



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**CAT MARC 34**  
 Component  
**Diesel Engine**  
 Fluid  
**BRAD PENN 15W40 (148 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DC0036554</b>	DC0036724	DC0036711
Sample Date		Client Info		<b>26 Jun 2024</b>	26 Jun 2024	06 Jun 2024
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Not Changed	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	ATTENTION	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>13</b>	18	7
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>25	<b>4</b>	4	2
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	9	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	49	7
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	10	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

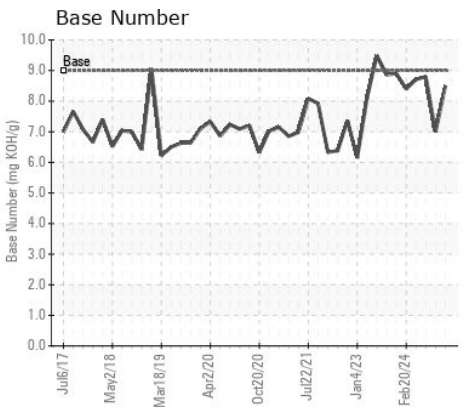
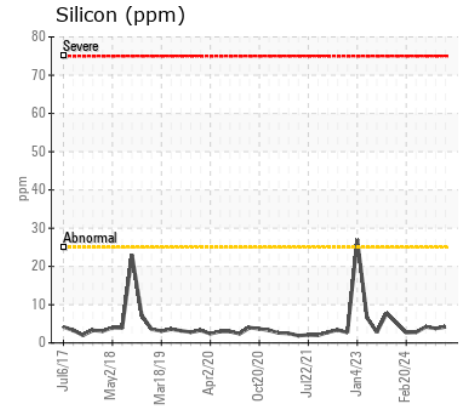
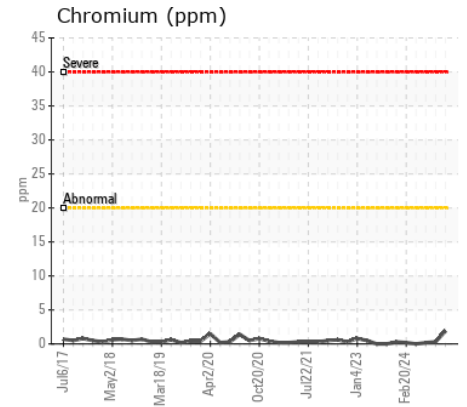
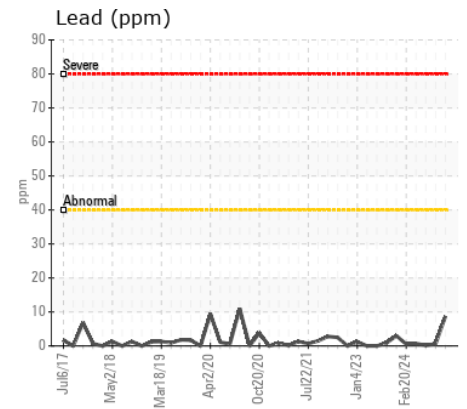
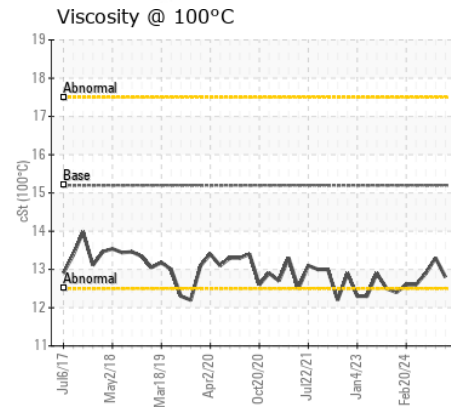
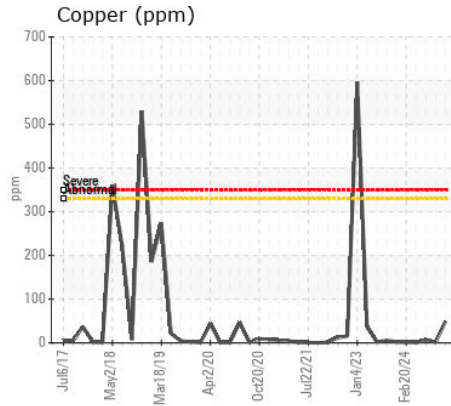
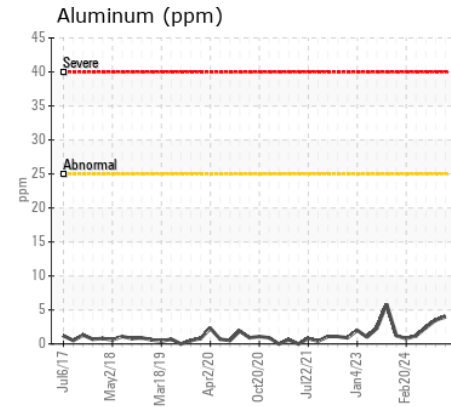
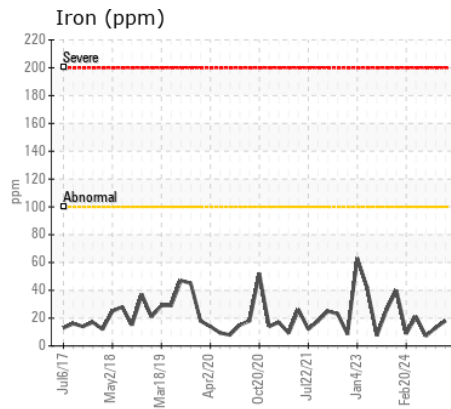
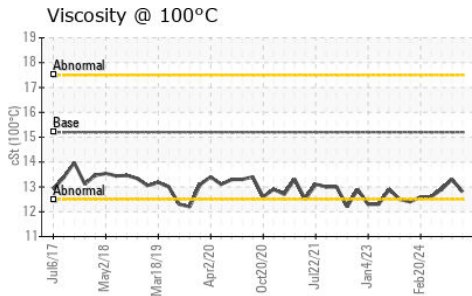
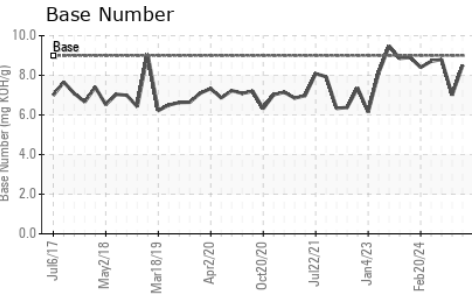
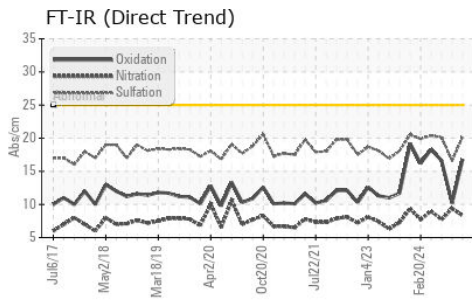
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	3	1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.3</b>	9.4	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.2</b>	16.6	20.1
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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		<b>1</b>	1	2
Boron	ppm	ASTM D5185m		<b>29</b>	40	35
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Molybdenum	ppm	ASTM D5185m		<b>45</b>	57	41
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>708</b>	21	673
Calcium	ppm	ASTM D5185m		<b>1296</b>	3857	1220
Phosphorus	ppm	ASTM D5185m		<b>744</b>	45	686
Zinc	ppm	ASTM D5185m		<b>887</b>	27	851
Sulfur	ppm	ASTM D5185m		<b>2248</b>	2909	2623
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.8</b>	10.2	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.0	<b>8.5</b>	7.0	8.8
Visc @ 100°C	cSt	ASTM D445	15.2	<b>12.8</b>	13.3	12.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0036554 **Received** : 02 Jul 2024  
**Lab Number** : 06225990 **Tested** : 03 Jul 2024  
**Unique Number** : 11109483 **Diagnosed** : 03 Jul 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**ALSTOM - BALTIMORE**  
 1600 LUDLOW ST  
 BALTIMORE, MD  
 US 21230

Contact: SEAN MCCARTY  
 sean.mccarty@rail.bombardier.com

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:  
 F: (443)220-0469