

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 834053

Fluid

Component Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

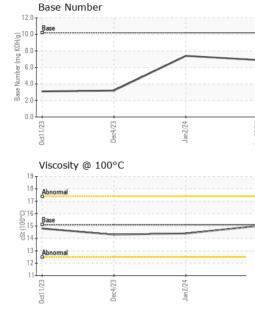
Fluid Condition

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

		Oct2023	Dec2023	Jan2024 J	an 2024	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0103275	GFL0103348	GFL0099949
Sample Date		Client Info		29 Jan 2024	02 Jan 2024	04 Dec 2023
Machine Age	hrs	Client Info		884	771	599
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
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 D5185m	>50	9	11	66
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	1
Titanium	ppm	ASTM D5185m	>5	0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	2	6
Lead	ppm	ASTM D5185m	>40	5	1	2
Copper	ppm	ASTM D5185m	>150	1	<1	19
Tin	ppm	ASTM D5185m	>4	1	<1	2
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
		and the second			1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	biotory ()
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	ASTM D5185m	50	19	history1 50	6
	ppm ppm					
Boron		ASTM D5185m	50	19	50	6
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5	19 0	50 0	6 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	19 0 50	50 0 51	6 0 54
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	19 0 50 <1	50 0 51 <1	6 0 54 13
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	19 0 50 <1 551	50 0 51 <1 571	6 0 54 13 847
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	19 0 50 <1 551 1573	50 0 51 <1 571 1503	6 0 54 13 847 1308
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780	19 0 50 <1 551 1573 835	50 0 51 <1 571 1503 768	6 0 54 13 847 1308 751
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870	19 0 50 <1 551 1573 835 1016 2613	50 0 51 <1 571 1503 768 962	6 0 54 13 847 1308 751 965
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040	19 0 50 <1 551 1573 835 1016 2613	50 0 51 <1 571 1503 768 962 2469	6 0 54 13 847 1308 751 965 2351
Boron 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	50 50 50 560 1510 780 870 2040 limit/base >25	19 0 50 <1 551 1573 835 1016 2613 current	50 0 51 <1 571 1503 768 962 2469 history1	6 0 54 13 847 1308 751 965 2351 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	50 50 50 560 1510 780 870 2040 limit/base >25	19 0 50 <1 551 1573 835 1016 2613 current 6	50 0 51 <1 571 1503 768 962 2469 history1 8	6 0 54 13 847 1308 751 965 2351 history2 36
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 limit/base	19 0 50 <1 551 1573 835 1016 2613 <i>current</i> 6 9 4	50 0 51 <1 571 1503 768 962 2469 history1 8 5	6 0 54 13 847 1308 751 965 2351 history2 36 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 50 0 560 1510 780 870 2040 limit/base >25	19 0 50 <1 551 1573 835 1016 2613 <i>current</i> 6 9 4	50 0 51 <1 571 1503 768 962 2469 history1 8 5 5 <1	6 0 54 13 847 1308 751 965 2351 history2 36 4 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 2040 2040 225 >25 >20 20	19 0 50 <1 551 1573 835 1016 2613 <i>current</i> 6 9 4	50 0 51 <1 571 1503 768 962 2469 history1 8 5 <1 8	6 0 54 13 847 1308 751 965 2351 history2 36 4 7 7 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 2040 2040 225 >25 >20 20	19 0 50 <1 551 1573 835 1016 2613 <i>current</i> 6 9 4 <i>current</i>	50 0 51 <1 571 1503 768 962 2469 history1 8 5 <1 8 5 <1 0	6 0 54 13 847 1308 751 965 2351 history2 36 4 7 7 history2 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 50 560 1510 780 870 2040 Imit/base >25 20 Imit/base	19 0 50 <1 551 1573 835 1016 2613 <i>current</i> 6 9 4 <i>current</i> 0.1 11.2 19.3	50 0 51 <1 571 1503 768 962 2469 history1 8 5 <1 8 5 <1 history1 0 7.7	6 0 54 13 847 1308 751 965 2351 history2 36 4 7 history2 0 12.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 50 50 150 1510 780 870 2040 Iinit/base >25 Iinit/base >20 Iinit/base	19 0 50 <1 551 1573 835 1016 2613 <i>current</i> 6 9 4 <i>current</i> 0.1 11.2 19.3	50 0 51 <1 571 1503 768 962 2469 history1 8 5 <1 8 5 <1 history1 0 7.7 20.4	6 0 54 13 847 1308 751 965 2351 history2 36 4 7 history2 0 12.5 24.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	50 50 50 560 1510 780 870 2040 imit/base >25 imit/base >20 imit/base >30	19 0 50 <1 551 1573 835 1016 2613 <i>current</i> 6 9 4 <i>current</i> 0.1 11.2 19.3 <i>current</i>	50 0 51 <1 571 1503 768 962 2469 history1 8 5 <1 history1 0 7.7 20.4 history1	6 0 54 13 847 1308 751 965 2351 history2 36 4 7 5 history2 0 12.5 24.0 history2



OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history2
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	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	15.0	14.4	14.3
GRAPHS						
Ferrous Alloys						
°T						
0 - iron chromium						
nickel						
0						
0						
0						
1		\mathbf{N}				
0-						
0						
Dec4/23		Jan 2/24	3/24			
0ct11/23 Dec4/23		Jan2	Jan 29/24			
Non-ferrous Meta	ls					
copper 1						
nanana lead						
5 tin						
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		Jan2/24 -	3/24 .			
0ct11/23		Janá	Jan 29/24			
 Viscosity @ 100°(2			Dees Normali		
9 			12.0	Base Number		
8 Abnormal			10.0	Base		
17			10.0 \$	1		
6 -			0.8 Mumber (mg KOH/g)			
Base			E CO			
6 5 4			ත් 6.0 ස			
			N 85 4.0		/	
³ Abnormal			<u>ه</u> 2.0			



 Unique Number
 : 10857633
 Diagnostician
 : Wes Davis

 Certificate L2367
 Test Package
 : FLEET

 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)

Dec4/23 -

Jan2/24 -

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

Recieved

Diagnosed

12-

Laboratory Sample No.

Lab Number

0ct11/23 -

: GFL0103275

: 06075542

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836

Dec4/23 -

0.0

0ct11/23-

Jan29/24 -

: 31 Jan 2024

:01 Feb 2024

Jan 29/24

F:

lan2/24

7801 East Truman Road

Kansas City, MO

Contact: Robert Hart

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T: (580)461-1509

US 64126

GFL Environmental - 836 - Kansas City Hauling