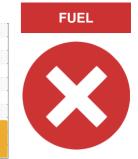


PROBLEM SUMMARY

Sample Rating Trend

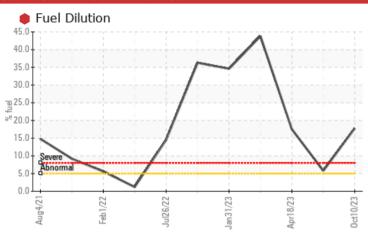


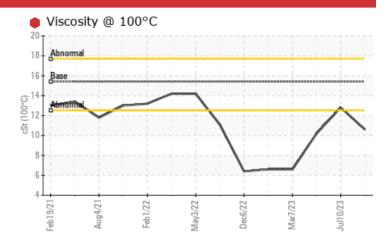
827036-1040

Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATION	C TEST	RESULT	S			
Sample Status				SEVERE	ABNORMAL	SEVERE
Fuel	%	ASTM D3524	>5	17.8	△ 5.8	17.5
Visc @ 100°C	cSt	ASTM D445	15.4	10.6	12.8	10.2

Customer Id: GFL622 Sample No.: GFL0090528 Lab Number: 05980128 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 Fuel/injector System -- ? We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

10 Jul 2023 Diag: Jonathan Hester

FUEL



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Discrete particle counts [100 ml] $5-15\mu m = 165400$, $15-25\mu m = 2000$, $25-50\mu m = 400$, $50-100\mu m = 0$, $>100\mu m = 0$. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



18 Apr 2023 Diag: Wes Davis

FUEL



We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

view report

07 Mar 2023 Diag: Doug Bogart

FUEL



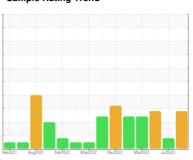
We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a very high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.





OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id **827036-1040**

Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. 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

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

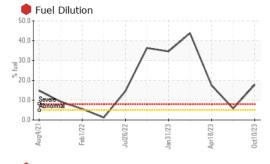
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION method limit/base current history1 history2	GAL)		Feb 2021 A	ug2021 Feb2022 May	y2022 Dec2022 Mar2023	Jul2023	
Sample Date Client Info 10 Oct 2023 10 Jul 2023 18 Apr 2023 Machine Age hrs Client Info 13910 13467 12847 Oil Age hrs Client Info 580 600 600 Oil Changed Client Info Changed Changed Changed Changed SEVERE CONTAMINATION method limit/base current history1 history2 Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m 80 15 19 11 Chromium ppm ASTM D5185m 80 15 19 11 Chromium ppm ASTM D5185m >2 <1	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
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Oil Age hrs Client Info 580 600 600 600 Oil Changed Sample Status Client Info Changed Changed Changed Changed Changed Sample Status Changed Severe Changed Chang	•	hrs	Client Info		13910	13467	
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WEAR METALS	-				_		
WEAR METALS	CONTAMINAT	TON	method	limit/base	current	history1	history2
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	_S	method	limit/base	current	history1	history2
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Silver	Nickel		ASTM D5185m	>2	<1	<1	0
Silver	Titanium		ASTM D5185m		<1	0	0
Aluminum ppm ASTM D5185m >30 1 1 <1 Lead ppm ASTM D5185m >30 <1	Silver		ASTM D5185m	>3	0	0	0
Lead ppm ASTM D5185m >30 <1 <1 0 Copper ppm ASTM D5185m >150 <1 <1 0 Tin ppm ASTM D5185m >5 <1 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 2 10 7 Boron ppm ASTM D5185m 0 2 10 7 Barium ppm ASTM D5185m 0 3 0 0 Molybdenum ppm ASTM D5185m 0 3 0 0 Manganese ppm ASTM D5185m 0 48 65 49 Manganese ppm ASTM D5185m 100 701 983 744 Calcium ppm ASTM D5185m 1070 803 1072 788 Zinc ppm ASTM D5185m 1270 943 1306<	Aluminum			>30			<1
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Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.6 19.1							
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	19.2	19.6	19.1
	Base Number (BN)	mg KOH/g			7.5	8.6	8.6



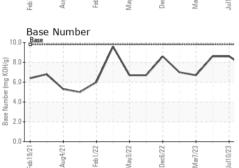
OIL ANALYSIS REPORT



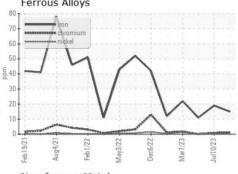
VISUAL		memod	IIIIII/Dase	Current	HISTORY	HISTOLA
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	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
ELLUD DDODE	DTIEO		11 1. //			

Abnormal		*******		
Base				
Abnormal				
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21+	22 -	22 -	23 -	0
Feb19/21 Aug4/21	Feb 1/22	Jec6/22	Mar7/23	

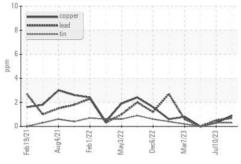


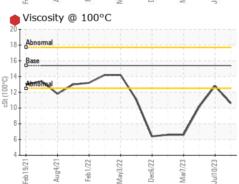


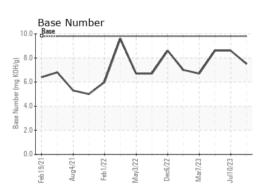
GRAPHS Ferrous Alloys



Non-ferrous Metals











Laboratory Sample No. Lab Number Unique Number : 10697423

: 05980128

: GFL0090528

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received Diagnosed

: 16 Oct 2023 : 17 Oct 2023

Diagnostician : Wes Davis

Test Package : FLEET (Additional Tests: PercentFuel) 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 - 622 - Traverse City Hauling

160 Hughes Dr Traverse City, MI US 49686

Contact: GARY BREWER

T: