WEAR CONTAMINATION FLUID CONDITION

ABNORMAL NORMAL NORMAL

Area

(TJX4156)

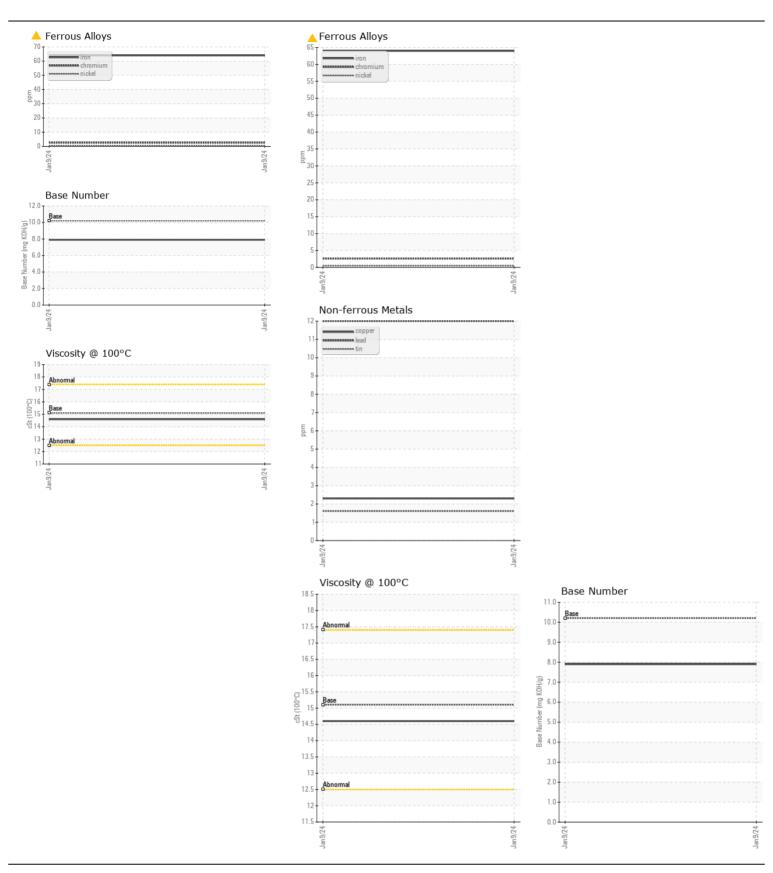
934056

Component

1 Natural Gas Engine

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

Sample Number Client Info Og Jan 2024	RECOMMENDATION	Toot	LIOM	Mathad	Limit/Alan	Current	Lliatomid	Lliatory
Sample Date Client Info (9-Jan 2024	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age hrs Cilent Info 1174	Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.							
Col Age			laua					
Filter Age		•						
Cil Changed Cilent Info Changed Cilent Info Changed Changed Cilent Info Changed Changed								
Filter Changed Sample Status		· ·	nrs					
Sample Status								
Iron		•		Client Info		_		
Chromium ppm ASTM 05185m 34 3		Sample Status				ABNORMAL		
Chromium ppm ASTM 05185m 34 3	WFAR	Iron	mag	ASTM D5185m	>50	△ 64		
Nickel ppm ASTM D5185m 22 <1 .	The iron level is abnormal. All other component wear rates are normal.							
Titanium ppm ASTM D5185m 3 0 Silver ppm ASTM D5185m 3 0 ALuminum ppm ASTM D5185m 3 0 ALUMINUM ppm ASTM D5185m 3 0 ALUMINUM ppm ASTM D5185m 3 0 ASTM D5185m 5 0 0 ASTM D5185m 5								
Silver								
Aluminum ppm ASTM D5185m >9 4 Lead ppm ASTM D5185m >30 12 Copper ppm ASTM D5185m >35 2 Tin ppm ASTM D5185m >4 2 Vanadium ppm ASTM D5185m >4 2 White Metal scalar Visual NONE NONE White Metal scalar Visual NONE NONE Water WC Method >0.1 NEG Water WC Method >0.1 NEG Witration Abs/um ASTM D5185m >20 2 Witration Abs/um ASTM D7184 >20 13.1 Sulfation Abs/um ASTM D7184 >0 27.0 Sulfation Abs/um ASTM D7184 >0 27.0 Sulfation Abs/um NONE NONE Sulfation Abs/um ASTM D7185 >0 27.0 Sulfation Abs/um ASTM D7185 >0 30 Sul					>3			
Lead ppm ASTM D5185m >30 12 Copper ppm ASTM D5185m >35 2 Tin ppm ASTM D5185m >4 2 Vanadium ppm ASTM D5185m >4 2 Vanadium ppm ASTM D5185m >4 2 Vanadium ppm ASTM D5185m NONE NONE Vanadium ppm ASTM D5185m NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE Valued NONE NONE								
Copper								
Tin								
Vanadium								
White Metal Yellow Metal Scalar "Visual NONE NON								
Yellow Metal scalar Visual NONE NONE Silicon ppm ASTM D5185m >-1 00 7 There is no indication of any contamination in the oil. Potassium ppm ASTM D5185m >-20 2 Water WC Method >-0.1 NEG Water WC Method >-0.1 NEG Soot % % 'ASTM D7844 2.3 Sulfation Abs/cm 'ASTM D7844 2.3 Sulfation Abs/cm 'ASTM D7844 2.3 Sulfation Abs/cm 'ASTM D7845 >-0 27.0 Silt scalar 'Visual NONE NONE Debris scalar 'Visual NONE NONE Appearance scalar 'Visual NORML					NONE	_		
Silicon ppm ASTM D5185m >+100 7								
Potassium ppm ASTM D5185m >20 2								
Potassium ppm ASTM D5185m >20 2	CONTAMINATION	Silicon	ppm	ASTM D5185m	>+100	7		
Note	There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m	>20	2		
Nitration Abs/cm *ASTM D7624 >20 13.1 Sulfation Abs/lmm *ASTM D7415 >30 27.0 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML NORML NORML Appearance scalar *Visual NORML		Water		WC Method	>0.1	NEG		
Sulfation Abs./Imm *ASTM D7415 >30 27.0		Soot %	%	*ASTM D7844		2.3		
Silt scalar *Visual NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NORML NORML		Nitration	Abs/cm	*ASTM D7624	>20	13.1		
