

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 834096

Component Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (28 QTS)

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.

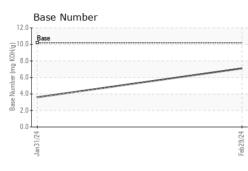
Fluid Condition

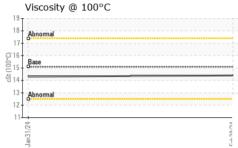
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		-	Jan2024	Feb2024		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0106770	GFL0092172	
Sample Date		Client Info		29 Feb 2024	31 Jan 2024	
Machine Age	hrs	Client Info		895	644	
Oil Age	hrs	Client Info		644	644	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	ABNORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	13	48	
Chromium	ppm	ASTM D5185m	>4	1	<1	
Nickel	ppm	ASTM D5185m	>2	<1	<1	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>9	5	25	
Lead	ppm	ASTM D5185m	>30	<1	2	
Copper	ppm	ASTM D5185m	>35	2	12	
Tin	ppm	ASTM D5185m	>4	<1	1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method				history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 50	current 23	history1 13	history2
	ppm ppm					history2
Boron		ASTM D5185m	50	23	13	
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5	23 0	13 <1	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	23 0 48	13 <1 52	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	23 0 48 1	13 <1 52 8	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	23 0 48 1 540	13 <1 52 8 636	
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	23 0 48 1 540 1416	13 <1 52 8 636 1148	
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	23 0 48 1 540 1416 784	13 <1 52 8 636 1148 665	
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	23 0 48 1 540 1416 784 937	13 <1 52 8 636 1148 665 879	
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 50 00 560 1510 780 870 2040	23 0 48 1 540 1416 784 937 2675	13 <1 52 8 636 1148 665 879 2327	
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	50 50 00 560 1510 780 870 2040	23 0 48 1 540 1416 784 937 2675 current	13 <1 52 8 636 1148 665 879 2327 history1	 history2
Boron 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 method	50 50 00 560 1510 780 870 2040	23 0 48 1 540 1416 784 937 2675 current 7	13 <1 52 8 636 1148 665 879 2327 history1 22	 history2
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 ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	23 0 48 1 540 1416 784 937 2675 <i>current</i> 7 6 16	13 <1 52 8 636 1148 665 879 2327 history1 22 4	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 limit/base >+100	23 0 48 1 540 1416 784 937 2675 <i>current</i> 7 6 16	13 <1 52 8 636 1148 665 879 2327 history1 22 4 108	 history2
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 2040 >+100 >20 20 20 20	23 0 48 1 540 1416 784 937 2675 current 7 6 16 16 current	13 <1 52 8 636 1148 665 879 2327 bistory1 22 4 108 bistory1	 history2 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 20 20	23 0 48 1 540 1416 784 937 2675 <u>current</u> 7 6 16 16 <u>current</u> 0	13 <1 52 8 636 1148 665 879 2327 history1 22 4 2 108 history1 0	 history2 history2
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	23 0 48 1 540 1416 784 937 2675 <u>current</u> 7 6 16 <u>current</u> 0 9.0 18.9	13 <1 52 8 636 1148 665 879 2327 history1 22 4 108 history1 0 10.8	 history2 history2
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 50 560 1510 780 870 2040 Imit/base >20 Imit/base >20 Imit/base	23 0 48 1 540 1416 784 937 2675 current 7 6 16 16 current 0 9.0 18.9	13 <1 52 8 636 1148 665 879 2327 history1 22 4 108 history1 0 10.8 22.4	 history2 history2 history2
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 D7844 *ASTM D7624 *ASTM D7415	50 50 560 1510 780 870 2040 >timit/base >+100 220 imit/base >20 >30	23 0 48 1 540 1416 784 937 2675 <i>current</i> 7 6 16 16 <i>current</i> 0 9.0 18.9	13 <1 52 8 636 1148 665 879 2327 history1 22 4 108 history1 0 10.8 22.4 history1	 history2 history2 history2 history2

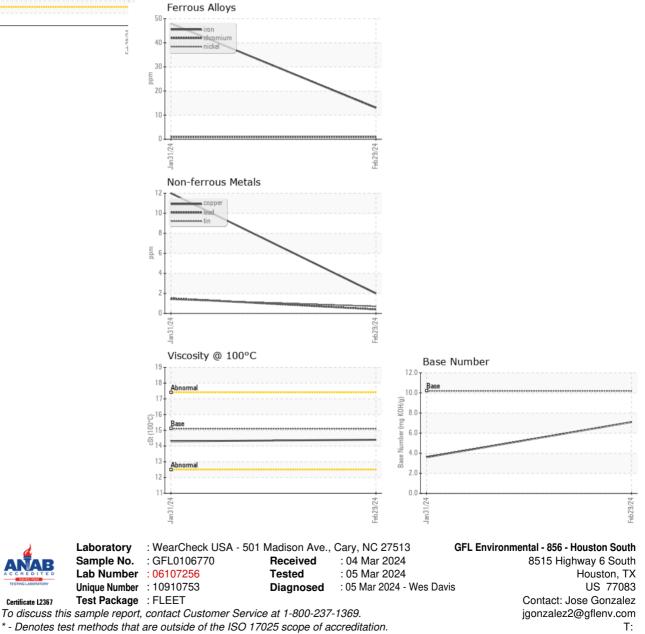


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.4	14.3	
GRAPHS						



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

Certificate L2367

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