.2

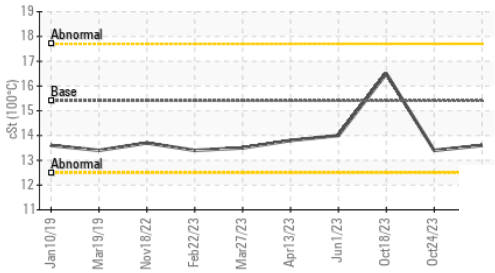
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.8**	20.8	17.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**11.3**	6.3	30.2

OIL ANALYSIS REPORT

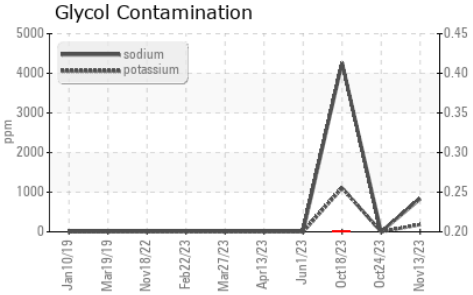
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

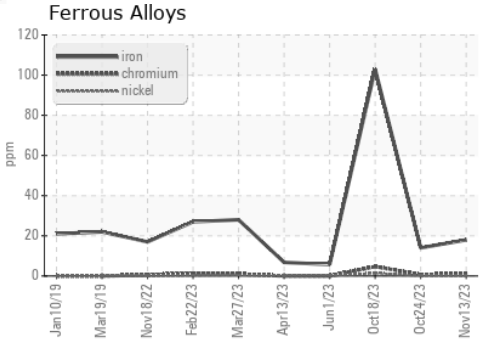


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

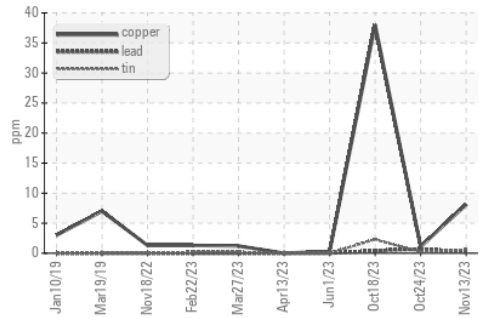
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.6**	13.4	16.5

GRAPHS

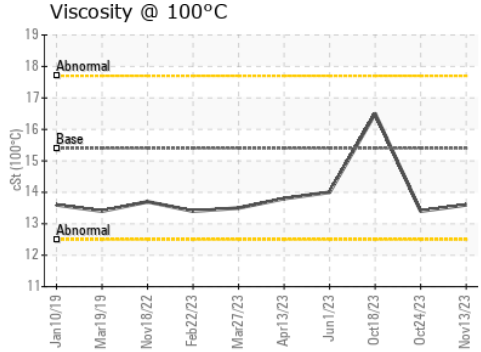
Ferrous Alloys



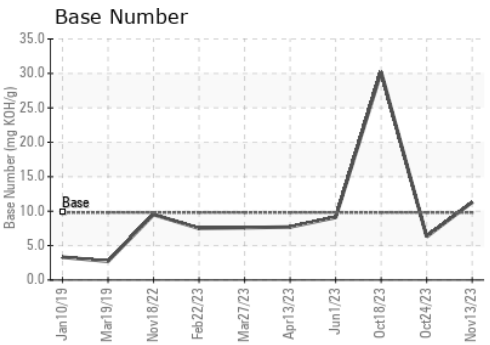
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0088097 **Received** : 20 Nov 2023
Lab Number : 06011947 **Diagnosed** : 22 Nov 2023
Unique Number : 10751091 **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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Contact: James Jarrett
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Report Id: GFL820 [WUSCAR] 06011947 (Generated: 11/22/2023 12:55:57) Rev: 1

Submitted By: VINCE ASTI