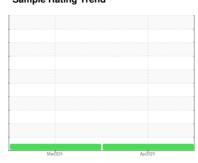


OIL ANALYSIS REPORT

Sample Rating Trend







834009
Component
Natural Gas Engine
Fluid
{not provided} (--- GAL)

DIAGNOSIS

Machine Id

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

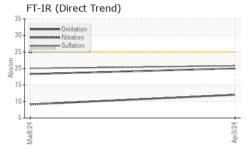
Fluid Condition

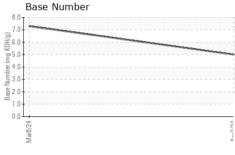
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

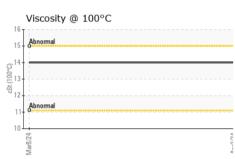
Sample Number Client Info GFL0116581 GFL0111822 Sample Date Client Info 03 Apr 2024 08 Mar 2024 Machine Age hrs Client Info 348 170 Oil Age hrs Client Info 348 170 Oil Changed Client Info Not Changd Not Changd Not Changd Not Changd Northanged Client Info Northanged				Mar2024	Apr2024		
Sample Number Client Info GFL0116581 GFL0111822 GFL0111822 GFL0116581 GFL0111822 GFL0116581 GFL0111822 GFL0116581 GFL011670 Machine Age hrs Client Info 348 170 Town Mol Changd Town Town Mol Changd Town Mol Changd Town Mol Changd More Mall More Mall More Mall Town More Mall More Mall Town More Mall More Mall Town More Mall Town More Mall More Mall Town More Mall Town More Mall More Mall Town More Mall More Mall More Mall <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>							
Sample Date Client Info 03 Apr 2024 08 Mar 2024 07 07 07 07 07 07 07 0	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 348 170	Sample Number		Client Info		GFL0116581	GFL0111822	
Dil Age	Sample Date		Client Info		03 Apr 2024	08 Mar 2024	
Not Changed Client Info Not Changed Normal Norm	Machine Age	hrs	Client Info		348	170	
NORMAL NORMAL CONTAMINATION method limit/base current history1 hist	-	hrs	Client Info				
Water WC Method Imit/base current history1 hist water WC Method >0.1 NEG NEG	-		Client Info			Ŭ	
Water WC Method >0.1 NEG NEG	Sample Status				NORMAL	NORMAL	
WEAR METALS method limit/base current history1 hist Iron ppm ASTM D5185m >50 40 29 Chromium ppm ASTM D5185m >4 <1	CONTAMINATI	ON	method	limit/base	current	history1	history2
Chromium	Water		WC Method	>0.1	NEG	NEG	
Chromium	WEAR METALS	S	method	limit/base	current	history1	history2
Nickel	ron	ppm	ASTM D5185m	>50	40	29	
Titanium	Chromium	ppm	ASTM D5185m	>4	<1	0	
Silver	Nickel	ppm	ASTM D5185m	>2	<1	1	
Aluminum	Titanium	ppm	ASTM D5185m		<1	0	
Dead	Silver	ppm	ASTM D5185m	>3	0	<1	
Copper ppm ASTM D5185m >35 16 14	Aluminum	ppm	ASTM D5185m	>9	7	5	
Tin	_ead	ppm	ASTM D5185m	>30	0	1	
Vanadium ppm ASTM D5185m <1 0	Copper	ppm	ASTM D5185m	>35	16	14	
Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 hist Boron ppm ASTM D5185m 13 25 Barium ppm ASTM D5185m 4 3 Molybdenum ppm ASTM D5185m 52 46 Manganese ppm ASTM D5185m 13 12 Magnesium ppm ASTM D5185m 809 749 Calcium ppm ASTM D5185m 1271 1164 Phosphorus ppm ASTM D5185m 930 888 Zinc ppm ASTM D5185m 930 888 Sulfur ppm ASTM D5185m 2757 2639 CONTAMINANTS method limit/base current history1 hist Bodium ppm ASTM D5185m >20 13	Γin	ppm	ASTM D5185m	>4	<1	1	
ADDITIVES method limit/base current history1 hist Boron ppm ASTM D5185m 13 25 Barium ppm ASTM D5185m 4 3 Molybdenum ppm ASTM D5185m 52 46 Manganese ppm ASTM D5185m 13 12 Magnesium ppm ASTM D5185m 809 749 Calcium ppm ASTM D5185m 1271 1164 Phosphorus ppm ASTM D5185m 665 725 Zinc ppm ASTM D5185m 930 888 Sulfur ppm ASTM D5185m 2757 2639 CONTAMINANTS method limit/base current history1 hist Solicon ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current	Vanadium	ppm	ASTM D5185m		<1	0	
Boron ppm ASTM D5185m 13 25	Cadmium	ppm	ASTM D5185m		0	0	
Barium ppm ASTM D5185m 4 3 Molybdenum ppm ASTM D5185m 52 46 Manganese ppm ASTM D5185m 13 12 Magnesium ppm ASTM D5185m 809 749 Calcium ppm ASTM D5185m 1271 1164 Phosphorus ppm ASTM D5185m 665 725 Zinc ppm ASTM D5185m 930 888 Sulfur ppm ASTM D5185m 2757 2639 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >+100 32 31 Sodium ppm ASTM D5185m >20 13 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base </th <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 52 46 Manganese ppm ASTM D5185m 13 12 Magnesium ppm ASTM D5185m 809 749 Calcium ppm ASTM D5185m 1271 1164 Phosphorus ppm ASTM D5185m 665 725 Zinc ppm ASTM D5185m 930 888 Sulfur ppm ASTM D5185m 2757 2639 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >+100 32 31 Sodium ppm ASTM D5185m 4 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7624	Boron	ppm	ASTM D5185m		13	25	
