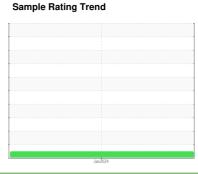


# **OIL ANALYSIS REPORT**



**NORMAL** 



Machine Id **520079** Component

**Diesel 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

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the

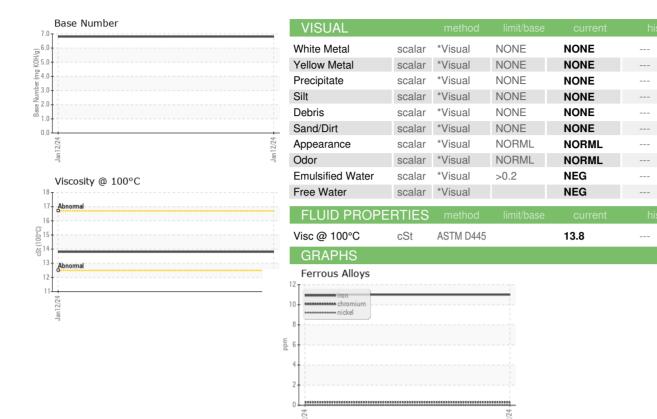
#### **Fluid Condition**

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

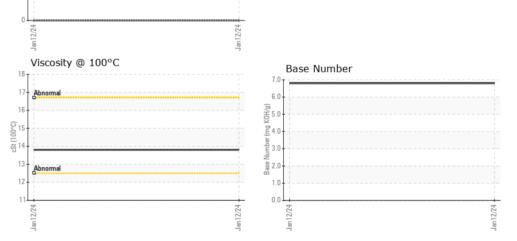
SAMPLE INFORMATION method   limit/base   current   history1   history2					Jan 2024		
Sample Number   Client Info   GFL0096094	SAMPLE INFORM	ATION	method			history1	history2
Client Info							
Machine Age   hrs   Client Info   7626							
Oil Age		hrs					
Contamped   Client Info   NoRMAL   Contamped   Conta	-	hrs			700		
CONTAMINATION   method   militibase   current   history1   history2	Oil Changed		Client Info		Changed		
Fuel	Sample Status						
Water Glycol         WC Method WC Method         >0.2         NEG	CONTAMINATIO	NC	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0		
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         11             Chromium         ppm         ASTM D5185m         >20         <1	Water		WC Method	>0.2	NEG		
ASTM D5185m	Glycol		WC Method		NEG		
Chromium	WEAR METALS	;	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	11		
Titanium	Chromium	ppm	ASTM D5185m	>20	<1		
Silver	Nickel	ppm	ASTM D5185m	>4	0		
Aluminum	Titanium	ppm	ASTM D5185m		13		
Lead	Silver	ppm	ASTM D5185m	>3	0		
Copper         ppm         ASTM D5185m         >330         6             Tin         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         102             Barium         ppm         ASTM D5185m         3             Molybdenum         ppm         ASTM D5185m         55             Manganese         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         724             Calcium         ppm         ASTM D5185m         764             Phosphorus         ppm         ASTM D5185m         924             Sulfur         ppm         ASTM D5185m         3236	Aluminum	ppm	ASTM D5185m	>20	3		
Tin	Lead	ppm		>40			
Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         102             Barium         ppm         ASTM D5185m         3             Molybdenum         ppm         ASTM D5185m         55             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         724             Calcium         ppm         ASTM D5185m         764             Phosphorus         ppm         ASTM D5185m         924             Sulfur         ppm         ASTM D5185m         3236             Sulfur         ppm         ASTM D5185m         >25         5             Solicon         ppm         ASTM D5185m         >20         10		ppm					
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         102             Barium         ppm         ASTM D5185m         3             Molybdenum         ppm         ASTM D5185m         55             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         724             Calcium         ppm         ASTM D5185m         764             Phosphorus         ppm         ASTM D5185m         924             Zinc         ppm         ASTM D5185m         3236             Sulfur         ppm         ASTM D5185m         3236             CONTAMINANTS         method         limit/base         current         history1         history2           Solium         ppm         ASTM D5185m         >20         10				>15			
ADDITIVES					-		
Boron   ppm   ASTM D5185m   102       Barium   ppm   ASTM D5185m   3         ASTM D5185m   55           ASTM D5185m   55           ASTM D5185m   0         ASTM D5185m   0         ASTM D5185m   724         ASTM D5185m   724         ASTM D5185m   744         ASTM D5185m   764         ASTM D5185m   764         ASTM D5185m   924         ASTM D5185m   924         ASTM D5185m   3236         ASTM D5185m   3236         ASTM D5185m   3236         ASTM D5185m   S25   5         ASTM D5185m   S25   5         ASTM D5185m   S25   5         ASTM D5185m   S20   10           ASTM D5185m   S20   10         ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20   10           ASTM D5185m   S20		ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         55             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         724             Calcium         ppm         ASTM D5185m         1478             Phosphorus         ppm         ASTM D5185m         764             Zinc         ppm         ASTM D5185m         924             Sulfur         ppm         ASTM D5185m         3236             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         5             Sodium         ppm         ASTM D5185m         >20         10             Potassium         ppm         ASTM D5185m         >20         10             INFRA-RED         method         limit/base         current         history1         history2           Soot %         *ASTM D7844	Boron	ppm	ASTM D5185m		102		
Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         724             Calcium         ppm         ASTM D5185m         1478             Phosphorus         ppm         ASTM D5185m         764             Zinc         ppm         ASTM D5185m         924             Sulfur         ppm         ASTM D5185m         3236             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         5             Sodium         ppm         ASTM D5185m         >0             Potassium         ppm         ASTM D5185m         >20         10             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3             Sulfation         Abs/:1mm	Barium	ppm	ASTM D5185m		3		
Magnesium         ppm         ASTM D5185m         724             Calcium         ppm         ASTM D5185m         1478             Phosphorus         ppm         ASTM D5185m         764             Zinc         ppm         ASTM D5185m         924             Sulfur         ppm         ASTM D5185m         3236             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         5             Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         10             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADA			ASTM D5185m				
Calcium         ppm         ASTM D5185m         1478             Phosphorus         ppm         ASTM D5185m         764             Zinc         ppm         ASTM D5185m         924             Sulfur         ppm         ASTM D5185m         3236             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         5             Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         10            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation<		ppm			-		
Phosphorus         ppm         ASTM D5185m         764             Zinc         ppm         ASTM D5185m         924             Sulfur         ppm         ASTM D5185m         3236             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         5             Sodium         ppm         ASTM D5185m         20         10             Potassium         ppm         ASTM D5185m         >20         10             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         9.7             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.6	-						
Zinc         ppm         ASTM D5185m         924             Sulfur         ppm         ASTM D5185m         3236             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         5             Sodium         ppm         ASTM D5185m         0              Potassium         ppm         ASTM D5185m         >20         10             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.7             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25					-		
Sulfur         ppm         ASTM D5185m         3236             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         5             Sodium         ppm         ASTM D5185m         0              Potassium         ppm         ASTM D5185m         >20         10             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.7             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.6							
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         5             Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         10             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.7             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.6					-		
Silicon   ppm   ASTM D5185m   >25   5							
Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         10             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.7             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.6							
Potassium         ppm         ASTM D5185m         >20         10             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.7             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.6				>25			
INFRA-RED				- 20			
Soot %         %         *ASTM D7844         >3         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.7             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.6		phili					
Nitration         Abs/cm         *ASTM D7624         >20         9.7             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.6							
Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.6							
FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 17.6							
Oxidation							
	FLUID DEGRADA	ATION		limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 6.8				>25			
	Base Number (BN)	mg KOH/g	ASTM D2896		6.8		



## **OIL ANALYSIS REPORT**



Non-ferrous Metals







Certificate L2367

Laboratory Sample No.

Lab Number Unique Number

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0096094 : 06064133

: 10835515 Test Package : FLEET

: 18 Jan 2024 Recieved Diagnosed Diagnostician

: 19 Jan 2024 : Wes Davis

GFL Environmental - 629 - Northern A1

3947 US 131 N Kalkaska, MI US 49646-8428

Contact: MITCH HERSHBERGER

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)

T: (231)624-0848 F: