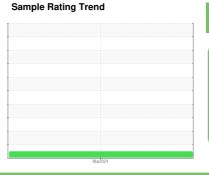


OIL ANALYSIS REPORT







DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

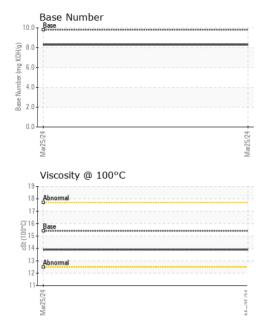
Fluid Condition

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

Sample Number Client Info GFL0097854 Sample Date Client Info D	·	•			Mar2024		
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 66	Sample Number		Client Info		GFL0097854		
Machine Age hrs Client Info 66	Sample Date		Client Info		25 Mar 2024		
Dil Age		hrs	Client Info		0		
NORMAL	Oil Age	hrs	Client Info		66		
NORMAL	Oil Changed		Client Info		N/A		
Water	Sample Status				NORMAL		
Water Glycol WC Method >0.2 NEG	CONTAMINATI	ON	method	limit/base	current	history1	history2
Water	Fuel		WC Method	>5	<1.0		
WEAR METALS				>0.2			
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 6					-		
Chromium		3		limit/hase	current	history1	history2
Chromium ppm ASTM D5185m >5 <1						•	•
Nickel	-	• • • • • • • • • • • • • • • • • • • •			-		
Silver							
Silver		• •		>2	-		
Aluminum							
Lead	-						
Copper	-				-		
Tin		ppm					
Vanadium ppm ASTM D5185m <1 Cadmium ppm ASTM D5185m <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 12 Barium ppm ASTM D5185m 0 <1 Molybdenum ppm ASTM D5185m 0 <1 Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 1010 850 Calcium ppm ASTM D5185m 1070 1238 Phosphorus ppm ASTM D5185m 1270 1150 Sulfur ppm ASTM D5185m 2060 3008 CONTAMINANTS method limit/base current his					-		
ADDITIVES		• • • • • • • • • • • • • • • • • • • •		>5			
ADDITIVES		ppm					
Boron ppm ASTM D5185m 0 12	Cadmium	ppm	ASTM D5185m		<1		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 55 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0	12		
Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 1010 850 Calcium ppm ASTM D5185m 1070 1238 Phosphorus ppm ASTM D5185m 1150 986 Zinc ppm ASTM D5185m 1270 1150 Sulfur ppm ASTM D5185m 2060 3008 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 6 Sodium ppm ASTM D5185m 3 Potassium ppm ASTM D5185m 3 Potassium ppm ASTM D5185m 3 Soot % % *ASTM D7844 >3 0.2	Barium	ppm	ASTM D5185m	0	<1		
Magnesium ppm ASTM D5185m 1010 850 Calcium ppm ASTM D5185m 1070 1238 Phosphorus ppm ASTM D5185m 1150 986 Zinc ppm ASTM D5185m 1270 1150 Sulfur ppm ASTM D5185m 2060 3008 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 6 Sodium ppm ASTM D5185m >20 2 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 Sulfation Abs/.1mm *ASTM D7845 <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>60</td> <th>55</th> <td></td> <td></td>	Molybdenum	ppm	ASTM D5185m	60	55		
Calcium ppm ASTM D5185m 1070 1238 Phosphorus ppm ASTM D5185m 1150 986 Zinc ppm ASTM D5185m 1270 1150 Sulfur ppm ASTM D5185m 2060 3008 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 6 Sodium ppm ASTM D5185m 3 Potassium ppm ASTM D5185m >20 2 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.2	Manganese	ppm	ASTM D5185m	0	<1		
Phosphorus ppm ASTM D5185m 1150 986 Zinc ppm ASTM D5185m 1270 1150 Sulfur ppm ASTM D5185m 2060 3008 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 6 Sodium ppm ASTM D5185m 3 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 Sulfation Abs/cm *ASTM D7624 >20 7.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16	Magnesium	ppm	ASTM D5185m	1010	850		
Zinc ppm ASTM D5185m 1270 1150 Sulfur ppm ASTM D5185m 2060 3008	Calcium	ppm	ASTM D5185m	1070	1238		
Sulfur ppm ASTM D5185m 2060 3008 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 6 Sodium ppm ASTM D5185m 3 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7624 >20 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9	Phosphorus	ppm	ASTM D5185m	1150	986		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 6 Sodium ppm ASTM D5185m 3 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7624 >20 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9	Zinc	ppm	ASTM D5185m	1270	1150		
Solicon ppm ASTM D5185m >20 6 Sodium ppm ASTM D5185m 3	Sulfur	ppm	ASTM D5185m	2060	3008		
Sodium ppm ASTM D5185m 3 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7624 >20 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9	CONTAMINAN	ΓS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7624 >20 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9	Silicon	ppm		>20			
INFRA-RED	Sodium	ppm	ASTM D5185m		3		
Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7624 >20 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9	Potassium	ppm	ASTM D5185m	>20	2		
Nitration Abs/cm *ASTM D7624 >20 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 20.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9	Soot %	%	*ASTM D7844	>3	0.2		
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.9	Nitration	Abs/cm	*ASTM D7624	>20	7.2		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2		
	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.3	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.9		
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.3		



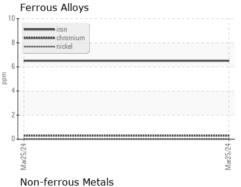
OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history2

13.9

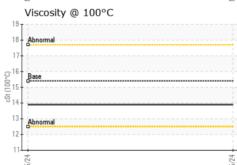
Visc @ 100°C
GRAPHS

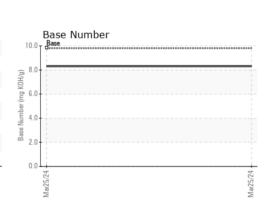


cSt

ASTM D445 15.4

	10 T	
	8 -	copper
Е	6 -	
mdd	4-	
	2	
	0	
		Mar25/24







Certificate L2367

Laboratory Sample No.

Lab Number : 06133928

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0097854 Unique Number : 10953393 Test Package : FLEET

Received **Tested** Diagnosed

: 29 Mar 2024 : 01 Apr 2024

: 01 Apr 2024 - Wes Davis

GFL Environmental - 957 - Pekin - Tazewell County 14379 Illinois Rte 29

South Pekin, IL US 61554 Contact: Bryan Link blink@gflenv.com

T: (309)407-0130

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)

Report Id: GFL957 [WUSCAR] 06133928 (Generated: 04/01/2024 10:15:23) Rev: 1