Manganese ppm ASTM D5185m 13 12 Magnesium ppm ASTM D5185m 809 749 Calcium ppm ASTM D5185m 1271 1164 Phosphorus ppm ASTM D5185m 665 725 Zinc ppm ASTM D5185m 930 888 Sulfur ppm ASTM D5185m 2757 2639 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >+100 32 31 Sodium ppm ASTM D5185m 4 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7624 >20 12.0 9.1 Sulfation Abs/.1mm	Barium	ppm	ASTM D5185m		4	3	
Magnesium ppm ASTM D5185m 809 749 Calcium ppm ASTM D5185m 1271 1164 Phosphorus ppm ASTM D5185m 665 725 Zinc ppm ASTM D5185m 930 888 Sulfur ppm ASTM D5185m 2757 2639 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >+100 32 31 Sodium ppm ASTM D5185m 4 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 0 0 Sulfation Abs/cm *ASTM D7624 >20 12.0 9.1 FLUID DEGRADATION method	Molybdenum	ppm	ASTM D5185m		52	46	
Calcium ppm ASTM D5185m 1271 1164 Phosphorus ppm ASTM D5185m 665 725 Zinc ppm ASTM D5185m 930 888 Sulfur ppm ASTM D5185m 2757 2639 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >+100 32 31 Sodium ppm ASTM D5185m 4 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.0 9.1 FLUID DEGRADATION method limit/base current history1 hist	Manganese	ppm	ASTM D5185m		13	12	
Phosphorus ppm ASTM D5185m 665 725 Zinc ppm ASTM D5185m 930 888 Sulfur ppm ASTM D5185m 2757 2639 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >+100 32 31 Sodium ppm ASTM D5185m 4 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.0 FLUID DEGRADATION method limit/base current history1 hist	Magnesium	ppm	ASTM D5185m		809	749	
Solifur ppm ASTM D5185m 930 888 Sulfur ppm ASTM D5185m 2757 2639 CONTAMINANTS method limit/base current history1 hist Solicon ppm ASTM D5185m >+100 32 31 Sodium ppm ASTM D5185m 4 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 0 0 0 Nitration Abs/cm *ASTM D7624 >20 12.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.0 FLUID DEGRADATION method limit/base current history1 hist	Calcium	ppm	ASTM D5185m		1271	1164	
Sulfur ppm ASTM D5185m 2757 2639 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >+100 32 31 Sodium ppm ASTM D5185m 4 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.0 FLUID DEGRADATION method limit/base current history1 hist	Phosphorus	ppm	ASTM D5185m		665	725	
CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >+100 32 31 Sodium ppm ASTM D5185m 4 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.0 FLUID DEGRADATION method limit/base current history1 hist	Zinc	ppm	ASTM D5185m		930	888	
Silicon ppm ASTM D5185m >+100 32 31 Sodium ppm ASTM D5185m 4 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.0 FLUID DEGRADATION method limit/base current history1 hist	Sulfur	ppm	ASTM D5185m		2757	2639	
Sodium ppm ASTM D5185m 4 5 Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.0 FLUID DEGRADATION method limit/base current history1 hist	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 13 5 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.0 FLUID DEGRADATION method limit/base current history1 hist	Silicon	ppm	ASTM D5185m	>+100	32		
INFRA-RED	Sodium	ppm	ASTM D5185m		4	5	
Soot % % *ASTM D7844 0 0 Nitration Abs/cm *ASTM D7624 >20 12.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.0 FLUID DEGRADATION method limit/base current history1 hist	Potassium	ppm	ASTM D5185m	>20	13	5	
Nitration Abs/cm *ASTM D7624 >20 12.0 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.0 FLUID DEGRADATION method limit/base current history1 hist	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.0 FLUID DEGRADATION method limit/base current history1 hist	Soot %	%	*ASTM D7844		0	0	
FLUID DEGRADATION method limit/base current history1 hist	Nitration	Abs/cm	*ASTM D7624	>20	12.0	9.1	
	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.8	20.0	
Oxidation Abs/.1mm *ASTM D7414 >25 20.0 18.3	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	20.0	18.3	
Base Number (BN) mg KOH/g ASTM D2896 5.0 7.3					5.0		

