WEAR CONTAMINATION **FLUID CONDITION**

NORMAL NORMAL NORMAL

Machine Id **227144**

Component Diesel Engine

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info	2.1111071011	GFL0097981		
	Sample Date		Client Info		12 Feb 2024		
	Machine Age	kms	Client Info		165457		
	Oil Age	kms	Client Info		0		
	Filter Age	kms	Client Info		0		
	Oil Changed		Client Info		Changed		
	Filter Changed		Client Info		Changed		
	Sample Status				NORMAL		
VEAD							
WEAR	Iron	ppm	ASTM D5185(m)		13		
All component wear rates are normal.	Chromium	ppm	ASTM D5185(m)		2		
	Nickel	ppm	ASTM D5185(m)	>4	<1		
	Titanium	ppm	ASTM D5185(m)		0		
	Silver	ppm	ASTM D5185(m)		0		
	Aluminum	ppm	ASTM D5185(m)	>20	4		
	Lead	ppm	ASTM D5185(m)		8		
	Copper	ppm	ASTM D5185(m)	>330	7		
	Tin	ppm	ASTM D5185(m)	>15	<1		
	Vanadium	ppm	ASTM D5185(m)		0		
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>25	5		
	Potassium	ppm	ASTM D5185(m)		1		
There is no indication of any contamination in the oil.	Fuel	PPIII	WC Method		- <1.0		
	Water		WC Method		NEG		
	Glycol		WC Method	7 0.2	NEG		
	Soot %	%	ASTM D7844*	>3	0.2		
	Nitration	Abs/cm	ASTM D7624*		5.8		
	Sulfation	Abs/.1mm	ASTM D7415*	>30	18.9		
	Emulsified Water	scalar	Visual*	>0.2	NEG		
THE CONDITION							
FLUID CONDITION	Sodium	ppm	ASTM D5185(m)		10		
The condition of the oil is acceptable for the time in service.	Boron	ppm	ASTM D5185(m)		12		
	Barium	ppm	ASTM D5185(m)		0		
	Molybdenum	ppm	ASTM D5185(m)		49		
	Manganese	ppm	ASTM D5185(m)		0		
	Magnesium	ppm	ASTM D5185(m)		853		
	Calcium	ppm	ASTM D5185(m)		1117		
	Phosphorus	ppm	ASTM D5185(m)		920		
	Zinc	ppm	ASTM D5185(m)		1052		
	Sulfur	ppm	ASTM D5185(m)	2060	2618		
	Oxidation	Abs/.1mm	ASTM D7414*		14.0		
	Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.0		





CALA ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Sample No.

: GFL0097981 Lab Number : 02617934

Unique Number : 5735044 Test Package : MOB 1

Received : 26 Feb 2024 **Tested** : 26 Feb 2024 Diagnosed

: 26 Feb 2024 - Wes Davis

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

GFL Environmental - 593 4421 Boban Drive

Nanaimo, BC **CA V9T 6A6** Contact: Patrick Rutti prutti@gflenv.com T: (250)739-3345

Report Id: GFL593 [WCAMIS] 02617934 (Generated: 02/26/2024 13:29:12) Rev: 1