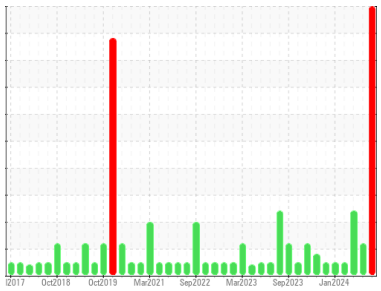
PROBLEM SUMMARY

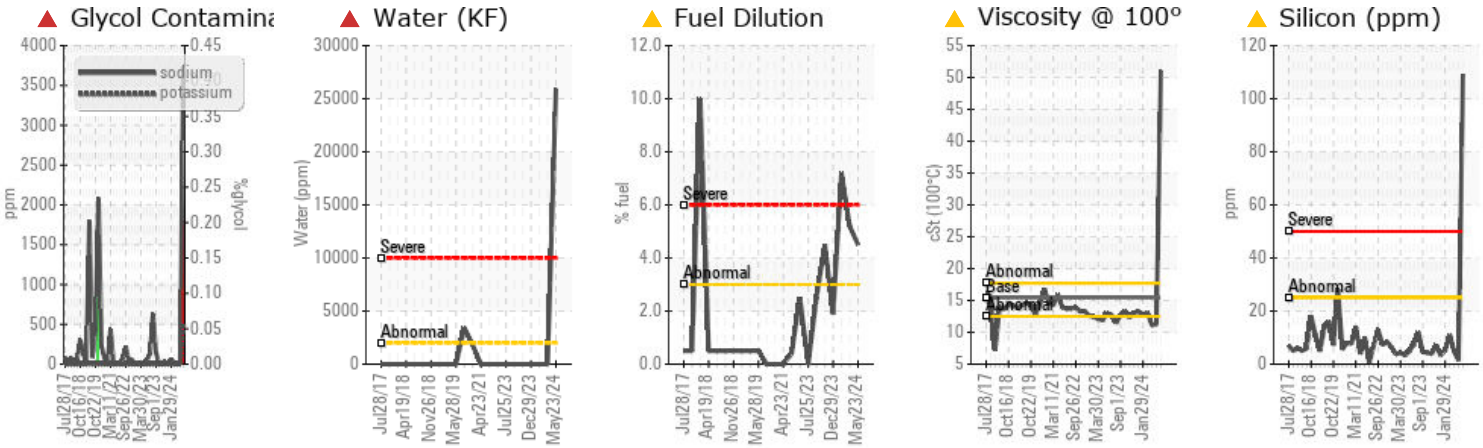
Sample Rating Trend



GLYCOL

Machine Id
10623
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (13 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. Recommend drain oil if not already done and flush before refilling with oil. NOTE: High contamination in the sample has limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Silicon	ppm	ASTM D5185m	>25	▲ **109**	2	5
Sodium	ppm	ASTM D5185m		▲ **3722**	2	9
Potassium	ppm	ASTM D5185m	>20	▲ **458**	<1	<1
Fuel	%	ASTM D3524	>3.0	▲ **4.5**	▲ 5.2	▲ 7.2
Water	%	ASTM D6304	>0.2	▲ **2.59**	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ **25900**	---	---
Glycol	%	*ASTM D2982		▲ **0.20**	NEG	NEG
Emulsified Water	scalar	*Visual	>0.2	▲ **0.2%**	NEG	NEG
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **51.0**	▲ 11.3	▲ 11.1

Customer Id: GFL010
Sample No.: GFL0118090
Lab Number: 06191501
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	---	---	?	Recommend drain oil if not already done and flush with cleaner before refilling with oil.
Flush System	---	---	?	Recommend drain oil if not already done and flush with cleaner before refilling with oil.
Alert	---	---	?	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

FUEL

23 Apr 2024 Diag: Angela Borella

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. 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

FUEL

01 Apr 2024 Diag: Wes Davis

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a high 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

NORMAL

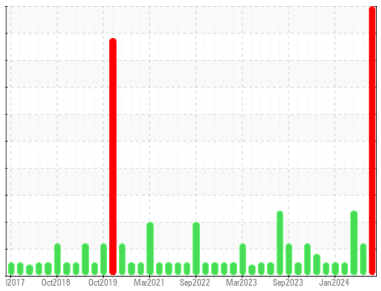
11 Mar 2024 Diag: Don Baldridge

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
10623
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (13 GAL)

DIAGNOSIS

▲ Recommendation
We advise that you check for the source of the coolant leak. Recommend drain oil if not already done and flush before refilling with oil. NOTE: High contamination in the sample has limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Wear
All component wear rates are normal.

