



# OIL ANALYSIS REPORT

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

Machine Id  
**CAT MARC 13**  
 Component  
**Diesel Engine**  
 Fluid  
**DURALENE Dura-Max 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DC0036723</b>	DC0036709	DC0035758
Sample Date		Client Info		<b>12 Jul 2024</b>	09 Jun 2024	09 Apr 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>	Not Chngd	Not Chngd
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>14</b>	14	15
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	<1	0
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	3	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	<1	3
Lead	ppm	ASTM D5185m	>40	<b>5</b>	2	6
Copper	ppm	ASTM D5185m	>330	<b>29</b>	1	35
Tin	ppm	ASTM D5185m	>15	<b>6</b>	0	6
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

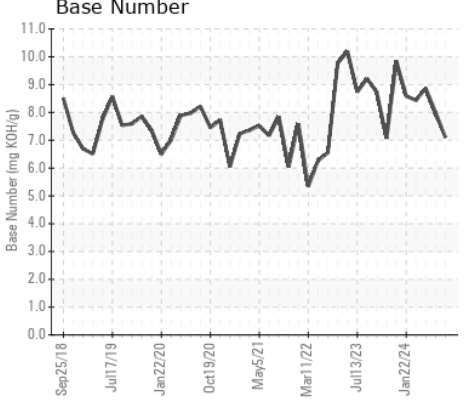
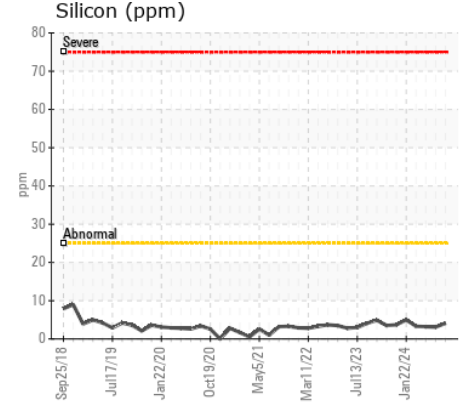
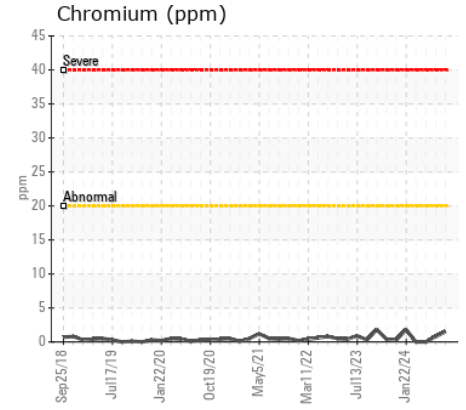
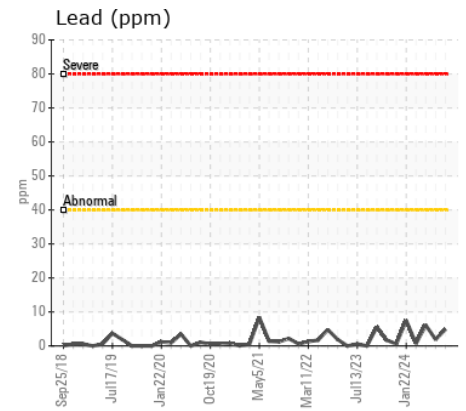
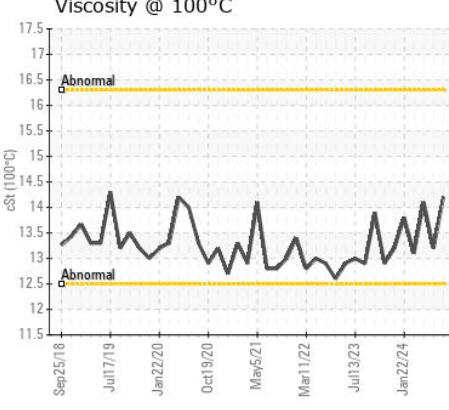
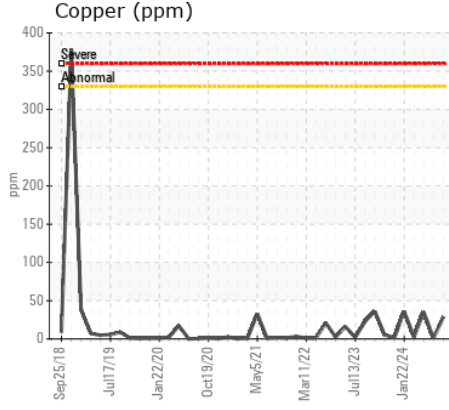
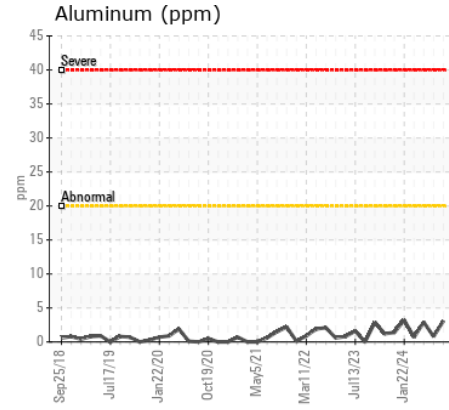
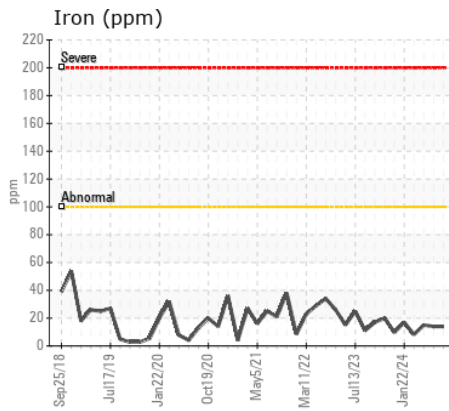
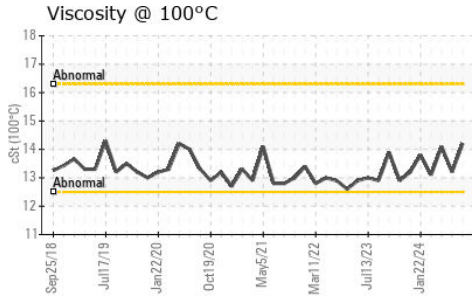
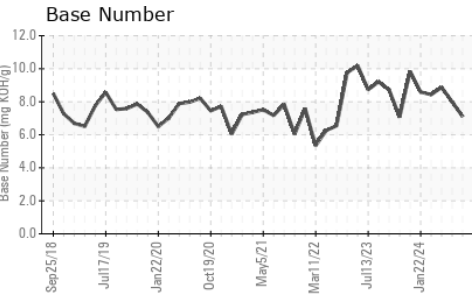
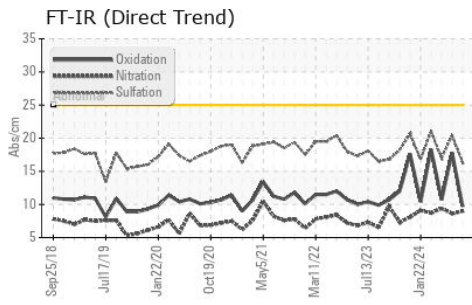
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	3	3
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<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	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.0</b>	8.6	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.4</b>	20.4	17.0
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>&lt;1</b>	3	4
Boron	ppm	ASTM D5185m		<b>42</b>	36	35
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>46</b>	52	49
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>41</b>	788	16
Calcium	ppm	ASTM D5185m		<b>3326</b>	1314	3752
Phosphorus	ppm	ASTM D5185m		<b>53</b>	779	35
Zinc	ppm	ASTM D5185m		<b>52</b>	929	25
Sulfur	ppm	ASTM D5185m		<b>2502</b>	2759	3443
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.7</b>	17.8	10.7
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.1</b>	8.0	8.87
Visc @ 100°C	cSt	ASTM D445		<b>14.2</b>	13.2	14.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0036723 **Received** : 16 Jul 2024  
**Lab Number** : 06237627 **Tested** : 17 Jul 2024  
**Unique Number** : 11126461 **Diagnosed** : 18 Jul 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

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

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  
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