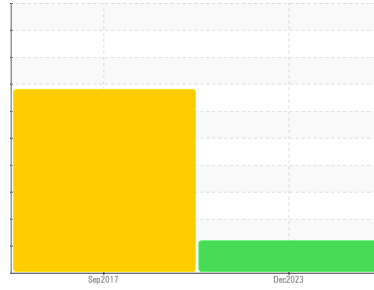




PROBLEM SUMMARY

Area
(C-GZPX)
 Machine Id
BOMBARDIER 0548
 Component
Gearbox
 Fluid
EASTMAN TURBO OIL 2380 (--- GAL)

Sample Rating Trend

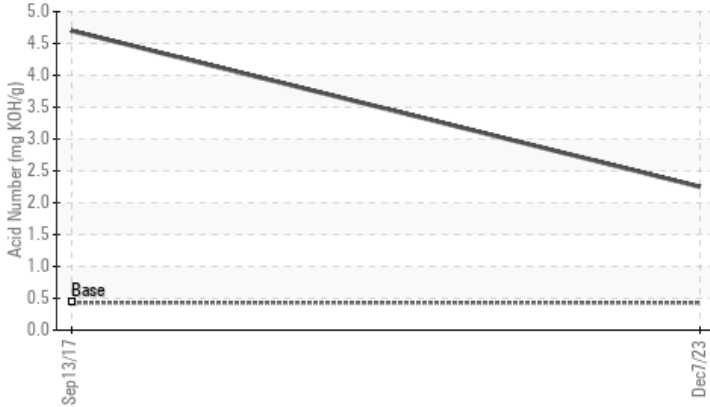


DEGRADATION



COMPONENT CONDITION SUMMARY

▲ Acid Number



RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status		ABNORMAL	SEVERE	---
Acid Number (AN)	mg KOH/g ASTM D974*	0.43	▲ 2.25	▲ 4.70

Customer Id: FLIWAT
 Sample No.: WC
 Lab Number: 02602467
 Test Package: AVI 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Bill Quesnel CLS,OMA II,MLA-III,LLA-I +1
 (289)291-4641 x4641
Bill.Quesnel@wearcheck.com

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

HISTORICAL DIAGNOSIS

DIRT



13 Sep 2017 Diag: Bill Quesnel

Check seals and/or filters for points of contaminant entry. The oil is near the end of its useful service life, recommend schedule an oil change. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. High concentration of dirt present in the oil. Acid Number (AN) is abnormally high. Zinc and magnesium ppm levels are abnormal. The AN level is above the recommended limit. The oil is no longer serviceable.

view report



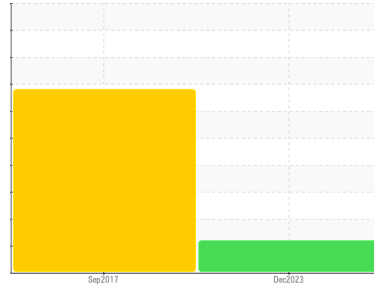


OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION

Area
(C-GZPX)
 Machine Id
BOMBARDIER 0548
 Component
Gearbox
 Fluid
EASTMAN TURBO OIL 2380 (--- GAL)



DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

The filter contained no appreciable wear particles. All filter wear levels are normal.

Contamination

The filter contained only normal levels of contaminants, and debris. All filter contaminant levels are normal.

