



WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
KLEEMANN KT80 0768

Component
Diesel Engine

Fluid
{not provided} (--- QTS)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0182616	JR0182874	---
Sample Date		Client Info		08 Jan 2024	13 Sep 2023	---
Machine Age	hrs	Client Info		0	3308	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	79	▲ 154	---
Chromium	ppm	ASTM D5185m	>20	5	8	---
Nickel	ppm	ASTM D5185m	>4	2	2	---
Titanium	ppm	ASTM D5185m		<1	1	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	▲ 28	▲ 56	---
Lead	ppm	ASTM D5185m	>40	<1	2	---
Copper	ppm	ASTM D5185m	>330	6	8	---
Tin	ppm	ASTM D5185m	>15	2	2	---
Vanadium	ppm	ASTM D5185m		0	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

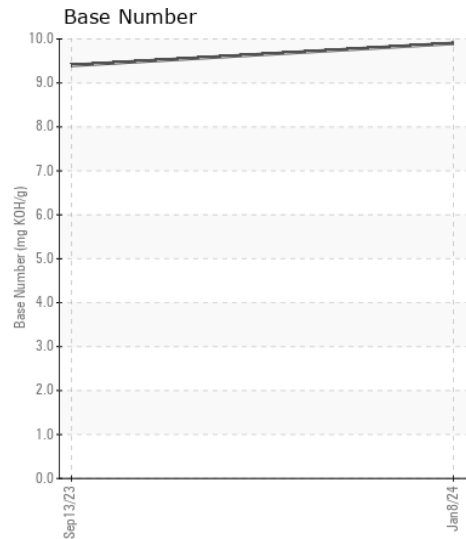
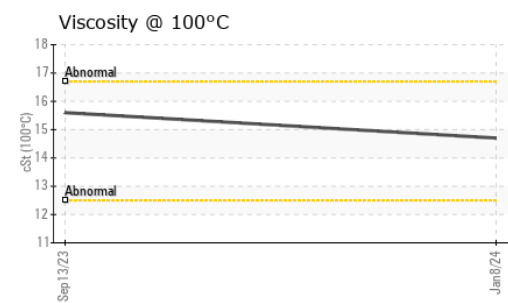
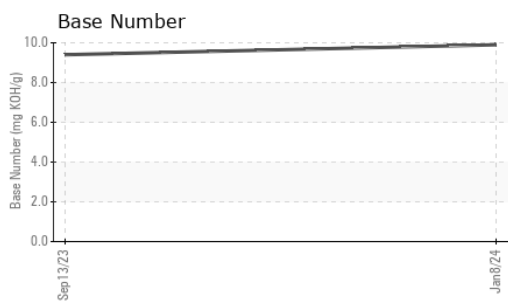
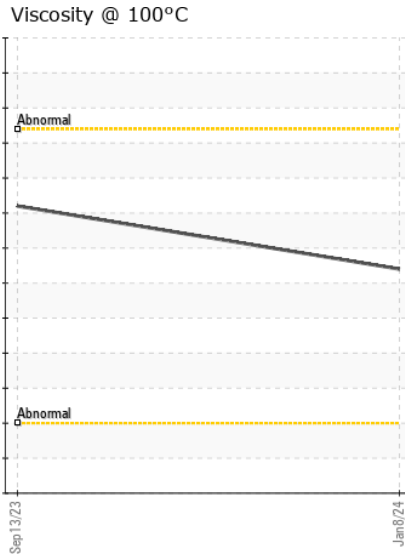
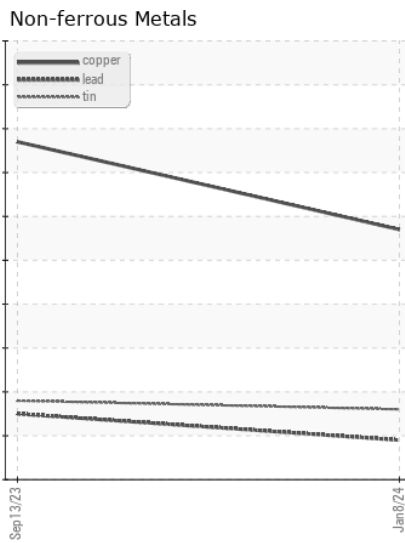
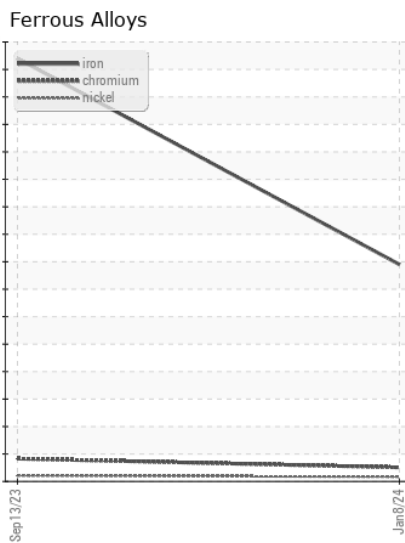
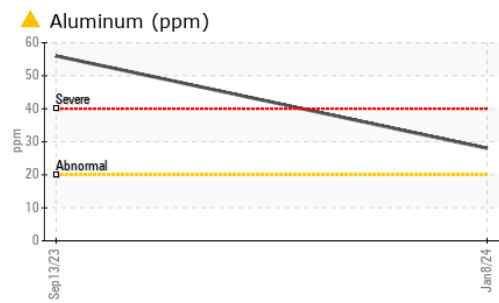
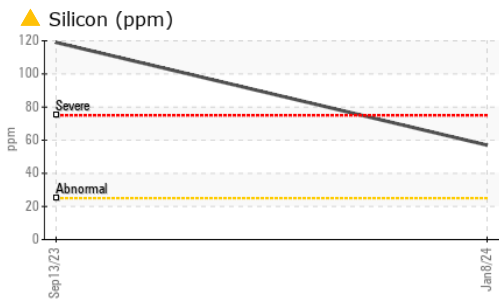
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>25	▲ 57	▲ 119	---
Potassium	ppm	ASTM D5185m	>20	7	10	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.4	0.8	---
Nitration	Abs/cm	*ASTM D7624	>20	9.6	13.2	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.6	26.1	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	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		2	12	---
Boron	ppm	ASTM D5185m		258	202	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		238	266	---
Manganese	ppm	ASTM D5185m		2	2	---
Magnesium	ppm	ASTM D5185m		822	906	---
Calcium	ppm	ASTM D5185m		1387	1729	---
Phosphorus	ppm	ASTM D5185m		815	935	---
Zinc	ppm	ASTM D5185m		1076	1207	---
Sulfur	ppm	ASTM D5185m		3173	3589	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.0	26.0	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.9	9.4	---
Visc @ 100°C	cSt	ASTM D445		14.7	15.6	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0182616 **Received** : 09 Jan 2024
Lab Number : 06055180 **Diagnosed** : 10 Jan 2024
Unique Number : 10821129 **Diagnostician** : Don Baldrige
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

Certificate L2367
 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)