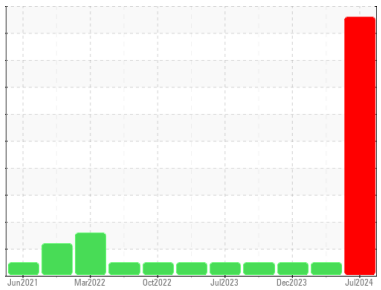
PROBLEM SUMMARY

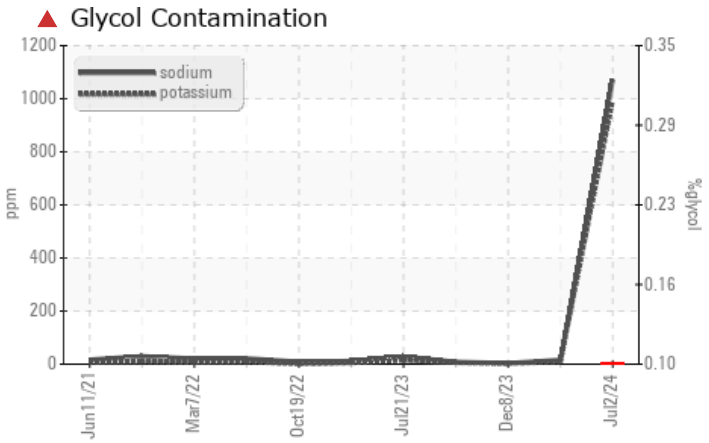
Sample Rating Trend



GLYCOL

Machine Id
229034
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. Oil and filter change at the time of sampling has been noted. We advise an early resample to confirm this situation. NOTE: High contamination in the sample has limited the accuracy of Infra-Red data including Total Base Number (TBN) value. NOTE: one of five samples received with nearly the same data, indicating sample came from same source or unit.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	NORMAL	NORMAL
Potassium	ppm	ASTM D5185m	>20	▲ **994**	8	2
Glycol	%	*ASTM D2982		▲ **0.10**	NEG	NEG

Customer Id: GFL882
Sample No.: GFL0119121
Lab Number: 06228322
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@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 advise an early resample to confirm this situation.
Alert	---	---	?	NOTE: one of two samples received with same ID and sampling date. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

NORMAL

22 Mar 2024 Diag: Wes Davis
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

NORMAL

08 Dec 2023 Diag: Wes Davis
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

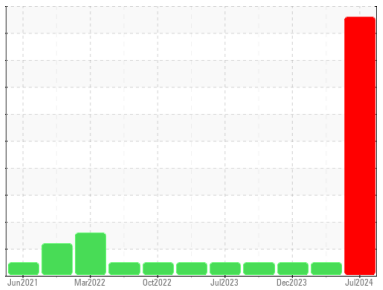
NORMAL

07 Sep 2023 Diag: Wes Davis
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
229034
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. Oil and filter change at the time of sampling has been noted. We advise an early resample to confirm this situation. NOTE: High contamination in the sample has limited the accuracy of Infra-Red data including Total Base Number (TBN) value. NOTE: one of five samples received with nearly the same data, indicating sample came from same source or unit.

Wear
All component wear rates are normal.

Contamination
Sodium and/or potassium levels are high. Test for glycol is positive.

Fluid Condition
The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0119121**	GFL0115468	GFL0094271
Sample Date		Client Info		**02 Jul 2024**	22 Mar 2024	08 Dec 2023
Machine Age	mls	Client Info		**4494**	247132	242375
Oil Age	mls	Client Info		**251626**	4757	3839
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL

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	**11**	18	5
Chromium	ppm	ASTM D5185m	>20	**0**	0	<1
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**4**	2	2
Lead	ppm	ASTM D5185m	>40	**<1**	1	<1
Copper	ppm	ASTM D5185m	>330	**12**	<1	<1
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**6**	4	26
Barium	ppm	ASTM D5185m	0	**0**	0	11
Molybdenum	ppm	ASTM D5185m	60	**119**	53	50
Manganese	ppm	ASTM D5185m	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**788**	802	550
Calcium	ppm	ASTM D5185m	1070	**1012**	981	1465
Phosphorus	ppm	ASTM D5185m	1150	**995**	966	771
Zinc	ppm	ASTM D5185m	1270	**1155**	1152	920
Sulfur	ppm	ASTM D5185m	2060	**3474**	3135	2683

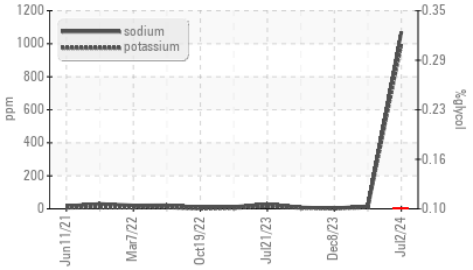
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**8**	3	3
Sodium	ppm	ASTM D5185m		**1071**	16	4
Potassium	ppm	ASTM D5185m	>20	**994**	8	2
Glycol	%	*ASTM D2982		**0.10**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	1.5	0
Nitration	Abs/cm	*ASTM D7624	>20	**12.7**	10.4	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.5**	20.6	18.5

