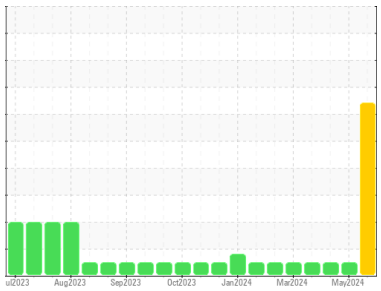
PROBLEM SUMMARY

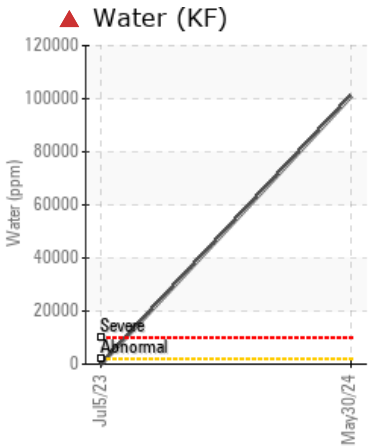
Machine Id
414059
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (600 LTR)

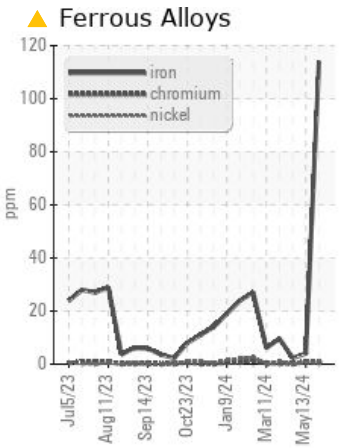
Sample Rating Trend

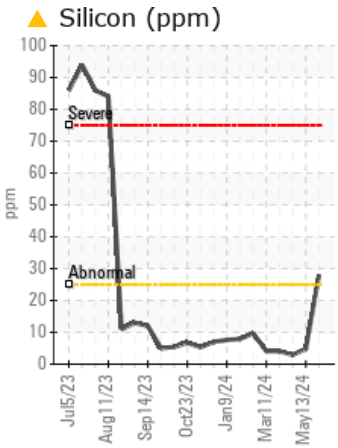


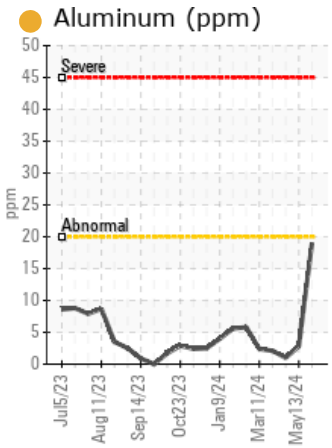
WATER

COMPONENT CONDITION SUMMARY









RECOMMENDATION

We advise that you check for the source of water entry. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>120	▲ **114**	4	2
Silicon	ppm	ASTM D5185m	>25	▲ **28**	5	3
Water	%	ASTM D6304	>0.2	▲ **10.1**	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ **101000**	---	---
Emulsified Water	scalar	*Visual	>0.2	▲ **0.2%**	NEG	NEG

Customer Id: GFL166
Sample No.: GFL0118690
Lab Number: 06198761
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	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Water Access	---	---	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

NORMAL

13 May 2024 Diag: Sean Felton
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

18 Apr 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

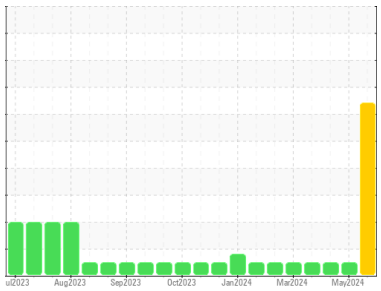
08 Apr 2024 Diag: Wes Davis
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Machine Id
414059
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (600 LTR)

Sample Rating Trend



WATER

DIAGNOSIS

Recommendation
We advise that you check for the source of water entry. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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.

Wear
Cylinder, crank, or cam shaft wear is indicated.

Contamination
There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0118690**	GFL0118646	GFL0118639
Sample Date		Client Info		**30 May 2024**	13 May 2024	18 Apr 2024
Machine Age	hrs	Client Info		**2257**	2116	1983
Oil Age	hrs	Client Info		**150**	150	600
Oil Changed		Client Info		**Not Changd**	Not Changd	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	▲ **114**	4	2
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>5	**<1**	<1	0
Titanium	ppm	ASTM D5185m	>2	**1**	<1	0
Silver	ppm	ASTM D5185m	>2	**<1**	1	0
Aluminum	ppm	ASTM D5185m	>20	● **19**	3	1
Lead	ppm	ASTM D5185m	>40	**4**	<1	0
Copper	ppm	ASTM D5185m	>330	**12**	8	13
Tin	ppm	ASTM D5185m	>15	**5**	1	0
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**<1**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**12**	0	0
Barium	ppm	ASTM D5185m	0	**11**	0	0
Molybdenum	ppm	ASTM D5185m	60	**49**	60	59
Manganese	ppm	ASTM D5185m	0	**2**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**567**	996	1003
Calcium	ppm	ASTM D5185m	1070	**806**	1094	1062
Phosphorus	ppm	ASTM D5185m	1150	**719**	1116	1066
Zinc	ppm	ASTM D5185m	1270	**641**	1258	1268
Sulfur	ppm	ASTM D5185m	2060	**3186**	3758	3579

