

[1287477]

810054 Component Diesel Engine

# **OIL ANALYSIS REPORT**

Sample Rating Trend



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

## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

### Wear

Area

All component wear rates are normal.

#### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

### Fluid Condition

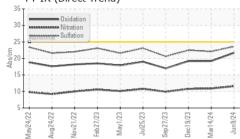
The condition of the oil is acceptable for the time in service.

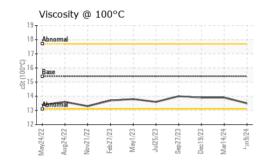
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0093977	GFL0093966	GFL0093937
Sample Date		Client Info		09 Jun 2024	14 Mar 2024	19 Dec 2023
Machine Age	hrs	Client Info		6015	5474	4993
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI		method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method		NEG	NEG	NEG
Glycol		WC Method	20.2	NEG	NEG	NEG
-	-			-		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	26	26	31
Chromium	ppm	ASTM D5185(m)	>20	1	1	2
Nickel	ppm	ASTM D5185(m)	>4	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	3	4	8
Lead	ppm	ASTM D5185(m)	>40	0	0	<1
Copper	ppm	ASTM D5185(m)	>330	2	2	2
Tin	ppm	ASTM D5185(m)	>15	0	0	<1
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	6	5	5
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	62	63	62
Manganese	ppm	ASTM D5185(m)	0	<1	0	0
Magnesium	ppm	ASTM D5185(m)	1010	957	990	959
Calcium	ppm	ASTM D5185(m)	1070	1132	1164	1171
Phosphorus	ppm	ASTM D5185(m)	1150	965	987	991
Zinc	ppm	ASTM D5185(m)	1270	1199	1209	1201
Sulfur	ppm	ASTM D5185(m)	2060	2378	2384	2582
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	4	5	6
Sodium	ppm	ASTM D5185(m)		9	7	8
Potassium	ppm	ASTM D5185(m)	>20	6	6	18
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.5	0.4	0.6
Nitration	Abs/cm	ASTM D7624*	>20	11.6	10.9	10.8



# **OIL ANALYSIS REPORT**

FT-IR (Direct Trend)





FLUID D	DEG	RA	DAT	ΓΙΟΝ	J m	etho	d	limit/	base		curre	ent		his	tory1		hi	story	/2	
Oxidation			Abs/.1mm ASTM D7414* method			>25	21	.7			19.2				19.2					
VISUAL						limit/		curre	ent	history1				history2						
White Meta			SC	alar	Vis	ual*		NONE		N	ONE									
Yellow Meta	al		SC	scalar Visual*		NONE		NONE												
Precipitate			SC	alar	Vis	ual*		NONE		Ν	ONE									
Silt			SC	alar	Vis	ual*		NONE		NONE										
Debris			SC	alar	Vis	ual*		NONE		NONE										
Sand/Dirt			SC	alar	Vis	ual*		NONE		NONE										
Appearance	э		SC	alar	Vis	Visual*		NORML		NORML										
Odor			SC	alar	Vis	ual*		NORML		NORML				NOR	RML		NORML			
Emulsified	Wate	ər	SC	alar	Vis	ual*		>0.2		NEG				NEG	i		NEG			
Free Water			scalar Visual*					NEG				NEG				NEG				
FLUID F	PRC	OPE	ERT	IES	m	etho	d	limit/	base		curre	ent		his	tory1		hi	story	/2	
Visc @ 100	°C		cS	St	ASTI	M D7279	9(m)	15.4		13	8.5			13.9			13.9			
GRAPH																				
Iron (ppn	n)								100	Lea	d (p	pm)								
Severe		1							80	Seve	re					1	1			
										1										
) - Abnormal									E 40	Abn	ormal									
)-									20											
	2	+	~		~		4	4	0	2	2	2	m	~	~	m	~	4	~	
May24/22 Aug24/22	Nov21/22	Feb27/23	May1/23	Jul25/23	Sep27/23	Dec19/23	Mar14/24	Jun9/24		May24/22	Aug24/22	Nov21/22	Feb27/23	May1/23	Jul25/23	Sep27/23	Dec19/23	Mar14/24	10,00	
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Severe									50	Seve	re									
									40	0										
Abnormal		1	1		1	1	1	1	펍 <sup>30</sup> 업 20	Abn	ormal		1	1		1	1	1		
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May24/22 Aug24/22	Nov21/22	Feb27/23	May1/23	Jul25/23	Sep27/23	Dec19/23	Mar14/24	Jun9/24		May24/22	Aug24/22	Vov21/22	Feb27/23	May1/23	Jul25/23	Sep27/23	Dec19/23	Mar14/24	100	
May Aug	Nov	Feb	Ma	Jul	Sep	Dec	Mar	ηr				-		Ma	Jul	Sep	Dec	Mar		
Copper (	opm	)							0.0		con (	ppm	)							
Severe									80	Seve	le									
)									60 E	1										
)			1						법 40	Abn	ormal									
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	22	23	23	23	23	23	24	24	0	22	22	22	23 -	23	23	23 -	23-	24 -	;	
May24/22 Aug24/22	Nov21/22	Feb27/23	May1/23	Jul25/23	Sep27/23	Dec19/23	Mar14/24	Jun9/24		May24/22	Aug24/22	Nov21/22	Feb27/23	May1/23	Jul25/23	Sep27/23	Dec19/23	Mar14/24	100	
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Viscosity	@ 10	00°(	-						6.0	500	ot %									
										Seve	re									
Ab	1	1		1	1				<sub>≥</sub> e 4.0	Abn	ormal									
Abnormal									4.0 tos 2.0	-	i.						1			
Ab					-			-											_	
Abnormal Base Abnormal							+	+	0.0	2	~	2		3	3	3	3	4		
Abnormal Base Abnormal	22	23 -	23 -	23	23	2	~	2		2	2	2						~		
Abnormal Base Abnormal	Nov21/22	Feb27/23	May1/23 -	Jul25/23	Sep27/23	Dec19/23	Mar14/24	Jun9/24		May24/22	Aug24/22	Nov21/22	Feb27/23	May1/23	Jul25/23	Sep27/23	Dec19/23	Mar14/24	100	

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 777 - Belleville-Municipal waste Laboratory CALA Sample No. : GFL0093977 Received : 10 Jun 2024 197 Putman Industrial Road Lab Number : 02640696 Tested : 10 Jun 2024 Belleville, ON ISO 17025:2017 Accredited Laboratory CA K8N 4Z6 Unique Number : 5789858 Diagnosed : 10 Jun 2024 - Kevin Marson Test Package : MOB 1 (Additional Tests: Visual) Contact: Ian Patton To discuss this sample report, contact Customer Service at 1-800-268-2131. ipatton@gflenv.com T: (905)831-6297 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied. F: (905)426-3577

Report Id: GFL777 [WCAMIS] 02640696 (Generated: 06/10/2024 15:31:14) Rev: 1

Submitted By: Shane Cater

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