

# **OIL ANALYSIS REPORT**





Machine Id 922039-282
Component

Diesel Engine

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

SAMPLE INFORMATION

Client Info

Sample Number

# 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.

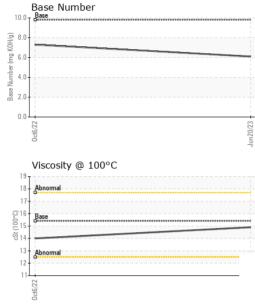
ethod	limit/base	current	
	Oct2022	Jun2023	

**GFL0066129** GFL0055743

Sample Number		Client Info		GFL0066129	GFL0055743	
Sample Date		Client Info		20 Jun 2023	06 Oct 2022	
Machine Age	hrs	Client Info		7098	94795	
Oil Age	hrs	Client Info		500	0	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
·						
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>3.0	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>120	25	17	
Chromium	ppm	ASTM D5185m	>20	1	1	
Nickel	ppm	ASTM D5185m	>5	<1	<1	
Titanium	ppm	ASTM D5185m	>2	0	<1	
Silver	ppm	ASTM D5185m	>2	0	<1	
Aluminum	ppm	ASTM D5185m		3	3	
Lead	ppm	ASTM D5185m	>40	<1	<1	
Copper	ppm	ASTM D5185m		2	5	
Tin	ppm	ASTM D5185m	>15	- <1	<1	
Vanadium		ASTM D5185m	>10	0	0	
Cadmium	ppm			0	0	
	ppm	ASTM D5185m		0	0	
ADDITIVES		method			history 1	history 2
					,	
Boron	ppm	ASTM D5185m	0	7	12	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0			
				7	12	
Barium	ppm	ASTM D5185m	0	7 0	12 0	
Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	0 60	7 0 68	12 0 54	
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0	7 0 68 <1	12 0 54 <1	
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	7 0 68 <1 1032	12 0 54 <1 838	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150	7 0 68 <1 1032 1168 1050	12 0 54 <1 838 1168 896	
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	7 0 68 <1 1032 1168	12 0 54 <1 838 1168	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	7 0 68 <1 1032 1168 1050 1369 3303	12 0 54 <1 838 1168 896 1133 2964	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	7 0 68 <1 1032 1168 1050 1369 3303	12 0 54 <1 838 1168 896 1133 2964 history 1	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	7 0 68 <1 1032 1168 1050 1369 3303 current	12 0 54 <1 838 1168 896 1133 2964 history 1	history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base	7 0 68 <1 1032 1168 1050 1369 3303 current 5	12 0 54 <1 838 1168 896 1133 2964 history 1 8	history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	7 0 68 <1 1032 1168 1050 1369 3303 current	12 0 54 <1 838 1168 896 1133 2964 history 1	history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base	7 0 68 <1 1032 1168 1050 1369 3303 current 5	12 0 54 <1 838 1168 896 1133 2964 history 1 8	history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	7 0 68 <1 1032 1168 1050 1369 3303 current 5 10 3	12 0 54 <1 838 1168 896 1133 2964 history 1 8 6 2	history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m  method ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	7 0 68 <1 1032 1168 1050 1369 3303 current 5 10 3 current	12 0 54 <1 838 1168 896 1133 2964 history 1 8 6 2	history 2 history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m  method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	7 0 68 <1 1032 1168 1050 1369 3303 current 5 10 3 current	12 0 54 <1 838 1168 896 1133 2964 history 1 8 6 2 history 1 0.7	history 2 history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m  method ASTM D5185m ASTM D76185m ASTM D76185m ASTM D76185m ASTM D76185m ASTM D76185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20	7 0 68 <1 1032 1168 1050 1369 3303 current 5 10 3 current 1.1 11.8	12 0 54 <1 838 1168 896 1133 2964 history 1 8 6 2 history 1 0.7 9.9	history 2 history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm	ASTM D5185m  method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  method *ASTM D7844 *ASTM D7624 *ASTM D7415  method	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30 limit/base	7 0 68 <1 1032 1168 1050 1369 3303 current 5 10 3 current 1.1 11.8 26.0 current	12 0 54 <1 838 1168 896 1133 2964 history 1 8 6 2 history 1 0.7 9.9 22.7 history 1	history 2 history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m  method ASTM D5185m ASTM D76185m ASTM D76185m ASTM D76185m ASTM D76185m ASTM D76185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	7 0 68 <1 1032 1168 1050 1369 3303 current 5 10 3 current 1.1 11.8 26.0	12 0 54 <1 838 1168 896 1133 2964 history 1 8 6 2 history 1 0.7 9.9 22.7	history 2 history 2 history 2



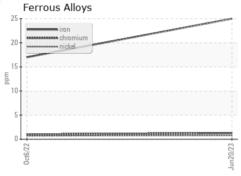
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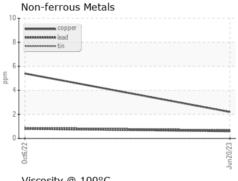


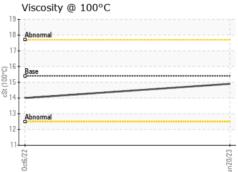
VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
	DTIES	mothod	limit/bass	ourront	hioton/ 1	hiotony 2

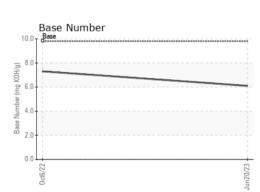
FLUID PROPE	ERITES	method			history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	14.9	14.0	

## **GRAPHS**













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10535394 Test Package : FLEET

: GFL0066129 : 05884911

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 27 Jun 2023 Diagnosed : 30 Jun 2023 Diagnostician : Wes Davis

GFL Environmental - 904A - Thorpe

N14985 Tieman Ave Thorp, WI US 54771 Contact: Andy Kane akane@gflenv.com T: (715)202-3420

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)