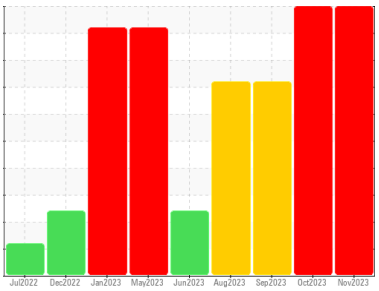
PROBLEM SUMMARY

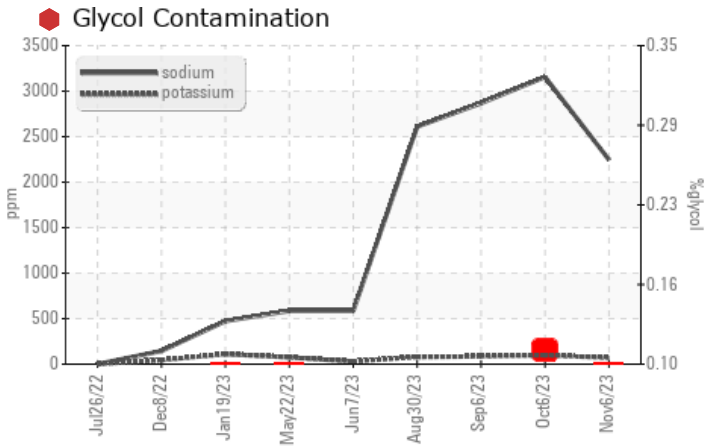
Machine Id
422101
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

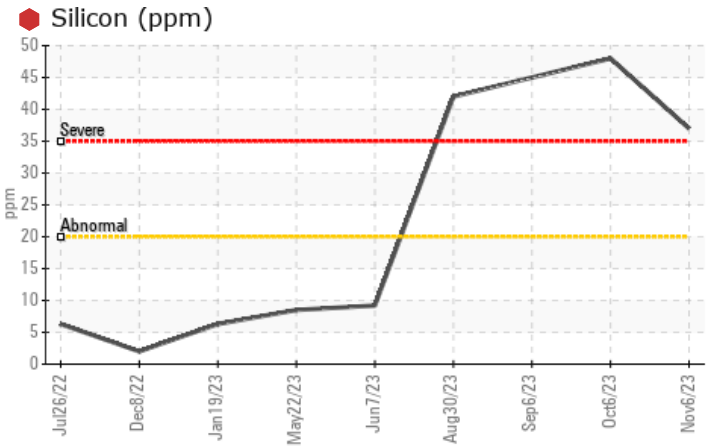
Sample Rating Trend



GLYCOL

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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**	SEVERE	SEVERE
Silicon	ppm	ASTM D5185m	>20	**37**	48	45
Sodium	ppm	ASTM D5185m		**2246**	3156	2868
Potassium	ppm	ASTM D5185m	>20	**70**	97	85
Glycol	%	*ASTM D2982		**0.10**	0.12	NEG

Customer Id: GFL419
Sample No.: GFL0086853
Lab Number: 06004840
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

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 Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

GLYCOL

06 Oct 2023 Diag: Don Baldridge

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check for the source of the coolant leak. Check for low coolant level. 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.All component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is positive. There is a high concentration of glycol present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material. The oil is no longer serviceable due to the presence of contaminants.

view report

DIRT

06 Sep 2023 Diag: Angela Borella

We advise that you check for the source of the coolant leak. Check for low coolant level. 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. 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

DIRT

30 Aug 2023 Diag: Jonathan Hester

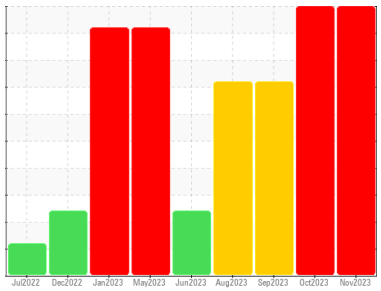
We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels 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

Machine Id
422101
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



GLYCOL

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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
All component wear rates are normal.

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

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		**GFL0086853**	GFL0086856	GFL0086839
Sample Date		Client Info		**06 Nov 2023**	06 Oct 2023	06 Sep 2023
Machine Age	hrs	Client Info		**20913**	20913	20913
Oil Age	hrs	Client Info		**20913**	20913	20913
Oil Changed		Client Info		**Changed**	N/A	Not Changd
Sample Status				**SEVERE**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	**25**	30	25
Chromium	ppm	ASTM D5185m	>5	**4**	5	5
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>30	**4**	2	<1
Lead	ppm	ASTM D5185m	>30	**<1**	0	<1
Copper	ppm	ASTM D5185m	>150	**79**	107	99
Tin	ppm	ASTM D5185m	>5	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**32**	30	30
Barium	ppm	ASTM D5185m	0	**0**	1	0
Molybdenum	ppm	ASTM D5185m	60	**145**	185	161
Manganese	ppm	ASTM D5185m	0	**1**	1	<1
Magnesium	ppm	ASTM D5185m	1010	**890**	980	925
Calcium	ppm	ASTM D5185m	1070	**1050**	1213	1141
Phosphorus	ppm	ASTM D5185m	1150	**793**	920	797
Zinc	ppm	ASTM D5185m	1270	**1288**	1404	1229
Sulfur	ppm	ASTM D5185m	2060	**3067**	3734	3547

