



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
KLEEMANN MCO110I K1110013

Component
Diesel Engine

Fluid
{not provided} (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0194154	JR0194611	JR0182493
Sample Date		Client Info		08 Jan 2024	21 Dec 2023	01 Nov 2023
Machine Age	hrs	Client Info		0	4108	3977
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	Not Changd
Filter Changed		Client Info		N/A	N/A	Not Changd
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

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

CONTAMINATION

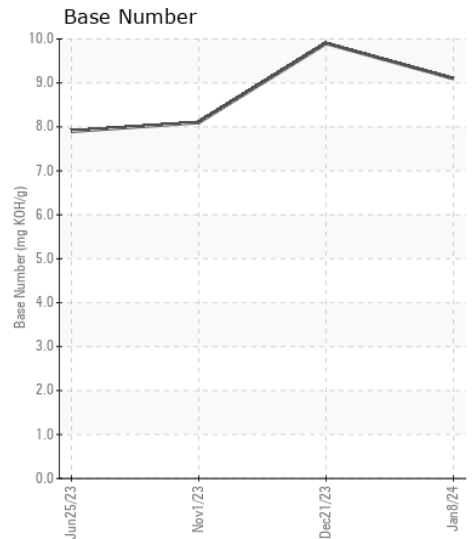
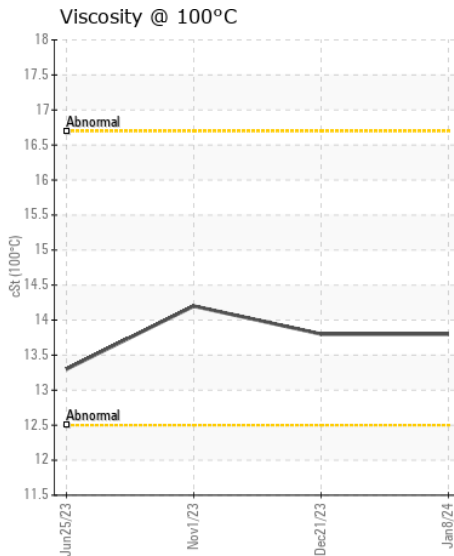
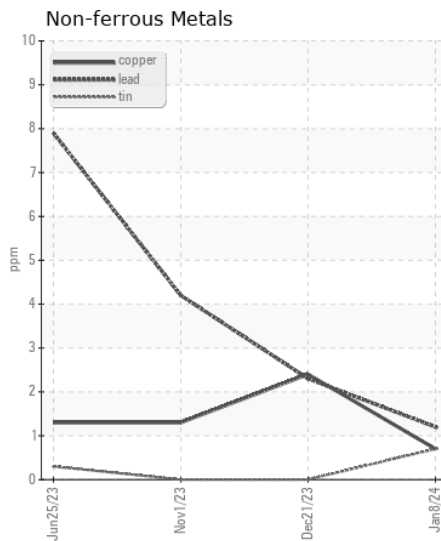
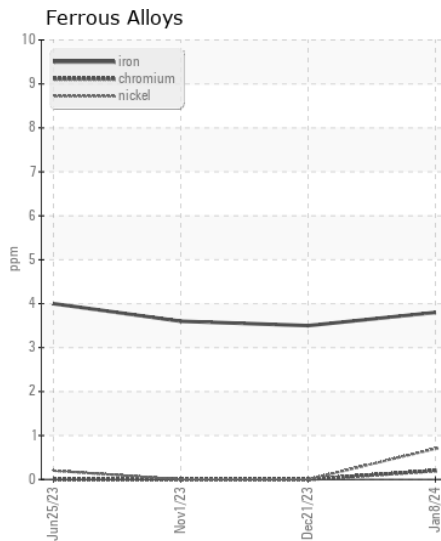
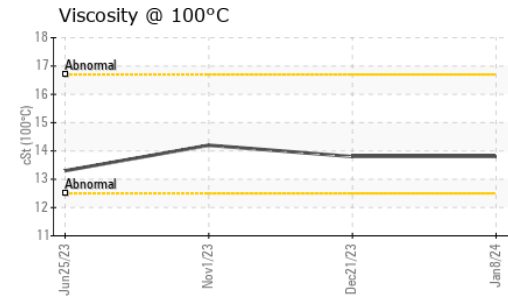
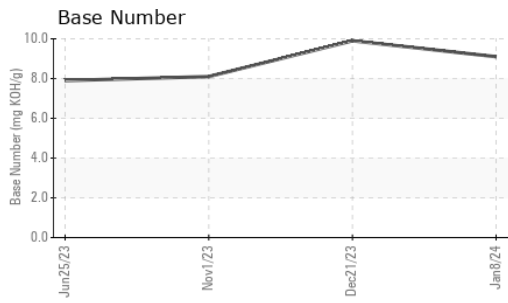
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	7	14	8
Potassium	ppm	ASTM D5185m	>20	2	2	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	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.0	6.5	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.1	19.4	22.3
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	▲ MODER	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	▲ 0.2%	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		0	2	2
Boron	ppm	ASTM D5185m		267	249	134
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		237	223	197
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		798	790	835
Calcium	ppm	ASTM D5185m		1355	1373	1350
Phosphorus	ppm	ASTM D5185m		795	949	841
Zinc	ppm	ASTM D5185m		1061	1063	1079
Sulfur	ppm	ASTM D5185m		3060	3062	2787
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.0	14.4	18.0
Base Number (BN)	mg KOH/g	ASTM D2896		9.1	9.9	8.1
Visc @ 100°C	cSt	ASTM D445		13.8	13.8	14.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0194154 **Received** : 09 Jan 2024
Lab Number : 06055163 **Diagnosed** : 10 Jan 2024
Unique Number : 10821112 **Diagnostician** : Sean Felton
Test Package : CONST (Additional Tests: TBN)

JRE - GREENSBORO
 411 SOUTH REGIONAL ROAD
 GREENSBORO, NC
 US 27409
 Contact: NICK GALLAHER
 NGALLAHER@JRENET.COM
 T: (336)668-2762
 F: (336)665-9556

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)