

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 834007

Component Natural Gas Engine

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

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

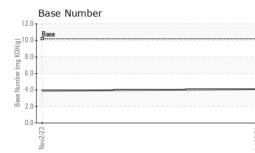
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

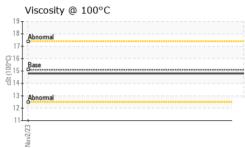
,			Nov2023	Jan2024		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0092117	GFL0084656	
Sample Date		Client Info		10 Jan 2024	02 Nov 2023	
Machine Age	hrs	Client Info		1795	0	
Oil Age	hrs	Client Info		600	0	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATI	ION	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	14	17	
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	6	9	
Lead	ppm	ASTM D5185m	>30	1	<1	
Copper	ppm	ASTM D5185m	>35	2	3	
Tin	ppm	ASTM D5185m	>4	1	<1	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 9	history1 8	history2
	ppm ppm					
Boron		ASTM D5185m	50	9	8	
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	50 5	9 0	8 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	9 0 52	8 0 55	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	9 0 52 <1	8 0 55 2	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	9 0 52 <1 526 1525 743	8 0 55 2 682	
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	9 0 52 <1 526 1525	8 0 55 2 682 1562	
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	9 0 52 <1 526 1525 743	8 0 55 2 682 1562 724	
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	9 0 52 <1 526 1525 743 942	8 0 55 2 682 1562 724 1080	
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	9 0 52 <1 526 1525 743 942 2336	8 0 55 2 682 1562 724 1080 2629	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	9 0 52 <1 526 1525 743 942 2336 current	8 0 55 2 682 1562 724 1080 2629 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 limit/base	9 0 52 <1 526 1525 743 942 2336 current 5	8 0 55 2 682 1562 724 1080 2629 history1 8	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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	9 0 52 <1 526 1525 743 942 2336 current 5 8	8 0 55 2 682 1562 724 1080 2629 history1 8 6	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	9 0 52 <1 526 1525 743 942 2336 current 5 8 22	8 0 55 2 682 1562 724 1080 2629 history1 8 6 37	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 2040 >+100 >20 20 }	9 0 52 <1 526 1525 743 942 2336 current 5 8 22 22 current	8 0 55 2 682 1562 724 1080 2629 history1 8 6 37 history1	 history2 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 2040 >+100 >20 20 }	9 0 52 <1 526 1525 743 942 2336 <u>current</u> 5 8 22 22 <u>current</u> 0	8 0 55 2 682 1562 724 1080 2629 history1 8 6 37 history1 0	 history2 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 TS ppm ppm ppm ppm spm	ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 imit/base >+100 >20 imit/base 20	9 0 52 <1 526 1525 743 942 2336 current 5 8 22 22 current 0 10.9	8 0 55 2 682 1562 724 1080 2629 history1 8 6 37 history1 0 10.9	 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 TS ppm ppm ppm ppm spm	ASTM D5185m ASTM D5185m	50 50 560 1510 780 870 2040 Imit/base >20 Imit/base >20 Imit/base	9 0 52 <1 526 1525 743 942 2336 <u>current</u> 5 8 223 <u>current</u> 0 10.9 21.7	8 0 55 2 682 1562 724 1080 2629 history1 8 6 37 history1 0 10.9 22.9	 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 TS ppm ppm ppm ppm ppm % Abs/cm Abs/cm	ASTM D5185m ASTM D7844 *ASTM D7844	50 50 50 150 780 870 2040 >+100 >20 20 imit/base >20 >20 >30 imit/base	9 0 52 <1 526 1525 743 942 2336 current 5 8 22 current 0 10.9 21.7	8 0 55 2 682 1562 724 1080 2629 history1 8 6 37 history1 0 10.9 22.9 history1	 history2 history2 history2 history2

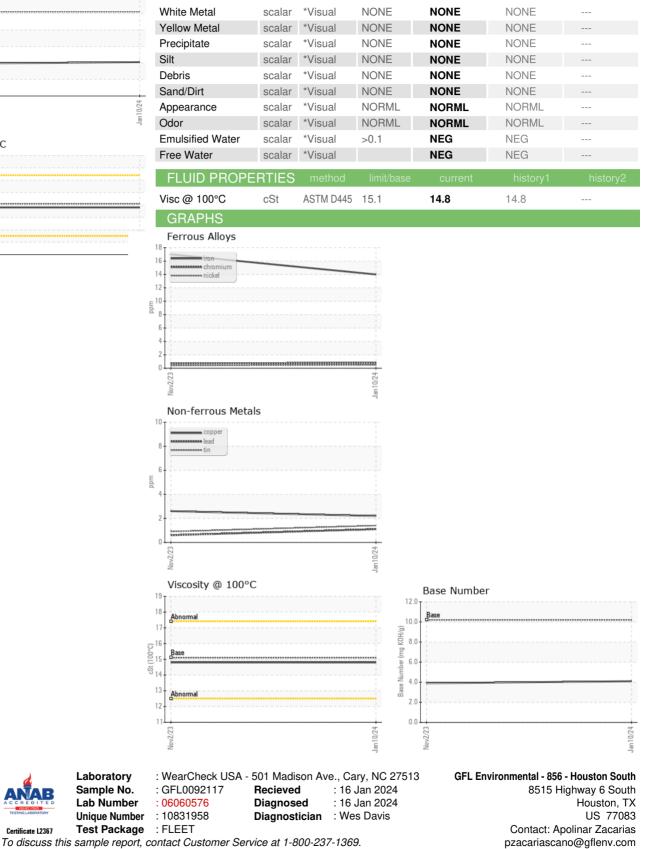


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VISUAL







Report Id: GFL856 [WUSCAR] 06060576 (Generated: 01/16/2024 13:45:49) Rev: 1

* - 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)

Certificate L2367

Submitted By: Apolinar Zacarias Page 2 of 2

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