Debris Scalar *Visual NONE NONE NONE Sand/Dirt Scalar *Visual NONE NORML		Sulfation	Abs/.1mm	*ASTM D7415	>30	27.0		
Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORML NOR		Silt	scalar	*Visual	NONE	NONE		
Appearance Scalar *Visual NORML NORML NORML Emulsified Water Scalar *Visual NORML NORML NORML NORML Emulsified Water Scalar *Visual >0.1 NEG		Debris	scalar	*Visual	NONE	NONE		
Odor Scalar *Visual NORML NORML Emulsified Water Scalar *Visual NORML NORML NORML NORML NORML NORML NEG		Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Water scalar *Visual >0.1 NEG		Appearance	scalar	*Visual	NORML	NORML		
Sodium ppm ASTM D5185m 50 10		Odor	scalar	*Visual	NORML	NORML		
Boron ppm ASTM D5185m 50 10		Emulsified Water	scalar	*Visual	>0.1	NEG		
Boron ppm ASTM D5185m 50 10	ELLUB CONDITION							
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Barium ppm ASTM D5185m 50 68 Molybdenum ppm ASTM D5185m 50 68 Magnesium ppm ASTM D5185m 560 996 Calcium ppm ASTM D5185m 1510 1278 Phosphorus ppm ASTM D5185m 780 1148 Zinc ppm ASTM D5185m 870 1385 Sulfur ppm ASTM D5185m 2040 2936 Oxidation Abs/.1mm *ASTM D7414 >25 23.3 Base Number (BN) mg KOH/g ASTM D2896 10.2 7.9	FLUID CONDITION		ppm					
oil. The condition of the oil is suitable for further service. Molybdenum ppm ASTM D5185m 50 68 Magnesium ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 560 996 Calcium ppm ASTM D5185m 1510 1278 Phosphorus ppm ASTM D5185m 780 1148 Zinc ppm ASTM D5185m 870 1385 Sulfur ppm ASTM D5185m 2040 2936 Oxidation Abs/.1mm *ASTM D7414 >25 23.3 Base Number (BN) mg KOH/g ASTM D2896 10.2 7.9	The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.		ppm					
Manganese ppm ASTM D5185m 0 <1								
Magnesium ppm ASTM D5185m 560 996 Calcium ppm ASTM D5185m 1510 1278 Phosphorus ppm ASTM D5185m 780 1148 Zinc ppm ASTM D5185m 870 1385 Sulfur ppm ASTM D5185m 2040 2936 Oxidation Abs/.1mm *ASTM D7414 >25 23.3 Base Number (BN) mg KOH/g ASTM D2896 10.2 7.9		-						
Calcium ppm ASTM D5185m 1510 1278 Phosphorus ppm ASTM D5185m 780 1148 Zinc ppm ASTM D5185m 870 1385 Sulfur ppm ASTM D5185m 2040 2936 Oxidation Abs/.1mm *ASTM D7414 >25 23.3 Base Number (BN) mg KOH/g ASTM D2896 10.2 7.9		-						
Phosphorus ppm ASTM D5185m 780 1148 Zinc ppm ASTM D5185m 870 1385 Sulfur ppm ASTM D5185m 2040 2936 Oxidation Abs/.1mm *ASTM D7414 >25 23.3 Base Number (BN) mg KOH/g ASTM D2896 10.2 7.9		o o						
Zinc ppm ASTM D5185m 870 1385 Sulfur ppm ASTM D5185m 2040 2936 Oxidation Abs/.1mm *ASTM D7414 >25 23.3 Base Number (BN) mg KOH/g ASTM D2896 10.2 7.9								
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Base Number (BN) mg KOH/g ASTM D2896 10.2 7.9			ppm					
Visc @ 100°C cSt ASTM D445 15.1 14.6								
		Visc @ 100°C	cSt	ASTM D445	15.1	14.6		







Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

: GFL0103958 : 06060743 : 10832125 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 16 Jan 2024 Diagnosed : 17 Jan 2024 Diagnostician

: Jonathan Hester

GFL Environmental - 865 - East Mount Hauling 7213 East Mount Houston Road Houston, TX

US 77050

Contact: TECHNICIAN ACCOUNT wcgfldemo@gmail.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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