



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR 938M CAT0938MKJ3R07460
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0198818	JR0155267	JR0031371
Sample Date		Client Info		17 Jan 2024	06 Feb 2023	13 May 2020
Machine Age	hrs	Client Info		5802	4331	1013
Oil Age	hrs	Client Info		2484	0	1013
Filter Age	hrs	Client Info		0	0	1013
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	23	29	16
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	13	12	3
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	4	1	4
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

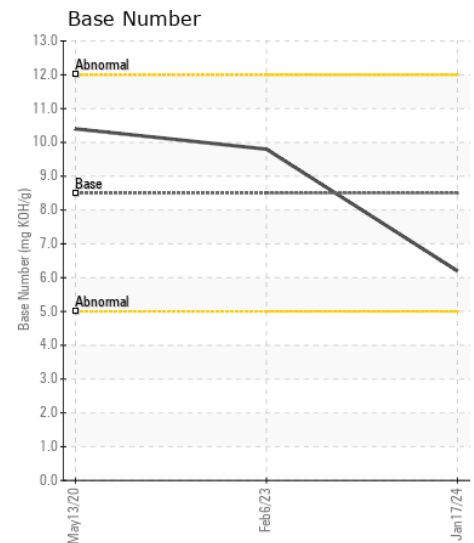
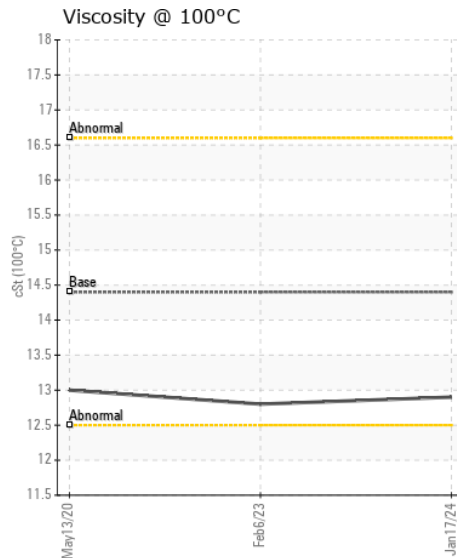
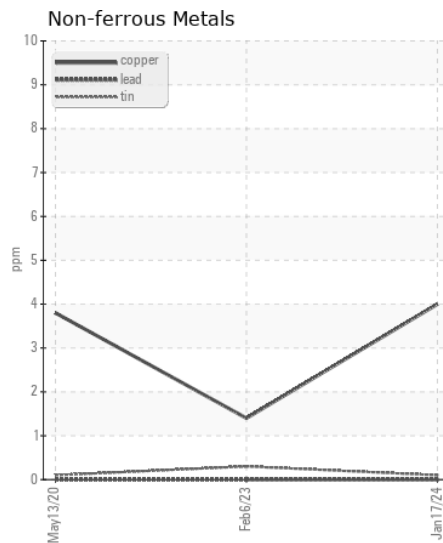
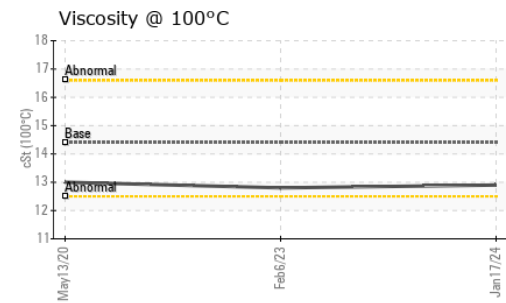
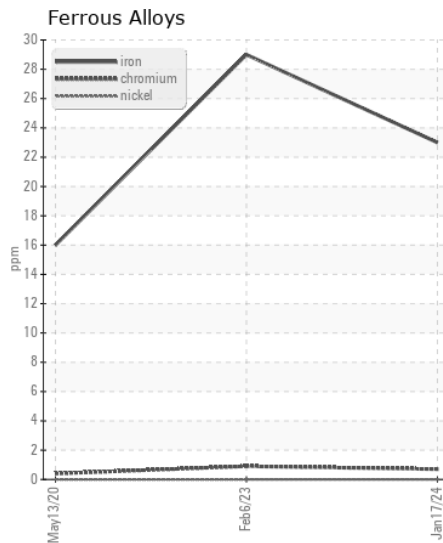
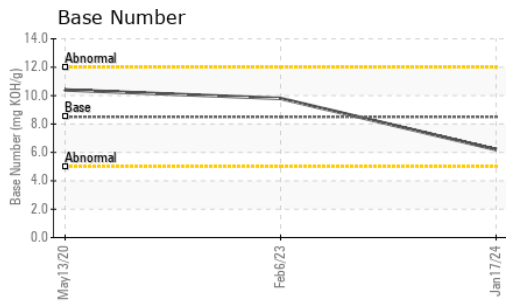
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	7	4	5
Potassium	ppm	ASTM D5185m	>20	2	<1	1
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	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.4	8.0	7
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.2	22.0	23.2
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	3	2
Boron	ppm	ASTM D5185m	250	57	45	52
Barium	ppm	ASTM D5185m	10	<1	0	0
Molybdenum	ppm	ASTM D5185m	100	230	41	44
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	836	517	494
Calcium	ppm	ASTM D5185m	3000	1502	1714	1736
Phosphorus	ppm	ASTM D5185m	1150	816	918	946
Zinc	ppm	ASTM D5185m	1350	1051	1111	1100
Sulfur	ppm	ASTM D5185m	4250	3168	3455	2673
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.2	20.6	21
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.2	9.8	10.4
Visc @ 100°C	cSt	ASTM D445	14.4	12.9	12.8	13.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0198818 **Received** : 19 Jan 2024
Lab Number : 06065420 **Diagnosed** : 22 Jan 2024
Unique Number : 10836802 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: TBN)

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)

JRE - CHARLOTTE
 9550 STATESVILLE ROAD
 CHARLOTTE, NC
 US 28269
 Contact: CHARLOTTE SHOP
 myoung@jamesriverequipment.com
 T: (704)597-0211
 F: (704)596-6198