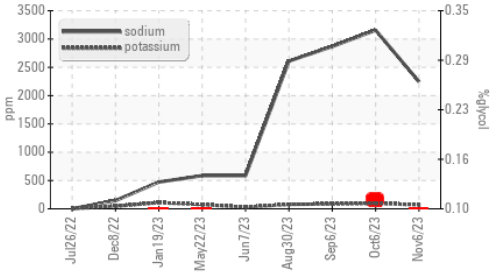
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**37**	48	45
Sodium	ppm	ASTM D5185m		**2246**	3156	2868
Potassium	ppm	ASTM D5185m	>20	**70**	97	85
Glycol	%	*ASTM D2982		**0.10**	0.12	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.4**	1.3	1.3
Nitration	Abs/cm	*ASTM D7624	>20	**15.4**	14.4	15.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.6**	25.3	25.7

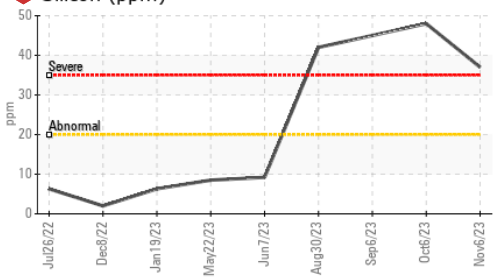
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.6**	16.3	16.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**12.3**	11.9	12.5

OIL ANALYSIS REPORT

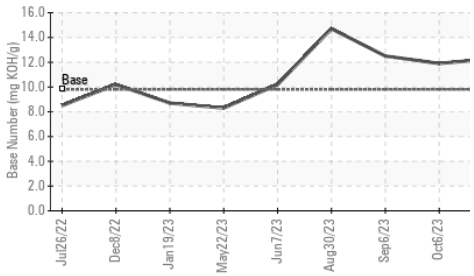
Glycol Contamination



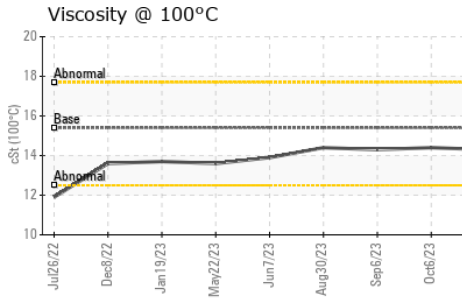
Silicon (ppm)



Base Number



Viscosity @ 100°C

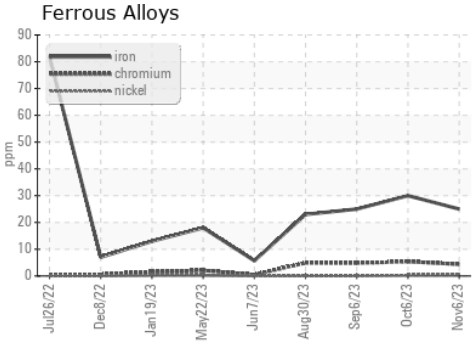


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

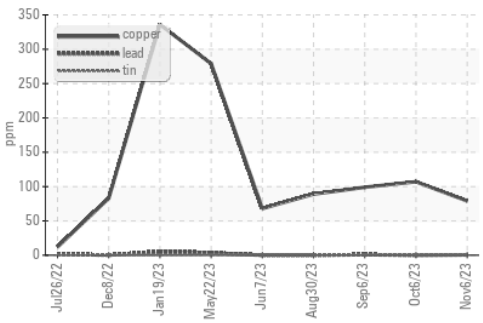
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**14.3**	14.4	14.3

GRAPHS

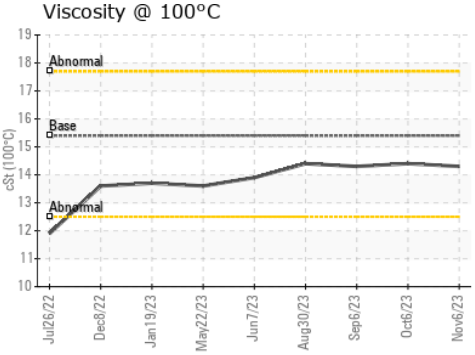
Ferrous Alloys



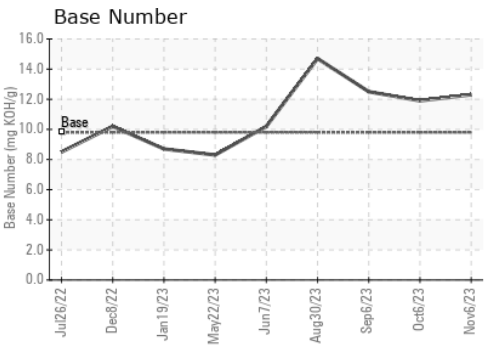
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0086853
Lab Number : 06004840
Unique Number : 10738602
Test Package : FLEET

Received : 10 Nov 2023
Diagnosed : 15 Nov 2023
Diagnostician : Don Baldridge

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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