

# **OIL ANALYSIS REPORT**

# Sample Rating Trend

# NORMAL



Component **Natural Gas Engine** 

PETRO CANADA DURON GEO LD 15W40 (40 QTS)

## 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.

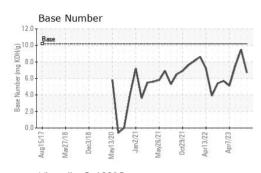
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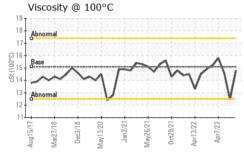


SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0101798	GFL0090074	GFL0090101
Sample Date		Client Info		23 Feb 2024	02 Nov 2023	27 Oct 2023
Machine Age	hrs	Client Info		19100	18600	18600
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	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 D5185m	>50	12	21	12
Chromium	ppm	ASTM D5185m	>4	<1	2	1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	2	1	<1
Lead	ppm	ASTM D5185m	>30	0	<1	0
Copper	ppm	ASTM D5185m	>35	<1	<1	<1
Tin	ppm	ASTM D5185m	>4	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 50	current 20	history1 17	history2 13
	ppm ppm					
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	20	17	13
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5 50	20 8	17 <1	13 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	20 8 54	17 <1 57	13 0 56
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	20 8 54 0	17 <1 57 <1	13 0 56 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	20 8 54 0 562	17 <1 57 <1 725	13 0 56 <1 707
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	20 8 54 0 562 1540	17 <1 57 <1 725 1459	13 0 56 <1 707 1445
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	20 8 54 0 562 1540 827	17 <1 57 <1 725 1459 814	13 0 56 <1 707 1445 799
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	20 8 54 0 562 1540 827 975	17 <1 57 <1 725 1459 814 1084	13 0 56 <1 707 1445 799 1044
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	20 8 54 0 562 1540 827 975 2602	17 <1 57 <1 725 1459 814 1084 2538	13 0 56 <1 707 1445 799 1044 2455
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 5 50 0 560 1510 780 870 2040	20 8 54 0 562 1540 827 975 2602 current	17 <1 57 <1 725 1459 814 1084 2538 history1	13 0 56 <1 707 1445 799 1044 2455 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100	20 8 54 0 562 1540 827 975 2602 current 4	17 <1 57 <1 725 1459 814 1084 2538 history1 22	13 0 56 <1 707 1445 799 1044 2455 history2 20
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	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> >+100	20 8 54 0 562 1540 827 975 2602 current 4 2	17 <1 57 <1 725 1459 814 1084 2538 history1 22 6	13 0 56 <1 707 1445 799 1044 2455 history2 20 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 2040 >+100 >+100	20 8 54 0 562 1540 827 975 2602 current 4 2 2	17 <1 57 <1 725 1459 814 1084 2538 history1 22 6 0	13 0 56 <1 707 1445 799 1044 2455 history2 20 6 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >20 <b>limit/base</b>	20 8 54 0 562 1540 827 975 2602 current 4 2 2 2 2	17 <1 57 <1 725 1459 814 1084 2538 history1 22 6 0 0	13 0 56 <1 707 1445 799 1044 2455 history2 20 6 1 1 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 <b>limit/base</b> >20 <b>limit/base</b>	20 8 54 0 562 1540 827 975 2602 current 4 2 2 2 2 2 current 0	17 <1 57 <1 725 1459 814 1084 2538 history1 22 6 0 0 history1 0.1	13 0 56 <1 707 1445 799 1044 2455 history2 20 6 1 1 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 5 50 0 560 1510 780 870 2040 2040 2040 >+100 >20 imit/base	20 8 54 0 562 1540 827 975 2602 current 4 2 2 current 0 9.5	17 <1 57 <1 725 1459 814 1084 2538 history1 22 6 0 0 history1 0.1 10.6	13 0 56 <1 707 1445 799 1044 2455 history2 20 6 1 1 history2 0 8.9
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 <b>imit/base</b> >+100 	20 8 54 0 562 1540 827 975 2602 <u>current</u> 4 2 2 <u>current</u> 0 9.5 21.0	17 <1 57 <1 725 1459 814 1084 2538 history1 22 6 0 history1 0.1 10.6 17.5	13 0 56 <1 707 1445 799 1044 2455 <b>history2</b> 20 6 1 1 <b>history2</b> 0 8.9 19.8

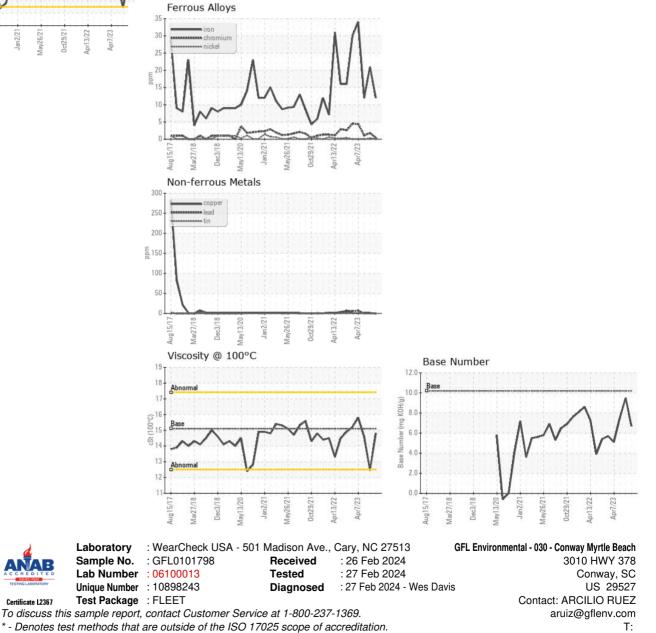


# **OIL ANALYSIS REPORT**





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	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.8	12.46	14.6
GRAPHS						



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

Certificate L2367

Submitted By: TECHNICIAN ACCOUNT

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