

# **OIL ANALYSIS REPORT**

Sample Rating Trend



830011 Component Natural Gas Engine Fluid PETRO CANADA DURON GEO LD 15W40 (--- GAL)

### DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Machine Id

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

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

	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0112488	GFL0097605	GFL0072809
Sample Date		Client Info		24 Apr 2024	12 Nov 2023	23 May 2023
Machine Age	hrs	Client Info		9252	0	7222
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	21	24	12
Chromium	ppm	ASTM D5185(m)	>4	2	3	1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>9	3	5	3
Lead	ppm	ASTM D5185(m)	>30	<1	4	1
Copper	ppm	ASTM D5185(m)	>35	1	2	<1
Tin	ppm	ASTM D5185(m)	>4	0	<1	0
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
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base 50	current 9	history1 8	history2 12
	ppm ppm		50			
Boron		ASTM D5185(m)	50	9	8	12
Boron Barium Molybdenum Manganese	ppm	ASTM D5185(m) ASTM D5185(m)	50 5 50	9 0	8 <1	12 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50	9 0 58	8 <1 64	12 0 54
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0	9 0 58 <1	8 <1 64 <1	12 0 54 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560	9 0 58 <1 641	8 <1 64 <1 694	12 0 54 <1 557
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510	9 0 58 <1 641 1780 800 1002	8 <1 64 <1 694 1878	12 0 54 <1 557 1675
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510 780	9 0 58 <1 641 1780 800 1002 2067	8 <1 64 <1 694 1878 882 1084 2088	12 0 54 <1 557 1675 774
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510 780 870	9 0 58 <1 641 1780 800 1002	8 <1 64 <1 694 1878 882 1084	12 0 54 <1 557 1675 774 886
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510 780 870	9 0 58 <1 641 1780 800 1002 2067	8 <1 64 <1 694 1878 882 1084 2088	12 0 54 <1 557 1675 774 886 1978
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510 780 870 2040	9 0 58 <1 641 1780 800 1002 2067 <1	8 <1 64 <1 694 1878 882 1084 2088 <1	12 0 54 <1 557 1675 774 886 1978 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 50 0 560 1510 780 870 2040	9 0 58 <1 641 1780 800 1002 2067 <1 current	8 <1 64 <1 694 1878 882 1084 2088 <1 history1	12 0 54 <1 557 1675 774 886 1978 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 50 0 560 1510 780 870 2040	9 0 58 <1 641 1780 800 1002 2067 <1 2067 <1 2067 4	8 <1 64 <1 694 1878 882 1084 2088 <1 2088 <1 history1 6	12 0 54 <1 557 1675 774 886 1978 <1 978 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510 780 870 2040 <b>iimit/base</b> >+100	9 0 58 <1 641 1780 800 1002 2067 <1 2067 <1 2067 <1 2067 <1 8	8 <1 64 <1 694 1878 882 1084 2088 <1 <b>history1</b> 6 11	12 0 54 <1 557 1675 774 886 1978 <1 978 <1 history2 4 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	50 50 00 560 1510 780 870 2040 <b>imit/base</b> >+100	9 0 58 <1 641 1780 800 1002 2067 <1 2067 <1 2067 <1 2067 4 8 3	8 <1 64 <1 694 1878 882 1084 2088 <1 <b>history1</b> 6 11 4	12 0 54 <1 557 1675 774 886 1978 <1 <b>history2</b> 4 7 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185(m) ASTM D5185(m)	50 50 0 560 1510 780 870 2040 <b>Imit/base</b> >20 <b>Imit/base</b>	9 0 58 <1 641 1780 800 1002 2067 <1 2067 <1 <i>current</i> 4 8 3 3	8 <1 64 <1 694 1878 882 1084 2088 <1 <b>bistory1</b> 6 11 4 <b>bistory1</b>	12 0 54 <1 557 1675 774 886 1978 <1 <b>history2</b> 4 7 2 <b>history2</b>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185(m) ASTM D5185(m)	50 50 0 560 1510 780 870 2040 <b>Imit/base</b> >20 <b>Imit/base</b>	9 0 58 <1 641 1780 800 1002 2067 <1 2067 <1 <b>current</b> 4 8 3 3 <b>current</b> 0	8 <1 64 <1 694 1878 882 1084 2088 <1 <b>history1</b> 6 11 4 <b>history1</b> 0	12 0 54 <1 557 1675 774 886 1978 <1 <b>history2</b> 4 7 2 <b>history2</b> 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624*	50 50 00 560 1510 780 870 2040 2040 Jimit/base >+100 20 Jimit/base	9 0 58 <1 641 1780 800 1002 2067 <1 <i>current</i> 4 8 3 <i>current</i> 0 11.7	8 <1 64 <1 694 1878 882 1084 2088 <1 history1 6 11 4 history1 0 13.5	12 0 54 <1 557 1675 774 886 1978 <1 history2 4 7 2 history2 0 10.9



35

30

10

19

18

12

11 Uave1/21

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Ba

Abnormal 13

Mav9/21

Ab jg 25

FT-IR (Direct Trend)

Oxidation

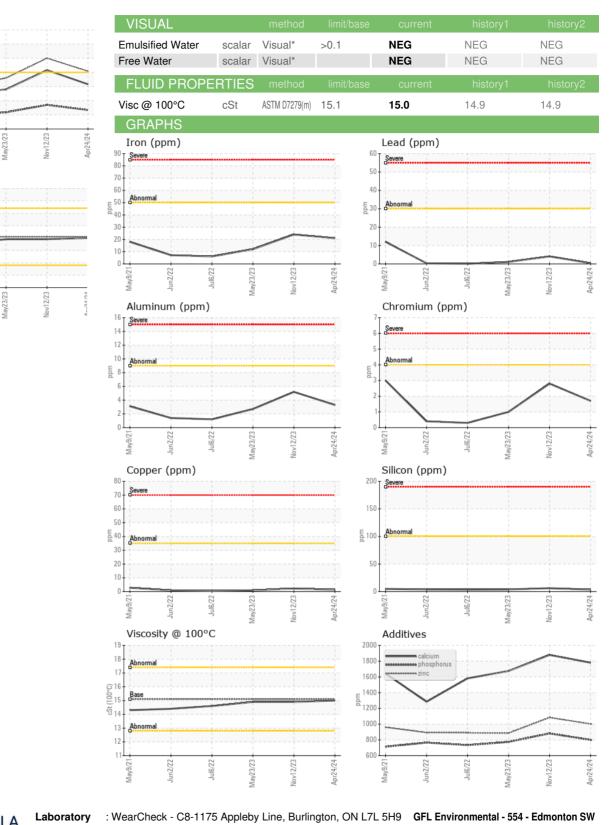
Sulfation

Viscosity @ 100°C

Jul6/22

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# **OIL ANALYSIS REPORT**



CALA Sample No. : GFL0112488 Received : 26 Apr 2024 Lab Number : 02631531 Tested : 26 Apr 2024 ISO 17025:2017 Accredited Laboratory Unique Number : 5772684 Diagnosed : 26 Apr 2024 - Wes Davis Test Package : MOB 1 To discuss this sample report, contact Customer Service at 1-800-268-2131. 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.

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Submitted By: Brian Gagne Page 2 of 2