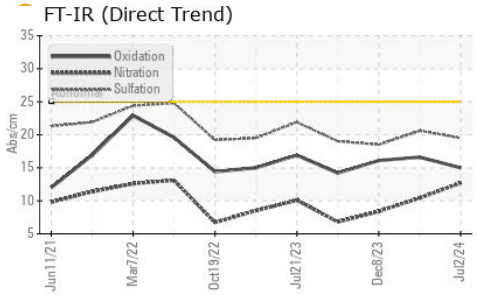
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.0**	16.6	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**17.1**	8.7	7.7

OIL ANALYSIS REPORT

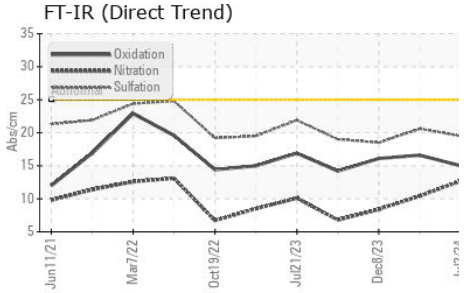
Glycol Contamination



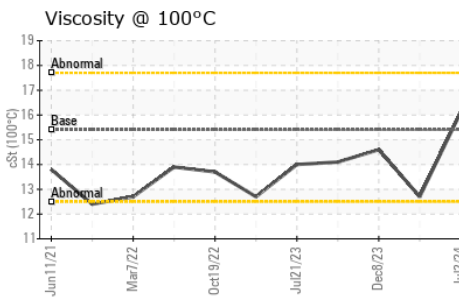
FT-IR (Direct Trend)



FT-IR (Direct Trend)



Viscosity @ 100°C

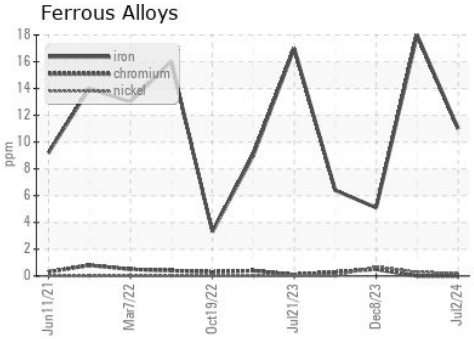


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

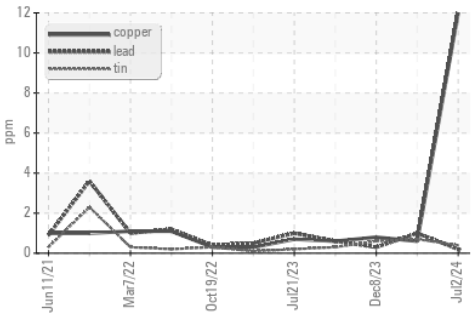
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**16.1**	12.7	14.6

GRAPHS

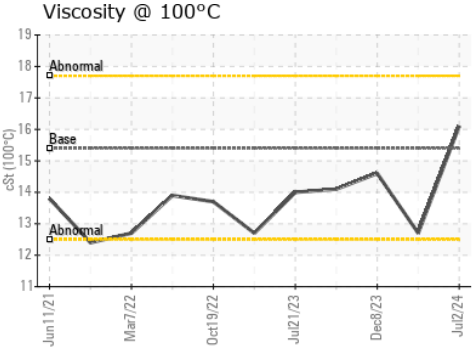
Ferrous Alloys



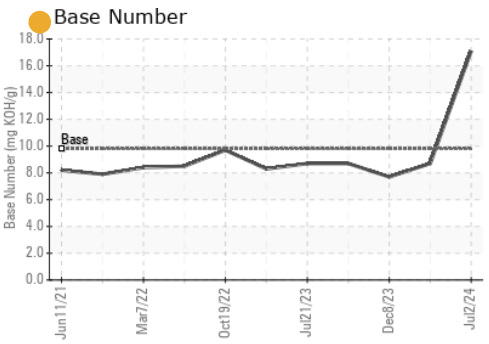
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0119121
Lab Number : 06228322
Unique Number : 11111815
Test Package : FLEET (Additional Tests: Glycol)

Received : 05 Jul 2024
Tested : 09 Jul 2024
Diagnosed : 09 Jul 2024 - Doug Bogart

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 - 882 - Gainesville
5002 SW 41st Blvd
Gainesville, FL
US 32608
Contact: ROBERT CLARK
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T:
F:

Report Id: GFL882 [WUSCAR] 06228322 (Generated: 07/09/2024 10:58:43) Rev: 1

Submitted By: CARL MIMS