Fluid Condition

The AN level is above the recommended limit. The oil is no longer serviceable.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC	WC845957	---
Sample Date	Client Info		07 Dec 2023	13 Sep 2017	---
TSN	hrs	Client Info	5122	0	---
TSO	hrs	Client Info	5122	0	---
Oil Age	hrs	Client Info	262	485	---
Oil Changed		Client Info	Changed	N/A	---
Sample Status			ABNORMAL	SEVERE	---

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	---

WEAR METALS

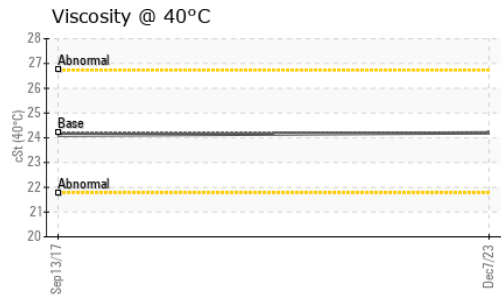
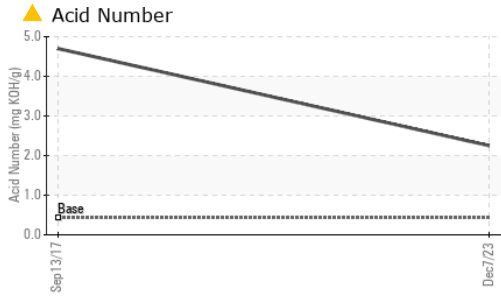
	method	limit/base	current	history1	history2
PQ	ASTM D8184*		---	21	---
Iron	ppm	ASTM D5185(m) >30	<1	1	---
Chromium	ppm	ASTM D5185(m) >4	0	0	---
Nickel	ppm	ASTM D5185(m) >5	<1	0	---
Titanium	ppm	ASTM D5185(m)	0	0	---
Silver	ppm	ASTM D5185(m) >5	<1	0	---
Aluminum	ppm	ASTM D5185(m) >8	<1	1	---
Lead	ppm	ASTM D5185(m) >10	<1	1	---
Copper	ppm	ASTM D5185(m) >8	<1	1	---
Tin	ppm	ASTM D5185(m) >4	0	0	---
Antimony	ppm	ASTM D5185(m) >5	0	<1	---
Vanadium	ppm	ASTM D5185(m)	0	0	---
Beryllium	ppm	ASTM D5185(m)	0	0	---
Cadmium	ppm	ASTM D5185(m)	1	8	---

FERROGRAPHY

	method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*	1	1	
Ferrous Sliding	Scale 0-10	ASTM D7684*			
Ferrous Cutting	Scale 0-10	ASTM D7684*			
Ferrous Rolling	Scale 0-10	ASTM D7684*	1	1	
Ferrous Break-in	Scale 0-10	ASTM D7684*			
Ferrous Spheres	Scale 0-10	ASTM D7684*			
Ferrous Black Oxides	Scale 0-10	ASTM D7684*			
Ferrous Red Oxides	Scale 0-10	ASTM D7684*			
Ferrous Corrosive	Scale 0-10	ASTM D7684*			
Ferrous Other	Scale 0-10	ASTM D7684*			
Nonferrous Rubbing	Scale 0-10	ASTM D7684*			
Nonferrous Sliding	Scale 0-10	ASTM D7684*			
Nonferrous Cutting	Scale 0-10	ASTM D7684*			
Nonferrous Rolling	Scale 0-10	ASTM D7684*	1		
Nonferrous Other	Scale 0-10	ASTM D7684*			
Sand/Dirt	Scale 0-10	ASTM D7684*	3	1	
Fibres	Scale 0-10	ASTM D7684*	1		
Spheres	Scale 0-10	ASTM D7684*			
Other	Scale 0-10	ASTM D7684*	2	2	
Patch Weight	mg	ASTM D7684*	101	---	---



OIL ANALYSIS REPORT



ADDITIVES	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	2	3	---
Barium	ppm	ASTM D5185(m)	0	<1	<1	---
Molybdenum	ppm	ASTM D5185(m)	0	0	0	---
Manganese	ppm	ASTM D5185(m)		0	<1	---
Magnesium	ppm	ASTM D5185(m)	0	10	▲ 49	---
Calcium	ppm	ASTM D5185(m)	0	<1	0	---
Phosphorus	ppm	ASTM D5185(m)	2500	2622	2840	---
Zinc	ppm	ASTM D5185(m)	0	5	▲ 27	---
Sulfur	ppm	ASTM D5185(m)	0	4	11	---
Lithium	ppm	ASTM D5185(m)		<1	<1	---