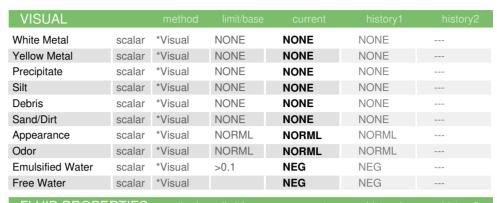


OIL ANALYSIS REPORT



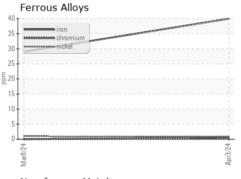


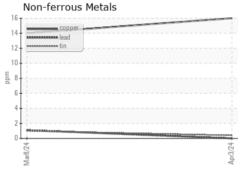


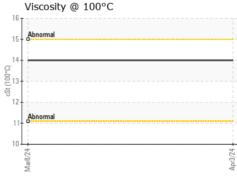


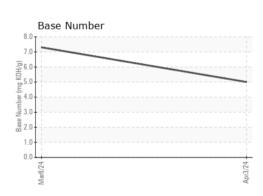
FLUID PROP	ERHES	method		history1	history2
Visc @ 100°C	cSt	ASTM D445	14.0	14.0	

GRAPHS













Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0116581 Lab Number : 06138413 Unique Number : 10963221 Test Package : FLEET

Received : 04 Apr 2024 **Tested** : 05 Apr 2024 Diagnosed

: 05 Apr 2024 - Wes Davis

GFL Environmental - 652 - Fredericksburg Hauling 10954 Houser Drive Fredericksburg, VA US 22408 Contact: WILLIAM MILO

wmilo@gflenv.com

* - 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)

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

Report Id: GFL652 [WUSCAR] 06138413 (Generated: 04/05/2024 04:37:14) Rev: 1

Submitted By: TECHNICIAN ACCOUNT

T:

F: