

### **OIL ANALYSIS REPORT**

Sample Rating Trend



# Machine Id 946014-260295

Component Natural Gas Engine

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

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

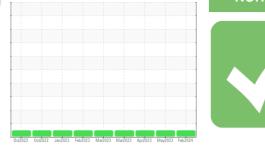
Metal levels are typical for a new component breaking in.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

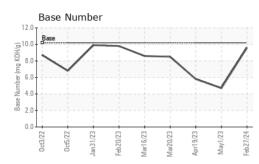
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

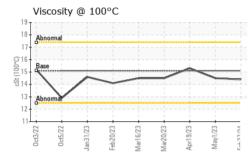


	ΛΑΤΙΟΝ	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0106766	GFL0078124	GFL0073762
Sample Date		Client Info		27 Feb 2024	01 May 2023	19 Apr 2023
Machine Age	hrs	Client Info		1331	2790	171419
Oil Age	hrs	Client Info		600	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	5	19	21
Chromium	ppm	ASTM D5185m	>4	<1	1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm		>3	0	0	0
Aluminum	ppm	ASTM D5185m		1	1	2
Lead	ppm	ASTM D5185m	>30	<1	2	2
Copper	ppm	ASTM D5185m		4	4	3
Tin	ppm	ASTM D5185m	>4	<1	<1	2
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	50	37	12	13
Barium	ppm	ASTM D5185m ASTM D5185m	5	7	12 2	0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5 50	7 42	12 2 50	0 53
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 50 0	7 42 5	12 2 50 2	0 53 2
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 50 0 560	7 42 5 768	12 2 50 2 798	0 53 2 776
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 50 0 560 1510	7 42 5 768 1041	12 2 50 2 798 1215	0 53 2 776 1271
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 50 0 560 1510 780	7 42 5 768 1041 694	12 2 50 2 798 1215 653	0 53 2 776 1271 687
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870	7 42 5 768 1041 694 854	12 2 50 2 798 1215 653 920	0 53 2 776 1271 687 961
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	5 50 0 560 1510 780 870 2040	7 42 5 768 1041 694 854 2219	12 2 50 2 798 1215 653 920 2749	0 53 2 776 1271 687 961 2560
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	5 50 0 560 1510 780 870 2040 <b>limit/base</b>	7 42 5 768 1041 694 854 2219 current	12 2 50 2 798 1215 653 920 2749 history1	0 53 2 776 1271 687 961 2560 history2
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 <b>method</b>	5 50 0 560 1510 780 870 2040	7 42 5 768 1041 694 854 2219 current 12	12 2 50 2 798 1215 653 920 2749 history1 23	0 53 2 776 1271 687 961 2560 history2 23
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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	5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100	7 42 5 768 1041 694 854 2219 current 12 3	12 2 50 2 798 1215 653 920 2749 history1 23 2	0 53 2 776 1271 687 961 2560 history2 23 5
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100 >20	7 42 5 768 1041 694 854 2219 <u>current</u> 12 3 4	12 2 50 2 798 1215 653 920 2749 history1 23 23 2 2	0 53 2 776 1271 687 961 2560 history2 23 5 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100	7 42 5 768 1041 694 854 2219 current 12 3 4	12 2 50 2 798 1215 653 920 2749 history1 23 2 2 2 2	0 53 2 776 1271 687 961 2560 history2 23 5 2 2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100 >20 <b>limit/base</b>	7 42 5 768 1041 694 854 2219 current 12 3 4 current 0	12 2 50 2 798 1215 653 920 2749 history1 23 2 2 2 2 <i>history1</i>	0 53 2 776 1271 687 961 2560 history2 23 5 2 2 2 2 3 5 2 2 history2
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	5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100 >20 <b>limit/base</b>	7 42 5 768 1041 694 854 2219 <u>current</u> 12 3 4 <u>current</u> 0 6.2	12 2 50 2 798 1215 653 920 2749 history1 23 2 2 2 2 history1 0 10.9	0 53 2 776 1271 687 961 2560 history2 23 5 2 2 history2 0 10.9
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100 >20 <b>limit/base</b>	7 42 5 768 1041 694 854 2219 current 12 3 4 current 0	12 2 50 2 798 1215 653 920 2749 history1 23 2 2 2 2 <i>history1</i>	0 53 2 776 1271 687 961 2560 history2 23 5 2 2 2 2 3 5 2 2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm rS ppm ppm ppm ppm spm ppm ppm spm	ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870 2040 2040 >+100 >20 imit/base >20 imit/base	7 42 5 768 1041 694 854 2219 current 12 3 4 current 0 6.2 20.1	12 2 50 2 798 1215 653 920 2749 history1 23 2 2 2 2 history1 0 10.9	0 53 2 776 1271 687 961 2560 history2 23 5 2 2 history2 0 10.9
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 rS ppm ppm ppm ppm spm ppm ppm spm	ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870 2040 2040 2040 2040 2040 2040 2040 20	7 42 5 768 1041 694 854 2219 current 12 3 4 current 0 6.2 20.1	12 2 50 2 798 1215 653 920 2749 history1 23 2 2 2 2 history1 0 10.9 20.0	0 53 2 776 1271 687 961 2560 history2 23 5 2 2 history2 0 10.9 20.8



## **OIL ANALYSIS REPORT**





		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	RTIES	method	limit/base	current	history1	history2
/isc @ 100°C	cSt	ASTM D445	15.1	14.4	14.5	15.3
GRAPHS						
	_	/ \				
	Mar16/23	Mazurza Apri1923 Mayi123	Feb21/24			
Constant Constant Non-ferrous Meta	-	Mar2/023 Apr19/23 Man/1/23	Feb27/24			
CZCP20	-	Apri 1/23	Feb21724			
CZZ6290 CZZ6290 Non-ferrous Meta	-	Apri 1923 Mary 123	Feb21/24			
Non-ferrous Meta	ls					
0cd3/22 0cd5/22 Jan31/23 Jan31/23 Feb20/23 Feb20/23	Is Wattb://	Marcuuza Apr19/23 May1/23 - May1/23	Feb21/24 Feb21/24			
Non-ferrous Meta	Is Wattb://			Base Number		

10.0

8.0 6.0 4.0

2 (

0.0

0ct3/22

0ct5/22 -

Jan31/23

Base Number (mg KOH/g)

Feb27/24.

:01 Mar 2024

: 02 Mar 2024

: 02 Mar 2024 - Wes Davis

Apr19/23 Mav1/23



 Certificate L2367
 Test Package
 : FLEET
 Co

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 pzac

 \* - 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)

Feb20/23

Mar16/23 Mar20/23

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

Received

Diagnosed

Tested

Jan31/23

17

()-00 15 14

12

Laboratory

Sample No.

Lab Number : 06105867

Unique Number : 10909364

Ab

0ct3/22

: GFL0106766

Mar20/23

GFL Environmental - 856 - Houston South

Feb20/23 Mar16/23 May1/23.

Feb27/24

Apr19/23