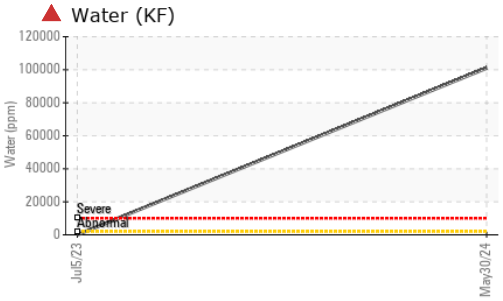
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **28**	5	3
Sodium	ppm	ASTM D5185m		**30**	2	<1
Potassium	ppm	ASTM D5185m	>20	**34**	5	<1
Water	%	ASTM D6304	>0.2	▲ **10.1**	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ **101000**	---	---
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.7**	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**35.3**	5.7	4.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**0.0**	18.3	18.0

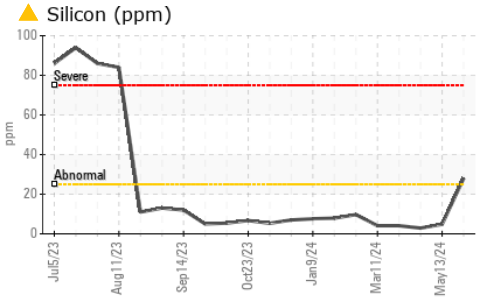
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**32.2**	14.3	14.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**29.7**	9.1	9.3

OIL ANALYSIS REPORT

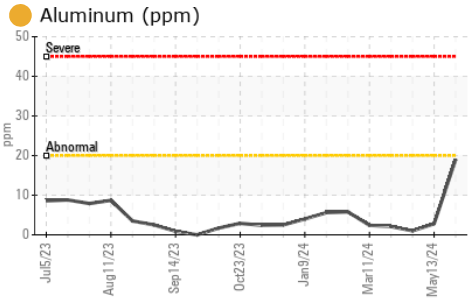
Water (KF)



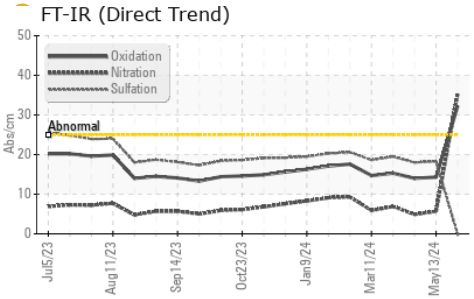
Silicon (ppm)



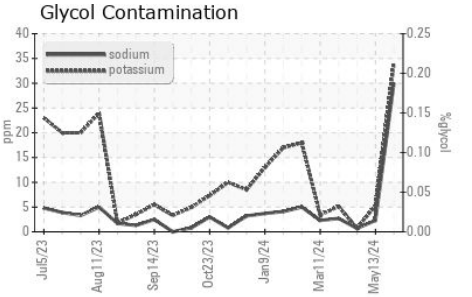
Aluminum (ppm)



FT-IR (Direct Trend)



Glycol Contamination

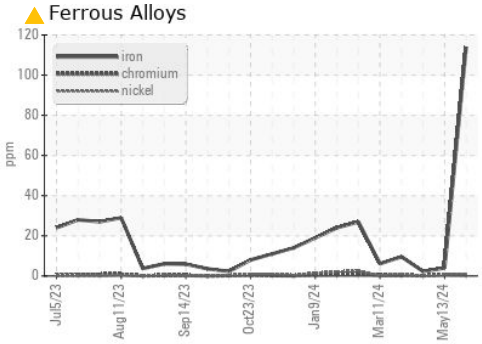


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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	▲ **0.2%**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

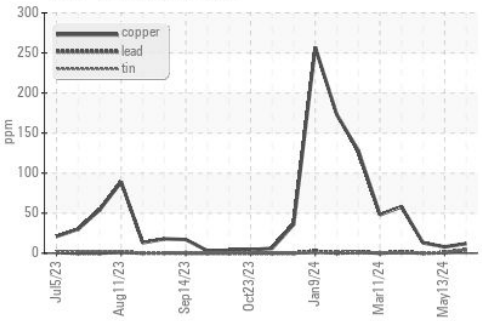
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**15.0**	13.8	14.0

GRAPHS

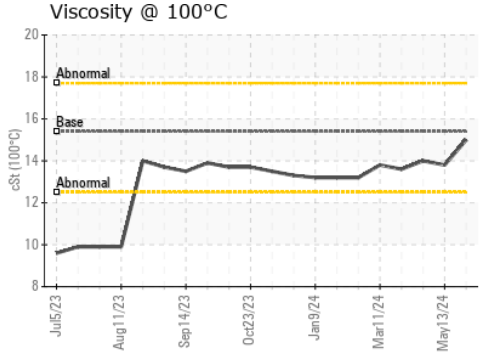
Ferrous Alloys



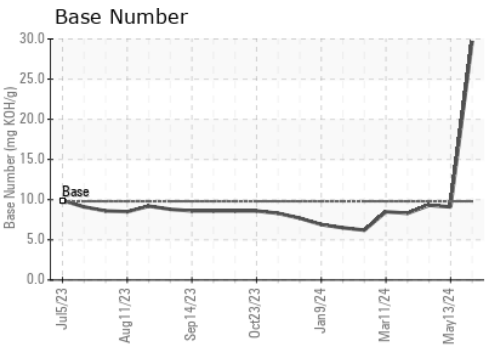
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0118690
Lab Number : 06198761
Unique Number : 11060884
Test Package : FLEET (Additional Tests: Glycol, KF)

Received : 04 Jun 2024
Tested : 06 Jun 2024
Diagnosed : 06 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)

GFL Environmental - 166 - Phenix City
18 Old Brickyard Rd
Phenix City, AL
US 36869
Contact: DEAN PEACE JR
dean.peace@gflenv.com
T:
F:

Report Id: GFL166 [WUSCAR] 06198761 (Generated: 06/07/2024 07:26:57) Rev: 1

Submitted By: DARRIN WRIGHT