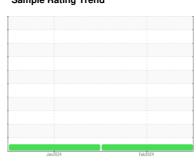


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id 834028 Component

Natural Gas Engine

{not provided} (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil

Fluid Condition

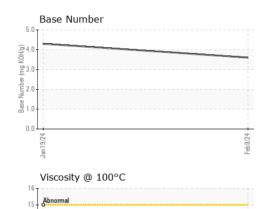
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method Imilibase current history1 history2							
Sample Number Client Info GFL0108256 GFL0098215				Jan 2024	Feb 2024		
Sample Date Client Info 09 Feb 2024 19 Jan 2024 Machine Age hrs Client Info 557 395 Oil Age hrs Client Info 557 395 Oil Changed Client Info Not Changd N/A Oil Changed Client Info NoRMAL NORMAL ONTAMINATION Method MoRMAL NORMAL ONTAMINATION Method MoRMAL NORMAL ONTAMINATION Method MoRMAL NORMAL ONTAMINATION Method NORMAL NORMAL ONTAMINATION Method MoRMAL NORMAL ONTAMINATION Method MoRMAL NORMAL ONTAMINATION Method MoRMAL NORMAL ONTAMINATION Method MoRMAL NORMAL ONTAMINATION Method MoRMAL NORMAL ONTAMINATION Method MoRMAL NORMAL ONTAMINATION Mistory2 Method Mistory2 ONTAMINATION Mistory3 ONTAMINATION Mistory4 Mistory5 Mistory4 Mistory4 Mistory4 Mistory5 Mistory4 Mistory4 Mistory5 Mistory6	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Date Client Info 557 395 Machine Age hrs Client Info 557 395 Oil Age hrs Client Info 557 395 Oil Changed Client Info Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method imit/base current history1 history2 Water WC Method >0.1 NEG NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5185m >50 42 37 Chromium ppm ASTM D5185m >50 42 37 Chromium ppm ASTM D5185m >2 2 2 Titanium ppm ASTM D5185m >3 <1 <1 Aluminum ppm ASTM D5185m >3 <1 <1 Aluminum ppm ASTM D5185m >3 <1 <1 Aluminum ppm ASTM D5185m >30 2 2 Cadmium ppm ASTM D5185m >4 2 2 2 Vanadium ppm ASTM D5185m >4 2 2 2 Vanadium ppm ASTM D5185m >4 2 2 2 Vanadium ppm ASTM D5185m >4 2 2 2 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 50 53 ADDITIVES method limit/base current history1 history2 ASTM D5185m 50 53 ADDITIVES method limit/base current history1 history2 ASTM D5185m 721 793 Cadmium ppm ASTM D5185m 1136 1167 ASTM D5185m 50 53 ASTM D5185m 721 793 Calcium ppm ASTM D5185m 721 793 Calcium ppm ASTM D5185m 13 14 ASTM D5185m 50 53 ASTM D518	Sample Number		Client Info		GFL0108256	GFL0098215	
Machine Age hrs Client Info 557 395			Client Info		09 Feb 2024	19 Jan 2024	
Oil Changed Sample Status North Changed North Changed	•	hrs	Client Info		557	395	
Oil Changed Sample Status North Changed North Changed	Oil Age	hrs	Client Info		557	395	
NORMAL N	-		Client Info		Not Changd	N/A	
Water WC Method >0.1 NEG NEG	Sample Status				NORMAL	NORMAL	
WEAR METALS method limit/base current history1 history2 Irron ppm ASTM D5185m >50 42 37	CONTAMINAT	ION	method	limit/base	current	history1	history2
Irron	Water		WC Method	>0.1	NEG	NEG	
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>50	42	37	
Nickel	Chromium	ppm	ASTM D5185m	>4	<1	<1	
Silver	Nickel		ASTM D5185m	>2	2	2	
Silver	Titanium		ASTM D5185m		<1	<1	
Aluminum	Silver		ASTM D5185m	>3	<1	<1	
Lead	Aluminum		ASTM D5185m	>9	2	2	
Tin	Lead		ASTM D5185m	>30	2	2	
Tin	Copper		ASTM D5185m	>35	19	19	
Vanadium ppm ASTM D5185m 0 <1 Cadmium ppm ASTM D5185m <1 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 4 11 Barium ppm ASTM D5185m 17 5 Molybdenum ppm ASTM D5185m 50 53 Manganese ppm ASTM D5185m 13 14 Manganesium ppm ASTM D5185m 721 793 Calcium ppm ASTM D5185m 1136 1167 Phosphorus ppm ASTM D5185m 822 892 Zinc ppm ASTM D5185m 822 892 Sulfur ppm ASTM D5185m >+100 32 36 CONTAMINANTS method limit/base current			ASTM D5185m	>4	2	2	
ADDITIVES	Vanadium		ASTM D5185m		0	<1	
Boron	Cadmium		ASTM D5185m		<1	<1	
Barium ppm ASTM D5185m 17 5 Molybdenum ppm ASTM D5185m 50 53 Manganese ppm ASTM D5185m 13 14 Magnesium ppm ASTM D5185m 721 793 Calcium ppm ASTM D5185m 1136 1167 Phosphorus ppm ASTM D5185m 684 619 Zinc ppm ASTM D5185m 822 892 Sulfur ppm ASTM D5185m 2512 2256 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 32 36 Sodium ppm ASTM D5185m >20 3 3 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/bas	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 53 Manganese ppm ASTM D5185m 13 14 Magnesium ppm ASTM D5185m 721 793 Calcium ppm ASTM D5185m 1136 1167 Phosphorus ppm ASTM D5185m 684 619 Zinc ppm ASTM D5185m 822 892 Sulfur ppm ASTM D5185m 2512 2256 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 32 36 Sodium ppm ASTM D5185m >20 3 3 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % %	Boron	ppm	ASTM D5185m		4	11	
Manganese ppm ASTM D5185m 13 14 Magnesium ppm ASTM D5185m 721 793 Calcium ppm ASTM D5185m 1136 1167 Phosphorus ppm ASTM D5185m 684 619 Zinc ppm ASTM D5185m 822 892 Sulfur ppm ASTM D5185m 2512 2256 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 32 36 Sodium ppm ASTM D5185m >20 3 3 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 Nitration Abs/cmm	Barium	ppm	ASTM D5185m		17	5	
Magnesium ppm ASTM D5185m 721 793 Calcium ppm ASTM D5185m 1136 1167 Phosphorus ppm ASTM D5185m 684 619 Zinc ppm ASTM D5185m 822 892 Sulfur ppm ASTM D5185m 2512 2256 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 32 36 Sodium ppm ASTM D5185m 1 0 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION *AST	Molybdenum	ppm	ASTM D5185m		50	53	
Calcium ppm ASTM D5185m 1136 1167 Phosphorus ppm ASTM D5185m 684 619 Zinc ppm ASTM D5185m 822 892 Sulfur ppm ASTM D5185m 2512 2256 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 32 36 Sodium ppm ASTM D5185m 1 0 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.5 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRA	Manganese	ppm	ASTM D5185m		13	14	
Phosphorus ppm ASTM D5185m 684 619 Zinc ppm ASTM D5185m 822 892 Sulfur ppm ASTM D5185m 2512 2256 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 32 36 Sodium ppm ASTM D5185m 1 0 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.5 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION method limit/base current history1 history2 </td <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>721</th> <td>793</td> <td></td>	Magnesium	ppm	ASTM D5185m		721	793	
Zinc ppm ASTM D5185m 822 892 Sulfur ppm ASTM D5185m 2512 2256 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 32 36 Sodium ppm ASTM D5185m 1 0 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.5 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	Calcium	ppm	ASTM D5185m		1136	1167	
Sulfur ppm ASTM D5185m 2512 2256 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 32 36 Sodium ppm ASTM D5185m 1 0 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.5 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	Phosphorus	ppm	ASTM D5185m		684	619	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 32 36 Sodium ppm ASTM D5185m 1 0 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.5 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	Zinc	ppm	ASTM D5185m		822	892	
Silicon ppm ASTM D5185m >+100 32 36 Sodium ppm ASTM D5185m 1 0 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.5 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	Sulfur	ppm	ASTM D5185m		2512	2256	
Sodium ppm ASTM D5185m 1 0 Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.5 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.5 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	Silicon	ppm	ASTM D5185m	>+100	32	36	
INFRA-RED	Sodium	ppm	ASTM D5185m		1	0	
Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.5 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	Potassium	ppm	ASTM D5185m	>20	3	3	
Nitration Abs/cm *ASTM D7624 >20 12.5 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	Soot %	%	*ASTM D7844		0	0	
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	Nitration	Abs/cm	*ASTM D7624	>20	12.5	11.8	
Oxidation Abs/.1mm *ASTM D7414 >25 21.4 19.9	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.3	21.5	
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 3.6 4.3	Oxidation	Abs/.1mm	*ASTM D7414	>25	21.4	19.9	
	Base Number (BN)	mg KOH/g	ASTM D2896		3.6	4.3	



