

# **OIL ANALYSIS REPORT**

Sample Rating Trend



## Machine Id 942001

#### Component Natural Gas Engine Fluid PETRO CANADA DURON SHP 15W40 (--- GAL)

## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

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

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0113023	GFL0059650	
Sample Date		Client Info		29 May 2024	02 Oct 2023	
Machine Age	hrs	Client Info		23669	22455	
Oil Age	hrs	Client Info		599	0	
Oil Changed		Client Info		Changed	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	14	11	
Chromium	ppm	ASTM D5185m	>4	<1	1	
Nickel	ppm	ASTM D5185m	>2	<1	<1	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>9	2	2	
Lead	ppm	ASTM D5185m	>30	3	<1	
Copper	ppm	ASTM D5185m	>35	9	4	
Tin	ppm	ASTM D5185m	>4	2	<1	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		<1	0	
ADDITIVES		method	limit/base		history1	history2
Boron	ppm	ASTM D5185m	0	48	14	
Barium	ppm	ASTM D5185m	0	6	0	
Molybdenum	ppm	ASTM D5185m	60	13	55	
Manganese	ppm	ASTM D5185m	0	2	<1	
Magnesium	ppm	ASTM D5185m	1010	135	586	
Calcium	ppm	ASTM D5185m	1070	1194	1606	
Phosphorus	ppm	ASTM D5185m	1150	735	774	
Zinc	ppm	ASTM D5185m	1270	889	972	
Sulfur	ppm	ASTM D5185m	2060	2091	2708	
CONTAMINAN	TS	method	limit/base		history1	history2
Silicon	ppm	ASTM D5185m	>+100	14	4	
Sodium	ppm	ASTM D5185m		11	8	
Potassium	ppm	ASTM D5185m	>20	2	5	
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0	0	
Nitration	Abs/cm	*ASTM D7624	>20	9.3	10.2	
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.8	19.5	
FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
FLUID DEGRAD	DATION Abs/.1mm	method *ASTM D7414	limit/base	current 11.8	history1 17.1	history2



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FT-IR (Direct Trend)	VISUAL		method	limit/base	current	history1	history2
30 - Oxidation	White Metal	scalar	*Visual	NONE	NONE	NONE	
Patronnam Sulfation	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
up age	Precipitate	scalar	*Visual	NONE	NONE	NONE	
eq 15	Silt	scalar	*Visual	NONE	NONE	NONE	
10 -	Debris	scalar	*Visual	NONE	NONE	NONE	
5	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
0+t2/23 - 3 a/28/24 -	Appearance	scalar	*Visual	NORML	NORML	NORML	
0:t2/23 May(29/24	Odor	scalar	*Visual	NORML	NORML	NORML	
Base Number	Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	
(0, 8, 0) (0, 10) (0,	FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
ق 6.0-	Visc @ 100°C	cSt	ASTM D445	15.4	13.5	14.9	
a 4.0	GRAPHS						
<sup>№</sup> 2.0-	Ferrous Alloys						
0.0 S	12 iron						
0ct2/23	12 Bessesses chromium						
ء ۱۳۰۰ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹	8						
Viscosity @ 100°C	E 6						
18 Abnormal	4						
17 © 16 - Base	2						
016 Base 015							
	0ct2/23			May29/24			
13 <b>+ Abnormal</b> 12 <b>+</b>				May			
114	Non-ferrous Meta	als					
0.ct2/23	copper						
ž	8 - exercise tin		-				
	6						
	udd						
	2 -	on the Real of the Party of the Party of the		and the second sec			
	D						
	0ct2/23			May29/24			
				May			
	Viscosity @ 100°	С			Base Numbe	er	
	18 - Abnormal			10.	Base		
	17-			- 8.	0		
	C16			Base Number (mg KOH(g)			
	Contraction 16 000000000000000000000000000000000000			B 6.	0		
	ซี <sub>14</sub>			4.	0		
	13 Abnormal			ase			
	12			°° 2.	0		
	11						
	0ct2/23			May29/24	0ct2/23		May29/24
	_			Mč	-		Ma
	: WearCheck USA - 50	)1 Madiso	n Ave Carv	/ NC 27513	GFI F	nvironmental - 92	4 - Madison HC
ANAR Sample No.		Recei	i <b>ved</b> : 03	3 Jun 2024			aemisch Road
	r : 06197329	Teste		4 Jun 2024	<b>_</b>		Waunakee, WI
	r :11059452	Diagr	iosed : 04	l Jun 2024 - Se	ean Felton	Cont	US 53597
Certificate 12367 Test Package		vice at 1-8	800-237-136	9.		ben.brigg	act: Ben Briggs Js@gflenv.com
* - Denotes test methods that	t are outside of the ISO	17025 sco	pe of accred	ditation.		T:	(608)770-9196
Statements of conformity to	specifications are based	on the sin	nple accepta	nce decision	rule (JCGM 1		F:

Submitted By: GFL912, GFL921, GFL924 - LEONARD KOZLEUCHAR