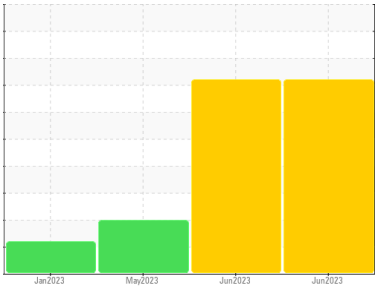
PROBLEM SUMMARY

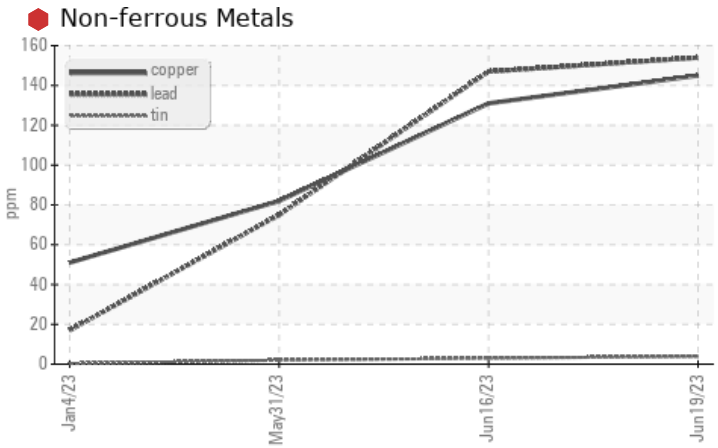
Machine Id
426100-47
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

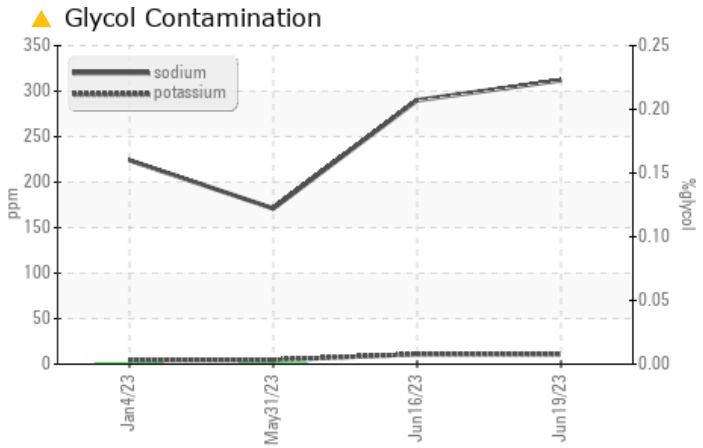
Sample Rating Trend



WEAR

COMPONENT CONDITION SUMMARY





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 advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	ABNORMAL
Lead	ppm	ASTM D5185m	>40	**154**	147	75
Sodium	ppm	ASTM D5185m		**312**	290	171

Customer Id: GFL166
Sample No.: GFL0087809
Lab Number: 05880525
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
Inspect Wear Source	MISSED	Jul 07 2023	?	We advise that you inspect for the source(s) of wear.
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	MISSED	Jul 07 2023	?	We recommend an early resample to monitor this condition.
Check Glycol Access	MISSED	Jul 07 2023	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

16 Jun 2023 Diag: Jonathan Hester

WEAR

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.Bearing and/or bushing wear is indicated. Sodium and/or potassium levels are high. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

31 May 2023 Diag: Don Baldridge

GLYCOL

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.The lead level is abnormal. All other component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is negative. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

view report

04 Jan 2023 Diag: Jonathan Hester

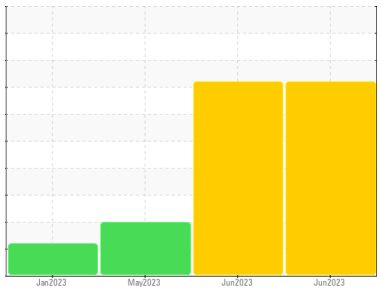
GLYCOL

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

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
426100-47
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. Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Wear
Bearing and/or bushing wear is indicated.

Contamination
Sodium and/or potassium levels remain high.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0087809**	GFL0081155	GFL0081165
Sample Date		Client Info		**19 Jun 2023**	16 Jun 2023	31 May 2023
Machine Age	hrs	Client Info		**36436**	36436	36436
Oil Age	hrs	Client Info		**1200**	600	150
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**SEVERE**	SEVERE	ABNORMAL

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	**47**	44	23
Chromium	ppm	ASTM D5185m	>20	**1**	1	0
Nickel	ppm	ASTM D5185m	>5	**2**	2	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	<1
Silver	ppm	ASTM D5185m	>2	**<1**	<1	0
Aluminum	ppm	ASTM D5185m	>20	**2**	2	2
Lead	ppm	ASTM D5185m	>40	**154**	147	75
Copper	ppm	ASTM D5185m	>330	**145**	131	82
Tin	ppm	ASTM D5185m	>15	**4**	3	2
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**49**	57	134
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**81**	80	78
Manganese	ppm	ASTM D5185m	0	**1**	1	<1
Magnesium	ppm	ASTM D5185m	1010	**675**	676	605
Calcium	ppm	ASTM D5185m	1070	**1238**	1227	1289
Phosphorus	ppm	ASTM D5185m	1150	**1063**	1066	1009
Zinc	ppm	ASTM D5185m	1270	**1343**	1335	1232
Sulfur	ppm	ASTM D5185m	2060	**3961**	3992	3838