cSt (100°C)

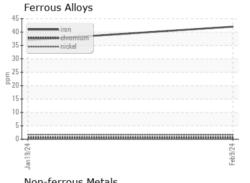
OIL ANALYSIS REPORT



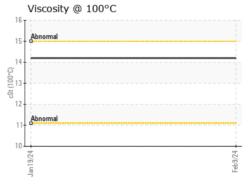
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID DDODE	DTIEO					

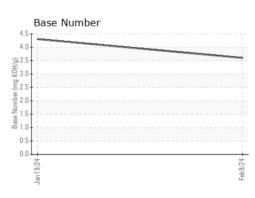
FLUID PROPE	RTIES	method			history2
Visc @ 100°C	cSt	ASTM D445	14.2	14.2	

GRAPHS



20	copper				_
	manana lead				
15 -	wasses [II]				
10-					
5					
		 	 	 	THE REAL PROPERTY.
0					-
Jan19/24					0.0







Certificate L2367

Laboratory Sample No.

Lab Number : 06085682 Unique Number : 10873127 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0108256

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Received Tested Diagnosed

: 12 Feb 2024 : 12 Feb 2024

: 12 Feb 2024 - Wes Davis

GFL Environmental - 652 - Fredericksburg Hauling

10954 Houser Drive Fredericksburg, VA US 22408

Contact: WILLIAM MILO

wmilo@gflenv.com T:

* - 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)

F: