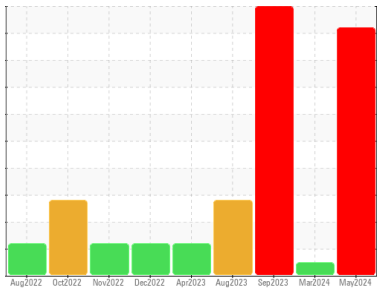
PROBLEM SUMMARY

Machine Id
4575M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (5 GAL)

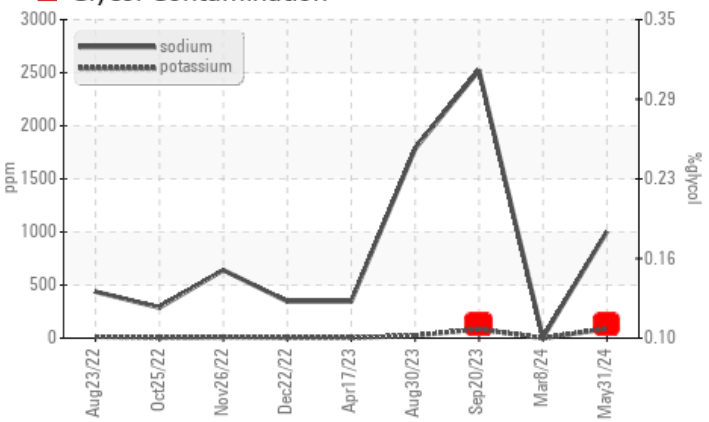
Sample Rating Trend



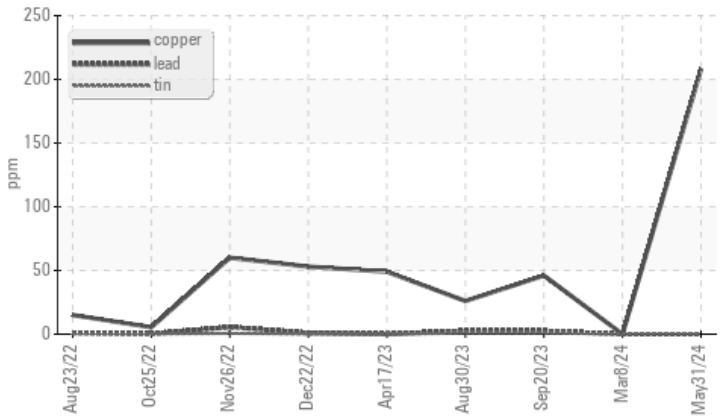
GLYCOL

COMPONENT CONDITION SUMMARY

▲ Glycol Contamination



▲ Non-ferrous Metals



RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	SEVERE
Copper	ppm	ASTM D5185m	>330	▲ **208**	0	46
Sodium	ppm	ASTM D5185m		▲ **1004**	5	● 2522
Potassium	ppm	ASTM D5185m	>20	▲ **90**	0	▲ 85
Glycol	%	*ASTM D2982		▲ **0.12**	NEG	▲ 0.12

Customer Id: GFL405
Sample No.: GFL0124813
Lab Number: 06214421
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 Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

NORMAL

08 Mar 2024 Diag: Jonathan Hester
Resample at the next service interval to monitor.All component wear rates are normal. No evidence of coolant present in the oil. 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

GLYCOL

20 Sep 2023 Diag: Doug Bogart
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.All component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is positive. Elemental level of silicon (Si) above normal indicating ingress of seal material. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

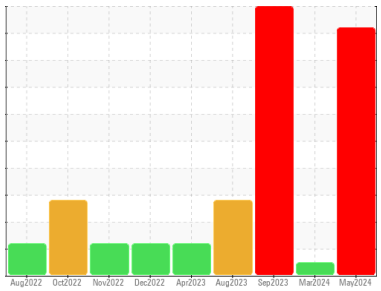
DIRT

30 Aug 2023 Diag: Jonathan Hester
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.All component wear rates are normal. Sodium and/or potassium levels are high. Elemental level of silicon (Si) above normal indicating ingress of seal material. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
4575M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (5 GAL)

DIAGNOSIS

Recommendation
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.

Wear
The copper level is abnormal.

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

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		**GFL0124813**	GFL0115101	GFL0087261
Sample Date		Client Info		**31 May 2024**	08 Mar 2024	20 Sep 2023
Machine Age	hrs	Client Info		**14327**	13905	13338
Oil Age	hrs	Client Info		**989**	567	300
Oil Changed		Client Info		**Changed**	Not Changd	Changed
Sample Status				**SEVERE**	NORMAL	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<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	>90	**38**	2	70
Chromium	ppm	ASTM D5185m	>20	**2**	0	3
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**4**	2	6
Lead	ppm	ASTM D5185m	>40	**0**	0	2
Copper	ppm	ASTM D5185m	>330	▲ **208**	0	46
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<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	**17**	0	41
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**100**	58	167
Manganese	ppm	ASTM D5185m	0	**2**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**878**	946	1006
Calcium	ppm	ASTM D5185m	1070	**1078**	1039	1155
Phosphorus	ppm	ASTM D5185m	1150	**879**	1021	1020
Zinc	ppm	ASTM D5185m	1270	**1177**	1242	1367
Sulfur	ppm	ASTM D5185m	2060	**2983**	3330	3139

