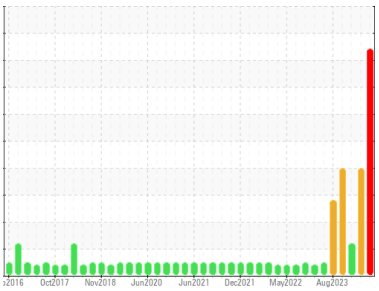
OIL DIAGNOSTICS

PROBLEM SUMMARY

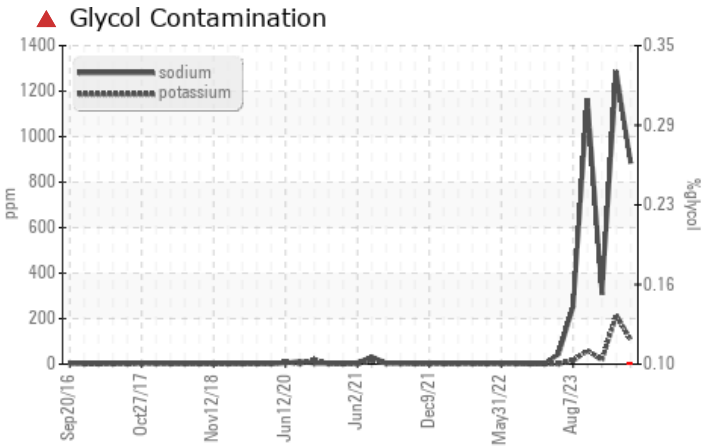
Sample Rating Trend



GLYCOL

Area
(MM1341)
Machine Id
2536
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (10 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	ABNORMAL
Potassium	ppm	ASTM D5185m	>20	▲ **107**	▲ 215	19
Glycol	%	*ASTM D2982		▲ **0.10**	NEG	NEG

Customer Id: GFL002
Sample No.: PCA0124214
Lab Number: 06235555
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
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

DIRT

15 Mar 2024 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

GLYCOL

09 Jan 2024 Diag: Jonathan Hester
We advise that you check for possible 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 remain high. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

DIRT

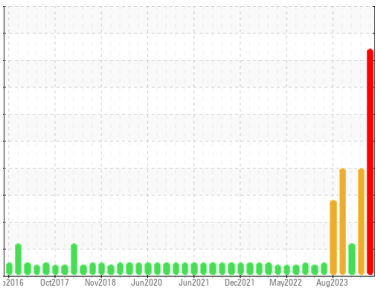
23 Oct 2023 Diag: Jonathan Hester
We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium 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 DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Area
(MM1341)
Machine Id
2536
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (10 GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. The oil 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
Test for glycol is positive. There is a high concentration of glycol present in the oil.

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		**PCA0124214**	PCA0113462	PCA0101776
Sample Date		Client Info		**12 Jul 2024**	15 Mar 2024	09 Jan 2024
Machine Age	hrs	Client Info		**25441**	24861	24499
Oil Age	hrs	Client Info		**580**	362	600
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	ABNORMAL	ABNORMAL

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	>165	**36**	55	8
Chromium	ppm	ASTM D5185m	>5	**2**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**9**	5	2
Lead	ppm	ASTM D5185m	>150	**1**	1	1
Copper	ppm	ASTM D5185m	>90	**9**	12	4
Tin	ppm	ASTM D5185m	>5	**<1**	0	<1
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	**25**	27	20
Barium	ppm	ASTM D5185m	0	**<1**	<1	0
Molybdenum	ppm	ASTM D5185m	60	**102**	151	72
Manganese	ppm	ASTM D5185m	0	**0**	0	<1
Magnesium	ppm	ASTM D5185m	1010	**690**	1124	693
Calcium	ppm	ASTM D5185m	1070	**1413**	2297	1253
Phosphorus	ppm	ASTM D5185m	1150	**908**	1661	957
Zinc	ppm	ASTM D5185m	1270	**1173**	1952	1181
Sulfur	ppm	ASTM D5185m	2060	**3061**	5656	3176

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>35	**29**	▲ 36	10
Sodium	ppm	ASTM D5185m		● **885**	▲ 1287	▲ 309
Potassium	ppm	ASTM D5185m	>20	▲ **107**	▲ 215	19
Glycol	%	*ASTM D2982		▲ **0.10**	NEG	NEG

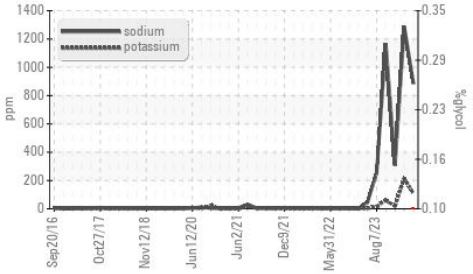
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>7.5	**0.5**	0.5	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**10.6**	11.0	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.7**	21.2	18.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.8**	16.7	13.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**9.8**	8.6	8.9

