

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id 948018

Component **Natural Gas Engine**

PETRO CANADA DURON GEO LD 15W40

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a components first oil change.

Contamination

There is no indication of any contamination in the oil.

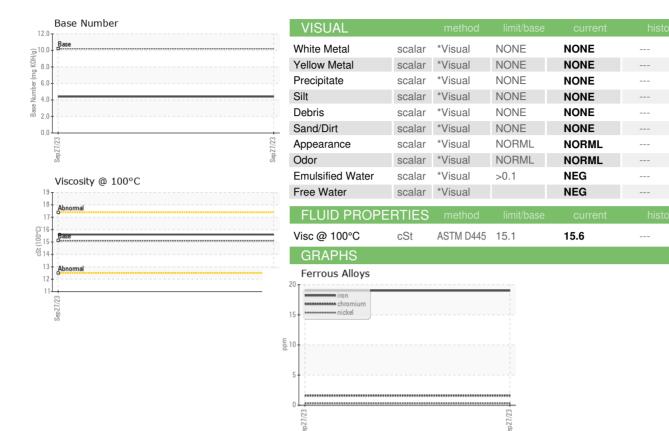
Fluid Condition

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

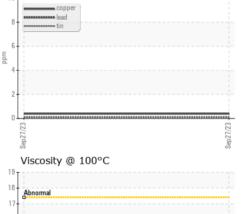
SAMPLE INFORMATION method limit/base current history1 history2 Sample Number Client Info GFL0090350 Sample Date Client Info 27 Sep 2023 Machine Age hrs Client Info 32769 Oil Age hrs Client Info 32769 Oil Changed Client Info Changed Sample Status NORMAL							· '
Sample Number Client Info GFL0090350	GAL)				Sep 2023		
Sample Date Client Info 27 Sep 2023 Machine Age hrs Client Info 32769	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Date Client Info 27 Sep 2023	Sample Number		Client Info		GFL0090350		
Oil Age hrs Client Info 32769 Oil Changed Client Info Changed Sample Status NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 19 Chromium ppm ASTM D5185m >4 2 Nickel ppm ASTM D5185m >4 2 Silver ppm ASTM D5185m >3 0 Aluminum ppm ASTM D5185m >9 4 Aluminum ppm ASTM D5185m >9 4 Lead ppm ASTM D5185m >35 <1 Copper ppm ASTM D5185m >4 <1 Tin ppm <td></td> <td></td> <td>Client Info</td> <td></td> <td>27 Sep 2023</td> <td></td> <td></td>			Client Info		27 Sep 2023		
Client Info Changed Client Info NORMAL Composition Compositi	Machine Age	hrs	Client Info		32769		
Client Info Changed Client Info NORMAL Composition Compositi	Oil Age	hrs	Client Info		32769		
WEAR METALS	-		Client Info		Changed		
Chromium	Sample Status				NORMAL		
Chromium	WEAR METALS	5	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>50	19		
Titanium	Chromium	ppm	ASTM D5185m	>4	2		
Silver	Nickel	ppm	ASTM D5185m	>2	<1		
Silver	Titanium		ASTM D5185m		0		
Aluminum	Silver		ASTM D5185m	>3	0		
Copper	Aluminum		ASTM D5185m	>9	4		
Copper ppm ASTM D5185m >35 <1 Tin ppm ASTM D5185m >4 <1	Lead			>30	<1		
Vanadium				>35	<1		
Vanadium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 50 7 Barium ppm ASTM D5185m 5 0 Molybdenum ppm ASTM D5185m 50 63 Manganese ppm ASTM D5185m 50 63 Magnesium ppm ASTM D5185m 560 575 Magnesium ppm ASTM D5185m 780 732 Calcium ppm ASTM D5185m 780 732 Phosphorus ppm ASTM D5185m 870 997 Sulfur ppm ASTM D5185m 2040 2795 CONTAMINANTS method limit/base current </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
ADDITIVES	Vanadium						
Boron	Cadmium						
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 63 Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 560 575 Calcium ppm ASTM D5185m 1510 1596 Phosphorus ppm ASTM D5185m 780 732 Zinc ppm ASTM D5185m 870 997 Sulfur ppm ASTM D5185m 2040 2795 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 5 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m 7 Soot % % *ASTM D7844 0	Boron	ppm	ASTM D5185m	50	7		
Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 560 575 Calcium ppm ASTM D5185m 1510 1596 Phosphorus ppm ASTM D5185m 780 732 Zinc ppm ASTM D5185m 870 997 Sulfur ppm ASTM D5185m 2040 2795 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 5 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 <	Barium	ppm	ASTM D5185m	5	0		
Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 560 575 Calcium ppm ASTM D5185m 1510 1596 Phosphorus ppm ASTM D5185m 780 732 Zinc ppm ASTM D5185m 870 997 Sulfur ppm ASTM D5185m 2040 2795 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 5 Sodium ppm ASTM D5185m >20 2 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844	Molybdenum		ASTM D5185m	50	63		
Magnesium ppm ASTM D5185m 560 575 Calcium ppm ASTM D5185m 1510 1596 Phosphorus ppm ASTM D5185m 780 732 Zinc ppm ASTM D5185m 870 997 Sulfur ppm ASTM D5185m 2040 2795 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 5 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7624 >20 11.5 Sulfation Abs/.1mm *ASTM D7414 >25 20.4			ASTM D5185m	0	<1		
Calcium ppm ASTM D5185m 1510 1596 Phosphorus ppm ASTM D5185m 780 732 Zinc ppm ASTM D5185m 870 997 Sulfur ppm ASTM D5185m 2040 2795 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 5 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 11.5 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 FLUID DEGRADATION *ASTM D7414 >25 <t< td=""><td>-</td><td></td><td>ASTM D5185m</td><td>560</td><td>575</td><td></td><td></td></t<>	-		ASTM D5185m	560	575		
Phosphorus ppm ASTM D5185m 780 732 Zinc ppm ASTM D5185m 870 997 Sulfur ppm ASTM D5185m 2040 2795 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 5 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 2	-		ASTM D5185m	1510	1596		
Zinc	Phosphorus		ASTM D5185m	780	732		
Sulfur ppm ASTM D5185m 2040 2795 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 5 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Sulfation Abs/.1mm *ASTM D7624 >20 11.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4			ASTM D5185m	870	997		
Silicon ppm ASTM D5185m >+100 5	Sulfur						
Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 >20 11.5 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4	CONTAMINANT	S	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 >20 11.5 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4	Silicon	ppm	ASTM D5185m	>+100	5		
Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 >20 11.5 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4							
Soot % *ASTM D7844 0 Nitration Abs/cm *ASTM D7624 >20 11.5 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4	Potassium		ASTM D5185m	>20	2		
Nitration Abs/cm *ASTM D7624 >20 11.5 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 11.5 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4	Soot %	%	*ASTM D7844		0		
Sulfation Abs/.1mm *ASTM D7415 >30 23.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4		Abs/cm		>20	11.5		
Oxidation							
	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	20.4		
		mg KOH/a	ASTM D2896	10.2			

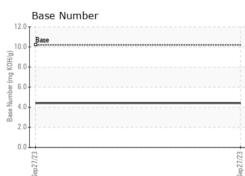


OIL ANALYSIS REPORT



Non-ferrous Metals









Certificate L2367

Laboratory Sample No.

Lab Number Unique Number Test Package : FLEET

: GFL0090350 : 05967347 : 10673898

₹ 14

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received

: 03 Oct 2023 : 04 Oct 2023 Diagnosed : Wes Davis Diagnostician

GFL Environmental - 963 - Peoria HC Disposal

1113 N. Swords Ave. West Peoria, IL US 61604

Contact: Corey Dozard cdozard@gflenv.com

T:

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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