

### **OIL ANALYSIS REPORT**

Sample Rating Trend

-----



# Area (YA169099) Machine Id

Resample at the next service interval to monitor.

There is no indication of any contamination in the

Metal levels are typical for a new component

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

oil is suitable for further service.

DIAGNOSIS Recommendation

Wear

oil.

breaking in. Contamination

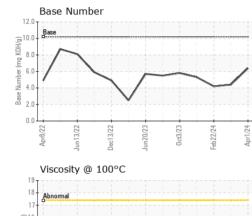
Fluid Condition

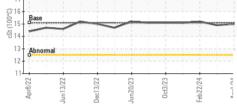
# 832003 Natural Gas Engine PETRO CANADA DURON GEO LD 15W40 (5 GAL)

SAMPLE INFORM	/IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0112937	GFL0112920	GFL0079624
Sample Date		Client Info		01 Apr 2024	26 Feb 2024	22 Feb 2024
Machine Age	hrs	Client Info		645	645	645
Oil Age	hrs	Client Info		298	752	752
Oil Changed		Client Info		N/A	N/A	N/A
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	6	13	11
Chromium	ppm	ASTM D5185m	>4	0	<1	<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	>9	2	2	2
Lead	ppm	ASTM D5185m	>30	<1	0	2
Copper	ppm	ASTM D5185m	>35	<1	1	1
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
				•		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 50		history1 8	history2 10
	ppm ppm			current		
Boron		ASTM D5185m	50	current 16	8	10
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5 50	current 16 0	8	10 8
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	current 16 0 50	8 8 55	10 8 55
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	current 16 0 50 <1	8 8 55 0	10 8 55 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	current 16 0 50 <1 578	8 8 55 0 533	10 8 55 0 547
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	current     16     0     50     <1     578     1637	8 8 55 0 533 1504	10 8 55 0 547 1521
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	current     16     0     50     <1     578     1637     776	8 8 55 0 533 1504 725	10 8 55 0 547 1521 745
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	current     16     0     50     <1     578     1637     776     969	8 8 55 0 533 1504 725 949	10 8 55 0 547 1521 745 953
Boron 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	50 5 50 0 560 1510 780 870 2040 limit/base	Current 16 0 50 <1 578 1637 776 969 2756	8 8 55 0 533 1504 725 949 2433	10 8 55 0 547 1521 745 953 2435
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b>	current   16   0   50   <1   578   1637   776   969   2756   current	8 8 55 0 533 1504 725 949 2433 history1	10 8 55 0 547 1521 745 953 2435 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100	current     16     0     50     <1     578     1637     776     969     2756     current     4	8 8 55 0 533 1504 725 949 2433 history1 4	10 8 55 0 547 1521 745 953 2435 <b>history2</b> 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100	current     16     0     50     <1     578     1637     776     969     2756     current     4     7	8 8 55 0 533 1504 725 949 2433 history1 4 7	10 8 55 0 547 1521 745 953 2435 <b>history2</b> 4 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100	current   16   0   50   <1   578   1637   776   969   2756   current   4   7   2	8 8 55 0 533 1504 725 949 2433 history1 4 7 16	10 8 55 0 547 1521 745 953 2435 history2 4 5 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100 	current   16   0   50   <1   578   1637   776   969   2756   current   4   7   2   current	8 8 55 0 533 1504 725 949 2433 history1 4 7 16 history1	10 8 55 0 547 1521 745 953 2435 history2 4 5 4 5 4 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100 	current   16   0   50   <1   578   1637   776   969   2756   current   4   7   2   current   0	8 8 55 0 533 1504 725 949 2433 history1 4 7 16 history1 0	10 8 55 0 547 1521 745 953 2435 <b>history2</b> 4 5 4 <b>history2</b> 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 t ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 imit/base >+100 imit/base	current   16   0   50   <1   578   1637   776   969   2756   current   4   7   2   current   0   10.2	8 8 55 0 533 1504 725 949 2433 history1 4 7 16 history1 0 11.8	10 8 55 0 547 1521 745 953 2435 history2 4 5 4 5 4 history2 0 11.5
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 t ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100 >20 <b>limit/base</b> >20	current   16   0   50   <1   578   1637   776   969   2756   current   4   7   2   current   0   10.2   20.0	8 8 55 0 533 1504 725 949 2433 history1 4 7 16 history1 0 11.8 23.3	10 8 55 0 547 1521 745 953 2435 history2 4 5 4 5 4 history2 0 11.5 24.4

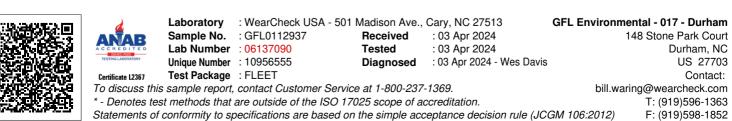


## **OIL ANALYSIS REPORT**





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 PROPER	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	15.0	14.9	15.2
GRAPHS						
Ferrous Alloys						
iron						
) - chromium						
·						
)						
$1 \sim$						
	-					
	Contractory and					
	20/23	ct3/23 22/24	or1/24			
Apr8/22	Jun20/23	0ct3/23 Feb22/24	Apr1/24			
Apr8/22 Jun 13/22 Dec 13/22	2	0ct3/23 Feb22/24	Apr1/24			
Apr8/22 Jun 13/22 Dec13/22	2	0ct3/23 Feb22/24	Apri/24			
ZZ/ELI390 ZZ/ELIMI Non-ferrous Metals	2	0ct3/23 Feb22/24	Apr1/24			
ZZIELENG Von-ferrous Metals	2	0ct3/23 Feb22/24	Apr1/24			
ZZ/E[Land	2	0ct3/23 Feb22/24	Apr1/24			
ZZ/ELI390 ZZ/ELIMI Non-ferrous Metals	2	0ci3/23 Feb22/24	Apri/24			
ZZIĘIJag Non-ferrous Metals	2	0ci3/23 Feb22/24	Apri/24			
ZZ/E[Land	2	0ci3/23	Apri/24			
ZZ/E[Jan] Non-ferrous Metals	2					
ZZ/EIJang						
CZCELING Non-ferrous Metals	2		April 24 April 24			
ZZELING Von-ferrous Metals			April 24	Base Number		
ZZELING Non-ferrous Metals			April 24	Base Number		
ZZ/E[Jand Non-ferrous Metals			47/Ling	Base Number		
ZZELING Non-ferrous Metals			12.0 10.0			
ZZ/E[Jand Non-ferrous Metals			12.0 10.0			
ZZ/E[Jand Non-ferrous Metals			12.0 10.0			
ZZELING Non-ferrous Metals			12.0 10.0			
ZZCELIAG Non-ferrous Metals			40-120 100- 100- 100- 100- 100- 100- 100-			
ZZCELIAG Non-ferrous Metals			12.0- 10.0-1			
ZZCELIAN Non-ferrous Metals	Jun20/23	0ct3/23	12.0 10.0 (0)HOX DOU 800 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Base		
ZZCELING Non-ferrous Metals			12.0 10.0 (0)HOX bull sequence 8 2.0 0.0		Jun20/23	reb22/24



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Submitted By: Ren - William Russel Page 2 of 2