



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MARC 86
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DC0028994	DC0025814	DC0025693
Sample Date		Client Info		22 Feb 2024	29 Oct 2023	13 Oct 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		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	2	<1	1
Chromium	ppm	ASTM D5185m	>20	0	0	0
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	1
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	<1	<1	2
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

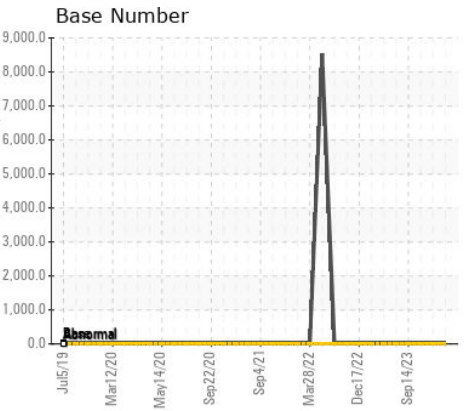
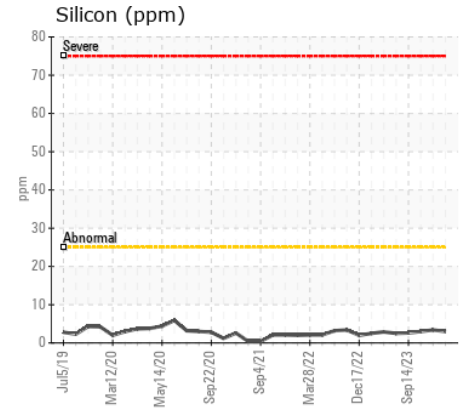
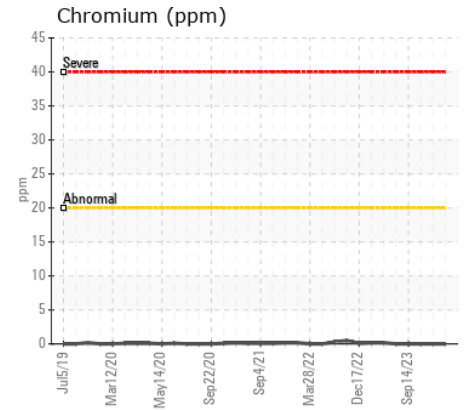
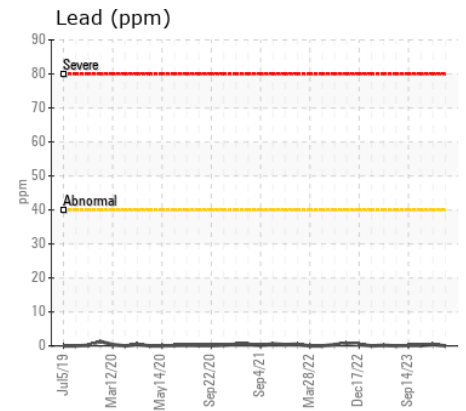
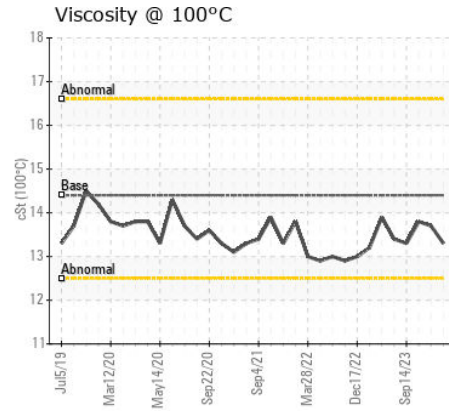
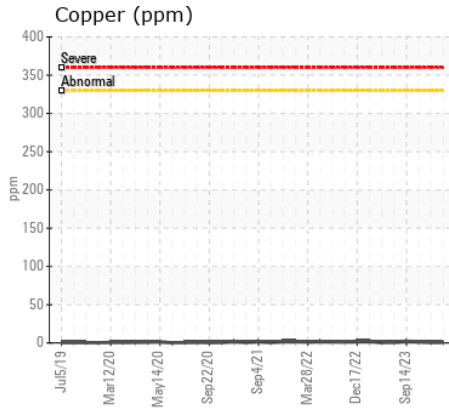
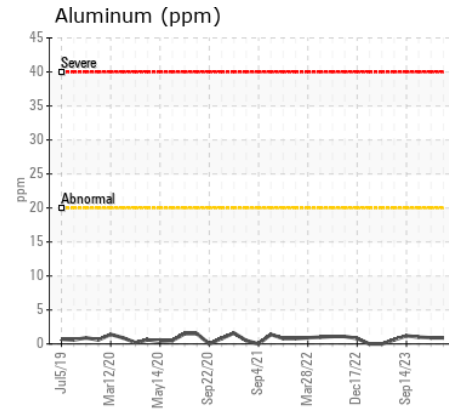
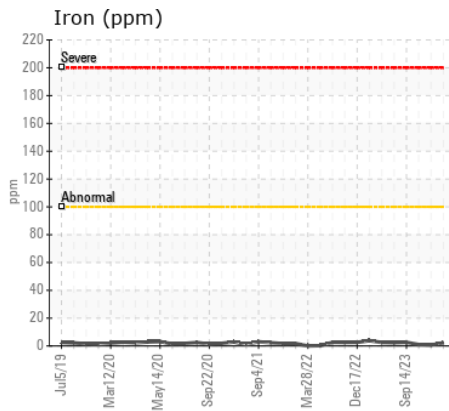
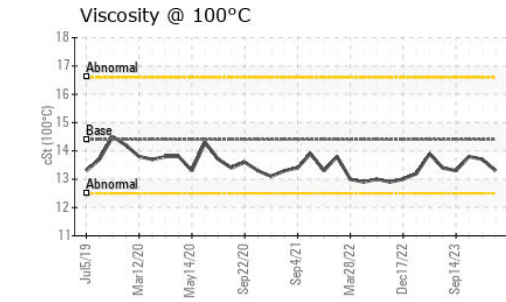
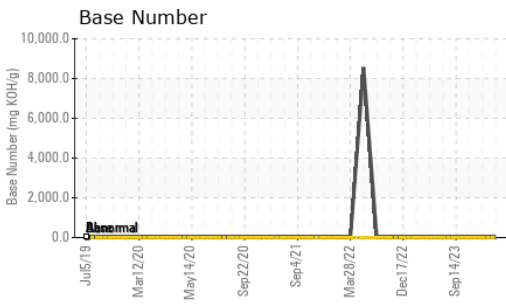
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	3	3	3
Potassium	ppm	ASTM D5185m	>20	<1	0	0
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	0.1	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.1	6.3	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.8	19.2	19.1
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	>158	2	2	3
Boron	ppm	ASTM D5185m	250	39	41	30
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	45	43	39
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	767	751	670
Calcium	ppm	ASTM D5185m	3000	1250	1345	1324
Phosphorus	ppm	ASTM D5185m	1150	785	781	763
Zinc	ppm	ASTM D5185m	1350	927	990	887
Sulfur	ppm	ASTM D5185m	4250	2463	2811	2443
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.7	15.3	16.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	10.05	18.42	9.30
Visc @ 100°C	cSt	ASTM D445	14.4	13.3	13.7	13.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0028994
Lab Number : 06101902
Unique Number : 10900132
Test Package : MOB 2
Received : 27 Feb 2024
Tested : 28 Feb 2024
Diagnosed : 28 Feb 2024 - Wes Davis

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) F: (443)220-0469