▲ Contamination
Sodium and/or potassium levels are high. There is a high concentration of water present in the oil. There is a high concentration of glycol present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material. There is a moderate amount of fuel present in the oil.

▲ 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		**GFL0118090**	GFL0118066	GFL0115730
Sample Date		Client Info		**23 May 2024**	23 Apr 2024	01 Apr 2024
Machine Age	hrs	Client Info		**20288**	20088	19941
Oil Age	hrs	Client Info		**487**	287	106
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**SEVERE**	ABNORMAL	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	**7**	1	5
Chromium	ppm	ASTM D5185m	>5	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m	>2	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>15	**2**	0	1
Lead	ppm	ASTM D5185m	>25	**<1**	0	0
Copper	ppm	ASTM D5185m	>100	**11**	0	<1
Tin	ppm	ASTM D5185m	>4	**<1**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**736**	6	11
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**191**	61	57
Manganese	ppm	ASTM D5185m	0	**<1**	0	0
Magnesium	ppm	ASTM D5185m	1010	**582**	850	799
Calcium	ppm	ASTM D5185m	1070	**696**	1092	1052
Phosphorus	ppm	ASTM D5185m	1150	**872**	989	870
Zinc	ppm	ASTM D5185m	1270	**853**	1207	1036
Sulfur	ppm	ASTM D5185m	2060	**2610**	3466	3169

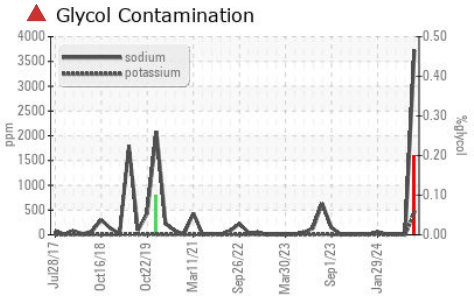
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **109**	2	5
Sodium	ppm	ASTM D5185m		▲ **3722**	2	9
Potassium	ppm	ASTM D5185m	>20	▲ **458**	<1	<1
Fuel	%	ASTM D3524	>3.0	▲ **4.5**	▲ 5.2	▲ 7.2
Water	%	ASTM D6304	>0.2	▲ **2.59**	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ **25900**	---	---
Glycol	%	*ASTM D2982		▲ **0.20**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.3**	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**10.6**	5.7	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**2.8**	16.9	17.3

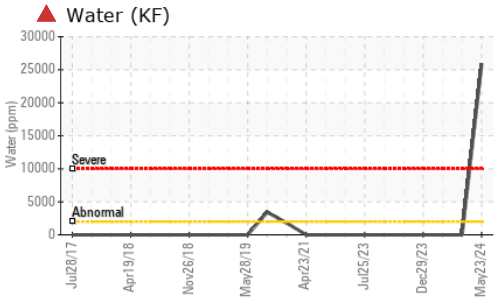
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**0.0**	12.4	13.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**---**	7.9	7.9

OIL ANALYSIS REPORT

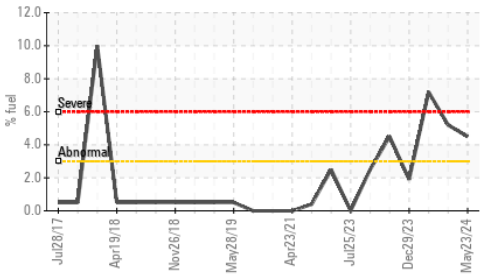
Glycol Contamination



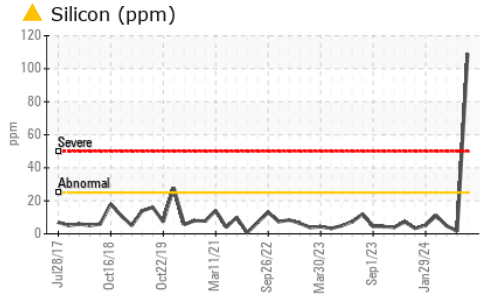
Water (KF)



