



# OIL ANALYSIS REPORT

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

Machine Id  
**EMD MARC 34 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		<b>DC0035731</b>	DC0034569	DC0028938
Sample Date		Client Info		<b>15 Apr 2024</b>	20 Feb 2024	03 Jan 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>Not Chngd</b>	N/A	Not Chngd
Filter Changed		Client Info		<b>Changed</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>12</b>	11	18
Chromium	ppm	ASTM D5185m	>15	<b>&lt;1</b>	1	2
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>2</b>	2	3
Lead	ppm	ASTM D5185m	>75	<b>6</b>	6	10
Copper	ppm	ASTM D5185m	>90	<b>35</b>	28	54
Tin	ppm	ASTM D5185m	>30	<b>7</b>	6	10
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

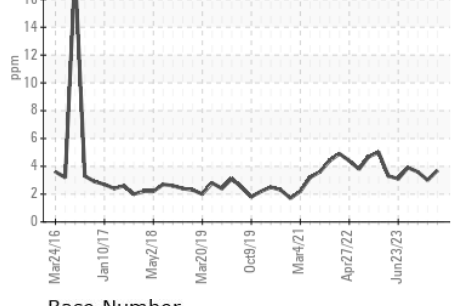
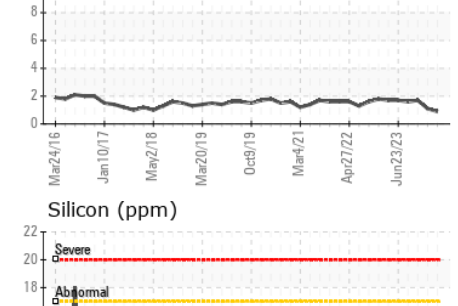
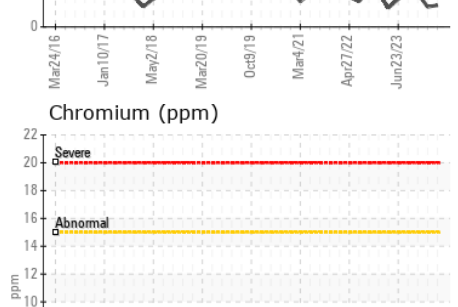
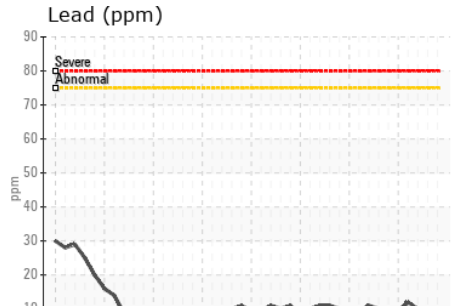
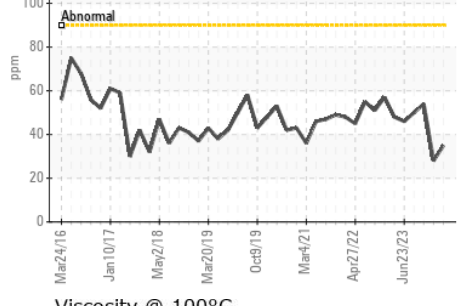
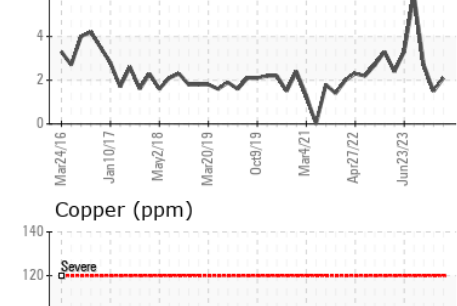
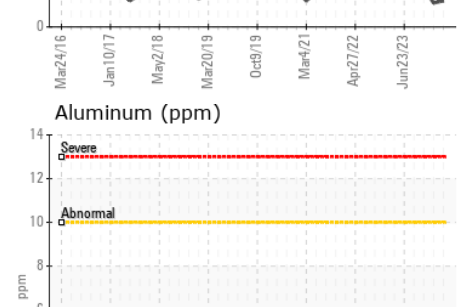
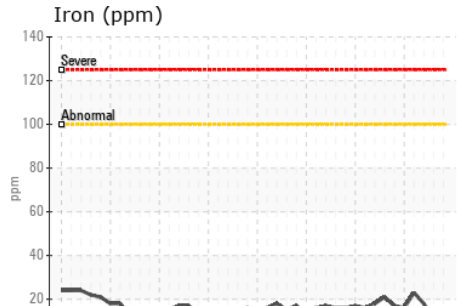
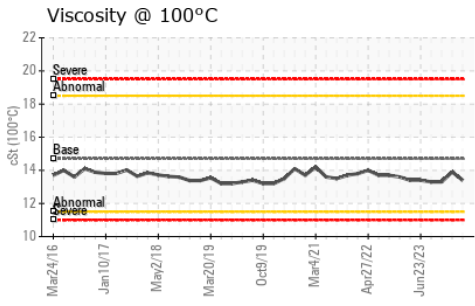
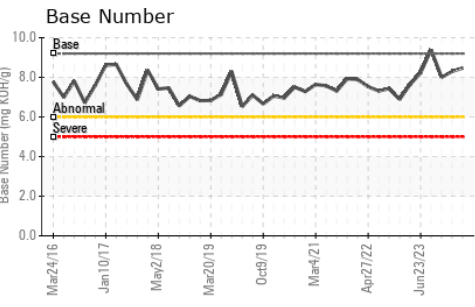
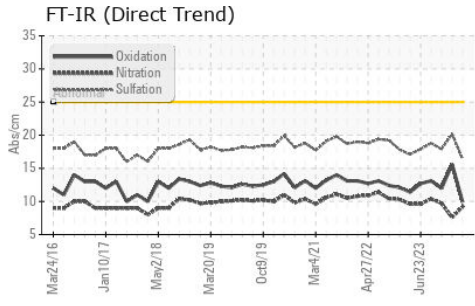
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>17	<b>4</b>	3	4
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Fuel		WC Method	>4	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.20	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.2</b>	7.6	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.4</b>	20.2	17.9
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	>0.20	<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>2</b>	<1	<1
Boron	ppm	ASTM D5185m		<b>37</b>	32	28
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>50</b>	41	46
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>13</b>	2	14
Calcium	ppm	ASTM D5185m		<b>3186</b>	2974	3220
Phosphorus	ppm	ASTM D5185m		<b>40</b>	25	41
Zinc	ppm	ASTM D5185m	10	<b>30</b>	21	17
Sulfur	ppm	ASTM D5185m		<b>3044</b>	2545	2746
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.9</b>	15.6	12.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	<b>8.47</b>	8.3	8.00
Visc @ 100°C	cSt	ASTM D445	14.7	<b>13.4</b>	13.9	13.3



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0035731 **Received** : 22 Apr 2024  
**Lab Number** : 06157096 **Tested** : 23 Apr 2024  
**Unique Number** : 10992519 **Diagnosed** : 23 Apr 2024 - Wes Davis  
**Test Package** : MOB 2

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

Contact: SEAN MCCARTY  
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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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