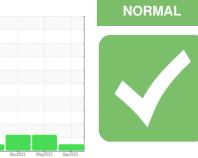


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 944026

Component Natural Gas Engine

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

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.

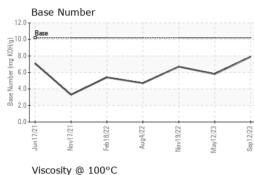
Fluid Condition

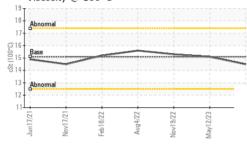
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0089725	GFL0077369	GFL0063849
Sample Date		Client Info		12 Sep 2023	12 May 2023	19 Nov 2022
Machine Age	hrs	Client Info		21481	20707	19802
Oil Age	hrs	Client Info		774	905	977
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ATTENTION	ATTENTION
CONTAMINAT	ION	method	limit/base	current	history1	history2
Glycol		WC Method				0.0
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	4	24	24
Chromium	ppm	ASTM D5185m	>4	0	2	2
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	3	2	9
Lead	ppm	ASTM D5185m	>30	<1	0	<1
Copper	ppm	ASTM D5185m	>35	<1	<1	<1
Tin	ppm	ASTM D5185m	>4	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	50	27	6	8
	ppm ppm		50 5		6 0	
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	27 0 50	6	8
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5	27 0	6 0	8 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	27 0 50	6 0 59	8 0 58 <1 567
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	27 0 50 <1	6 0 59 <1	8 0 58 <1 567 1625
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780	27 0 50 <1 590 1609 776	6 0 59 <1 581 1583 747	8 0 58 <1 567 1625 740
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 ASTM D5185m	50 5 50 0 560 1510	27 0 50 <1 590 1609 776 984	6 0 59 <1 581 1583	8 0 58 <1 567 1625 740 964
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	50 5 50 0 560 1510 780	27 0 50 <1 590 1609 776	6 0 59 <1 581 1583 747	8 0 58 <1 567 1625 740
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	27 0 50 <1 590 1609 776 984	6 0 59 <1 581 1583 747 983	8 0 58 <1 567 1625 740 964
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	27 0 50 <1 590 1609 776 984 2964	6 0 59 <1 581 1583 747 983 2668	8 0 58 <1 567 1625 740 964 2823
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	27 0 50 <1 590 1609 776 984 2964 current	6 0 59 <1 581 1583 747 983 2668 history1	8 0 58 <1 567 1625 740 964 2823 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 method	50 5 50 0 560 1510 780 870 2040 limit/base >+100	27 0 50 <1 590 1609 776 984 2964 2964 current 3	6 0 59 <1 581 1583 747 983 2668 history1 4	8 0 58 <1 567 1625 740 964 2823 history2 7
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 ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	27 0 50 <1 590 1609 776 984 2964 2964 <u>current</u> 3 5	6 0 59 <1 581 1583 747 983 2668 history1 4 ▲ 168	8 0 58 <1 567 1625 740 964 2823 history2 7 7 ▲ 116
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	27 0 50 <1 590 1609 776 984 2964 2964 current 3 5 2	6 0 59 <1 581 1583 747 983 2668 history1 4 4 ▲ 168 2	8 0 58 <1 567 1625 740 964 2823 history2 7 7 ↑ 116 3
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 >20 limit/base	27 0 50 <1 590 1609 776 984 2964 2964 <u>current</u> 3 5 2 2	6 0 59 <1 581 1583 747 983 2668 history1 4 ▲ 168 2 2	8 0 58 <1 567 1625 740 964 2823 history2 7 ▲ 116 3 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 limit/base >20 limit/base	27 0 50 <1 590 1609 776 984 2964 2964 <u>current</u> 3 5 2 2 <u>current</u> 0.1	6 0 59 <1 581 1583 747 983 2668 history1 4 168 2 2 history1 0	8 0 58 <1 567 1625 740 964 2823 history2 7 116 3 history2 0.1
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 00 560 1510 780 870 2040 imit/base >+100 20 imit/base	27 0 50 <1 590 1609 776 984 2964 <i>current</i> 3 5 2 2 <i>current</i> 0.1 8.4	6 0 59 <1 581 1583 747 983 2668 history1 4 168 2 history1 0 0 10.7	8 0 58 <1 567 1625 740 964 2823 history2 7 ^ 116 3 history2 0.1 11.8
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	27 0 50 <1 590 1609 776 984 2964 current 3 5 2 2 current 0.1 8.4 17.9	6 0 59 <1 581 1583 747 983 2668 history1 4 168 2 2 history1 0 10.7 21.2	 8 0 58 <1 567 1625 740 964 2823 history2 7 116 3 history2 0.1 11.8 22.9

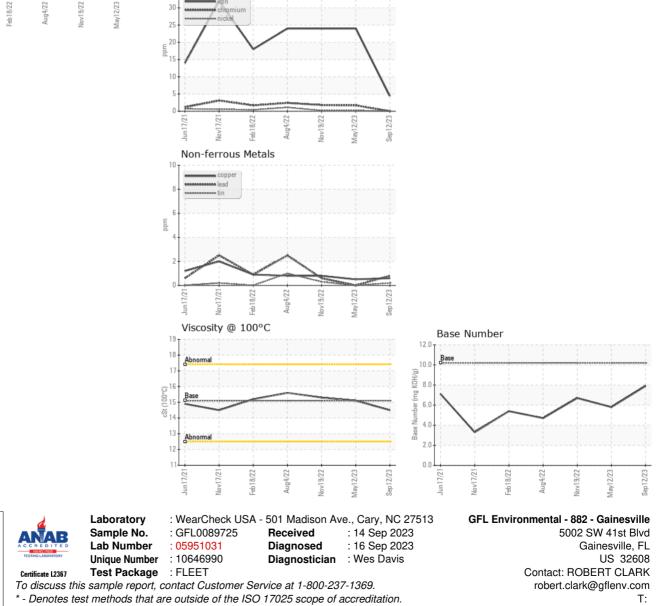


OIL ANALYSIS REPORT





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	LIGHT
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	14.5	15.1	15.3
GRAPHS						
Ferrous Alloys						
tion chromium nickel						



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

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