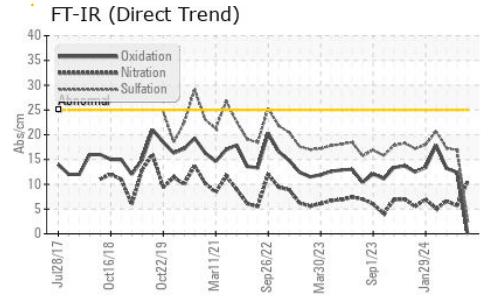
Fuel Dilution



Silicon (ppm)



FT-IR (Direct Trend)

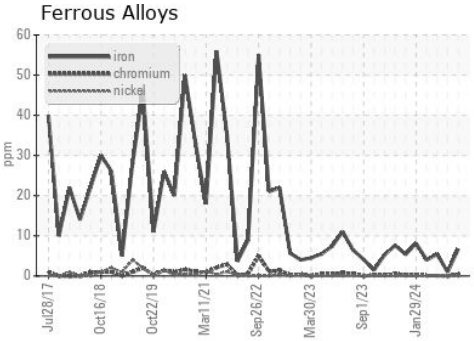


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**SOLID**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**0.2%**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

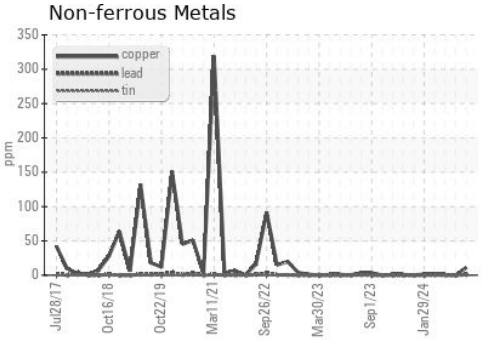
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**51.0**	11.3	11.1

GRAPHS

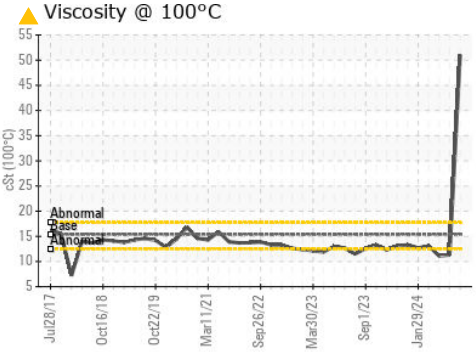
Ferrous Alloys



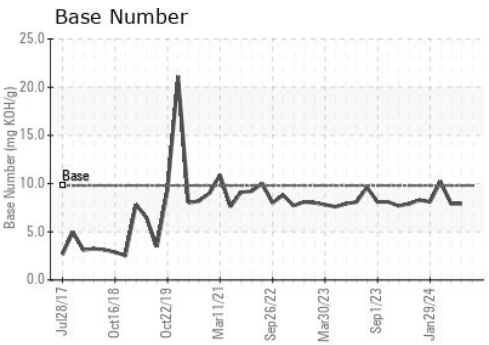
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0118090
Lab Number : 06191501
Unique Number : 11048253
Test Package : FLEET (Additional Tests: Glycol, KF, PercentFuel)

Received : 24 May 2024
Tested : 30 May 2024
Diagnosed : 30 May 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 - 010 - Stockbridge
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Stockbridge, GA
US 30281
Contact: JOSHUA TINKER
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F:

Report Id: GFL010 [WUSCAR] 06191501 (Generated: 05/30/2024 13:56:56) Rev: 2

Submitted By: JOSHUA TINKER