

PROBLEM SUMMARY

(YA134210) 10351C

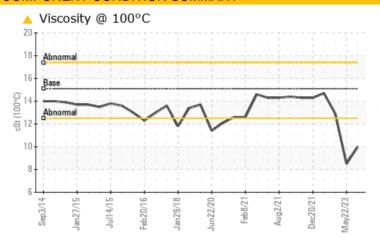
Component **Natural Gas Engine**

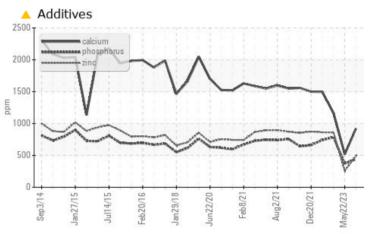
PETRO CANADA DURON GEO LD 15W40 (29 GAL)

Sample Rating Trend



COMPONENT CONDITION SUMMARY





RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS								
Sample Status				ABNORMAL	ABNORMAL	NORMAL		
Molybdenum	ppm	ASTM D5185m	50	^ 29	<u> </u>	51		
Magnesium	ppm	ASTM D5185m	560	290	▲ 151	532		
Calcium	ppm	ASTM D5185m	1510	920	<u>▲</u> 518	1164		
Phosphorus	ppm	ASTM D5185m	780	441	<u></u> 374	785		
Zinc	ppm	ASTM D5185m	870	490	<u>^</u> 260	859		
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	1.2	△ 0.2	9.2		
Visc @ 100°C	cSt	ASTM D445	15.1	10.0	▲ 8.5	12.9		

Customer Id: GFL017 **Sample No.:** GFL0098103 Lab Number: 05997292 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			?	We recommend that you drain the oil from the component if this has not already been done.
Resample			?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

22 May 2023 Diag: Jonathan Hester

DEGRADATION



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. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. Additive levels indicate the addition of a different brand, or type of oil. The BN level is low. Confirm oil type.



13 Dec 2022 Diag: Jonathan Hester

NORMAL



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

18 Feb 2022 Diag: Wes Davis

NORMAL



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.





OIL ANALYSIS REPORT

(YA134210) 10351C Component

Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (29 GAL)





DIAGNOSIS

Recommendation

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.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

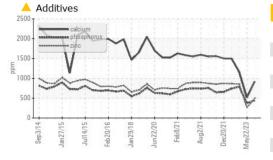
Fluid Condition

The oil viscosity is lower than normal. Additive levels indicate the addition of a different brand, or type of oil. The BN level is low. Confirm oil type.

