

## **OIL ANALYSIS REPORT**

Sample Rating Trend





Machine Id **719M** Component **Diesel 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.

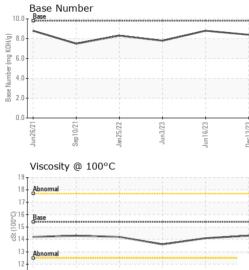
#### Fluid Condition

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

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0105602	GFL0069811	GFL0069843
Sample Date		Client Info		13 Dec 2023	16 Jun 2023	03 Jun 2023
Machine Age	hrs	Client Info		23327	22625	22556
Oil Age	hrs	Client Info		0	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	8	1	12
Chromium	ppm	ASTM D5185m	>5	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	1	<1	<1
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>150	0	0	<1
Tin	ppm	ASTM D5185m	>5	0	0	0
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	2	4	1
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	58	56	59
Manganese	ppm	ASTM D5185m	0	0	<1	<1
Magnesium	ppm	ASTM D5185m	1010	966	946	948
Calcium	ppm	ASTM D5185m	1070	1037	1017	1136
Phosphorus	ppm	ASTM D5185m	1150	1051	1075	1021
Zinc	ppm	ASTM D5185m	1270	1318	1276	1280
Sulfur	ppm	ASTM D5185m	2060	3094	3167	3649
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	3	2	2
Sodium	ppm	ASTM D5185m		3	0	5
Potassium	ppm	ASTM D5185m	>20	<1	<1	5
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.4	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	8.3	5.0	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.5	17.0	20.4
FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.1	12.9	17.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.4	8.8	7.8
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# **OIL ANALYSIS REPORT**



an 75/77

lun3/23

Jun16/23

Sep10/21.

Jun26/21

VISUAL		method	limit/base	current		history
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 PROPE	RTIES	method	limit/base	current	history1	history
/isc @ 100°C	cSt	ASTM D445	15.4	14.3	14.1	13.6
GRAPHS						
Ferrous Alloys						
iron						
- management chromium						
nickel	$\mathbf{X}$					
	$\sim$					
			-			
	No. 8, N. P. & Witness Concession	$\searrow$				
	1/23	253	3/23			
	Jun3/23	Jun 16/23	Dec13/23			
Jun 26/21		Junt6/23	Dec13/23			
		Juni6/23	Dec13/23			
Non-ferrous Metal		2/giune	Dec13/23			
12/32/unr 12/32/unr Non-ferrous Metal		52/gjunf	Dec13/23			
12/32/unf Non-ferrous Metal		Jun16/23	Dec13/23			
12/32/unp 12/32/201 des Non-ferrous Metal		Juni 6/23	Dec13/23			
12/32/unf Non-ferrous Metal		Juni 6/23	Dec13/23			
12/32/unf Non-ferrous Metal		Juni 6/23	Dec13/23			
12/32/unf Non-ferrous Metal		Junt 6/23	Dec13/23			
17292unr Non-ferrous Metal	s	Junt 6/23	Dec13/23			
17201 des Non-ferrous Metal	S					
17/92/unr Non-ferrous Metal	S	Jun 16/23	Dec13/23 Dec13/23			
IZ392un IZ392un Von-ferrous Metal	S Auroone ECEunp			Base Numbe	r	
IZUSZUER IZUSZUER Non-ferrous Metal	S Auroone ECEunp				r	
IZ392un IZ392un Von-ferrous Metal	S Auroone ECEunp		Dec[3/33	Base	r	
IZ001des Non-ferrous Metal	S Auroone ECEunp		Dec[3/33	Base	r	
IZ001des Non-ferrous Metal	S Auroone ECEunp		Dec[3/33	Base	r	
IZ001des Non-ferrous Metal	S Auroone ECEunp		Dec[3/33	Base	r	
Non-ferrous Metal	S Auroone ECEunp		Dec[3/33	Base	r	
Non-ferrous Metal	S Auroone ECEunp		0.0 Dec13/23 328 Mumber (ub KOH/0) 4.0	Base	r	
IZ001des Non-ferrous Metal	S Auroone ECEunp		0.01 pec(13/23 p	Base	r	
Non-ferrous Metal	S Alimo CZCUIF		0.0 Dec13/23 328 Mumber (ub KOH/0) 4.0	Base		
IZOGUMP Non-ferrous Metal	S Auroone ECEunp		10.0 Dec1302 Base Number (ng) Base Same 2.0	Base	Jan 25/22	Jun 16,23



Lab Number : 06034427 Diagnosed : 15 Dec 2023 Sterling Heights, MI Unique Number : 10789656 Diagnostician : Wes Davis Test Package : FLEET Contact: Frank Wolak Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. fwolak@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (586)825-9514 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

: 14 Dec 2023

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

Received

Laboratory Sample No.

: GFL0105602

Submitted By: Frank Wolak

GFL Environmental - 415 - Michigan East

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