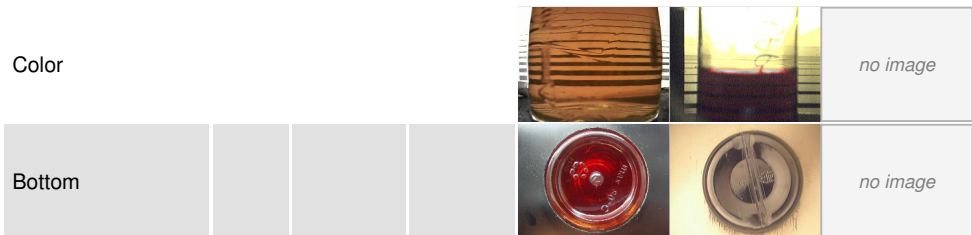
CONTAMINANTS	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>10	12	◆ 43	---
Sodium	ppm	ASTM D5185(m)		<1	<1	---
Potassium	ppm	ASTM D5185(m)	>20	0	2	---

FLUID DEGRADATION	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.43	▲ 2.25	▲ 4.70	---

VISUAL	method	limit/base	current	history1	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*	>0.2	NEG	NEG	---
Free Water	scalar	Visual*		NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	24.2	24.2	24.1	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC **Recieved** : 11 Dec 2023
Lab Number : **02602467** **Diagnosed** : 18 Dec 2023
Unique Number : 5695552 **Diagnostician** : Bill Quesnel
Test Package : AVI 2 (Additional Tests: PQ)

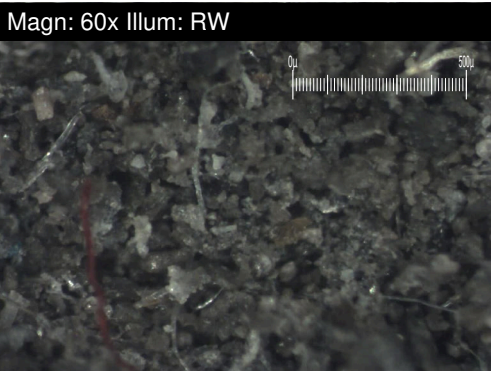
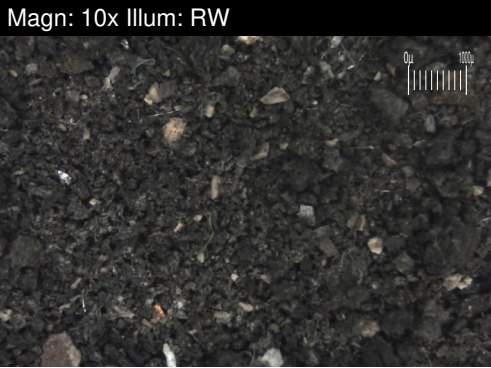
FLITELINE MAINTENANCE
 4C-4881 FOUNTAIN ST. N, HANGAR 33
 BRESLAU, ON
 CA N0B 1M0
 Contact: Michael Koteles
 mike@fliteline.ca
 T: (519)648-3404
 F: (519)648-3040

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.



FILTER REPORT

Area
(C-GZPX)
 Machine Id
BOMBARDIER 0548
 Component
Gearbox
 Fluid
EASTMAN TURBO OIL 2380 (--- GAL)



FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		1	1	
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		1	1	
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*				
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*		1		
Nonferrous Other	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		3	1	
Fibres	Scale 0-10	ASTM D7684*		1		
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		2	2	
Patch Weight	mg	ASTM D7684*		101	---	---

WEAR

The filter contained no appreciable wear particles. All filter wear levels are normal.

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