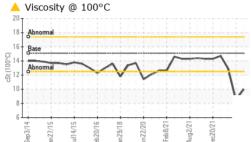
Machine Age hrs Client Info 9199 9199 9199			p2014 Jan201	5 Jul2015 Feb2016 Jan201	8 Jun2020 Feb2021 Aug2021 Dec2	021 May2023	
Sample Date Client Info 01 Nov 2023 22 May 2023 13 Dec 2022 Machine Age hrs Client Info 9199 <	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 9199 9199 9199 9199 Oil Age hrs Client Info 300 598 218 Oil Changed Client Info N/A N/A N/A Changed Sample Status method limit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 17 24 10 Chromium ppm ASTM D5185m >50 17 24 10 Chromium ppm ASTM D5185m >2 <1	Sample Number		Client Info		GFL0098103	GFL0083329	GFL0054725
Oil Age hrs Client Info 300 598 218 Oil Changed Client Info N/A N/A N/A Changed Sample Status Client Info N/A N/A N/A Changed WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 17 24 10 Chromium ppm ASTM D5185m >50 17 24 10 Chromium ppm ASTM D5185m >4 1 <1 <1 Nickel ppm ASTM D5185m >2 <1 <1 0 Silver ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >9 <1 0 2 Lead ppm ASTM D5185m >30 4 <1 <1 <1 Copper ppm ASTM D5185m >30 4 <1	Sample Date		Client Info		01 Nov 2023	22 May 2023	13 Dec 2022
Oil Changed Sample Status Client Info N/A N/A Changed ABNORMAL ABNORMAL NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 17 24 10 Chromium ppm ASTM D5185m >4 1 -1 -1 Nickel ppm ASTM D5185m >2 -1 -1 0 Titanium ppm ASTM D5185m >2 -1 0 -1 Silver ppm ASTM D5185m >9 -1 0 2 Lead ppm ASTM D5185m >9 -1 0 2 Lead ppm ASTM D5185m >9 -1 -1 -1 Copper ppm ASTM D5185m 30 4 -1 -1 -1 Vanadium ppm ASTM D5185m 30 4 -1 -1 -1 -1 -1 -1 -1	Machine Age	hrs	Client Info		9199	9199	9199
Sample Status method limit/base current history1 history2 Iron ppm ASTM D5185m >50 17 24 10 Chromium ppm ASTM D5185m >4 1 <1	Oil Age	hrs	Client Info		300	598	218
WEAR METALS			Client Info		N/A	N/A	Changed
Iron	Sample Status				ABNORMAL	ABNORMAL	NORMAL
Chromium ppm ASTM D5185m >4 1 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>50	17	24	10
Titanium	Chromium	ppm	ASTM D5185m	>4	1	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum ppm ASTM D5185m >9 <1 0 2 Lead ppm ASTM D5185m >9 <1 0 2 Copper ppm ASTM D5185m >33 5 2 1 Tin ppm ASTM D5185m >4 <1 <1 <1 Antimony ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 50 9 31 158 Boron ppm ASTM D5185m 50 9 31 158 Barium ppm ASTM D5185m 50 9 31 158 Barium ppm ASTM D5185m 50 29 31 158 Barium ppm ASTM D5185m 50 29 31 158 Barium ppm ASTM D5185m 50 29 31	Titanium	ppm	ASTM D5185m		0	0	<1
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Tin ppm ASTM D5185m >4 <1 <1 <1 <1 <1 Antimony ppm ASTM D5185m		ppm					
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Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 50 29 14 51 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
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Manganese ppm ASTM D5185m 0 <1 <1 2 Magnesium ppm ASTM D5185m 560 ▲ 290 ▲ 151 532 Calcium ppm ASTM D5185m 1510 ♠ 920 ▲ 518 1164 Phosphorus ppm ASTM D5185m 780 ♠ 441 ♠ 374 785 Zinc ppm ASTM D5185m 870 ♠ 490 ♠ 260 859 Sulfur ppm ASTM D5185m 2040 2242 1872 2878 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 5 7 12 Sodium ppm ASTM D5185m >20 5 3 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.1 Nitration Abs/cm *ASTM D7415 >30 </td <td></td> <td>ppm</td> <td></td> <td>5</td> <th>0</th> <td>0</td> <td>0</td>		ppm		5	0	0	0
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Sodium ppm ASTM D5185m 2 4 10 Potassium ppm ASTM D5185m >20 5 3 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.1 Nitration Abs/cm *ASTM D7624 >20 9.0 6.8 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 27.4 27.0 22.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 32.0 33.5 18.1	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 5 3 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.1 Nitration Abs/cm *ASTM D7624 >20 9.0 6.8 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 27.4 27.0 22.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 32.0 33.5 18.1	Silicon	ppm	ASTM D5185m	>+100		7	12
INFRA-RED	Sodium	ppm	ASTM D5185m		2	4	10
Soot % % *ASTM D7844 0 0 0.1 Nitration Abs/cm *ASTM D7624 >20 9.0 6.8 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 27.4 27.0 22.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 32.0 33.5 18.1	Potassium	ppm	ASTM D5185m	>20	5	3	<1
Nitration Abs/cm *ASTM D7624 >20 9.0 6.8 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 27.4 27.0 22.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 32.0 33.5 18.1	INFRA-RED		method	limit/base	current	history1	history2
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FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 32.0 33.5 18.1	Nitration	Abs/cm	*ASTM D7624	>20	9.0	6.8	5.9
Oxidation Abs/.1mm *ASTM D7414 >25 32.0 33.5 18.1	Sulfation	Abs/.1mm	*ASTM D7415	>30	27.4	27.0	22.0
	FLUID DEGRA	OITAC	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	32.0	33.5	18.1
	Base Number (BN)	mg KOH/g	ASTM D2896	10.2	<u> </u>		9.2



OIL ANALYSIS REPORT



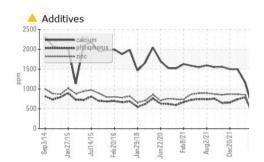
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

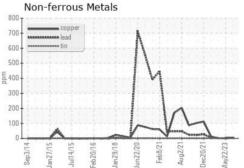


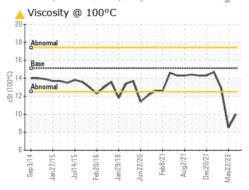
FLUID PROPI	ERTIES	method	limit/base	current	history1	histor
Visc @ 100°C	cSt	ASTM D445	15.1	10.0	▲ 8.5	12.9

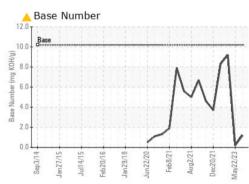
Ferrous Alloys 120

GRAPHS













Laboratory Sample No. Lab Number Unique Number

: GFL0098103 : 05997292

: 10725652

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 02 Nov 2023 Diagnosed : 05 Nov 2023 Diagnostician : Don Baldridge

GFL Environmental - 017 - Durham 148 Stone Park Court

Durham, NC US 27703 Contact: Shane Parks shane.parks@gflenv.com

T: (919)596-1363 F: (919)598-1852

Test Package : FLEET Certificate L2367 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)