



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
BOMBARDIER MARC 32 MAIN
 Component
Diesel Engine
 Fluid
BRAD PENN DDS PLUS SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DC0035764	DC0029986	DC0025762
Sample Date		Client Info		18 Mar 2024	07 Dec 2023	12 May 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Chngd	Changed	Not Chngd
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	36	8	47
Chromium	ppm	ASTM D5185m	>20	<1	<1	2
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	1	0
Lead	ppm	ASTM D5185m	>40	3	0	2
Copper	ppm	ASTM D5185m	>330	12	4	8
Tin	ppm	ASTM D5185m	>15	6	<1	6
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

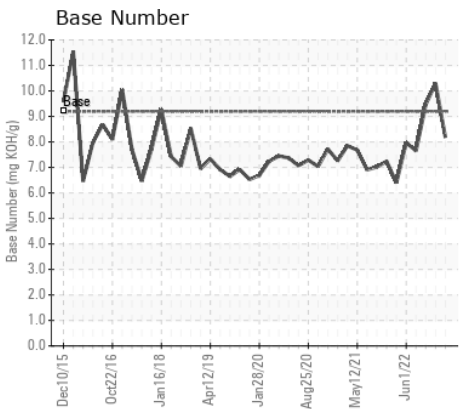
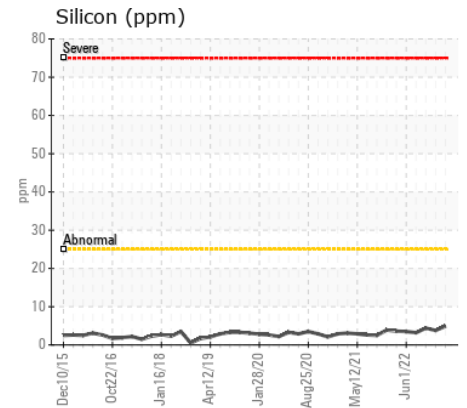
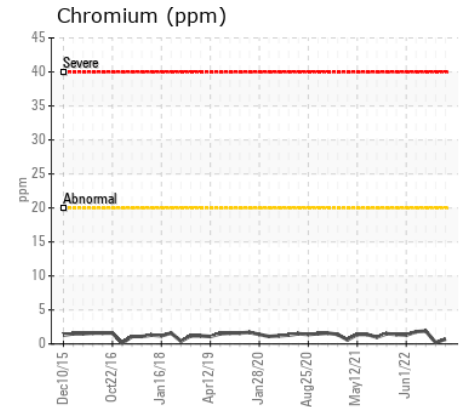
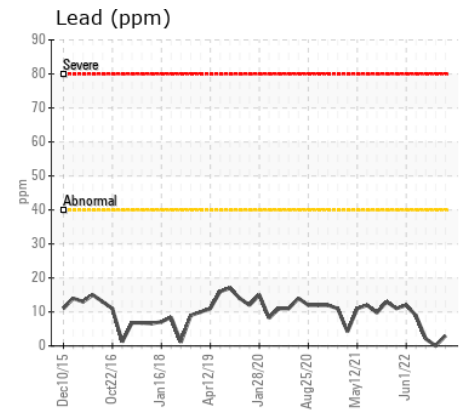
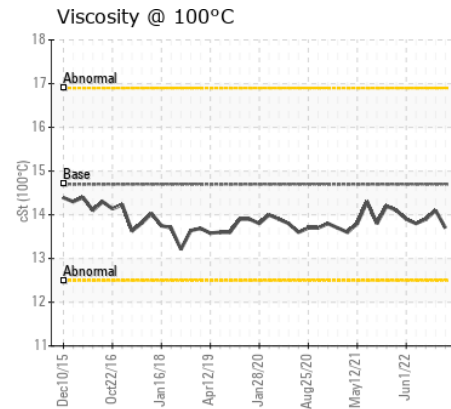
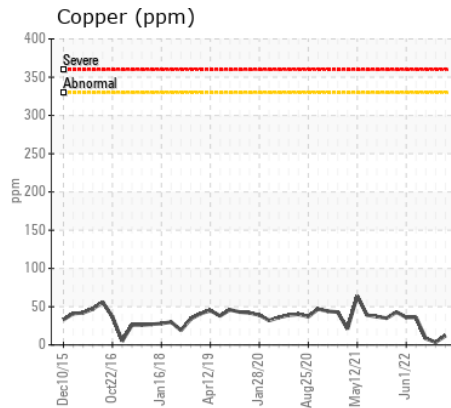
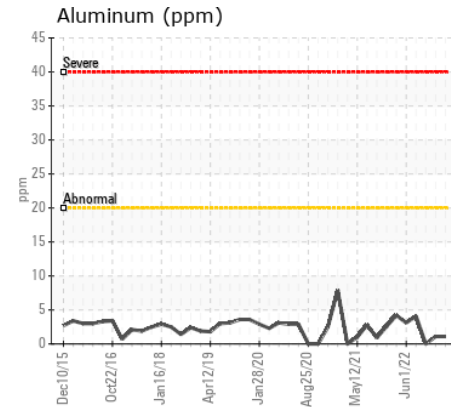
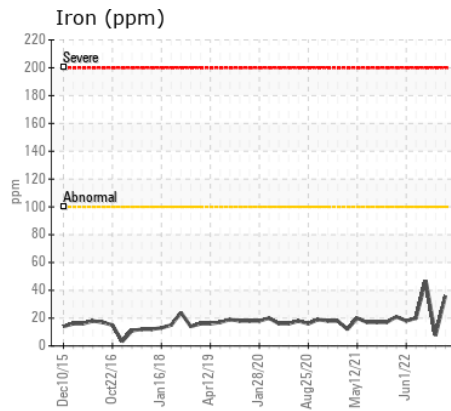
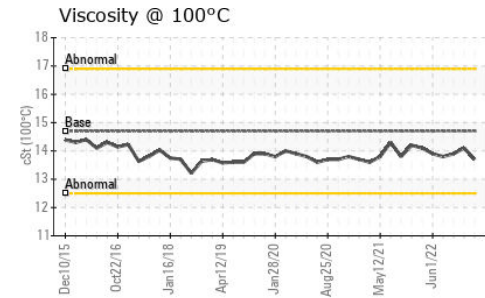
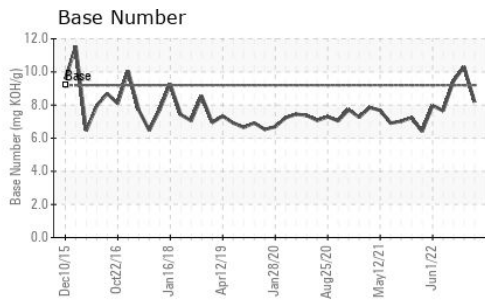
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	4	4
Potassium	ppm	ASTM D5185m	>20	0	0	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.6	4.7	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.8	12.7	14.8
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185m		31	26	6
Boron	ppm	ASTM D5185m		44	48	22
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		57	40	38
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		26	16	10
Calcium	ppm	ASTM D5185m		3405	3252	2883
Phosphorus	ppm	ASTM D5185m		44	24	42
Zinc	ppm	ASTM D5185m	10	54	12	35
Sulfur	ppm	ASTM D5185m		3049	2370	2724
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.1	5.5	9.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	8.18	10.30	9.47
Visc @ 100°C	cSt	ASTM D445	14.7	13.7	14.1	13.9



Certificate L2367

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

Sample No. : DC0035764

Lab Number : 06123885

Unique Number : 10938036

Test Package : MOB 2

Received : 20 Mar 2024

Tested : 21 Mar 2024

Diagnosed : 21 Mar 2024 - Wes Davis

ALSTOM - BALTIMORE

1600 LUDLOW ST

BALTIMORE, MD

US 21230

Contact: SEAN MCCARTY

sean.mccarty@rail.bombardier.com

T:

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)

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