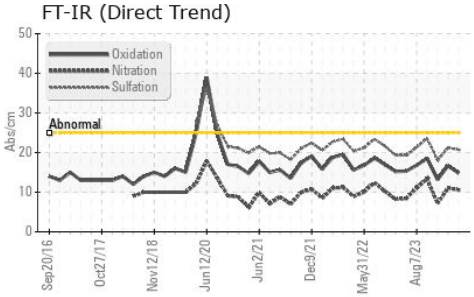
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

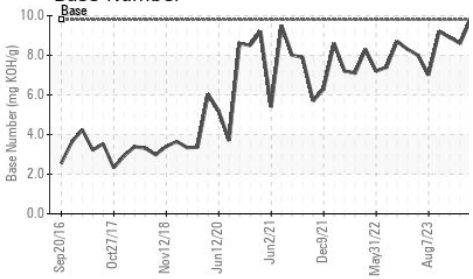
▲ Glycol Contamination



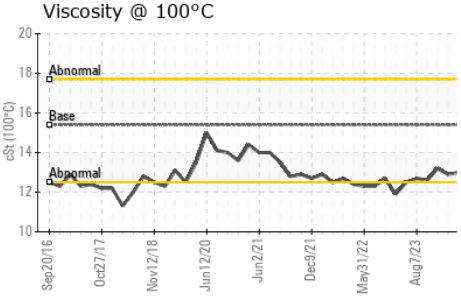
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

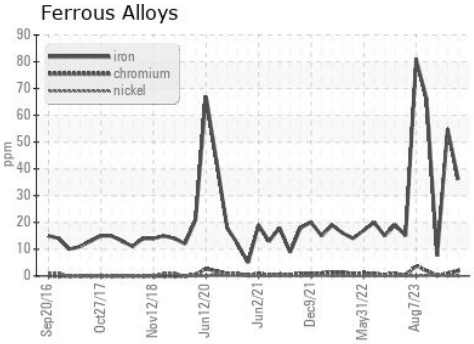


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

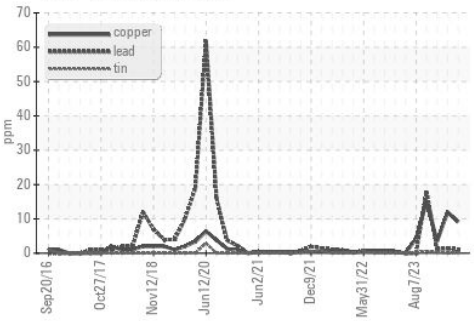
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.0**	12.9	13.2

GRAPHS

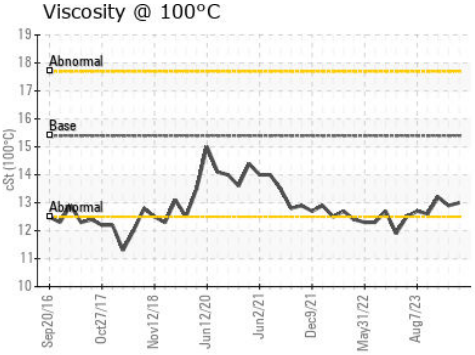
Ferrous Alloys



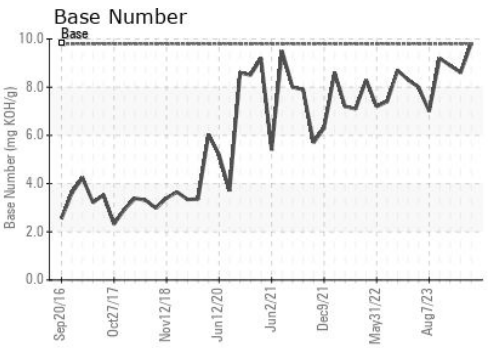
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0124214
Lab Number : 06235555
Unique Number : 11124389
Test Package : FLEET (Additional Tests: Glycol)

Received : 15 Jul 2024
Tested : 17 Jul 2024
Diagnosed : 17 Jul 2024 - Wes Davis

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 - 002 - Vance-Granville
241 Vanco Mill Rd
Henderson, NC
US 27537
Contact: Cameron King
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T: (252)438-5333
F: (252)431-1635

Report Id: GFL002 [WUSCAR] 06235555 (Generated: 07/17/2024 10:09:56) Rev: 1

Submitted By: Cameron King