

OIL ANALYSIS REPORT

(YA130601) 3658C

Component **Natural Gas Engine**

PETRO CANADA DURON GEO LD 15W40 (35 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

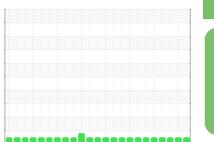
All component wear rates are normal.

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.





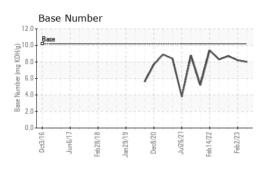
NORMAL

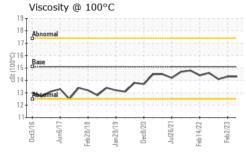
Sample Rating Trend

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0109502	GFL0058794	GFL0039439
Sample Date		Client Info		15 Feb 2024	02 Feb 2023	06 Jul 2022
Machine Age	hrs	Client Info		8559	8559	8559
Oil Age	hrs	Client Info		600	8559	8559
Oil Changed		Client Info		Changed	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 METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	5	6	4
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>9	2	1	2
Lead	ppm	ASTM D5185m	>30	<1	0	<1
Copper	ppm	ASTM D5185m	>35	<1	1	8
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Antimony	ppm	ASTM D5185m				
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	current 33	history1 38	history2 48
	ppm ppm		50			
Boron		ASTM D5185m	50	33	38	48
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5 50	33 0	38 <1	48 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	33 0 51	38 <1 51	48 0 47
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	33 0 51 <1	38 <1 51 <1	48 0 47 <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	33 0 51 <1 605	38 <1 51 <1 593	48 0 47 <1 536
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 780	33 0 51 <1 605 1497	38 <1 51 <1 593 1520	48 0 47 <1 536 1459
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	33 0 51 <1 605 1497 791	38 <1 51 <1 593 1520 748	48 0 47 <1 536 1459 707
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	33 0 51 <1 605 1497 791 986	38 <1 51 <1 593 1520 748 949	48 0 47 <1 536 1459 707 848
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	33 0 51 <1 605 1497 791 986 2499	38 <1 51 <1 593 1520 748 949 2881	48 0 47 <1 536 1459 707 848 2787
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	33 0 51 <1 605 1497 791 986 2499 current	38 <1 51 <1 593 1520 748 949 2881 history1	48 0 47 <1 536 1459 707 848 2787 history2
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	50 5 50 0 560 1510 780 870 2040 limit/base >+100	33 0 51 <1 605 1497 791 986 2499 current 9	38 <1 51 <1 593 1520 748 949 2881 history1 8	48 0 47 <1 536 1459 707 848 2787 history2 13
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 limit/base >+100	33 0 51 <1 605 1497 791 986 2499 current 9 6 8	38 <1 51 <1 593 1520 748 949 2881 history1 8 5 0 0	48 0 47 <1 536 1459 707 848 2787 history2 13 9 0 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 2040 >+100 >20 >20 S20	33 0 51 <1 605 1497 791 986 2499 current 9 6 8 8 current 0	38 <1 51 <1 593 1520 748 949 2881 history1 8 5 0 history1 0.1	48 0 47 <1 536 1459 707 848 2787 history2 13 9 0 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 >+100 >20 >20 S20	33 0 51 <1 605 1497 791 986 2499 current 9 6 8 <i>current</i> 0 6.8	38 <1 51 <1 593 1520 748 949 2881 history1 8 5 0 history1 0.1 7.9	48 0 47 <1 536 1459 707 848 2787 history2 13 9 0 history2 0 history2 0 6.9
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 2040 >+100 >20 >20 S20	33 0 51 <1 605 1497 791 986 2499 current 9 6 8 8 current 0	38 <1 51 <1 593 1520 748 949 2881 history1 8 5 0 history1 0.1	48 0 47 <1 536 1459 707 848 2787 history2 13 9 0 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 Iimit/base >+100 20 Iimit/base	33 0 51 <1 605 1497 791 986 2499 current 9 6 8 <i>current</i> 0 6.8	38 <1 51 <1 593 1520 748 949 2881 history1 8 5 0 history1 0.1 7.9	48 0 47 <1 536 1459 707 848 2787 history2 13 9 0 history2 0 history2 0 6.9
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 imit/base >20 imit/base >20 imit/base	33 0 51 <1 605 1497 791 986 2499 current 9 6 8 8 current 0 6.8 18.8	38 <1 51 <1 593 1520 748 949 2881 history1 8 5 0 history1 0.1 7.9 18.6	48 0 47 <1 536 1459 707 848 2787 history2 13 9 0 history2 0 6.9 19.1



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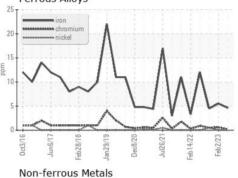


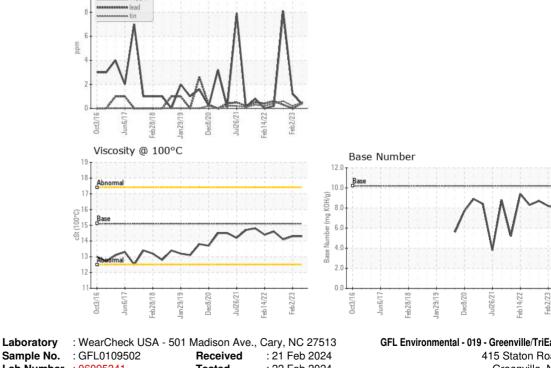


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	14.3	14.3	14.1
GRAPHS						

Ferrous Alloys

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Sample No. Lab Number : 06095341 Tested : 22 Feb 2024 Unique Number : 10888194 Diagnosed : 22 Feb 2024 - Wes Davis Test Package : FLEET Certificate L2367 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)

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