



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

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		DC0036724	DC0036711	DC0035759
Sample Date		Client Info		26 Jun 2024	06 Jun 2024	11 Apr 2024
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		Not Chngd	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				ATTENTION	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	18	7	21
Chromium	ppm	ASTM D5185m	>20	2	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	4	2	1
Lead	ppm	ASTM D5185m	>40	9	<1	<1
Copper	ppm	ASTM D5185m	>330	49	7	1
Tin	ppm	ASTM D5185m	>15	10	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

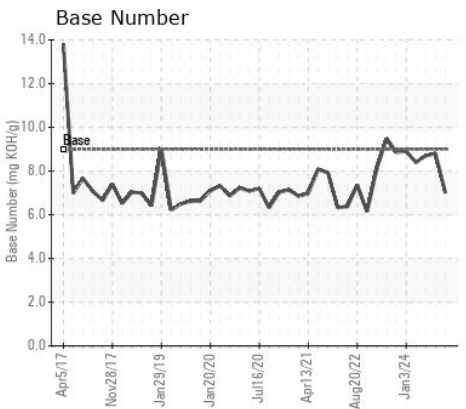
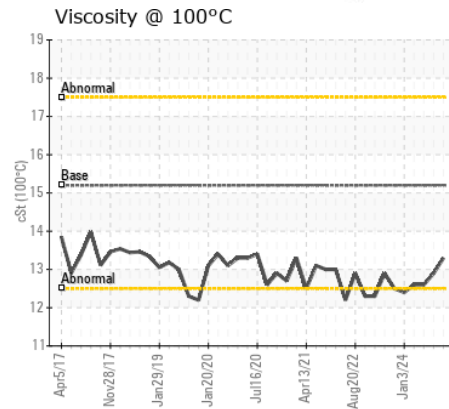
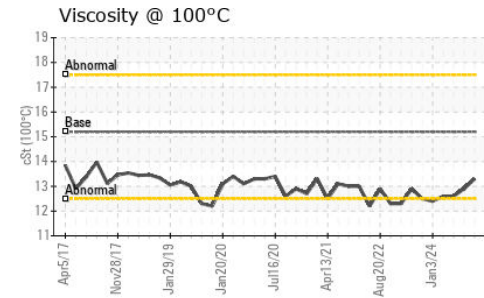
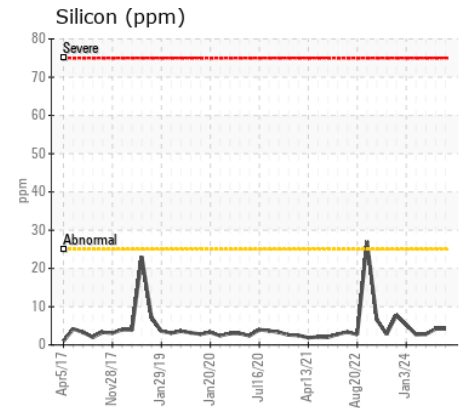
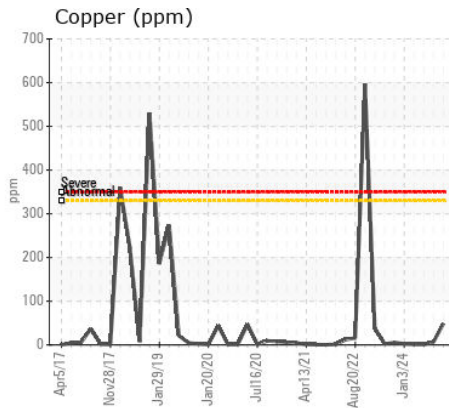
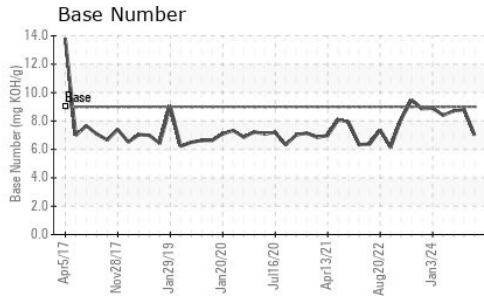
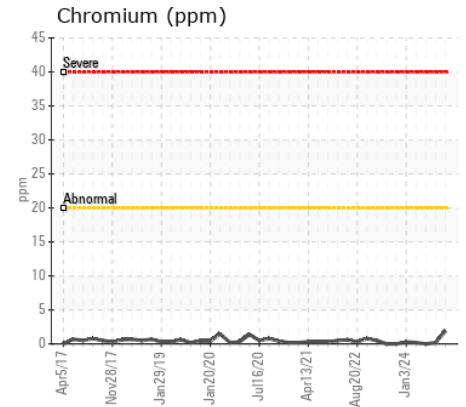
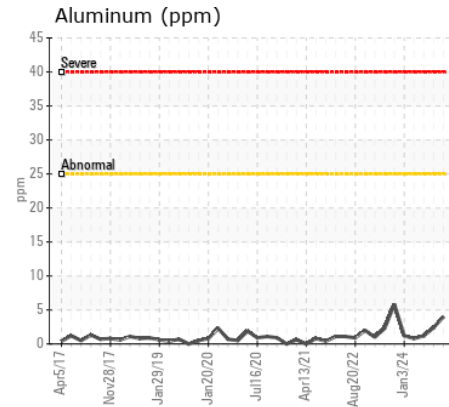
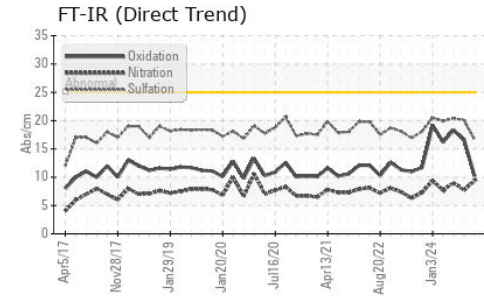
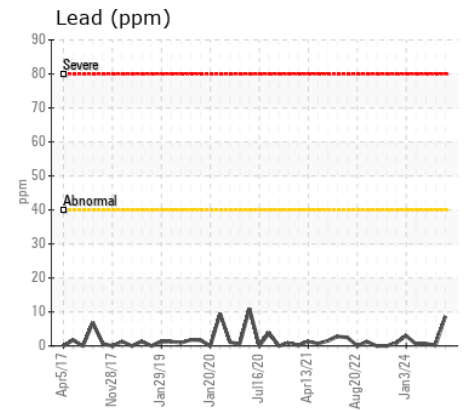
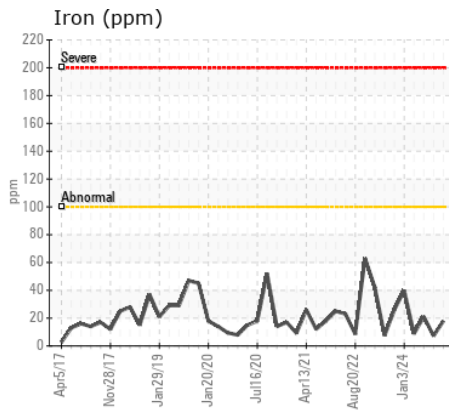
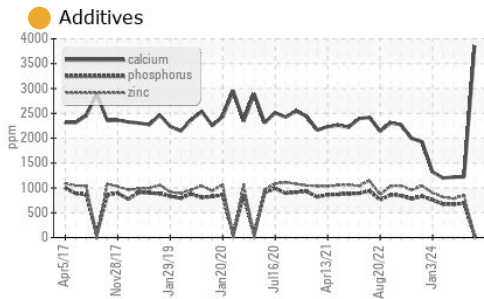
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	4	3
Potassium	ppm	ASTM D5185m	>20	3	1	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	0.4	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	9.4	7.7	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.6	20.1	20.4
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. Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		1	2	4
Boron	ppm	ASTM D5185m		40	35	36
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		57	41	45
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		21	673	709
Calcium	ppm	ASTM D5185m		3857	1220	1217
Phosphorus	ppm	ASTM D5185m		45	686	671
Zinc	ppm	ASTM D5185m		27	851	785
Sulfur	ppm	ASTM D5185m		2909	2623	2430
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.2	16.6	18.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.0	7.0	8.8	8.71
Visc @ 100°C	cSt	ASTM D445	15.2	13.3	12.9	12.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0036724 **Received** : 02 Jul 2024
Lab Number : 06225974 **Tested** : 03 Jul 2024
Unique Number : 11109467 **Diagnosed** : 05 Jul 2024 - Jonathan Hester
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.

Contact: SEAN MCCARTY
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* - 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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