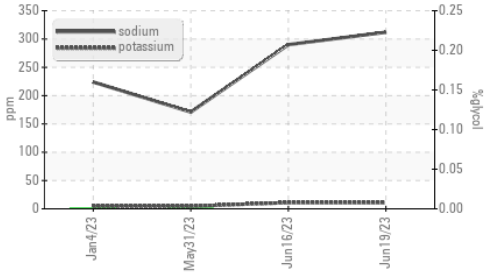
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**14**	14	11
Sodium	ppm	ASTM D5185m		**312**	290	171
Potassium	ppm	ASTM D5185m	>20	**11**	11	5
Glycol	%	*ASTM D2982		**NEG**	NEG	0.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**1.9**	1.8	1
Nitration	Abs/cm	*ASTM D7624	>20	**8.7**	8.5	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.4**	23.1	21.4

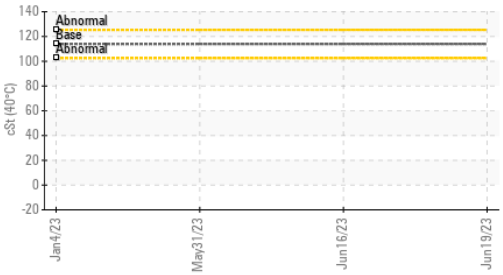
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.7**	14.6	14.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**9.1**	9.3	9.6

OIL ANALYSIS REPORT

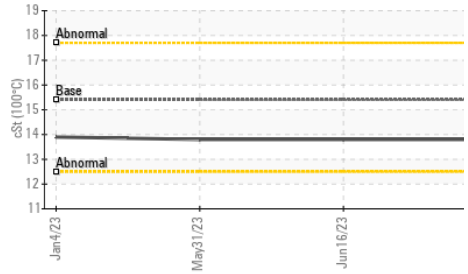
Glycol Contamination



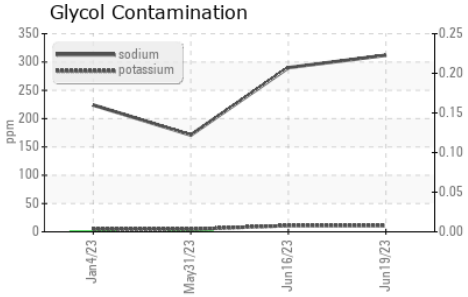
Viscosity @ 40°C



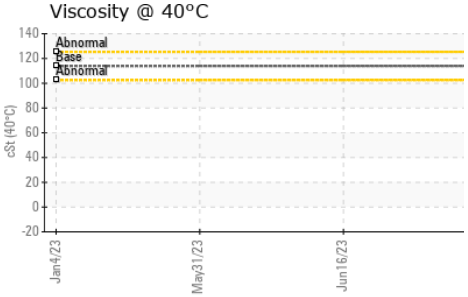
Viscosity @ 100°C



Glycol Contamination



Viscosity @ 40°C

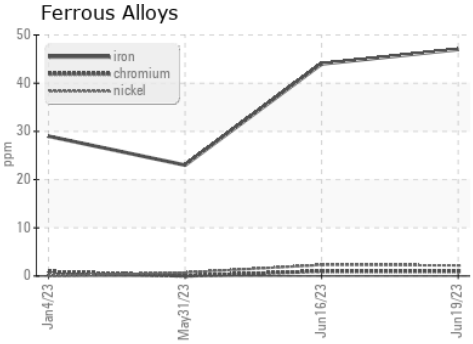


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

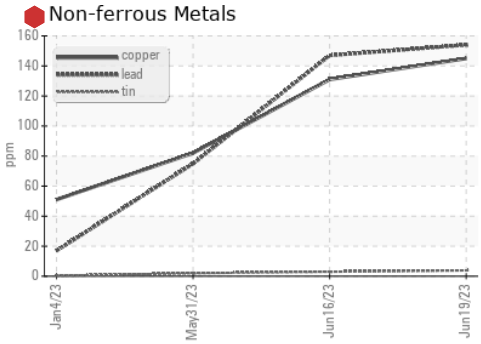
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.8**	13.8	13.8

GRAPHS

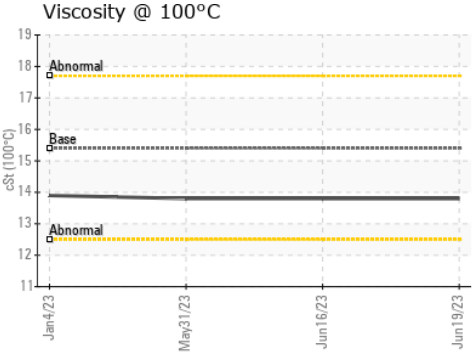
Ferrous Alloys



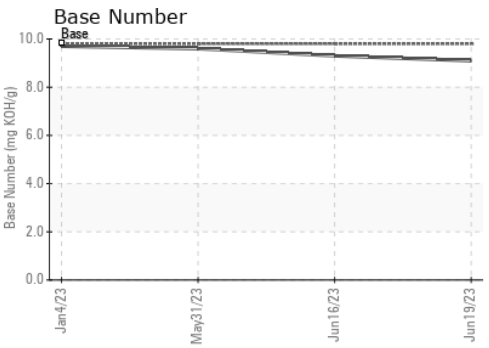
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0087809 **Received** : 22 Jun 2023
Lab Number : 05880525 **Diagnosed** : 27 Jun 2023
Unique Number : 10525628 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol, KV40)

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] 05880525 (Generated: 08/08/2023 08:11:13) Rev: 1

Submitted By: DARRIN WRIGHT