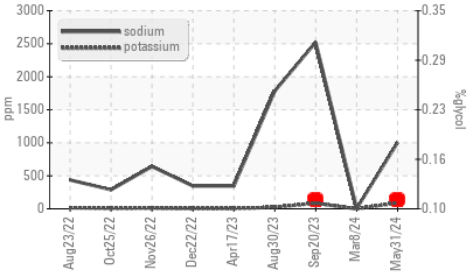
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**22**	3	▲ 43
Sodium	ppm	ASTM D5185m		▲ **1004**	5	● 2522
Potassium	ppm	ASTM D5185m	>20	▲ **90**	0	▲ 85
Glycol	%	*ASTM D2982		▲ **0.12**	NEG	▲ 0.12

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**1.6**	0.2	3.6
Nitration	Abs/cm	*ASTM D7624	>20	**14.1**	6.5	22.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.1**	18.3	36.8

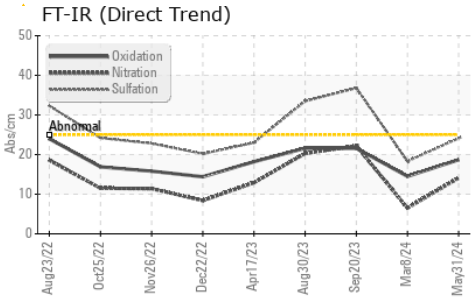
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.7**	14.5	21.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**9.6**	7.6	7.2

OIL ANALYSIS REPORT

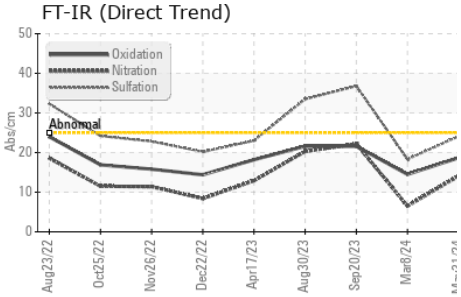
Glycol Contamination



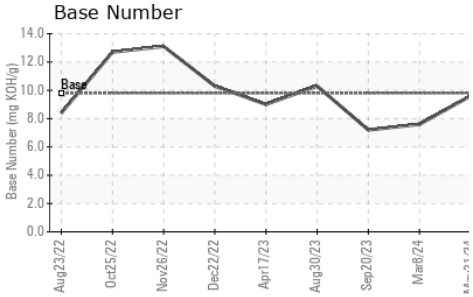
FT-IR (Direct Trend)



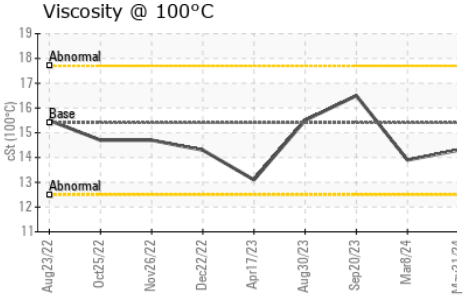
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

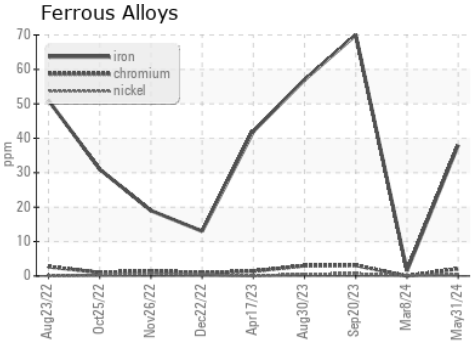


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

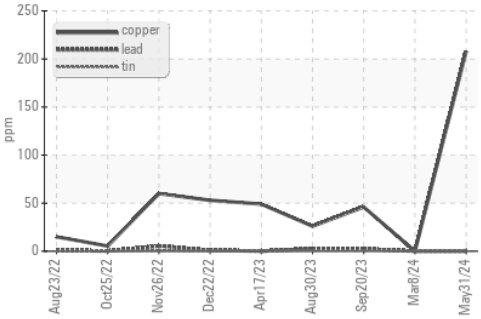
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**14.3**	13.9	16.5

GRAPHS

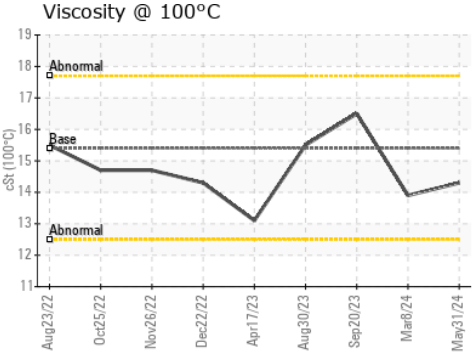
Ferrous Alloys



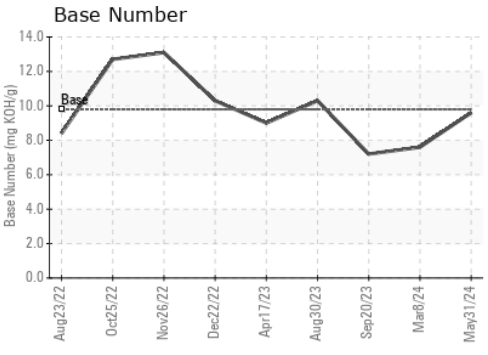
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0124813
Lab Number : 06214421
Unique Number : 11087285
Test Package : FLEET (Additional Tests: Glycol)

Received : 19 Jun 2024
Tested : 24 Jun 2024
Diagnosed : 24 Jun 2024 - Jonathan Hester

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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NORTHVILLE, MI
US 48168
Contact: John Nahal
jnahal@gflenv.com
T:
F:

Report Id: GFL405 [WUSCAR] 06214421 (Generated: 06/24/2024 14:52:28) Rev: 1

Submitted By: John Nahal