



# OIL ANALYSIS REPORT

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

Machine Id  
**EMD MARC 30 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>DC0036757</b>	DC0036558	DC0035766
Sample Date		Client Info		<b>01 Jul 2024</b>	29 Apr 2024	12 Mar 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 Changd</b>	N/A	Not Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>22</b>	19	19
Chromium	ppm	ASTM D5185m	>15	<b>2</b>	1	1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>10	<b>3</b>	2	2
Lead	ppm	ASTM D5185m	>75	<b>6</b>	6	6
Copper	ppm	ASTM D5185m	>90	<b>30</b>	37	30
Tin	ppm	ASTM D5185m	>30	<b>8</b>	7	7
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

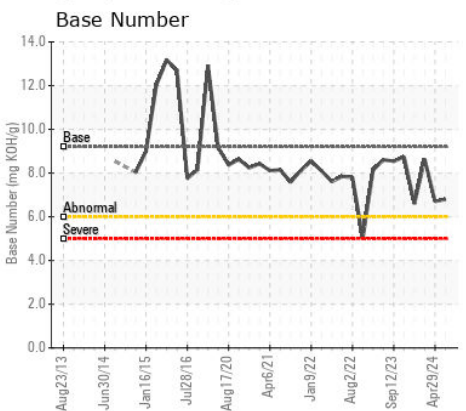
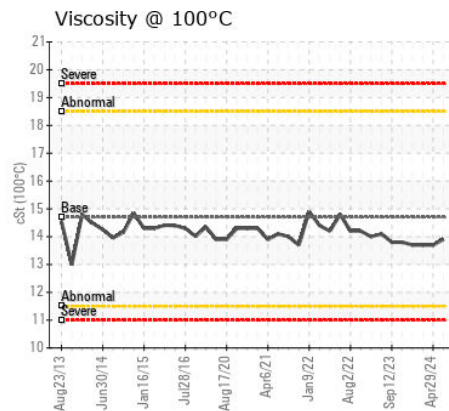
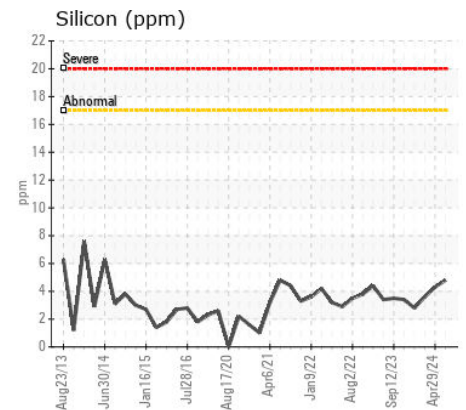
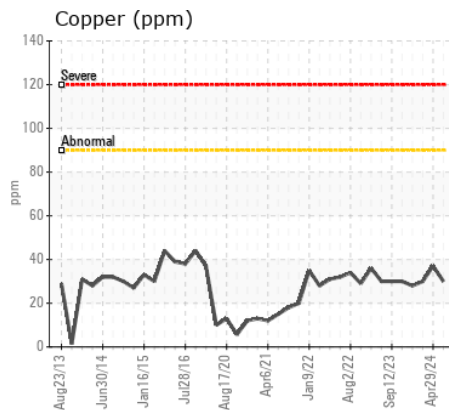
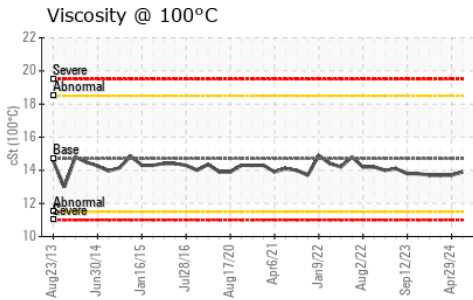
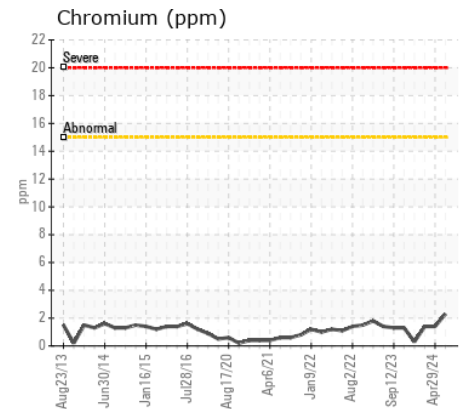
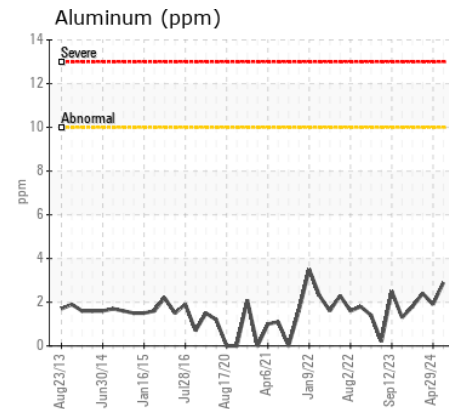
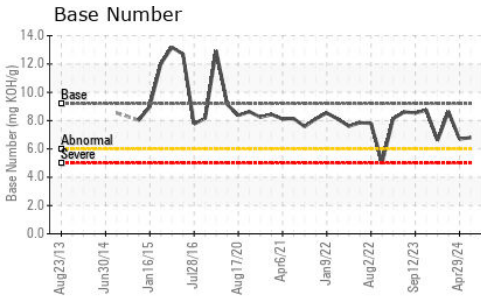
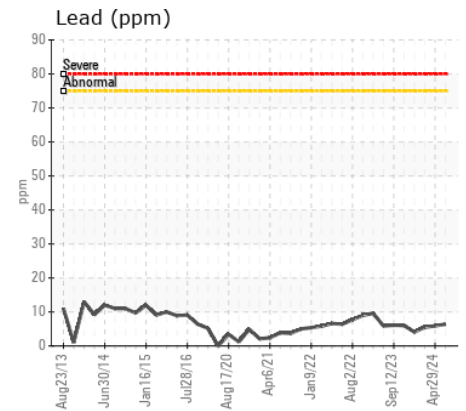
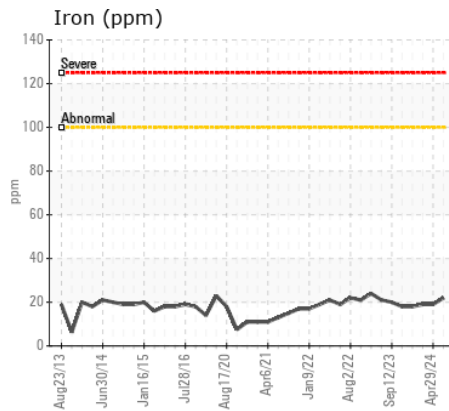
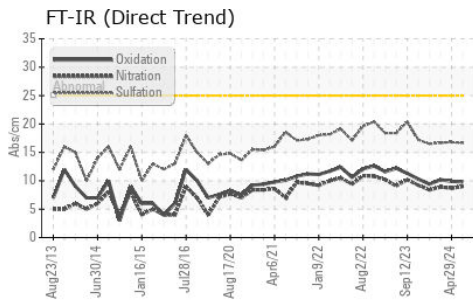
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>17	<b>5</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	2	<1
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>	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.0</b>	8.7	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.7</b>	16.8	16.7
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>1</b>	0	0
Boron	ppm	ASTM D5185m		<b>39</b>	37	36
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>48</b>	48	45
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>37</b>	15	14
Calcium	ppm	ASTM D5185m		<b>3533</b>	3368	3255
Phosphorus	ppm	ASTM D5185m		<b>53</b>	38	39
Zinc	ppm	ASTM D5185m	10	<b>49</b>	33	35
Sulfur	ppm	ASTM D5185m		<b>2822</b>	2747	2751
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.8</b>	9.9	10.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	<b>6.8</b>	6.7	8.63
Visc @ 100°C	cSt	ASTM D445	14.7	<b>13.9</b>	13.7	13.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0036757 **Received** : 08 Jul 2024  
**Lab Number** : 06229682 **Tested** : 09 Jul 2024  
**Unique Number** : 11113175 **Diagnosed** : 09 Jul 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**ALSTOM - BALTIMORE**  
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 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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